ISMRM

BRIDGING THE GAP BETWEEN CLINICAL NEEDS AND TECHNOLOGICAL SOLUTIONS

International Society for Magnetic Resonance in Medicine

ISMRM 21st ANNUAL MEETING & EXHIBITION

SMRT 22nd ANNUAL MEETING

ISMRM 21st Annual Meeting & Exhibition

Salt Lake City, Utah, USA

20–26 April 2013

"Discovery, Innovation & Application – Advancing MR for Improved Health"

2013 PROGRAM

Salt Palace Convention Center • Salt Lake City, Utah, USA

INTERNATIONAL SOCIETY FOR ISMRM MAGNETIC RESONANCE IN MEDICINE

ONE COMMUNITY FOR CLINICIANS AND SCIENTISTS

WWW.ISMRM.ORG



ISMRM 21st ANNUAL MEETING & EXHIBITION

SMRT 22nd ANNUAL MEETING



Salt Lake City, Utah, USA

20–26 April 2013

"Discovery, Innovation & Application – Advancing MR for Improved Health"

EXHIBITION DATES AND OPEN HOURS		
Date	**Time**	**Location**
Sunday, 21 April (Opening Reception)	17:45–19:15	Salt Palace Convention Center Salt Lake City, Utah, USA
Monday, 22 April	10:00–17:00	
Tuesday, 23 April	09:30–17:00	
Wednesday, 24 April	09:30–17:00	
Thursday, 25 April	09:30–16:30	
	16:30–23:59	Exhibition Dismantle
	18:15	Closing Party
TRADITIONAL & ELECTRONIC POSTER VIEWING HOURS		
Sunday, 21 April	07:00–14:00	Poster Installation
Monday, 22 April	07:00–20:30	Viewing
Tuesday, 23 April	07:00–19:45	Viewing
Wednesday, 24 April	07:00–21:30	Viewing
Thursday, 25 April	07:00–16:30	Viewing
	16:30–18:00	Poster Dismantle

Admission is by meeting or exhibitor badge only.

Please note that children under 16 are not allowed in any meeting sessions, Exhibit Hall or evening events (no exceptions!)

Declaration of Relevant Financial Interests and Relationships by author of proferred papers can be found at www.ismrm.org

2013 PROGRAM



Salt Lake City, Utah, USA
20–26 April 2013

The ISMRM 21st Annual Meeting & Exhibition is the largest meeting dedicated to promoting communication, research, development and applications in the field of magnetic resonance in medicine and biology, as well as providing an invaluable channel and facility for continuing education in the field. Over 6,000 clinicians, physicists, engineers, biochemists and technologists from more than 60 countries around the world attend this premier meeting in the MR global community.



The International Society for Magnetic Resonance in Medicine is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

The International Society for Magnetic Resonance in Medicine designates this live activity for a maximum of 52.00 *AMA PRA Category 1 Credits*™. Physicians should only claim credit commensurate with the extent of their participation in the activity.

INTERNATIONAL SOCIETY FOR ISMRM MAGNETIC RESONANCE IN MEDICINE

ONE COMMUNITY FOR CLINICIANS AND SCIENTISTS

Thank You

to our corporate members

Gold Corporate Members:

GE Healthcare

Philips Healthcare

Siemens

Silver Corporate Members:

Bayer HealthCare

Bruker

Bronze Corporate Members:

Bracco

Hitachi

Shanghai United Imaging Healthcare Co., Ltd.

Toshiba

Associate Corporate Members:

Nova Medical, Inc.

ZMT Zurich MedTech AG

Garry Gold, M.D.
Chair, ISMRM Annual Meeting Program Committee



Our 21st Annual Meeting & Exhibition will be a celebration of over 20 years of innovation in MRI—innovation that has transformed imaging and medicine. The theme this year is "Discovery, Innovation and Application – Advancing MR for Improved Health." In our plenary lectures, you will learn about the rich history of innovation in magnetic resonance. Past Gold medal winners of the ISMRM will describe their moments of innovation that led to their biggest discoveries. Experts will discuss major advances in breast cancer using MRI and the application of MRI to clinical trials. You will learn about the power of high field brain imaging for assessing the microstructure and connections within the brain, and how the landscape of MRI may be transformed when it is combined with Positron Emission Tomography (PET).

"ON BEHALF OF THE ISMRM ANNUAL MEETING PROGRAM COMMITTEE, WELCOME TO A CELEBRATION OF TWENTY YEARS OF INNOVATION AND ADVANCES IN MRI."

Klaas Pruessmann, Ph.D., ETH, Zurich, will deliver the Lauterbur lecture entitled "Beyond Fourier Encoding: The Need, the Challenges and the Rewards of Breaking Out of K-Space." Richard Ehman, M.D., Professor of Radiology at the Mayo Clinic and former President of the ISMRM, will deliver the Mansfield lecture, "MRI and Mechanobiology: Emerging Science at the Intersection of Engineering and Biology." The NIBIB New Horizons Lecture, will be given by Scott Reeder, M.D., Ph.D., of the University of Wisconsin at Madison, entitled "Frontiers in Body MRI: from Qualitative to Quantitative." The Education program is spread throughout the week and is targeted towards all levels of expertise. Courses will be clinical, technical and mixed in nature—a reflection of our diverse society.

The setting in Salt Lake City is spectacular; it is a clean and accessible city surrounded by snow-capped mountains. The convention center is large with a great format for our meeting. A host of excellent shops, bars and restaurants are situated within walking distance of the convention center, providing an ideal setting for breaks during and after the day's meeting.

On behalf of the Annual Meeting Program Committee, I welcome you to Salt Lake City, Utah, USA, for the 21st Annual Meeting & Exhibition of the ISMRM. Be part of the celebration of over 20 years of innovation and advances in MRI. The setting and the venue are spectacular, the people are friendly and the Rocky Mountains await you after the meeting.

Garry Gold, M.D.
Chair, ISMRM Annual Meeting Program Committee

SATURDAY, 20 APRIL 2013

Educational Course: Innovation in Body MRI	**Educational Course:** Pre-Clinical MR of Cancer	**Educational Course:** Perfusion Imaging: ASL, DCE & DSC *(morning)* 08:00–12:35 **Educational Course:** fMRI: From Basic to Intermediate Brain Connectivity, Part 1 *(afternoon)*	**Educational Course:** Single-Subject Neuroimaging *(morning)* 08:30-12:45 **Educational Course:** Diffusion Goes Mad *(afternoon)*	**Educational Course:** Challenges in Musculoskeletal Imaging	**Educational Course:** Advanced Neuroimaging 1: Brain & Spinal Cord	**Educational Course:** MR Systems **Engineering**	**Educational Course:** MR Physics for Physicists
08:30–17:15	08:30–17:15	13:30–18:15	14:00–18:15	08:30–16:45	09:00–17:15	08:30–17:15	08:30–18:15
Room 150 AG	Room 155 EF	Room 155 BC	Room 151 AG	Room 255 EF	Room 255 BC	Room 250 BCEF	Room 251 BCEF

SMRT — I S M R M — SECTION FOR MAGNETIC RESONANCE TECHNOLOGISTS

SMRT 22ND ANNUAL MEETING
"Changing the World through MR Education and Innovation"
(Technologist/Radiographer Program)
Day 1 • 07:45–17:05 • Salt Palace Convention Center, Room 355 ABCDEF

PROGRAM-AT-A-GLANCE

SUNDAY, 21 APRIL 2013

Educational Course: Molecular & Cellular Imaging: From Bench to the Bed	**Educational Course:** Clinical Cancer MRI—Case-Based Teaching	**Educational Course:** Recent Innovation in Cardiac MR	**Educational Course:** Everything You Wanted to Know about MR-PET *(morning)* 08:00–11:55 **Educational Course:** A Practical Guide to MR Safety *(afternoon)*	**Educational Course:** Advanced Diffusion Acquisition: Targeted Methods *(morning)* 08:00-12:45 **Educational Course:** fMRI: From Basic to Intermediate Brain Connectivity, Part 2 *(afternoon)*	**Educational Course:** Advanced Neuroimaging 2: Across the Lifespan	**Educational Course:** RF Engineering—Coils	**Educational Course:** Imaging Acquisition & Reconstruction
08:30–17:15	08:30–17:15	08:00–18:00	13:30–17:45	13:30–18:15	09:00–17:15	08:30–16:45	08:30–17:45
Room 155 EF	Room 150 AG	Room 155 BC	Room 151 AG	Room 255 EF	Room 255 BC	Room 250 BCEF	Room 251 BCEF
12:30–13:30	Silver Corporate Symposium • Bayer HealthCare *(no CME credit)* • Plenary Hall						

SMRT — I S M R M — SECTION FOR MAGNETIC RESONANCE TECHNOLOGISTS

SMRT 22ND ANNUAL MEETING
"Changing the World through MR Education and Innovation"
(Technologist/Radiographer Program)
Day 2 • 07:45–16:45 • Salt Palace Convention Center, Room 355 ABCDEF

OPENING RECEPTION IN TECHNICAL EXHIBITION • EXHIBIT HALL • 17:45–19:15

Time	Room	Plenary Session	Presenter(s)
07:30	Plenary Hall	Welcome & Awards	Thomas M. Grist, M.D., F.A.C.R. 2012–13 ISMRM President
08:20		Lauterbur Lecture: MRI: Beyond Fourier Encoding: The Need, the Challenges & the Rewards of Breaking Out of K-Space,	Klaas P. Pruessmann, Ph.D.
Plenary Session: Panning for Gold: 20 Years of Innovation in MRI Organizers: Garry E. Gold, M.D. & Thomas M. Grist, M.D., F.A.C.R.			
09:05	Plenary Hall	Surface Coils	Joseph J. H. Ackerman, Ph.D.
09:20		Inversion Recovery & Early Contrast Studies in the Brain: A Brief History	Ian R. Young, Ph.D.
09:35		Contrast MR Angiography	Martin R. Prince, M.D., Ph.D.
09:50		Excitation K-Space & uTE MRI	John M. Pauly, Ph.D.
10:05		Fast Spin Echo	Jürgen K. Hennig, Ph.D.
10:20	ADJOURN		
10:20–10:45	BREAK		

10:45–12:45												
Traditional Poster Session: *(no CME credit)* Cardiovascular	Electronic Poster Sessions: *(no CME credit)* Neuro A	Study Group Sessions: *(no CME credit)* Interventional MRI	Study Group Sessions: *(no CME credit)* Hyperpolarized Media MR	Young Investigator Award Presentations	Extreme Encoding Methods	Renal MRI	fMRI Connectivity: Mechanisms & Analysis	Advanced MRI in Multiple Sclerosis	Diffusion Acquisition	**Educational Course:** MR Physics for Clinicians	**Educational Course:** MRI of Musculoskeletal Impingement Syndromes	**Educational Course:** Integrated Comprehensive Approach to the Brain Tumor Patient: A Case Study
Exhibition Hall	**Exhibition Hall**	**Room 155 ABC**	**Room 254 ABC**	**Room 150 AG**	**Room 151 AG**	**Room 155 EF**	**Room 255 EF**	**Room 355 BC**	**Room 355 EF**	**Room 250 BCEF**	**Room 255 BC**	**Room 251 BCEF**
12:45–14:00	LUNCH											
13:00–14:00	Gold Corporate Symposium • GE Healthcare *(no CME credit)* • Plenary Hall											

14:15–16:15												
Traditional Poster Session: *(no CME credit)* Young Investigator Award Presentations	Electronic Poster Sessions: *(no CME credit)* Diffusion & Perfusion	Study Group Sessions: *(no CME credit)* MR Engineering; MR Safety	Study Group Sessions: *(no CME credit)* Dynamic NMR Spectroscopy	Flow Quantification	RF Pulse Design	Animal Models 1	Prostate: Clinical	Arterial Spin Labeling	**Educational Course:** Imaging Metabolism with Hyperpolarized Nuclei	**Educational Course:** ISMRM/SMRT Forum: Safe & Ethical Imaging of Patients & Research Subjects	**Special Session:** *(no CME credit)* Mock Grant Review	**Educational Course:** New Advances in Neurodegenerative Disease
Exhibition Hall	**Exhibition Hall**	**Room 155 ABC**	**Room 254 ABC**	**Room 150 AG**	**Room 151 AG**	**Room 155 EF**	**Room 355 BC**	**Room 355 EF**	**Room 250 BCEF**	**Room 255 BC**	**Room 255 EF**	**Room 251 BCEF**
16:15–16:30	BREAK											

16:30–18:30												
Traditional Poster Session: *(no CME credit)* Diffusion & Perfusion	Electronic Poster Sessions: *(no CME credit)* Functional MRI (Neuro)	Study Group Sessions: *(no CME credit)* High Field Systems & Applications	Study Group Sessions: *(no CME credit)* Cardiac MR	MRS: Normal Metabolism & Systems Under Stress	Image Reconstruction	New Systems & Probes	Bone, Tendon & Menisci: State of the Art	Novel Contrast Agents & Reporters	Translational Scientific Session: Susceptibility Image in the Brain	Advanced Fetal & Pediatric CNS Imaging	**Educational Course:** Female Pelvis	**Educational Course:** Added Value of DWI for Your Clinical Practice
Exhibition Hall	**Exhibition Hall**	**Room 155 BC**	**Room 254 ABC**	**Room 150 AG**	**Room 151 AG**	**Room 155 EF**	**Room 255 BC**	**Room 255 EF**	**Room 355 BC**	**Room 355 EF**	**Room 250 BCEF**	**Room 251 BCEF**

Time	Room	Sunrise Educational Courses
07:00–07:50	250 BCEF	Hot Topics in Body MRI
	150 AG	MRS
	155 A	Cardiac MR Today & Tomorrow
	251 BCEF	Emerging Clinical Techniques
	255 BC	Practical Quantitative Imaging
	255 EF	Translational Pathways & Validation
	151 AG	Absolute Beginner's Guide to Neuroimaging Methods
	155 EF	Advanced MSK MRI Techniques with Clinical Applications
	355 BC	From Pulse Sequence to Clinical Applications in the Brain
	355 EF	Nuts & Bolts of Advanced Imaging
09:30 –10:00		BREAK

Time	Room	Plenary Session	Presenter(s)
Plenary Session: MRI in Cancer: Promises, Controversies & Technical Innovation in Breast MRI Organizers: Brian A. Hargreaves, Ph.D. & Elizabeth A. Morris, M.D., F.A.C.R.			
08:15	Plenary Hall	How Clinical Research Trials Changed the Use of Breast MRI	Constance D. Lehman, M.D., Ph.D.
08:40		Innovations in Breast MRI	Donald B. Plewes, Ph.D.
09:05		Screening for Breast Cancer with MRI	Christiane K. Kuhl, M.D., Ph.D.
09:30	Adjourn		

10:00–12:00											
Traditional Poster Session: *(no CME credit)* Neuro A	Electronic Poster Sessions: *(no CME credit)* Musculoskeletal; Cancer	Study Group Sessions: *(no CME credit)* Psychiatric MR Spectroscopy & Imaging	**Translational Scientific Session:** Fast Cardiac Imaging	Breast MRI: Clinical & Technical	Advanced Stroke Imaging	MRS: Cancer & Aberrant Metabolism	Thermotherapy & Thermometry	Targeted Molecular Imaging Agents	Sequences & Applications	**Educational Course:** Bowel	**Educational Course:** Imaging Bone Architecture & Composition
Exhibition Hall	**Exhibition Hall**	**Room 254 ABC**	**Room 150 AG**	**Room 151 AG**	**Room 155 EF**	**Room 255 BC**	**Room 255 EF**	**Room 355 BC**	**Room 355 EF**	**Room 250 BCEF**	**Room 251 BCEF**
12:00–13:30	LUNCH										
12:15–13:15	**Gold Corporate Symposium • Philips Healthcare** *(no CME credit)* **• Plenary Hall**										

13:30–15:30												
Traditional Poster Session: *(no CME credit)* Pulse Sequences & Reconstruction A	Electronic Poster Sessions: *(no CME credit)* Neuro B	Study Group Sessions: *(no CME credit)* Molecular & Cellular Imaging	Study Group Sessions: *(no CME credit)* MR Flow & Motion Quantitation	Tissue Characterization of the Myocardium: Different Insights	High Resolution Brain Morphometry	Hepatobiliary/ Pancreas	Transmit Arrays & RF Safety	High Resolution fMRI Applications to Neuroscience	Motion Artifact Correction	**Educational Course:** Bringing Radiation Therapy to the Next Level: Technical Concepts & Clinical Applications	**Educational Course:** Imaging Muscle Structure & Function	**Educational Course:** Cerebrovascular Disease: From Acute to Chronic
Exhibition Hall	**Exhibition Hall**	**Room 155 ABC**	**Room 254 ABC**	**Room 150 AG**	**Room 151 AG**	**Room 155 EF**	**Room 255 EF**	**Room 355 BC**	**Room 355 EF**	**Room 250 BCEF**	**Room 255 BC**	**Room 251 BCEF**
15:30–16:00	BREAK											

16:00–18:00												
Traditional Poster Session: *(no CME credit)* Body; Molecular Imaging	Electronic Poster Sessions: *(no CME credit)* Pulse Sequences & Reconstruction A	Study Group Sessions: *(no CME credit)* MR of Cancer	Study Group Sessions: *(no CME credit)* Perfusion	Myocardial Perfusion: Technical Development & Clinical Needs	fMRI Connectivity: Applications	Animal Models 2	Spine & Spinal Cord	Muscle: Physiology & Function	B_1 Mapping & Corrections	**Educational Course:** Cardiovascular MR Imaging: Pushing the Limits—Part 1: CMR in Cardiac Arrhythmias	**Educational Course:** MR Physics & Techniques for Clinicians	**Educational Course:** Revenge: Game Show
Exhibition Hall	**Exhibition Hall**	**Room 155 ABC**	**Room 254 ABC**	**Room 150 AG**	**Room 151 AG**	**Room 155 EF**	**Room 255 EF**	**Room 355 BC**	**Room 355 EF**	**Room 255 BC**	**Room 250 BCEF**	**Room 251 BCEF**
18:30–20:30	**Bronze Corporate Symposium • Bracco** *(no CME credit)* **• 255 EF**											

Time	Room	Sunrise Educational Courses
07:00–07:50	250 BCEF	Hot Topics in Body MRI
	150 AG	MRS
	155A	Cardiac MR Today & Tomorrow
	251 BCEF	Emerging Clinical Techniques
	255 BC	Practical Quantitative Imaging
	255 EF	Translational Pathways & Validation
	151 AG	Absolute Beginner's Guide to Neuroimaging Methods
	155 EF	Advanced MSK MRI Techniques with Clinical Applications
	355 BC	From Pulse Sequence to Clinical Applications in the Brain
	355 EF	Nuts & Bolts of Advanced Imaging
09:30 –10:00		BREAK

Time	Room	Plenary Session	Presenter(s)
Plenary Session: Standardization of MR-Based Biomarkers for Evidence Based Medicine Across Institutions Organizers: Robert E. Lenkinski, Ph.D. & Keith R. Thulborn, M.D., Ph.D.			
08:10	Plenary Hall	The Evolution in the MR-Based Biomarker	Neil M. Rofsky, M.D.
08:30		The European Experience with Multi-Center Breast MR Trials	Francesco Sardanelli, M.D.
08:50		The American College of Radiology Imaging Network (ACRIN): Successes & Failures	Mitchell D. Schnall, M.D., Ph.D.
09:10		NIBIB New Horizons: Frontiers in Body MRI: From Qualitative to Quantitative	Scott B. Reeder, M.D., Ph.D.
09:30	Adjourn		

10:00–12:00											
Traditional Poster Session: *(no CME credit)* Pulse Sequences & Reconstruction B	Electronic Poster Sessions: *(no CME credit)* Molecular Imaging; MR Spectroscopy	Study Group Sessions: *(no CME credit)* White Matter	Neurodegenerative: Clinical	RF Engineering: Far Fields & High Dielectrics	**Translational Scientific Session:** Fat-Water Imaging-Translational Applications	Novel fMRI Acquisition Methods & Contrast Mechanisms	Saturation Transfer: New Frontiers & Applications	Cartilage & Basic Science: Emerging Techniques	Preclinical Cancer Imaging: Molecular & Traditional	**Educational Course:** Lung	**Educational Course:** Motion Artifacts & Practical Solutions
Exhibition Hall	**Exhibition Hall**	**Room 155 ABC**	**Room 150 AG**	**Room 151 AG**	**Room 155 EF**	**Room 255 BC**	**Room 255 EF**	**Room 355 BC**	**Room 355 EF**	**Room 250 BCEF**	**Room 251 BCEF**
10:00–12:00	Hands-On Workshop 1 • GE Healthcare *(no CME credit)* • Room 155 D										
	Hands-On Workshop 1 • Philips Healthcare • Neuro/MSK *(no CME credit)* • Room 255 D										
	Hands-On Workshop 1 • Siemens • MR Angiography Techniques, Protocol Optimization & Post-Processing *(no CME credit)* • Room 355 D										
12:00–13:30	LUNCH										
12:15–13:15	Gold Corporate Symposium • Siemens *(no CME credit)* • Plenary Hall										

13:30–15:30												
Traditional Poster Session: *(no CME credit)* Musculoskeletal; Engineering	Electronic Poster Sessions: *(no CME credit)* Body	Study Group Sessions: *(no CME credit)* Current Issues in Brain Function	Study Group Sessions: *(no CME credit)* MR in Drug Research	Novel Neuroimaging Methods	Relaxometry & Parameter Mapping	Of Catheters, Guidewires & Needles: MR-Guided Interventions	Cardiac Microstructure & Function	Diffusion Biophysics & Modeling	Tumor Therapy Response: Clinical & Preclinical	**Educational Course:** MR Cardiovascular MR Imaging: Pushing the Limits—Part 2: Case-Based Studies in CMR	**Special Session:** Women in MRI—Networking & Panel Discussion *(no CME credit)*	**Educational Course:** Multiple Sclerosis: from Pathology to Patients' Monitoring
Exhibition Hall	**Exhibition Hall**	**Room 155 ABC**	**Room 254 ABC**	**Room 150 AG**	**Room 151 AG**	**Room 155 EF**	**Room 255 EF**	**Room 355 BC**	**Room 355 EF**	**Room 250 BCEF**	**Room 255 BC**	**Room 251 BCEF**
13:30–15:30	Hands-On Workshop 2 • GE Healthcare *(no CME credit)* • Room 155 D											
	Hands-On Workshop 2 • Philips Healthcare • Body/Cardiovascular *(no CME credit)* • Room 255 D											
	Hands-On Workshop 2 • Siemens • Conditional Metal Implant Imaging & MapIT, Protocol Optimization & Post-Processing *(no CME credit)* • Room 355 D											
15:30–16:00	BREAK											

16:00–18:00												
Traditional Poster Session: *(no CME credit)* Cancer; Interventional	Electronic Poster Sessions: *(no CME credit)* Pulse Sequences & Reconstruction B	Study Group Sessions: *(no CME credit)* Susceptibility Weighted Imaging	Study Group Sessions: *(no CME credit)* Musculoskeletal MR	Human Brain Tumors: Diagnosis & Response	fMRI in Brain Disorders	MRS: Methods, Physiologic & MR Parameters	MRA: Still Worth Mining	Correction for Eddy Currents & Off-Resonance	Acquisition & Detection Strategies in Molecular Imaging	**Educational Course:** Body MR Artifacts: A Game Show! - Case-Based Teaching	**Educational Course:** MR Physics & Techniques for Clinicians	**Educational Course:** Emerging Technologies for Clinical Neuroimaging
Exhibition Hall	**Exhibition Hall**	**Room 155 ABC**	**Room 254 ABC**	**Room 150 AG**	**Room 151 AG**	**Room 155 EF**	**Room 255 EF**	**Room 355 BC**	**Room 355 EF**	**Room 250 BCEF**	**Room 251 BCEF**	**Room 255 BC**
18:15–19:15	ISMRM Business Meeting *(no CME credit)* • Room 150 AG											

Time	Room	Sunrise Educational Courses
07:00–07:50	250 BCEF	Hot Topics in Body MRI
	150 AG	MRS
	155A	Cardiac MR Today & Tomorrow
	251 BCEF	Emerging Clinical Techniques
	255 BC	Practical Quantitative Imaging
	255 EF	Translational Pathways & Validation
	151 AG	Absolute Beginner's Guide to Neuroimaging Methods
	155 EF	Advanced MSK MRI Techniques with Clinical Applications
	355 BC	From Pulse Sequence to Clinical Applications in the Brain
	355 EF	Nuts & Bolts of Advanced Imaging
10:00–10:30		BREAK

Time	Room	Plenary Session	Presenter(s)
08:00	Plenary Hall	Young Investigator Awards Presentation	Peter Jezzard, Ph.D., 2013-14 ISMRM President
08:15		Mansfield Lecture: MRI & Mechanobiology: Emerging Science at the Intersection of Engineering & Medicine	Richard L. Ehman, M.D.
Plenary Session: MR-PET Organizers: Roland Bammer, Ph.D., Marco Essig, M.D., Ph.D. & Garry E. Gold, M.D.			
9:00	Plenary Hall	Next Generation of Integrated Diagnostics	Sanjiv S. Gambhir, M.D., Ph.D.
09:20		MR-PET Instrumentation & the Gains for Both Modalities	Bernd J. Pichler, Ph.D.
09:40		A Clinical Tool for Radiologists?	Ciprian Catana, M.D., Ph.D.
10:00	Adjourn		

10:30–12:30

Traditional Poster Session: *(no CME credit)* MR Spectroscopy; Functional MRI	Electronic Poster Sessions: *(no CME credit)* Interventional; Engineering	Study Group Sessions: *(no CME credit)* Diffusion	Study Group Sessions: *(no CME credit)* Detection & Correction of Motion in MRI & MRS	Cutting-Edge Cardiac MRI	Perfusion & Permeability Measured with Contrast Agents	Emerging Body MR Techniques	Compressed Sensing: Novel Methods & Applications	Advanced Imaging for Dementia	Advanced Neurovascular MRA	Cartilage: Clinical & Translational	Pulmonary Imaging: From Mouse to Man	**Special Session:** *(no CME credit)* Emerging Techniques: Meet the Experts
Exhibition Hall	**Exhibition Hall**	**Room 155 ABC**	**Room 254 ABC**	**Room 150 AG**	**Room 151 AG**	**Room 155 EF**	**Room 250 BCEF**	**Room 251 BCEF**	**Room 255 EF**	**Room 355 BC**	**Room 355 EF**	**Room 255 BC**

10:30–12:30	Hands-On Workshop 3 • GE Healthcare *(no CME credit)* • Room 155 D
	Hands-On Workshop 3 • Philips Healthcare • Neuro/MSK *(no CME credit)* • Room 255 D
	Hands-On Workshop 3 • Siemens • fMRI & DTI: Acquisition Protocols & Post-Processing *(no CME credit)* • Room 355 D
12:30–13:30	LUNCH

13:30 - 15:30

Traditional Poster Session: *(no CME credit)* Neuro B	Electronic Poster Sessions: *(no CME credit)* Cardiovascular	Hyperpolarized ^{13}C	Gradients, Shims & Field Monitoring	Diabetes, Nutrition & Gastrointestinal	**Translational Scientific Session:** Musculoskeletal Translational Imaging	Advances in Image Analysis	Microstructure By All Means	Perfusion & Permeability: Applications	**Educational Course:** Cardiovascular MR Imaging: Pushing the Limits - Part 3: Accelerated Cardiovascular Imaging: Technique & Clinical Applications	**Educational Course:** Off-Mainstream Techniques
Exhibition Hall	**Exhibition Hall**	**Room 150 AG**	**Room 151 AG**	**Room 155 EF**	**Room 255 BC**	**Room 255 EF**	**Room 355 BC**	**Room 355 EF**	**Room 250 BCEF**	**Room 251 BCEF**

13:30–15:30	Hands-On Workshop 4 • GE Healthcare *(no CME credit)* • Room 155 D
	Hands-On Workshop 4 • Philips Healthcare • Body/Cardiovascular *(no CME credit)* • Room 255 D
	Hands-On Workshop 4 • Siemens • Biograph mMR, Tissue4D & Onco-Treat *(no CME credit)* • Room 355 D
15:30–16:00	BREAK

16:00–18:00

RF Circuits & Concepts	Imaging Biomarkers in Psychiatric Diseases	Body Perfusion & Contrast Agents	fMRI with Simultaneous [Insert Modality Here]	Ute: Methods & Applications	Fibers & Tractography	Brain Diffusion Imaging: Clinical Applications Across the Lifespan	**Educational Course:** MR Physics & Techniques for Clinicians	**Educational Course:** Game Show: Lower-Higher: The Transition from Low Field to High Field —Case-Based Teaching
Room 150 AG	**Room 151 AG**	**Room 155 EF**	**Room 255 BC**	**Room 255 EF**	**Room 355 BC**	**Room 355 EF**	**Room 251 BCEF**	**Room 250 BCEF**

CLOSING PARTY • HALLS AB • 18:15–22:00

Time	Room	Plenary Session	Presenter(s)
Plenary Session: Connectomics: A New Frontier in Neuroscience Organizers: Xiaoping P. Hu, Ph.D., Derek K. Jones, Ph.D. & Karla L. Miller, Ph.D.			
08:15	Plenary Hall	Establishing the Brain's Connections: How Connectomics with Change Basic & Clinical Neuroscience	Klaas E. Stephan, M.D.
08:40		State of the Art in Hardware, Acquisition & Analysis for *In-Vivo* Connectivity	Lawrence L. Wald, Ph.D.
09:05		Innovations in Multi-Modal Imaging for Mapping a Comprehensive Human Connectome	Kamil Ugurbil, Ph.D.
09:30	Adjourn		
09:30–10:30	BREAK		

10:30–12:30								
Normal Developing Brain	Preclinical Cancer Spectroscopy	Hyperpolarized Gases: The Lung & Beyond	Hybrid Systems	Cortex, Connections & Connectomes	Probing Brain Physiology & Metabolism with fMRI	MRS of the Brain	Contrast Generation & Elastography	Vessel Wal Imaging
Room 150 AG	**Room 151 AG**	**Room 155 EF**	**Room 250 BCEF**	**Room 251 BCEF**	**Room 255 BC**	**Room 255 EF**	**Room 355 BC**	**Room 355 EF**

JOIN US FOR THE JOINT ANNUAL MEETING ISMRM-ESMRMB 10–16 MAY 2014

SMRT 23rd ANNUAL MEETING • 10-11 May 2014





Salt Lake City, Utah, USA
20–26 April 2013

"Discovery, Innovation & Application — Advancing MR for Improved Health"

TABLE OF CONTENTS

Exhibition Dates and Open Hours: . inside front cover
Poster Viewing Hours ..... inside front cover
Social Events ..... inside cover
Corporate Members ii
Message from the Program Chair iii
ISMRM Business Meeting vii
ISMRM Meeting Program-at-a-Glance ..... iv-ix
Young Investigator Award Finalists' Presentations xix
Corporate Member Symposia xix
Faculty Disclosures of Financial Relationships ..... xx-lxxviii
ISMRM Officers, Board of Trustees, Annual Meeting Program Committee & Staff lxxix
Session Room Etiquette lxxx
Speaker Ready Room lxxx
Continuing Education lxxx
Outstanding Teacher Awards lxxx
Evaluation Information lxxx
SMRT 22st Annual Meeting Program lxxxi
ISMRM Membership Information ..... back cover

SATURDAY, 20 APRIL 2013 – Educational Courses:

Innovation in Body MRI 1
Pre-Clinical MR of Cancer 1
Perfusion Imaging: ASL, DCE & DSC 2
Single-Subject Neuroimaging 3
Challenges in Musculoskeletal Imaging 4
Advanced Neuroimaging 1: Brain & Spinal Cord 5
MR Systems Engineering 6
MR Physics for Physicists 7
fMRI: From Basic to Intermediate Brain Connectivity, Part 1 8
Diffusion Goes Mad 8

SUNDAY, 21 APRIL 2013 – Educational Courses:

Molecular & Cellular Imaging: From Bench to the Bed 10
Clinical Cancer MRI - Case-Based Teachings 10
Recent Innovation in Cardiac MR 11
Everything You Wanted to Know about MR-PET 13
Advanced Diffusion Acquisition: Targeted Methods 14
Advanced Neuroimaging 2: Across the Lifespan 15
RF Engineering - Coils 16
Imaging Acquisition & Reconstruction 16
Corporate Symposium *(no CME credit)*
Silver Corporate Symposium - Bayer HealthCare 17
A Practical Guide to MR Safety 17
fMRI: From Basic to Intermediate Brain Connectivity, Part 2 18

— INTERNATIONAL SOCIETY FOR —
ISMRM
MAGNETIC RESONANCE IN MEDICINE

ONE
COMMUNITY
FOR CLINICIANS
AND SCIENTISTS

The information contained in this program book was accurate at time of printing. Please visit ismrm.org for program updates.

MONDAY, 22 APRIL 2013
Welcome & ISMRM Awards Presentations 20
Lauterbur Lecture: Klaas P. Pruessmann, Ph.D., Beyond Fourier Encoding: The Need, the Challenges & the Rewards of Breaking Out of K-Space 20
Plenary Session: Panning for Gold: 20 Years of Innovation in MRI 20
Study Group Session: (no CME credit) Interventional MRI 20
Study Group Session: (no CME credit) Hyperpolarized Media MR 20
Young Investigator Award Presentations 20
Extreme Encoding Methods 21
Renal MRI 22
fMRI Connectivity: Mechanisms & Analysis 23
Advanced MRI in Multiple Sclerosi 25
Diffusion Acquisition 26
Educational Course: MR Physics & Techniques for Clinicians 27
Educational Course: MRI of Musculoskeletal Impingement Syndromes 28
Educational Course: Integrated Comprehensive Approach to the Brain Tumor Patient: A Case Study 28
Gold Corporate Member Symposium: (no CME credit) GE Healthcare 28
Study Group Session: (no CME credit) MR Engineering; MR Safety 28
Study Group Session: (no CME credit) Dynamic NMR Spectroscopy 29
Flow Quantification 29
RF Pulse Design 30
Animal Models 1 31
Prostate: Clinical 32
Arterial Spin Labeling 33
Educational Course: Imaging Metabolism with Hyperpolarized Nuclei 34
Educational Course: ISMRM/SMRT Forum: Safe & Ethical Imaging of Patients & Research Subjects 35
Special Session: (no CME credit) Mock Grant Review 35
Educational Course: New Advances in Neurodegenerative Disease 35
Study Group Session: (no CME credit) High Field Systems & Applications 36
Study Group Session: (no CME credit) Cardiac MR 36
MRS: Normal Metabolism & Systems Under Stress 36
Image Reconstruction 37

MONDAY, 22 APRIL 2013 (CONTINUED)
New Systems & Probes 38
Bone, Tendon & Menisci: State of the Art 39
Novel Contrast Agents & Reporters 40
Translational Scientific Session: Susceptibility Image in the Brain 41
Advanced Fetal & Pediatric CNS Imaging 43
Educational Course: Female Pelvis 44
Educational Course: Added Value of DWI for Your Clinical Practice 44

TUESDAY, 23 APRIL 2013
Sunrise Educational Courses
Hot Topics in Body MRI 46
MRS 46
Cardiac MR Today & Tomorrow 46
Emerging Clinical Techniques 46
Practical Quantitative Imaging 47
Translational Pathways & Validation 47
Absolute Beginner's Guide to Neuroimaging Methods 47
Advanced MSK MRI Techniques with Clinical Applications 47
From Pulse Sequence to Clinical Applications in the Brain 48
Nuts & Bolts of Advanced Imaging 48
Plenary Session: MRI in Cancer: Promises, Controversies & Technical Innovation in Breast MRI 48
Study Group Session: (no CME credit) Psychiatric MR Spectroscopy & Imaging 48
Translational Scientific Session: Fast Cardiac Imaging 48
Breast MRI: Clinical & Technical 49
Advanced Stroke Imaging 51
MRS: Cancer & Aberrant Metabolism 52
Thermotherapy & Thermometry 53
Targeted Molecular Imaging Agents 54
Sequences & Applications 55
Educational Course: Bowel 57
Educational Course: Imaging Bone Architecture & Composition 57
Gold Corporate Symposium: (no CME credit) Philips Healthcare 57
Study Group Session: (no CME credit) Molecular & Cellular Imaging 57
Study Group Session: (no CME credit) MR Flow & Motion Quantitation 58

TUESDAY, 23 APRIL 2013 (CONTINUED)

Tissue Characterization of the Myocardium: Different Insights....58
High Resolution Brain Morphometry....59
Hepatobiliary/Pancreas....60
Transmit Arrays & RF Safety....61
High Resolution fMRI Applications to Neuroscience....62
Motion Artifact Correction....63
Educational Course:
Bringing Radiation Therapy to the Next Level: Technical Concepts & Clinical Applications....64
Educational Course:
Imaging Muscle Structure & Function....65
Educational Course:
Cerebrovascular Disease: From Acute to Chronic....65
Study Group Session: *(no CME credit)*
MR of Cancer....66
Study Group Session: *(no CME credit)*
Perfusion....66
Myocardial Perfusion: Technical Development & Clinical Needs....66
fMRI Connectivity: Applications....67
Animal Models 2....68
Spine & Spinal Cord....69
Muscle: Physiology & Function....70
B_1 Mapping & Corrections....71
Educational Course:
Cardiovascular MR Imaging: Pushing the Limits - Part 1: CMR in Cardiac Arrhythmias....72
Educational Course:
MR Physics & Techniques for Clinicians....73
Educational Course:
Revenge: Game Show....73
Corporate Symposium: *(no CME credit)*
Bronze Corporate Symposium - Bracco....74

WEDNESDAY, 24 APRIL 2013

Sunrise Educational Courses

Hot Topics in Body MRI....75
MRS....75
Cardiac MR Today & Tomorrow....75
Emerging Clinical Techniques....75
Practical Quantitative Imaging....76
Translational Pathways & Validation....76
Absolute Beginner's Guide to Neuroimaging Methods....76
Advanced MSK MRI Techniques with Clinical Applications....76
From Pulse Sequence to Clinical Applications in the Brain....77
Nuts & Bolts of Advanced Imaging....77

WEDNESDAY, 24 APRIL 2013 (CONTINUED)

Plenary Session:
Standardization of MR-Based Biomarkers for Evidence Based Medicine Across Institutions....77
Study Group Session: *(no CME credit)*
White Matter....77
Neurodegenerative: Clinical....78
RF Engineering: Far Fields & High Dielectrics....79
Translational Scientific Session:
Fat-Water Imaging- Translational Applications....80
Novel fMRI Acquisition Methods & Contrast Mechanisms....81
Saturation Transfer: New Frontiers & Applications....82
Cartilage & Basic Science: Emerging Techniques....84
Preclinical Cancer Imaging: Molecular & Traditional....85
Educational Course:
Lung....86
Educational Course:
Motion Artifacts & Practical Solutions....86
Hands-On Workshop 1: *(no CME credit)*
GE Healthcare....87
Hands-On Workshop 1: *(no CME credit)*
Philips Healthcare....87
Hands-On Workshop 1: *(no CME credit)*
Siemens....87
Gold Corporate Symposium: *(no CME credit)*
Siemens....87
Study Group Session: *(no CME credit)*
Current Issues in Brain Function....87
Study Group Session: *(no CME credit)*
MR in Drug Research....87
Novel Neuroimaging Methods....87
Relaxometry & Parameter Mapping....88
Of Catheters, Guidewires & Needles: MR-Guided Interventions....89
Cardiac Microstructure & Function....91
Diffusion Biophysics & Modeling....92
Tumor Therapy Response: Clinical & Preclinical....93
Educational Course:
Cardiovascular MR Imaging: Pushing the Limits - Part 2: Case-Based Studies in CMR....94
Special Session: *(no CME credit)*
Women in MRI Networking & Panel Discussion....95
Educational Course:
Multiple Sclerosis: from Pathology to Patients' Monitoring....95
Hands-On Workshop 2: *(no CME credit)*
GE Healthcare....95
Hands-On Workshop 2: *(no CME credit)*
Philips Healthcare....95
Hands-On Workshop 2: *(no CME credit)*
Siemens....95

WEDNESDAY, 24 APRIL 2013 (CONTINUED)

Study Group Session: *(no CME credit)*
Susceptibility Weighted Imaging 96
Study Group Session: *(no CME credit)*
Musculoskeletal MR 96
Human Brain Tumors: Diagnosis & Response 96
fMRI in Brain Disorders 97
MRS: Methods, Physiologic & MR Parameters 98
MRA: Still Worth Mining 99
Correction for Eddy Currents & Off-Resonance 101
Acquisition & Detection Strategies in
Molecular Imaging 102
Educational Course:
Body MR Artifacts: A Game Show!
- Case-Based Teaching 103
Educational Course:
MR Physics & Techniques for Clinicians 104
Educational Course:
Emerging Technologies for Clinical
Neuroimaging 104
ISMRM Business Meeting *(no CME credit)* 104

THURSDAY, 25 APRIL 2013

Sunrise Educational Courses

Hot Topics in Body MRI 105
MRS 105
Cardiac MR Today & Tomorrow 105
Emerging Clinical Techniques 105
Practical Quantitative Imaging 106
Translational Pathways & Validation 106
Absolute Beginner's Guide to
Neuroimaging Methods 106
Advanced MSK MRI Techniques
with Clinical Applications 106
From Pulse Sequence to Clinical Applications
in the Brain 107
Nuts & Bolts of Advanced Imaging 107
Young Investigator Awards Presentation 107
Mansfield Lecture: Richard L. Ehman, M.D.,
MRI & Mechanobiology: Emerging Science at the
Intersection of Engineering & Medicine 107
Plenary Session:
MR–PET 107
Study Group Session: *(no CME credit)*
Diffusion 108
Study Group Session: *(no CME credit)*
Detection & Correction of Motion in
MRI & MRS 108
Cutting-Edge Cardiac MRI 108
Perfusion & Permeability Measured
with Contrast Agents 109

THURSDAY, 25 APRIL 2013 (CONTINUED)

Emerging Body MR Techniques 110
Compressed Sensing:
Novel Methods & Applications 111
Advanced Imaging for Dementia 112
Advanced Neurovascular MRA 114
Cartilage: Clinical & Translational 115
Pulmonary Imaging: From Mouse to Man 116
Special Session: *(no CME credit)*
Emerging Techniques: Meet the Experts 118
Hands-On Workshop 3: *(no CME credit)*
GE Healthcare 118
Hands-On Workshop 3: *(no CME credit)*
Philips Healthcare 118
Hands-On Workshop 3: *(no CME credit)*
Siemens 118
Hyperpolarized ^{13}C 119
Gradients, Shims & Field Monitoring 120
Diabetes, Nutrition & Gastrointestinal 121
Translational Scientific Session:
Musculoskeletal Translational Imaging 122
Advances in Image Analysis 123
Microstructure By All Means 124
Perfusion & Permeability: Applications 125
Educational Course:
Cardiovascular MR Imaging: Pushing the Limits
-Part 3: Accelerated Cardiovascular Imaging:
Technique & Clinical Applications 127
Educational Course:
Off-Mainstream Techniques 127
Hands-On Workshop 4: *(no CME credit)*
GE Healthcare 127
Hands-On Workshop 4: (Repeat) *(no CME credit)*
Philips Healthcare 127
Hands-On Workshop 4: (Repeat) *(no CME credit)*
Siemens 128
RF Circuits & Concepts 128
Imaging Biomarkers in Psychiatric Diseases 129
Body Perfusion & Contrast Agents 130
fMRI with Simultaneous [Insert Modality Here] 131
Ute: Methods & Applications 132
Fibers & Tractography 133
Brain Diffusion Imaging:
Clinical Applications Across the Lifespan 134
Educational Course:
MR Physics & Techniques for Clinicians 136
Educational Course:
Game Show: Lower-Higher: The Transition from
Low Field to High Field - Case-Based Teaching 136

FRIDAY, 26 APRIL 2013

Plenary Session:
Connectomics: A New Frontier in Neuroscience 137
Normal Developing Brain 137
Preclinical Cancer Spectroscopy 138
Hyperpolarized Gases: The Lung & Beyond 139
Hybrid Systems 140
Cortex, Connections & Connectomes 142
Probing Brain Physiology & Metabolism with fMRI 143
MRS of the Brain 144
Contrast Generation & Elastography 145
Vessel Wall Imaging 146

		Page #
Neuro A		
Normal Developing Brain	0884-0894	148
High Resolution Pediatric CNS Imaging	0895-0925	149
High Resolution Brain Anatomy & Morphometry	0926-0954	153
Human Brain Tumors: Diagnosis & Response	0955-0989	156
Advanced Imaging for Dementia	0990-1013	160
Movement Disorders & Degeneration	1014-1033	163
Animal Models Other Than Stroke	1034-1077	166
Neuro B		
Multiple Sclerosis & Deteriorating Diseases	1078-1110	171
Spinal Cord	1111-1126	175
Neurovascular Disease - Clinical	1127-1151	177
fMRI of Brain Disorders	1152-1181	180
Imaging of Psychiatric Disorders	1182-1207	184
Head & Neck	1208-1235	186
Novel Neuroimaging Methods	1236-1254	190
Manganese Enhanced MRI	1255-1270	192
Cardiovascular		
CE & Non CE MRA	1271-1292	194
Vessel Wall & Coronary Angiography	1293-1316	196
Myocardial Perfusion	1317-1325	199
Flow Quantification	1326-1356	200
Myocardial Tissue Characterization	1357-1378	204
Cardiac Microstructure & Function	1379-1393	206
CV Imaging Technology & Methodology	1394-1426	208
CV Image Processing & Other	1427-1446	212
Body		
Hyperpolarized Gases: Methods, Applications & Hardware	1447-1479	214
Advances in Pulmonary Imaging	1480-1501	218
Diabetes, Obesity & Hepatobiliary	1502-1539	221
Genitourinary MRI	1540-1581	225
Body – Other	1582-1591	230
Musculoskeletal		
Bone/Tendon/Ligament/Spine	1592-1618	231
Muscle	1619-1648	234
Cartilage	1649-1663	237
Technical/Misc	1664-1690	239
Cancer		
Preclinical Cancer: Perfusion, Permeability & Oxygenation	1691-1702	242
Preclinical Cancer: Response to Therapy	1703-1715	243
Preclinical Cancer: Spectroscopy & Molecular	1716-1727	245
Cancer of Breast & Body	1728-1768	246
Prostate	1769-1801	251
Interventional		
Thermotherapy & Thermometry	1802-1821	255
MR-Guided Focused Ultrasound	1822-1832	257
Intravascular MR-Guided Interventions	1833-1838	258
MR-Guided Interventions From Head to Toe	1839-1843	259
Software & Hardware for MR-Guided Interventions	1844-1849	259
Molecular Imaging		
Molecular & Cellular Imaging	1850-1913	260
Hyperpolarized Contrast Agents	1914-1937	267
MR Spectroscopy		
MRS of Neurological Disease	1938-1946	270
Human MRS: *In Vivo* & *In Vitro*	1947-1954	271
MRS & Metabolism	1955-1972	272
MRS of Animal Models	1973-1981	274
ESR & Multinuclear	1982-1995	275
MRS & Relaxation	1996-2001	277
Methodology of Spectroscopic Localization & Imaging	2002-2029	277
Methodology of Spectroscopic Quantitation	2030-2043	280
Diffusion & Perfusion		
Diffusion Acquisition	2044-2076	282
Diffusion: Noise, Artifacts & Phantoms	2077-2094	285
Diffusion: Pre-Clinical & Clinical Applications	2095 -2116	287
Fibre PDF's & Tractography	2117-2143	289
Arterial Spin Labeling	2144-2193	292
Perfusion & Permeability	2194-2226	297

		Page #
Functional MRI		
Functional Connectivity: Acquisitions & Artifacts	2227-2239	301
Functional Connectivity: Electrophysiological Correlates	2240-2245	303
Functional Connectivity Analysis	2246-2261	303
Functional Connectivity: Biomarkers	2262-2274	305
fMRI Acquisition: Methods & Protocols	2275-2284	306
fMRI: Analysis of Activation	2285-2297	307
Animal fMRI Studies	2298-2326	309
Human fMRI Studies	2327-2350	312
Pulse Sequences & Reconstruction A		
Pulse Sequences & Applications	2351-2395	315
RF Pulse Design	2396-2400	319
Fat & Water: Methods & Evaluations	2401-2420	320
MR Elastography	2421-2447	322
Relaxometry	2448-2479	325
Susceptibility	2480-2504	328
Contrast Mechanism: From Exotic to Clinical Applications	2505-2525	331
CEST, MT, APT	2526-2555	333
Pulse Sequences & Reconstruction B		
Artifacts & Correction	2556-2566	336
Artifacts & Correction: Off-Resonance & Eddy Currents	2567-2576	337
Artifacts & Correction: Motion	2577-2591	338
B_1 Mapping	2592-2600	340
Compressed Sensing	2601-2628	341
Image Reconstruction: Non-Cartesian & Parallel Imaging	2629-2661	344
Image Reconstruction & Analysis	2662-2686	347
Advances in Image Analysis	2687-2706	349
Engineering		
Gradients & Shimming	2707-2719	352
Arrays & Array Technology	2720-2759	353
Specialized Systems & Devices	2760-2768	357
Magnets	2769-2771	358
Novel RF Coils	2772-2796	358
High-Dielectric Materials in RF Imaging	2797-2802	361
RF Simulations	2803-2807	362
PET/MRI Systems Engineering	2808-2818	362
Safety (Non-Contrast Agent)	2819-2842	363

Page #

Neuro A

Parkinson's Neurodegenerative 2843-2866 366
Advanced Imaging of Dementia 2867-2890 369
Advanced Neuroimaging:
Traumatic Brain Injury & Other
Clinical Applications..... 2891-2914 371
Animal Models & Clinical Studies
of Stroke..... 2915-2938 374
Normal Developing Brain 2939-2956 377
Advanced Fetal & Pediatric
CNS Imaging 2957-2980 379
Neurovascular Diseases ..... 2981 -3004 382
High Resolution Brain
Anatomy & Morphology..... 3005-3028 385

Diffusion & Perfusion

Arterial Spin Labeling..... 3029-3052 387
Perfusion & Permeability Measured
with Contrast Agents 3053-3076 390
Diffusion Applications 3077-3100 393
Diffusion to Measure Perfusion 3101-3123 396
Diffusion: Models & Microstructure 3124-3147 398
Fiber ODF & Fiber Tracking..... 3148-3171 401
Diffusion Acquisition & Analysis..... 3172-3195 403
Diffusion MR Artefacts & Data Quality ... 3196-3219 406

Functional MRI (Neuro)

fMRI Applications In Neuroscience..... 3220-3242 408
fMRI: Basics, Modalities & Analysis..... 3243-3266 411
Resting State Connectivity: Methods 3267-3290 413
Resting State Connectivity:
Applications..... 3291-3313 416
fMRI Acquisition Methods 3314-3337 418
fMRI: Physiological Noise &
Beyond BOLD..... 3338-3361 421

Cancer

Breast: Clinical, Technical &
Treatment Response 3362-3385 423
Prostate..... 3386-3409 426
Preclinical MR of Cancer:
Cells & Animals..... 3410-3433 429
Cancer 3434-3456 432

Musculoskeletal

Bone, Menisci, Tendon & Spine 3457-3480 435
Technical & Miscellaneous..... 3481-3504 438
Muscle 3505-3528 441
Cartilage..... 3529-3552 443

Page #

Neuro B

fMRI of Brain Disorders 3553-3576 446
Imaging of Psychiatric Disorders..... 3577-3600 449
Multiple Sclerosis..... 3601-3624 452
Human Brain Tumors:
Diagnosis & Responses..... 3625-3648 455
Brain Diffusion Imaging &
Neuroeducation 3649-3672 458
Animal Models Other Than Stroke 3673-3695 461

Pulse Sequences & Reconstruction A

Pulse Sequences: Research 3696-3717 463
Pulse Sequences: Education..... 3718-3719 465
Advances in Image Analysis:
Image Analysis..... 3720-3731 466
Advances in Image Analysis:
Image Reconstruction & Processing... 3732-3743 467
Artifacts & Correction: Motion 3744-3767 468
Artifacts & Corrections:
Off-Resonance & Eddy Currents..... 3768-3791 471
Compressed Sensing 3792-3815 473
Non-Cartesian & Parallel Imaging..... 3816-3839 476
Susceptibility Contrast 3840-3858 478

Molecular Imaging

Molecular Imaging Techniques &
Cell Labeling..... 3859-3882 480
Novel Agents & Targeting in
Molecular Imaging 3883-3906 483
Hyperpolarized ^{13}C & Metabolism 3907-3930 486
Hyperpolarization:
New Methods, Probes, & Applications... 3931-3954 489

MR Spectroscopy

Methodology of Spectroscopic
Localization & Imaging 3955-3978 491
MR Spectroscopic Imaging..... 3979-4001 494
MRS Potpourri..... 4002-4025 497
MRS & Metabolism..... 4026-4049 499

Body

Diabetes, Metabolism &
Gastrointestinal 4050-4073 502
Hepatobiliary MRI..... 4074-4097 505
Pulmonary & Airway Imaging:
Methods & Applications..... 4098-4121 508
Genitourinary / Fetal 4122-4145 511
Whole Body DWI 4146-4169 513

Page #

Pulse Sequences & Reconstruction B

Contrast Mechanisms:
Electromagnetic Property Mapping ...4170-4193 516
Contrast Mechanism: Relaxometry -
T_2* & Iron Quantification.....4194-4206 518
Contrast Mechanisms: Relaxometry -
Novel Sequences &
Quantification Methods.....4207-4217 520
All Flavors of Saturation Transfer Floors .4218-4241 521
RF Pulse Design 2.....4242-4265 523
B_1 Mapping, Water/Fat & Contrasts:
B_1 Mapping.....4266-4271 525
B_1 Mapping, Water/Fat & Contrasts:
Water/Fat.....4272-4281 526
B_1 Mapping, Water/Fat & Contrasts:
Contrast.....4282-4289 527

Interventional

Thermotherapy & Thermometry A 4290-4313 528
Intravascular & Percutaneous MR-Guided
Interventions B 4314-4337 531

Engineering

MR Systems Engineering 4338-4349 533
RF Array Coil Coupling & RF Coils
for Multinuclear & Hybrid Systems 4350-4361 534
RF Coils & Concepts 4362-4373 536
Dielectrics & Novel RF Concepts 4374-4385 537
Receive Arrays 4386-4397 538
Transmit Arrays 4398-4409 539
MRI Safety 1 .....4410-4421 540
MRI Safety 2 .....4422-4433 542

Cardiovascular

Flow Quantification .....4434 -4457 543
MRA.....4458 -4481 546
Cardiac Function & Diffusion.....4482 -4504 548
Myocardial Tissue Characterisation .....4505 -4527 552
Vessel Wall & Coronary Angiography....4528 -4545 554
Cardiovascular MAI Education .....4546 -4551 556
CV Imaging Technology &
Methodology.....4552 -4575 557

Author Index 560

YOUNG INVESTIGATOR AWARDS FINALISTS PRESENTATIONS

The winners of the Young Investigator Awards will be presented on Thursday, 25 April 2013, at 08:00 in the Plenary Hall.

Finalist	Poster	Topic	Presentation	Date	Time	Room
Kun Qing	06	Regional Mapping of Gas Uptake by Red Blood Cells & Tissue in the Human Lung Using Hyperpolarized Xenon-129 MRI	Oral Presentation	Monday, 22 April	10:45	150 AG
			Poster Presentation		14:15	Exhibition Hall
Christopher Roy	07	Dynamic Imaging of the Fetal Heart Using Metric Optimized Gating	Oral Presentation	Monday, 22 April	11:05	150 AG
			Poster Presentation		14:35	Exhibition Hall
Susanne Schnell	08	3D Hemodynamics in Intracranial Aneurysms: Influence of Size & Morphology	Oral Presentation	Monday, 22 April	11:25	150 AG
			Poster Presentation		14:55	Exhibition Hall
Adrienne Campbell-Washburn	09	Multi-Slice Cardiac Arterial Spin Labeling using Improved Myocardial Perfusion Quantification with Simultaneously Measured Blood Pool Input Function	Oral Presentation	Monday, 22 April	11:45	150 AG
			Poster Presentation		15:15	Exhibition Hall
Jeremy Gordon	10	Joint K-T Reconstruction & Oversampled Spirals for Single-Shot 2D Spatial/1D Spectral Imaging of ^{13}C Dynamics	Oral Presentation	Monday, 22 April	12:05	150 AG
			Poster Presentation		15:35	Exhibition Hall
Chad T. Harris	11	A New Approach to Shimming: The Dynamically Controlled Adaptive Current Network	Oral Presentation	Monday, 22 April	12:25	150 AG
			Poster Presentation		15:55	Exhibition Hall

CORPORATE SYMPOSIA

Presenter	Date	Time	Room
Gold Corporate Symposium *(no CME credit)*			
GE Healthcare	Monday, 22 April	13:00–14:00	Plenary Hall
Philips Healthcare	Tuesday, 23 April	12:15–13:15	Plenary Hall
Siemens	Wednesday, 24 April	12:15–13:15	Plenary Hall
Silver Corporate Symposium *(no CME credit)*			
Bayer HealthCare	Sunday, 21 April	12:30– 13:30	Plenary Hall
Bronze Corporate Symposium *(no CME credit)*			
Bracco	Tuesday, 23 April	18:30–20:30	Room 255 EF

ISMRM Corporate Member Program

Partner with ISMRM as a Corporate Member and receive exclusive benefits. For more information, contact:

Roberta A. Kravitz, Executive Director • Phone: +1 510 841 1899 • Fax: +1 510 841 2340 • Email: roberta@ismrm.org

Invited Faculty & Introduction Speakers

The ISMRM is committed to:

- Ensuring balance, independence, objectivity and scientific rigor in all Continuing Medical Education (CME) programs; and
- Presenting CME activities that promote improvements or quality in healthcare and are independent of commercial interests.

Therefore it is the policy of the Society that any person who has influence over the content of a program designated for *AMA PRA Category 1 Credits*™ must disclose any real or apparent financial interest or other relationship (i.e., grants, research support, consultant, honoraria) that the individual may have with the manufacturers, distributors or providers of any commercial products or services that may be discussed in the presentation.

Such financial interests or relationships must be identified in advance so that potential conflicts can be resolved before the program, and participants at the CME activity may have these facts fully disclosed at the outset.

The ISMRM does not imply that such financial interests or relationships are inherently improper or that such interests or relationships would prevent the speaker or organizer from making an objective contribution. However, it is imperative that such financial interests or relationships be identified so that potential conflicts can be resolved before the program, and participants at the CME activity may have these facts fully disclosed in advance. It then remains for the audience to determine whether an individual's outside interests may reflect a possible bias in either the exposition or the conclusions presented

Following are the names of all presenters, committee members and other organizers who had influence over the program content. If individuals have disclosed real or apparent financial interests or relationships, the interests or relationships are described.

*Addendum to Declaration of Financial Interests & Relationships: www.ismrm.org/13/Declaration_Addendum.pdf

Faculty & Introduction Speakers who have Financial Interests or Relationships:

Joseph J. H. Ackerman, Ph.D.	Grant/Research Support: Agilent Technologies (formerly Magnex); Honoraria: Elsevier
Noam Alperin, Ph.D.	Ownership Interest: Alperin Noninvasive Diagnostics, Inc.
David C. Alsop, Ph.D.	Grant/Research Support: General Electric
Talissa Altes, M.D.	Grant/Research Support: Siemens, Vertex & Novartis
Adam W. Anderson, Ph.D.	Grant: Philips; Ownership Interest/Stock Purchased: General Electric
Jan Henrik Ardenkjaer-Larsen, Ph.D.	Employment: General Electric
Ulrike I. Attenberger, M.D.	Consulting Fee: Bayer Healthcare/Bayer Schering
Roland Bammer, Ph.D.	Ownership Interest: iSchemaView, Inc.
Daniel P. Barboriak, M.D.	Grants/Research Support: Eisai Pharmaceuticals & Siemens; Consulting/Advisory Board: General Electric
Gareth J. Barker, Ph.D.	Grant: General Electric; Consulting Fee: IXICO
Christoph Barmet, Ph.D.	Ownership Interest & Employment: Skope Magnetic Resonance Technologies
Wolfgang R. Bauer, M.D., Ph.D.	Consulting/Advisor: BIOTRONIK & Medtronic; Scientific Project: TRIMESH
Philip J. Beatty, Ph.D.	Ownership Interest: General Electric
Jeffery I. Berman, Ph.D.	Consulting Fee: McGowan Associates
Stephan Biber, Ph.D.	Employment: Siemens
Walter F. Block, Ph.D.	Grant/Research Support: General Electric; Ownership Interest: inseRT MRI; Employment: Marvel Medtech
Michael Bock, Ph.D.	Consulting Fee: Siemens

Invited Faculty & Introduction Speakers

Jerzy A. Bodurka, Ph.D.	Speaking/Honoraria: Brain Products
Ed B. Boskamp, Ph.D.	Employment: General Electric
James B. Brewer, Ph.D.	Grant/Research Support: Janssen Alzheimer Immunotherapy; Consulting Advisory Board: Bristol Myers Squibb; Advisory Board: Lilly Biomarker Business Unit; Ownership Interest: Cortechs Laboratories, Inc.
Kevin M. Brindle, Ph.D.	Grant/Research Support: General Electric; Consulting Fee: Glaxo-SmithKline
Gregory R. Brown, J.D., B.A.	Consulting: Novartis Pharmaceuticals Australia
David Otto Brunner, Ph.D.	Ownership Interest: Skope MRT
Jeff W. M. Bulte, Ph.D.	Grant/Research Support: Philips & Q Therapeutics
Richard B. Buxton, Ph.D.	Grant/Research Support: General Electric
James C. Carr, M.D.	Grants/Research Support: Siemens, Astellas & Bayer Healthcare/Bayer Schering; Consulting Fee: Lantheus Medical Imaging
John A. Carrino, M.D., M.P.H.	Grant/Research Support: Siemens; Consulting Fee: Siemens
Ciprian Catana, M.D., Ph.D.	Speaking/Honoraria: Siemens
Michael A. Chappell, D.Phil., M.Eng.	Royalties: Various companies, names unknown
Frederick T. Chin, Ph.D.	Consulting Fee: Ground Fluor Pharmaceuticals, Inc.
Christine Chung, M.D.	Grant/Research Support: General Electric
Howard Colman, M.D., Ph.D.	Consulting Fee/Advisory Board: Hoffman-LaRoche
Joseph P. Culver, Ph.D.	Licenses: Cephalogics, LLC
Charles H. Cunningham, Ph.D.	Grant/Research Support: General Electric
Bruce L. Daniel, M.D.	Grant/Research Support: General Electric
Alexander J. S. de Crespigny, Ph.D.	Employment: Hoffman-LaRoche
Robin A. de Graaf, Ph.D.	Employment: Agilent Technologies (formerly Magnex)
James F. Dempsey, Ph.D.	Employment/Ownership Interest & Member Board of Directors: ViewRay Incorporated
John A. Detre, M.D.	Speaking/Honoraria: BioClinica & Health Partners
Edward V. R. DiBella, Ph.D.	Grant/Research Support: Astellas
Mariya Doneva, Ph.D.	Employment: Philips
Jiang P. Du, Ph.D.	Grant/Research Support: General Electric
Frank Engelke, Ph.D.	Employment: Bruker BioSpin
Daniel B. Ennis, Ph.D.	Grant/Research Support: Siemens
William Faulkner, B.S., R.T.(R)(MR)(CT)	Consulting Fee: Medtronic
Laura Adel Fayad, Ph.D.	Grant: Siemens
Victor A. Ferrari, M.D.	Executive Committee Member: SCMR
Sanjiv S. Gambhir, M.D., Ph.D.	Consulting Fee: Bracco; Ownership Interest: Spectrum Dynamics
Michael Garwood, Ph.D.	Royalties: General Electric
Fiona J. Gilbert, M.D.	Grant: Philips
Penny Anne Gowland, Ph.D.	Grant/Research Support: Proctor & Gamble
Mark A. Griswold Ph.D.	Grant/Research Support: Siemens

Invited Faculty & Introduction Speakers

Alexander S. R. Guimaraes, M.D., Ph.D.	Speaking/Travel Reimbursement: Siemens
Masoom A. Haider M.D., F.R.C.P.C.	Grant: Hologic
Christopher J. Hardy, Ph.D.	Employment: General Electric
Brian A. Hargreaves, Ph.D.	Grant/Research Support: General Electric
Paul R. Harvey, Ph.D.	Employment/Ownership Interest: Philips
Jay P. Heiken, M.D.	Royalties: Covidien (formerly Tyco/Mallinckrodt); Patent Agreement: Medrad
Jürgen K. Hennig, Ph.D.	Grant/Research Support: Siemens, Bruker BioSpin & Esaote
Daniel A. Herzka, Ph.D.	Ownership Interest: Philips
Christopher P. Hess, M.D., Ph.D.	Grant/Research Support: General Electric
Mark A. Horsfield, Ph.D.	Ownership Interest: Xinapse Systems, Ltd.
Xiaoping P. Hu, Ph.D.	Grant/Research Support: Siemens
Hero K. Hussain, M.D.	Consulting/Honoraria: Bayer Healthcare/Bayer Schering
Shahid M. Hussain, M.D., Ph.D.	Grant/Research Support: Philips & Bracco
Tamer S. Ibrahim, Ph.D.	Grant: Siemens
Randy L. Jensen, M.D., Ph.D.	Consulting/Honoraria: Medtronic; Scientific Advisory Board: Pharmocokinesis
Karik S. Jhaveri, M.D.	Grant/Research Support: Bayer Healthcare/Bayer Schering
G. Allan Johnson, Ph.D.	Grant: Aspect Imaging
Christoph Juchem, Ph.D.	Grant: Agilent Technologies (formerly Magnex)
Ihab R. Kamel, M.D., Ph.D.	Grant/Salary Support: Siemens
Emanuel Kanal, M.D., F.A.C.R.	Consulting Fee: Covidien, Guerbet, MedicVision & Medtronic; Software Sale & Travel Reimbursement: Bracco Diagnostics
Ulrich Katscher, Ph.D.	Employment: Philips
Adam B. Kerr, Ph.D.	Grant/Research Support: General Electric; Ownership Interest: HeartVista
Scott B. King Ph.D.	Royalties: Hi-Q.A.
Kevin M. Koch, Ph.D.	Employment: General Electronic
Katsumi Kose, Ph.D.	Consulting Fee & Ownership Interest: MRTechnology
Dara L. Kraitchman, V.M.D., Ph.D.	Grant/Research Support: Siemens & Boston Scientific Corporation; Intellectual Property Rights: Samsung
Harald Kugel, Ph.D.	Consulting Fee: MR:Comp GmbH
Christiane K. Kuhl, M.D., Ph.D.	Advisory Board Member: Bayer Healthcare/Bayer Schering
Jeong Min Lee, M.D.	Honoraria: Bayer Healthcare/Bayer Schering
Constance D. Lehman, M.D., Ph.D.	Grant: General Electric; Consulting Fee: General Electric & Bayer Healthcare/ Bayer Schering
Craig Levin, Ph.D.	Grant/Research Support: Philips & General Electric
Xiaojuan Li, Ph.D.	Grant/Research Support: General Electric
Chen Lin, Ph.D.	Grant: Siemens
Roger Lüchinger, Ph.D.	Consulting Fee: Medtronic, Inc.
Michael Lustig, Ph.D.	Grant: General Electric
Katarzyna J. Macura, M.D., Ph.D.	Grant/Research Support: Siemens

Invited Faculty & Introduction Speakers

Jeffrey H. Maki, M.D., Ph.D.	Grant/Research Support: Philips; Grant/Travel: Bracco; Consulting/Honoraria: Bayer Healthcare/Bayer Schering; Speaking/Honoraria: Lantheus
Pia C. Maly Sundgren, M.D., Ph.D.	Consulting Fee: ICON Medical Imaging
Nassir F. Marrouche, M.D.	Grant/Research Support: Estech, Sanofi Aventis & Biotronik; Consulting Fee:Sanofi Aventis, eCardio & Estech; Speaking/Honoraria: Boehringer Ingelheim; Ownership Interest: Marrek & MRI Interventions
Diego R. Martin, M.D., Ph.D., F.R.C.P.C.	Grant: Siemens
Paul M. Matthews, M.D., D.Phil.	Ownership Interest/Employment: Glaxo-SmithKline
Susan Matulevicius, M.D.	Grant: General Electric
Charles A. McKenzie, Ph.D.	Grant: General Electric
Graeme C. McKinnon, Ph.D.	Employment: General Electric
Craig A. Meyer, Ph.D.	Grant: Siemens
Mitsue Miyazaki, Ph.D.	Employment: Toshiba
Catherine J. Moran, Ph.D.	Grant/Research Support: General Electric
Timothy J. Mosher, M.D.	Consulting Fee: Medical Metrics, Depuy Orthopedics
John P. Mugler, Ph.D.	Grant/Research Support: Siemens
Pratik Mukherjee, M.D., Ph.D.	Grant/Research Support: General Electric
Robert N. Muller, Ph.D.	Speaker/Travel Honoraria: Guerbet, France
Scott K. Nagle, M.D., Ph.D.	Grant/Research Support & Ownership Interest: General Electric
Sarah J. Nelson , Ph.D.	Grant/Research Support: General Electric
Reza Nezafat, Ph.D.	Grant/Royalty: Philips; Grant/Research Support: Samsung Electronics
Thoralf Niendorf , Ph.D.	Ownership Interest/Founder: MRI.TOOLS GmbH
Nael F. Osman, Ph.D.	Ownership Interest: Diagnosoft, Inc.
Aytekin Oto, M.D.	Grant/Honoraria: Philips
Anwar R. Padhani, M.B.B.S, F.R.C.P.	Grant: Siemens; Ownership Interest: Siemens; Consulting Fee: Roche; Speaking/Teaching: Siemens; Consulting: Acuitas Medical
Savannah C. Partridge, Ph.D.	Grants/Research Support: Philips & Safeway
Amit R. Patel, M.D.	Grants/Research Support: Philips & Astellas Pharma
John M. Pauly, Ph.D.	Grant/Research Support: General Electric; Ownership Interest: HeartVista
Ivan Pedrosa, M.D.	Grant/Research Support: Philips; Consulting Fee/Honoraria: Philips
Bernd J. Pichler, Ph.D.	Grants: Siemens & Bruker; Royalties from Licensing: Bruker
James G. Pipe, Ph.D.	Grants/Research Support: Philips
Whitney Pope, M.D., Ph.D.	Consulting Fee: Hoffman-LaRoche
Harish Poptani, Ph.D.	Consulting Fee: American College of Radiology Image Metrix
Hollis G. Potter, M.D.	Grant/Research Support: General Electric; Consulting Fee: Smith & Nephew; Consulting Fee: Biomet
Martin R. Prince, M.D., Ph.D.	Ownership Interest: TopSpins, Inc.; Patent Agreements: Bayer Healthcare/Bayer Schering, General Electric, Hitachi, Toshiba, Siemens, Medrad, Mallinckrodt, Bracco, Lantheus & Nemato
Klaas Pruessmann, Ph.D.	Grant/Research Support: Philips; Ownership Interest: Skope Magnetic ResonanceTechnologies, LLC & GyroTools, LLC

Invited Faculty & Introduction Speakers

Christopher Chad Quarles, Ph.D.	Grant/Research Support: Threshold Pharmaceuticals
Timothy P. Roberts, Ph.D.	Grant: Seaside Therapeutics; Ownership Interest: Prism Clinical Imaging
Bruce A. Rosen, M.D., Ph.D.	Consulting Fee: Siemens
Alex Rovira, M.D.	Speaking/Honoraria: Bayer Healthcare/Bayer Schering & Novartis
Brian K. Rutt, Ph.D.	Grant/Research Support: General Electric
Michael Salerno, M.D., Ph.D.	Grant/Research Support: Siemens
Francesco Sardanelli, M.D.	Grant/Research Support: Bracco & Bayer Healthcare/Bayer Schering; Employment: IMS, Bologna (Mammography unit)
Gregor Schaefers, Dipl.Ing. (FH)	Ownership Interest & Employment: MR:comp GmbH
Ehud J. Schmidt, Ph.D.	Grant/Research Support: IMIRS; Employment/Intellectual Property Rights: Partners Healthcare
Klaus Schmierer, Ph.D., F.R.C.P.	Grant/Educational: Novartis; Grant/PI on Clinical Trials: Novartis & Roche; Consulting Fee: Novartis, Merck & Co, Inc.
Franz Schmitt, Ph.D.	Employment: Siemens
Mitchell D. Schnall, M.D., Ph.D.	Grant: Siemens
Jeanette Schulz-Menger, M.D.	Grant/Research Support: Siemens & Medis; Consulting/Honoraria: Bayer Healthcare/Bayer Schering
Nina F. Schwenzer, M.D.	Grant/Research Support: Siemens
Greig C. Scott, Ph.D.	Grant/Research Support: General Electric
Nicole E. Seiberlich, Ph.D.	Grant/Technical Support: Siemens
N. Jon Shah, Ph.D.	Grant: Siemens
Frank G. Shellock, Ph.D., F.A.C.C., FISMRM	Grant/Research Support: Bracco
Orlando P. Simonetti, Ph.D.	Grant/Research Support: Siemens & Med Institute; Consulting Fee: Vannevar Group; Ownership Interest: EXCMR, Inc.
Claude B. Sirlin, M.D.	Grants: General Electric, Bayer Healthcare Pharma/Schering, Siemens, Profil (Pfizer), Biomedical Systems, Bristol-Myers Squibb & Synegeva & Isis Pharmaceuticals; Employment: Bayer Healthcare Pharma/Schering; Consulting/ Honoraria: Bayer Healthcare Pharma/Schering, VICAL & Gilead Sciences, Inc., Takeda Pharmaceuticals & Genzyme; Membership/Board Member, Honoraria: GE Healthcare & Bayer Healthcare Pharma/Schering
Stefan Skare, Ph.D.	Grant/Honoraria: General Electric
Daniel K. Sodickson, M.D., Ph.D.	Royalties: General Electric & Bruker BioSpin
David E. Sosnovik, M.D., F.A.C.C.	Grant/Research Support: Siemens
Lawrence N. Tanenbaum, M.D.	Grant/Software Support: General Electric
Adrian Thomas, Ph.D.	Employment: Siemens
John S. Thornton, Ph.D.	Grant/Research Support: Siemens
James Tropp, Ph.D.	Employment: General Electric
Jeffrey Tsao, Ph.D., M.B.A.	Employment/Intellectual Property Rights: Philips
Patrick A. Turski, M.D.	Grant/Lab Support: General Electric; Ownership Interest: Ultrasonix
Kamil Ugurbil, Ph.D.	Grant/Research Support: Siemens; Consulting Fee: Agilent Technologies (formerly Magnex)
Shreyas S. Vasanawala, M.D., Ph.D.	Grant/Research Support: General Electric

Invited Faculty & Introduction Speakers

Lawrence L. Wald, Ph.D.	Grant/Research Support: Siemens
Oliver Wieben, Ph.D.	Grant/Research Support: General Electric
Steven C. R. Williams, Ph.D.	Grant: General Electric
Bernd J. Wintersperger, M.D.	Speaking/Honoraria: Bayer Healthcare/Bayer Schering & Siemens
Eric C. Wong, M.D., Ph.D.	Grant/Salary: General Electric
Pauline Wong Worters, Ph.D.	Employment: General Electric
Ona Wu, Ph.D.	Royalties: General Electric, Imaging Biometrics & Olea Medical
Alistair R. Young, Ph.D.	Consulting Fee: Siemens
Chun Yuan, Ph.D.	Grant: Philips & VP Diagnostics; Consulting Fee: Boehringer-Ingelheim
Greg Zaharchuk, M.D., Ph.D.	Grant/Research Support: General Electric

Faculty & Introduction Speakers who do not have Financial Interests or Relationships:

Murat Aksoy, Ph.D.
Beau M. Ances, M.D., Ph.D.
Dmitri Artemov, Ph.D.
Yaniv Assaf, Ph.D.
Ian C. Atkinson, Ph.D.
Priti Balchandani, Ph.D.
Robert L. Barry, Ph.D.
Christine Beeton, Ph.D.
Luis S. Beltran, M.D.
Govind Bhagavatheeshwaran, Ph.D.
Alberto Bizzi, M.D.
Ron Blankstein, M.D.
David A. Bluemke, M.D., Ph.D.
Patrick J. Bolan, Ph.D.
Susan Y. Bookheimer, Ph.D.
Paul A. Bottomley, Ph.D.
Robert D. Boutin, M.D.
Richard W. Bowtell, Ph.D., M.A.
William G. Bradley, M.D., Ph.D.
Miriam A. Bredella, M.D.
Matthew J. Brookes, Ph.D., M.Sc.
Teneille C. Brown, J.D., B.A.
David L. Buckley, Ph.D.
Michael H. Buonocore, M.D., Ph.D.
Vince D. Calhoun, Ph.D.
Shelton D. Caruthers, Ph.D.
Maja C. Cassidy, Ph.D.
Françoise Castellanos, M.D.
Mara Cercignani, Ph.D.
Catherine E. Chang, Ph.D.
Thomas L. Chenevert, Ph.D.
Blaine A. Chronik, Ph.D.
Kai-Hsiang Chuang, Ph.D.
Olga Ciccarelli, Ph.D.
Stuart Clare, Ph.D.
Sharon E. Clarke, M.D., Ph.D.
Julien Cohen-Adad, Ph.D.
David J. Collins, B.A.
David P. Cormode, D.Phil.
Julia Crim, M.D.
Stuart R. Crozier, Ph.D., D.Eng.
Christos Davatzikos, Ph.D.
Nicola F. De Zanche, Ph.D.
Maxime Descoteaux, Ph.D.
Nandita M. DeSouza, M.D., F.R.C.R.
Anna Devor, Ph.D.
Kinh Gian Do, M.D., Ph.D.
Richard Dortch, Ph.D.
Yiping Du, Ph.D.
Roy S. Dwarkasing, M.D.
Tim B. Dyrby, Ph.D.
Richard A. E. Edden, Ph.D.
Richard L. Ehman, M.D.
Georges El Fakhri, Ph.D.
Michelle A. Espy, Ph.D.
Marco Essig, M.D., Ph.D.
B. Gino Fallone, Ph.D., F.C.C.P.M.
Jonathan A. D. Farrell, Ph.D.
Zahi M. Fayad, M.D.
Maria A. Fernandez-Seara, Ph.D.
J. Paul Finn, M.D.
Jürgen Finsterbusch, Ph.D.
Paula J. Foster, Ph.D.
Jurgen J. Fütterer, M.D., Ph.D.
Anders Garpebring, Ph.D.
James C. Gee, Ph.D.
Guido Gerig, Ph.D.
Jeroen J. G. Geurts, Ph.D.
Pejman Ghanouni, M.D., Ph.D.
Robert J. Gillies, Ph.D.
Orit A. Glenn, M.D.
Kristine Glunde, Ph.D.
Douglas W. Goodwin, M.D.
Tetyana A. Gorbachova, M.D.
John C. Gore, Ph.D.
Penny Anne Gowland, Ph.D.
Patricia Ellen Grant, M.D.
Martin J. Graves, Ph.D.

Invited Faculty & Introduction Speakers

John R. Griffiths, D.Phil., F.R.C.P.
William A. Grissom, Ph.D.
Matthias Gutberlet, M.D., Ph.D.
David B. Hackney, M.D.
Michael S. Hansen, Ph.D.
Andrei I. Holodny, M.D.
Hans Hoogduin, Ph.D.
Michael D. Hope, M.D.
Houchun Harry Hu, Ph.D.
Peng Hu, Ph.D.
Thierry A. G. M. Huisman, M.D.
Petra S. Hüppi, M.D.
Nola M. Hylton, Ph.D.
Peter M. Jakob, Ph.D.
Michael Jerosch-Herold, Ph.D.
Dimitrios Karampinos, Ph.D.
John Keoni S. K. Kauwe, Ph.D.
Jennifer Keegan, Ph.D.
Boris R. Keil, Ph.D.
Shella D. Keilholz, Ph.D.
Lucy E. Kershaw, Ph.D.
Niranjan Khandelwal, M.D.
Richard Kijowski, M.D.
Daniel Kim, Ph.D.
Dennis W. J. Klomp, Ph.D.
Michael V. Knopp, M.D., Ph.D.
Linda Knutsson, Ph.D.
Dow-Mu Koh, M.D., M.R.C.P., F.R.C.R.
Sebastian Kozerke, Ph.D.
Walter Kucharczyk, M.D., F.R.C.P.C.
Mark E. Ladd, Ph.D.
Jan J. W. Lagendijk, Ph.D.
Yuliya Lakhman, M.D.
Denis Le Bihan, M.D., Ph.D.
Richard M. Leahy, Ph.D.
Jeong Min Lee, M.D.
Vivian S. Lee, M.D., Ph.D., M.B.A.
Alexander Leemans, Ph.D.
Tim Leiner, M.D., Ph.D.
Robert E. Lenkinski, Ph.D.
Pierre LeVan, Ph.D.
Debiao Li, Ph.D.
C. C. Tchoyoson Lim, M.D., M.B.B.S., F.R.C.R.
Alexander P. Lin, Ph.D.
Thomas M. Link, M.D., Ph.D.
James M. Linklater, M.D., M.B.B.S.
Chunlei Liu, Ph.D.
David J. Lomas, M.D., F.R.C.R., F.R.C.P.
Angelique Louie, Ph.D.
Hanzhang Lu, Ph.D.
Julian R. Maclaren, Ph.D.
Nancy M. Major, M.D.
Hui Mao, Ph.D.
Clarisse I. Mark, Ph.D.
José Pedro Marques, Ph.D.
Michael T. McMahon, Ph.D.
Jennifer A. McNab, Ph.D.
Donald W. McRobbie, Ph.D.
Choukri Mekkaoui, Ph.D.
Christina Messiou, F.R.C.R.
Ronald H. Meyer, Ph.D.
Henrik J. Michaely, M.D.
Karla L. Miller, Ph.D.
Donald G. Mitchell, M.D.
Anna V. Moore, Ph.D.
Sandra L. Moore, M.D.
Tara A. Morgan, M.D.
William B. Morrison, M.D.
Koenraad J. Mortele, M.D.
William W. Moses, Ph.D.
Janaina Mourao-Miranda, Ph.D.
Suresh Mukherji, M.D.
Jeanette A. Mumford, Ph.D.
Josephine H. Naish, Ph.D.
Tadashi Nariai, M.D., Ph.D.
Krishna S. Nayak, Ph.D.
Michal Neeman, Ph.D.
Klaas Nicolay, Ph.D.
Christopher Nimsky, M.D., Ph.D.
Patricia Noël, M.D., F.R.C.P.C.
Michael D. Noseworthy, Ph.D.
Stephanie Nougaret, M.D.
Freddy Odille, Ph.D.
Lauren J. O'Donnell, Ph.D.
Ricardo Otazo, Ph.D.
Mark D. Pagel, Ph.D.
Ashok Panigrahy, M.D.
Raj Paspulati, M.D.
Carlos J. Perez-Torres, Ph.D.
Esben Thade Petersen, Ph.D.
Natalia Petridou, D.Sc.
Donald B. Plewes, Ph.D.
Franca Podo, D.Sc.
Michael S. Poole, Ph.D.
John D. Port, M.D., Ph.D.
Claudia Prieto, Ph.D.
Harald H. Quick, Ph.D.
David Raffelt, Ph.D.
Ashish Raj, Ph.D.
Jose Maria G. Raya, Ph.D.
Michael P. Recht, M.D.
Scott B. Reeder, M.D., Ph.D.
Timothy G. Reese, Ph.D.
Daniel S. Reich, M.D., Ph.D.
Caroline Reinhold, M.D., M.Sc.
Maria A. Rocca, M.D.
Neil M. Rofsky, M.D.
Brian B. Roman, Ph.D.
Sabrina M. Ronen, Ph.D.
Lee R. Rosen, M.D., Ph.D.
Mark Rosen, Ph.D.
Douglas L. Rothman, Ph.D.
Elizabeth A. Sadowski, M.D.
Sanjay Saini, M.D.

Invited Faculty & Introduction Speakers

Dimitrios Sakellariou, Ph.D.
Hajime Sakuma, M.D.
Evis Sala, M.D., Ph.D.
Anne Marie Sawyer B.S., R.T.(R)(MR), FSMRT
Pamela Schaefer, M.D.
Klaus Scheffler, Ph.D.
Stefan O. Schönberg, M.D.
Belinda Seto, Ph.D.
Erik M. Shapiro, Ph.D.
Jonathan C. Sharp, Ph.D.
Noam Shemesh, Ph.D.
A. Dean Sherry, Ph.D.
Joshua S. Shimony, M.D., Ph.D.
Lewis Shin, M.D.
Eric E. Sigmund, Ph.D.
Jack H. Simon M.D., Ph.D.
Shantanu Sinha, Ph.D.
Seth Aaron Smith, Ph.D.
Stephen M. Smith, D.Phil.
Steven P. Sourbron, Ph.D.
Daniel M. Spielman, Ph.D.
Charles S. Springer, Ph.D.
Keith St. Lawrence, Ph.D.
Lynne S. Steinbach, M.D.
V. Andrew Stenger, Ph.D.
Klaas E. Stephan, M.D., Ph.D.
Kathryn J. Stevens, M.D.
Bram Stieltjes, M.D., Ph.D.
Christoph Stippich, M.D.
Gustav J. Strijkers, Ph.D.
Patrick W. Stroman, Ph.D.
Kyunghyun Sung, Ph.D.
Harikrishna Tandri, M.D.
Bachir Taouli, M.D.
Stuart A. Taylor, F.R.C.R.
Harriet C. Thoeny, M.D.
Isabelle Thomassin-Naggara, M.D., Ph.D.
Kaori Togashi, M.D., Ph.D.
Jacques-Donald Tournier, Ph.D.
Rheal A. Towner, Ph.D.
Michael J. Tuite, M.D.
Mark A. van Buchem, M.D., Ph.D.
Cornelis A. T. van den Berg, Ph.D.
Louise van der Weerd, Ph.D.
Astrid L. H. M. van Lier, Ph.D.
Gael Varoquaux, Ph.D.
Julia V. Velikina, Ph.D.
Katie D. Vo, M.D.
Jens Vogel-Claussen, M.D.
Mark E. Wagshul, Ph.D.
Stephen J. Wastling, M.A., M.Sc.
Robert E. Watson, M.D., Ph.D.
Andrew G. Webb, Ph.D.
Felix W. Wehrli, Ph.D.
Matthias Weigel, Ph.D.
Jos J. M. Westenberg, Ph.D.
Eric E. Williamson, M.D.
Steven M. Wright, Ph.D.
Katherine C. Wu, M.D.
Qing-San Xiang, Ph.D.
Qi Yang, M.D.
Ian A. Young, Ph.D.
Adam C. Zoga, M.D.

Annual Meeting Program Committee & Organizers

The ISMRM is committed to:

- Ensuring balance, independence, objectivity and scientific rigor in all Continuing Medical Education (CME) programs; and
- Presenting CME activities that promote improvements or quality in healthcare and are independent of commercial interests.

Therefore it is the policy of the Society that any person who has influence over the content of a program designated for *AMA PRA Category 1 Credits*™ must disclose any real or apparent financial interest or other relationship (i.e., grants, research support, consultant, honoraria) that the individual may have with the manufacturers, distributors or providers of any commercial products or services that may be discussed in the presentation.

Such financial interests or relationships must be identified in advance so that potential conflicts can be resolved before the program, and participants at the CME activity may have these facts fully disclosed at the outset.

The ISMRM does not imply that such financial interests or relationships are inherently improper or that such interests or relationships would prevent the speaker or organizer from making an objective contribution. However, it is imperative that such financial interests or relationships be identified so that potential conflicts can be resolved before the program, and participants at the CME activity may have these facts fully disclosed in advance. It then remains for the audience to determine whether an individual's outside interests may reflect a possible bias in either the exposition or the conclusions presented

Following are the names of all presenters, committee members and other organizers who had influence over the program content. If individuals have disclosed real or apparent financial interests or relationships, the interests or relationships are described.

*Addendum to Declaration of Financial Interests & Relationships: www.ismrm.org/13/Declaration_Addendum.pdf

Annual Meeting Program Committee & Organizers who have Financial Interests or Relationships:

Joseph J. H. Ackerman, Ph.D.	Grant/Research Support: Agilent Technologies (formerly Magnex); Honoraria: Elsevier
Marcus T. Alley, Ph.D.	Grant: General Electric
Adam W. Anderson, Ph.D.	Grant: Philips
Roland Bammer, Ph.D.	Ownership Interest: iSchemaView
Gareth J. Barker, Ph.D.	Grant & Speaking/Honoraria: General Electric; Consulting: IXICO
Peter B. Barker, D.Phil.	Consulting Fee: Olea Medical, La Ciotat, France
Michael Bock, Ph.D.	Grant: Siemens
Kevin M. Brindle, Ph.D.	Grant/Research Support: General Electric; Consulting Fee: Glaxo-SmithKline
David Otto Brunner, Ph.D.	Grant: Skope Magnetic Resonance Technologies
Christine Chung, M.D.	Grant/Research Support: General Electric
Daniel B. Ennis, Ph.D.	Grants: Siemens & Bracco
Victor A. Ferrari, M.D.	Membership/Executive Committee: SCMR; Board Membership: Journal of Cardiovascular Magnetic Resonance
Christopher J. P. François, M.D.	Grant: General Electric
James C. Gee, Ph.D.	Grant/Salary: Pfizer; Ownership Interest: Merck
Nadine J. Girard, M.D.	Consulting Fee: Olea Medical

Annual Meeting Program Committee & Organizers

Garry E. Gold, M.D.	Grant: General Electric; Consulting Fee: Arthrocare, Zimmer & Boston Scientific
Thomas M. Grist, M.D., F.A.C.R.	Grants: General Electric & Bracco
Masoom A. Haider, M.D., F.R.C.P.C.	Grants: Philips & Hologic
Brian A. Hargreaves, Ph.D.	Grant: General Electric
Xiaoping P. Hu, Ph.D.	Grant: Siemens
Shahid M. Hussain, M.D., Ph.D.	Grants: Bracco & Philips
Tamer S. Ibrahim, Ph.D.	Grant: Siemens
Kevin F. King, Ph.D.	Employment: General Electric; Royalty: Elsevier
Meng Law, M.D., M.B.B.S., F.R.A.C.R.	Grants: Bayer Healthcare Pharma/Schering & Toshiba; Membership/Honoraria: Bayer Healthcare Pharma/Schering
Caterina Mainero, M.D.	Consulting Fee: Biogen Idec
Charles A. McKenzie, Ph.D.	Grant/Research Support: General Electric
Craig H. Meyer, Ph.D.	Grant: Siemens
John P. Mugler, Ph.D.	Grant: Siemens
Pratik Mukherjee, M.D., Ph.D.	Grant: General Electric
Thoralf Niendorf, Ph.D.	Founder/Ownership Interest: MRI.TOOLS GmbH
Ivan Pedrosa, M.D.	Consulting/Honoraria: Philips
James J. Pekar, Ph.D.	Grant: Philips
Jay J. Pillai, M.D.	Grant: Siemens; Membership: Prism Clinical Imaging, Inc.
James G. Pipe, Ph.D.	Grant/Research Support: Philips
Howard A. Rowley, M.D.	Honoraria: Bracco & Guerbet; Patent Application: General Electric; Consulting Fee: General Electric, Eli Lilly, Lundbeck & Gore
Jeanette Schulz-Menger, M.D.	Grants: Siemens & Circle cvi; Consulting Fee: Bayer Healthcare Pharma/Schering
Nicole E. Seiberlich, Ph.D.	Grant/Research Support: Siemens
David E. Sosnovik, M.D., F.A.C.C.	Grant/Research Support: Siemens
Keith R. Thulborn, M.D., Ph.D.	Employment: Thulborn Associates, Inc.
Jeffrey Tsao, Ph.D., M.B.A.	Employment: McKinsey & Company; Intellectual Property Rights: Philips
Matthias J. P. van Osch, Ph.D.	Grant: Philips
Shreyas S. Vasanawala, M.D., Ph.D.	Grant/Research Support: General Electric
Eric C. Wong, M.D., Ph.D.	Grant/Salary: General Electric
Greg Zaharchuk, M.D., Ph.D.	Grant/Research Support: General Electric
Xiaohong Joe Zhou, Ph.D., D.A.B.R.	Consulting Fee: Horizon Medical Physics; Author/Royalty: Elsevier Publishing Company

Annual Meeting Program Committee & Organizers

Annual Meeting Program Committee & Organizers who have no Financial Interests or Relationships:

Andrew L. Alexander, Ph.D.
Neal K. Bangerter, Ph.D.
Kevin M. Bennett, Ph.D.
Richard W. Bowtell, Ph.D., M.A.
David L. Buckley, Ph.D.
Glenn D. Cahoon, M.App.Sc.
Soonmee Cha, M.D.
Olga Ciccarelli, Ph.D.
Christopher M. Collins, Ph.D.
Jacob Coverstone (ISMRM Staff)
Nicola F. De Zanche, Ph.D.
E. Jim Delikatny, Ph.D.
Mark D. Does, Ph.D.
Manus J. Donahue, Ph.D.
Marco Essig, M.D., Ph.D.
Chris A. Flask, Ph.D.
Kristine Glunde, Ph.D.
Martin J. Graves, Ph.D.
Rolf Gruetter, Ph.D.
Rakesh K. Gupta, M.D.
Stephanie M. Haaf (ISMRM Staff)
David B. Hackney, M.D.
Peter Jezzard, Ph.D.
Derek K. Jones, Ph.D.
Richard Kijowski, M.D.
Harald Kramer, M.D.
Roberta A. Kravitz (ISMRM Staff)
Kagayaki Kuroda, Ph.D.
Mark E. Ladd, Ph.D.
Tim Leiner, M.D., Ph.D., E.B.C.R.
Robert E. Lenkinski, Ph.D.
Debiao Li, Ph.D.
Zhi-Pei Liang, Ph.D.
Angelique Louie, Ph.D.
Michael Markl, Ph.D.
Ian Marshall, Ph.D.
Karla L. Miller, Ph.D.
Elizabeth A. Morris, M.D., F.A.C.R.
William B. Morrison, M.D.
Jeffrey Joseph Neil, M.D., Ph.D.
Mark D. Pagel, Ph.D.
Robia G. Pautler, Ph.D.
Jonathan Rizzo Polimeni, Ph.D.
Michael S. Poole, Ph.D.
Scott B. Reeder, M.D., Ph.D.
Ravinder R. Regatte, Ph.D.
Jürgen R. Reichenbach, Ph.D.
Caroline Reinhold, M.D., M.Sc.
Maria A. Rocca, M.D.
Lee Rosen, Ph.D.
Evis Sala, M.D., Ph.D.
Alexey Samsonov, Ph.D.
Steven P. Sourbron, Ph.D.
Daniel M. Spielman, Ph.D.
Toshiaki Taoka, M.D., Ph.D.
Kamil Uludag, Ph.D.
Louise van der Weerd, Ph.D.
Claudia A. Wheeler-Kingshott, Ph.D.
Maxim Zaitsev, Ph.D.
Jianhui Zhong, Ph.D.

Educational & Scientific Moderators

The ISMRM is committed to:

- Ensuring balance, independence, objectivity and scientific rigor in all Continuing Medical Education (CME) programs; and
- Presenting CME activities that promote improvements or quality in healthcare and are independent of commercial interests.

Therefore it is the policy of the Society that any person who has influence over the content of a program designated for *AMA PRA Category 1 Credits*™ must disclose any real or apparent financial interest or other relationship (i.e., grants, research support, consultant, honoraria) that the individual may have with the manufacturers, distributors or providers of any commercial products or services that may be discussed in the presentation.

Such financial interests or relationships must be identified in advance so that potential conflicts can be resolved before the program, and participants at the CME activity may have these facts fully disclosed at the outset.

The ISMRM does not imply that such financial interests or relationships are inherently improper or that such interests or relationships would prevent the speaker or organizer from making an objective contribution. However, it is imperative that such financial interests or relationships be identified so that potential conflicts can be resolved before the program, and participants at the CME activity may have these facts fully disclosed in advance. It then remains for the audience to determine whether an individual's outside interests may reflect a possible bias in either the exposition or the conclusions presented

Following are the names of all presenters, committee members and other organizers who had influence over the program content. If individuals have disclosed real or apparent financial interests or relationships, the interests or relationships are described.

*Addendum to Declaration of Financial Interests & Relationships: www.ismrm.org/13/Declaration_Addendum.pdf

Moderators who have Financial Interests or Relationships:

Marcus T. Alley, Ph.D.	Grant: General Electric
Adam W. Anderson, Ph.D.	Grant: Philips
Roland Bammer, Ph.D.	Ownership Interest: iSchemaView
Emmanuel L. Barbier, Ph.D.	Grants: Bruker BioSpin & Philips
Gareth J. Barker, Ph.D.	Grant & Speaking/Honoraria: General Electric; Consulting: IXICO
Peter B. Barker, D.Phil.	Consulting Fee: Olea Medical, La Ciotat, France
Mustafa Shadi Rifaat Bashir, M.D.	Grants: Siemens & Bracco; Consulting/Honoraria: Bayer Healthcare Pharma/ Schering
Oliver Bieri, Ph.D.	Grant: Siemens
David A. Bluemke, M.D., Ph.D.	Research Support/Agreement: Siemens
Michael Bock, Ph.D.	Grant: Siemens
Peter Börnert, Ph.D.	Employment: Philips
David Otto Brunner, Ph.D.	Grant: Skope Magnetic Resonance Technologies
Peter Caravan, Ph.D.	Grant/Research Support: Sanofi Aventis; Speaking/Honoraria: Biogen Idec; Ownership Interest: Collagen Medical, LLC; Founder: Factor 1A, LLC
Michael Carl, Ph.D.	Employment: General Electric
John A. Carrino, M.D., M.P.H.	Grants: Carstream, Integra, Siemens & Toshiba; Consulting Fee: Medtronic & Abbott; Membership/Honoraria: General Electric

Educational & Scientific Moderators

Vibhas Deshpande, Ph.D.	Employment: Siemens
Daniel B. Ennis, Ph.D.	Grant/Research Agreement: Siemens
Sean B. Fain, Ph.D.	Grant: General Electric; Membership, Honoraria: Xemed, LLC
Feng Feng, M.D.	Speaking/Teaching Honoraria: General Electric
Victor A. Ferrari, M.D.	Membership/Executive Committee: SCMR; Board Membership: Journal of Cardiovascular Magnetic Resonance
David N. Firmin, Ph.D.	Grant/Research Support: Siemens
Christopher Jean-Pierre François, M.D.	Grant: General Electric
Fiona J. Gilbert, M.D.	Grant: Philips
Nadine J. Girard, M.D.	Consulting Fee: Olea Medical
Penny Anne Gowland, Ph.D.	Grant: Proctor & Gamble
Mark A. Griswold, Ph.D.	Grant: Siemens
Rao P. Gullapalli, Ph.D.	Grant: Siemens
Hua Guo, Ph.D.	Grant: Philips
E. Mark Haacke, Ph.D.	Intellectual Property Rights, President: MR Innovations, Inc.
Masoom A. Haider, M.D., F.R.C.P.C.	Grants: Philips & Hologic
Joseph V. Hajnal, Ph.D.	Grant: Philips
Brian A. Hargreaves, Ph.D.	Grant: General Electric
Catherine D. G. Hines, Ph.D.	Employment: Merck Research Laboratories
Xiaoping P. Hu, Ph.D.	Grant: Siemens
Shahid M. Hussain, M.D., Ph.D.	Grants: Bracco & Philips
Tamer S. Ibrahim, Ph.D.	Grant: Siemens
Kevin F. King, Ph.D.	Employment: General Electric; Royalty: Elsevier
M. Eline Kooi, Ph.D.	Grant/Research Support: Philips, CTMM & Servier
Roland Krug, Ph.D.	Grant: General Electric
Peder E. Z. Larson, Ph.D.	Grant: General Electric
Meng Law, M.D., M.B.B.S., F.R.A.C.R.	Grants: Bayer Healthcare Pharma/Schering & Toshiba; Membership/Honoraria: Bayer Healthcare Pharma/Schering
Xiaojuan Li, Ph.D.	Grant/Research Support: General Electric
Thomas M. Link, M.D., Ph.D.	Grant: General Electric
Caterina Mainero, M.D.	Consulting Fee: Biogen Idec
Daniel J. A. Margolis, M.D.	Grant: Siemens; Consulting/In-Kind Products for Evaluation: iCAD, Inc.
Karin G. Markenroth Bloch, Ph.D.	Employment: Philips
Diego R. Martin, M.D., Ph.D.	Grant/Research Support: Siemens
Charles A. McKenzie, Ph.D.	Grant/Research Support: General Electric
James F. M. Meaney, M.D.	Intellectual Property Rights: Patents Licensed to MRI & Contrast Agent Vendors
Craig H. Meyer, Ph.D.	Grant: Siemens
Timothy J. Mosher, M.D.	Consulting Fee: Medical Metrics, Depuy Orthopedics
John P. Mugler, III, Ph.D.	Grant: Siemens

Educational & Scientific Moderators

Pratik Mukherjee, M.D., Ph.D.	Grant: General Electric
Scott K. Nagle, M.D., Ph.D.	Grant: General Electric
Thoralf Niendorf, Ph.D.	Founder/Ownership Interest: MRI.TOOLS GmbH
Anwar R. Padhani, M.B.B.S., F.R.C.P.	Grant: Siemens; Speaking/Teaching: Siemens
Amit R. Patel, M.D.	Grants/Research Support: Philips & Astellas Pharma
John M. Pauly, Ph.D.	Grant: General Electric; Membership/Ownership Interest: HeartVista
Ivan Pedrosa, M.D.	Grant/Research Support: Philips; Consulting Fee/Honoraria: Philips
Josef Pfeuffer, Ph.D.	Employment: Siemens
Jay J. Pillai, M.D.	Grant: Siemens; Membership: Prism Clinical Imaging, Inc.
Hollis G. Potter, M.D.	Grant/Research Support: General Electric
Christopher Chad Quarles, Ph.D.	Grant: Threshold Pharmaceuticals
Fraser J. L. Robb, Ph.D.	Grant & Employment: General Electric
Michael Salerno, M.D., Ph.D.	Grant: Siemens
Tom W. J. Scheenen, Ph.D.	Grant: Siemens
Jeanette Schulz-Menger, M.D.	Grants: Siemens & Circle cvi; Consulting Fee: Bayer Healthcare Pharma/Schering
Orlando P. Simonetti, Ph.D.	Grant: Siemens; Consulting Fee: Vannevar
Claude B. Sirlin, M.D.	Grants: General Electric, Bayer Healthcare Pharma/Schering, Siemens, Profil (Pfizer), Biomedical Systems, Bristol-Myers Squibb & Synegeva & Isis Pharmaceuticals; Employment: Bayer Healthcare Pharma/Schering; Consulting/ Honoraria: Bayer Healthcare Pharma/Schering, VICAL & Gilead Sciences, Inc., Takeda Pharmaceuticals & Genzyme; Membership/Board Member, Honoraria: GE Healthcare & Bayer Healthcare Pharma/Schering
Martin P. Smith, M.D.	Grants: Bayer Healthcare Pharma/Schering, Bracco & General Electric
David E. Sosnovik, M.D., F.A.C.C.	Grant/Research Support: Siemens
Lawrence N. Tanenbaum, M.D.	Employment: General Electric
Keith R. Thulborn, M.D., Ph.D.	Employment: Thulborn Associates, Inc.
Jeffrey Tsao, Ph.D., M.B.A.	Employment: McKinsey & Company; Intellectual Property Rights: Philips
Michael F. Tweedle, Ph.D.	Grant: Philips; Board Fee: Novelos Pharmaceuticals
Matthias J. P. van Osch, Ph.D.	Grant: Philips
Peter van Zijl, Ph.D.	Grant: Philips; License Fees: Philips
Shreyas S. Vasanawala, M.D., Ph.D.	Grant/Research Support: General Electric
S. Sendhil Velan, Ph.D.	Grant/Research Support: Takeda, Pharmaceuticals
Jim M. Wild, Ph.D.	Grant/Research Support: Novartis Pharma & General Electric
Steven C. R. Williams, Ph.D.	Grant: General Electric
Graham A. Wright, Ph.D.	Grants: General Electric & Imricor and Baylis Medical; Intellectual Property Rights/Royalty: Circle Cardiovascular Imaging
Dan Xu, Ph.D.	Employment: General Electric
Xiaohong Joe Zhou, Ph.D., D.A.B.R.	Consulting Fee: Horizon Medical Physics; Author, Royalty: Elsevier Publishing Company

Educational & Scientific Moderators

Moderators who have no Financial Interests or Relationships:

Maria I. Altbach, Ph.D.
Ichio Aoki, Ph.D.
Priti Balchandani, Ph.D.
L. Wilbert Bartels, Ph.D.
Grzegorz L. Bauman, Ph.D.
Kevin M. Bennett, Ph.D.
Zaver M. Bhujwalla, Ph.D.
Andreas Bitz, Ph.D.
Alberto Bizzi, M.D.
Paul A. Bottomley, Ph.D.
Robert D. Boutin, M.D.
Richard W. Bowtell, Ph.D., M.A.
Molly G. Bright, D.Phil.
Truman R. Brown, Ph.D.
David L. Buckley, Ph.D.
Michael H. Buonocore, M.D., Ph.D.
Glenn D. Cahoon, M.App.Sc.
Eric Y. Chang, M.D.
Blaine A. Chronik, Ph.D.
Olga Ciccarelli, Ph.D.
Jonathan D. Clayden, Ph.D.
Yoram Cohen, Ph.D.
Christopher M. Collins, Ph.D.
David John Collins, B.A.
Arnaud Comment, Ph.D.
R. Todd Constable, Ph.D.
David P. Cormode, D.Phil.
E. Jim Delikatny, Ph.D.
Sean C. L. Deoni, Ph.D.
Maxime Descoteaux, Ph.D.
Patricia M. Desmond, M.D.
Nandita M. DeSouza, M.D., F.R.C.R.
Mark D. Does, Ph.D.
Manus J. Donahue, Ph.D.
Guillaume Duhamel, Ph.D.
Charles L. Dumoulin, Ph.D.
Benjamin M. Ellingson, Ph.D.
Marco Essig, M.D., Ph.D.
Zahi Adel Fayad, Ph.D.
J. Paul Finn, M.D.
Chris A. Flask, Ph.D.
Jurgen J. Fütterer, M.D., Ph.D.
James C. Gee, Ph.D.
Assaf A. Gilad, Ph.D.
Kristine Glunde, Ph.D.
Patricia Ellen Grant, M.D.
William A. Grissom, Ph.D.
Rakesh Kumar Gupta, M.D.
David B. Hackney, M.D.
Justin P. Haldar, Ph.D.
Christopher J. Hanrahan, Ph.D.
Noam Harel, Ph.D.
Jeroen Hendrikse, M.D., Ph.D.
Luis Hernandez-Garcia, Ph.D.
Richard Hoge, Ph.D.
Houchun Harry Hu, Ph.D.
Peng Hu, Ph.D.
Hao Huang, Ph.D.
Petra S. Hüppi, M.D.
Michael Jerosch-Herold, Ph.D.
Lu Jiang, Ph.D.
Bobby Kalb, M.D.
Dimitrios Karampinos, Ph.D.
Shella D. Keilholz, Ph.D.
Peter Kellman, Ph.D.
Richard Kijowski, M.D.
Dennis W. J. Klomp, Ph.D.
Dow-Mu Koh, M.D., M.R.C.P., F.R.C.R.
Sebastian Kozerke, Ph.D.
Christopher D. Kroenke, Ph.D.
Mark E. Ladd, Ph.D.
Jongho Lee, Ph.D.
Alexander Leemans, Ph.D.
Tim Leiner, M.D., Ph.D., E.B.C.R.
Robert E. Lenkinski, Ph.D.
Debiao Li, Ph.D.
Fa-Hsuan Lin, Ph.D.
Sebastian Littin, Dipl.-Phys.
Chunlei Liu, Ph.D.
Angelique Louie, Ph.D.
Arthur W. Magill, Ph.D.
Michael Markl, Ph.D.
Ian Marshall, Ph.D.
Andrew A. Maudsley, Ph.D.
Tracy R. McKnight, Ph.D.
Jennifer A. McNab, Ph.D.
Ronald A. Meyer, Ph.D.
Yukio Miki, M.D., Ph.D.
Karla L. Miller, Ph.D.
Donald G. Mitchell, M.D.
Elizabeth A. Morris, M.D., F.A.C.R.
William B. Morrison, M.D.
Linda Moy, M.D.
Willem M. Mulder, Ph.D.
Gil Navon, Ph.D.
Michal Neeman, Ph.D.
Miika T. Nieminen, Ph.D.
Tetsu Niwa, M.D., Ph.D.
Michael D. Noseworthy, Ph.D.
Patricia Noël, M.D., F.R.C.P.C.
Evren Ozarslan, Ph.D.
Raj Mohan Paspulati, M.D.
Robia G. Pautler, Ph.D.
Christopher P. Pawela, Ph.D.
Galit Pelled, Ph.D.
Esben T. Petersen, Ph.D.
Michael S. Poole, Ph.D.
Reza Razavi, M.D.
Jürgen R. Reichenbach, Ph.D.
Caroline Reinhold, M.D., M.Sc.
Matthew D. Robson, Ph.D.

Educational & Scientific Moderators

Maria A. Rocca, M.D.
Sabrina M. Ronen, Ph.D.
Lee Rosen, Ph.D.
Andrew B. Rosenkrantz, M.D.
Alex Rovira, M.D.
Brian K. Rutt, Ph.D.
David Saloner, Ph.D.
Alexey Samsonov, Ph.D.
Giles E. Santyr, Ph.D.
Torben Schneider, Ph.D.
Stefan O. Schönberg, M.D.
Nicole E. Seiberlich, Ph.D.
Joshua S. Shimony, M.D., Ph.D.
Jeroen C. W. Siero, M.Sc., B.Sc.
Daniel K. Sodickson, M.D., Ph.D.
Victor Sheng-Kwei Song, Ph.D.
Steven P. Sourbron, Ph.D.
Jason P. Stockmann, Ph.D.
Stefan Sunaert, M.D., Ph.D.
Valentina Taviani, Ph.D.
Nicholas Todd, Ph.D.
Siegfried Trattnig, M.D.
Wen-Yih Isaac Tseng, M.D., Ph.D.
Robert Turner, Ph.D.
J. Michael Tyszka, Ph.D.
Kamil Uludag, Ph.D.
Pierre-Francois A. Van de Moortele, M.D., Ph.D.
Cornelis A. T. van den Berg, Ph.D.
Louise van der Weerd, Ph.D.
Wietske van der Zwaag, Ph.D., M.Sc.
Jens Vogel-Claussen, M.D.
Jan M. Warnking, Ph.D.
Felix W. Wehrli, Ph.D.
Jesse L. Wei, M.D.
Kirk Welker, M.D.
Carl-Fredrik Westin, Ph.D.
Samuel J. Wharton, Ph.D.
Claudia A. Wheeler-Kingshott, Ph.D.
Patrick M. Winter, Ph.D.
Ed X. Wu, Ph.D.
Duan Xu, Ph.D.
Dmitriy A. Yablonskiy, Ph.D.
Essa S. Yacoub, Ph.D.
Kei Yamada, M.D.
Vasily L. Yarnykh, Ph.D.
Lei (Leslie) Ying, Ph.D.
Maxim Zaitsev, Ph.D.
Jianhui Zhong, Ph.D.
Adam C. Zoga, M.D.

Authors With Financial Interests or Relationships

The ISMRM is committed to:

- Ensuring balance, independence, objectivity and scientific rigor in all Continuing Medical Education (CME) programs; and
- Presenting CME activities that promote improvements or quality in healthcare and are independent of commercial interests.

Therefore it is the policy of the Society that any person who has influence over the content of a program designated for *AMA PRA Category 1 Credits*™ must disclose any real or apparent financial interest or other relationship (i.e., grants, research support, consultant, honoraria) that the individual may have with the manufacturers, distributors or providers of any commercial products or services that may be discussed in the presentation.

Such financial interests or relationships must be identified in advance so that potential conflicts can be resolved before the program, and participants at the CME activity may have these facts fully disclosed at the outset.

The ISMRM does not imply that such financial interests or relationships are inherently improper or that such interests or relationships would prevent the speaker or organizer from making an objective contribution. However, it is imperative that such financial interests or relationships be identified so that potential conflicts can be resolved before the program, and participants at the CME activity may have these facts fully disclosed in advance. It then remains for the audience to determine whether an individual's outside interests may reflect a possible bias in either the exposition or the conclusions presented

Following are the names of all presenters, committee members and other organizers who had influence over the program content. If individuals have disclosed real or apparent financial interests or relationships, the interests or relationships are described.

Authors who have Financial Interests or Relationships:

1293 Addy, Nii
Grant: General Electric

1782 Agarwal, Harsh
Employment: Philips

769 Aitken, Andrew
Grant: Philips

4428 Alon, Leeor
Grant/Intellectual property rights: RF Test Labs

1768 Alsaid, Hasan
Employment: Glaxo-SmithKline

1712 Alsaid, Hasan
Employment: Glaxo-SmithKline

1574 Amet, Sabine
Consulting/Honoraria: Guerbet

1250 Andrews, Trevor
Employment: Philips

4479 Aoyama, Nobukazu
Grant/Research Support: Toshiba

2561 Bachschmidt, Theresa
Grant/Salary: Siemens

2657 Bahri, Dara
Grant/Research Support: General Electric

0057 Banerjee, Suchandrima
Employment: General Electric

2974 Banerjee, Suchandrima
Employment: General Electric

1037 Barck, Kai
Ownership Interest: Hoffman-LaRoche; Employment: Hoffman-LaRoche

2700 Baudin, Pierre-Yves
Grant/Salary: Siemens

1195 Berman, Jeffrey
Consulting Fee: McGowan Associates

2790 Berthel, Dominik
Employment: Rapid Biomedical GmbH

0593 Bhat, Himanshu
Employment: Siemens

0827 Bhatia, Sahil
Stock: General Electric; Employment: General Electric

2810 Biber, Stephan
Grant/Salary: Siemens

1586 Birkbeck, Neil
Grant/Salary: Siemens; Stock: Siemens

3955 Bito, Yoshitaka
Employment: Hitachi

1537 Bonekamp, Susanne
Grant/Research Support: Siemens;
Grant/Salary: Bayer Healthcare/Bayer Schering

Authors With Financial Interests or Relationships

1538 Bonekamp, Susanne
Grants: Siemens & Bayer Healthcare/Bayer Schering

2751 Boskamp, Ed
Employment: General Electric

0209 Bouvier, Julien
Grant/Salary: Philips

1753 Bouvier, Julien
Grant/Salary: Philips

2492 Bouvier, Julien
Grant/Salary: Philips & Bruker Biospin

2818 Braun, Harald
Other: Siemens, Internship

3824 Breuer, Felix
Grant/Salary: Siemens

0502 Brewer, Kimberly
Employment: Immunovaccine Inc.

1841 Brodsky, Ethan
Grant: inseRT, Inc.

2694 Brown, Robert
Employment: NeuroRx Research

0078 Brunner, David
Grant: Skope MRT

0293 Brunner, David
Ownership interest: Skope MRT

0553 Brunner, David
Ownership interest: Skope MRT

1995 Bulumulla, Selaka
Employment: General Electric

4171 Bulumulla, Selaka
Employment: General Electric

4192 Bulumulla, Selaka
Employment: General Electric

0640 Burge, Alissa
Grant/Research Support: General Electric

0642 Caravan, Peter
Grant/Research Support: Sanofi Aventis; Ownership interest: Collagen Medical, LLC

1683 Carl, Michael
Employment: General Electric

2635 Carl, Michael
Employment: General Electric

1562 Chacon Caldera, Jorge
Grant: General Electric

0408 Chandra, Saurav
Employment: Novartis Institutes for Biomedical Research (NIBR)

3470 Chang, Eric
Grant: Veterans Affairs CSR&D

3320 Chang, Hing-Chiu
Employment: General Electric

2199 Chang, Ming-Ching
Employment: General Electric

2984 Chebrolu, Venkata
Employment: General Electric

3211 Chebrolu, Venkata
Employment: General Electric

3723 Chebrolu, Venkata
Employment: General Electric

3928 Chen, Albert
Employment: General Electric

4511 Chen, Albert
Employment/Royalty: General Electric

0303 Chen, Liyong
Grant: Advanced MRI Technologies, LLC

2365 Chen, Liyong
Grant/Salary: Advanced MRI Technologies, LLC

3321 Chen, Liyong
Grant: Advanced MRI Technologies, LLC

3489 Chen, Weitian
Employment: General Electric

3716 Chen, Weitian
Employment: General Electric

1407 Chen, Xiao
Grant: Siemens

4555 Chen, Xiao
Grant: Siemens

0312 Cheng, Joseph
Grant: General Electric

2577 Cheng, Joseph
Grant/Research Support: General Electric

1919 Chiavazza, Enrico
Employment: General Electric

2835 Chishti, Muhammad
Employment: General Electric

2261 Choe, Ann
Grant: Philips; Speaker/Honoraria: Philips

2917 Chuang, Kai-Hsiang
Grant: Maccine; Consulting Fee: Maccine, Maccine

3058 Chwang, Wilson
Grant: Lantheus Medical Inc.

2247 Clayton, David
Employment: Genentech, Inc.

Authors With Financial Interests or Relationships

3299 Coimbra, Alexandre
Grant/Salary: Genentech, Inc.; Employment: Genentech, Inc.

0081 Coquery, Nicolas
Employment: Bruker Biospin

0133 Corea, Joseph
Grant: General Electric

3369 Corum, Curtis
Patent/Royalties: University of Minnesota, Office for Technology Commercialization

1659 Cotofana, Sebastian
Employment: Chrondrometrics GmbH

2762 Dabaghyan, Mikayel
Employment: Mirtech Inc.

0599 de Graaf, Robin
Grant/Salary: Agilent Technologies (formerly Magnex)

3986 de Graaf, Robin
Grant/Salary: Agilent Technologies (formerly Magnex)

4022 de Graaf, Robin
Grant/Salary: Agilent Technologies (formerly Magnex)

2176 Debacker, Clément
Grant: Bruker Biospin

4157 Delso, Gaspar
Employment: General Electric

1301 DeMarco, J. Kevin
Consulting/Honoraria: General Electric; Speaker/Honoraria: Bracco

2562 den Harder, Chiel
Employment: Philips

4424 Deniz, Cem
Ownership interest: RF Test Labs, Inc.

0047 Derakhshan, Mishkin
Consulting: NeuroRx Research Inc., NeuroRx Research Inc.Consulting fee,

1854 Di Gregorio, Enza
Consulting/Salary: Bracco

3370 Dimitrov, Ivan
Employment: Philips

4233 Doneva, Mariya
Grant: Philips

4237 Doneva, Mariya
Grant/Philips: Philips

2660 Dougherty, Lawrence
Grant/Salary: Siemens

2718 Dragonu, Iulius
Grant/Research Support: Bruker Biospin

0331 D'Souza, Dany
Employment: F. Hoffmann-La Roche AG

1930 Durst, Markus
Grant: General Electric

1931 Durst, Markus
Grant: General Electric

1291 Edelman, Robert
Grant/Royalty: Siemens

0310 Eggers, Holger
Employment: Philips

1436 Eggers, Holger
Employment: Philips

1463 Emami, Kiarash
Employment: Polarean

0723 Etezadi-Amoli, Maryam
Grant/Research Support: General Electric

2441 Evertz, Loribeth
Other: MRE IP, Conflict of interest due to licensing

4439 Fair, Merlin
Grant: Siemens

3703 Falkovskiy, Pavel
Grant/Salary: Siemens

1687 Farber, Joshua
Ownership Interest: Qmetrics

3485 Farber, Joshua
Ownership Interest: Qmetrics

3013 Faria, Andreia
Employment/Ownership Interest: AnatomyWorks

3316 Feinberg, David
Grant: Advanced MRI Technologies, LLC

4457 Feng, Yanqiu
Grant/Research Support: Siemens

3328 Fernandez, Brice
Employment: General Electric

0421 Ferrauto, Giuseppe
Consulting Fee: Bracco

1861 Ferrauto, Giuseppe
Consulting Fee: Bracco

1030 Filippi, Massimo
Grant/Research Support: Italian Ministry of Health (Grant #GR-2009-1577482; Grant/Research Support: Ministry of Science and Technology of the Republic of Serbia (Grant #175090)

Authors With Financial Interests or Relationships

1173 Filippi, Massimo
Grant/Research Support: Italian Ministry of Health (Grant #RF-2010-2313220)

1179 Filippi, Massimo
Grant/Research Support: Italian Ministry of Health (Grant #GR-2010-2303035)

0828 Findeklee, Christian
Employment: Philips

3533 Fripp, Jurgen
Grant: Siemens

0054 Frost, Robert
Employment/Royalty: Siemens

3176 Frost, Robert
Employment/Royalty: Siemens

1917 Gadian, David
Grant/Research Support: Bruker Biospin

1920 Gadian, David
Grant/Research Support: Bruker Biospin

4498 Georgescu, Bogdan
Employment: Siemens

1739 Geppert, Christian
Grant: Siemens, Salary

3859 Gianolio, Eliana
Consulting Fee: Bracco

1742 Gilbert, Guillaume
Consulting/Salary: Philips

0349 Girard, Olivier
Grant/Research Support: Siemens

2506 Girard, Olivier
Grant: Siemens, Research Agreement

2053 Golkov, Vladimir
Grant/Salary: General Electric

0082 Goodman, James
Grant/Salary & Ownership Interest: Pfizer

4343 Goodrich, K.
Grant/Research Support: Siemens

2826 Görtz, Wolfgang
Employment: MR:comp GmbH, Germany

4260 Graesslin, Ingmar
Grant/Salary: Philips

4413 Graesslin, Ingmar
Grant/Salary: Philips

2707 Graziani, Dominic
Employment: General Electric

1370 Greiser, Andreas
Grant/Salary: Siemens

0829 Grimm, Robert
Grant/Stipend & Employment: Siemens

0696 Grimm, Robert
Grant & Employment/Stipend: Siemens

3749 Grimm, Robert
Grant & Employment/Stipend: Siemens

3786 Grimm, Robert
Grant & Employment/Stipend: Siemens

0456 Grodzki, David
Employment: Siemens

4420 Gumbrecht, Rene
Grant: Siemens, Salary

4423 Gumbrecht, Rene
Grant/Salary: Siemens

2288 Gupta, Lalit
Employment: Philips

1516 Hamilton, Gavin
Grant/Research Support: General Electric

1517 Hamilton, Gavin
Grant/Research Support: General Electric

4033 Hamilton, Gavin
Grant/Research Support: General Electric

4391 Hancu, Ileana
Employment: General Electric

2735 Handa, Shinya
Employment: Quality Electrodynamics

3718 Hargreaves, Brian
Grant: General Electric; Grant/Salary: Abbott

2109 Has, Arzu
Grant/Salary: National Magnetic Resonance Research Center (UMRAM)

0768 Helle, Michael
Employment: Philips

2152 Helle, Michael
Employment: Philips

2793 Hernandez, Daniel
Grant/Consulting Fee: Samsung Electronics

0259 Herzka, Daniel
Employment/Ownership Interest: Philips

2385 Hey, Silke
Employment: Philips

4160 Hirsch, Jochen
Grant/ Research Support: Siemens

3329 Hoge, W.
Other: Siemens, This project was a joint collaboration between BWH and Siemens

Authors With Financial Interests or Relationships

4086 Hope, Thomas
Grant/Research Support: General Electric

1765 Hu, Lingyun
Employment: Novartis Institutes for Biomedical Research (NIBR)

0413 Hua, Jun
Grant & Intellectual Property Rights: Philips; Speaker/Honoraria: Philips

4544 Huang, Feng
Employment: Philips

2829 Huber, Klaus
Employment: Siemens

3917 Hurd, Ralph
Employment: General Electric

3811 Hutter, Jana
Grant/Research Support: Siemens

2406 Hwang, Ken-Pin
Employment: General Electric

2505 Hwang, Ken-Pin
Employment: General Electric

4408 Ibrahim, Tamer
Grant: Siemens

1684 Idiyatullin, Djaudat
Other: General Electric, Drs. Garwood, Idiyatullin and Corum are entitled to sales royalties from a technology license held by GE Healthcare through the University of Minnesota for products related to the research described in this paper.

2710 Imamura, Yukinobu
Grant/Salary: Hitachi

0189 Ingle, R.
Grant/Research Support: General Electric; Employment: HeartVista, Inc.

4280 Iwadate, Yuji
Ownership Interest: General Electric; Employment: General Electric

3789 Jaeschke, Sven
Grant/Salary: Siemens

3788 Jaeschke, Sven
Grant/Salary: Siemens

4145 James, Camilo
Consulting Fee: McGowan Associates, McGowan Associates

0897 Jian, Zhijie
Grant/Intellectual Property Rights: National Natural Science Foundation of China (No. 30970797 to JY)

2642 Jiang, Dengrong
Employment: Philips

1914 Jiang, Wenwen
Grant/Research Support: General Electric & NIBIB center grant, P41EB013598

0066 Jin, Ning
Employment: Siemens

3281 Joel, Suresh
Employment: General Electric

2509 Johnson, Ethan
Grant/Research Support: General Electric

0646 Johnson, Kevin
Grant/Research Support: General Electric

0428 Jones, Craig
Grant/Salary: Philips

3648 Jones, Craig
Grant/Salary: Philips

4055 Joo, Ijin
Grant/Research Support: General Electric

0370 Jordanova, Kalina
Grant/Research Support: General Electric

0667 Juchem, Christoph
Grant: Agilent Technologies (formerly Magnex)

4471 Kanata, Naoki
Grant/Research Support: Toshiba

2756 Kaneko, Yukio
Employment: Hitachi

1682 Karlsson, Anette
Ownership Interest: Advanced MR Analytics (AMRA) AB

0236 Kato, Yoshinori
Other: SibTech Inc. / Sanofi Oncology, DA, SKS, and JMB are Co-PIs of the NIH grant. JMB is a CEO of SibTech, Inc. and MVB works for SibTech. SKS works for Sanofi Oncology. Scientists from JHU do not have any financial interests/agreements with these or other companies.

4254 Katscher, Ulrich
Grant/Salary: Philips

4410 Katscher, Ulrich
Grant/Salary: Philips

3372 Katscher, Ulrich
Grant/Salary: Philips

1206 Kegeles, Lawrence
Grant/Research Support: Amgen & Pfizer

3642 Kelley, Douglas
Employment: General Electric

Authors With Financial Interests or Relationships

2398 Kerr, Adam
Grant/Research Support: General Electric

0661 Kettunen, Mikko
Grant/Intellectual Property Rights: General Electric; Employment: General Electric

2532 Keupp, Jochen
Employment: Philips

4267 Khalighi, Mohammad Mehdi
Employment: General Electric

2595 Khalighi, Mohammad Mehdi
Employment: General Electric

4463 Kim, Charles
Grant/Research Support: Lantheus; Speaker/Consulting Fee: Lantheus

3043 Kimura, Hirohiko
Grant: General Electric

3740 Kimura, Tokunori
Grant: Toshiba

3777 King, Kevin
Employment/Ownership Interest: General Electric; Other: Elsevier, Author

3764 Kober, Tobias
Grant/Salary Siemens

1670 Koch, Kevin
Employment: General Electric

1673 Koch, Kevin
Employment: General Electric

2568 Koch, Kevin
Employment: General Electric

2560 Koff, Matthew
Grant: General Electric; Employment: Johnson and Johnson (Spouse is employed by J&J)

4324 Koken, Peter
Grant/Salary: Philips

0544 Koktzoglou, Ioannis
Grant/Research Support: Siemens

0878 Koktzoglou, Ioannis
Grant/Research Support: Siemens

3923 Köllisch, Ulrich
Grant: General Electric

4116 Komlosi, Peter
Grant/Research Support: Siemens

4114 Komlosi, Peter
Grant/Research Support: Siemens

1425 Kuhara, Shigehide
Employment: Toshiba

1583 Künnecke, Basil
Employment: Hoffman-LaRoche

0555 Kwon, Kie Tae
Grant/Research Support: General Electric

1282 Kwon, Kie Tae
Grant/Research Support: General Electric

0128 Lai, Peng
Grant/Salary: General Electric

3795 Lai, Peng
Grant/Salary: General Electric

2386 Lai, Yongchuan
Grant/Salary: General Electric

4359 Lankes, Konrad
Employment: Bruker Biospin

3947 Lanz, Titus
Employment: Rapid Biomedical

3908 Lau, Angus
Grant: General Electric; Employment: General Electric (One author (AC) is an employee)

0453 Lawley, Justin
Grant/Ownership Interest: Alperin noninvasive Diagnsotics, Inc.

2838 Lawrie, Craig
Employment: Quality Electrodymaics, LLC

0743 Le, Yuan
Grant/Research Support: Siemens

3375 Le, Yuan
Grant/Research Support: Siemens

2075 Lebel, R.
Ownership Interest & Employment: General Electric

3979 Lecocq, Angèle
Grant/Salary: Siemens

3957 Lecocq, Angèle
Grant/Salary: Siemens

3980 Lecocq, Angèle
Grant/Salary: Siemens

3752 Lee, Gregory
Grant: Siemens, (Dr. Griswold's lab receives research support from Siemens Healthcare)

4083 Lee, Gregory
Grant: Siemens, (Dr. Griswold's lab receives research support from Siemens Healthcare)

3109 Lee, Sangwoo
Employment: General Electric

0462 Lee, Seung-Kyun
Grant/Salary: General Electric

Authors With Financial Interests or Relationships

2574 Lee, Seung-Kyun
Employment: General Electric

3034 Lehmann, Britta
Employment: Siemens

3041 Lehmann, Britta
Employment: Siemens

3667 Leiner, Tim
Grant/Research Support: Philips

2748 Leussler, Christoph
Grant/Salary: Philips

3840 Li, Xu
Grant: Philips

1019 Lim, Issel Anne
Grant: Philips

2484 Lim, Issel Anne
Grant: Philips

3750 Lin, Wei
Employment: Philips

3751 Lin, Wei
Employment: Philips

1286 Litwiller, Daniel
Grant/Salary: General Electric

2652 Liu, Jun
Grant/Salary: Siemens

2856 Liu, Tian
Employment: Medimagemetric, LLC

3094 Liu, Zaiyi
Grant: China National Natural Scientific Foundation(No.81271569 & 81271654), Founding

2586 Liu, Zhe
Grant/Research Support: Philips

3620 LoCastro, Eve
Grant: National MS Society, Grant # RG 4661-A-2

4392 Lopez Terrones, Marcos
Grant & Employment (Honoraria): NORAS MRI products

2619 Luo, Jieying
Grant/Research Support: General Electric

2581 Luo, Jieying
Grant/Research Support: General Electric

3608 Mainero, Caterina
Consulting Fee: Biogen Idec

1272 Maki, Jeffrey
Grant: Philips; Grant/Travel: Bracco; Consulting Fee: Bayer, Lantheus, Bayer; Speaker/Honoraria Bureau: Lantheus

1042 Malesky, Kimberly
Ownership Interest: Roche Group; Employment: Hoffman-LaRoche, Genentech, Inc.

3406 Margolis, Daniel
Grant/Research Support: Siemens

4390 Marinelli, Luca
Employment: General Electric

2504 Markenroth Bloch, Karin
Employment: Philips

2708 Mathieu, Jean-Baptiste
Grant/Salary: General Electric

1325 Matthew, Shona
Grant/Research Support: Guerbet

3548 Matzat, Stephen
Grant/Research Support: General Electric

3449 McDermott, Shanaugh
Speaker Bureau: Siemens, Reimbursement for oral presentation

3201 McHugh, Damien
Grant: AstraZeneca

0686 McWalter, Emily
Grant/Research Support: General Electric

4570 Mehta, Bhairav
Grant/Research Support: Siemens

4482 Mehta, Bhairav
Grant/Research Support: Siemens

2583 Mendes, Jason
Grant/Salary: Siemens

3047 Mendes, Jason
Grant/Salary: Siemens

0400 Michaely, Henrik
Speaker/Honoraria: Siemens

1448 Miller, G
Grant/Salary: Siemens

3180 Miyoshi, Mitsuharu
Speaker/Salary: General Electric; Ownership Interest/Employment: General Electric

1485 Morgan, Alexandra
Grant: AstraZeneca; Employment: BiOxyDyn Ltd.

1484 Morgan, Alexandra
Grant: AstraZeneca; Employment: BiOxyDyn Ltd.

2368 Mugler, III, John
Grant/Research Support: Siemens

2026 Murdoch, James
Employment: Toshiba

Authors With Financial Interests or Relationships

2630 Murphy, Mark
Grant: General Electric

4461 Natsuaki, Yutaka
Employment: Siemens

4271 Nehrke, Kay
Employment: Philips

0365 Nehrke, Kay
Employment: Philips

1612 Neubert, Aleš
Grant: Siemens

2902 Ni, Wendy
Grant: General Electric

3123 Ni, Wendy
Grant: General Electric

3002 Nicoli, Francois
Grant/Salary: Olea Medical

0479 Nielles-Vallespin, Sonia
Employment/Salary: Siemens, (spouse)

1428 Nitta, Shuhei
Employment: Toshiba

2558 Nittka, Mathias
Employment: Siemens

4415 Noureddine, Yacine
Grant/Salary: MR:comp

4416 Noureddine, Yacine
Grant/Salary: MR:comp

4154 Ogino, Tetsuo
Employment: Philips

4165 Ogino, Tetsuo
Employment: Philips

4100 Ohno, Yoshiharu
Grant/Research Support: Philips

4104 Ohno, Yoshiharu
Grant/Research Support: Philips

4112 Ohno, Yoshiharu
Grant/Research Support: Toshiba & Eizai

4113 Ohno, Yoshiharu
Grant/ Research Support: Toshiba & Bayer Healthcare/Bayer Schering

0623 Okell, Thomas
Employment/Royalty: Siemens

1128 Okell, Thomas
Employment/Royalty: Siemens

4443 Ong, Frank
Grant: General Electric

4147 Padhani, Anwar
Speaker/Honoraria: Siemens

4329 Paley, Martyn
Ownership Interest: ISD Ltd.

3907 Park, Ilwoo
Grant/Research Support: General Electric

1529 Peters, Zachary
Speaker/Honoraria: Bracco

0547 Piccini, Davide
Employment: Siemens

1316 Piccini, Davide
Employment: Siemens

0253 Pierre, Eric
Grant/Research Support: Siemens

2648 Pierre, Eric
Grant/Research Support: Siemens

2582 Pipe, James
Grant/Research Support: Philips

1606 Pownder, Sarah
Grant/Research Support: General Electric

1273 Rahimi, Mahdi
Grant/Research Support: General Electric

1541 Rahimi, Mahdi
Grant/Research Support: General Electric

3503 Rasche, Volker
Grant/Research Support: Sirona Dental Systems GmbH; Consulting Fee: Sirona Dental Systems GmbH

4530 Rehwald, Wolfgang
Employment: Siemens

1474 Rivoire, Julien
Grant/Research Support: General Electric

1680 Rivoire, Julien
Grant/Research Support: General Electric

3330 Robison, Ryan
Grant/Salary: Philips

1136 Roca, Pauline
Grant/Salary: General Electric

0042 Rocca, Maria
Grant: Italian Ministry of Health; Speaker/Honoraria: Biogen Idec, Sanofi Aventis, & Serono Symposia International Foundation

2963 Rocca, Maria
Grant: Italian Ministry of Health; Speaker/Honoraria: Biogen Idec, Sanofi Aventis, & Serono Symposia International Foundation

Authors With Financial Interests or Relationships

3909 Rodrigues, Tiago
Grant/Research Support: General Electric

2693 Rose, Chris
Grant/Fellowship: AstraZeneca

0817 Ruppert, Kai
Grant/Salary: Siemens

1453 Ruppert, Kai
Grant/Salary: Siemens

1455 Ruppert, Kai
Grant/Salary: Siemens

3463 Rutigliano, Sandra
Consulting/Research Support: General Electric

0854 Sabati, Mohammad
Other: Siemens, Receiving Clinical/Research Products

1940 Sabati, Mohammad
Other: Siemens, Receiving Clinical/Research Products

0316 Salerno, Michael
Grant: Siemens

2480 Sato, Ryota
Employment: Hitachi

0185 Saybasili, Haris
Other: Siemens, Research collaboration

3838 Saybasili, Haris
Internship: Siemens

3443 Schakel, Tim
Employment: Philips

0512 Schmainda, Kathleen
Grant: Imaging Biometrics LLC

0635 Schmitt, Benjamin
Grant: Siemens

4252 Schneider, Rainer
Grant/Salary: Siemens

4261 Schneider, Rainer
Grant/Salary: Siemens

1934 Schulte, Rolf
Employment: General Electric

4243 Schulte, Rolf
Employment: General Electric

2717 Seeber, Derek
Grant/Salary: General Electric

1499 Seethamraju, Ravi
Employment: Siemens

2588 Senegas, Julien
Employment: Philips

3916 Serrao, Eva
Grant/Research Support: General Electric

3720 Shanbhag, Dattesh
Grant/Salary: General Electric

3075 Shanbhag, Dattesh
Grant/Salary: General Electric

3050 Shi, Kaining
Employment: General Electric

0501 Shi, Yunzhou
Employment: Genentech Inc. (Roche group)

2006 Shirai, Toru
Grant/Salary: Hitachi

1416 Slavin, Glenn
Employment: General Electric

2413 Smith, David
Grant/Research Support: Philips

0351 Solanky, Bhavana
Grant/Salary: Philips

2393 Solanky, Bhavana
Grant/Salary: Philips

2750 Soutome, Yoshihisa
Employment: Hitachi

2054 Sperl, Jonathan
Grant/Salary: General Electric

1342 Spottiswoode, Bruce
Employment: Siemens

2092 Sprenger, Tim
Grant/Research Support: General Electric

3713 Srinivasan, Subashini
Grant/Salary: Siemens

4574 Srinivasan, Subashini
Grant/Salary: Siemens

1434 Stalder, Aurelien
Employment: Siemens

0722 Stang, Pascal
Grant/Research Support: General Electric

2842 Steckner, Michael
Employment: Toshiba

2811 Stehning, Christian
Grant/Salary: Philips

2059 Stemmer, Alto
Employment: Siemens

0665 Stockmann, Jason
Grant: Siemens

3486 Ström, Conny
Employment: Philips

Authors With Financial Interests or Relationships

2150 Suzuki, Yuriko
Employment: Philips

3134 Suzuki, Yuriko
Employment: Philips

0557 Sveinsson, Bragi
Grant: General Electric; Employment: General Electric (Co-author receives salary)

4123 Takayama, Yukihisa
Grants: Bayer Healthcare/Bayer Schering & Philips

1868 Takehara, Yasuo
Grant/Research Support: Guerbett

4480 Takei, Naoyuki
Employment: General Electric

3839 Takeshima, Hidenori
Employment: Toshiba

3216 Tan, Ek
Employment: General Electric

3774 Tan, Ek
Employment: General Electric

2935 Taoka, Toshiaki
Speaker Bureau: Bayer Healthcare/Bayer Schering, Honoraria

2503 Thacker, Jon
Employment: Siemens (co-author)

0952 Thiele, Frank
Employment: Philips

0955 Togao, Osamu
Grant/Salary: Bayer Healthcare/Bayer Schering & Philips

0323 Troalen, Thomas
Grant/Salary: Siemens

0729 Tropp, James
Grant/Salary Support: General Electric

0725 Twieg, Michael
Grant/Research Support: Siemens

0127 Uecker, Martin
Grant: General Electric (co-author)

2645 Uecker, Martin
Grant: General Electric (co-author)

3386 Ueno, Yoshiko
Grant/Research Support: Toshiba

0746 Vander Elst, Luce
Grant: Guerbet; Consulting Fee: Guerbet

0122 Vareth, Maryam
Grant: General Electric (co-author)

2825 Vernickel, Peter
Employment: Philips

1585 Verret, Jean-Marie
Grant/Salary: General Electric

4362 Verret, Jean-Marie
Grant/Salary: General Electric

2668 Virtue, Patrick
Grant: General Electric (co-author)

0258 Voigt, Tobias
Grant/Salary: Philips

0470 Voigt, Tobias
Grant/Salary: Philips

1935 von Morze, Cornelius
Grant/Research Support: General Electric

2364 Vu, An
Employment: Advanced MRI

4168 Wakayama, Tetsuya
Employment: General Electric

0822 Wang, Chengbo
Grant: Siemens

4115 Wang, Chengbo
Grant: Siemens

2415 Wang, Dinghui
Grant/Research Support: Philips

0244 Wang, Dingxin
Grant/Salary: Siemens

0584 Wang, Dingxin
Grant/Salary: Siemens

2677 Wang, Dingxin
Grant/Salary: Siemens

1871 Wang, Guan
Grant: Boston Scientific Corporation, supplies

1617 Wang, He
Employment: General Electric

2979 Wang, He
Employment: General Electric

4156 Wang, He
Employment: General Electric

1129 Wang, Jinnan
Employment: Philips

1413 Wang, Jinnan
Employment: Philips

1274 Wang, Kang
Grant/Salary: General Electric

3820 Wang, Kang
Grant/Salary: General Electric

Authors With Financial Interests or Relationships

3832 Wang, Kang
Grant/Salary: General Electric

1298 Wang, Meihan
Grant/Salary: Siemens

2674 Wang, Qiu
Grant/Salary: Siemens

3805 Wang, Qiu
Grant/Salary: Siemens

3812 Wang, Qiu
Grant/Salary: Siemens

0096 Wang, Shiyang
Grant: Philips: Employment: Philips

4444 Wang, Zhiyue
Grant: Philips

1106 Warntjes, JBM
Employment: SyntheticMR AB, Sweden

4291 Waspe, Adam
Grant: Philips

0256 Weber, Oliver
Grant & Employment: Philips

2404 Wei, Xiaocheng
Employment: General Electric

2632 Weiger, Markus
Employment: Bruker Biospin

0761 Weiger, Markus
Employment: Bruker Biospin

0469 Weiss, Steffen
Grant/Salary: Philips

1524 Welch, E.
Grant: Philips

2602 Weller, Daniel
Grant/Salary: Siemens & General Electric

0551 Wheaton, Andrew
Grant/Salary: Toshiba

0063 Wieben, Oliver
Grant/Research Support: General Electric

3066 Wilson, Gregory
Employment: Philips

4459 Wilson, Gregory
Employment: Philips

0103 Wong, Eric
Grant/Royalty: General Electric

3408 Wright, Alan
Grant/Research Support: Siemens

3698 Wu, Bing
Employment: General Electric

3699 Wu, Bing
Employment: General Electric

4533 Wu, Wenchuan
Employment: Philips

0652 Xing, Yan
Grant/Research Support: General Electric

3741 Xu, Dan
Employment: General Electric

3784 Xu, Dan
Employment: General Electric

3257 Xu, Feng
Grant/Intellectual Property Rights: Philips; Speaker/Honoraria: Philips

3183 Xu, Jian
Grant/Salary: Siemens

0184 Xue, Hui
Employment: Siemens

1402 Xue, Hui
Employment: Siemens

2785 Yang, Xiaoyu
Ownership Interest/Employment: Quality Electrodynamics

0289 Yeramian, Ara
Grant: INUMAC

4009 Yildirim, Muhammed
Grant/Salary: Philips

2412 Yokoo, Takeshi
Consulting Fee: Bayer Healthcare/Bayer Schering

4197 Yokoo, Takeshi
Consulting Fee: Bayer Healthcare/Bayer Schering

2066 Yokosawa, Suguru
Grant/Salary: Hitachi

0611 Yu, Jiangsheng
Employment: Toshiba

3554 Zacà, Domenico
Grant/Salary: Siemens

2458 Zhang, Tao
Grant/Research Support: General Electric

2624 Zhang, Tao
Grant/Research Support: General Electric

Authors With Financial Interests or Relationships

0556 Zhang, Weiwei
Grant/Salary: General Electric

2770 Zhang, Zhenyu
Employment: General Electric

0879 Zhao, Huilin
Employment: Philips

2157 Zhao, Li
Grant/Research Support: Siemens

3032 Zhao, Li
Grant/Research Support: Siemens

0373 Zhao, Tiejun
Employment: Siemens

0243 Zhong, Jia
Ownership Interest: Celsense, Inc.; Other: Celsense, Board of Directors

0577 Zhong, Jia
Ownership Interest: Celsense, Inc.; Other: Celsense, Board of Directors

0401 Zhong, Xiaodong
Employment: Siemens

3988 Zhong, Xiaodong
Employment: Siemens

3174 Zhou, Kun
Employment: Siemens

0125 Zhu, Kangrong
Grant/Research Support: General Electric

4436 Zou, Yunpeng
Grant/Salary: Siemens

2145 Zun, Zungho
Grant/Research Support: General Electric

3031 Zun, Zungho
Grant/Research Support: General Electric

3778 Zur, Yuval
Grant & Employment: General Electric

1490 Zurek, Magdalena
Grant/Salary: AstraZenaca

Authors Without Financial Interests or Relationships

The ISMRM is committed to:

- Ensuring balance, independence, objectivity and scientific rigor in all Continuing Medical Education (CME) programs; and
- Presenting CME activities that promote improvements or quality in healthcare and are independent of commercial interests.

Therefore it is the policy of the Society that any person who has influence over the content of a program designated for *AMA PRA Category 1 Credits*™ must disclose any real or apparent financial interest or other relationship (i.e., grants, research support, consultant, honoraria) that the individual may have with the manufacturers, distributors or providers of any commercial products or services that may be discussed in the presentation.

Such financial interests or relationships must be identified in advance so that potential conflicts can be resolved before the program, and participants at the CME activity may have these facts fully disclosed at the outset.

The ISMRM does not imply that such financial interests or relationships are inherently improper or that such interests or relationships would prevent the speaker or organizer from making an objective contribution. However, it is imperative that such financial interests or relationships be identified so that potential conflicts can be resolved before the program, and participants at the CME activity may have these facts fully disclosed in advance. It then remains for the audience to determine whether an individual's outside interests may reflect a possible bias in either the exposition or the conclusions presented

Following are the names of all presenters, committee members and other organizers who had influence over the program content. If individuals have disclosed real or apparent financial interests or relationships, the interests or relationships are described.

Authors who have no Financial Interests or Relationships:

1589	Aandal, Gunhild	2587	Afacan, Onur	1607	Al saleh, Hbaib
3762	Ababneh, Riad	1661	Agbanlog, Kenard	1142	Al-Bachari, Sarah
4276	Ababneh, Riad	0264	Aggarwal, Manisha	2344	Aldebasi, Bader
1167	Abaei, Maryam	0838	Aggarwal, Manisha	2585	Alhamud, A.
1111	Abdel-Aziz, Khaled	1376	Aguor, Eissa	3272	Alhamud, A.
0881	Abd-Elmoniem, Khaled	4531	Ahlman, Mark	1875	Ali, Meser
2253	Abdelnour, Farras	3888	Ahmad, Md.	2882	Alia, A
3295	Abduljalil, Amir	1336	Ahmad, Rizwan	0737	Allaïli, Najib
1379	Abdullah, Osama	3488	Al, Tao	0034	Allan, Thomas
0117	Abdurrachim, Desiree	2270	Airan, Raag	3279	Allan, Thomas
1221	Abele, Travis	1290	Akahane, Masaaki	1337	Allen, Bradley
0724	Abou-Khousa, Mohamed	2985	Akashi, Toshiaki	1349	Allen, Bradley
2044	Aboussouan, Eric	1637	Akbari, Alireza	1831	Allen, Steven
2084	Aboussouan, Eric	0188	Akçakaya, Mehmet	1915	Allouche-Arnon, Hyla
4438	Acevedo-Bolton, Gabriel	4453	Akçakaya, Mehmet	2519	Alon, Leeor
4417	Acikel, Volkan	4571	Akçakaya, Mehmet	0563	Alrwaili, Amgad
4430	Acikel, Volkan	1567	Akhtar, Zaheer	4131	AlSharif, Shaza
0806	Ackerstaff, Ellen	2813	Aklan, Bassim	0931	Alshuft, Hamza
3415	Ackerstaff, Ellen	1950	Akoka, Serge	3240	Altabella, Luisa
3664	Acosta-Cabronero, Julio	3779	Akram, Md. Shahadat Hossain	4041	Altabella, Luisa
3203	Adamson, Christopher			1614	Altherr, Lena
3967	Adany, Peter	3239	Aksenov, Daniil	4251	Amadon, Alexis
0187	Adluru, Ganesh	1144	Aksoy, Didem	2903	Amann, Michael
2734	Adriany, Gregor	3744	Aksoy, Murat	3618	Amann, Michael
0311	Afacan, Onur	3756	Aksoy, Murat	1368	Amano, Yasuo

Authors Without Financial Interests or Relationships

1374	Amano, Yasuo	0978	Artzi, Moran	3444	Bagher-Ebadian, Hassan
1375	Amano, Yasuo	3825	Arunachalam, Arjun	1234	Bai, Xue
4549	Amano, Yasuo	2209	Aryal, Madhava	3638	Bai, Yan
1170	Amemiya, Shiori	0634	Ascani, Daniele	1778	Bains, Lauren
1285	Amin, Parag	3537	Asher, Kambiz	1713	Bakalova, Rumiana
3674	Amiri, Houshang	2991	Asllani, Iris	1716	Baker, Lauren
4202	Amiri, Houshang	2764	Assecondi, Sara	2011	Bakermans, Adrianus
3447	Amlani, Ashik	4249	Assländer, Jakob	2013	Bakhtiary, Morteza
0858	An, Li	2557	Astary, Garrett	4336	Bakker, Jurriaan
3984	An, Li	1859	Atanasijevic, Tatjana	3361	Balasubramanian, Mukund
2068	Anaby, Debbie	1018	Atassi, Nazem	2051	Balchandani, Priti
3038	Anazodo, Udunna	2820	Atkinson, Ian	1214	Baledent, Olivier
0900	Anblagan, Devasuda	1740	Atuegwu, Nkiruka	4178	Balidemaj, E.
2959	Anblagan, Devasuda	4501	Auger, Daniel	4185	Balidemaj, E.
4130	Anblagan, Devasuda	0398	Aussenhofer, Sebastian	3519	Baligand, Celine
0474	Anderson, Kevan	2801	Aussenhofer, Sebastian	0899	Ball, Gareth
2396	Anderson, Robert	2313	Autio, Joonas	0924	Ball, Gareth
2400	Anderson, Robert	4400	Avdievich, Nikolai	1483	Ball, Iain
3314	Anderson, Robert	2067	Avram, Alexandru	0300	Balla, Dávid
0994	Anderson, Valerie	2072	Avram, Alexandru	3381	Baltzer, Pascal
3760	Anderson III, Ashley	3800	Awate, Suyash	0875	Balu, Niranjan
3636	Andre, Jalal	2961	Awwad, Reem	1309	Balu, Niranjan
3199	André, Elodie	1674	Azzabou, Noura	2083	Bammer, Roland
3168	Andreotti, Jennifer	3367	Azziz, Ania	1582	Bandula, Steve
0390	Andreychenko, Anna	0306	Babayeva, Maryna	1333	Bane, Octavia
2029	Andronesi, Ovidiu	0533	Babourina-Brooks, Ben	1362	Bane, Octavia
2511	Andronesi, Ovidiu	0980	Babourina-Brooks, Ben	4387	Banerjee, Modhurin
3157	Angeli, Stelios	3393	Babourina-Brooks, Ben	4042	Bao, Jianfeng
3893	Annapragada, Ananth	3028	Bach, Michael	4286	Bär, Sebastien
1442	Antkowiak, Patrick	0948	Bach Cuadra, Meritxell	1116	Barakat, Nadia
4062	Antkowiak, Patrick	1347	Bächler, Pablo	0926	Barazany, Daniel
3471	Apprich, Sebastian	1264	Bade, Aditya	2502	Barbosa, Jeam Haroldo
3472	Apprich, Sebastian	1270	Bade, Aditya	1944	Barendse, Evelien
0932	Ardekani, Babak	2106	Bae, Karen	0320	Barkauskas, Kestutis
1002	Ardekani, Babak	0142	Bae, Won	4488	Barkauskas, Kestutis
0888	Arichi, Tomoki	3469	Bae, Won	0062	Barker, Alex
3863	Arifin, Dian	3656	Baeck, Jong-su	2358	Barker, Jeffrey
1573	Arif-Tiwari, Hina	0965	Baek, Hyeon-Man	2537	Barker, Jeffrey
4070	Arif-Tiwari, Hina	4039	Baek, Hyeon-Man	3106	Barnes, Stephanie
1922	Armstrong, Brandon	4043	Baek, Hyeon-Man	1620	Barnhill, Eric
3598	Arnold Anteraper, Sheeba	3467	Baek, Junga	0061	Baron, Corey
4352	Arpinar, Volkan	0690	Baete, Steven	0230	Baron, Paul
1429	Arrieta, Cristobal	2076	Baete, Steven	1815	Baron, Paul
0554	Arteaga de Castro, Catalina	3019	Bagga, Deepika	1420	Barr, Tomoe
1791	Arteaga de Castro, Catalina	3995	Bagga, Deepika	4026	Barreto, Felipe
2556	Artz, Nathan	1976	Bagga, Puneet	2237	Barry, Robert

Authors Without Financial Interests or Relationships

2278	Barry, Robert	1992	Benkhedah, Nadia	0265	Blazejewska, Anna
2292	Barry, Robert	1658	Benson, Michael	0953	Blazejewska, Anna
0152	Bar-Shir, Amnon	2766	Bergeles, Christos	3012	Blazejewska, Anna
0159	Bar-Shir, Amnon	1616	Berger-Roscher, Nikolaus	3809	Block, Kai
1851	Bar-Shir, Amnon	2669	Bergman, Elad	0853	Blockley, Nicholas
1852	Bar-Shir, Amnon	3603	Berlow, Yosef	2347	Blockley, Nicholas
2045	Barth, Markus	0851	Berman, Avery	3442	Bluemink, Johanna
1319	Basha, Tamer	3829	Berman, Benjamin	4397	Bluemink, Johanna
3874	Basharat, Meer	3866	Bernau, Ksenija	3177	Boada, Fernando
1599	Bashoor-Zadeh, Mahdieh	1324	Bernhardt, Peter	4447	Bock, Jelena
3223	Basile, Barbara	4547	Bernhardt, Peter	0930	Bock, Nicholas
4484	Bassett, Elwin	1012	Bernstein, Adam	1067	Bockhorst, Kurt
0120	Bastiaansen, Jessica	3439	Besa, Cecilia	2387	Boer, Vincent
1936	Bastiaansen, Jessica	1166	Besseling, René	4534	Boesen, Mari
2124	Bastiani, Matteo	1650	Beuf, Olivier	0855	Bogner, Wolfgang
1828	Bates, David	1660	Beuf, Olivier	0941	Bogorodzki, Piotr
3914	Batsios, Georgios	0141	Bhagat, Yusuf	0717	Bokacheva, Louisa
2929	Baudewig, Jürgen	2240	Bhatt, Om	0406	Bolan, Patrick
0330	Bauer, Adam	4328	Bhattacharyya, Pallab	3767	Bolan, Patrick
0909	Baumer, Fiona	4422	Bhattacharyya, Pallab	3958	Bolan, Patrick
1958	Bawden, S.	2613	Bhave, Sampada	2794	Bollgrün, Patrick
3141	Baxter, Gregory	0852	Bhogal, Alex	0740	Bollmann, Steffen
2303	Beall, Erik	0055	Bhushan, Chitresh	1942	Bollmann, Steffen
2575	Beall, Erik	2584	Bi, Zhongyuan	1818	Bomers, Joyce
1257	Bearer, Elaine	0247	Bian, Wei	1308	Bonanno, Gabriele
0991	Beaumont, Helen	3006	Bian, Wei	0280	Bonekamp, David
1961	Bednarik, Petr	0643	Bianchi, Andrea	0457	Bonekamp, David
1563	Beeman, Scott	4102	Bianchi, Andrea	0585	Bonekamp, David
1564	Beeman, Scott	3254	Bianciardi, Marta	3596	Bonekamp, Susanne
1565	Beeman, Scott	3348	Bianciardi, Marta	3615	Bonnier, Guillaume
0119	Befroy, Douglas	1052	Bigot, Christian	3889	Bony, Badrul
1963	Begovatz, Paul	0058	Bilgic, Berkin	2640	Borisch, Eric
2419	Begovatz, Paul	0168	Bilgic, Berkin	1900	Boros, Eszter
0241	Beiderwellen, Karsten	3654	Billiet, Thibo	0595	Borra, Ronald
3881	Beiderwellen, Karsten	3933	Billingsley, Kelvin	0505	Borri, Marco
1066	Bell, Jordan	3935	Billingsley, Kelvin	1055	Boska, Michael
4101	Bell, Laura	1912	Bini, Jason	0362	Boss, Andreas
0138	Bellec, Jesse	1339	Binter, Christian	4031	Boss, Andreas
0834	Ben Amitay, Shani	2647	Binter, Christian	4304	Boss, Michael
0149	Ben-Abraham, Ephraim	4296	Birkl, Christoph	4306	Boss, Michael
2453	Ben-Eliezer, Noam	1171	Bisdas, Sotirios	2445	Bosshard, John
2681	Ben-Eliezer, Noam	2572	Bishop, Jonathan	2479	Boudreau, Mathieu
0993	Benitez, Andreana	2789	Bishop, Phillip	4256	Boulant, Nicolas
4435	Benk, Christoph	2893	Bittsansky, Michal	2832	Bouldi, Mélina
4213	Benkert, Thomas	4414	Bitz, Andreas	0079	Bourassa-Moreau, Benoît
4273	Benkert, Thomas	4149	Blackledge, Matthew	3081	Bourne, Roger

Authors Without Financial Interests or Relationships

4472 Bowden, David
3704 Boyacioglu, Rasim
3707 Boyacioglu, Rasim
0612 Bozzali, Marco
2857 Bozzali, Marco
0404 Branca, Rosa
0814 Branca, Rosa
1996 Branzoli, Francesca
1695 Bratasz, Anna
2439 Braun, Juergen
2466 Breitkreutz, Dylan
2600 Brenner, Daniel
3709 Brenner, Daniel
1972 Bresnen, Andrew
2940 Breu, Markus
3345 Bright, Molly
1400 Brink, Wyger
2592 Brink, Wyger
2800 Brink, Wyger
4375 Brink, Wyger
1653 Brix, Martin
4456 Broadhouse, Kathryn
4487 Broadhouse, Kathryn
2197 Brost, Alexander
3628 Brost, Alexander
1211 Brown, Anna
2229 Bruce, Iain
2733 Bruce, Iain
0893 Brühl, Rüdiger
0586 Brunecker, Peter
1835 Brunner, Alexander
2483 Buch, Sagar
0477 Buchenberg, Waltraud
4310 Bucknor, Matthew
3951 Bucur, Adriana
2389 Budde, Juliane
0458 Buijs, Mathijs
2704 Bultman, Eric
1364 Buonincontri, Guido
1381 Buonincontri, Guido
3482 Buonocore, Michael
3670 Buonocore, Michael
4279 Burakiewicz, Jedrzej
0495 Burcaw, Lauren
1229 Burdumy, Michael
2915 Burgess, Alison
4088 Burke, Lauren
2043 Burns, Brian
0069 Busch, Julia
1843 Busse, Harald
3399 Busse, Harald
1149 Butman, John
1279 Butzbach, Britta
2728 By, Samantha
2909 Bydder, Graeme
2324 Byun, Nellie
3806 Caballero, Jose
2290 Caballero Gaudes, Cesar
2138 Cabeen, Ryan
0945 Cahill, Lindsay
2326 Cahill, Lindsay
3735 Cai, Congbo
4289 Cai, Honghao
2541 Cai, Kejia
2697 Cai, Kejia
3400 Cai, Wenchao
3407 Cai, Wenchao
1437 Cai, Xiaoying
4268 Cai, Xiaoying
1057 Calabrese, Evan
2939 Calabrese, Evan
3008 Callaghan, Martina
3017 Callaghan, Martina
3876 Calle, Daniel
0346 Callot, Virginie
1359 Cameron, Donnie
0967 Campanella, Martina
2136 Campbell, Jennifer
0009 Campbell-Washburn, Adrienne
3780 Campbell-Washburn, Adrienne
3671 Campeau, Norbert
0807 Canese, Rossella
4051 Canese, Rossella
1249 Cantor, Diego
2352 Cantrell, Charles
1028 Cao, Hongmei
0360 Cao, Peng
0412 Cao, Peng
3761 Cao, Shujing
3076 Cao, Wei
2802 Cao, Zhipeng
2805 Cao, Zhipeng
2806 Cao, Zhipeng
0317 Capron, Thibaut
0143 Capuani, Silvia
1601 Capuani, Silvia
3461 Carballido-Gamio, Julio
4283 Carinci, Flavio
4374 Carluccio, Giuseppe
4419 Carluccio, Giuseppe
4425 Carluccio, Giuseppe
4433 Carluccio, Giuseppe
0112 Carrillo-de Sauvage, Maria-Angeles
2301 Cash, Diana
0151 Cassidy, Maja
1923 Cassidy, Maja
2172 Castellaro, Marco
3574 Castellazzi, Gloria
1662 Casula, Victor
3730 Catherwood, Tess
2077 Cauley, Stephen
2603 Cauley, Stephen
0494 Cavalieri, Marco
0500 Cebulla, Jana
0233 Celicanin, Zarko
4518 Celik, Haydar
0823 Cereda, Maurizio
2307 Cerqueira, Bianca
0679 Chaddock, Gemma
0961 Chadzynski, Grzegorz
2025 Chadzynski, Grzegorz
3015 Chai, Jyh-Wen
2137 Chamberland, Maxime
1681 Chan, Deva
0156 Chan, Kannie
0422 Chan, Kannie
0447 Chan, Kannie
0273 Chan, Kevin
0336 Chan, Kevin
2576 Chan, Rachel
0334 Chan, Russell
1258 Chan, Russell
3267 Chan, Russell
4084 Chandarana, Hersh
4108 Chandarana, Hersh

Authors Without Financial Interests or Relationships

2242	Chang, Catie	0201	Chen, Jeon-Hor	1215	Chin, Shy-Chyi
3194	Chang, Che-Wei	1733	Chen, Jeon-Hor	1344	Chirico, Erica
3462	Chang, Gregory	1571	Chen, Jie	4090	Chmelík, Marek
2219	Chang, Ting-Ting	2252	Chen, Jingyuan	3440	Cho, Eun-Suk
1743	Chang, Yeun-Chung	1596	Chen, Jun	3373	Cho, Gene
3424	Chang, Yeun-Chung	1736	Chen, Jun	0509	Choi, Changho
2659	Chang, Yuchou	0483	Chen, Junjie	2030	Choi, Changho
4121	Chang, Yulin	0770	Chen, Kevin	3646	Choi, Changho
1731	Chang, Zheng	3288	Chen, Li	0145	Choi, Ja-Young
3178	Chao, Tzu-Cheng	0441	Chen, Liu Qi	2629	Choi, Joonsung
2311	Chao, Tzu-Hao	0056	Chen, Nan-kuei	1183	Choi, Ki Sueng
3644	Chapman, Christopher	3903	Chen, Shizhen	0231	Choi, Narae
4449	Charalambous, Nicolas	1299	Chen, Shuo	2098	Choi, Seongjin
2421	Chatelin, Simon	1813	Chen, Shuo	3410	Choi, Seung Hong
3960	Chatnuntawech, Itthi	0705	Chen, Way Cherng	1951	Choi, Soyoung
3968	Chatnuntawech, Itthi	0692	Chen, Weiwei	3209	Chong, Daniel
3565	Chaudhary, Kapil	2849	Chen, Xiangchuan	2056	Chou, Ming-Chung
3567	Chaudhary, Kapil	1959	Chen, Xing	2086	Chou, Ming-Chung
0338	Chauhan, Anjali	0322	Chen, Ya	3287	Chou, Ying-Hui
4172	Chauhan, Munish	2942	Chen, Yasheng	0526	Choudhury, Samiul
4181	Chauhan, Munish	2943	Chen, Yasheng	1509	Chouhan, Manil
0658	Chaumeil, Myriam	0600	Chen, Yong	2190	Chouhan, Manil
3432	Chaumeil, Myriam	0601	Chen, Yong	3117	Chouhan, Manil
2476	Chavez, Sofia	0239	Chen, Zhihang	3304	Choupan, Jeiran
0968	Chawla, Sanjeev	3291	Chen, Zhiye	1377	Chow, Kelvin
3238	Chelikani, Prasanth	3323	Chen, Zhongwei	0451	Christen, Thomas
1549	Chen, Bin	3600	Cheng, Bochao	0588	Christen, Thomas
1550	Chen, Bin	4216	Cheng, Cheng-Chieh	2222	Christen, Thomas
2194	Chen, Bin	1232	Cheng, Chou-Ming	1408	Christodoulou, Anthony
2221	Chen, Chih-Feng	1880	Cheng, Hai-Ling	3317	Chu, Alan
1858	Chen, Chih-Lung	3208	Cheng, Hu	3753	Chu, Mei-Lan
4526	Chen, David	3249	Cheng, Hu	3589	Chu, Wen-Jang
4527	Chen, David	3568	Cheng, Hua	3591	Chu, Wen-Jang
1804	Chen, Feiyu	2117	Cheng, Jian	0041	Chu, Ying-Hua
1806	Chen, Feiyu	3270	Cheng, Joe	0668	Chu, Ying-Hua
4409	Chen, Gang	3273	Cheng, Joe	3817	Chu, Ying-Hua
2228	Chen, Guangyu	3312	Cheng, Joe	2671	Chuang, Tzu-Chao
2883	Chen, Guangyu	3227	Cheng, John	2608	Chun, Il Yong
3300	Chen, Guangyu	3077	Cheng, Ya-Jian	2655	Chun, Il Yong
1114	Chen, Henry	2085	Cheng, Yen-Wei	2656	Chun, Il Yong
1302	Chen, Huijun	2210	Cheong, Dennis	3661	Chun, Il Yong
3059	Chen, Huijun	3063	Cheong, Dennis	4079	Chung, Sohae
2256	Chen, I-Jung	4407	Cheshkov, Sergey	2354	Chung, Yiu-Cho
0347	Chen, I-Wen Evan	0492	Chiang, Chia-Wen	2510	Chung, Yiu-Cho
1061	Chen, Jasper	3274	Chiew, Mark	2905	Ciobanu, Luisa
0195	Chen, Jeon-Hor	3792	Chiew, Mark	3234	Ciris, Pelin

Authors Without Financial Interests or Relationships

1588 Ciritsis, Alexander
3405 Clarke, Sharon
2027 Clarke, William
0155 Clavijo Jordan, Maria
2065 Clayden, Jonathan
2139 Clayden, Jonathan
2140 Clayden, Jonathan
0943 Cleppien, Dirk
1454 Cleveland, Zackary
3441 Clevenger, Tony
0286 Cloos, Martijn
4258 Cloos, Martijn
1304 Cocosco, Chris
0446 Cohen, Alexander
0959 Cohen, Alexander
1534 Cohen, Alexander
4167 Cohen, Alexander
3975 Cohen, Ouri
0353 Cohen-Adad, Julien
1348 Collier, Guilhem
1458 Collier, Guilhem
1459 Collier, Guilhem
1139 Colliez, Florence
1700 Colliez, Florence
1750 Colliez, Florence
2797 Collins, Christopher
4489 Collins, Jeremy
0228 Coman, Daniel
3411 Coman, Daniel
1093 Combes, Anna
1551 Conlin, Christopher
1405 Contijoch, Francisco
4364 Cook, Gemma
1011 Cook, Philip
4550 Cook, Tessa
0880 Coolen, Bram
0137 Cooley, Clarissa
2474 Cooper, Mitchell
1315 Coppo, Simone
1417 Coppo, Simone
1047 Coquery, Nicolas
1610 Cordes, Dietmar
1311 Coristine, Andrew
1892 Cormode, David
0148 Cortes, Daniel
2360 Corteville, Dominique
1827 Costa, Marcia
2508 Costagli, Mauro
2912 Coutu, Jean-Philippe
0276 Cox, Eleanor
4094 Cox, Eleanor
2936 Crane, David
1974 Craveiro, Mélanie
4099 Crémillieux, Yannick
1007 Crescenzi, Rachelle
3253 Croal, Paula
1522 Cron, Greg
3487 Cron, Greg
2487 Cronin, Matthew
2491 Cronin, Matthew
2450 Crooijmans, Hendrikus
2698 Crowe, Lindsey
3905 Crowe, Lindsey
0111 Cudalbu, Cristina
3993 Cudalbu, Cristina
2411 Cui, Chen
2727 Cui, Jiaming
0863 Cui, Weina
2231 Curtis, Andrew
3349 Curtis, Andrew
0091 Da Rosa, Michael
3877 Dada, Michael
2147 Dai, Weiying
2192 Dai, Weiying
2235 Dai, Weiying
2357 Dai, Zhuozhi
0163 Dal-Bianco, Assunta
0939 Damen, Frederick
2433 Damughatla, Aniurdh
2155 Dang, Yi
2156 Dang, Yi
0343 Daoust, Alexia
1267 Daoust, Alexia
1237 D'Arceuil, Helen
3358 D'Arceuil, Helen
4403 Darji, Niravkumar
3026 Darkner, Sune
1910 Daryaei, Iman
2837 Das, Rupam
0235 Dash, Rajesh
1083 Datta, Sushmita
0626 Dautry, Raphaël
4341 Davies, Gareth
0970 Davies, Nigel
1640 Davis, Andrew
1648 Davis, Andrew
3649 Davoodi-Bojd, Esmaeil
2879 Dawe, Robert
4427 Dawe, Robert
1014 Dayan, Michael
3428 Daye, Dania
4287 de Bever, Joshua
4298 de Bever, Joshua
1243 De Bondt, Timo
3095 De Bondt, Timo
2328 de Celis Alonso, Benito
3307 de Celis Alonso, Benito
1706 De Feyter, Henk
1956 De Feyter, Henk
0271 de Guzman, A.
1070 de Guzman, A.
3593 de la Fuente-Sandoval, Camilo
3597 de la Fuente-Sandoval, Camilo
0344 De La Garza, Bryan
4322 de Leeuw, Hendrik
0799 de Macedo Rodrigues, Katyucia
0295 De Martino, Federico
0170 De Rochefort, Ludovic
0966 De Rotte, A. A. J.
0843 De Santis, Silvia
2055 De Santis, Silvia
0172 De Vis, Jill
2967 De Vis, Jill
3001 De Vis, Jill
3011 De Vita, Enrico
2248 De Zwart, Jacco
2955 Dean III, Douglas
1090 Debernard, Laetitia
2543 DeBrosse, Catherine
1786 Decelle, Emily
1787 Decelle, Emily
1937 Dechent, Jan
1830 Deckers, Roel
3962 Deelchand, Dinesh
1954 Degnan, Andrew

Authors Without Financial Interests or Relationships

2969 Dehaes, Mathieu
0695 Deistung, Andreas
0726 DelaBarre, Lance
4553 Deligianni, Xeni
0704 Dell'Acqua, Flavio
1092 Dellani, Paulo
1378 Delmas, Antoine
3737 DeMello, Linda
0237 den Adel, Brigit
0883 den Adel, Brigit
3647 Deng, Jie
1513 Deng, Lingli
1807 Denis de Senneville, Baudouin
1810 Denis de Senneville, Baudouin
0076 Deniz, Cem
1216 Denney Jr, Thomas
3583 Deoni, Sean
3732 Depew, Thomas
3823 Depew, Thomas
0785 DeSalvo, Matthew
0520 Deshpande, Gopikrishna
2525 Desmet, Celine
3773 Dewal, Rahul
4046 Dharmadhikari, Shalmali
0774 Dhollander, Thijs
3099 Di Marco, Valentina
1635 Di Pietro, Giulia
0709 Dibb, Russell
1611 DiCamillo, Paul
3496 DiCamillo, Paul
4512 Dieringer, Matthias
2716 Dietrich, Benjamin
2082 Dietrich, Olaf
2482 Dietrich, Olaf
0908 DiFrancesco, Mark
3892 Digilio, Giuseppe
0093 Dikaios, Nikolaos
2080 Dikaios, Nikolaos
1824 Dillon, Christopher
3682 Ding, Guangliang
0255 Ding, Haiyan
3734 Ding, Yu
3826 Ding, Yu
4021 Diserens, Gaëlle
0765 Diwoky, Clemens
3438 Do, Richard
4075 Doblas, Sabrina
1479 Doganay, Ozkan
4319 Dominguez-Viqueira, William
4354 Dominguez-Viqueira, William
0207 Donahue, Manus
0427 Donahue, Manus
3325 Donahue, Manus
3341 Donahue, Manus
4470 Dong, Hattie
4143 Dong, Jian
2960 Doorenweerd, Nathalie
2539 Dortch, Richard
4223 Dortch, Richard
3114 Douglas, Naomi
4158 Douglas, Naomi
2864 Dowell, Nicholas
4284 Dowell, Nicholas
0594 Downey, K.
4206 Doyle, Eamon
2126 Drakesmith, Mark
1080 Dreha-Kulaczewski, Steffi
1496 Dresselaers, Tom
3690 Dresselaers, Tom
3694 Dresselaers, Tom
3666 Driessen, Juliette
0301 Driver, Ian
3251 Driver, Ian
0219 Du, Fei
0984 Du, Huarui
1796 Du, Huarui
3464 Du, Jiang
2895 Du, Mingying
0372 Duan, Qi
4383 Duan, Yunsuo
2621 Duarte-Carvajalino, Julio
3153 Duclap, Delphine
3044 Duda, Jeffrey
4001 Dudley, Jonathan
0669 Duerst, Yolanda
0027 Duhamel, Guillaume
1112 Duhamel, Guillaume
2535 Duhamel, Guillaume
0199 Dula, Adrienne
3605 Dula, Adrienne
1619 Dulaney, Caleb
2397 Dumez, Jean-Nicolas
2407 Dumez, Jean-Nicolas
0747 Dutruel, Silvina
1577 Dutruel, Silvina
0656 Düwel, Stephan
0098 Dwivedi, Durgesh
3014 Dwyer, Michael
1021 Dyke, Jonathan
1531 Dyke, Jonathan
1598 Dyke, Jonathan
2207 Dyke, Jonathan
4077 Dyvorne, Hadrien
4082 Dyvorne, Hadrien
4091 Dyvorne, Hadrien
4163 Dyvorne, Hadrien
2427 Dzyubak, Bogdan
4405 Ebbini, Emad
3550 Eckstein, Felix
2041 Edden, Richard
3972 Edden, Richard
0077 Eggenschwiler, Florent
4265 Eggenschwiler, Florent
0414 Ehses, Philipp
0053 Eichner, Cornelius
3130 Eida, Sato
4049 Ekka, Meera
2291 Eklund, Anders
4014 Elabyad, Ibrahim
1823 Elbes, Delphine
4212 Eldeniz, Cihat
2516 Eliav, Uzi
0960 Elkhaled, Adam
1041 Ellegood, Jacob
2840 Ellenor, Christopher
4411 Ellenor, Christopher
3631 Ellingson, Benjamin
3146 Eltawell, Hazem
0912 Elton, Amanda
3506 Elzibak, Alyaa
2858 Emir, Uzay
1986 Emoto, Miho
3172 Endo, Kazuyuki
0906 Englander, Zoe

Authors Without Financial Interests or Relationships

2161	Englund, Erin	0475	Fedorov, Andriy	0206	Frederick, Blaise
2186	Englund, Erin	3544	Feldman, Rebecca	0200	Freed, Melanie
2060	Engström, Mathias	1380	Feliciano, Hélène	0815	Freeman, Matthew
2579	Engström, Mathias	0964	Fellah, Slim	2058	Freidlin, Raisa
3247	Erbil, Nurhan	0606	Feng, Li	2452	Freiermuth, Maximilian
2468	Ercan, Ece	4201	Feng, Meiyan	1535	Freiman, Moti
3215	Ersoz, Ali	4255	Feng, Shuo	4056	Freiman, Moti
3831	Ersoz, Ali	2381	Feng, Wei	3455	Freitag, Martin
4372	Erturk, M. Arcan	2500	Feng, Wei	3588	Freitag, Martin
0290	Eryaman, Yigitcan	1228	Feng, Xue	1608	Freutel, Maren
0393	Eryaman, Yigitcan	2460	Feng, Yanqiu	1482	Friedrich, Janet
2740	Eryaman, Yigitcan	2601	Feng, Zhen	1590	Friedrich, Janet
4412	Eryaman, Yigitcan	1799	Fennessy, Fiona	3475	Friedrich, Klaus
0805	Esmaeili, Morteza	3128	Ferizi, Uran	3912	Friesen-Waldner, Lanette
4035	Esmaeili, Morteza	1450	Fernandes, Carolina	0614	Fritzsche, Klaus
1953	Evans, C.	2804	Fernandez Villena, Jorge	3495	Froeling, Martijn
4069	Ezhapilli, Sajeev	2193	Fernandez-Seara, Maria	0607	Fu, Maojing
4072	Ezhapilli, Sajeev	4502	Ferreira, Pedro	2042	Fuchs, Alexander
0157	Faber, Cornelius	4504	Ferreira, Pedro	0864	Fuchs, Katharina
3347	Falahpour, Maryam	1971	Fiedler, Georg	1412	Fuchs, Katharina
2096	Falangola, Maria	1284	Fielden, Samuel	4301	Fuentes, David
3606	Fan, Audrey	1865	Fielden, Samuel	3509	Fujihara, Shuya
3721	Fan, Audrey	0489	Fieremans, Els	1987	Fujii, Hirotada
2120	Fan, Qiuyun	1369	Fillmer, Ariane	2091	Fujii, Shogo
0087	Fan, Shu-Juan	2268	Finn, Emily	1208	Fujima, Noriyuki
1256	Fan, Shu-Juan	2277	Finsterbusch, Jürgen	2102	Fujimoto, Koji
1702	Fan, Xiaobing	3322	Finsterbusch, Jürgen	4468	Fujimoto, Koji
1758	Fan, Xiaobing	0649	Fischer, André	0950	Fujimoto, Kyoko
0326	Fan, Yang	4474	Fischer, Anja	1097	Fujimoto, Kyoko
0876	Fan, Zhaoyang	2964	Fischi-Gomez, Elda	1542	Fujiwara, Yasuhiro
4476	Fan, Zhaoyang	1395	Fitts, Michelle	0198	Furman-Haran, Edna
0283	Fananapazir, Ghaneh	4569	Fitts, Michelle	1554	Futterer, Jurgen
1275	Fananapazir, Ghaneh	2167	Fleysher, Roman	4307	Fwu, Peter
2606	Fang, Sheng	1510	Flood, Samantha	0602	Gaass, Thomas
2612	Fang, Sheng	0321	Fluckiger, Jacob	1415	Gaass, Thomas
0313	Fang, Zhongnan	3906	Foley, Lesley	1481	Gaass, Thomas
3292	Fang, Zhuo	1119	Fonov, Vladimir	1123	Gaber, M. Waleed
0514	Farjam, Reza	1633	Forbes, Sean	0579	Gabr, Refaat
0158	Farrar, Christian	1487	Ford, John	4358	Gach, H. Michael
3164	Farrher, Ezequiel	1435	Forkert, Nils Daniel	3244	Gagnon, Louis
1679	Farshad-Amacker, Nadja	1294	Forman, Christoph	2355	Gagnon, Yann
2703	Fathi Kazerooni, Anahita	4528	Forman, Christoph	3706	Gai, Neville
0621	Fazlollahi, Amir	1756	Foroutan, Parastou	4558	Gai, Neville
3107	Federau, Christian	1762	Foroutan, Parastou	1969	Gajdosik, Martin
3336	Federau, Christian	3022	Foxley, Sean	2730	Galassi, Francesca
3046	Federspiel, Andrea	1356	François, Christopher	0013	Galiana, Gigi

Authors Without Financial Interests or Relationships

2388	Galiana, Gigi	1943	George, Elijah	2786	Goluch, Sigrun
0309	Gallichan, Daniel	2383	George, Elijah	4065	Goncalves, Sonia
4020	Gandhi, Sonia	2283	Germuska, Michael	4159	Goncalves, Sonia
0214	Ganji, Sandeep	2380	Geshnizjani, Nahal	1698	Gonçalves, M.
2005	Ganji, Sandeep	3851	Gho, Sung-Min	1701	Gonçalves, M.
0610	Gao, Hao	0794	Gholipour, Ali	2376	Gong, Enhao
2046	Gao, Hao	3746	Gholipour, Ali	2610	Gong, Enhao
2605	Gao, Hao	1916	Ghosh, Rajat	2889	Gong, Nan-Jie
2975	Gao, Jie	4517	Ghugre, Nilesh	4148	Gong, Nan-Jie
3055	Gao, Katherine	4497	Giannakidis, Archontis	1089	Gonyea, Jay
0298	Gao, Patrick	2512	Gibbons, Eric	3870	Gonzalez, Sandra
3271	Gao, Patrick	3729	Gibson, Eli	2276	Gonzalez-Castillo, Javier
1556	Gao, Ying	1666	Giers, Morgan	1141	Goodwin, Jonathan
3078	Gao, Yurui	0307	Giese, Daniel	4064	Gopalan, Venkatesh
2104	Garbera, David	1520	Gifford, Aliya	0088	Gopinath, Kaundinya
0064	Garcia, Julio	1618	Gifford, Aliya	2254	Gopinath, Kaundinya
1328	Garcia, Julio	0670	Gilbert, Kyle	2273	Gopinath, Kaundinya
1329	Garcia, Julio	2776	Gilbert, Kyle	4548	Gopireddy, Dheeraj Reddy
1101	Garcia, Meritxell	3448	Giles, Sharon	1189	Goradia, Dhruman
1137	Garcia, Meritxell	4153	Giles, Sharon	0010	Gordon, Jeremy
2989	Garcia, Meritxell	1993	Gilles, Alina	0010	Gordon, Jeremy
1027	García-Lorenzo, Daniel	0083	Gimenez, Ulysse	0653	Gordon, Jeremy
2886	Garcia-Polo, Pablo	0775	Girard, Gabriel	3936	Gordon, Jeremy
0110	Gardener, Alexander	1785	Giskeødegård, Guro	1084	Gorodezky, Margarita
3872	Gargam, Nicolas	1000	Giulietti, Giovanni	3725	Goto, Takao
4096	Garnov, Nikita	1016	Giulietti, Giovanni	0162	Goubran, Maged
2625	Garpebring, Anders	0382	Glass, John	1669	Goulding, Krista
3578	Garrepalli, Nikhil	2079	Glenn, Russell	2860	Govind, Varan
3360	Garrido Salmon, Carlos	1591	Glockner, James	0891	Govindarajan, Koushik
3423	Garteiser, Philippe	4360	Glover, Gary	1086	Govindarajan, Sindhuja
4078	Garteiser, Philippe	4361	Gmitro, Arthur	1921	Graafen, Dirk
2305	Gass, Natalia	1207	Gnanavel, Sundar	1927	Graafen, Dirk
2897	Gattu, Ramtilak	1856	Gobbo, Oliviero	0981	Grabner, Günther
1805	Gaur, Pooja	2908	Göbel, Katharina	1088	Grabner, Günther
2871	Gauthier, Claudine	1988	Godechal, Quentin	3630	Grabner, Günther
2872	Gauthier, Claudine	2341	Goense, Jozien	4315	Grabow, Benjamin
0090	Gazdzinski, Lisa	2282	Goerke, Ute	4330	Grabow, Benjamin
3714	Gdaniec, Nadine	0559	Goette, Matthew	0552	Graedel, Nadine
4278	Gdaniec, Nadine	2795	Gogola, Daniel	0395	Graessl, Andreas
4519	Ge, Heng	3822	Gol, Derya	2747	Graessl, Andreas
0043	Ge, Yulin	1399	Goldfarb, James	0701	Graff, Christian
3601	Ge, Yulin	3258	Golestani, Ali-mohammad	0499	Graham, Timothy
2438	Geng, Guangqiang	3556	Golestani, Ali-Mohammad	0333	Grandjean, Joanes
1876	Geninatti, Simonetta	3580	Golestani, Ali-Mohammad	1863	Granot, Dorit
1366	Gensler, Daniel	0437	Golnari, Pedram	1075	Gray-Edwards, Heather
4299	George, Ashvin	2523	Golub, Frank	1076	Gray-Edwards, Heather

Authors Without Financial Interests or Relationships

1077	Gray-Edwards, Heather	2185	Gutjahr, Fabian	1255	Han, Wenwen
0979	Grech-Sollars, Matthew	2205	Gwilliam, Matt	1300	Han, Xu
2134	Griffa, Alessandra	1313	H. Moghari, Mehdi	3834	Han, Xu
3338	Griffeth, Valerie	3517	Ha, Dong-Ho	2401	Han, Yeji
4426	Griffin, Greg	2783	Ha, Seunghoon	2880	Han, Zhaoying
2446	Grimm, Roger	2791	Ha, Seunghoon	4057	Haneder, Stefan
3083	Grinberg, Farida	4353	Ha, Seunghoon	2022	Hangel, Gilbert
3124	Grinberg, Farida	4394	Ha, Seunghoon	2211	Hankov, Georges
3159	Grinberg, Farida	1757	Haack, Søren	0699	Hansen, Brian
0804	Grinde, Maria	4250	Haas, Martin	0680	Hansen, Nienke
1004	Grisot, Giorgia	3335	Haddock, Bryan	4164	Hansmann, Jan
2399	Grissom, William	0748	Hadizadeh, Dariusch	3961	Hanstock, Chris
1985	Groebner, Jens	0304	Haeberlin, Maximilian	4339	Hao, Ying
2819	Groebner, Jens	1242	Haeck, Tom	0238	Hapuarachchige, Sudath
2821	Groebner, Jens	2749	Haemer, Gillian	3419	Hapuarachchige, Sudath
3996	Gröger, Adriane	4406	Haemer, Gillian	1345	Haraldsson, Henrik
0466	Gross, Simon	4187	Hafalir, Fatih	3255	Hare, Hannah
1410	Gross, Simon	1135	Hagberg, Gisela	1006	Haris, Mohammad
3901	Groult, Hugo	1891	Hagberg, Gisela	1192	Haris, Mohammad
1737	Gruber, Stephan	1003	Hagemeier, Jesper	3098	Harmer, Jack
0997	Gruslys, Audrunas	2426	Hagot, Pascal	3206	Harmer, Jack
2095	Grussu, Francesco	3869	Hagot, Pascal	0021	Harouni, Ahmed
3963	Gu, Meng	3738	Hähn, Daniel	0345	Harris, Ashley
0287	Gudino, Natalia	4432	Haider, Clifton	3342	Harris, Ashley
2738	Gudino, Natalia	0355	Hakkarainen, Hanne	0011	Harris, Chad
2741	Guérin, Bastien	4111	Halaweish, Ahmed	0011	Harris, Chad
4331	Guettler, Felix	0771	Haldar, Justin	2822	Harris, Chad
3543	Guha, Aditi	1747	Hales, Patrick	1994	Harris, Lisa
3765	Guhaniyogi, Shayan	2170	Hales, Patrick	2265	Harsan, Laura-Adela
0903	Gui, Laura	2034	Hall, Emma	1271	Harteveld, Anita
3205	Güllmar, Daniel	1794	Hallac, Rami	0102	Hartkamp, Nolan
3616	Gundapuneedi, Tejasvi	3547	Hamada, Hidetoshi	1693	Hartono, Septian
2149	Guo, Jia	0831	Hamamura, Mark	2220	Hartono, Septian
0873	Guo, Jing	0821	Hamedani, Hooman	1372	Hartung, Dagmar
0973	Guo, Jing	1468	Hamedani, Hooman	0308	Hartwig, Axel
2430	Guo, Jing	2631	Hamilton, Jesse	3757	Hartwig, Axel
4207	Guo, Junyu	3836	Hamilton, Jesse	2898	Hasan, Khader
4209	Guo, Junyu	2705	Hamy, Valentin	3096	Hasan, Khader
2377	Guo, Liheng	3852	Han, Dongyeob	3659	Hasan, Khader
4018	Gupta, Ashish	0485	Han, Fei	2017	Hatay, Gokce
4047	Gupta, Ashish	1746	Han, Hao	1105	Hattingen, Elke
2807	Gurler, Necip	0664	Han, Hui	1197	Hatton, Sean
1952	Gussew, Alexander	1025	Han, Kihwan	2850	Hattori, Takaaki
0744	Gutberlet, Marcel	1609	Han, Misung	4536	He, Le
2633	Gutberlet, Marcel	1260	Han, Mun	4292	He, Mengyue
2649	Gutberlet, Marcel	3781	Han, Paul	1451	He, Mu

Authors Without Financial Interests or Relationships

3733	He, Renjie	3505	Hiepe, Patrick	1697	Hormuth, II, David
0108	He, Xiang	3512	Hiepe, Patrick	1470	Horn, Felix
1568	He, Xiang	1530	Higaki, Atsushi	3858	Horng, Debra
3524	He, Xiang	1926	Hill, Deborah	0711	Horowitz, Assaf
0423	Hectors, Stefanie	3919	Hill, Deborah	0596	Hosseinzadeh, Keyanoosh
1826	Hectors, Stefanie	3450	Himoto, Yuki	1031	Hou, Bo
0473	Hegde, Shashank	1906	Hingorani, Dina	2332	Hou, Bob
1833	Hegde, Shashank	1213	Hirayama, Akihiro	2986	Hou, Bob
4314	Hegde, Shashank	2440	Hirsch, Sebastian	3293	Hsieh, Hsin-Long
4144	Heilbrun, Marta	4076	Hirsch, Sebastian	3849	Hsieh, Meng-Chi
0356	Hekmatyar, Khan	0641	Hirvasniemi, Jukka	3850	Hsieh, Meng-Chi
1638	Hekmatyar, Khan	3861	Hitchens, T.	4247	Hsu, Yi-Cheng
3207	Helmer, Karl	1127	Ho, Yi-Ching	3161	Hsu, Yung-Chin
4006	Hemanth Kumar, B.S.	4053	Hoad, Caroline	0403	Hu, Houchun
1489	Hemberger, Kathrin	2831	Hochman, Amit	1641	Hu, Houchun
1600	Hemberger, Kathrin	1113	Hock, Andreas	0092	Hu, Juan
4520	Henningsson, Markus	2589	Hock, Andreas	1180	Hu, Yuzheng
4568	Henningsson, Markus	1404	Hoerr, Verena	0381	Hua, Jun
0029	Hentschel, Jan	1866	Hoerr, Verena	0845	Hua, Jun
1676	Henze Bancroft, Leah	2563	Hoff, Michael	2462	Huang, Chuan
2402	Henze Bancroft, Leah	2564	Hoff, Michael	2684	Huang, Chuan
3220	Heo, Hye-Young	0728	Höfflin, Jens	0218	Huang, Hailiang
3243	Heo, Hye-Young	0291	Hoffmann, Jens	2957	Huang, Hao
3766	Herbst, Michael	0216	Hoffmann, Stefan	3359	Huang, Jie
0987	Heredia, J. Gabe	1983	Hoffmann, Stefan	0234	Huang, Jing
0299	Herman, Peter	0839	Hofstetter, Shir	3897	Huang, Jing
3545	Hernandez, Larry	0211	Holdsworth, Samantha	1032	Huang, Peiyu
3878	Hernandez, Ricardo	2061	Holdsworth, Samantha	1145	Huang, Pin-Hsun
1844	Hernandez-Garcia, Luis	0524	Holiga, Stefan	4177	Huang, Shao Ying
1100	Hernandez-Torres, Enedino	1383	Hollingsworth, Kieren	2547	Huang, Sheng-Min
3848	Hernando, Diego	1385	Hollingsworth, Kieren	2323	Huang, Shiliang
4194	Hernando, Diego	2616	Hollingsworth, Kieren	0277	Huang, Steven
3147	Herrera, Sheryl	2744	Hollingsworth, Neal	3158	Huang, Su-Chun
4348	Herreros, Quentin	3679	Holmes, Holly	1074	Huang, Wei
2370	Herrmann, Karl-Heinz	2064	Holtrop, Joseph	3884	Huang, Yuegao
2765	Herrmann, Karl-Heinz	3515	Hong, CheolPyo	3885	Huang, Yuegao
4103	Herrmann, Karl-Heinz	4510	Hong, Kyungpyo	4218	Huang, Yuegao
0072	Herzka, Daniel	2627	Hong, MingJian	0224	Huang, Yuexi
2745	Hess, Aaron	0862	Hong, Sungtak	1124	Huang, Yun-An
2016	Hetherington, Hoby	3676	Hong, Xiaohua	3717	Huang, Yun-An
2739	Hetherington, Hoby	0210	Hong, Xin	2035	Huang, Yuqing
0467	Heule, Rahel	1832	Hoogenboom, Martijn	0847	Huber, Laurentius
1755	Heye, Tobias	3898	Hoque, Sheikh Manjura	3339	Huber, Laurentius
1296	Hezel, Fabian	1595	Horch, R.	2322	Hübner, Neele
1384	Hezel, Fabian	3669	Hori, Masaaki	4337	Hudson, Thomas
3491	Hiepe, Patrick	2712	Horiga, Masabumi	0031	Hueper, Katja

Authors Without Financial Interests or Relationships

1548 Hueper, Katja
1247 Huerta, Claudia
2335 Huerta, Claudia
2336 Huerta, Claudia
3626 Huhndorf, Monika
3677 Huhndorf, Monika
0498 Hui, Edward
2916 Hui, Edward
2353 Hung, Wei-Feng
4054 Hussein, Mahamoud
2869 Hutten, Ryan
3855 Hwang, Eo-Jin
0386 Hyare, Harpreet
0902 Hye Jin, Jeong
0927 Hye Jin, Jeong
0988 Ida, Masahiro
0986 Idema, A. J.
2337 Iidaka, Tetsuya
3103 Iima, Mami
3383 Iima, Mami
3418 Iltis, Isabelle
3007 Im, Kiho
3652 Im, Kiho
3468 Im, Michael
1962 Imai, Hirohiko
3770 In, Myung-Ho
2672 Inati, Souheil
2204 Ingalhalikar, Madhura
3189 Ingo, Carson
0591 Ingrisch, Michael
2930 Inoue, Taeko
1162 Iraji, Armin
1466 Ishii, Masaru
1397 Ishimura, Rieko
4475 Isogai, Jun
1888 Issa, Bashar
2729 Italiaander, Michel
3660 Ito, Kenji
2598 Ito, Kosuke
2599 Ito, Kosuke
2604 Ito, Satoshi
2675 Ito, Satoshi
2472 Ivanov, Dimo
3619 Ivkovic, Milos
1894 Jacobs, Igor
3395 Jafar, Maysam
3397 Jafar, Maysam
3061 Jafari-Khouzani, Kourosh
0223 Jagannathan, Naranamangalam
3382 Jagannathan, Naranamangalam
3073 Jahani, Jeiran
2266 Jahanian, Hesamoddin
0618 Jahng, Geon-Ho
3226 Jahng, Geon-Ho
3263 Jahng, Geon-Ho
0917 Jain, Varsha
1508 Jajamovich, Guido
2212 Jajamovich, Guido
0510 Jalbert, Llewellyn
3398 Jambor, Ivan
0448 Jamin, Yann
1905 Jamin, Yann
2524 Jang, Hyungseok
3079 Janke, Jutta
0367 Jankiewicz, Marcin
4262 Jankiewicz, Marcin
1143 Jann, Kay
0562 Janowski, Miroslaw
4012 Jansen, Maurits
1696 Jansen, Sanaz
1631 Janssen, Barbara
1634 Janssen, Barbara
1957 Janssens, Sharon
1960 Janssens, Sharon
4525 Jao, Terrence
4095 Jara, Hernan
4450 Jarvis, Kelly
4293 Jayapalan, Manivannan
1523 Jayasundar, Rama
1525 Jayasundar, Rama
3380 Jayatilake, Mohan
3453 Jayatilake, Mohan
0490 Jelescu, Ileana
3181 Jelescu, Ileana
4133 Jella, Pavan
1965 Jeneson, Jeroen
3139 Jensen, Jens
0800 Jeon, Tina
2781 Jeong, Eun-Kee
4351 Jeong, Hongbae
2971 Jeong, Jeong-Won
2973 Jeong, Jeong-Won
3581 Jeong, Jeong-Won
4170 Jeong, Woo Chul
1615 Jerdee, Theodore
2201 Jerome, Neil
2673 Jesmanowicz, Andrzej
2071 Jespersen, Sune Nørhøj
2218 Jeukens, Cecile
2047 Jeurissen, Ben
4503 Jha, Nikhil
3165 Ji, Qing
0666 Jia, Feng
0503 Jia, Guang
2531 Jia, Guang
0036 Jia, Hao
3808 Jia, Xun
2274 Jiang, Chunxiang
1036 Jiang, Jie
3525 Jiang, Ke
1350 Jiang, Li
0811 Jiang, Lu
1708 Jiang, Lu
3102 Jiang, Tao
0084 Jiang, X.
2520 Jiang, Xia
0019 Jiang, Yun
1177 Jin, Chenwang
1546 Jin, Hantao
4418 Jin, Jin
4421 Jin, Jin
4440 Jin, Ning
1245 Jin, Seong-Uk
2528 Jin, Tao
2542 Jin, Tao
2550 Jin, Tao
4058 Jirak, Daniel
3285 Jo, Hang Joon
3891 Jo, Jun-ichiro
2953 Jog, Mayank
1665 Johansson, Adam
1793 Johnson, Amy
1239 Johnson, Brian
3266 Johnson, Casey
4215 Johnson, Casey
2425 Johnson, Curtis

Authors Without Financial Interests or Relationships

2442 Johnson, Curtis
0534 Johnson, David
0506 Johnson, Sean
2163 Johnston, Megan
4281 Johst, Sören
0582 Jonathan, Sumeeth
3790 Jonathan, Sumeeth
3313 Jonckers, Elisabeth
0895 Jones, Derek
0752 Jones, Stephen
2142 Jones, Stephen
1964 Jonkers, Richard
0225 Joo, Bio
0436 Jordan, Caroline
3911 Josan, Sonal
3931 Josan, Sonal
4441 Joseph, Arun Antony
4567 Joseph, Arun Antony
2281 Jou, Tiffany
2873 Jovicich, Jorge
2913 Jovicich, Jorge
0564 Ju, Shenghong
1711 Juang, Chi-Long
3821 Jung, Bernd
1877 Jung, Ki-Hye
3145 Jung, Kwan-Jin
3192 Jung, Kwan-Jin
2154 Jung, Youngkyoo
3514 Junichi, Hata
0688 Juras, Vladimir
3465 Juras, Vladimir
3466 Juras, Vladimir
3532 Juras, Vladimir
1261 Just, Nathalie
3970 Just Kukurová, Ivica
2451 Jutras, Jean-David
2815 K. Navalpakkam, Bharath
3899 Kadayakkara, Deepak
0067 Kadbi, Mo
4445 Kadbi, Mo
4010 Kaggie, Joshua
3427 Kailavasan, Mithun
1836 Kaiser, Mandy
1533 Kakite, Suguru
1710 Kakkad, Samata
1734 Kakkad, Samata
1226 Kalantari, Saeed
1227 Kalantari, Saeed
4008 Kalayciyan, Raffi
4355 Kalayciyan, Raffi
0254 Kali, Avinash
1752 Kallehauge, Jesper
1017 Kalra, Sanjay
2667 Kaluza, Owen
2866 Kamagata, Koji
3672 Kamagata, Koji
0059 Kamath, Amith
2607 Kamesh Iyer, Srikant
3890 kanakia, Shruti
3436 Kanamoto, Masayuki
1575 Kang, Byung Chul
1881 Kang, Min-Kyoung
1895 Kang, Min-Kyoung
1558 Kanki, Akihiko
0335 Kao, Yu-Chieh
2312 Kao, Yu-Chieh
2881 Kara, Firat
2232 Karaman, M.
2285 Karaman, M.
0144 Karampinos, Dimitrios
3460 Karampinos, Dimitrios
4332 Karimi, Hirad
3391 Karow, David
0371 Kartäusch, Ralf
0830 Kartmann, René
3228 Karunanayaka, Prasanna
3332 Kasper, Lars
2666 Kasten, Jeffrey
1579 Kataoka, Masako
1288 Katayama, Motoyuki
1837 Kates, Brian
2742 Katsikatsos, Giorgos
3477 Katsura, Masaki
3637 Katsura, Masaki
0818 Kaushik, Suryanarayanan
0212 Kawadler, Jamie
2591 Kawaji, Keigo
0232 Kaye, Elena
1488 Kaza, Evangelia
3913 Kazan, Samira
4288 Ke, Hanping
2580 Keating, Brian
0452 Kecskemeti, Steven
4557 Keegan, Jennifer
4564 Keegan, Jennifer
4338 Keenan, Kathryn
0246 Keerthivasan, Mahesh Bharath
1210 Keil, Boris
2250 Keilholz, Shella
2743 Keith, Graeme
1394 Kellman, Peter
1396 Kellman, Peter
4559 Kellman, Peter
4572 Kellman, Peter
2169 Kellner, Elias
2213 Kellner, Elias
2226 Kellner, Elias
3065 Kellner, Elias
0905 Kelly, Claire
3275 Kelly, Michael
0757 Kennerley, Aneurin
0962 Kenning, Lawrence
0975 Kenning, Lawrence
3198 Kershaw, Jeff
2900 Kesavadas, Chandrasekharan
3429 Keshari, Kayvan
4059 Ketkar-Atre, Ashwini
2493 Khabipova, Diana
3045 Khalili Mahani, Najmeh
4007 Khan, Ahmad
2689 Khan, Ali
1238 Khan, M. Ayaz
1253 Khan, M. Ayaz
0487 Khan, Sarah
2234 Khatamian, Yasha
4139 Khatir, Dinah
3924 Khegai, Oleksandr
0659 Khemtong, Chalermchai
4462 Kholmovski, Eugene
4562 Kholmovski, Eugene
2319 Kida, Ikuhiro
1578 Kido, Aki
1570 Kierans, Andrea
1476 Kilian, Wolfgang
1478 Kilian, Wolfgang
1138 Kim, Bum-soo
3900 Kim, Cho Rong
1689 Kim, Eugene
3846 Kim, Eugene

Authors Without Financial Interests or Relationships

3560	Kim, Gwang-Won	0366	Kobayashi, Naoharu	3010	Krämer, Martin
2514	Kim, Hahnsung	2366	Kobayashi, Naoharu	3785	Krämer, Martin
1879	Kim, Hee-Kyung	4551	Kobayashi, Yasuyuki	4211	Krämer, Philipp
4176	Kim, Hyung Joong	0099	Kobus, Thiele	2166	Kramme, Johanna
4184	Kim, Hyung Joong	0567	Koelsch, Bertram	0580	Kraus, Oliver
0721	Kim, Hyunki	1107	Koenig, Katherine	0929	Krebs, Nikolaus
1155	Kim, Ji-Young	2853	Koenig, Katherine	2394	Kreutner, Jakob
1172	Kim, Ji-Young	0420	Kogan, Feliks	2395	Kreutner, Jakob
4370	Kim, Junghwan	2554	Kogan, Feliks	0107	Krieger, Steffen
4396	Kim, Junghwan	2988	Koji, Takahiro	0846	Krishnamurthy, Lisa
3571	Kim, Junseok	2031	Kok, Trina	1357	Krishnamurthy, Ramkumar
2725	Kim, Kyoung-Nam	1338	Kokeny, Paul	1581	Krishnamurthy, Uday
2726	Kim, Kyoung-Nam	1869	Kokuryo, Daisuke	4126	Krishnamurthy, Uday
4173	Kim, Min-Oh	3745	Kolbitsch, Christoph	3827	Kroboth, Stefan
4266	Kim, Min-Oh	3747	Kolbitsch, Christoph	3693	Kroenke, Christopher
1276	Kim, Pan-ki	0496	Komlosh, Michal	4373	Kroeze, Hugo
1426	Kim, Pan-ki	1991	Komoroski, Richard	4508	Krssák, Martin
2567	Kim, Seong-Eun	3801	Konar, Amaresha	4514	Krssák, Martin
1148	Kim, Tae	1597	Kondo, Hiroki	3896	Krueger, Dirk
2159	Kim, Tae	3042	Koning, Wouter	1492	Kruger, Stanley
3337	Kim, Tae	4538	Koning, Wouter	2469	Kruisz, Julia
3584	Kim, Tae-Hoon	2792	Konyer, Norman	3175	Kuder, Tristan Anselm
0251	Kim, Yoon-Chul	0012	Kopanoglu, Emre	4357	Kuehne, Andre
1235	Kim, Yoon-Chul	3830	Kopeinigg, Daniel	4404	Kuehne, Andre
2280	Kir, Albert	1421	Kording, Fabian	1165	Kugel, Harald
0819	Kirby, Miranda	3057	Kording, Fabian	2179	Kuijer, Joost
2007	Kirchner, Thomas	1779	Korn, Natalie	2923	Kumar, Dushyant
0221	Kirov, Ivan	3542	Korteweg, Mies	1046	Kumar, Manoj
1938	Kirov, Ivan	3025	Kotari, Vikas	1053	Kumar, Manoj
3582	Kirov, Ivan	1990	Kotecha, Mrignayani	1723	Kumar, Manoj
3604	Kitzler, Hagen	0998	Kotrotsou, Aikaterini	3657	Kumar, Rajesh
2334	Kiyama, Sachiko	3688	Koundal, Sunil	3658	Kumar, Rajesh
3119	Kjørstad, Åsmund	3695	Koundal, Sunil	2947	Kumar, Vivek
3739	Klassen, L.	2024	Koush, Yury	2843	Kumaran, S. Senthil
2444	Klatt, Dieter	2028	Koush, Yury	3231	Kumaran, S. Senthil
3364	Klautau Leite, Ana	2246	Koush, Yury	3566	Kumaran, S. Senthil
2715	Klein, Saskia	1759	Kozawa, Eito	2230	Kundu, Prantik
0837	Kleinnijenhuis, Michiel	2830	Kozlov, Mikhail	2318	Kundu, Prantik
2008	Klomp, Dennis	2408	Krafft, Axel	2330	Kunimi, Mitsunobu
1176	Klose, Uwe	1668	Kraiger, Markus	0796	Kunz, Nicolas
1054	KN, Bhanu Prakash	3941	Krajewski, Marcin	2924	Kuo, Duen-Pang
1527	KN, Bhanu Prakash	1501	Kramer, Harald	3392	Kuru, Timur
2078	Knoll, Florian	2471	Kramer, Harald	1059	Kut, Carmen
2615	Knoll, Florian	4460	Kramer, Harald	1925	Kuzma, Nicholas
2636	Knoll, Florian	1444	Kramer, Larry	2618	Kwok, Wingchi
3179	Knutsson, Hans	2499	Krämer, Martin	4477	Kwok, Wingchi
1898	Ko, In Ok	2571	Krämer, Martin	0037	Kyathanahally, Sreenath

Authors Without Financial Interests or Relationships

	Pruthviraj	1928	Laustsen, Christoffer	3655	Lee, Vincent
3225	Kyathanahally, Sreenath	3945	Laustsen, Christoffer	0292	Lee, Wonje
	Pruthviraj	0957	LaViolette, Peter	4365	Lee, Wonje
4208	Labadie, Christian	0971	LaViolette, Peter	4367	Lee, Wonje
4566	Laforest, Richard	0977	LaViolette, Peter	1218	Lee, Yi-Hsiung
4087	Lagadec, Matthieu	2203	LaViolette, Peter	3516	Lee, Young Han
0538	Lagemaat, Miriam	3635	LaViolette, Peter	4034	Lee, Yunjung
3403	Lagemaat, Miriam	3356	Law, Christine	2836	Leewood, Alan
2723	Lagore, Russell	1252	Lawley, Justin	2191	Lei, Hongxia
4195	Lai, Chih-Ching	3387	Lawrence, Edward	2097	Leigland, Lindsey
3236	Lai, Hsin-Yi	2069	Lawrenz, Marco	3678	Leigland, Lindsey
3237	Lai, Hsin-Yi	2456	Layton, Kelvin	1281	Lell, Michael
2782	Laistler, Elmar	0783	Lazar, Mariana	0215	Leon, Christine
1159	Lake, Evelyn	3590	Lazar, Mariana	0537	Leon, Christine
2754	Lakshmanan, Karthik	2999	Lazaridou, Asimina	0281	Leporq, Benjamin
4363	Lakshmanan, Karthik	3294	Lazaridou, Asimina	0407	Leporq, Benjamin
1118	Laliberté, Christine	0808	Lazovic, Jelena	0742	Leporq, Benjamin
1312	Lam, Adrian	2654	Le, Mai	1532	Leporq, Benjamin
2620	Lam, Fan	2321	Lebhardt, Philipp	0816	Leung, General
3814	Lam, Fan	3154	Lebois, Alice	1449	Leung, General
1814	Lam, Mie	2711	Lechner-Greite, Silke	1929	Leung, General
2074	Lam, Wilfred	2089	Lecoeur, Jérémy	0522	LeVan, Pierre
0135	Lambert, Simon	1729	Ledger, Araminta	3794	Levine, Evan
2447	Lambert, Simon	4066	Lee, Brittany	3197	Levine, Michael
2796	Lambert, Simon	0517	Lee, Byeong-Yeul	1297	Li, Bo
1887	Lammentausta, Eveliina	2033	Lee, Byeong-Yeul	0762	Li, Cheng
0497	Lampinen, Björn	4107	Lee, Christine	1604	Li, Cheng
0718	Lang, Ning	2933	Lee, Chu-Yu	2257	Li, Chia-Wei
0637	Lange, Thomas	0392	Lee, Daniel	0383	Li, Chunmei
1307	Langham, Michael	0450	Lee, Daniel	1060	Li, Chun-Xia
4205	Langkammer, Christian	1475	Lee, Daniel	2183	Li, Chun-Xia
2699	Langley, Jason	1587	Lee, Danny	3555	Li, Fei
2461	Lankford, Christopher	0359	Lee, Donghoon	3404	Li, Feiyu
1975	Lanz, Bernard	1645	Lee, Donghoon	2308	Li, Guang
1246	Lao*, Yi	1646	Lee, Donghoon	2309	Li, Guang
2772	LaPierre, Cristen	1946	Lee, Do-Wan	2310	Li, Guang
0590	Larsson, Christopher	1979	Lee, Do-Wan	2590	Li, Guobin
1800	Latifoltojar, Arash	1168	Lee, Hsin-Yun	3711	Li, Guobin
4146	Latifoltojar, Arash	3277	Lee, Hsu-Lei	3736	Li, Guobin
3484	Lattanzi, Riccardo	2518	Lee, Hyunyeol	0443	Li, Hong
0660	Lau, Angus	4228	Lee, Jae-Seung	1749	Li, Jin
3235	Lau, Condon	2784	Lee, Jing-Huei	3833	Li, Jing
0573	Lau, Jeffrey M. C.	4179	Lee, Joonsung	3142	Li, Jing-Rebecca
4029	Laufs, Alessandra	4183	Lee, Joonsung	3284	LI, Kaiming
1078	Laule, Cornelia	3662	Lee, Keumsil	3071	Li, Ka-Loh
1424	Lauridsen, Henrik	2911	Lee, Kyung Mi	3886	Li, Kangan

Authors Without Financial Interests or Relationships

3508	Li, Ke	2317	Li, Zhixin	3091	Lin, Yu-Chun
3510	Li, Ke	2932	Liachenko, Serguei	2494	Lindemeyer, Johannes
3511	Li, Ke	1051	Liang, Hsiao-Fang	2198	Lindgren, Emelie
0548	Li, Kuncheng	1010	Liang, Peipeng	3873	Ling, Wen
3681	Li, Lian	1505	Liang, Sayuan	2622	Lingala, Sajan Goud
0348	Li, Linqing	0519	Liang, Xia	3802	Lingala, Sajan Goud
4541	Li, Linqing	2173	Liang, Xiaoyun	2485	Lippus, Florian
0780	Li, Longchuan	2258	Liang, Xiaoyun	2379	Littin, Sebastian
2351	Li, Luca	0327	Liang, Zhifeng	2709	Littin, Sebastian
4135	Li, Lu-Ping	3301	Liao, Dongyi	3213	Liu, Bilan
4500	Li, Ming	1096	Liao, Huijun	1754	Liu, Chen-Yi
0727	Li, Mingyan	1013	Liao, Weiqi	0693	Liu, Chunlei
3819	Li, Mingyan	3579	Liao, Yi	0706	Liu, Chunlei
1240	Li, Mingyi	0683	Liebl, Hans	0766	Liu, Chunlei
3150	Li, Muwei	0949	Lifshits, Shlomi	0636	Liu, Fang
3053	Li, Qinxiang	3125	Lifshits, Shlomi	1655	Liu, Fang
0763	Li, Shihong	0869	Liimatainen, Timo	2373	Liu, Fang
3457	Li, Shihong	0318	Likhite, Devavrat	0565	Liu, Guanshu
3458	Li, Shihong	1456	Lilburn, David	4295	Liu, Guanshu
0161	Li, Wei	1452	Liljeroth, Maria	1341	Liu, Guanzhong
0633	Li, Wei	0472	Lillaney, Prasheel	1783	Liu, Guanzhong
0868	Li, Wei	1649	Lim, Daekeon	2978	Liu, Hua-Shan
3844	Li, Wei	3926	Lim, Heeseung	3033	Liu, Hua-Shan
0476	Li, Weiguo	4369	Lim, Heeseung	3062	Liu, I Chi
4285	Li, Weiguo	2628	Lim, Sehoon	0463	Liu, Jiaen
1023	Li, X.	1547	Lim, Su Wei	4191	Liu, Jiaen
3384	Li, Xia	0118	Lin, Ai-Ling	0190	Liu, Jing
0795	Li, Xianjun	1188	Lin, Alexander	3796	Liu, Jing
2865	Li, Xiaozhen	3743	Lin, Fa-Hsuan	3004	Liu, Jun
0716	Li, Xin	1186	Lin, Fuchun	2409	Liu, Junmin
3072	Li, Xin	2767	Lin, In-Tsang	3842	Liu, Junmin
0030	Li, Xiufeng	0951	Lin, Jian	3860	Liu, Li
1540	Li, Xiufeng	3564	Lin, Leanne	4347	Liu, Limei
2852	Li, Xiufeng	4513	Lin, Lian-Yu	4431	Liu, Lin
2904	Li, Xiufeng	0857	Lin, Meijin	2638	Liu, Meng
3402	Li, Xiufeng	3976	Lin, Meijin	0175	Liu, Peiying
4136	Li, Xiufeng	3280	Lin, Pan	0715	Liu, Peiying
2375	Li, Ya	3981	Lin, Ping-Chang	0738	Liu, Peiying
0274	Li, Yan	1825	Lin, Shih-Chieh	2286	Liu, Peiying
3592	Li, Yan	0417	Lin, Tsen-Hsuan	1613	Liu, Qi
4389	Li, Ye	2951	Lin, Weili	4222	Liu, Qi
2780	Li, Yu	2952	Lin, Weili	2496	Liu, Saifeng
0531	Li, Zhao	1949	Lin, Yan	2227	Liu, Tim
0568	Li, Zhao	4013	Lin, Yanqin	2891	Liu, Wei
3797	Li, Zhitao	2934	Lin, Ying-Chia	3614	Liu, Wei
2264	Li, Zhixin	1231	Lin, Yu-Chun	3783	Liu, Wentao

Authors Without Financial Interests or Relationships

3633 Liu, Xiang
0039 Liu, Xiao
2251 Liu, Xiao
1882 Liu, Xiaoli
2249 Liu, Xiaolin
1821 Liu, Xinyang
0046 Liu, Yaou
3289 Liu, Yinan
1388 Liu, Yuchi
0754 Liu, Zhongming
1157 Livny-Ezer, Abigail
3241 Lizarbe, Blanca
3684 Lizarbe, Blanca
3497 Lo, Wei-Ching
2130 Lo, Yu-Chun
1855 Loai, Yasir
1717 Lobo, Merryl
2108 Lockwood Estrin, Georgia
0070 Loecher, Michael
1355 Loecher, Michael
2760 Loew, Wolfgang
2868 Long, Xiaojing
2885 Long, Xiaojing
0387 Long, Zaiyang
2851 Long, Zaiyang
1692 Longo, Dario
1133 Lopez Gonzalez, Maria del Rosario
2168 Lorenz, Kathrin
3871 Lorenzato, Cyril
0985 Lou, Haiyan
3755 Lovell-Smith, Cris
2133 Lowe, Mark
0976 Lowry, Martin
3742 Lu, Aiming
3120 Lu, Chin-Tien
2787 Lu, Hai
4376 Lu, Jonathan
4105 Lu, Lan
4027 Lu, Ming
3476 Lu, Pu-Xuan
4081 Lu, Pu-Xuan
0507 Lu, Yonggang
3104 Lu, Yonggang
3446 Luhach, Ihor
0433 Lukas, Vanessa
3599 Luks, Tracy
3946 Lumata, Lloyd
2073 Lundell, Henrik
4050 Lundström, Elin
0275 Luo, Jing
4378 Luo, Wei
2950 Luo, Xue
0974 Lupo, Janine
2478 Lutti, Antoine
0097 Luttje, Mariska
1789 Luttje, Mariska
2788 Lykowsky, Gunthard
3549 Lykowsky, Gunthard
1352 Lyra-Leite, Davi
2653 Lyu, Jingyuan
1503 Ma, Chao
1504 Ma, Chao
2036 Ma, Chao
4242 Ma, Chao
0018 Ma, Dan
3459 Ma, Heather
2414 Ma, Jingfei
2637 Ma, Xiaodong
0050 Maarouf, Adil
1769 Maas, Marnix
2894 MacDonald, Christine
1834 MacDonald, M. Ethan
1491 MacFall, James
1331 Macgowan, Christopher
1511 Machann, Jürgen
2315 Machol IV, Jacques
2867 Maclaren, Julian
1630 MacMillan, Erin
1997 Madan, Akshay
0638 Madelin, Guillaume
4038 Madhu, Basetti
3049 Madhuranthakam, Ananth
1150 Mädler, Burkhard
3193 Mädler, Burkhard
2063 Madore, Bruno
1913 Madru, Renata
4333 Magerkurth, Joerg
1181 Magland, Jeremy
0733 Magnotta, Vincent
2255 Magnuson, Matthew
1361 Maguire, Mahon
1219 Mahbub, Zaid
2931 Mahmood, Faisal
2722 Mahmood, Zohaib
3868 Mai, Xiao Li
4294 Maier, Florian
4303 Maier, Florian
4326 Maier, Florian
2093 Maier, Stephan
0947 Mair, Ross
2294 Majeed, Waqas
3278 Majeed, Waqas
1069 Majid, Tabassum
2877 Majumdar, Shantanu
2910 Makki, Malek
0884 Makropoulos, Antonios
4263 Malik, Shaihan
3217 Malyarenko, Dariya
0810 Mancuso, Anthony
0604 Mandava, Sagar
1091 Mangia, Silvia
1603 Manhard, Mary Kate
3726 Manivannan, Niranchana
0186 Manka, Robert
4097 Mansoori, Bahar
0675 Mao, Deng
3425 Mao, Yi
0870 Marashdeh, Wael
3937 Marco-Rius, Irene
3264 Marek, Jaroslav
4386 Mareyam, Azma
0278 Mariappan, Yogesh
0645 Mariappan, Yogesh
3930 Mariotti, Erika
3939 Mariotti, Erika
1901 Maritim, Samuel
0631 Markl, Michael
0266 Marques, José
4189 Marques, José
2113 Marschar, Anja
4239 Marschner, Henrik
1652 Marsh, Megan
2039 Martel, Dimitri
2769 Martens, Michael
3875 Martens, Michael
2696 Martin, Adrian
4318 Martin, Alastair

Authors Without Financial Interests or Relationships

3895 Martinez Vera, Naira
0560 Martinez-Santiesteban, Francisco
0114 Martín-Recuero, Ana Belen
4552 Marty, Benjamin
4297 Marx, Michael
4257 Massire, Aurélien
3056 Massoumzadeh, Parinaz
0328 Mastropasqua, Chiara
2847 Mastropasqua, Chiara
1502 Masui, Takayuki
2998 Masui, Takayuki
2768 Mates, John
1169 Mathew, Blessy
4467 Matoba, Hiroki
0523 Matsuo, Kayako
1848 Matsuoka, Yuichiro
4068 Matsuzaki, Kenji
3640 Maudsley, Andrew
3037 Maumet, Camille
3260 Maumet, Camille
2720 Maunder, Adam
4350 Maunder, Adam
3214 Maximov, Ivan
3650 Maximov, Ivan
2329 Mayhew, Stephen
2342 Mayhew, Stephen
3379 Mazaheri, Yousef
3396 Mazaheri, Yousef
2100 Mazumder, Ria
2432 Mazumder, Ria
1277 McCormick, Lynne
2423 McGarry, Matthew
2522 McMillan, Alan
4221 McVicar, Nevin
4226 McVicar, Nevin
2148 Meakin, James
4546 Meduri, Venkata
3054 Medved, Milica
3371 Medved, Milica
3068 Mehndiratta, Amit
3069 Mehndiratta, Amit
3070 Mehndiratta, Amit
4290 Mei, Chang-Sheng
3082 Mei, Jennifer
0662 Meissner, Markus
0481 Mekkaoui, Choukri
0581 Mekkaoui, Choukri
4495 Mekkaoui, Choukri
4496 Mekkaoui, Choukri
2948 Melbourne, Andrew
0684 Melkus, Gerd
1433 Meloni, Antonella
4196 Meloni, Antonella
4485 Meloni, Antonella
4490 Meloni, Antonella
1741 Melsaether, Amy
1334 Mendonça, Gustavo
3685 Meng, Yuguang
3691 Meng, Yuguang
3902 Mengesha, Tirusew
2996 Menon, Rajiv
2997 Menon, Rajiv
0677 Menys, Alex
4483 Menza, Marius
4323 Merboldt, Klaus-Dietmar
1829 Merckel, Laura
0620 Merkel, Bernd
1387 Merrifield, Gavin
1389 Merrifield, Gavin
2243 Merritt, Mac
3474 Mershon, Christopher
1626 Merugumala, Sai
4150 Messiou, Christina
1292 Metzger, Gregory
3663 Metzler-Baddeley, Claudia
1639 Meyer, Ronald
1628 Meyerspeer, Martin
0938 Mezer, Aviv
4015 Michael, Navin
2114 Middleton, Devon
0060 Miettinen, Tuukka
1760 Mignion, Lionel
2695 Mikheev, Artem
0204 Mikkelsen, Irene
1409 Miller, Christopher
4073 Miller, Laura
1151 Min, Zhigang
0832 Minalga, Emilee
0217 Minarikova, Lenka
1034 Mintzopoulos, Dionyssios
4044 Mintzopoulos, Dionyssios
4334 Miranda, Pedro
1982 Mirkes, Christian
2529 Mirkes, Christian
1160 Misaki, Masaya
3024 Misaki, Masaya
0095 Mischi, Massimo
1703 Mishkovsky, Mor
3864 Mishra, Sushanta
2958 Mishra, Virendra
3190 Mishra, Virendra
0374 Mitrea, Bogdan
1576 Miyasaka, Mikiko
0720 Miyazaki, Keiko
2217 Miyazaki, Keiko
2938 Mocking, Steven
2661 Moeller, Steen
4040 Mohamed, Mona
3131 Mohammadi, Siawoosh
3196 Mohammadi, Siawoosh
1193 Mohl, Brianne
3969 Mojahed, Hamed
0882 Montesinos, Paula
3016 Mooiweer, Ronald
4244 Mooiweer, Ronald
0687 Moon, Chan Hong
3224 Moon, Chung-Man
4199 Moonen, Rik
1465 Mooney, Karen
2593 Moore, Jay
0153 Moosvi, Firas
0989 Moreau, Jeremy
0657 Moreno, Karlos
2416 Moreno, Rodrigo
2359 Morgan, H.
2296 Morgan, Victoria
1704 Mori, Noriko
1048 Mori, Yuki
2565 Morin, Viktor
1507 Morisaka, Hiroyuki
2463 Morita, Kosuke
4545 Morita, Yoshiaki
3074 Moroz, Jennifer
3136 Morozov, Darya
3137 Morozov, Darya
1569 Morrell, Glen
0314 Morrow, Jasper

Authors Without Financial Interests or Relationships

0431 Mossahebi, Pouria
4225 Mossahebi, Pouria
4169 Motosugi, Utaroh
2553 Mougin, Olivier
3602 Mougin, Olivier
3696 Moussavi, Amir
3776 Moussavi, Amir
0240 Mu, Ketao
2623 Muckley, Matthew
3080 Mueller, Hans-Peter
0379 Mueller, Karsten
0384 Mueller, Karsten
1690 Muelly, Michael
0150 Muftuler, L.
0449 Muir, Eric
0894 Muir, Eric
1220 Muir, Eric
1885 Mukherjee, Shreya
4366 Müller, Roland
4220 Müller-Lutz, Anja
4227 Müller-Lutz, Anja
0038 Mullinger, Karen
2763 Mullinger, Karen
0085 Mullins, Roger
2320 Mullins, Roger
2551 Murase, Kenya
3879 Murase, Kenya
2343 Murase, Tomokazu
2481 Murashima, Mai
1820 Murat, Sébastien
2349 Murphy, Kevin
3343 Murphy, Kevin
0154 Mustafi, Devkumar
0678 Mustafi, Devkumar
2702 Mutihac, Radu
3731 Mutihac, Radu
0712 Mutsaerts, Henri
1382 N. Musthafa, Haja-Sherief
4491 Nadig, Vidya
3003 Nael, Kambiz
1233 Naganawa, Shinji
3959 Nagarajan, Rajakumar
3971 Nagarajan, Rajakumar
0116 Nagel, Armin
1984 Nagel, Armin
1422 Nagle, Scott
3998 Najac, Chloé
3999 Najac, Chloé
1945 Nakagami, Ryutaro
2559 Nakai, Ryusuke
3520 Nakai, Ryusuke
0540 Nakamura, Masanobu
4466 Nakamura, Masanobu
4529 Nakayama, Ryohei
1236 Nam, Yoonho
2037 Nanga, Ravi Prakash Reddy
0048 Narayana, Ponnada
0886 Narayanan, Priya lakshmi
0324 Naresh, Nivedita
3705 Narsude, Mayur
0982 Narvid, Jared
0332 Nasrallah, Fatima
2306 Nasrallah, Fatima
0809 Nath, Kavindra
1705 Nath, Kavindra
1726 Nath, Kavindra
1727 Nath, Kavindra
1050 Nathoo, Nabeela
1062 Nathoo, Nabeela
3991 Near, Jamie
1175 Nebel, Mary Beth
3126 Nedjati-Gilani, Gemma
0166 Neelavali, Jaladhar
1346 Negahdar, M. J.
3151 Neher, Peter
3162 Neher, Peter
3166 Neher, Peter
3297 Nejad-Davarani, Siamak
0574 Nensa, Felix
1332 Nett, Elizabeth
2954 Neuberger, Thomas
3710 Neumann, Daniel
3499 Neumayer, Bernhard
3202 Newitt, David
3064 Newton, Allen
3843 Ng, Amanda
2304 Ng, Johnny
3311 Ng, Johnny
0561 Ngen, Ethel
2457 Ngo, Tri
1419 Nguyen, Christopher
4151 Nguyen, Christopher
2676 Nguyen, Hien
3451 Nguyen, Huyen
0262 Nguyen, Thanh
3084 Nie, Xingju
3333 Nielsen, Jon-Fredrik
4542 Nieuwstadt, Harm
3918 Niles, David
0824 Nimbalkar, Manoj
2123 Nimmo-Smith, Ian
0173 Ning, Ning
0919 Niogi, Sumit
4061 Nissan, Noam
0429 Nissi, Mikko
3552 Nissi, Mikko
3563 Niu, Chen
0910 Niwa, Tetsu
3097 Niwa, Tetsu
1555 Noda, Yasufumi
1678 Noebauer-Huhmann, Iris-Melanie
0203 Nofiele, Joris
1477 Norquay, Graham
1998 Norquay, Graham
0887 Nossin-Manor, Revital
4308 Nour, Sherif
4036 Novak, Jan
2437 Numano, Tomokazu
0673 Nunes, Patricia
0354 Oakden, Wendy
0468 Oakden, Wendy
0269 O'Brien, Kieran
3009 O'Brien, Kieran
4342 Obruchkov, Sergei
2992 Oda, Shogo
1802 Odéen, Henrik
4434 Offerman, Erik
3110 Ogisu, Kimihiro
2966 O'Gorman, Ruth
2977 O'Gorman, Ruth
1217 Ogris, Kathrin
2808 Oh, Changheun
2809 Oh, Changheun
2208 Oh, Jihun
0867 Oh, Se-Hong
2489 Oh, Se-Hong
0389 Oh, Sukhoon
2824 Oh, Sukhoon
4381 Oh, Sukhoon
0164 Oh, Sung Suk

Authors Without Financial Interests or Relationships

3182 O'Halloran, Rafael
3210 O'Halloran, Rafael
4122 Ohgiya, Yoshimitsu
2719 Oida, Takenori
0942 Olkawa, Yasuhiro
1968 Okamoto, Yoshikazu
3086 Okamoto, Yoshikazu
3108 Okamoto, Yoshikazu
3526 Okamoto, Yoshikazu
4093 Okuaki, Tomoyuki
2271 Olafsson, Valur
3318 Olafsson, Valur
1335 Oliveira, Gabriel
3727 Oliver, Ruth
1099 Olivito, Giusy
4210 Ollinger, John
1840 Olsen, Miles
3385 Olson, Matthew
3309 Omar, Hazim
0022 Omar, Nur
0801 O'Muircheartaigh, Jonathan
2470 Ong, Henry
2517 Ong, Henry
4532 Ono, Hideo
0305 Ooi, Melvyn
4188 Oran, Omer
3219 Oros-Peusquens, Ana-Maria
3724 Oros-Peusquens, Ana-Maria
3308 Orosz, Ariane
0508 Orton, Matthew
1761 Orton, Matthew
2759 Orzada, Stephan
1903 Oskolkov, Nikita
1904 Oskolkov, Nikita
4321 Oster, Julien
4464 Ota, Hideki
4535 Ota, Hideki
2475 Ott, Martin
1777 Otto, Josephin
3389 Otto, Josephin
0174 Ou, Xiawei
2107 Ou, Xiawei
2269 Ou, Xiawei
1457 Ouriadov, Alexei
1519 Ouwerkerk, Ronald
3990 Ouwerkerk, Ronald
3577 Ouyang, Minhui
0178 Owen, Julia
0782 Owen, Julia
3169 Owen, Julia
0710 Ozarslan, Evren
3188 Ozarslan, Evren
0767 Ozen, Ali
0394 Özerdem, Celal
3029 Ozyurt, Onur
2298 Paasonen, Jaakko
1883 Pacheco-Torres, Jesús
1886 Pacheco-Torres, Jesús
0044 Pagani, Elisabetta
3607 Pagani, Elisabetta
3437 Pahwa, Anokh
2040 Paiva, Fernando
3163 Palesi, Fulvia
3144 Palombo, Marco
3302 Pan, Hai
3974 Pan, Jullie
3994 Pan, Jullie
2302 Pan, Wen-Ju
1798 Panagiotaki, Eleftheria
2105 Panagiotaki, Eleftheria
3377 Panchanatheeswaran, Karthik
1104 Panda, Swetasudha
1528 Pandey, Abhishek
0176 Pandit, Anand
0440 Pandit, Prachi
1295 Pang, Jianing
1314 Pang, Jianing
2686 Pang, Yong
2965 Panigrahy, Ashok
0798 Pannek, Kerstin
2131 Pannek, Kerstin
2968 Pannek, Kerstin
3121 Pannetier, Nicolas
3122 Pannetier, Nicolas
4300 Panych, Lawrence
1317 Papanastasiou, Giorgos
2435 Papazoglou, Sebastian
2778 Papoti, Daniel
4401 Papoutsis, Konstantinos
2121 Paquette, Michael
0358 Parasoglou, Prodromos
3493 Parasoglou, Prodromos
3521 Parasoglou, Prodromos
0779 Pardo, Edison
3023 Parekh, Mansi
4305 Park, Bu
4380 Park, Bu
0655 Park, Jae Mo
3938 Park, Jae Mo
3944 Park, Jae Mo
1884 Park, Jang Woo
2448 Park, Jihyun Annie
2650 Park, Suhyung
3245 Park, Sun Mi
2356 Park, Sung-Hong
0778 Parker, Greg
3148 Parker, Greg
0820 Parra-Robles, Juan
1464 Parra-Robles, Juan
1469 Parra-Robles, Juan
4494 Pashakhanloo, Farhad
1122 Pasin, Moreno
0391 Paška, Jan
2899 Pasternak, Ofer
1978 Patel, Anant
1980 Patel, Anant
0160 Patrick, P.
3324 Patterson, Steve
1254 Patz, Samuel
1500 Patz, Samuel
1718 Paudyal, Ramesh
0898 Pauli, Andreina
2812 Paulus, Daniel
2814 Paulus, Daniel
0730 Pavan, Matteo
1797 Pavlina, John
4025 Pearson, Jack
1724 Pechman, Kimberly
1725 Pechman, Kimberly
3562 Peck, Kyung
0260 Peel, Sarah
1896 Peller, Michael
1748 Pelletier, Kay
0889 Peltier, Scott
0442 Penet, Marie-France
1714 Penet, Marie-France
1330 Peng, Shin-Lei

Authors Without Financial Interests or Relationships

2644 Peng, Xi
0357 Peng, Xingui
1772 Peng, Yahui
4109 Pennati, Francesca
3987 Penner, Jacob
1770 Penzkofer, Tobias
3587 Pereira, Fabricio
3417 Pérez-Carro, Rocío
1720 Perez-Torres, Carlos
3528 Perie, Delphine
3118 Perles-Barbacaru, Teodora-Adriana
2777 Perrier, Anne-Laure
2215 Peruzzo, Denis
4493 Pervolaraki, Eleftheria
3160 Pestilli, Franco
0261 Peters, Dana
3712 Peters, Dana
2146 Petersen, Esben
2417 Peterson, Pernilla
1539 Petkovska, Iva
2420 Petrovic, Andreas
2488 Petrovic, Andreas
2094 Phillips, Jonathan
1161 Phillips, Raquel
1728 Pickles, Martin
1735 Pickles, Martin
2392 Piedzia, Weronika
2687 Pienaar, Rudolph
4505 Pierce, Iain
1471 Pike, Damien
3067 Pike, Martin
3645 Pilatus, Ulrich
3374 Pinker-Domenig, Katja
0999 Pirpamer, Lukas
1722 Pishko, Gregory
0934 Pitiot, Alain
3536 Pittschieler, Elisabeth
0227 Plata, Juan
3927 Plaumann, Markus
1266 Plenge, Esben
0025 Pohlmann, Andreas
0028 Pohlmann, Andreas
0616 Pohlmann, Andreas
1899 Polasek, Miloslav
0516 Polaskova, Pavlina
2646 Polimeni, Jonathan
3355 Polimeni, Jonathan
1644 Ponrartana, Skorn
4344 Poole, Michael
2892 Poole, Victoria
0296 Poplawsky, Alexander
1063 Porcari, Paola
0075 Poser, Benedikt
3327 Poser, Benedikt
3772 Poser, Benedikt
1440 Positano, Vincenzo
3212 Posnansky, Oleg
3378 Posse, Stefan
3956 Posse, Stefan
3862 Pothayee, Nikorn
3952 Pourfathi, Mehrdad
0545 Powell, Jonathan
2162 Prabhakaran, Karthik
0249 Pracht, Eberhard
4393 Pradhan, Ria
1154 Prah, Melissa
2870 Prescott, Jeffrey
3768 Price, Anthony
1205 Price, Darren
1280 Priest, Andrew
1287 Priest, Andrew
0546 Prieto, Claudia
3445 Prinsen, H.
3129 Proverbio, Alessandro
2262 Przezdzik, Izabela
1132 Pu, Xin
3138 Pullens, Pim
0921 Puts, Nicolaas
1941 Puts, Nicolaas
2021 Puts, Nicolaas
4204 Qazi, Naila
1561 Qian, Chunqi
2823 Qian, Di
1087 Qian, Wenshu
0438 Qian, Yongxian
0685 Qian, Yongxian
1651 Qian, Yongxian
1130 Qiao, Ye
0006 Qing, Kun
0006 Qing, Kun
1447 Qing, Kun
1473 Qing, Kun
0415 Qiu, Deqiang
2236 Qiu, Deqiang
2239 Qiu, Deqiang
3357 Qiu, Deqiang
1005 Qiu, Lihua
0454 Qiu, Maolin
2906 Qiu, Maolin
1371 Qu, feifei
1289 Quinn, Matthew
3401 Raaijmakers, Alexander
4382 Raaijmakers, Alexander
0167 Radbruch, Alexander
0515 Radbruch, Alexander
2983 Radbruch, Alexander
1263 Radecki, Guillaume
1853 Radoul, Marina
1897 Radoul, Marina
0841 Raffelt, David
4000 Rafiei, Reza
2976 Ragan, Dustin
3092 Rahbar, Habib
1512 Rai, Prashant
3617 Raj, Ashish
3665 Raj, Ashish
2477 Raman, Mekala
1418 Ramanan, Venkat
2188 Ramasawmy, Rajiv
2651 Ramb, Rebecca
2410 Rambow, Olen
3948 Ramirez, Marc
4005 Rana, Poonam
4219 Rancan, Giaime
1908 Randtke, Edward
0844 Rane, Swati
3048 Rane, Swati
3265 Rane, Swati
3286 Rane, Swati
0350 Rangwala, Novena
1120 Rangwala, Novena
3089 Rangwala, Novena
0625 Raoult, Hélène
1131 Raoult, Hélène
0542 Rapacchi, Stanislas
0226 Rapoport, Natalya
3546 Räsänen, Lasse

Authors Without Financial Interests or Relationships

4560 Rashid, Shams
3576 Rasmussen, Jerod
0592 Rata, Mihaela
0434 Rautiainen, Jari
4368 Raval, Shailesh
2178 Ravi, Harshan
0435 Raya, Jose
3530 Raya, Jose
4320 Rayz, Vitaliy
2267 Razavi, Nadja
2287 Re, Marta
0885 Re, Thomas
0613 Reddick, Wilburn
1989 Redler, Gage
2003 Reed, Galen
4238 Rega, Marilena
0402 Rehm, Jennifer
3882 Reichardt, Wilfried
1642 Reinhardt, Julia
0703 Reisert, Marco
2116 Reisert, Marco
0840 Reishofer, Gernot
1073 Reisinger, Dominik
1624 Ren, Jimin
1629 Ren, Jimin
0650 Renne, Julius
1497 Renne, Julius
0488 Reyhan, Meral
4486 Reyhan, Meral
4492 Reyhan, Meral
0444 Reynaud, Olivier
3925 Reynolds, Steven
3949 Reynolds, Steven
0491 Richardson, Simon
0100 Riches, Sophie
1776 Riches, Sophie
0411 Riemenschneider, Bruno
2000 Riemer, Frank
3518 Righi, Valeria
4048 Righi, Valeria
2752 Rispoli, Joseph
0068 Rispoli, Vinicius
2755 Rivera, Debra
2757 Rivera, Debra
0425 Rivlin, Michal
2346 Robinson, Meghan
3775 Robinson, Simon
1850 Robledo, Brenda
1999 Robson, Matthew
4539 Robson, Philip
4089 Rocha, Liana
1632 Rockel, Conrad
1636 Rockel, Conrad
0578 Rodgers, Christopher
4402 Rodgers, Christopher
1351 Rodgers, Zachary
1353 Rodgers, Zachary
1354 Rodgers, Zachary
2546 Roeloffs, Volkert
3572 Rogowska, Jadwiga
3575 Rogowska, Jadwiga
0191 Roldán-Alzate, Alejandro
0282 Roldán-Alzate, Alejandro
1432 Roldán-Alzate, Alejandro
0872 Romano, Anthony
2424 Romano, Anthony
2431 Romano, Anthony
3965 Romanzetti, Sandro
4125 Rong, Rong
0689 Rooney, William
1224 Rooney, William
0777 Ros, Christian
2127 Ros, Christian
0329 Rosenberg, Joseph
0094 Rosenkrantz, Andrew
3390 Rosenkrantz, Andrew
4217 Ross, Peter
1191 Rotenberg, David
1323 Roujol, Sébastien
1373 Roujol, Sébastien
1095 Roura, Eloy
0123 Rowe, Daniel
0773 Rowe, Matthew
0007 Roy, Christopher
0007 Roy, Christopher
4019 Roy, Raja
4327 Roys, Steven
1108 Rudko, David
3127 Ruh, Alexander
2214 Rukat, Tammo
0396 Rupprecht, Sebastian
0208 Rusinek, Henry
0220 Russell-Schulz, Bretta
1117 Russell-Schulz, Bretta
1035 Saar, Galit
0341 Sack, Ingolf
0380 Sack, Ingolf
2428 Sack, Ingolf
1973 Sack, Markus
1526 Sadananthan, Suresh Anand
2701 Sadananthan, Suresh Anand
4182 Sadleir, Rosalind
4524 Saeed, Maythem
4563 Saekho, Suwit
0674 Sagiyama, Koji
4349 Saha, Saikat
2429 Sahebjavaher, Ramin
4032 Sailasuta, Napapon
1268 Sajja, Balasrinivasa
3116 Sakai, Koji
1125 Sakaie, Ken
2143 Sakaie, Ken
3200 Sakaie, Ken
1163 Sako, Wataru
3290 Sakoglu, Unal
1878 Saksena, Sona
0020 Salameh, Najat
3248 Salari Sharif, Siamak
4481 Salari Sharif, Siamak
2775 Saleh, Gameel
3551 Salo, Elli-Noora
2995 Saloner, David
4437 Saloner, David
2862 Sammet, Christina
3668 Sammet, Christina
4071 Sammet, Steffen
0049 Samson, Rebecca
2540 Samson, Rebecca
3087 Sanaei Nezhad, Faezeh
4345 Sanchez Lopez, Hector
0297 Sanchez Panchuelo, Rosa
0753 Sanchez Panchuelo, Rosa
0759 Sander, Christin
0826 Sander, Christin
1771 Sandler, Kiri
3242 Sanganahalli, Basavaraju
1860 Santa Maria, Naomi
4117 Santarelli, Roberta

Authors Without Financial Interests or Relationships

2643	Santelli, Claudio	1423	Schmidt, Regine	2662	Segers, Hilde
3748	Santelli, Claudio	0654	Schmidt, Rita	4152	Seif, Maryam
0089	Santin, Mathieu	2639	Schmidt, Rita	1592	Seifert, Alan
1058	Santin, Mathieu	2680	Schmidt, Rita	1594	Seifert, Alan
4561	Santini, Francesco	2682	Schmidt, Rita	1602	Seifert, Alan
0541	Saouaf, Rola	2944	Schmithorst, Vincent	2827	Seifert, Frank
2736	Sapkota, Nabraj	2946	Schmithorst, Vincent	0954	Sein, Julien
0248	Saranathan, Manojkumar	3051	Schmithorst, Vincent	1486	Seki, Shinichiro
4085	Saranathan, Manojkumar	3191	Schmithorst, Vincent	4454	Sekine, Tetsuro
0140	Saritas, Emine	3155	Schmitt, Benoit	3262	Sekino, Masaki
2846	Sarkar, Subhendra	0071	Schmitter, Sebastian	1788	Selnæs, Kirsten
2052	Sarlls, Joelle	4446	Schmitter, Sebastian	4448	Semaan, Edouard
0608	Sarma, Manoj	3105	Schneider, Moritz	0587	Semmineh, Natenael
0856	Sarma, Manoj	1126	Schneider, Torben	2202	Semmineh, Natenael
2859	Sarma, Manoj	0008	Schnell, Susanne	2216	Semmineh, Natenael
2361	Sarracanie, Mathieu	0008	Schnell, Susanne	2578	Sengupta, Saikat
0459	Sati, Pascal	3782	Schödl, Horst	3763	Sengupta, Saikat
2112	Sato, Tetsuo	3539	Schoenbauer, Elisabeth	1222	Seo, Hyung Suk
2690	Sawiak, Stephen	0892	Scholz, Jan	2050	Seo, Hyunseok
2844	Saxena, Mohit	1605	Schönbauer, Elisabeth	2333	Seo, Jeehye
2845	Saxena, Mohit	3531	Schooler, Joseph	2345	Seo, Jeehye
3728	Saxena, Mohit	1230	Schraml, Christina	3799	Seo, Youngseob
3483	Sayin, Ozan	1204	Schrantee, A.	2048	Sepehrband, Farshid
3818	Sbrizzi, Alessandro	0622	Schrauben, Eric	2049	Sepehrband, Farshid
1200	Scanlon, Cathy	4442	Schrauben, Eric	1506	Serai, Suraj
4340	Schaetz, Sebastian	3943	Schroeder, Marie	3490	Serai, Suraj
2854	Schäfer, Andreas	2300	Schröter, Aileen	1068	Seramani, Sankar
2884	Schäfer, Andreas	1241	Schubert, Florian	2015	Seramani, Sankar
1955	Schaller, Benoît	1283	Schubert, Tilman	2023	Seramani, Sankar
3964	Scheenen, Tom	1318	Schülke, Christophe	4356	Serés Roig, Eulalia
0739	Scheidegger, Milan	3702	Schultz, Gerrit	2887	Serra, Laura
2534	Scheidegger, Rachel	3759	Schulz, Jessica	3351	Seshamani, Sharmishtaa
2538	Scheidegger, Rachel	2731	Schuppert, Mark	1251	Sethi, Arjun
3412	Schepkin, Victor	4522	Schwab, Felix	4313	Sethi, Benu
2057	Scherrer, Benoit	3246	Schwab, Simon	0410	Setsompop, Kawin
3135	Scherrer, Benoit	1924	Schwaderlapp, Niels	3315	Setsompop, Kawin
1686	Scheurer, Eva	2848	Schwarz, Stefan	2132	Seunarine, Kiran
2187	Schewzow, Kiril	0460	Schweser, Ferdinand	0860	Seuwen, Aline
4098	Schiebler, Mark	2371	Schweser, Ferdinand	1461	Shaghaghi, Hoora
4455	Schiebler, Mark	2495	Schweser, Ferdinand	3431	Shah, Tariq
2103	Schilling, Franz	4190	Schweser, Ferdinand	3433	Shah, Tariq
3921	Schilling, Franz	0250	Scott, Andrew	3259	Shah, Yash
2369	Schirda, Claudiu	3039	Sedlacik, Jan	1572	Shaikh, Mohammed
2665	Schloegl, Matthias	4203	Sedlacik, Jan	3454	Shaikh, Sikandar
0105	Schmid, Sophie	1146	Seeger, Christoph	1009	Shan, Dai
3835	Schmidt, Johannes	1849	Seevinck, Peter	2799	Shang, Hong

Authors Without Financial Interests or Relationships

1763 Shao, Huiyan
2833 Shao, Yu
1864 Shapiro, Erik
1890 Shapiro, Erik
1893 Shapiro, Erik
1320 Sharif, Behzad
1401 Sharif, Behzad
3229 Sharma, Ankeeta
3232 Sharma, Ankeeta
0073 Sharma, Anuj
0369 Sharma, Anuj
3430 Sharma, G.
0130 Sharma, Samir
0014 Sharp, Jonathan
2691 Shattuck, David
1259 Shazeeb, Mohammed Salman
3085 Shazeeb, Mohammed Salman
1098 Shea, Colin
1462 Sheikh, Khadija
3352 Sheltraw, Daniel
0536 Shemesh, Noam
2070 Shemesh, Noam
3683 Shen, Chao-Yu
2119 Shen, Kai-kai
0337 Shen, Qiang
0944 Shen, Qiang
2921 Shen, Qiang
2922 Shen, Qiang
1024 Shen, Xiaobo
3303 Shenk, Trey
3021 Shepherd, Timothy
1817 Shetty, Anil
3673 Shi, Da
0179 Shi, Feng
1223 Shi, Honglu
2019 Shi, Lixin
1184 Shi, Xian-Feng
4011 Shi, Xian-Feng
1306 Shi, Xinwei
1744 Shi, Xiutao
1518 Shih, Chun-Tsun
3653 Shih, Y. C.
2181 Shih, Yen-Yu
0528 Shim, Woo
0736 Shin, David
2165 Shin, David
2180 Shin, David
2260 Shin, Jaemin
4180 Shin, Jaewook
3954 Shin, Peter
0543 Shin, Taehoon
0788 Shin, Wanyong
2670 Shin, Wanyong
2678 Shin, Wanyong
4132 Shitano, Fuki
2367 Shrestha, Manoj
0284 Shrivastava, Devashish
2828 Shrivastava, Devashish
1194 Shu, Hao
1209 Shukla-Dave, Amita
3394 Shukla-Dave, Amita
3985 Shungu, Dikoma
3692 Shyu, Ling-Yuh
4377 Sica, Christopher
1932 Siddiqui, Sarmad
0755 Siero, Jeroen
2284 Siero, Jeroen
1038 Sierra, Alejandra
0197 Sigmund, Eric
0363 Sigmund, Eric
3492 Silvia, Hidalgo-Tobon
3989 Sima, Diana
0813 Simoes, Rui
4030 Simoes, Rui
2297 Simon, Aaron
0285 Simonis, Frank
1495 Simpkin, Catherine
0486 Simpson, Robin
4554 Simpson, Robin
0691 Sinclair, Christopher
2115 Sinclair, Christopher
1795 Singanamalli, Asha
1438 Singh, Anup
3230 Singh, Reena
3559 Singh, Sadhana
4024 Singh, Savita
0681 Sinha, Shantanu
3481 Sinha, Shantanu
3494 Sinha, Shantanu
0364 Sinha, Usha
3522 Sinha, Usha
1085 Sinnecker, Tim
3435 Siripongsakun, Surachate
3535 Siversson, Carl
3697 Skare, Stefan
3708 Skare, Stefan
0983 Skinner, Jack
2196 Skinner, Jack
2090 Slater, David
0352 Smith, Alex
2088 Smith, Alex
2692 Smith, David
0558 Smith, Matthew
0035 Smith, Robert
0193 Smith, Robert
2135 Smith, Robert
1694 Snir, Jonatan
1907 Snir, Jonatan
0017 Snyder, Angela
0131 Snyder, Carl
4003 Soares, Ana
4004 Soares, Ana
4175 Sodickson, Daniel
1909 Soesbe, Todd
0731 Sohn, Sung-Min
2151 Sokolska, Magdalena
2177 Sokolska, Magdalena
3035 Solana, Ana Beatriz
2418 Soliman, Abraam
4277 Soliman, Abraam
3353 Solin, Arno
2062 Solomon, Eddy
2101 Solomon, Eddy
2390 Solomon, Eddy
0651 Sommer, Gregor
2803 Son, Hyeokwoo
2272 Song, Huijin
3540 Song, In
2956 Song, Jae
2990 Song, Jie
4198 Song, Ruitian
0426 Song, Xiaolei
2545 Song, Xiaolei
1948 Sonkar, Abhinav
4316 Sonmez, Merdim
0052 Sotiropoulos, Stamatios

Authors Without Financial Interests or Relationships

0835	Sotiropoulos, Stamatios	1001	Streitbürger, Daniel-Paolo	3479	Takasu, Miyuki
2122	Sotiropoulos, Stamatios	3305	Stufflebeam, Steven	0550	Takeda, Hiroyuki
1152	Sours, Chandler	0632	Su, Favian	2570	Takeda, Hiroyuki
0461	Spear, John	4509	Su, Mao-Yuan	4124	Takeuchi, Mayumi
2486	Spear, John	3204	Su, Pan	4128	Takeuchi, Mayumi
2314	Spees, William	3416	Subashi, Ergys	3973	Tal, Assaf
2937	Spees, William	0430	Subburaj, Karupppasamy	2244	Tal, Omer
1536	Spincemaille, Pascal	2436	Suga, Mikio	2658	Talagala, S.
4270	Sprinkart, Alois	2926	Suh, Ji-Yeon	2611	Tam, Leo
3133	Squarcina, Letizia	1391	Suhail, Mohammed	2713	Tam, Leo
3261	Sreenivasan, Karthik	1392	Suhail, Mohammed	0136	Tamada, Daiki
3558	Sreenivasan, Karthik	2980	Sui, Yi	2771	Tamada, Daiki
0812	Sriram, Renuka	1431	Suinesiaputra, Avan	1781	Tamura, Chiharu
1677	Sritanyaratana, Nade	0866	Sukstanskii, Alexander	1140	Tamura, Hajime
2614	Stäb, Daniel	3132	Sukstanskii, Alexander	1656	Tamura, Satoru
4384	Stack, Jr., James	3420	Sukumar, Subramaniam	2189	Tan, Huan
2153	Stafford, Randall	2279	Summers, Paul	2497	Tan, Huan
4451	Stankovic, Zoran	3719	Sumpf, Tilman	2498	Tan, Huan
1110	Steenweg, Marjan	2362	Sun, Hao	3388	Tan, Nelly
3854	Stefan, Wolfgang	0169	Sun, Hongfu	2338	Tanaka, Chuzo
1970	Stehouwer, Bertine	1081	Sun, Hongfu	3340	Tancredi, Felipe
3368	Stehouwer, Bertine	1764	Sun, Jiayu	4186	Tang, Jin
2020	Steinseifer, Isabell	2549	Sun, Phillip Zhe	3101	Tang, Qunfeng
4325	Stemkens, Bjorn	2918	Sun, Phillip Zhe	1365	Tang, Yu-Wei
3221	Stephenson, Mary	4236	Sun, Phillip Zhe	1845	Tao, Ye
3500	Stevens, Kathryn	2962	Sun, Qinli	2596	Tao, Yuehui
2275	Stevens, Tynan	1044	Sun, Yanping	3156	Taquet, Maxime
2293	Stevens, Tynan	3978	Sun, Yi	1819	Tarasek, Matthew
1049	Steventon, Jessica	0418	Sundaram, Padmavathi	2434	Tardieu, Marion
0825	Stickle, Yun-Jeong	2597	Sung, KyungHyun	0267	Tardif, Christine
1109	Stikov, Nikola	3793	Sung, KyungHyun	0935	Tardif, Christine
3865	Stinnett, Gary	0615	Svärd, Daniel	3187	Tariq, Maira
4458	Stinson, Eric	1460	Svenningsen, Sarah	1664	Tariq, Umar
0080	Stirnberg, Rüdiger	0781	Szczepankiewicz, Filip	0399	Taviani, Valentina
2372	Stirnberg, Rüdiger	3473	Szeverenyi, Nikolaus	0597	Taviani, Valentina
2664	Stockmann, Jason	3541	Szomolanyi, Pavol	1398	Taviani, Valentina
0480	Stoeck, Christian	0786	Tabesh, Ali	2449	Taviani, Valentina
1026	Stoica, Teodora	2987	Tachrount, Mohamed	2110	Tavor, Ido
1715	Stokes, Ashley	2233	Tak, Sungho	3651	Tavor, Ido
2195	Stokes, Ashley	3346	Tak, Sungho	3513	Tawara, Noriyuki
3344	Stone, Alan	1846	Takahashi, Akihiro	0700	Tax, Chantal
1792	Storås, Tryggve	1065	Takahashi, Emi	3149	Tax, Chantal
0405	Storey, Pippa	2941	Takahashi, Emi	2002	Taylor, Jennifer
0745	Storey, Pippa	1494	Takahashi, Masaya	3250	Tchistiakova, Ekaterina
2018	Strasser, Bernhard	1780	Takahashi, Satoru	4234	Tee, Yee Kai
4074	Strasser, Johannes	4516	Takase, Shinichi	0104	Teeuwisse, Wouter

Authors Without Financial Interests or Relationships

3480	Teeuwisse, Wouter	0698	Tobisch, Alexandra	0933	Tu, Tsang-Wei
2118	Tefera, Getaneh	1811	Todd, Nick	1039	Tu, Tsang-Wei
4478	Terada, Masaki	1812	Todd, Nick	1071	Tu, Tsang-Wei
1685	Terada, Yasuhiko	0478	Toews, Matthew	0504	Tudorica, Alina
2761	Terada, Yasuhiko	4335	Tong, Ricky	1838	Tümer, Murat
1472	Terekhov, Maxim	1622	Tonson, Anne	3434	Tunariu, Nina
3953	Terekhov, Maxim	2798	Tonyushkin, Alexey	2920	Tuor, Ursula
4118	Terekhov, Maxim	3856	Topfer, Ryan	0015	Turk, Esra
0113	Terpstra, Melissa	1265	Topping, Geoffrey	4269	Turk, Esra
1939	Terpstra, Melissa	0424	Torrealdea, Francisco	1045	Turner, Gregory
2663	Testud, Frederik	1801	Toth, Robert	4120	Tustison, Nicholas
2111	Tha, Khin	0772	Tournier, Jacques-Donald	0139	Twieg, Michael
0598	Thelwall, Peter	0797	Tournier, Jacques-Donald	4023	Tyagi, Ritu
0750	Thelwall, Peter	0484	Toussaint, Nicolas	0890	Tymofiyeva, Olga
0992	Thiessen, Jonathan	0928	Tovar Martinez, Elena	4200	Uddin, Md Nasir
2816	Thiessen, Jonathan	0566	Towner, Rheal	3639	Uh, Jinsoo
3456	Thimmappa, Nanda	1584	Towner, Rheal	4106	Umeoka, Shigeaki
4138	Thimmappa, Nanda	1873	Towner, Rheal	1040	Underhill, Hunter
4465	Thimmappa, Nanda	1874	Towner, Rheal	4274	Untenberger, Markus
3910	Thind, Kundan	1647	Towse, Theodore	4275	Untenberger, Markus
0619	Thomas, Binu	2160	Toyoda, Hiroshi	4452	Urbina, Jesús
0850	Thomas, Binu	1872	Toyota, Taro	0609	Usman, Muhammad
1156	Thomas, Jewell	3701	Trakic, Adnan	3754	Usman, Muhammad
2972	Thompson, Deanne	2339	Trampel, Robert	3787	Uwano, Ikuko
3363	Thornhill, Rebecca	4282	Trampel, Robert	3769	Vahedipour, Kaveh
3501	Thornhill, Rebecca	2888	Tran, Thao	3798	Vahedipour, Kaveh
2907	Thrippleton, Michael	1321	Tran-Gia, Johannes	4379	Vaidya, Manushka
2874	Thulborn, Keith	2454	Tran-Gia, Johannes	0629	Vakil, Parmede
3625	Thulborn, Keith	3354	Triantafyllou, Christina	2001	Valaparla, Sunil
2746	Tian, Jinfeng	0647	Triphan, Simon	1064	Valdez, Michael
2758	Tian, Jinfeng	4543	Truijman, Martine	4028	Valkovic, Ladislav
2901	Tian, Wei	0836	Truong, Trong-Kha	1121	Valsasina, Paola
3414	Tiar, Feriel	3758	Truong, Trong-Kha	3611	Valsasina, Paola
4385	Tiberi, Gianluigi	0603	Trzasko, Joshua	0121	Van, Anh
0229	Tie, Changjun	3810	Trzasko, Joshua	1443	van Amerom, Joshua
3813	Ting, Samuel	3934	Tsai, Leo	4129	van Amerom, Joshua
3816	Ting, Samuel	1672	Tsai, Ping-Huei	0790	van Bruggen, Thomas
0268	Tisdall, Matthew	2925	Tsai, Ping-Huei	1022	van Bussel, Frank
3573	Tivarus, Madalina	3000	Tsai, Ping-Huei	0518	Van Cauter, Sofie
1248	Tiwari, Pallavi	0532	Tsai, Shang-Yueh	3982	van de Bank, B.L.
1774	Tiwari, Pallavi	3977	Tsang, Adrian	0990	van de Haar, Harm
1966	Tiwari, Vivek	1414	Tseng, Yu-Sheng	2515	van de Looij, Yohan
0340	Tiwari, Yash Vardhan	2289	Tseng, Yu-Sheng	3413	van de Looij, Yohan
1981	Tkac, Ivan	3409	Tsoumakidou, Georgia	3675	van de Looij, Yohan
0923	Tkach, Jean	1134	Tsukamoto, Kei	0222	van de Ven, Kim
3689	To, Xuan Vinh	0416	Tsurugizawa, Tomokazu	3880	van der Bom, Imramsjah

Authors Without Financial Interests or Relationships

0627	van der Kolk, Anja	2081	Veraart, Jelle	1775	Wang, Chengyan
2982	van der Kolk, Anja	3306	Vergun, Svyatoslav	2626	Wang, Da
4540	van der Kolk, Anja	1182	Verly, Marjolein	0205	Wang, Danny
3030	van der Kouwe, André	3421	Verma, Gaurav	1115	Wang, Feng
1187	van der Kruijs, Sylvie	3983	Verma, Gaurav	4134	Wang, Feng
1667	van der Pol, Christian	1072	Verma, Sanjay	4137	Wang, Feng
2032	van der Veen, Jan Willem	1367	Vernikouskaya, Ina	0956	Wang, Haonan
2391	van der Velden, Tijl	0628	Versluis, Maarten	4575	Wang, Haonan
2573	van der Velden, Tijl	1225	Versluis, Maarten	3841	Wang, Hongchen
1977	van Ewijk, Petronella	0915	Vidyasagar, Rishma	3845	Wang, Hongchen
0708	van Gelderen, Peter	0916	Vidyasagar, Rishma	1430	Wang, Hui
2683	van Gorp, Joost	1390	Vigen, Karl	1343	Wang, Hung-Hsuan
4565	van Heeswijk, Ruud	1445	Vijayakumar, Sathya	1029	Wang, Jian-Li
0589	van Hoof, Raf	4515	Vijayakumar, Sathya	1560	Wang, Jing
4245	van Kalleveen, Irene	0713	Villien, Marjorie	2224	Wang, Jing
0115	van Lier, Astrid	2175	Villien, Marjorie	2348	Wang, Kang
1360	van Nierop, Bastiaan	2225	Villien, Marjorie	3310	Wang, Kang
4521	van Oorschot, Joep	4246	Vinding, Mads	1327	Wang, Kezhou
2238	van Oort, Erik	1773	Viswanath, Satish	0511	Wang, Liya
3186	Van Steenkiste, Gwendolyn	2779	Voelker, Maximilian	3627	Wang, Liya
2206	van Stralen, Marijn	0134	Volland, Nelly	0465	Wang, Luning
0146	van Tiel, Jasper	2513	Volz, Steffen	2521	Wang, Luning
1721	Vande Velde, Greetje	2099	von Deuster, Constantin	3171	Wang, Mingtao
0439	Vandsburger, Moriel	1790	Vos, Eline	1808	Wang, Peng
4231	Vandsburger, Moriel	0842	Vos, Sjoerd	3256	Wang, Peng
4507	Vandsburger, Moriel	3195	Vos, Sjoerd	3052	Wang, Rui
0671	Vannesjo, Signe	1822	Vyas, Urvi	4063	Wang, Ruixue
2569	Vannesjo, Signe	3966	Wachowicz, Keith	3853	Wang, Shuai
2128	Varentsova, Anna	1262	Wachsmuth, Lydia	0946	Wang, Shuxia
2012	Vareth, Maryam	1767	Wachsmuth, Lydia	2919	Wang, Silun
2536	Varma, Gopal	0972	Wada, Tsukasa	3632	Wang, Sumei
3942	Varma, Gopal	0549	Wade, Trevor	3641	Wang, Sumei
4224	Varma, Gopal	0270	Waehnert, Miriam	3140	Wang, Tingting
1153	Vasavada, Megha	3894	Wagner, Shawn	1847	Wang, Wei
0918	Vasylechko, Serge	3932	Wagner, Shawn	2501	Wang, Wen-Tung
0787	Vaughan, David	3950	Wagner, Shawn	0848	Wang, Xiao
4371	Vazquez, Fabian	2861	Wagshul, Mark	0342	Wang, Xiaojie
0319	Velagapudi, Krishna	4110	Wagshul, Mark	3112	Wang, Xiaojie
0583	Velikina, Julia	3504	Waiczies, Helmar	3362	Wang, Xiaoyong
4016	Veltien, Andor	2841	Wakeman, Daniel	3365	Wang, Xiaoyong
1709	Venkatasubramanian, Palamadai	0911	Walker, Lindsay	3366	Wang, Xiaoyong
		0756	Walz, Jennifer	3804	Wang, Yanhua
4067	Venkatesh, Sudhakar	1809	Wan, Tao	4272	Wang, Yi
4317	Venkateswaran, Madhav	0432	WANG, Anna	0493	Wang, Yong
0749	Venkatraman, Talaignair	3020	Wang, Binquan	0776	Wang, Yong
3883	Venkatraman, Talaignair	0525	Wang, Bo	3622	Wang, Yong

Authors Without Financial Interests or Relationships

3624 Wang, Yong
1178 Wang, Yu Lin
3222 Wang, Yuan
0026 Wang, Yuan-Cheng
1870 Wang, YunMing
3283 Wang, Yunzhi
0617 Wang, Ze
2259 Wang, Ze
1403 Wang, Zhe
3570 Wang, Zhengge
2363 Wargo, Christopher
2182 Warnert, Esther
0937 Wassermann, Demian
3326 Wastling, Stephen
4264 Wastling, Stephen
4214 Watanabe, Hidehiro
0272 Watanabe, Takashi
1643 Watanabe, Yasuharu
1688 Waters, Emily
1671 Watkins, Ronald
0995 Watts, Richard
4259 Waxmann, Patrick
4052 Wayte, Sarah
0126 Weavers, Paul
4395 Weavers, Paul
0124 Weber, Hans
2384 Weber, Hans
4248 Weber, Hans
4523 Weber, Stefan
2350 Weber II, Kenneth
0129 Wech, Tobias
2125 Wedeen, Van
0482 Wei, Hongjiang
0575 Wei, Hongjiang
0969 Wei, Li
3997 Wei, Li
2721 Wei, Pei-Shan
1657 Wei, Wenbo
1498 Weick, Stefan
2855 Weiduschat, Nora
0257 Weingärtner, Sebastian
1358 Weingärtner, Sebastian
1406 Weingärtner, Sebastian
1411 Weingärtner, Sebastian
1427 Weingärtner, Sebastian
1625 Weis, Jan
1730 Weis, Jared
1363 Weiss, Kilian
1918 Weiss, Kilian
1719 Welsh, Denise
0385 Welsh, Robert
3643 Wen, Qiuting
3857 Wen, Yan
4162 Wen, Yang
1269 Weng, Jun-Cheng
3093 Weng, Jun-Cheng
0065 Wentland, Andrew
1842 Weon, Chi Jun
1393 Werys, Konrad
1623 Wessels, Bart
1627 Wessels, Bart
1056 West, Kathryn
3185 Westin, Carl-Fredrik
1043 Westphal, Robert
3111 Wetscherek, Andreas
0760 Wey, Hsiao-Ying
2263 Wey, Hsiao-Ying
2490 Wharton, Samuel
0663 While, Peter
4346 While, Peter
3088 White, Nathan
1933 Whiting, Nicholas
1663 Widhalm, Harald
2737 Wiggins, Graham
2295 Wighton, Paul
3791 Wighton, Paul
4309 Wijlemans, Joost
4311 Wijlemans, Joost
2014 Wijnen, Jannie
0644 Wild, Jim
1816 Willerding, Linus
0639 Williams, Ashley
0529 Wilm, Bertram
0202 Wilmes, Lisa
3992 Wilson, Martin
2004 Wilson, Neil
2010 Wilson, Neil
0388 Winchell, Adam
1147 Winchell, Adam
4155 Winfield, Jessica
0397 Winkler, Simone
0784 Winston, Gavin
4141 Winter, K. S.
0833 Winter, Lukas
2839 Winter, Lukas
0242 Winter, Patrick
1340 Winter, Patrick
1521 Winter, Patrick
0849 Wise, Richard
0702 Wisnieff, Cynthia
4174 Wisnieff, Cynthia
4193 Wisnieff, Cynthia
0180 Wisnowski, Jessica
0920 Wisnowski, Jessica
1322 Wissmann, Lukas
2609 Woehr, Jordan
1947 Wolahan, Stephanie
0033 Wong, Chi Wah
2245 Wong, Chi Wah
3269 Wong, Edmund
3298 Wong, Edmund
0802 Wong, Man
2773 Woo, Myung-Kyun
1079 Wood, Emily
2465 Wood, Tobias
2706 Wood, Tobias
0513 Woodworth, Davis
2009 Worthington, Lara
0719 Wright, Katherine
1543 Wright, Katherine
2753 Wright, Steven
2994 Wu, Can
3422 Wu, Chen-Hao
0707 Wu, Dan
3828 Wu, Holden
2993 Wu, Huimin
3585 Wu, Lei
2945 Wu, Minjie
3594 Wu, Minjie
3595 Wu, Minjie
2467 Wu, Pei-Hsin
0194 Wu, Shandong
1732 Wu, Shandong
0922 Wu, Tai-Wei
1310 Wu, Tingting
2184 Wu, Wen-Chau
0086 Wu, William
0074 Wu, Xiaoping

Authors Without Financial Interests or Relationships

4253	Wu, Xiaoping	3887	Xu, Wenlong	1082	Yao, Bing
4398	Wu, Xiaoping	0419	Xu, Xiang	1196	Yao, Li
1386	Wu, Yijen	1033	Xu, Xiaojun	0936	Yap, Pew-Thian
1446	Wu, Yijen	4119	Xu, Xiaojun	0045	Yarnykh, Vasily
0624	Wu, Yijing	4161	Xu, Yanqing	3613	Yarnykh, Vasily
3686	Wu, Yi-Ling	3319	Xu, Zhan	0871	Yasar, Temel
4499	Wu, Yin	1911	Yadav, Nirbhay	1803	Ye, Changqing
2863	Wu, Ying	2544	Yadav, Nirbhay	1867	Ye, Qing
3612	Wu, Ying	4017	Yahya, Atiyah	3252	Ye, Yongquan
3060	Wu, Yi-Ying	2087	Yaksic, Javier	3276	Ye, Yongquan
1102	Wu, Zhe	3173	Yaksic, Javier	3296	Ye, Yongquan
2714	Wu, Ziyue	1707	Yaligar, Jadegoud	1862	Yeh, Fang-Cheng
3837	Wundrak, Stefan	3100	Yamabe, Eiko	3184	Yeh, Ping-Hong
1654	Wyatt, Cory	3498	Yamabe, Eiko	2325	Yen, Cecil
2464	Wyss, Michael	2981	Yamada, Naoaki	1839	Yeniaras, Erol
2594	Wyss, Patrik	1566	Yamamoto, Akira	0192	Yerly, Jerome
3523	Xia, Ding	4473	Yamamoto, Akiyoshi	3807	Yerly, Jerome
0147	Xia, Yang	3634	Yamamoto, Tatsuya	0694	Yeung, Serena
0901	Xiang, Jiang	2834	Yamamoto, Toru	1212	Yiannakas, Marios
0907	Xiang, Jiang	4060	Yamamura, Jin	0279	Yin, Meng
0735	Xiao, Yuan	4127	Yamamura, Jin	3529	Yin, Ziying
1203	Xiaoyi, Liu	2171	Yan, Feng-Xian	3629	Yoneyama, Masami
0023	Xie, Luke	2223	Yan, Feng-Xian	3502	Yoo, Hye Jin
4506	Xie, Victor	1190	Yan, Leslie	2617	Yoon, Huisu
4469	Xie, Yibin	1198	Yan, Leslie	3803	Yoon, Huisu
1467	Xin, Yi	1199	Yan, Leslie	4166	Yoon, Jeong Hee
0263	Xiong, Qiang	0106	Yan, Lirong	1557	Yoruk, Umit
0165	Xu, Bo	0539	Yan, Lirong	0177	Yoshida, Shoko
0697	Xu, Bo	0339	Yan, Yumei	1493	Yoshimaru, Eriko
2378	Xu, Bo	3904	Yanez Lopez, Maria	1244	Yoshioka, Yoshichika
3847	Xu, Bo	4080	Yang, Bin	0213	Yoshiura, Takashi
4235	Xu, Chao	0535	Yang, Donghan	0751	Younce, John
0471	Xu, Di	1967	Yang, Guang	1174	Yu, Dahua
0865	Xu, Di	1202	Yang, Hong	3534	Yu, Hon
3920	Xu, Duan	1439	Yang, Hsin-Jung	3538	Yu, Hon
1580	Xu, Gui ping	3561	Yang, Jie	3452	Yu, Mi Hye
3426	Xu, He	3005	Yang, Li	0171	Yu, Qiaowen
2555	Xu, Jiadi	0024	Yang, Mingshu	3040	Yu, Songlin
4240	Xu, Jiadi	3922	Yang, Seungwook	0294	Yu, Xin
2641	Xu, Jiexun	3586	Yang, Shaolin	0758	Yu, Xin
3143	Xu, Junzhong	4388	Yang, Xing	1745	Yu, Xue
4232	Xu, Junzhong	0734	Yang, Xun	2533	Yu, Xue
3507	Xu, Su	1889	Yang, Ya-Han	3815	Yu, Yeyang
3680	Xu, Su	4556	Yang, Yang	0732	Yuan, Han
4002	Xu, Su	4573	Yang, Yang	1185	Yuan, Han
4037	Xu, Su	2331	Yang, Zhi	2241	Yuan, Han

Authors Without Financial Interests or Relationships

0132 Yuan, Hongyang
2552 Yuan, Jing
3218 Yuan, Jing
3478 Yuan, Jing
0925 Yuan, Kai
2374 Yun, Seong Dae
2679 Yun, Seong Dae
4302 Yung, Joshua
0455 Zaaraoui, Wafaa
1902 Zabow, Gary
3929 Zacharias, Niki
0409 Zahneisen, Benjamin
3610 Zaini, Wan Hazlin
2548 Zaiss, Moritz
0016 Zaitsev, Maxim
1514 Zakian, Kristen
1515 Zakian, Kristen
2141 Zakszewski, Elizabeth
2928 Zakszewski, Elizabeth
0913 Zamyadi, Mojdeh
2200 Zanette, Brandon
0196 Zaric, Olgica
1738 Zaric, Olgica
2473 Zbýn, Stefan
4140 Zbýn, Stefan
4142 Zbýn, Stefan
3167 Zeineh, Michael
3331 Zeller, Mario
3715 Zeller, Mario
3771 Zeller, Mario
2634 Zeng, Gengsheng
3940 Zeng, Haifeng
2316 Zerbi, Valerio
3687 Zerbi, Valerio
1751 Zhai, Guihua
1158 Zhai, Tianye
0996 Zhan, Wang
0904 Zhang, Bing
1008 Zhang, Bing
1164 Zhang, Bing
1766 Zhang, Feng
0963 Zhang, Ge
2526 Zhang, Ge
0576 Zhang, HuaLei
1784 Zhang, Hui
1621 Zhang, Jeff L.
0302 Zhang, Jevin
3233 Zhang, Jevin
1691 Zhang, Jin
1103 Zhang, Jing
3609 Zhang, Jing
3623 Zhang, Jing
3334 Zhang, Jingwei
0764 Zhang, Jinjin
2382 Zhang, Jinjin
0109 Zhang, Ke
2327 Zhang, Lei
4537 Zhang, Lei
1593 Zhang, Ning
1015 Zhang, Qiuli
2129 Zhang, Shengwei
0676 Zhang, Shuo
3700 Zhang, Shuo
3018 Zhang, Tianhao
2405 Zhang, Tianjing
3915 Zhang, Vickie
0648 Zhang, Weijuan
1480 Zhang, Weijuan
1675 Zhang, Xiaoliang
0288 Zhang, Xiaotong
4429 Zhang, Xiaotong
2927 Zhang, Xiaowei
3867 Zhang, Xiaoyong
0101 Zhang, Xingxing
4045 Zhang, Yajie
2949 Zhang, Yajing
0530 Zhang, Yi
0714 Zhang, Yi
2876 Zhang, Yong
2890 Zhang, Yong
2174 Zhang, Yongsheng
3170 Zhang, Yu
1553 Zhang, Yudong
3722 Zhang, Yudong
1020 Zhang, Yue
2340 Zhang, Yue
3027 Zhang, Yunyan
1699 Zhang, Zhongwei
2455 Zhao, Bo
2459 Zhao, Bo
0051 Zhao, Eric
0252 Zhao, Feng
2403 Zhao, Feng
2507 Zhao, Feng
2875 Zhao, Feng
4092 Zhao, Feng
1559 Zhao, Kai
2164 Zhao, Li
3090 Zhao, Michael
1278 Zhao, Tao
2724 Zhao, Wei
0630 Zhao, Xihai
4399 Zhao, Yujuan
1857 Zheng, Bo
0361 Zheng, Jie
3527 Zheng, Jie
4230 Zheng, Shaokuan
1326 Zhong, Liang
1441 Zhong, Liang
2566 Zhou, Dong
0032 Zhou, Iris
3268 Zhou, Iris
2527 Zhou, Jinyuan
1201 zhou, yan
3113 Zhou, Yan
0605 Zhou, Yihang
2158 Zhou, Yihang
2914 Zhou, Yong
0527 Zhou, Yongxia
0940 Zhou, Yongxia
1094 Zhou, Yongxia
2688 Zhou, Yongxia
3036 Zhou, Yuxiang
3621 Zhou, Yuxiang
0877 Zhou, Zechen
0445 Zhou, Zhuxian
1303 Zhu, Chengcheng
1305 Zhu, Chengcheng
2685 Zhu, Dan
2774 Zhu, Dasong
3557 Zhu, David
2732 Zhu, Haoqin
3376 Zhu, He
0040 Zhu, Senhua
0789 Zhu, Tong
0958 Zhu, Wen-Zhen
0859 Zhu, Xiao-Hong
0861 Zhu, Xiao-Hong

Authors Without Financial Interests or Relationships

4312	Zhu, Ying	1552	Zöllner, Frank	2970	Zou, Ling
3282	Zhuang, Jiancheng	3115	Zöllner, Frank	0464	Zou, Xiaowei
2896	Zhuo, Jiachen	2299	Zong, Xiaopeng	4229	Zu, Zhongliang
2817	Ziegler, Susanne	2530	Zong, Xiaopeng	4241	Zu, Zhongliang
3152	Ziv, Etay	0521	Zotev, Vadim	2144	Zun, Zungho
2038	Zoelch, Niklaus	3350	Zotev, Vadim	0741	Zuo, Chun
1544	Zöllner, Frank	3569	Zotev, Vadim	0368	Zwanenburg, Jaco
1545	Zöllner, Frank	0245	Zou, Chao		

ISMRM OFFICERS

Thomas M. Grist, M.D., F.A.C.R., *President*
Debiao Li, Ph.D., *Past President*
Peter Jezzard, Ph.D., F.A.C.R., *Vice President*
Jeffrey Joseph Neil, M.D., Ph.D., *Vice President-Elect*
Margaret A. Hall-Craggs, M.D., *Secretary*
David A. Bluemke, M.D., Ph.D., *Treasurer*
Garry E. Gold, M.D., *Program Chair*

ISMRM BOARD OF TRUSTEES

Thomas M. Grist, M.D., F.A.C.R., *President*
Debiao Li, Ph.D., *Past President*
Peter Jezzard, Ph.D., *Vice President*
Jeffrey Joseph Neil, M.D., Ph.D., *Vice President-Elect*
Margaret A. Hall-Craggs,M.D., *Secretary*
David A. Bluemke, M.D., Ph.D., *Treasurer*
Garry E. Gold, M.D., *Program Chair*
Matt A. Bernstein, Ph.D., *Ex Officio*
Fernando Calamante, Ph.D.
Christine Chung, M.D.
John A. Detre, M.D.
Xiaoping P. Hu, Ph.D.
Petra S. Hüppi, M.D.
Shahid M. Hussain, M.D., Ph.D.
Derek K. Jones, Ph.D.
Vera K. Kimbrell, B.S., R.T.
Mark E. Ladd, Ph.D.
Pia C. Maly Sundgren, M.D., Ph.D.
Karla L. Miller, Ph.D.
Dennis L. Parker, Ph.D.
C. Leon Partain, M.D., Ph.D., *Ex Officio*
Peter Seres, M.Sc.E., *Ex Officio*
Clare Tempany-Afdhal, M.D.
Kaori Togashi, M.D., Ph.D.
Steven M. Wright, Ph.D.

ANNUAL PROGRAM COMMITTEE

Garry E. Gold, M.D., *Chair*
Derek K. Jones, Ph.D., *Vice Chair*
Christine Chung, M.D., Vice *Chair-Elect*
James G. Pipe, Ph.D., *Past Chair*
Thomas M. Grist, M.D., F.A.C.R., *ex officio*
Peter Jezzard, Ph.D., F.A.C.R., *ex officio*

Joseph J. H. Ackerman, Ph.D.
Andrew L. Alexander, Ph.D.
Adam W. Anderson, Ph.D.
Neal K. Bangerter, Ph.D.
Kevin M. Bennett, Ph.D.
Michael Bock, Ph.D.
Richard W. Bowtell, Ph.D., M.A.
David L. Buckley, Ph.D.
Christopher M. Collins, Ph.D.
Nicola F. De Zanche, Ph.D.
E. Jim Delikatny, Ph.D.
Daniel B. Ennis, Ph.D.
Victor A. Ferrari, M.D.
Chris A. Flask, Ph.D.
James C. Gee, Ph.D.
Kristine Glunde, Ph.D.
Martin J. Graves, Ph.D.
David B. Hackney, M.D.
Masoom A. Haider, M.D., F.R.C.P.C.
Brian A. Hargreaves, Ph.D.
Xiaoping P. Hu, Ph.D.
Richard Kijowski, M.D.
Harald Kramer, M.D.
Kagayaki Kuroda, Ph.D.
Meng Law, M.D., M.B.B.S., F.R.A.C.R.
Robert E. Lenkinski, Ph.D.
Zhi-Pei Liang, Ph.D.
Ian Marshall, Ph.D.
Craig H. Meyer, Ph.D.
Elizabeth A. Morris, M.D., F.A.C.R.
William B. Morrison, M.D.
John P. Mugler, III, Ph.D.
Pratik Mukherjee, M.D., Ph.D.
Jeffrey Joseph Neil, M.D., Ph.D.
Mark D. Pagel, Ph.D.
Robia G. Pautler, Ph.D.
Ivan Pedrosa, M.D.
James J. Pekar, Ph.D.
James G. Pipe, Ph.D.
Jonathan R. Polimeni, Ph.D.
Scott B. Reeder, M.D., Ph.D.
Ravinder R. Regatte, Ph.D.
Maria A. Rocca, M.D.
Howard A. Rowley, M.D.
Alexey Samsonov, Ph.D.
Jeanette Schulz-Menger, M.D.
Nicole E. Seiberlich, Ph.D.
G. Barry Southers, M.Ed., R.T.(R)(MR)
Daniel M. Spielman, Ph.D.
Toshiaki Taoka, M.D., Ph.D.
Keith R. Thulborn, M.D., Ph.D.
Jeffrey Tsao, Ph.D., M.B.A.
Kamil Uludag, Ph.D.
Shreyas S. Vasanawala, M.D., Ph.D.
Claudia A. Wheeler-Kingshott, Ph.D.
Eric C. Wong, M.D., Ph.D.
Greg Zaharchuk, M.D., Ph.D.
Maxim Zaitsev, Ph.D.
Xiaohong Joe Zhou, Ph.D., D.A.B.R.

Junior Fellow, Observers:
Myriam M. Chaumeil, Ph.D.
Kayvan R. Keshari, Ph.D.
Wei Li, Ph.D.
Deqiang Qiu, Ph.D.
Hans F. Wehrl, Dipl.-Phys.
Andrew L. Wentland, M.S.

ISMRM STAFF

Roberta A. Kravitz, *Executive Director* • Jennifer Olson, *Associate Executive Director*
Jacob Coverstone, *Director of Education* • Stephanie M. Haaf, *Education Coordinator*
Sandra Daudlin, *Director of Meetings* • Melisa Martinez, *Meetings Coordinator*
Mary Keydash, *Director of Publications*
Mariam Barzin, *Director of Finance* • Julia White, *Accounting Coordinator*
Kristina King, *Registrar*
Liz Tharpe, *Membership & Study Groups Coordinator*
Sally Moran, *Director of Electronic Communications* • Allison Barbour, *Electronic Communications Coordinator*
Linda O-Brown, *SMRT Coordinator*
Mary Day, *Office Manager* • John Celio, *Administrative Assistant*

TO RECEIVE CREDIT for the ISMRM Meeting

If you wish to receive credit and/or a credit certificate, you must:
1. Complete and submit evaluation forms online.
   (Evaluation is entirely online; there are no paper forms.)
2. Complete the CE LOG section on the evalation form

ACCREDITATION

The International Society for Magnetic Resonance in Medicine is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

ISMRM DESIGNATION OF CREDIT

The International Society for Magnetic Resonance in Medicine designates this live activity for a maximum of 52 *AMA PRA Category 1 Credits™*. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

SMRT ANNUAL MEETING

North America:
8.0 Category A CE credits for Saturday, 20 April; 7.0 Category A CE credits for Sunday, 21 April; 15.0 Total Category A CE credits for SMRT Annual Meeting. Monday ISMRM/SMRT Joint Forum, 2.0 Category A CE and selected ISMRM Annual Meeting sessions.

Australia:
Australia Institute of Radiology (AIR), CPD Activity is approved for the SMRT Annual Meeting and selected ISMRM Annual Meeting sessions.

United Kingdom:
College of Radiographers (UK) has approved the SMRT Annual Meeting for CPD Credits and selected ISMRM Annual Meeting sessions.

SPEAKER READY ROOM (Audiovisual Preview)

Located in Exhibit Hall 2 of the Salt Palace Convention Center, an audio-visual technician will be on duty in the Speaker Ready Room room throughout the meeting to assist oral presenters and e-poster presenters with their materials. The Speaker Ready Room will be open during the following hours:
Friday, 19 April • 14:00–20:00
Saturday–Thursday, 20–25 April • 07:00-18:00
Friday, 26 April • 07:00–13:00

SESSION ROOM ETIQUETTE

The Annual Meeting Program Committee requests your cooperation in observing the following guidelines for etiquette in session rooms. Please respect your colleagues and follow the rules!

Videotaping, audiotaping or photographing the presentations is strictly prohibited.

Mobile phones and pagers and other devices generating sound must be turned off in the session room.

Attendees using laptop computers, personal digital assistants or other electronic devices generating light must sit in the back half of the room to avoid disturbing fellow attendees.

Admission to the Educational Programs, the Scientific Sessions and the Technical Exhibition is restricted to individuals wearing name badges. Please wear your name badge at all times. Remember that children under 16 are not allowed in any meeting sessions, Exhibit Hall or evening events (no exceptions!).

MEET THE TEACHER BREAKS

"Meet the Teacher" breaks will follow each weekend session. Speakers will stay into the following break, and be available for one-to-one contact with attendees, providing an opportunity for informal questions and discussion.

ISMRM CREDITS AVAILABLE:

Saturday Courses	Credits
Innovation in Body MRI	6.00
Pre-Clinical MR of Cancer	6.00
Perfusion Imaging: ASL, DCE & DSC	4.00
Single-Subject Neuroimaging	3.50
Challenges in Musculoskeletal Imaging	5.50
Advanced Neuroimaging 1: Brain & Spinal Cord	6.00
MR Systems Engineering	6.00
MR Physics for Physicists	7.00
fMRI: From Basic to Intermediate Brain Connectivity, Part 1	4.00
Diffusion Goes Mad	2.00

Sunday Courses	Credits
Molecular & Cellular Imaging: From Bench to the Bed	5.50
Clinical Cancer MRI - Case-Based Teaching	6.00
Recent Innovation in Cardiac MR	8.00
Everything You Wanted to Know about MR-PET	3.75
Advanced Diffusion Acquisition: Targeted Methods	4.25
Advanced Neuroimaging 2: Across the Lifespan	6.00
RF Engineering - Coils	5.00
Imaging Acquisition & Reconstruction	6.50
A Practical Guide to MR Safety	3.50
fMRI: From Basic to Intermediate Brain Connectivity, Part 2	4.00

MONDAY–FRIDAY COURSES:

Weekday sessions up to 35.75 *AMA PRA Category 1 Credits™* (study group meetings, lunchtime programs, symposia, poster sessions and hands-on workshops are not certified for credit).

ISMRM CERTIFICATES:

After the meeting participants who submitted evaluation forms online with completed CE logs will be able to print certificates showing number of credits earned. Certificates may be printed for 60 days after the meeting by going to the meeting website.

MEETING EVALUATION ONLINE ONLY

While in the convention center, use one of the free computer evaluation stations. Outside the convention center, you can access the ISMRM website at any time with your own computer. The online evaluation pages will be available for two weeks after the meeting. There is a separate form for each weekend course, plus a form for each course Monday through Friday. Please use the link from the main meeting page (www.ismrm.org/13).

OUTSTANDING TEACHER AWARDS

To recognize outstanding educational contributions to the ISMRM Annual Meeting, the Annual Meeting Program Committee will acknowledge the highest rated speakers in weekend and Monday–Friday educational courses. Recipients of these awards will be determined by the evaluation scores which attendees give to speakers. Recipients will be recognized in MR Pulse and on the ISMRM website, in addition to receiving certificates of appreciation. We encourage our attendees to let us know about the outstanding teachers in our educational courses. Please fill out your evaluation forms completely.

20–21 APRIL 2013 • SALT LAKE CITY, UTAH, USA
SMRT Poster Walking Tour & Reception – Friday, 19 April 2013, 18:00–20:00 • ROOM 355 ABCDEF

Program and speakers are subject to change.

Time	Saturday, 20 April 2013, 07:45–17:05 (8.0 Category A CE)
07:45	**Welcome & Announcements** Vera Kimbrell, B.S., R.T. (R)(MR), SMRT President 2012–2013 G. Barry Southers, M.Ed., R.T. (R)(MR), 2013 SMRT Program Chair
	Forum 1: History & Future of MR Moderator: Anne Marie Sawyer, B.S., R.T. (R)(MR), FSMRT
08:00	**Localized Origins** Paul Arthur Bottomley, Ph.D.
08:50	**MRI: From Science to Society** Vivian S. Lee, M.D., Ph.D., M.B.A .
09:40	Break
	Forum 2: Cardiovascular MR Moderator: Maureen N. Hood, Ph.D., R.N., R.T. (MR), FSMRT
09:55	**Cardiac MR: Getting the Numbers Right** Wendy Strugnell, B.App.Sc. (MIT), FSMRT
10:25	**Philips Healthcare – Corporate Meeting Sponsor** Gerard O' Leary, B.App.Sci.
10:35	**MRI Cardiac Perfusion** James C. Carr, M.D.
11:05	**Non-contrast CMR** Debiao Li, Ph.D.
11:35	**SMRT Annual Business Meeting**
12:05	**Lunch**
	Forum 3: Proffered Papers – **Originations of MR Innovation: Research Focus** Moderator: Kendra Huber, B.S., R.T. (R)(M)(CT)(MR)
12:50	**President's Award:** *Whole Brain Tractography Mapping Reveals Abnormal Structural Connections in Neuronal Heterotopia* – Shawna Farquharson, B.Sc., M.Sc.
13:10	**1st Place Research Focus Award:** *Discrimination of Various Calcium Compounds Using Phase Images of Magnetic Resonance Imaging* – Tomoka Doi, B.Sc., R.T.
13:20	**2nd Place Research Focus Award:** *2D T1-weighted TSE vs. 3D Merge in Carotid Artery Wall Imaging* – Sandra van den Berg, R.T. (MR)
13:30	**3rd Place Research Focus Award:** *Investigation of Spin-Echo T1 Contrast at 3T Using 32-Channel Coil* – Renee Hill, R.T.
	Forum 4: Pediatric MR Moderator: Glenn Cahoon, B.App.Sc., Dip.Ed., M.App.Sc.
13:40	**Stroke in the Pediatric Environment** Michael Kean, R.T., FSMRT
14:30	**MRI Assessment of Inflammatory Bowel Disease** Shreyas Vasanawala, M.D., Ph.D.
15:20	**Break**
	Forum 5: MR Physics & Technology Moderator: Scott Dunn, R.T. (MR)
15:35	**RF Coil & MR Hardware** Robert V. Mulkern, Jr., Ph.D.
16:05	**Reduction of Metal Artifacts** Brian A. Hargreaves, Ph.D.
16:35	**MR Protocol Optimization** William Faulkner, B.S., R.T. (R)(MR)(CT), FSMRT
17:05	**Announcements/Close**
19:00	**SMRT Reception – The Grand America Hotel**

Time	Sunday, 21 April 2013 • 07:45–16:45 (7.0 Category A CE)
07:45	**Welcome & Announcements** Ben Kennedy, B.App.Sc., MMRT, SMRT President 2013-2014 G. Barry Southers, M.Ed., R.T. (R)(MR), SMRT Program Chair 2013
	Forum 6: Musculoskeletal MR Moderator: Vanessa Louise Orchard, DCR (R), PGDip.(NM)
08:00	**Post-Operative Imaging of the Rotator Cuff** Lynne S. Steinbach, M.D.
08:50	**GE Healthcare – Corporate Meeting Sponsor** Lloyd Estkowski, R.T. (R) (MR)
09:00	**Optimization of Musculoskeletal MRI** William Morrison, M.D.
09:50	**Break**
	Forum 7: Whole Body MR Moderator: Rhonda Walcarius, B.Sc., R.T. (R)(MR)
10:05	**MR Elastography Abdomen/Liver** Scott B. Reeder, M.D., Ph.D.
10:35	**MR Enterography** Kristan Harrington, M.B.A., R.T. (R)(MR)
11:05	**Whole Body DWI** Winfried A. Willinek, M.D.
11:35	**Lunch**
	Forum 8: Proffered Papers – **Originations of MR Innovation: Clinical Focus** Moderator: Sheryl Foster, MHSc. (MRI)
12:20	**1st Place Clinical Focus Award:** *Dixon Imaging of the Bone Marrow in Whole Body MRI* – Ian Simcock, B.Sc. (Hons.)
12:30	**2nd Place Clinical Focus Award:** *Susceptibility Weighted Imaging: Clinical Significance and Limitations* - Kimberley Krueger, B.Sc., R.T. (MR)
12:40	**3rd Place Clinical Focus Award:** *The Electronic Medical Record: An Innovative Approach to Ensuring MRI Safety* – Amanda Golsch, B.S., R.T. (R)(MR)
12:50	**SMRT Awards Presentation**
	Forum 9: Breast MR Moderator: Rosemary Fisher, R.T. (R)(CT)(MR)
13:30	**Clinical Use of Breast MRI** Christiane K. Kuhl, M.D., Ph.D.
14:00	**MR Mammography: How Do They Do It?** Carolyn Kaut Roth, R.T. (R)(MR)(CT)(M)(CV), FSMRT
14:30	**Break**
	Forum 10: Recent Innovations in MR Moderator: Carol Lee, B.S., R.T. (R)(CT)(MR)
14:45	**Companion Animal Imaging** James J. Stuppino, B.S., R.T. (R)(MR)
15:15	**UTE Imaging** Emily McWalter, Ph.D., M.A.Sc.
15:45	***In Vivo* Magnetic Resonance Spectroscopy to Characterize Changes in the Brain Chemistry Associated with Altitude** Perry F. Renshaw, M.D., Ph.D., M.B.A.
16:15	**Perception in Medical Imaging** Richard L. Ehman, M.D.
16:45	**Announcements/Close**

Weekend Educational Course
Innovation in Body MRI

*Organizers:*John P. Mugler, III, Ph.D. & Caroline Reinhold, M.D.

Room 150 AG 08:30-17:15 *Moderators:*Shahid M. Hussain & Caroline Reinhold

08:30 **Optimization of Diffusion-Weighted Imaging for Body Applications**
Dow-Mu Koh, M.D., M.R.C.P., F.R.C.R.

09:00 **Making the Most of 3T for Body MRI**
Shreyas S. Vasanawala, M.D., Ph.D.

09:30 **MRCP: Techniques & Pitfalls**
David J. Lomas, M.D., F.R.C.R., F.R.C.P.

10:00 **Break - Meet the Teachers**

10:30 **Quantification of Diffuse Liver Disease**
Scott B. Reeder, M.D., Ph.D.

11:00 **Cirrhosis & Lesion Characterization at MR Imaging**
Shahid M. Hussain, M.D., Ph.D.

11:30 **The Post-Treatment Liver**
Ihab R. Kamel, M.D., Ph.D.

12:00 **Break - Meet the Teachers**

13:30 **Imaging Algorithms for Adrenal Lesion Characterization**
Hero K. Hussain, M.D.

14:00 **Renal Mass Characterization**
Ivan Pedrosa, M.D.

14:30 **Functional Renal MRI**
Diego R. Martin, M.D., Ph.D., F.R.C.P.C.

15:00 **Break - Meet the Teachers**

15:30 **Acute Abdominal Pain in Pregnancy**
Tara A. Morgan, M.D.

16:00 **Pelvic Floor Imaging**
Katarzyna J. Macura, M.D., Ph.D.

16:30 **Prostate Carcinoma: Case Studies**
Masoom A. Haider, M.D., F.R.C.P.C.

17:00 **Adjournment & Meet the Teachers**

Weekend Educational Course
Pre-Clinical MR of Cancer

*Organizer:*E. Jim Delikatny, Ph.D.

Room 155 EF 08:30-17:15 *Moderators:*E. Jim Delikatny & Kristine Glunde

08:30 **Tumor Metabolism**
Kevin M. Brindle, Ph.D.

09:00 **Tumor Physiology**
Michal Neeman, Ph.D.

09:30 **Tumor 'Omics**
John R. Griffiths, D.Phil, F.R.C.P.

10:00 **Break - Meet the Teachers**

10:30 **MR in Cancer Cell Models**
Franca Podo, D.Sc.

11:00 **MRI/MRS in Animal Models**
Harish Poptani, Ph.D.

11:30 **Tumor Lipid Metabolism**
Kristine Glunde, Ph.D.

12:00 **Break - Meet the Teachers**

13:30 **Tumor Energy Metabolism**
Klaas Nicolay, Ph.D.

14:00 **pH in Cancer**
Robert J. Gillies, Ph.D.

14:30 **Molecular Imaging in Cancer**
Dmitri Artemov, Ph.D.

15:00 **Break - Meet the Teachers**

15:30 **Tumor Vasculature & Perfusion**
Charles S. Springer, Ph.D.

16:00 **Novel Contrast: CEST, Multinuclear**
Michael T. McMahon, Ph.D.

16:30 **Cancer Treatment Response**
Sabrina M. Ronen, Ph.D.

17:00 **Adjournment & Meet the Teachers**

Weekend Educational Course
Perfusion Imaging: ASL, DCE & DSC

*Organizers:*Steven P. Sourbron, Ph.D. & Matthias J. P. van Osch, Ph.D.
Room 155 BC 08:00-12:35 *Moderators:*Steven P. Sourbron & Matthias J. P. van Osch

08:00 **ASL: Measurement**
Maria A. Fernandez-Seara, Ph.D.

08:25 **ASL: Single Subject & Group Analysis, Including Live Demo**
Michael A. Chappell, D.Phil., M.Eng.

08:50 **ASL: Clinical Applications, Pharma ASL, Cognitive Neuroscience, etc.**
John A. Detre, M.D.

09:15 **Cross-over: Measuring Tracer Extravasation with ASL & DCE**
Keith St. Lawrence, Ph.D.

09:40 **Break - Meet the Teachers**

10:05 **DCE: Measurement**
David J. Collins, B.A.

10:30 **DCE Post-Processing: What Model to Use?**
Lucy E. Kershaw, Ph.D.

10:55 **Cross-Over: Measuring the Arterial Input Function in DCE & DCS-MRI**
Anders Garpebring, Ph.D.

11:20 **DSC: Measurement**
Roland Bammer, Ph.D.

11:55 **DSC: Post-Processing, Including Live Demo**
Ona Wu, Ph.D.

12:20 **Adjournment & Meet the Teachers**

Weekend Educational Course
Single-Subject Neuroimaging

*Organizers:*David B. Hackney, M.D. & Karla L. Miller, Ph.D.
Room 151 AG 08:30-12:45 *Moderators:*David B. Hackney & Karla L. Miller

Single-Subject Neuroimaging: Methods & Challenges

08:30 **What's Normal? Accounting for Population Variability**
Guido Gerig, Ph.D.

08:50 **Drawing A Line: Multi-Variate Classification**
Maria J. Rosa, Ph.D.

09:10 **From Group Analysis to Individual Studies: Statistical Considerations**
Jeanette A. Mumford, Ph.D.

What Can & Can't We Do Currently?

09:30 **Pre-Surgical Planning: Movement, Language & the Power of Localization**
Susan Y. Bookheimer, Ph.D.

09:50 **Spatial Imaging Patterns in AD & Its Prodromal Stages Identified via Pattern Recognition Methods**
Christos Davatzikos, Ph.D.

10:10 **Reliability of MR in Psychiatric Disorders**
John D. Port, M.D., Ph.D.

10:30 **Break - Meet the Teachers**

Rapid-Fire: What's Your Application?

11:00 **TBI Diagnosis & Prognosis**
Pratik Mukherjee, M.D., Ph.D.

11:10 **Stroke & the Myth of Quantitation**
Greg Zaharchuk, M.D., Ph.D.

11:20 **The Brain Stress Test**
Richard B. Buxton, Ph.D.

11:30 **Real-Time fMRI, Brain States & Biofeedback**
Xiaoping P. Hu, Ph.D.

11:40 **MRI in the Courtroom** ***(pre-recorded)***
Teneille R. Brown, J.D., B.A.

12:00 **Panel Discussion**

12:30 **Adjournment & Meet the Teachers**

Weekend Educational Course
Challenges in Musculoskeletal Imaging

*Organizers:*Richard Kijowski, M.D. & William B. Morrison, M.D.
Room 255 EF 08:30-16:45 *Moderators:*John A. Carrino & Adam C. Zoga

08:30 **Wrist Ligament Pathology: Diagnosis & Pitfalls**
Kathryn J. Stevens, M.D.

09:00 **Glenoid Labral Tear & Normal Variation**
Lynne S. Steinbach, M.D.

09:30 **What is the Rotator Interval, & Why Is It Important?**
Michael J. Tuite, M.D.

10:00 **Bone Marrow Edema: Injury Patterns**
Christine Chung, M.D.

10:30 **Break - Meet the Teachers**

11:00 **Challenges in Diagnosing Meniscal Tear in the Knee**
Nancy M. Major, M.D.

11:30 **Posterolateral Corner: "The Dark Side of the Knee"**
Tetyana A. Gorbachova, M.D.

12:00 **Diagnosing Hip Labral Tear: Impingement & Dysplasia**
John A. Carrino, M.D., M.P.H.

12:30 **Break - Meet the Teachers**

14:30 **OCD: What Is It & How Do I Describe It?**
Miriam A. Bredella, M.D.

15:00 **Optimizing MRI for Evaluation of Cartilage Injury**
Douglas W. Goodwin, M.D.

15:30 **Athletic Pubalgia: The Sportsman's "Non-Hernia"**
Adam C. Zoga, M.D.
16:00 **Osteomyelitis in Diabetic Feet: Can You Be Confident?**
Sandra L. Moore, M.D.

16:30 **Adjournment & Meet the Teachers**

Weekend Educational Course
Advanced Neuroimaging 1: Brain & Spinal Cord

*Organizers:*Olga Ciccarelli, Ph.D., Pratik Mukherjee, M.D., Ph.D. & Jay J. Pillai, M.D.

Room 255 BC 09:00-17:15 *Morning Moderator:*Jay J. Pillai

Presurgical Brain Mapping 1

09:00 **Task-Based BOLD fMRI for Presurgical Brain Mapping**
Christoph Stippich, M.D.

09:30 **Resting State Functional Connectivity fMRI for Presurgical Brain Mapping**
Joshua S. Shimony, M.D., Ph.D.

10:00 **Diffusion Tractography: Technical Considerations for White Matter Mapping**
Lauren J. O'Donnell, Ph.D.

10:30 **Break - Meet the Teachers**

Presurgical Brain Mapping 2

11:00 **Intraoperative DTI White Matter Mapping: Neurosurgical Perspective**
Christopher Nimsky, M.D., Ph.D.

11:30 **DTI vs. HARDI for Presurgical Fiber Tracking of the Motor Pathways**
Jeffery I. Berman, Ph.D.

12:00 **Clinical Value of Mapping the Language Network with MR Diffusion Tractography**
Alberto Bizzi, M.D.

12:30 **Break - Meet the Teachers**

*Afternoon Moderator:*Olga Ciccarelli

Spinal Cord Imaging 1

13:30 **Spinal Cord Imaging: Diffusion & Ultra-High Field**
Julien Cohen-Adad, Ph.D.

14:00 **7T & Diffusion Imaging of the Cervical Spinal Cord**
Eric E. Sigmund, Ph.D.

14:30 **Functional MR Imaging of the Spinal Cord**
Patrick W. Stroman, Ph.D.

15:00 **Break - Meet the Teachers**

Spinal Cord Imaging 2

15:30 **Spinal Cord DTI: Applications to Multiple Sclerosis**
Daniel S. Reich, M.D., Ph.D.

16:00 **Clinical Spinal Cord Imaging: Connecting Emerging MRI Technologies to Unmet Clinical Needs**
Jonathan A. D. Farrell, Ph.D.

16:30 **Imaging Correlates of Spinal Cord Atrophy**
Govind Nair, Ph.D.

17:00 **Adjournment & Meet the Teachers**

Weekend Educational Course
MR Systems Engineering

*Organizers:*Richard W. Bowtell, Ph.D. & Michael S. Poole, Ph.D.
Room 250 BCEF 08:30-17:15 *Moderators:*Richard W. Bowtell & Michael S. Poole

System Overview & Magnets

08:30 **Overview of the MRI System**
Paul R. Harvey, Ph.D.

09:00 **Magnets**
Adrian Thomas, Ph.D.

09:30 **Siting the System**
Stuart Clare, Ph.D.

10:00 **Break - Meet the Teachers**

Shims, Gradients & Field Monitoring

10:30 **Shimming: Fields, Coils & Control**
Christoph Juchem, Ph.D.

11:00 **Gradient Systems**
Michael S. Poole, Ph.D.

11:30 **Field Monitoring & System Calibration**
Christoph Barmet, Ph.D.

12:00 **Break - Meet the Teachers**

Devices in the Scanner & Low Frequency Interactions

13:30 **Overview of Device Interactions**
Gregor Schaefers, Dipl.-Ing. (FH)

14:00 **kHz (Gradient) Interactions**
Blaine A. Chronik, Ph.D.

14:30 **Modeling Low Frequency Interactions**
Stuart R. Crozier, Ph.D., D.Eng.

15:00 **Break - Meet the Teachers**

RF & Console Electronics

15:30 **RF Power Amps**
Greig C. Scott, Ph.D.

16:00 **RF Preamps & Receive Chain Architecture**
Stephan Biber, Ph.D.

16:30 **Console Electronics**
Katsumi Kose, Ph.D.

17:00 **Adjournment & Meet the Teachers**

Weekend Educational Course
MR Physics for Physicists

*Organizers:*Xiaoping P. Hu, Ph.D., Jürgen R. Reichenbach, Ph.D. & Jianhui Zhong, Ph.D.

Room 251 BCEF 08:30-18:15 *Moderators:*Xiaoping P. Hu, Jürgen R. Reichenbach, Jianhui Zhong

NMR Physics: Firming Up the Foundations

08:30 **Quantum Mechanical Description of NMR - From Wave Function to Bloch Equation**
Michael H. Buonocore, M.D., Ph.D.

09:00 **Application of Quantum Mechanics & Statistical Mechanics: Equilibrium Magnetization, Relaxation & Density Matrix**
Adam W. Anderson, Ph.D.

09:30 **Practical Use of Multiple Quantum Coherences in Spectral Editing & 2D NMR**
Robin A. de Graaf, Ph.D.

10:00 **Break - Meet the Teachers**

10:30 **From Bloch Equation to MR contrasts: Relaxation & Physical bases of Tissue Contrast**
John C. Gore, Ph.D.

11:00 **Other Contrast: Polarization Transfer, Chemical Exchange & Magnetization Transfer**
Penny Anne Gowland, Ph.D.

11:30 **Bloch Equation in the Rotating Frame, Multidimensional Excitation**
V. Andrew Stenger, Ph.D.

12:00 **Bloch-Torrey Equation & Diffusion Imaging (DWI, DTI, q-Space Imaging)**
Jennifer A. McNab, Ph.D.

12:30 **Break - Meet the Teachers**

Electromagnetic Fields in MRI: From Theory to Practice

14:00 **Maxwell Equations & EM Modeling**
Frank Engelke, Ph.D.

14:30 **Static Magnetic Field: Magnetic Field (in)Homogeneity, Effects of Susceptibility, Demagnetizing Field & Lorentz Sphere**
José P. Marques, Ph.D.

15:00 **Understanding Gradients from an EM Perspective: (Gradient Linearity, Eddy Currents, Maxwell Terms & Peripheral Nerve Stimulation)**
Peter Dietz

15:30 **Break - Meet the Teachers**

16:00 **RF Field Generation, Coupling, Standing Wave Transmission**
David O. Brunner, Ph.D.

16:30 **RF Field Transmission: B_1-Field Non-Uniformity & SAR**
Brian K. Rutt, Ph.D.

17:00 **B_1-Shimming & Parallel Transmission**
Ulrich Katscher, Ph.D.

17:30 **The Reciprocity Principle in NMR Reception**
James Tropp, Ph.D.

18:00 **Adjournment & Meet the Teachers**

Weekend Educational Course
fMRI: From Basic to Intermediate Brain Connectivity, Part 1

*Organizers:*Manus J. Donahue, Ph.D. & Karla L. Miller, Ph.D.
Room 155 BC 13:30-18:15 *Moderators:*Manus J. Donahue & Jeroen C. W. Siero

Zero to Hero: Beginner's Crash Course

13:30 **The BOLD Effect & Its Use for Detecting Brain Activity**
Clarisse I. Mark, Ph.D.

14:00 **Acquisition, Reconstruction & Artefacts**
Hans Hoogduin, Ph.D.

14:30 **Data Analysis Basics**
Robert L. Barry, Ph.D.

15:00 **fMRI in Basic & Clinical Neuroscience**
Beau M. Ances, M.D., Ph.D.

15:30 **Break - Meet the Teachers**

Taking It Up A Notch: A Taster of Cutting-Edge Methods

16:00 **Neurovascular Coupling & Quantitation**
Anna Devor, Ph.D.

16:30 **Pushing Temporal & Spatial Resolution**
Pierre LeVan, Ph.D.

17:00 **Optical Measurements in Functional Neuroimaging**
Joseph P. Culver, Ph.D.

17:30 **Data Mash-Up: ERPs, EEG/MEG & Neurochemistry**
Matthew J. Brookes, Ph.D.

18:00 **Adjournment & Meet the Teachers**

Weekend Educational Course
Diffusion Goes Mad

*Organizers:*Adam W. Anderson, Ph.D. & Claudia A. Wheeler-Kingshott, Ph.D.
Room 151 AG 14:00-18:15 *Moderators:*Adam W. Anderson & Claudia A. Wheeler-Kingshott

14:00 **From Diffusion Weighting to the Diffusion Tensor Indices**
Gareth J. Barker, Ph.D.

14:20 **Advanced Models - Ball & Stick, Multi-Tensor, PASMRI & Etc…**
Noam Shemesh, Ph.D.

14:40 **q-Space & Microstructure**
Yaniv Assaf, Ph.D.

15:00 **Break - Meet the Teachers**

15:30 **Single Subject Diffusion Analysis - ROI, Histogram, Tractography**
Mara Cercignani, Ph.D.

15:50 **Distortion Correction & Registration Issues**
James C. Gee, Ph.D.

16:10 **Group Studies of Diffusion Data - Cross Sectional & Longitudinal Challenges**
Stephen M. Smith, D.Phil.

16:30 **Flip Charts - Meet the Experts**

18:00 **Adjournment & Meet the Teachers**

Weekend Educational Course
Molecular & Cellular Imaging: From Bench to the Bed

*Organizers:*Kevin M. Bennett, Ph.D. & Chris A. Flask, Ph.D.

Room 155 EF 08:30-16:45 *Moderators:*Kevin M. Bennett & Chris A. Flask

08:30 **Basic Relaxation Mechanisms & Contrast Agent Design**
A. Dean Sherry, Ph.D.

09:00 **Agent Synthesis**
Hui Mao, Ph.D.

09:30 **Switching & Sensing**
Mark D. Pagel, Ph.D.

10:00 **Break - Meet the Teachers**

10:30 **Targeting Agents**
David P. Cormode, D.Phil.

11:00 **Toxicity**
Erik M. Shapiro, Ph.D.

11:30 **Theranostic Probes for siRNA & MicroRNA Therapies**
Anna V. Moore, Ph.D.

12:00 **Break - Meet the Teachers**

13:30 **Technical Challenges to Detection**
Peter M. Jakob, Ph.D.

14:00 **Applications**
Christopher C. Quarles, Ph.D.

14:30 **Roundtable Discussion**

15:00 **Break - Meet the Teachers**

15:30 **Cell Delivery**
Jeff W. M. Bulte, Ph.D.

16:00 **Regulatory Challenges**
Zahi A. Fayad, Ph.D.

16:30 **Adjournment & Meet the Teachers**

Weekend Educational Course
Clinical Cancer MRI - Case-Based Teaching

*Organizers:*Elizabeth A. Morris, M.D., F.A.C.R. & Evis Sala, M.D., Ph.D.

Room 150 AG 08:30-17:15 *Moderators:*Fiona J. Gilbert & Elizabeth A. Morris

Cancer Detection Issues

08:30 **Finding Cancer in the Dense Breast: What Can MRI Add?**
Fiona J. Gilbert, M.D.

09:00 **Rising PSA: Is There A Cancer?**
Jurgen J. Fütterer, M.D., Ph.D.

09:30 **Cirrhotic Liver: What Is That Nodule?**
Claude B. Sirlin, M.D.

10:00 **Break - Meet the Teachers**

Characterization of Incidental Lesions

10:30 **Characterization of Cystic Abdominal Lesions**
Jay P. Heiken, M.D.

11:00 **Liver Lesions in Cancer Patients: What Are They?**
Jeong Min Lee, M.D.

11:30 **Incidental Adnexal Masses in Cancer Patients: Act, Ignore or Follow?**
Elizabeth A. Sadowski, M.D.

12:00 **Break - Meet the Teachers**

Response to Therapy

13:30 **Breast Cancer Response to NAC: How Reliable Is It?**
Nola M. Hylton, Ph.D.

14:00 **Bone Metastases Response to Therapy: MRI versus Nuc Med**
Christina Messiou, M.D., F.R.C.R.

14:30 **Measuring Response to Novel Therapies: Thinking Differently**
Mark Rosen,M.D., Ph.D.

15:00 **Break - Meet the Teachers**

Residual Disease versus Recurrence

15:30 **Rising PSA in the Treated Prostate Gland**
Aytekin Oto, M.D.

16:00 **Pain in the Treated Pelvis**
Yuliya Lakhman, M.D.

16:30 **The Role of Biological MR Imaging in the Treatment of Head & Neck Cancer**
Suresh Mukherji, M.D.

17:00 **Adjournment & Meet the Teachers**

Weekend Educational Course
Recent Innovation in Cardiac MR

*Organizers:*Tim Leiner, M.D., Ph.D., E.B.C.R., Thoralf Niendorf, Ph.D. & David E. Sosnovik, M.D., F.A.C.C.
Room 155 BC 08:00-18:00 *Morning Moderators:*Tim Leiner & Sebastian Kozerke

08:00 **Introduction to Today's Program & Survey**

Recent Developments in Hard- & Software Relevant to CMR

08:05 **New Developments in MR Hardware**
Boris R. Keil, Ph.D.

08:25 **New Sequences & Techniques**
Krishna S. Nayak, Ph.D.

08:45 **Parallel Acquisition & Compressed Sensing**
Sebastian Kozerke, Ph.D.

Evaluation of Cardiac Function

09:05 **The Evaluation of Cardiac Function - Unmet Needs**
Dara L. Kraitchman, V.M.D., Ph.D.

09:25 **Techniques to Image Cardiac Function**
Alistair A. Young, Ph.D.

09:45 **Research Promises: What Can We Expect in the Future? - Osman**
Nael F. Osman, Ph.D.

10:05 **Break - Meet the Teachers**

Evaluation of Cardiac Perfusion

10:20 **Clinical Needs: What Do We Want to See? - Carr**
James C. Carr, M.D.

10:40 **Technical Foundations: How is It Done? - Jerosch-Herold**
Michael Jerosch-Herold, Ph.D.

11:00 **Research Promises: What Can We Expect in the Future? - Meyer**
Craig H. Meyer, Ph.D.

Myocardial Tissue Characterization

11:20 **Clinical Needs: What Do We Want to See? - Sosnovik**
David E. Sosnovik, M.D., F.A.C.C.

11:40 **Technical Foundations: How is It Done? - Simonetti**
Orlando P. Simonetti, Ph.D.

12:00 **Research Promises: What Can We Expect in the Future? - Strijkers**
Gustav J. Strijkers, Ph.D.

12:20 **Break - Meet the Teachers**

Afternoon Moderators: Michael Salerno & David E. Sosnovik

Evaluation of Flow

13:30 **Clinical Needs: What Do We Want to See? - Hope**
Michael D. Hope, M.D.

13:50 **Technical Foundations: How is It Done? - Westenberg**
Jos J. M. Westenberg, Ph.D.

14:10 **Research Promises: What Can We Expect in the Future? - Wieben**
Oliver Wieben, Ph.D.

Magnetic Resonance Angiography

14:30 **State-of-the-Art NCE-MRA: Goodbye to Gad**
Vivian S. Lee, M.D., Ph.D., M.B.A.

14:50 **Not So Fast: Recent Advances in CE-MRA**
Ulrike I. Attenberger, M.D.

15:10 **Best of Both Worlds**
Jeffrey H. Maki, M.D., Ph.D.

15:30 **Break - Meet the Teachers**

CMR in Clinical Trials

15:45 **The Value of CMR Over Other Modalities in Clinical Trials**
Chun Yuan, Ph.D.

16:05 **Prognostic Value of CMR Versus Traditional Risk Factors**
David A. Bluemke, M.D., Ph.D.

16:25 **Implications of Recent Trials for CMR**
Victor A. Ferrari, M.D.

New & Emerging Techniques in CV-MR

16:45 **Fluorine-19**
Shelton D. Caruthers, Ph.D.

17:05 **Carbon-13**
Charles H. Cunningham, Ph.D.

17:25 **MR-PET**
Timothy G. Reese, Ph.D.

17:45 **Adjournment & Meet the Teachers**

Weekend Educational Course
Everything You Wanted to Know about MR-PET

*Organizers:*Roland Bammer, Ph.D. & Marco Essig, M.D., Ph.D.

Room 151 AG 08:00-12:15 *Moderators:*Roland Bammer & Marco Essig

08:00 **PET-Instrumentation 101**
William W. Moses, Ph.D.

08:20 **PET-Reconstruction 101**
Richard M. Leahy, Ph.D.

08:40 **Tracer 101**
Frederick T. Chin, Ph.D.

09:00 **PET-MR Hardware 101**
Craig Levin, Ph.D.

09:20 **PET-MR Reconstruction**
Georges El Fakhri, Ph.D.

09:40 **PET-MR Logistic Challenges & Opportunities**
N. Jon Shah, Ph.D.

10:00 **Break - Meet the Teachers**

10:20 **PET-MR in Drug Research**
Alexander J. S. de Crespigny, Ph.D.

10:40 **PET-MR in Oncology**
Nina F. Schwenzer, M.D.

11:00 **PET-MR in Neuro**
Ciprian Catana, M.D., Ph.D.

11:20 **Body PET-MR**
Alexander S. R. Guimaraes, M.D., Ph.D.

11:40 **Cardio-Pulmonary MR-PET**
Ron Blankstein, M.D.

12:00 **Adjournment & Meet the Teachers**

Weekend Educational Course
Advanced Diffusion Acquisition: Targeted Methods

*Organizers:*Adam W. Anderson, Ph.D. & David Sosnovik, M.D., F.A.C.C.
Room 255 EF 08:00-12:45 *Moderators:*Adam W. Anderson & David E. Sosnovik

08:00 **Heart**
Choukri Mekkaoui, Ph.D.

08:25 **Skeletal Muscle**
John S. Thornton, Ph.D.

08:50 **Abdomen/Pelvis**
Thomas L. Chenevert, Ph.D.

09:15 **Breast**
Savannah C. Partridge, Ph.D.

09:40 **Break - Meet the Teachers**

10:05 **Spinal Cord/Nerve Roots**
Jürgen Finsterbusch, Ph.D.

10:30 **Intervertebral Discs/Cartilage**
Jose Maria G. Raya, Ph.D.

10:55 **Fetal Brain**
Patricia Ellen Grant, M.D.

11:20 **Post Mortem Brain**
Tim B. Dyrby, Ph.D.

11:55 **2D versus 3D Acquisition Strategies**
Stefan Skare, Ph.D.

12:20 **Closing Remarks**

12:30 **Adjournment & Meet the Teachers**

Weekend Educational Course
Advanced Neuroimaging 2: Across the Lifespan

Organizers: Nadine J. Girard, M.D. & Rakesh K. Gupta, M.D.

Room 255 BC 09:00-17:15 *Moderators:* Nadine J. Girard & Rakesh K. Gupta

Fetal or Neonatal Imaging

09:00 **Developmental Neuroanatomy**
Orit A. Glenn, M.D.

09:30 **Hypoxic-Ischemic Encephalopathy**
Petra S. Hüppi, M.D.

10:00 **Neonatal Seizures**
Thierry A. G. M. Huisman, M.D.

10:30 **Break - Meet the Teachers**

Pediatric Neuroimaging

11:00 **CNS Infections**
Niranjan Khandelwal, M.D.

11:30 **Inflammatory Disorders**
Ashok Panigrahy, M.D.

12:00 **Metabolic Disorders**
C. C. Tchoyoson Lim, M.D., M.B.B.S.

12:30 **Break - Meet the Teachers**

Adult Neuroimaging: CBF/CSF, Flow/ICP

13:30 **From CSF Pulsation to MR Measurement of ICP: Methodology & Potential Applications**
Noam Alperin, Ph.D.

14:00 **CSF Physiology & Its Relationship to ICP**
Mark E. Wagshul, Ph.D.

14:30 **Beyond 4D MRA**
Patrick A. Turski, M.D.

15:00 **Break - Meet the Teachers**

Geriatric Neuroimaging

15:30 **Normal Pressure Hydrocephalus**
William G. Bradley, Jr., M.D., Ph.D.

16:00 **White Matter Diseases of Aging**
Maria A. Rocca, M.D.

16:30 **Differential Diagnosis of Neurodegenerative Disorders**
Marco Essig, M.D., Ph.D.

17:00 **Adjournment & Meet the Teachers**

Weekend Educational Course
RF Engineering - Coils

*Organizer:*Tamer S. Ibrahim, Ph.D.
Room 250 BCEF 08:30-16:45 *Moderator:*Tamer S. Ibrahim

RF Basics

08:30 **Circuit & Transmission Lines**
Scott B. King, Ph.D.

09:00 **Volume & Surface Coils**
Ed B. Boskamp, Ph.D.

09:30 **Multi-Tuned Coils**
Dennis W. J. Klomp, Ph.D.

10:00 **Break - Meet the Teachers**

RF Arrays

10:30 **Receive Arrays**
Steven M. Wright, Ph.D.

11:00 **Transmit Arrays**
Mark E. Ladd, Ph.D.

11:30 **RF Modeling**
Astrid L. H. M. van Lier, Ph.D.,

12:00 **Break - Meet the Teachers**

Emerging RF Coils & Technologies

14:00 **Cavity Resonators - Theory & Possibilities for MRI**
Andrew G. Webb, Ph.D.

14:30 **Asymmetric Coils & Travelling Waves**
Nicola F. De Zanche, Ph.D.

15:00 **Break - Meet the Teachers**

Live Construction of Coils

15:30 **Construction of RX Arrays**
Boris R. Keil, Ph.D.

16:30 **Adjournment & Meet the Teachers**

Weekend Educational Course
Imaging Acquisition & Reconstruction

*Organizers:*David O. Brunner, Ph.D., Kevin F. King, Ph.D. & Xiaohong Joe Zhou, Ph.D.
Room 251 BCEF 08:30-17:45 *Morning Moderators:*Peter Börnert & Xiaohong Joe Zhou

Pulse Sequence Building Blocks

08:30 **RF Pulses Designs: From Basics to the State-of-the-Art**
Adam B. Kerr, Ph.D.

09:00 **Gradients: What Can They Do?**
Chen Lin, Ph.D.

09:30 **Dealing with Motion: Gating, Triggering & Sampling**
Christopher J. Hardy, Ph.D.

10:00 **Break - Meet the Teachers**

Contrast Manipulation

10:30 **Pulse Sequence Modules I (IR, DE, Spatial SAT & Chem SAT)**
Graeme C. McKinnon, Ph.D.

11:00 **Pulse Sequence Modules II (Tagging, Labeling, Diffusion Sensitization & MT)**
Eric C. Wong, M.D., Ph.D.

11:30 **Flow Contrast without Using Exogenous Agent**
Yiping P. Du, Ph.D.

12:00 **Break - Meet the Teachers**

*Afternoon Moderators:*David O. Brunner & Kevin F. King

Advanced Acquisition Strategies

13:30 **Echo-Train Pulse Sequences: EPI, RARE & Beyond**
David C. Alsop, Ph.D.

14:00 **Non-Cartesian k-Space Sampling**
James G. Pipe, Ph.D.

14:30 **Spoiled & Balanced Gradient-Echo Sequences**
Klaus Scheffler, Ph.D.

15:00 **Break - Meet the Teachers**

Image Reconstruction

15:30 **Reconstruction of Non-Cartesian k-Space Data**
John M. Pauly, Ph.D.

16:00 **Parallel Image Reconstruction**
Mark A. Griswold, Ph.D.

16:30 **Phase-sensitive Image Reconstruction**
Qing-San Xiang, Ph.D.

17:00 **Compressed Sensing**
Michael Lustig, Ph.D.

17:30 **Adjournment & Meet the Teachers**

Silver Corporate Symposium: Bayer Healthcare

Plenary Hall 12:30-13:30 *(no CME credit)*

Weekend Educational Course
A Practical Guide to MR Safety

*Organizers:*Michael Bock, Ph.D. & Mark E. Ladd, Ph.D.

Room 151 AG 13:30-17:45 *Moderators:*Christopher M. Collins & Mark E. Ladd

13:30 **MR Safety: Where Do the Risks Come From?**
Harald Kugel, Ph.D.

14:00 **Planning an MR Suite: What Can Be Done To Ensure MR Safety?**
Emanuel Kanal, M.D., F.A.C.R.

14:30 **Screening the Patient: How to Deal with the Individual Subject**
Anne Marie Sawyer, B.S., R.T.(R)(MR), FSMRT

15:00 **Break - Meet the Teachers**

15:30 **High Field MRI: What Are the Special Safety Risks at Higher Fields?**
Richard W. Bowtell, Ph.D.

16:00 **Contrast Agent Use in the Age of NSF**
Stefan Haneder, M.D.

16:30 **MR Safety Testing of Devices: How to Separate the Good From the Bad & the Ugly**
Roger Luechinger, Ph.D.

17:00 **MRI Safety Events: Lessons Learned**
Robert E. Watson, M.D., Ph.D.

17:30 **Adjournment & Meet the Teachers**

Weekend Educational Course
fMRI: From Basic to Intermediate Brain Connectivity, Part 2

*Organizers:*Manus J. Donahue, Ph.D. & Karla L. Miller, Ph.D.
Room 255 EF 13:30-18:15 *Moderators:*Manus J. Donahue & Karla L. Miller

fMRI for Connectivity

13:30 **Task-Less fMRI: The Phenomenon of Intrinsic Signal Fluctuations**
Catherine E. Chang, Ph.D.

14:00 **Network Discovery with fMRI: Analytic Choices & Their Implications**
Vince D. Calhoun, Ph.D.

14:30 **Using Task-Absent Functional Neuroimaging to Study Brain Function**
Arno Villringer, M.D.

15:00 **Connectomics: Parcellation & Network Analysis Methods**
Gael Varoquaux, Ph.D.

15:30 **Break - Meet the Teachers**

Connectivity in Practice

16:00 **Diseases of Connectivity**
Francioso Xavier Castellanos, M.D.

16:30 **Connectivity Studies in Large Populations: Towards Defining Disease Mechanisms & Risk**
Paul M. Matthews, Ph.D., D.Phil.

Roundtable: What Can Connectivity Contribute to Basic Neuroscience, Disease Mechanisms & Clinical Practice?

17:00 **Current Limitations, Pitfalls & Criticisms**
Gael Varoquaux, Ph.D.

17:05 **Connectivity in Basic Neuroscience**
Arno Villringer, M.D.

17:10 **Connectivity for Disease Mechanisms**
Paul M. Matthews, Ph.D., D.Phil.

17:15 **Connectivity in the Clinic**
Francioso Xavier Castellanos, M.D.

17:20 **Roundtable Discussion**
All Speakers

18:00 **Adjournment & Meet the Teachers**

Opening Reception in Technical Exhibition

Exhibition Hall 17:45-19:15

Plenary Session

Plenary Hall 07:30-10:20

07:30 **Welcome & Awards**
Thomas M. Grist, M.D., F.A.C.R., 2012-13 ISMRM President

08:20 **Lauterbur Lecture: Beyond Fourier Encoding: The Need, The Challenges & The Rewards of Breaking Out of K-Space**
Klaas Pruessmann, Ph.D.

Panning for Gold: 20 Years of Innovation in MRI

*Organizers:*Garry E. Gold, M.D. & Thomas M. Grist, M.D., F.A.C.R.

09:05 **0001.** **Surface Coils**
Joseph J. H. Ackerman, Ph.D.

09:20 **0002.** **Inversion Recovery & Early Contrast Studies in the Brain: A Brief History**
Ian R. Young, Ph.D.

09:35 **0003.** **Contrast MR Angiography**
Martin R. Prince, M.D., Ph.D.

09:50 **0004.** **Excitation K-Space & uTE MRI**
John M. Pauly, Ph.D.

10:05 **0005.** **Fast Spin Echo**
Jürgen K. Hennig, Ph.D.

10:20 **Adjournment**

Traditional Poster Session: Cardiovascular

Exhibition Hall 10:45-12:45 *(no CME credit)*

Electronic Poster Session: Neuro A

Exhibition Hall 10:45-12:45 *(no CME credit)*

Study Group Session: Interventional MRI

Room 155 ABC 10:45-12:45 *(no CME credit)*

Study Group Session: Hyperpolarized Media MR

Room 254 ABC 10:45-12:45 *(no CME credit)*

Young Investigator Award Presentations

Room 150 AG 10:45-12:45 *Moderators:*James F. M. Meaney & Karla L. Miller

10:45 **0006.** **Regional Mapping of Gas Uptake by Red Blood Cells and Tissue in the Human Lung Using Hyperpolarized Xenon-129 MRI**

ISMRM MERIT AWARD summa cum laude

Kun Qing[1], Kai Ruppert[2], Yun Jiang[3], Jaime F. Mata[2], G Wilson Miller[2], Yun Michael Shim[4], Chengbo Wang[2], Iulian C. Ruset[5, 6], F. William Hersman[5, 6], Talissa A. Altes[2], John P. Mugler, III[1, 2]
[1]Biomedical Engineering, University of Virginia, Charlottesville, VA, United States; [2]Radiology and Medical Imaging, University of Virginia, Charlottesville, VA, United States; [3]Biomedical Engineering, Case Western Reserve University, Cleveland, OH, United States; [4]Medicine, Pulmonary and Critical Care, University of Virginia School of Medicine, Charlottesville, VA, United States; [5]Xemed LLC, Durham, NH, United States; [6]Physics, University of New Hampshire, Durham, NH, United States

11:05 **0007.** **Dynamic Imaging of the Fetal Heart Using Metric Optimized Gating**
Christopher W. Roy[1], Mike Seed[2, 3], Joshua F. P. van Amerom[1, 3], Bahiyah Al Nafisi[2], Lars Grosse-Wortmann[2, 3], Shi-Joon Yoo[2, 3], Christopher K. Macgowan[1, 3]
[1]Medical Biophysics and Medical Imaging, University of Toronto, Toronto, Ontario, Canada; [2]Labatt Family Heart Centre, Division of Cardiology, Department of Paediatrics, The Hospital for Sick Children, Toronto, Ontario, Canada; [3]Diagnostic Imaging, The Hospital for Sick Children, University of Toronto

11:25 **0008.** **3D Hemodynamics in Intracranial Aneurysms: Influence of Size and Morphology**
Susanne Schnell[1], Sameer A. Ansari[1, 2], Parmede Vakil[1, 3], Marie Wasilewski[1], Maria L. Carr[1], Michael C. Hurley[1, 2], Bernard R. Bendok[2], Hunt Batjer[2], Timothy J. Carroll[1, 3], James C. Carr[1], Michael Markl[1, 3]
[1]Radiology, Northwestern University, Chicago, IL, United States; [2]Neurological Surgery, Northwestern University, Chicago, IL, United States; [3]Biomedical Engineering, Northwestern University, Evanston, IL, United States

11:45 **0009.** **Multi-Slice Cardiac Arterial Spin Labelling Using Improved Myocardial Perfusion Quantification with Simultaneously Measured Blood Pool Input Function**
Adrienne E. Campbell-Washburn[1, 2], Hui Zhang[3], Bernard M. Siow[1, 3], Anthony N. Price[4], Mark F. Lythgoe[1], Roger J. Ordidge[5], David L. Thomas[6]
[1]Centre for Advanced Biomedical Imaging, Division of Medicine and Institute of Child Health, University College London, London, United Kingdom; [2]Department of Medical Physics and Bioengineering, University College London, London, United Kingdom; [3]Centre for Medical Image Computing, Department of Computer Science, University College London, London, United Kingdom; [4]Division of Imaging Sciences and Biomedical Engineering, King's College London, London, United Kingdom; [5]Centre for Neuroscience, University of Melbourne, Melbourne, Victoria, Australia; [6]Brain Repair and Rehabilitation, Institute of Neurology, University College London, London, United Kingdom

12:05 **0010.** **Joint K-T Reconstruction and Oversampled Spirals for Single-Shot 2D Spatial/1D Spectral Imaging of ^{13}C Dynamics**
ISMRM MERIT AWARD magna cum laude
Jeremy W. Gordon[1], David J. Niles[1], Sean B. Fain[1, 2], Kevin M. Johnson[1]
[1]Medical Physics, University of Wisconsin-Madison, Madison, WI, United States; [2]Radiology, University of Wisconsin-Madison, Madison, WI, United States

12:25 **0011.** **A New Approach to Shimming: The Dynamically Controlled Adaptive Current Network**
ISMRM MERIT AWARD summa cum laude
Chad Tyler Harris[1], William B. Handler[1], Blaine A. Chronik[1, 2]
[1]Physics and Astronomy, Western University, London, Ontario, Canada; [2]Imaging Research Laboratories, Robarts Research Institute, London, Ontario, Canada

Extreme Encoding Methods

Room 151 AG 10:45-12:45 *Moderators:* R. Todd Constable & Mark A. Griswold

10:45 **0012.** **Reduced-FOV Imaging with *E*xcitation Using *N*onli*n*ear *G*radient *Ma*gnetic Fields (ENiGMa)**
ISMRM MERIT AWARD summa cum laude
Emre Kopanoglu[1], Ergin Atalar[2], Robert Todd Constable[3]
[1]Diagnostic Radiology, Yale University School of Medicine, New Haven, CT, United States; [2]UMRAM, Bilkent University, Ankara, Turkey; [3]Diagnostic Radiology, Yale University, New Haven, CT, United States

10:57 **0013.** **Ultrafast Single Shot Imaging with Rotating Nonlinear Fields**
Gigi Galiana[1], Robert Todd Constable[1]
[1]Diagnostic Radiology, Yale University, New Haven, CT, United States

11:09 **0014.** **A 3-Axis Phase Gradient Array for RF Encoded MRI Using the TRASE Method**
Jonathan C. Sharp[1], Qunli Deng[1], Scott B. King[2], Vyacheslav Volotovskyy[2], Boguslaw Tomanek[1]
[1]National Research Council of Canada, Calgary, Alberta, Canada; [2]National Research Council of Canada, Winnipeg, Manitoba, Canada

11:21 **0015.** **Shear Wave Imaging by Using B_1 Gradients**
ISMRM MERIT AWARD summa cum laude
Esra Turk[1, 2], Yusuf Ziya Ider[1], Arif Sanli Ergun[3], Taner Demir[2], Ergin Atalar[1, 2]
[1]Electrical and Electronics Engineering Department, Bilkent University, Ankara, Turkey; [2]National Magnetic Resonance Research Center (UMRAM), Ankara, Turkey; [3]Electrical and Electronics Engineering Department, TOBB-University of Economics and Technology, Ankara, Turkey

11:33 **0016.** **3D Imaging with Multidimensional Nonlinear Encoding**
Maxim Zaitsev[1], Sebastian Littin[1], Anna M. Welz[1], Feng Jia[1], Chris A. Cocosco[1], Andrew Dewdney[2], Gerrit Schultz[1], Jürgen Hennig[1]
[1]Radiology, Medical Physics, University Medical Center Freiburg, Freiburg, Germany; [2]Healthcare Sector, Siemens AG, Erlangen, Germany

11:45 **0017.** **MRI by Steering Resonance Through Space**
Angela Lynn Styczynski Snyder[1], Curtis Andrew Corum[1], Steen Moeller[1], Nathaniel J. Powell[2], Michael Garwood[1]
[1]Department of Radiology, University of Minnesota, Minneapolis, MN, United States; [2]Department of Neuroscience, University of Minnesota, Minneapolis, MN, United States

11:57 **0018.** **MR Fingerprinting: Rapid Simultaneous Quantification of T1, T2, Proton Density and Off-Resonance Using a Spiral Trajectory**
ISMRM MERIT AWARD summa cum laude
Dan Ma[1], Vikas Gulani[2], Nicole Seiberlich[1], Jeffrey Duerk[3], Mark A. Griswold[2]
[1]Biomedical Engineering, Case Western Reserve University, Cleveland, OH, United States; [2]Radiology, Case Western Reserve University, Cleveland, OH, United States; [3]School of Engineering, Case Western Reserve University, Cleveland, OH, United States

12:09 **0019.** **MR Fingerprinting Using Spiral QUEST**
ISMRM MERIT AWARD magna cum laude
Yun Jiang[1], Dan Ma[1], Renate Jerecic[2], Vikas Gulani, [13], Nicole Seiberlich[1], Jeffrey Durek[3, 4], Mark A. Griswold[1, 3]
[1]Department of Biomedical Engineering, Case Western Reserve University, Cleveland, OH, United States; [2]Siemens AG,Healthcare Sector, Erlangen, Germany; [3]Department of Radiology, Case Western Reserve University, Cleveland, OH, United States; [4]Case School of Engineering, Case Western Reserve University, Cleveland, OH, United States

12:21 **0020.** **Overhauser Enhanced MR Elastography at Very Low Field**
ISMRM MERIT AWARD summa cum laude
Najat Salameh[1, 2], Mathieu Sarracanie, [23], Brandon Dean Armstrong, [23], Arnaud Comment[4], Matthew S. Rosen, [23]
[1]Institut de Physique des Systèmes Biologiques, EPFL, Lausanne, Switzerland; [2]Martinos Center for Biomedical Imaging, Charlestown, MA, United States; [3]Department of Physics, Harvard University, Cambridge, MA, United States; [4]Institut de Physique des Systèmes Biologiques, Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland

12:33 **0021.** **Driver-Free Assessment of Liver Stiffness Using Fast Strain-Encoded (FSENC) MRI**
ISMRM MERIT AWARD magna cum laude
Ahmed A. Harouni[1], Ahmed M. Gharib[2], Nael F. Osman[3], Roderic I. Pettigrew[2], Khaled Z. Abd-Elmoniem[2]
[1]Clinical Center, National Institutes of Health, Bethesda, MD, United States; [2]NIDDK, National Institutes of Health, Bethesda, MD, United States; [3]Russell H. Morgan Department of Radiology, Johns Hopkins University School of Medicine, Baltimore, MD, United States

Renal MRI

Room 155 EF 10:45-12:45 *Moderators:* Andrew B. Rosenkrantz & Shreyas S. Vasanawala

10:45 **0022.** **Renal Diffusion and Perfusion in Cardiorenal Syndrome.**
ISMRM MERIT AWARD summa cum laude
Nur Farhayu Omar[1], Eleanor F. Cox[1], Tobias Breidthardt[2], Iain B. Squire[3], Aghogho Odudu[4], Mohamed Tarek Eldehni[4], Chris McIntyre[4], Susan T. Francis[1]
[1]Sir Peter Mansfield Magnetic Resonance Centre, University of Nottingham, Nottingham, Nottinghamshire, United Kingdom; [2]Department of Nephrology, University Hospital Basel, Basel, Switzerland; [3]Department of Cardiovascular Sciences, University of Leicester, Leicester, Leicestershire, United Kingdom; [4]Department of Renal Medicine, Royal Derby Hospital, Derby, Derbyshire, United Kingdom

10:57 **0023.** **Susceptibility Tensor Imaging of the Renal Tubule**
ISMRM MERIT AWARD summa cum laude
Luke Xie[1, 2], Russell Dibb[1, 2], Wei Li[3], Chunlei Liu, [23], G. Allan Johnson[1, 2]
[1]Department of Biomedical Engineering, Duke University, Durham, NC, United States; [2]Center for In Vivo Microscopy, Duke University Medical Center, Durham, NC, United States; [3]Brain Imaging Analysis Center, Duke University Medical Center, Durham, NC, United States

11:09 **0024.** **Changes in Intrarenal Oxygenation as Evaluated by BOLD MRI in a Rat Biliary Obstruction Model**
Mingshu Yang[1], Min Ji[1], Bin Yang[1], Li Wang[1], Chunmei Xia[2], Lixia Yang[3], Zhongwei Qiao[1], Ed X. Wu[4]
[1]Department of Radiology, Children Hospital of Fudan University, Shanghai, China; [2]Department of Physiology and Pathophysiology, Fudan University, Shanghai, China; [3]Department of Radiology, Xuhui Center Hospital, Shanghai, China; [4]Department of Electrical and Electronic Engineering, The University of Hong Kong, Hong Kong, China

11:21 **0025.** **Effects of an X-Ray Contrast Medium Administration on Renal T_2* and T_2**
Andreas Pohlmann[1], Karen Arakelyan[1, 2], Kathleen Cantow[2], Jan Hentschel[1], Bert Flemming[2], Mechthild Ladwig[2], Erdmann Seeliger[2], Thoralf Niendorf[1, 3]
[1]Berlin Ultrahigh Field Facility (B.U.F.F.), Max-Delbrueck Center for Molecular Medicine, Berlin, Germany; [2]Institute of Physiology, Center for Cardiovascular Research, Charité, Berlin, Germany; [3]Experimental and Clinical Research Center, a cooperation between the Charité Medical Faculty and the Max Delbrück Center for Molecular Medicine, Berlin, Germany

11:33 **0026.** **Evaluation of Nephrotoxicity of Iso- Versus Low-Osmolar Iodine Contrast Media by BOLD and Diffusion-Weighted MR Imaging**
Yuan-Cheng Wang[1], Shenghong Ju[1], Gao-Jun Teng[1]
[1]Zhongda Hospital, Medical School, Southeast University, Nanjing, Jiangsu, China

11:45 **0027.** **High Temporal Resolution Mouse Renal Blood Flow (RBF) Imaging with Pseudo-Continuous ASL (PCASL) at Very High Field**
Guillaume Duhamel[1], Valentin Prevost[1], Olivier M. Girard[1], Virginie Callot[1], Patrick J. Cozzone[1]
[1]CRMBM / CNRS 7339, Aix-Marseille University, Marseille, France

11:57 **0028.** **Assessment of Experimental Acute Kidney Injury by Fast Interleaved Monitoring of T2* and T2**
Andreas Pohlmann[1], Jan Hentschel[1], Mandy Fechner[2], Uwe Hoff[2], Gordana Bubalo[2], Karen Arakelyan[1, 3], Kathleen Cantow[3], Erdmann Seeliger[3], Bert Flemming[3], Lajos Marko[4], Helmar Waiczies[1, 5], Sonia Waiczies[1, 5], Wolf Hagen Schunck[4], Dominik N. Mueller[4, 6], Duska Dragun[2], Thoralf Niendorf[1, 5]
[1]Berlin Ultrahigh Field Facility (B.U.F.F.), Max-Delbrueck Center for Molecular Medicine, Berlin, Germany; [2]Nephrology and Intensive Care Medicine, Center for Cardiovascular Research, Charité, Berlin, Germany; [3]Institute of Physiology, Center for Cardiovascular Research, Charité, Berlin, Germany; [4]Max Delbrück Center for Molecular Medicine, Berlin, Germany; [5]Experimental and Clinical Research Center, a cooperation between the Charité Medical Faculty and the Max Delbrück Center for Molecular Medicine, Berlin, Germany; [6]Nikolaus-Fiebiger-Center, Friedrich-Alexander-University, Erlangen-Nürnberg, Germany

12:09 **0029.** **Combination of Non-Invasive Parametric MRI and Invasive Physiological Measurements: Towards a Hybrid and Integrated Approach for Investigation of Acute Kidney Injury**
ISMRM MERIT AWARD magna cum laude
Jan Hentschel[1], Kathleen Cantow[2], Andreas Pohlmann[1], Karen Arakelyan, [12], Bert Flemming[2], Mechthild Ladwig[2], Erdmann Seeliger[2], Uwe Hoff[3], Pontus B. Persson[2], Thoralf Niendorf[1, 4]
[1]Berlin Ultrahigh Field Facility (B.U.F.F.), Max Delbrueck Center for Molecular Medicine, Berlin, Germany; [2]Institut für Vegetative Physiologie, Charité Campus Mitte, Berlin, Germany; [3]Nephrology and Intensive Care Medicine, , Charité – Universitätsmedizin Berlin, Campus Virchow- Klinikum, Berlin, Germany; [4]Experimental and Clinical Research Center a joint cooperation between the Charité Medical Faculty, and the Max-Delbrueck Center for Molecular Medicine, Berlin, Germany

12:21 **0030.** **Feasibility of Single Breath-Hold Renal Perfusion Imaging at 7T**
Xiufeng Li[1], Carl Snyder[1], Pierre-Francois Van de Moortele[1], Kamil Ugurbil[1], Gregory J. Metzger[1]
[1]Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, MN, United States

12:33 **0031.** **Arterial Spin Labeling for Quantification and Monitoring of Renal Blood Flow Changes After Acute Kidney Injury in Mice – Comparison with Histopathology and Renal Function**
ISMRM MERIT AWARD magna cum laude
Katja Hueper[1], Marcel Gutberlet[1], Dagmar Hartung[1], Song Rong[2], Hermann Haller[2], Martin Meier[3], Frank Wacker[1], Faikah Gueler[2]
[1]Radiology, Hannover Medical School, Hannover, Germany; [2]Nephrology, Hannover Medical School, Hannover, Germany; [3]Institute of Animal Science, Hannover Medical School, Hannover, Germany

fMRI Connectivity: Mechanisms & Analysis

Room 255 EF 10:45-12:45 *Moderators:* Xiaoping P. Hu & Ed X. Wu

10:45 **0032.** **Anatomical/Axonal Basis and Plasticity of Resting-State fMRI Connectivity in an Experimental Model of Corpus Callosum Transection**
ISMRM MERIT AWARD magna cum laude
Iris Y. Zhou[1, 2], Y. X. Liang[3], Russell W. Chan[1, 2], Shujuan Fan[1, 2], Patrick P. Gao[1, 2], Joe S. Cheng[1, 2], K. F. So[3], Ed X. Wu[1, 2]
[1]Laboratory of Biomedical Imaging and Signal Processing, The University of Hong Kong, Hong Kong SAR, China; [2]Department of Electrical and Electronic Engineering, The University of Hong Kong, Hong Kong SAR, China; [3]Department of Anatomy, The University of Hong Kong, Hong Kong SAR, China

10:57 **0033.** **Caffeine-Induced Reductions in the Resting-State fMRI Global Signal Reflect Increases in EEG Vigilance Measures**

ISMRM MERIT AWARD magna cum laude

Chi Wah Wong[1], Valur Olafsson[1], Omer Tal[1], Thomas Liu[1]
[1]Center for Functional MRI, University of California San Diego, La Jolla, CA, United States

11:09 **0034.** **Clustered Spontaneous Coordinated Network Events Contribute to Functional Connectivity**

ISMRM MERIT AWARD magna cum laude

Thomas Allan[1], Matthew J. Brookes[1], Susan T. Francis[1], Penelope A. Gowland[1]
[1]SPMMRC, University of Nottingham, Nottingham, Nottinghamshire, United Kingdom

11:21 **0035.** **Multiple Time Scale Complexity Analysis of Resting State Fluctuations**

ISMRM MERIT AWARD magna cum laude

Robert Smith[1]
[1]Neurology, UCLA, Los Angeles, CA, United States

11:33 **0036.** **Finite Number of Brain Network Configurations Revealed from Time-Varying Connectivity Assessment of Resting State fMRI**

ISMRM MERIT AWARD magna cum laude

Hao Jia[1], Xiaoping P. Hu[2], Gopikrishna Deshpande[1, 3]
[1]AU MRI research center, ECE dept., Auburn University, Auburn, AL, United States; [2]Coulter Dept. of Biomedical Engineering, Georgia Institute of Technology & Emory Univeristy, Atlanta, GA, United States; [3]Dept. of Psychology, Auburn University, Auburn, AL, United States

11:45 **0037.** **Investigation of the Neural Basis of the Default Mode Network Using Parallel Independent Component Analysis of Simultaneous EEG/fMRI Data**

ISMRM MERIT AWARD summa cum laude

Sreenath Pruthviraj Kyathanahally[1], Nurhan Erbil[1], Vince D. Calhoun[2, 3], Gopikrishna Deshpande[1, 4]
[1]AU MRI Research Center, Department of Electrical and Computer Engineering, Auburn University, Auburn, AL, United States; [2]The Mind Research Network and Lovelace Biomedical and Environmental Research Institute, Albuquerque, NM, United States; [3]Department of Electrical and Computer Engineering, University of New Mexico, Albuquerque, AL, United States; [4]Department of Psychology, Auburn University, Auburn, AL, United States

11:57 **0038.** **Intrinsic Connectivity Network Activity Revealed by the Independent Modelling of the Primary and Post-Stimulus Components of the BOLD Response**

ISMRM MERIT AWARD summa cum laude

Karen J. Mullinger[1], Stephen D. Mayhew[2], Andrew P. Bagshaw[2], Richard W. Bowtell[3], Susan T. Francis[3]
[1]SPMMRC, School of Physics and Astronomy , University of Nottingham, Nottingham, United Kingdom; [2]BUIC, School of Psychology, University of Birmingham, Birmingham, United Kingdom; [3]SPMMRC, School of Physics and Astronomy, University of Nottingham, Nottingham, United Kingdom

12:09 **0039.** **Spontaneous Co-Activation Patterns of the Brain Revealed by Selectively Averaging Resting-State fMRI Volumes**

Xiao Liu[1], Catie Chang[1], Jeff H. Duyn[1]
[1]Advanced MRI section, LFMI, NINDS, National Institutes of Health, Bethesda, MD, United States

12:21 **0040.** **Resting Brain Networks Revealed by Independent Component Analysis of Cerebral Blood Flow**

ISMRM MERIT AWARD summa cum laude

Senhua Zhu[1, 2], Zhuo Fang[1, 2], Siyuan Hu[3], Marc Korczykowski[2], Ze Wang[2], John A. Detre[2], Hengyi Rao, [12]
[1]Psychology, Sun Yat-sen University, Guangzhou, Guangdong, China; [2]Center for Functional Neuroimaging, University of Pennsylvania, Philadelphia, PA, United States; [3]State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China

12:33 **0041.** **Resting-State fMRI at 4 Hz**

Ying-Hua Chu[1], Jyrki Ahveninen[2], Tommi Raij[2], Wen-Jui Kuo[3], John W. Belliveau[2], Fa-Hsuan Lin[1]
[1]Institute of Biomedical Engineering, National Taiwan University, Taipei, Taiwan; [2]A. A. Martinos Center, Massachusetts General Hospital, Charlestown, MA, United States; [3]Institute of Neuroscience, National Yang-Ming University, Taipei, Taiwan

Advanced MRI in Multiple Sclerosis

Room 355 BC 10:45-12:45 *Moderators:*Maria A. Rocca & Alex Rovira

10:45 0042. Functional and Structural Disruption of the Precuneus Contributes to Cognitive Impairment in Pediatric Multiple Sclerosis

Maria A. Rocca[1], Martina Absinta[1], Maria Pia Amato[2], Angelo Ghezzi[3], Lucia Moiola[4], Agnese Fiorino[4], Pierangelo Veggiotti[5], Giancarlo Comi[4], Massimo Filippi[1], and the MS and Neuroimaging Study Groups of the Italian Neurological Society[6]

[1]Neuroimaging Research Unit, Institute of Experimental Neurology, San Raffaele Scientific Institute, Vita-Salute San Raffaele University, Milan, MI, Italy; [2]Department of Neurology, University of Florence, Florence, FI, Italy; [3]MS Centre, Ospedale di Gallarate, Gallarate, VA, Italy; [4]Department of Neurology, San Raffaele Scientific Institute, Vita-Salute San Raffaele University, Milan, MI, Italy; [5]Child Neurology Unit, National Neurological Institute C. Mondino, Pavia, PV, Italy; [6]SIN, Siena, SI, Italy

10:57 0043. Impaired Regulation of the Blood Supply to the Brain in Multiple Sclerosis Measured with Hypercapnia BOLD MRI

Yulin Ge[1], Hanzhang Lu[2], Yongxia Zhou[3], Feng Xu[2], Ilya Kister[4], Hina Jaggi[3], Joseph Herbert[5], Robert I. Grossman[6]

[1]Radiology, New York University Langone Medical Center, New York, United States; [2]Advanced Imaging Research Center, UT Southwestern Medical Center, Dallas, TX, United States; [3]Radiology, NYU Langone Medical Center, New York, United States; [4]Neurology, NYU Langone Medical Center, New York, United States; [5]Neurology, New York University, New York, United States; [6]Radiology, New York University, New York, United States

11:09 0044. Regional Hippocampal Involvement Differs Across Multiple Sclerosis Clinical Phenotypes: A Radial Mapping MR-Based Study

Elisabetta Pagani[1], Maria A. Rocca[1], Giulia Longoni[1], Vittorio Martinelli[2], Bruno Colombo[2], Andrea Falini[3], Giancarlo Comi[2], Massimo Filippi[1]

[1]Neuroimaging Research Unit, Institute of Experimental Neurology, San Raffaele Scientific Institute, Vita-Salute San Raffaele University, Milan, MI, Italy; [2]Department of Neurology, San Raffaele Scientific Institute, Vita-Salute San Raffaele University, Milan, MI, Italy; [3]Department of Neuroradiology, San Raffaele Scientific Institute, Vita-Salute San Raffaele University, Milan, MI, Italy

11:21 0045. Macromolecular Proton Fraction as a New Clinical Biomarker of Demyelination in Multiple Sclerosis

Vasily L. Yarnykh[1], James D. Bowen[2], Alexey A. Samsonov[3], Pavle Repovic[2], Angeli Mayadev[2], Bart P. Keogh[2], Beena Gangadharan[2], Hunter R. Underhill[1], Kenneth R. Maravilla[1], Lily K. Jung Henson[2]

[1]Radiology, University of Washington, Seattle, WA, United States; [2]Swedish Medical Center, Seattle, WA, United States; [3]Radiology, University of Wisconsin, Madison, WI, United States

11:33 0046. Spatial Patterns of Cortical Thinning in Neuromyelitis Optica: A Comparative Study with Multiple Sclerosis

Yaou Liu[1], Teng Xie[2], Ni Shu[2], Kuncheng Li[1], Yong He[2]

[1]Department of Radiology, Xuanwu hospital, Capital Medical University, Beijing, China; [2]State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China

11:45 0047. Hippocampal Magnetization Transfer Ratio and Not Hippocampal Atrophy Best Explains Memory Dysfunction in Patients with Multiple Sclerosis

ISMRM MERIT AWARD magna cum laude

Mishkin Derakhshan[1], Gabriel Leonard[1], Daviad Araujo[1], D. Louis Collins[1], Douglas L. Arnold[1], Sridar Narayanan[1]

[1]Montreal Neurological Institute, McGill University, Montreal, QC, Canada

11:57 0048. Regional Cortical Thickness in Relapsing Remitting Multiple Sclerosis: A Multi-Center Study

Ponnada A. Narayana[1], Koushik Govindarajan[1], Priya Goel[1], Sushmita Datta[2], John A. Lincoln[3], Stacy S. Cofield[4], Gary R. Cutter[4], Fred D. Lublin[5], Jerry S. Wolinsky[3]

[1]Diagnostic and Interventional Imaging, University of Texas Hlth Sci Cntr Houston, Houston, TX, United States; [2]Diagnostic and Interventional Imaging, Medical School, The University of Texas Health Science Center at Houston, Houston, TX, United States; [3]Neurology, University of Texas Hlth Sci Cntr Houston, Houston, TX, United States; [4]3Department of Biostatistics, University of Alabama at Birmingham, Birmingham, AL, United States; [5]The Corinne Goldsmith Dickinson Center for Multiple Sclerosis, Mount Sinai School of Medicine, New York, United States

12:09 **0049.** **Magnetisation Transfer Imaging of Subpial Cortical Abnormalities in Multiple Sclerosis**

Rebecca S. Samson[1], Manuel Jorge Cardoso[2, 3], Nils Muhlert[4], Varun Sethi[4], Claudia Angela M. Wheeler-Kingshott[4], Maria A. Ron[4], Sebastian Ourselin[2, 3], David H. Miller[4], Declan T. Chard[4]

[1]NMR Research Unit, Queen Square MS Centre, Department of Neuroinflammation, UCL Institute of Neurology, London, England, United Kingdom; [2]Centre for Medical Image Computing, UCL Department of Computer Sciences, London, United Kingdom; [3]Dementia Research Centre, UCL Institute of Neurology, London, United Kingdom; [4]NMR Research Unit, Queen Square MS Centre, Department of Neuroinflammation, UCL Institute of Neurology, London, United Kingdom

12:21 **0050.** **Impact of Macrophagic Activity on Tissue Structure in Patients Suffering from Clinically Isolated Syndrome Suggestive of Multiple Sclerosis: A Multicentric USPIO Enhancement Study at 3T**

Adil Maarouf[1, 2], Jean Christophe Ferré[3, 4], Wafaa Zaaraoui[1], Elise Bannier[5], Christian Barillot[6], Isabelle Berry[7], Gilles Edan[8], Damien Galanaud[9], Jean Pelletier, [110], Christophe Portefaix[11], Ayman Tourbah[12], Jean-Philippe Ranjava[1], Bertrand Audoin, [110]

[1]CRMBM, CNRS UMR 7339, Marseille, France; [2]Dept. of Neurology, CHU REIMS, Reims, France; [3]Dept. of Neuroradiology, CHU Rennes, RENNES cedex 9, France; [4]Visages U746 , INSERM INRIA IRISA, Rennes, France; [5]Neurinfo, INSERM INRIA IRISA, Rennes, France; [6]Visages U746, INSERM INRIA IRISA, Rennes, France; [7]Dept. of Biophysics, CHU Toulouse, Toulouse, France; [8]Dept. of Neurology, CHU Rennes, Rennes, France; [9]Dept of Neuroradiology, Pitié Salpêtrière Hospital, Paris, France; [10]Dept. of Neurology, CHU Marseille, Marseille, France; [11]Dept. Radiology, CHU Reims, Reims, France; [12]Dept. of Neurology, CHU Reims, Reims, France

12:33 **0051.** **Correlations Between Corpus Callosal Myelin Water Fraction and Measures of Transcallosal Inhibition in Multiple Sclerosis Patients on Glatiramer Acetate Treatment**

Eric Y. Zhao[1], Irene Vavasour[2], Marjan Zakeri[3], Michael Borich[3], Cornelia Laule[4], Anthony L. Traboulsee[5], David K.B. Li[2], Lara Boyd[3], Alex L. Mackay, [26]

[1]Department of Cellular & Physiological Sciences, The University of British Columbia, Vancouver, BC, Canada; [2]Department of Radiology, The University of British Columbia, Vancouver, BC, Canada; [3]Brain Behavior Lab, Department of Physical Therapy, The University of British Columbia, Vancouver, BC, Canada; [4]Department of Pathology & Laboratory Medicine, The University of British Columbia, Vancouver, BC, Canada; [5]Division of Neurology, Department of Medicine, The University of British Columbia, Vancouver, BC, Canada; [6]Department of Physics & Astronomy, The University of British Columbia, Vancouver, BC, Canada

Diffusion Acquisition

Room 355 EF 10:45-12:45 *Moderators:* Roland Bammer & Alexander Leemans

10:45 **0052.** **The Human Connectome Project: Advances in Diffusion MRI Acquisition and Preprocessing**

ISMRM MERIT AWARD summa cum laude

Stamatios N. Sotiropoulos[1], Saad Jbabdi[1], Junqian Xu[2], Jesper L. Andersson[1], Steen Moeller[2], Edward J. Auerbach[2], Matthew F. Glasser[3], David Feinberg[4], Christophe Lenglet[2], David C. Van Essen[3], Kamil Ugurbil[2], Timothy E.J. Behrens[1], Essa S. Yacoub[2]

[1]FMRIB Centre, University of Oxford, Oxford, United Kingdom; [2]Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, MN, United States; [3]Department of Anatomy & Neurobiology, Washington University, St Louis, MO, United States; [4]Advanced MRI Technologies, Sebastopol, CA, United States

10:57 **0053.** **Combining ZOOPPA and Blipped CAIPIRINHA for Highly Accelerated Diffusion Weighted Imaging at 7T and 3T**

ISMRM MERIT AWARD summa cum laude

Cornelius Eichner[1, 2], Kawin Setsompop[2, 3], Peter J. Koopmans[4], Alfred Anwander[1], Ralf Lützkendorf[5], Steven F. Cauley[6], Himanshu Bhat[7], David G. Norris[4], Robert Turner[1], Lawrence L. Wald[2, 3], Robin Martin Heidemann[1, 8]

[1]Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany; [2]Athinoula A. Martinos Center for Biomedical Imaging, Charlestown, MA, United States; [3]Harvard Medical School, Boston, MA, United States; [4]Donders Institute for Brain, Cognition and Behaviour, Nijmegen, Netherlands; [5]Otto v. Guericke University, Magdeburg, Germany; [6]Massachusetts General Hospital, Charlestown, MA, United States; [7]Siemens Medical Solutions, Malvern, PA, United States; [8]Siemens Healthcare Sector, Erlangen, Germany

11:09 **0054.** **3D Multi-Slab Diffusion-Weighted Readout-Segmented Echo-Planar Imaging with Real-Time Cardiac-Reordered K-Space Acquisition**

Robert Frost[1], Karla L. Miller[1], David A. Porter[2], Rob H. N. Tijssen[3], Peter Jezzard[1]

[1]FMRIB Centre, Nuffield Department of Clinical Neurosciences, University of Oxford, Oxford, United Kingdom; [2]Healthcare Sector, Siemens AG, Erlangen, Germany; [3]Department of Radiotherapy, UMC Utrecht, Utrecht, Netherlands

11:21 **0055.** **Accelerating Data Acquisition for Reversed-Gradient Distortion Correction in Diffusion MRI: A Constrained Reconstruction Approach**

ISMRM MERIT AWARD magna cum laude

Chitresh Bhushan[1], Anand A. Joshi[2], Richard M. Leahy[2], Justin P. Haldar[2]
[1]University of Southern California, Los Angeles, CA, United States; [2]Signal and Image Processing Institute, University of Southern California, Los Angeles, CA, United States

11:33 **0056.** **High-Resolution Diffusion Weighted MRI Enabled by Multi-Shot EPI with Multiplexed Sensitivity-Encoding**

Nan-kuei Chen[1], Arnaud Guidon[1], Hing-Chiu Chang[1], Allen W. Song[1]
[1]Brain Imaging and Analysis Center, Duke University, Durham, NC, United States

11:45 **0057.** **Tilted 2D RF Excitation with Extended Slice Coverage for High-Resolution Reduced-FOV DWI**

Suchandrima Banerjee[1], Emine U. Saritas[2], Gerd Melkus[3], Ajit Shankaranarayanan[1]
[1]Applied Science Lab, GE Healthcare, Menlo Park, CA, United States; [2]Bioengineering, University of California Berkeley, Berkeley, CA, United States; [3]Radiology and Biomedical Imaging, Univerisity of California San Francisco, San Francisco, CA, United States

11:57 **0058.** **Fast DSI Reconstruction with Trained Dictionaries**

ISMRM MERIT AWARD magna cum laude

Berkin Bilgic[1], Itthi Chatnuntawech[1], Kawin Setsompop[2, 3], Stephen F. Cauley[4], Lawrence L. Wald[2, 5], Elfar Adalsteinsson, [56]
[1]EECS, Massachusetts Institute of Technology, Cambridge, MA, United States; [2]A. A. Martinos Center for Biomedical Imaging, Dept. of Radiology, MGH, Charlestown, MA, United States; [3]Harvard Medical School, Boston , MA, United States; [4]A. A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Charlestown, MA, United States; [5]Harvard-MIT Division of Health Sciences and Technology, MIT, Cambridge, MA; [6]EECS, MIT, Cambridge, MA, United States

12:09 **0059.** **Optimal Acquisition Protocol for White Matter Fiber Orientation Mapping Using Generalized CSA-ODF Reconstruction**

Amith J. Kamath[1], Iman Aganj[2, 3], Junqian Xu[4], Essa S. Yacoub[4], Kamil Ugurbil[4], Guillermo Sapiro[5], Christophe Lenglet[4]
[1]Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN, United States; [2]Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Harvard Medical School, Cambridge, MA, United States; [3]Electrical and Computer Engineering, MIT, Cambridge, MA, United States; [4]Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, MN, United States; [5]Electrical and Computer Engineering, Duke University, Durham, NC, United States

12:21 **0060.** **A Comparison Between Double-PFG MRI and DTI in *ex Vivo* Rat Brain**

Tuukka Miettinen[1], Alejandra Sierra[1], Teemu Laitinen[2], Juhana Sorvari[1], Olli Gröhn[3]
[1]Department of Neurobiology, A. I. Virtanen Institute, University of Eastern Finland, Kuopio, Finland; [2]Department of Neurobiology, A. I. Virtanen Institute, University of Eastern Finland, Kuopio, Finland; [3]Department of Neurobiology, University of Eastern Finland, Kuopio, Finland

12:33 **0061.** **Oscillating Gradient Spin-Echo (OGSE) Diffusion Tensor Imaging of the Human Brain**

ISMRM MERIT AWARD magna cum laude

Corey Allan Baron[1], Christian Beaulieu[1]
[1]Biomedical Engineering, University of Alberta, Edmonton, Alberta, Canada

Educational Course
MR Physics & Techniques for Clinicians

*Organizers:*Marcus T. Alley, Ph.D. & Michael Markl, Ph.D.

Room 250 BCEF 10:45-12:45 *Moderators:*Marcus T. Alley & Michael Markl

10:45 **Spin Gymnastics 1**
Walter Kucharczyk, M.D., F.R.C.P.C.

11:25 **Spin Gymnastics 2**
Donald B. Plewes, Ph.D.

12:05 **K-Space**
Kevin M. Koch, Ph.D.

12:45 **Adjournment**

Educational Course
MRI of Musculoskeletal Impingement Syndromes

*Organizers:*Richard Kijowski, M.D. & William B. Morrison, M.D.
Room 255 BC 10:45-12:45 *Moderators:*Richard Kijowski & William B. Morrison

10:45 **Shoulder: Sources of Impingement**
Michael P. Recht, M.D.

11:15 **Hip: Femoral-Acetabular & Ischiofemoral Impingement**
Julia Crim, M.D.

11:45 **Ankle: Anterior, Anterolateral & Posterior Impingement**
James M. Linklater, M.D., M.B.B.S.

12:15 **Nerve Impingement Around the Body**
Luis S. Beltran, M.D.

12:45 **Adjournment**

Educational Course
Integrated Comprehensive Approach to the Brain Tumor Patient: A Case Study

*Organizer:*Keith R. Thulborn, M.D., Ph.D.
Room 251 BCEF 10:45-12:45 *Moderators:*Patricia M. Desmond & Keith R. Thulborn

Diagnosis & Presurgical Planning

10:45 **Surgical Perspective: Neurosurgical Approach to Brain Tumors**
Randy L. Jensen, M.D., Ph.D.

11:15 **Addressing Neurosurgeon's Questions in Preparing for Resection with MRI**
Andrei I. Holodny, M.D.

Post-Resection Tumor Patient Management & Treatment

11:45 **Post-Surgical Follow-Up of Brain Tumors: Treatment & Response Monitoring**
Howard Colman, M.D., Ph.D.

12:15 **Addressing the Oncologist's Concerns with MR Imaging: Now & Future**
Whitney Pope, M.D., Ph.D.

12:45 **Adjournment**

Gold Corporate Symposium: GE Healthcare
Plenary Hall 13:00-14:00 *(no CME credit)*

Traditional Poster Session: Young Investigator Award Presentations
Exhibition Hall 14:15-16:15 *(no CME credit)*

Electronic Poster Session: Diffusion & Perfusion
Exhibition Hall 14:15-16:15 *(no CME credit)*

Study Group Session: MRI Engineering; MR Safety
Room 155 ABC 14:15-16:15 *(no CME credit)*

Study Group Session: Dynamic NMR Spectoscopy

Room 254 ABC 14:15-16:15 *(no CME credit)*

Flow Quantification

Room 150 AG 14:15-16:15 *Moderators:* Karin G. Markenroth Bloch & Ian Marshall

14:15 0062. A Direct Calculation of Hemodynamic Energy Loss in the Presence of Abnormal Aortic Flow

Alex J. Barker[1], Krishna C. Bandi[2], Julio Garcia[1], Pim van Ooij[1], Patrick McCarthy[2], James C. Carr[1], S Chris Malaisrie[2], Michael Markl[1]

[1]Radiology, Northwestern University, Chicago, IL, United States; [2]Cardiac Surgery, Northwestern University, Chicago, IL, United States

14:27 0063. 4D Flow MRI for Non-Invasive Assessment of Mesenteric Ischemia

Oliver Wieben[1, 2], Alejandro Roldán-Alzate[2], Scott B. Reeder[1,2], Mark L. Schiebler[2], Scott K. Nagle[2], Charles W. Acher[3], Ben Ray Landgraf[3], Thomas M. Grist[2], Christopher J. Francois[2]

[1]Medical Physics, University of Wisconsin-Madison, Madison, WI, United States; [2]Radiology, University of Wisconsin-Madison, Madison, WI, United States; [3]Surgery, University of Wisconsin-Madison, Madison, WI, United States

14:39 0064. New Insights in the Disagreement of Transvalvular Mean Pressure Gradient Measured by Transthoracic Echo-Doppler and Cardiovascular Magnetic Resonance in Patients with Aortic Stenosis

ISMRM MERIT AWARD summa cum laude

Julio Garcia[1], Romain Capoulade[2], Lyes Kadem[3], Eric Larose[2], Philippe Pibarot[2]

[1]Radiology, Northwestern University, Chicago, IL, United States; [2]Laval University, Quebec, Canada; [3]Concordia University, Montreal, Quebec, Canada

14:51 0065. Evaluation and Validation of Pulse Wave Velocity Measurements from 2D and 4D PC MRI in Swine with Familial Hypercholesterolemia: Initial Results

ISMRM MERIT AWARD magna cum laude

Andrew L. Wentland[1, 2], Thomas M. Grist,[2,3], Dhanansayan Shanmuganayagam[4], Christian G. Krueger[4], Patrick E. McBride[5], Jennifer J. Meudt[4], Jess D. Reed[4], Oliver Wieben[1, 2]

[1]Medical Physics, University of Wisconsin School of Medicine & Public Health, Madison, WI, United States; [2]Radiology, University of Wisconsin School of Medicine & Public Health, Madison, WI, United States; [3]Medical Physics, University of Wisconsin-Madison, Madison, WI, United States; [4]Animal Sciences, University of Wisconsin, Madison, WI, United States; [5]Medicine, University of Wisconsin School of Medicine & Public Health, Madison, WI, United States

15:03 0066. High Temporal-Resolution Three-Directional Velocity Measurements in a Single Breath-Hold Using EPI and Direct Inversion

Ning Jin[1], Rizwan Ahmad[2], Yu Ding[2], Sven Zuehlsdorff[3], Orlando P. Simonetti[2, 4]

[1]Siemens Healthcare, Columbus, OH, United States; [2]Davis Heart & Lung Research Institute, The Ohio State University, Columbus, OH, United States; [3]Siemens Healthcare, Chicago, IL, United States; [4]Department of Department of Internal Medicine, The Ohio State University, Columbus, OH, United States

15:15 0067. 4D UTE Flow: A Novel 4D Ultra-Short TE Phase-Contrast MRI Technique for Assessment of Flow and Hemodynamics

Mo Kadbi[1], Melanie S. Traughber[2], Peter Martin[2], Amir A. Amini[1]

[1]Elect. and Comp. Eng., University of Louisville, Louisville, KY, United States; [2]Philips healthcare, Highland Heights, OH, United States

15:27 0068. High-Resolution, High-SNR Velocity Maps Reconstructed from Low-Resolution Fourier Velocity Encoded MRI Data

Vinicius de Carvalho Rispoli[1, 2], Joao L. A. Carvalho[1]

[1]Department of Electrical Engineering, University of Brasília, Brasília, DF, Brazil; [2]UnB-Gama Faculty, University of Brasília, Gama, DF, Brazil

15:39 0069. Analysis of Thermal Stability of Background Phase Errors in Phase-Contrast Flow Imaging

ISMRM MERIT AWARD magna cum laude

Julia Busch[1], Signe Johanna Vannesjo[1], Christoph Barmet[1, 2], Klaas P. Pruessmann[1], Sebastian Kozerke[1, 3]

[1]Institute for Biomedical Engineering, University and ETH Zurich, Zurich, Switzerland; [2]Skope Magnetic Resonance Technologies, Zurich, Switzerland; [3]Division of Imaging Sciences and Biomedical Engineering, King's College London, London, United Kingdom

15:51 **0070.** **4 Dimensional, Single Step Laplacian Algorithm for Phase Unwrapping in 4D MR Flow**
ISMRM MERIT AWARD magna cum laude
Michael Loecher[1], Oliver Wieben[1, 2], Kevin M. Johnson[1]
[1]Medical Physics, University of Wisconsin Madison, Madison, WI, United States; [2]Radiology, University of Wisconsin Madison, Madison, WI, United States

RF Pulse Design

Room 151 AG 14:15-16:15 *Moderators:* William A. Grissom & John M. Pauly

14:15 **0071.** **Improved Excitation Fidelity in Cardiac Imaging with 2-Spoke Parallel Excitation at 7 Tesla**
ISMRM MERIT AWARD summa cum laude
Sebastian Schmitter[1], Lance DelaBarre[1], Xiaoping Wu[1], Andreas Greiser[2], Dingxin Wang[3], Kamil Ugurbil[1], Pierre-Francois Van de Moortele[1]
[1]Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, MN, United States; [2]Siemens AG, Erlangen, Bavaria, Germany; [3]Siemens Medical Solutions USA, Inc., Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, MN, United States

14:27 **0072.** **Improvement in B_1+ Homogeneity of 3T Cardiac MRI in Swine with Dual-Source Parallel RF Excitation**
Daniel A. Herzka[1], Haiyan Ding[2, 3], Michael Schar[4, 5]
[1]Biomedical Engineering, Johns Hopkins University, Baltimore, MD, United States; [2]Biomedical Engineering, Tsinghua University, Beijing, China; [3]Biomedical Engineering, Johns Hopkins School of Medicine, Baltimore, MD, United States; [4]Russell H. Morgan Department of Radiology and Radiological Science, Johns Hopkins School of Medicine, Baltimore, MD, United States; [5]Clinical Science, Philips Healthcare, Cleveland, OH, United States

14:39 **0073.** **k_TPINS RF Pulses for Low-Power Field Inhomogeneity-Compensated Multislice Excitation**
ISMRM MERIT AWARD summa cum laude
Anuj Sharma[1], Samantha J. Holdsworth[2], Rafael O'Halloran[2], Eric Aboussouan[2], Anh Tu Van[2], Julian R. Maclaren[2], Murat Aksoy[2], Victor Andrew Stenger[3], Roland Bammer[2], William A. Grissom[1]
[1]Biomedical Engineering, Vanderbilt University, Nashville, TN, United States; [2]Radiology, Stanford University, Stanford, CA, United States; [3]Medicine, University of Hawaii, Honolulu, HI, United States

14:51 **0074.** **Simultaneous Multi-Slice Parallel RF Excitation with In-Plane B_1+ Homogenization**
ISMRM MERIT AWARD magna cum laude
Xiaoping Wu[1], Sebastian Schmitter[1], Edward J. Auerbach[1], Steen Moeller[1], Kamil Ugurbil[1], Pierre-Francois Van de Moortele[1]
[1]CMRR, Radiology, University of Minnesota, Minneapolis, MN, United States

15:03 **0075.** **Simultaneous Multi-Slice Excitation by Parallel Transmission Using a Dual-Row PTX Head Array**
ISMRM MERIT AWARD summa cum laude
Benedikt A. Poser[1], Robert James Anderson[1], Peter Serano[2], Azma Mareyam[2], Bastien Guérin[2], Weiran Deng[1], Lawrence L. Wald[2], Victor Andrew Stenger[1]
[1]John A Burns School of Medicine, University of Hawaii, Honolulu, HI, United States; [2]Radiology, Massachusetts General Hospital, Charlestown, MA, United States

15:15 **0076.** **Subject- And Resource-Specific Monitoring and Proactive Management of Parallel RF Transmission**
ISMRM MERIT AWARD magna cum laude
Cem Murat Deniz[1, 2], Leeor Alon, [23], Ryan Brown[3], Daniel K. Sodickson, [23], Yudong Zhu, [23]
[1]Department of Radiology, Bernard and Irene Schwartz Center for Biomedical Imaging, New York University, New York, NY, United States; [2]Sackler Institute of Graduate Biomedical Sciences, New York University School of Medicine, New York, NY, United States; [3]Department of Radiology, Bernard and Irene Schwartz Center for Biomedical Imaging, New York University School of Medicine, New York, NY, United States

15:27 **0077.** **Improvement in T_2-Weighted Imaging at 7T by Using K_T-Points**
ISMRM MERIT AWARD summa cum laude
Florent Eggenschwiler[1], Kieran O'Brien[2], Rolf Gruetter, [13], José P. Marques[4]
[1]EPFL, Laboratory for Functional and Metabolic Imaging, Lausanne, Vaud, Switzerland; [2]University of Geneva, Department of Radiology, Geneva, Switzerland; [3]Universities of Geneva and Lausanne, École Polytechnique Fédérale de Lausanne, Lausanne, Vaud, Switzerland; [4]University of Lausanne, Department of Radiology, Lausanne, Vaud, Switzerland

15:39 **0078.** **Fast Reconstruction for RF Monitored Sweep Imaging with Sideband Excitation**
ISMRM MERIT AWARD summa cum laude
David Otto Brunner[1], Benjamin E. Dietrich[1], Matteo Pavan[1], Klaas P. Pruessmann[1]
[1]Institute for Biomedical Engineering, University and ETH Zurich, Zurich, Switzerland

15:51 **0079.** **B_1-Insensitive Slice-Selective Pseudo-Adiabatic Pulse**
Benoît Bourassa-Moreau[1], Guillaume Gilbert[1, 2], Gilles Beaudoin[1]
[1]Department of Radiology, Centre Hospitalier de l'Université de Montréal, Montreal, Quebec, Canada; [2]Philips Healthcare, Montreal, Quebec, Canada

16:03 **0080.** **A Simple Fat Suppression Method for Accelerated and Low-SAR 3D-EPI**
ISMRM MERIT AWARD magna cum laude
Rüdiger Stirnberg[1], Daniel Brenner[1], Tony Stöcker[1], Nadim Jon Shah[1, 2]
[1]Institute of Neuroscience and Medicine - 4, Research Centre Juelich GmbH, Jülich, Germany; [2]Department of Neurology, Faculty of Medicine, JARA, RWTH Aachen University, Aachen, Germany

Animal Models 1

Room 155 EF 14:15-16:15 *Moderators:* Victor Sheng-Kwei Song & Louise van der Weerd

14:15 **0081.** **Multiparametric Microvascular MRI: A Cluster Approach to Characterize Glioma**
ISMRM MERIT AWARD magna cum laude
Nicolas Coquery[1, 2], Clément S. Debacker[3, 4], Régine Farion[25], Chantal Rémy[1, 2], Olivier Francois[6, 7], Emmanuel Luc Barbier[28]
[1]U836, INSERM, Grenoble, France; [2]Université Joseph Fourier, grenoble, France; [3]Université Joseph Fourier, Grenoble, France; [4]Bruker Biospin MRI, Ettlingen, Germany; [5]Grenoble MRI Facility IRMaGe, Grenoble, France; [6]TIMC-IMAG laboratory, UMR5525, CNRS, La Tronche, France; [7]Université Joseph Fourier, La Tronche, France; [8]INSERM U836, Grenoble, France

14:27 **0082.** **Longitudinal Characterization of Apolipoprotein E Targeted Replacement Mice at 7 T**
James A. Goodman[1], Peter Cheng-Te Chou[1], Zhiyong Xie[1], Kelly R. Bales[2]
[1]Precision Medicine, Pfizer Inc, Groton, CT, United States; [2]Neuroscience Research Unit, Pfizer Inc, Cambridge, MA, United States

14:39 **0083.** **Microscopic 3D-DTI of Tumor Cell Migration, Numerical Modeling and Two- Photon Microscopic Imaging**
ISMRM MERIT AWARD magna cum laude
Ulysse Gimenez[1], Florence Appaix[1], Teodora-Adriana Perles-Barbacaru[1], Franck Mauconduit[1], Marie-France Nissou[1], Emilie Langard[1], Laurent Pelletier[1], Francois Berger[1], Didier Wion[1], Boudewijn van der Sanden[1], Hana Lahrech[1]
[1]Grenoble Institute of Neurosciences, La Tronche, France

14:51 **0084.** **Preclinical MRI Reveals Bevacizumab Mitigates Radiation Necrosis**
ISMRM MERIT AWARD magna cum laude
X. Jiang[1], John A. Engelbach[2], Jeremy Cates[3], Dinesh K. Thotala[4], RE Drzymala[4], D.E. Hallahan[4], JJH J.H. Ackerman[5], Joel R. Garbow[6]
[1]Chemistry, Washington Univ. in st. louis, st louis, MO, United States; [2]Radiology, Washington Univ. in st. louis, st louis, MO, United States; [3]Radiation Oncology, Washington University in Saint Louis, st louis, MO, United States; [4]Radiation Oncology, Washington Univ. in st. louis, st louis, MO, United States; [5]Chemistry, Washington University in St. Louis, st louis, MO, United States; [6]Radiology, Washington University in Saint Louis, st louis, MO, United States

15:03 **0085.** **Effects of Maternal Chlorpyrifos Exposure on Guinea Pig Neurodevelopment**
ISMRM MERIT AWARD magna cum laude
Roger J. Mullins[1, 2], Su Xu[1], Joseph D. Pescrille[3], Jacek Mamczarz[3], Edna Pereira[3], Edson X. Albuquerque[3], Rao P. Gullapalli[1]
[1]Diagnostic Radiology & Nuclear Medicine, Core for Translational Research in Imaging @ University of Maryland, Baltimore, MD, United States; [2]Program in Neuroscience, University of Maryland, Baltimore, MD, United States; [3]Division of Toxicology, Department of Epidemiology & Public Health, University of Maryland School of Medicine, Baltimore, MD, United States

15:15 **0086.** **Multivoxel Proton MR Spectroscopy Reveals Subcortical Glial Response to SIV-Infection in Rhesus Macaques**
ISMRM MERIT AWARD magna cum laude
William E. Wu[1], Ke Zhang[1], Assaf Tal[1], Eva-Maria Ratai[2], Ramon Gilberto Gonzalez[2], Oded Gonen[3]
[1]Radiology, New York University School of Medicine, New York, NY, United States; [2]Neuroradiology, Massachusetts General Hospital, Athinoula A. Martinos Center for Biomedical Imaging, Charlestown, MA, United States; [3]Radiology, New York University, New York, NY, United States

15:27 **0087.** **Activity-Modulated Interhemispheric Manganese Transfer Upon Intracortical Injection**
ISMRM MERIT AWARD magna cum laude
Shu-Juan J. Fan[1, 2], Wenwen A. Han[1, 2], Frank Y. Lee[1, 2], Kevin C. Chan[1, 2], Samantha J. Ma[1, 2], Ed X. Wu[1, 2]
[1]Laboratory of Biomedical Imaging and Signal Processing, The University of Hong Kong, Hong Kong, China; [2]Department of Electrical and Electronic Engineering, The University of Hong Kong, Hong Kong, China

15:39 **0088.** **Decreased Functional Connectivity After Acute Cocaine Administration: A Feasibility Study of Resting-State fMRI in Awake Non-Human Primates**
Kaundinya Gopinath[1], Kevin Murnane[2], Leonard Howell[2]
[1]Department of Radiology & Imaging Sciences, Emory University, Atlanta, GA, United States; [2]Yerkes National Primate Research Center, Emory University, Atlanta, GA, United States

15:51 **0089.** **Gd-Staining Reveals the Efficacy of an Anti-A&[beta] Antibody to Decrease Amyloid Plaque Load *in Vivo* in a Transgenic Mouse Model of Alzheimer's Disease**
Mathieu David Santin[1, 2], Thomas Debeir[3], Thierry Delzescaux[2, 4], Anne-Sophie Herard[2, 4], Caroline Cohen[3], Laurent Pradier[3], Thomas Rooney[3], Marc Dhenain[2, 4]
[1]Centre de Neuroimagerie de Recherche – CENIR, Institut du Cerveau et de la Moelle épinière – ICM, Paris, France; [2]URA 2210 CEA/CNRS, Fontenay-aux-Roses, France; [3]Therapeutic Strategy Unit Aging, Sanofi, Chilly-Mazarin, France; [4]MIRCen, CEA / I2BM, Fontenay-aux-Roses, France

16:03 **0090.** **The Dose Response of the Developing Mouse Brain After Cranial Irradiation Varies by Brain Structure**
Lisa M. Gazdzinski[1], Richard J. Alsop[1], Brian J. Nieman[1]
[1]Mouse Imaging Centre, Hospital for Sick Children, Toronto, ON, Canada

Prostate: Clinical

Room 355 BC 14:15-16:15 *Moderators:* Jurgen J. Fütterer & Daniel J. A. Margolis

14:15 **0091.** **MRI-US Fused Targeted Prostate Biopsy Detects Clinically Significant Cancer in Active Surveillance Patients Better Than 12 Core Random Biopsy with Less Than 4 Cores**
Michael Da Rosa[1, 2], Laurent Milot[1, 3], Linda Sugar, [3,4], Danny Vesprini, [3,5], Hans Chung, [3,5], Andrew Loblaw, [3,5], Laurence Klotz, [3,6], Masoom A. Haider[1, 3]
[1]Department of Medical Imaging, University of Toronto, Toronto, ON, Canada; [2]Institute of Medical Science, University of Toronto, Toronto, ON, Canada; [3]Sunnybrook Health Sciences Centre, Toronto, ON, Canada; [4]Laboratory Medicine and Pathobiology, University of Toronto, Toronto, ON, Canada; [5]Radiation Oncology, University of Toronto, Toronto, ON, Canada; [6]Division of Urology, University of Toronto, Toronto, ON, Canada

14:27 **0092.** **Validation Study of ESUR Prostate MR Guidelines 2012: The Significance of Different Sequences of Multi-Parameter MRI in Detection of Prostate Cancer in 106 Consecutive Patients**
Juan Hu[1], He Wang[1], Xuedong Yang[1], Chengyan Wang[2], Rui Wang[1], Ge Gao[1], Hui Zhang[2], Wenchao Cai[1], Wei Wang[1], Jue Zhang[2, 3], Xiaoying Wang[1, 2]
[1]Radiology Department, Peking University First Hospital, Beijing, China; [2]Academy for Advanced Interdisciplinary Studies, Peking University, Beijing, China; [3]College of Engineering , Peking University, Beijing, China

14:39 **0093.** ISMRM MERIT AWARD summa cum laude **Derivation and Comparison of Site Specific Peripheral and Transition Zone Quantitative DCE MRI Logistic Regression Models for Prostate Cancer Detection: Does Cancer Location Matter?**
Nikolaos Dikaios[1], Mohamed Abd Alazeez[2], Mark Emberton[2], Taiki Fujiwara[3], David Atkinson[4], Shonit Punwani[4]
[1]Centre for Medical Imaging, University College London , London, Greater London, United Kingdom; [2]Department of Urology, University College London Hospital, London, Greater London, United Kingdom; [3]Department of Radiology, University College London Hospital, London, Greater London, United Kingdom; [4]Centre for Medical Imaging, University College London, London, Greater London, United Kingdom

14:51 **0094.** **Computed Diffusion-Weighted Imaging of the Prostate at 3T: Impact on Image Quality and Tumor Detection**
Andrew B. Rosenkrantz[1], Nicole Hindman[1], Hersh Chandarana[1], Fang-ming Deng[2], James S. Babb[1], Samir S. Taneja[3], Christian Geppert[4]
[1]Radiology, NYU Langone Medical Center, New York, United States; [2]Pathology, NYU Langone Medical Center, New York, United States; [3]Urologic Oncology, NYU Langone Medical Center, New York, United States; [4]Siemens Medical Systems, New York, United States

15:03 **0095.** **Contrast Dispersion Mapping in DCE MRI: A New Option for Prostate Cancer Detection**
Massimo Mischi[1], Kyveli Kompatsiari[1], Tamerlan Saidov[1], Marc Engelbrecht[2], Hessel Wijkstra, [1,2], Marcel Breeuwer, [1,3]
[1]Eindhoven University of Technology, Eindhoven, Netherlands; [2]Academic Medical Center, Amsterdam, Netherlands; [3]Philips Healthcare, Best, Netherlands

15:15 **0096.** **Hybrid T2 and Diffusion Weighted MRI for Prostate Cancer Detection**

ISMRM MERIT AWARD magna cum laude

Shiyang Wang[1], Yahui Peng[1], Milica Medved[1], Ambereen Yousuf[1], Marko Ivancevic[2], Ibrahim Karademir[1], Yulei Jiang[1], Tatjana Antic[3], Steffen Sammet[1], Aytek Oto[1], Gregory S. Karczmar[1]

[1]Radiology, University of Chicago, Chicago, IL, United States; [2]MR clinical science, Philips Healthcare, Cleveland, OH , United States; [3]Pathology, University of Chicago, Chicago, IL, United States

15:27 **0097.** **^{1}H MRSI of Prostate Cancer Incorporating Spermine in the Quantification, a 7 Tesla Patient Study**

Mariska P. Luttje[1], Robin A. de Graaf[2], Catalina S. Arteaga de Castro[1], Peter R. Luijten[1], Marco van Vulpen[1], Uulke A. van der Heide[3], Dennis W.J. Klomp[1]

[1]Imaging Division, Univerity Medical Center, Utrecht, Netherlands; [2]MRRC, Yale University, New Haven, CT, United States; [3]Department of Radiotherapy, The Netherlands Cancer Institute - Antoni van Leeuwenhoek Hospital, Amsterdam, Netherlands

15:39 **0098.** **Stratification of Disease Aggressiveness of Prostate Cancer Using MRSI and DWI**

ISMRM MERIT AWARD magna cum laude

Durgesh Kumar Dwivedi[1], Girdhar Bora[2], Rajeev Kumar[2], Sanjay Thulkar[3], Sanjay Sharma[3], Siddhartha D. Gupta[4], Naranamangalam R. Jagannathan[1]

[1]Department of NMR & MRI Facility, All India Institute of Medical Sciences, New Delhi, Delhi, India; [2]Department of Urology, All India Institute of Medical Sciences, New Delhi, Delhi, India; [3]Department of Radio-diagnosis, All India Institute of Medical Sciences, New Delhi, Delhi, India; [4]Department of Pathology, All India Institute of Medical Sciences, New Delhi, Delhi, India

15:51 **0099.** **MR Spectroscopic Imaging of Prostate Cancer: Metabolism or Morphology?**

ISMRM MERIT AWARD summa cum laude

Thiele Kobus[1], Jeroen Van der Laak[2], Caroline Bruggink[1], Christina Hulsbergen-Van de Kaa[2], Tom W.J. Scheenen[1], Arend Heerschap[1]

[1]Radiology, Radboud University Nijmegen Medical Centre, Nijmegen, Gelderland, Netherlands; [2]Pathology, Radboud University Nijmegen Medical Centre, Nijmegen, Gelderland, Netherlands

16:03 **0100.** **Planning a Boosted Radiotherapy Dose to the Dominant Intraprostatic Tumour Lesion Within the Prostate as Defined by Multifunctional MR Parameters**

Sophie F. Riches[1], Geoffrey S. Payne[1], Nandita M. deSouza[1], Scott Morgan[2], David Dearnaley[3], Veronica A. Morgan[1], Sharon L. Giles[1], Mike Partridge[4]

[1]CR-UK and EPSRC Cancer Imaging Centre, Institute of Cancer Research and Royal Marsden NHS Foundation Trust, Sutton, Surrey, United Kingdom; [2]Division of Radiation Oncology, University of Ottawa, Ottawa, Ontario, Canada; [3]Division of Radiotherapy & Imaging, Institute of Cancer Research and Royal Marsden NHS Foundation Trust, Sutton, Surrey, United Kingdom; [4]Gray Institute for Radiation Oncology and Biology,Department of Oncology, University of Oxford, Oxford, Oxfordshire, United Kingdom

Arterial Spin Labeling

Room 355 EF 14:15-16:15 *Moderators:* Luis Hernandez-Garcia & Esben T. Petersen

14:15 **0101.** **Fast Cerebral Flow Territory Mapping Using Vessel Selective Dynamic Arterial Spin Labeling**

ISMRM MERIT AWARD summa cum laude

Xingxing Zhang[1], Eidrees Ghariq[1], Sophie Schmid[1], Wouter M. Teeuwisse[1], Andrew G. Webb[1], Matthias J.P. van Osch[1]

[1]C.J.Gorter center for high field MRI, Radiology, Leiden university medical center, Leiden, Zuid-Holland, Netherlands

14:27 **0102.** **The Use of *k*-Means Clustering and Bayesian Inference Framework for the Processing of Vessel-Encoded P-CASL Images as Compared with Super-Selective P-CASL MRI**

ISMRM MERIT AWARD summa cum laude

Nolan S. Hartkamp[1], Michael Helle[2], Michael A. Chappell[3, 4], Thomas W. Okell[4], Reinoud P H Bokkers[1], Jeroen Hendrikse[1], Matthias J.P. van Osch[5]

[1]Department of Radiology, University Medical Center Utrecht, Utrecht, Netherlands; [2]Philips Research Laboratories, Hamburg, Germany; [3]Institute of Biomedical Engineering, Department of Engineering Science, University of Oxford, Oxford, United Kingdom; [4]FMRIB Centre, University of Oxford, Oxford, United Kingdom; [5]C.J. Gorter Center, Department of Radiology, Leiden University Medical Center, Leiden, Netherlands

14:39 **0103.** **VENTI: Venous Territory Imaging Using Remote Sensing**

Eric Wong[1], Jia Guo[2]

[1]Radiology/Psychiatry, UC San Diego, La Jolla, CA, United States; [2]Bioengineering, University of California San Diego, La Jolla, CA, United States

14:51 **0104.** **High Temporal Resolution Sampling of Tracer Kinetic Curves Using Time Encoded PCASL with Look-Locker Readout.**

ISMRM MERIT AWARD magna cum laude

Wouter M. Teeuwisse[1], Sophie Schmid[1], Andrew G. Webb[1], Matthias J.P. van Osch[1]
[1]Radiology, C.J.Gorter Center for High Field MRI, Leiden University Medical Center, Leiden, ZH, Netherlands

15:03 **0105.** **Time Efficient Determination of Spin Compartments by Time Encoded Arterial Spin Labeling**

ISMRM MERIT AWARD summa cum laude

Sophie Schmid[1], Wouter M. Teeuwisse[1], Eidrees Ghariq[1], Andrew Webb[1], Hanzhang Lu[2], Matthias J.P. van Osch[1]
[1]C.J.Gorter Center for High Field Magnetic Resonance, Radiology, Leiden University Medical Center, Leiden, Zuid-Holland, Netherlands; [2]UT Southwestern Medical Center, Dallas, TX, United States

15:15 **0106.** **Assessing Intracranial Vascular Compliance Using Dynamic Arterial Spin Labeling**

ISMRM MERIT AWARD summa cum laude

Lirong Yan[1], Robert Smith[1], Collin Liu[2], Emily Kilroy[1], Yufen Chen[3], Danny J.J. Wang[1]
[1]Neurology, UCLA, Los Angeles, CA, United States; [2]Neurology, USC, Los Angeles, CA, United States; [3]Radiology, Northwestern University, Chicago, IL, United States

15:27 **0107.** **Simultaneous Acquisition of Cerebral Blood Volume, Blood Flow and Blood Oxygenation Weighted MRI Signals at 7T**

ISMRM MERIT AWARD summa cum laude

Steffen N. Krieger[1, 2], Laurentius Huber[1], Gary F. Egan[2], Robert Turner[1]
[1]Neurophysics, Max-Plank Institute for Human Cognitive and Brain Sciences, Leipzig, Saxonia, Germany; [2]Monash Biomedical Imaging, Monash University, Melbourne, Victoria, Australia

15:39 **0108.** **Multi-Bolus Pulsed ASL for Improved Renal Perfusion Quantification**

Xiang He[1], Serter Gumus[1], Ayaz Aghayev[1], Kyongtae Ty Bae[1]
[1]Department of Radiology, University of Pittsburgh, Pittsburgh, PA, United States

15:51 **0109.** **Simultaneous Arterial Spin Labelling MRI and H_2O^{15} Position Emission Tomography**

Ke Zhang[1], Hans Herzog[1], Christian Filss[1], Thomas Fischer[2], Walter Sturm[3], Burkhard Brocke[2], Nadim Jon Shah[1, 4]
[1]Institute of Neuroscience and Medicine 4, Medical Imaging Physics, Forschungszentrum Jülich GmbH, Jülich, Germany; [2]Neurobiology of Personality and Neurogenetics, Department of Psychology, Dresden Universi Laboratory, Dresden, Germany; [3]Clinical Neurology , University Hospital Aachen, Aachen, Germany; [4]Department of Neurology, JARA, RWTH Aachen University, Aachen , Germany

16:03 **0110.** **Investigating White Matter Perfusion Using Optimal Sampling Strategy Arterial Spin Labeling (OSS-ASL) at 7T**

Alexander Graeme Gardener[1], Peter Jezzard[1]
[1]FMRIB Centre, Nuffield Department of Clinical Neurosciences, Oxford, United Kingdom

Educational Course
Imaging Metabolism with Hyperpolarized Nuclei

*Organizers:*Kevin M. Brindle, Ph.D. & Rolf Gruetter, Ph.D.

Room 250 BCEF 14:15-16:15 *Moderator:*Arnaud Comment

14:15 **Methods for Hyperpolarizing Nuclei (Optical, Brute Force, PHIP, DNP)**
Jan H. Ardenkjaer-Larsen, Ph.D.

14:45 **Methods for Fast Imaging of Hyperpolarized Nuclei**
Charles H. Cunningham, Ph.D.

15:15 **Preclinical Metabolic Imaging (Cancer, Cardiac, Kinetic Analysis)**
Daniel M. Spielman, Ph.D.

15:45 **Clinical Imaging with Hyperpolarized C-13: The First Steps**
Sarah J. Nelson, Ph.D.

16:15 **Adjournment**

Educational Course
ISMRM/SMRT Forum: Safe & Ethical Imaging of Patients & Research Subjects

*Organizer:*Glenn D. Cahoon, M.App.Sc.

Room 255 BC 14:15-16:15 *Moderator:*Glenn D. Cahoon

14:15 **What's New in MR Safety?- Active Implants, Device Labeling & Identification**
William Faulkner, B.S., R.T.(R)(MR)(CT) & Frank G. Shellock, Ph.D., F.A.C.C.

14:45 **Occupational Exposure Limits, Magnetic Field Spatial Gradients & Their Impact on MR Safety Practices**
Gregory C. Brown, R.T., FSMRT & Donald W. McRobbie, Ph.D.

15:15 **To Scan or Not to Scan? MR Safety Decision Making & the FPO Mode**
Emanuel Kanal, M.D., F.A.C.R. & Anne Marie Sawyer, B.S., R.T.(R)(MR), FSMRT

15:45 **Legacy Implants, MR Conditional Labeling, Conflicting Information - MR Safety Now & the Future: Is There a Better Paradigm?**
All Faculty

16:15 **Adjournment**

Special Session
Mock Grant Review

*Organizers:*Joseph J. H. Ackerman, Ph.D. & Lee Rosen, Ph.D.

Room 255 EF 14:15-16:15 *(no CME credit)* *Moderator:*Joseph J. H. Ackerman

14:15 **Introduction - Study Section Review Process, Scoring, Confidentiality**
(Distribution of Grant Application Abstracts & Specific Aims Pages)
Joseph J. H. Ackerman, Ph.D.

14:30 **Scientific Review Officer (SRO) Begins Mock Study Section**
Introduction of Study Section Members; Empowerment of Study Section Chair

14:35 **Study Section Chair Initiates the Review Process**

15:35 **End of Mock Study Section Review Process**
Audience Participation, Re: Questions, Opinions & Comments

15:55 **Programmatic Considerations & Sources for Additional Information re: the Grant Review Process**

16:15 **Adjournment**

Educational Course
New Advances in Neurodegenerative Disease

*Organizers:*Pratik Mukherjee, M.D., Ph.D. & Maria A. Rocca, M.D.

Room 251 BCEF 14:15-16:15 *Moderators:*Pratik Mukherjee & Maria A. Rocca

14:15 **Genetics & Molecular Biology of Alzheimer's Disease**
John Keoni S. K. Kauwe, Ph.D.

14:45 **Quantitative Neuroimaging in the Clinical Setting: Toward an Earlier & More Accurate Diagnosis of Neurodegenerative Disease**
James B. Brewer, Ph.D.

15:15 **Predicting Neurodegenerative Disease with Connectomics**
Ashish Raj, Ph.D.

15:45 **MR Imaging of Rapidly Progressive Dementias**
Christopher P. Hess, M.D., Ph.D.

16:15 Adjournment

Traditional Poster Session: Diffusion & Perfusion
Exhibition Hall 16:30-18:30 *(no CME credit)*

Electronic Poster Session: Functional MRI (Neuro)
Exhibition Hall 16:30-18:30 *(no CME credit)*

Study Group Session: High Field Systems & Applications
Room 155 ABC 16:30-18:30 *(no CME credit)*

Study Group Session: Cardiac MR
Room 254 ABC 16:30-18:30 *(no CME credit)*

MRS: Normal Metabolism & Systems Under Stress
Room 150 AG 16:30-18:30 *Moderators:* Truman R. Brown & Dennis W. J. Klomp

16:30 **0111.** **The C57BL/6 Mouse Exhibits Sporadic Congenital Portosystemic Shunts**
ISMRM MERIT AWARD magna cum laude
Cristina Cudalbu[1], Valérie A. McLin[2], Hongxia Lei[1, 3], Joao M.N. Duarte[1, 4], Anne-Laure Rougemont[5], Graziano Oldani[6, 7], Sylvain Terraz[8], Christian Toso[6], Rolf Gruetter[9, 10]
[1]Laboratory for Functional and Metabolic Imaging, Center for Biomedical Imaging, Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland; [2]Département de l'Enfant et de l'Adolescent, Unité de Gastroentérologie, Hôpitaux Universitaires de Genève, Geneva, Switzerland; [3]University of Geneva , Geneva, Switzerland; [4]University of Lausanne , Lausanne, Switzerland; [5]Service de Pathologie Clinique, Hôpitaux Universitaires de Genève, Geneva, Switzerland; [6]Transplantation Division, Department of Surgery, University of Geneva Hospitals, Geneva, Switzerland; [7]University of Pavia, Pavia, Italy; [8]Unité de radiologie abdominale, Service de Radiologie, Hôpitaux Universitaires de Genève, Geneva, Switzerland; [9]Laboratory for Functional and Metabolic Imaging, Center for Biomedical Imaging, École Polytechnique Fédérale de Lausanne, Lausanne, Switzerland; [10]University of Lausanne, University of Geneva, Lausanne, Geneva, Switzerland

16:42 **0112.** **Astrocyte Reactivity Is Associated with Decreased Levels of N-Acetyl-Aspartate in the Absence of Neurodegeneneration in the Rat Brain**
Maria-Angeles Carrillo-de Sauvage[1, 2], Lucile Ben Haim[1, 2], Julien Valette[1, 2], Carole Escartin[1, 2]
[1]CEA-MIRCen, Fontenay-aux-Roses, France; [2]CNRS URA 2210, Fontenay-aux-Roses, France

16:54 **0113.** **7 T ^{1}H Detects Human Brain Gutamate Concentration Changes in Response to Hypoglycemia: A Study of Diabetic Patients with and Without Hypoglycemia Unawareness**
Melissa Terpstra[1], Amir Moheet[1], Anjali Kumar[1], Lynn E. Eberly[1], Elizabeth Seaquist[1], Gulin Oz[1]
[1]University of Minnesota, Minneapolis, MN, United States

17:06 **0114.** **Early Increases in Glu/Gln, Tau and TCho 1H MRS Resonances *in vivo*, Anticipate Later Imaging Repercussions of the Cerebral Inflammatory Response in a Mouse Model of LPS-Induced Endotoxemia**
ISMRM MERIT AWARD magna cum laude
Ana Belen Martín-Recuero[1], Agnieszka Krzyzanowska[2], Pilar López-Larrubia[1], Carlos Avendaño[2], Sebastián Cerdán[3]
[1]Laboratorio de Modelos Animales, Instituto Investigaciones Biomédicas "Alberto Sols" CSIC-UAM, Madrid, Spain; [2]Anatomy, Histology & Neuroscience, Medical School, Autonoma Univ. of Madrid, Spain, Madrid, Spain; [3]Laboratorio de Modelos Animales, Instituto de Investigaciones Biomédicas - CSIC, Madrid, Spain

17:18 **0115.** **^{23}Na-MRI and EPT: Are Sodium Concentration and Electrical Conductivity at 298 MHz (7T) Related?**
ISMRM MERIT AWARD summa cum laude
Astrid L.H.M.W. van Lier[1], Paul W. de Bruin[2], Sebastian A. Aussenhofer[3], Peter R. Luijten[1], Jan J.W. Lagendijk[1], Cornelis A.T. van den Berg[1], Andrew G. Webb[3]
[1]Imaging Department, UMC Utrecht, Utrecht, Netherlands; [2]Radiology, Clinical Physics, LUMC, Leiden, Zuid-Holland, Netherlands; [3]Radiology, C.J. Gortercentrum, LUMC, Leiden, Zuid-Holland, Netherlands

17:30 **0116.** **Chlorine (^{35}Cl) MRI in Humans: Cl^- Alterations Do Not Correspond to Disease-Related Na^+ Changes**

ISMRM MERIT AWARD magna cum laude

Armin M. Nagel[1], Marc-André Weber[2, 3], Frank Lehmann-Horn[4], Karin Jurkat-Rott[4], Alexander Radbruch[3, 5], Reiner Umathum[1], Wolfhard Semmler[1]

[1]Dpt. of Medical Physics in Radiology, German Cancer Research Center (DKFZ), Heidelberg, Germany; [2]Dpt. of Diagnostic and Interventional Radiology, University Hospital of Heidelberg, Heidelberg, Germany; [3]Dpt. of Radiology, German Cancer Research Center (DKFZ), Heidelberg, Germany; [4]Division of Neurophysiology, Ulm University, Ulm, Germany; [5]Dpt. of Neuroradiology, University Hospital of Heidelberg, Heidelberg, Germany

17:42 **0117.** ***In Vivo* Cardiac ^{1}H MRS, ^{31}P MRS, and MRI in Mouse Models of Increased Fatty Acid Oxidation with and Without Myocardial Lipid Accumulation**

ISMRM MERIT AWARD magna cum laude

Desiree Abdurrachim[1], Jolita Ciapaite[1], Michel van Weeghel[2], Bart Wessels[1], Klaas Nicolay[1], Sander M. Houten[2], Jeanine J. Prompers[1]

[1]Biomedical NMR, Eindhoven University of Technology, Eindhoven, Netherlands; [2]Laboratory Genetic Metabolic Diseases, Academic Medical Center, Amsterdam, Netherlands

17:54 **0118.** **Caloric Restriction Enhances Oxidative Brain Metabolism in Healthy Aging Detected by ^{1}H[^{13}C]MRS**

Ai-Ling Lin[1, 2], Daniel Coman[3], Lihong Jiang[3], Douglas L. Rothman[3], Fahmeed Hyder[3]

[1]Research Imaging Institute, University of Texas Health Science Center at San Antonio, San Antonio, TX, United States; [2]Barshop Institute for Longevity and Aging Studies, University of Texas Health Science Center at San Antonio, San Antonio, TX, United States; [3]Magnetic Resonance Research Center, Yale University, New Haven, CT, United States

18:06 **0119.** **Rates of Human Hepatic Oxidative Metabolism Estimated *in Vivo* Using a Novel ^{13}C-MRS Method**

Douglas E. Befroy[1, 2], Nimit Jain[3], Kitt Falk Petesen[2], Gerald I. Shulman[2, 4], Douglas L. Rothman[3, 5]

[1]Diagnostic Radiology, Yale University, New Haven, CT, United States; [2]Internal Medicine, Yale School of Medicine, New Haven, CT, United States; [3]Diagnostic Radiology, Yale School of Medicine, New Haven, CT, United States; [4]Howard Hughes Medical Institute, Yale School of Medicine, New Haven, CT, United States; [5]Biomedical Engineering, Yale University, New Haven, CT, United States

18:18 **0120.** **Acetylcarnitine Turnover in Rat Skeletal Muscle Measured in Vivo Using Localized ^{13}C NMR at 14.1 T**

ISMRM MERIT AWARD magna cum laude

Jessica A. M. Bastiaansen[1], Joao M.N. Duarte[2, 3], Arnaud Comment[4], Rolf Gruetter[5, 6]

[1]Laboratory of Functional and Metabolic Imaging, EPFL, Lausanne, Switzerland; [2]Laboratory of Functional and Metabolic Imaging, Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland; [3]Department of Radiology, University of Lausanne, Lausanne, Switzerland; [4]Institute of Physics of Biological Systems, Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland; [5]Laboratory of Functional and Metabolic Imaging, École Polytechnique Fédérale de Lausanne, Lausanne, Switzerland; [6]Department of Radiology, University of Lausanne and Geneva, Lausanne and Geneva, Switzerland

Image Reconstruction

Room 151 AG 16:30-18:30 *Moderators:* Alexey Samsonov & Nicole E. Seiberlich

16:30 **0121.** **Slab Profile Encoding for Minimizing Venetian Blind Artifact in 3D Diffusion-Weighted Multislab Acquisition**

ISMRM MERIT AWARD summa cum laude

Anh Tu Van[1], Murat Aksoy[1], Samantha J. Holdsworth[1], Daniel Kopeinigg[1], Sjoerd B. Vos[2], Roland Bammer[1]

[1]Radiology, Stanford University, Palo Alto, CA, United States; [2]Image Sciences Institute, University Medical Center Utrecht, Utrecht, Netherlands

16:42 **0122.** **Accelerated Parallel Traveling Wave MR and Compressed Sensing Using a 2-Channel Transceiver Array**

Maryam Vareth[1, 2], Anita Flynn[3], Wei Bian[1, 2], Ye Li[1], Daniel B. Vigneron[1, 2], Sarah J. Nelson[1, 2], Xiaoliang Zhang[1, 2]

[1]Radiology and Biomedical Imaging, UC San Francisco, San Francisco, CA, United States; [2]UC Berkeley/UCSF Joint Graduate Group in Bioengineering, San Francisco, CA, United States; [3]EECS, UC Berkeley, Berkeley, CA, United States

16:54 **0123.** **Separation of Two Simultaneously Encoded Slices with a Single Coil**

Daniel B. Rowe[1, 2], Andrew S. Nencka[2], Andrzej Jesmanowicz[2], James S. Hyde[2]

[1]Department of Mathematics, Statistics, and Computer Science, Marquette University, Milwaukee, WI, United States; [2]Department of Biophysics, Medical College of Wisconsin, Milwaukee, WI, United States

17:06 **0124.** **Local Resolution Adaptation for Curved Slice Imaging**

ISMRM MERIT AWARD magna cum laude

Hans Weber[1], Gerrit Schultz[1], Daniel Gallichan[2], Jürgen Hennig[1], Maxim Zaitsev[1]

[1]Department of Radiology, Medical Physics, University Medical Center Freiburg, Freiburg, Germany; [2]LIFMET, Ecole Polytéchnique Fédérale de Lausanne, Lausanne, Switzerland

17:18 **0125.** **Simultaneous Multi-Slice Flyback Echo Planar Imaging with Auto-Calibration**
ISMRM MERIT AWARD magna cum laude
Kangrong Zhu[1], Adam Kerr[1], John M. Pauly[1]
[1]Stanford University, Stanford, CA, United States

17:30 **0126.** **Automated Selection of 2D-CAIPIRINHA Kernels and Application to 3D CE-MRA**
ISMRM MERIT AWARD magna cum laude
Paul T. Weavers[1], Eric A. Borisch[1], Stephen J. Riederer[1]
[1]MR Research Laboratory, Mayo Clinic, Rochester, MN, United States

17:42 **0127.** **ESPIRiT Reconstruction Using Soft SENSE**
ISMRM MERIT AWARD magna cum laude
Martin Uecker[1], Patrick Virtue[1], Shreyas S. Vasanawala[2], Michael Lustig[1]
[1]Electrical Engineering and Computer Sciences, University of California, Berkeley, Berkeley, CA, United States; [2]Department of Radiology, Stanford University, Stanford, CA, United States

17:54 **0128.** **Improving K-T Auto-Calibrating Parallel Imaging for 3D Cardiac Cine MRI Using Prior-Reconstruction Static Tissue Estimation and Elimination**
Peng Lai[1], Shreyas S. Vasanawala[2], Atsushi Nozaki[3], Maggie Fung[4], Anja C.S Brau[5]
[1]MR Applications & Workflow , GE Healthcare, Menlo Park, CA, United States; [2]Radiology, Stanford University, Stanford, CA, United States; [3]MR Applications & Workflow, GE Healthcare, Asahigaoka, Hino, Japan; [4]MR Applications & Workflow, GE Healthcare, Jersey City, NJ, United States; [5]MR Applications & Workflow, GE Healthcare, Garching, Munchen, Germany

18:06 **0129.** **Iterative Trajectory Correction for Radial Projection Imaging**
ISMRM MERIT AWARD magna cum laude
Tobias Wech[1], Johannes Tran-Gia[1], Dietbert Hahn[1], Herbert Köstler[1]
[1]Institute of Radiology, University of Würzburg, Würzburg, Germany

18:18 **0130.** **Calibrationless Chemical Shift Encoded Imaging Using a Time-Segmented K-Space Reconstruction**
ISMRM MERIT AWARD summa cum laude
Samir D. Sharma[1, 2], Joshua D. Trzasko[3], Armando Manduca[3]
[1]Radiology, University of Wisconsin - Madison, Madison, WI, United States; [2]Electrical Engineering, University of Southern California, Los Angeles, CA, United States; [3]Mayo Clinic, Rochester, MN, United States

New Systems & Probes

Room 155 EF 16:30-18:30 *Moderators:* Daniel K. Sodickson & Jason P. Stockmann

16:30 **0131.** **A Separated Transmit-Only, Receive-Only Array for Body Imaging at 7T with Automated Tuning and Matching Capabilities**
Carl Snyder[1], Lance DelaBarre[1], Aaron T. Hess[2], Chris Rodgers[2], Mattew Robson[2], University of Minnesota University of Minnesota Vaughan[1]
[1]University of Minnesota, Minneapolis, MN, United States; [2]University of Oxford, Oxford, United Kingdom

16:42 **0132.** **A Novel Flexible Flex Cable Antenna (FFCA) for Foot MR Imaging**
Hongyang Yuan[1], Qunzhi Chen[2], Yu Wang, Wenchao Cai[3], Xiaoying Wang[3], Jue Zhang[1], Jing Fang[1]
[1]College of Engineering, Peking University, Beijing, China; [2] Academy for Advanced Interdisciplinary Studies, Peking University, Beijing, China; [3]Department of Radiology, Peking University First Hospital, Beijing, China

16:54 **0133.** **Screen Printed Flexible 2-Channel Receive Coil Array**
ISMRM MERIT AWARD magna cum laude
Joseph R. Corea[1], Ana Claudia Arias[1], Anita Flynn[1], Greig C. Scott[2], Peter Shin[3], Michael Lustig[1]
[1]EECS, UC Berkeley, Berkeley, CA, United States; [2]EE, Stanford University, Stanford, CA, United States; [3]EE, UC San Francisco, San Fransisco, CA, United States

17:06 **0134.** **Development of a Catheter-Mounted Cardiac RF Coil for Temperature Imaging in Atrial Fibrillation Treatment**
ISMRM MERIT AWARD magna cum laude
Nelly A. Volland[1, 2], Robb Merrill[1], J. Rock Hadley[1, 2], Dennis L. Parker[1, 2]
[1]Ucair/ Radiology, University of Utah, Salt Lake City, UT, United States; [2]CARMA, University of Utah, Salt Lake City, UT, United States

17:18 **0135.** **High-Temperature Superconducting Radiofrequency Probe for MRI Applications Operated Below Ambient Pressure in a Simple Liquid-Nitrogen Cryostat**

Simon Auguste Lambert[1], Marie Poirier-Quinot[2], Jean-christophe Ginefri[3], Luc Darrasse[2]
[1]CRB3- INSERM U773, Univ Paris Diderot, Sorbonne Paris Cité , Clichy, France; [2]CRB3- INSERM U773, Univ Paris Diderot, Sorbonne Paris Cité, Clichy, France; [3]CRB3- INSERM U773, Univ Paris-Sud, Clichy, France

17:30 **0136.** **MR Microimaging Using a High T_c Superconducting Bulk Magnet with Compressed Sensing**

ISMRM MERIT AWARD magna cum laude

Daiki Tamada[1, 2], Takashi Nakamura[1, 2], Katsumi Kose[1, 2]
[1]Institute of Applied Physics, University of Tsukuba, Tsukuba, Ibaraki, Japan; [2]RIKEN, Wako, Saitama, Japan

17:42 **0137.** **A Lightweight, Portable MRI Brain Scanner Based on a Rotating Halbach Magnet**

Clarissa Zimmerman Cooley[1, 2], Jason P. Stockmann[2, 3], Brandon Dean Armstrong[2, 3], Matthew S. Rosen[2, 3], Lawrence L. Wald[2]
[1]Electrical Engineering, Massachusetts Institute of Technology, Cambridge, MA, United States; [2]Athinoula A. Martinos Center for Biomedical Imaging, Department of Radiology, Massachusetts General Hospital, Charlestown, MA, United States; [3]Department of Physics, Harvard University, Cambridge, MA, United States

17:54 **0138.** **Target Field Based RF Phase Gradient Transmit Array for 3D TRASE MRI**

ISMRM MERIT AWARD magna cum laude

Jesse Bellec[1], Scott B. King, [12], Chen-Yi Liu[1], Christopher P. Bidinosti[3]
[1]Physics and Astronomy, University of Manitoba, Winnipeg, Manitoba, Canada; [2]National Research Council of Canada, Winnipeg, Manitoba, Canada; [3]Physics, University of Winnipeg, Winnipeg, Manitoba, Canada

18:06 **0139.** **An Open Source Mobile NMR Relaxometry Platform**

ISMRM MERIT AWARD magna cum laude

Michael Twieg[1], Matthew J. Riffe[2], Natalia Gudino[2], Mark A. Griswold, [13]
[1]Dept. of Electrical Engineering and Computer Science, Case Western Reserve University, Cleveland, OH, United States; [2]Dept. of Biomedical Engineering, Case Western Reserve University, Cleveland, OH, United States; [3]Dept. of Radiology, Case Western Reserve University, Cleveland, OH, United States

18:18 **0140.** **Magnetic Particle Imaging for Safe Angiography and Stem Cell Tracking**

Emine U. Saritas[1], Patrick W. Goodwill[1], Justin J. Konkle[1], Laura R. Croft[1], Kuan Lu[1], Bo Zheng[1], Steven M. Conolly[1, 2]
[1]Department of Bioengineering, University of California, Berkeley, Berkeley, CA, United States; [2]Department of Electrical Engineering and Computer Sciences,, University of California, Berkeley, Berkeley, CA, United States

Bone, Tendon & Menisci: State of the Art

Room 255 BC 16:30-18:30 *Moderators:* Erik Y. Chang & Mark D. Does

16:30 **0141.** **Aging Augments the Suppression Ratio, a MRI Biomarker of Cortical Bone Porosity**

Yusuf A. Bhagat[1], Cheng Li[1], Shing Chun Benny Lam[1], Alan C. Seifert[1], Mahdieh Bashoor Zadeh[1], Felix W. Wehrli[1]
[1]Laboratory for Structural NMR Imaging, University of Pennsylvania, Philadelphia, PA, United States

16:42 **0142.** **Can We Assess Cortical Bone Microstructure with Magnetic Resonance Imaging?**

Won C. Bae[1], Reni Biswas[1], Shantanu Patil[2], Christine Chung[1], Darryl D. D'Lima[2], Graeme M. Bydder[3], Jiang Du[1]
[1]Radiology, University of California, San Diego, San Diego, CA, United States; [2]Molecular and Experimental Medicine, Scripps Translational Science Institute, La Jolla, CA, United States; [3]Radiology, University of California San Diego, San Diego, CA, United States

16:54 **0143.** **The Porous System Model Suitable to Investigate the Structural Properties of the Cancellous Bone by Using Diffusion Techniques: Validation in Calcaneus and Femoral Neck**

Silvia Capuani[1]
[1]Physics Department, Sapienza University, Rome, Italy, Italy

17:06 **0144.** **Assessment of Bone Marrow Fat Fraction in the Presence of Trabecular Bone: Initial Comparison of Water-Fat Imaging with Single-Voxel MRS**

Dimitrios C. Karampinos[1, 2], Gerd Melkus[1], Thomas Baum[2], Jan S. Bauer[2], Ernst J. Rummeny[2], Roland Krug[1]
[1]Department of Radiology and Biomedical Imaging, University of California, San Francisco, San Francisco, CA, United States; [2]Department of Diagnostic and Interventional Radiology, Technical University of Munich, Munich, Germany

17:18 **0145. Variation of Lamellar Layer Thickness in Human Menisci on Ultrashort Echo Time (UTE) Imaging: Correlation with Indentation Stiffness**
Ja-Young Choi[1], Reni Biswas[2], Mike Im[1], Won C. Bae[1], Sheronda Statum[1], Eric Chang[2], Jiang Du[2], Graeme M. Bydder[3], Darryl D. D'Lima[4], Christine Chung[2]
[1]Radiology, UC San Diego Medical Center, San Diego, CA, United States; [2]Radiology, University of California, San Diego, San Diego, CA, United States; [3]Radiology, University of California San Diego, San Diego, CA, United States; [4]Molecular and Experimental Medicine, Scripps Translational Science Institute, La Jolla, CA, United States

17:30 **0146. Correlation Between Quantitative Delayed Contrast-Enhancement in Meniscus and Cartilage in Knee Osteoarthritis**
Jasper van Tiel[1, 2], Esther Bron[1, 3], Koen Bos[2], Stefan Klein[1, 3], Max Reijman[2], Jan Verhaar[2], Gabriel Krestin[1], Harrie Weinans[2, 4], Gyula Kotek[1], Edwin Oei[1]
[1]Radiology, Erasmus MC, Rotterdam, Zuid-Holland, Netherlands; [2]Orthopedic Surgery, Erasmus MC, Rotterdam, Zuid-Holland, Netherlands; [3]Medical Informatics, Erasmus MC, Rotterdam, Zuid-Holland, Netherlands; [4]Biomechanical Engineering, Delft University of Technology, Delft, Zuid-Holland, Netherlands

17:42 **0147. Experimental Influences on the Anisotropies of Multi-Component T2 and T1ρ in Tendon**
Yang Xia[1, 2], Nian Wang[1]
[1]Physics, Oakland University, Rochester, MI, United States; [2]Center for Biomedical Research, Oakland University, Rochester, MI, United States

17:54 **0148. The Shear Modulus of the Nucleus Pulposus Measured Using MR Elastography: A Potential Biomarker for Intervertebral Disc Degeneration**
Daniel H. Cortes[1], Jeremy F. Magland[2], Alexander C. Wright[2], Dawn M. Elliott[1]
[1]Biomedical Engineering, University of Delaware, Newark, DE, United States; [2]Radiology, University of Pennsylvania, Philadelphia, PA, United States

18:06 **0149. Feasibility of Using MR Elastography in the Intervertebral Disc and Comparison to Finite Element Model**
Ephraim I. Ben-Abraham[1], Jun Chen[1], Richard Leroy Ehman[1]
[1]Mayo Clinic, Rochester, MN, United States

18:18 **0150. DCEMRI Shows Slower Wash-Out in Lumbar Disc Endplates to Sustain Diffusion of Nutrients Into the Discs**
L. Tugan Muftuler[1, 2], Hon J. Yu[3], Vance O. Gardner[4], Dennis J. Maiman[1]
[1]Department of Neurosurgery, Medical College of Wisconsin, Milwaukee, WI, United States; [2]Center for Imaging Research, Medical College of Wisconsin, Milwaukee, WI, United States; [3]Department of Radiology, University of California, Irvine, CA, United States; [4]Orthopaedic Education and Research Institute of Southern California, Orange, CA, United States

Novel Contrast Agents & Reporters

Room 255 EF 16:30-18:30 *Moderators:* Assaf A. Gilad & Willem M. Mulder

16:30 **0151. *in-vivo* 29Si Magnetic Resonance Imaging of Hyperpolarized Silicon Particles**
ISMRM MERIT AWARD summa cum laude
Maja Cassidy[1], Henry Chan[2], Pratip Bhattacharya[2, 3], Charles Marcus[1, 4]
[1]Harvard University, Cambridge, MA, United States; [2]Huntington Medical Research Institutes, Pasadena, CA, United States; [3]Experimental Diagnostic Imaging, The University of Texas MD Anderson Cancer Center, Houston, TX, United States; [4]University of Copenhagen, Copenhagen, Denmark

16:42 **0152. Imaging Ca^{2+} Using Fluorine Chemical Exchange Saturation Transfer (^{19}F-CEST)**
ISMRM MERIT AWARD summa cum laude
Amnon Bar-Shir[1, 2], Assaf A. Gilad[1, 2], Kannie W.Y. Chan[1, 3], Guanshu Liu[1, 3], Peter C.M. van Zijl[1, 3], Michael T. McMahon[1, 3], Jeff W.M. Bulte[1, 2]
[1]Department of Radiology, Johns Hopkins University, Baltimore, MD, United States; [2]Institute for Cell Engineering, Johns Hopkins University, Baltimore, MD, United States; [3]F.M. Kirby Research Center, Kennedy Krieger Institute, Baltimore, MD, United States

16:54 **0153. A Novel MR-Visible Persistent Apoptosis Marker Validated with Immunohistochemistry**
ISMRM MERIT AWARD magna cum laude
Firas Moosvi[1], Jennifer H.E. Baker, [1,2], Andrew Yung[1], Kenneth Curry[3], Stefan A. Reinsberg[1]
[1]Physics and Astronomy, University of British Columbia, Vancouver, BC, Canada; [2]Radiation Biology, BC Cancer Research Institute, Vancouver, BC, Canada; [3]RF Therapeutics, Vancouver, BC, Canada

17:06 **0154.** **Evaluation of Vanadium-Based Contrast Agents for Detection of Early Murine Colon Cancer Using MRI, X-Ray Fluorescence Microscopy and a Novel Method of Image Co-Registrations**

Devkumar Mustafi[1], Jesse Ward[2], Urszula Dougherty[3], Erica Markiewicz[1], Marc Bissonnette[3], Stefan Vogt[2], Gregory S. Karczmar[1]

[1]Radiology, The University of Chicago, Chicago, IL, United States; [2]Advanced Photon Source - Sector 2, Argonne National Laboratory, Lemont, IL, United States; [3]Medicine, The University of Chicago, Chicago, IL, United States

17:18 **0155.** **Chemical Doping of Iron Oxide Inside Apoferritin to Form an MRI Contrast Agent with High R1 and Low R_2**

ISMRM MERIT AWARD magna cum laude

Maria Veronica Clavijo Jordan[1], Kevin M. Bennett[1]

[1]School of Biological and Health Systems Engineering, Arizona State University, Tempe, AZ, United States

17:30 **0156.** **Using Magnetization Transfer Contrast as a Surrogate Marker for the Occurrence of a Foreign Body Reaction in Hydrogel-Based Cell Therapy**

ISMRM MERIT AWARD magna cum laude

Kannie W.Y. Chan[1, 2], Guanshu Liu[1, 3], Peter C.M. van Zijl[1, 3], Jeff W.M. Bulte, [2,4], Michael T. McMahon[1, 3]

[1]Russell H. Morgan Department of Radiology and Radiological Science, The Johns Hopkins University School of Medicine, Baltimore, MD, United States; [2]Cellular Imaging Section and Vascular Biology Program, Institute for Cell Engineering, Baltimore, MD, United States; [3]F.M. Kirby Research Center for Functional Brain Imaging, Kennedy Krieger Institute, Baltimore, MD, United States; [4]Russell H. Morgan Department of Radiology and Radiological Science, Johns Hopkins University, Baltimore, MD, United States

17:42 **0157.** **Macrophage Tracking with Heteronuclear Proton MRI**

Cornelius Faber[1], Rebecca Schmidt[1], Nadine Nippe[2], Klaus Strobel[1], Max Masthoff[1], Carsten Höltke[1], Olga Reifschneider[3], Daniela Delli Castelli[4], Silvio Aime[4], Christoph Bremer[1]

[1]Department of Clinical Radiology, University Hospital Münster, Münster, NRW, Germany; [2]Department of Dermatology, University Hospital Münster, Münster, NRW, Germany; [3]Institute of Inorganic and Analytical Chemistry, University of Münster, Münster, NRW, Germany; [4]Department of Molecular Biotechnologies and Health Sciences, University of Torino, Torino, Italy

17:54 **0158.** **Imaging Oncolytic Virotherapy Delivery Using a CEST Reporter Gene**

Christian Thomas Farrar[1], Jason S. Buhrman[2], Guanshu Liu[3, 4], Assaf A. Gilad[3, 4], Michael T. McMahon[3, 4], Giulia Fulci[2]

[1]Department of Radiology, Massachusetts General Hospital and Harvard Medical School, Charlestown, MA, United States; [2]Department of Neurosurgery, Massachusetts General Hospital and Harvard Medical School, Charlestown, MA, United States; [3]F. M. Kirby Center for Functional Brain Imaging, Kennedy Krieger Institute, Baltimore, MD, United States; [4]Department of Radiology, The Johns Hopkins University School of Medicine, Baltimore, MD, United States

18:06 **0159.** **Bioengineering a Reporter System That Combines a Highly Sensitive CEST and Fluorescence Imaging Probe**

ISMRM MERIT AWARD magna cum laude

Amnon Bar-Shir[1, 2], Yoshinori Kato[1], Arvind P. Pathak[1], Jeff W.M. Bulte[1, 2], Assaf A. Gilad[1, 2]

[1]Department of Radiology, Johns Hopkins University, Baltimore, MD, United States; [2]Institute for Cell Engineering, Johns Hopkins University, Baltimore, MD, United States

18:18 **0160.** **A Bright Multi-Imaging Modality Gene Reporter**

ISMRM MERIT AWARD summa cum laude

P. Stephen Patrick[1, 2], Jayne Hammersley[2], Louiza Loizou[2], Mikko I. Kettunen[1], Tiago B. Rodrigues[1], De-En Hu[2], Sui Seng Tee, [2,3], Robin Hesketh[2], Scott K. Lyons[1], Silvio Aime[4], Sandra M. Fulton[2], Kevin M. Brindle, [1,2]

[1]Cancer Research UK, University of Cambridge, Cambridge, Cambridgeshire, United Kingdom; [2]Department of Biochemistry, University of Cambridge, Cambridge, Cambridgeshire, United Kingdom; [3]School of Medicine, University of Stanford, Palo Alto, CA, United States; [4]Molecular Biotechnology Centre, University of Turin, Turin, Piedmont, Italy

Translational Scientific Session: Susceptibility Image in the Brain

Room 355 BC 16:30-18:30 *Moderators:* E. Mark Haacke & Chunlei Liu

16:30 **0161.** **Dependence of Gradient Echo Phase Contrast on the Differential Signal Decay in Subcellular Compartments**

ISMRM MERIT AWARD magna cum laude

Wei Li[1], Hui Han[1], Arnaud Guidon[1], Chunlei Liu[1, 2]

[1]Brain Imaging & Analysis Center, Duke University, Durham, NC, United States; [2]Radiology, Duke University, Durham, NC, United States

16:42 **0162.** **Ultra-High-Field 7T *in Vivo* Normative Atlas of the Hippocampal Subfields Using Susceptibility Weighted Imaging**

ISMRM MERIT AWARD magna cum laude

Maged Goubran[1], Brendan Santyr[1], Dave A. Rudko[1], Joseph S. Gati[1], Trevor Szekeres[1], Terry M. Peters[1], Ali R. Khan[1]
[1]Robarts Research Institute, London, Ontario, Canada

16:54 **0163.** **A 7-Tesla Longitudinal Study on Proportion of Veins in Plaques of Patients with Multiple Sclerosis**

Assunta Dal-Bianco[1], Günther Grabner[2], Hans Lassmann[3], Melanie Schernthaner[4], Claudia Kronnerwetter[5], Michael Weber[4], Clemens Vass[6], Karl Kircher[6], Andreas Reitner[6], Eduard Auff[7], Siegfried Trattnig[5]
[1]Department of Neurology, Medical University of Vienna, Vienna, Austria; [2]High field MR Center of Excellence, Department of Radiology, Medical University of Vienna, Vienna, Austria; [3]Center for Brain Research, Medical University of Vienna/Vienna General Hospital, Vienna, Austria; [4]Department of Radiology, Medical University of Vienna/Vienna General Hospital, Vienna, Austria; [5]High field MR Center of Excellence, Department of Radiology, Medical University of Vienna/Vienna General Hospital, Vienna, Austria; [6]Department of Ophthalmology and Optometrics, Medical University of Vienna/Vienna General Hospital, Vienna, Austria; [7]Department of Neurology, Medical University of Vienna/Vienna General Hospital, Vienna, Austria

17:06 **0164.** **An Improved Susceptibility Weighted Imaging Method Using Multi-Echo Acquisition**

ISMRM MERIT AWARD magna cum laude

Sung Suk Oh[1, 2], Se-Hong Oh[1], HyunWook Park[3], Jongho Lee[1]
[1]Department of Radiology, Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA, United States; [2]Department of Electrical Engineering, KAIST, Daejeon , Korea; [3]Department of Electrical Engineering, KAIST, Daejeon, Korea

17:18 **0165.** **Flow Compensated Quantitative Susceptibility Mapping for Venous Oxygenation Imaging**

Bo Xu[1, 2], Tian Liu[2], Pascal Spincemaille[2], Yi Wang[1, 2]
[1]Biomedical Engineering, Cornell University, Ithaca, NY, United States; [2]Weill Cornell Medical College, New York, United States

17:30 **0166.** **Magnetic Resonance Venography of the Fetal Brain Using Susceptibility Weighted Imaging (SWI)**

Jaladhar Neelavali[1], Haacke Mark Ewart[1], Swati Mody[1], Lami Yeo[2, 3], Sheena Saleem[4], Yashwanth Katkuri[1], Pavan Jella[5], Ray O. Bahado-Singh[3], Sonia Hassan[2, 3], Robert Romero[2], Moriah Thomason[4, 6]
[1]Department of Radiology, Wayne State University, Detroit, MI, United States; [2]Perinatology Research Branch,NICHD, NIH, DHHS, Detroit, MI, United States; [3]Department of Obstetrics and Gynecology, Wayne State University, Detroit, MI, United States; [4]Department of Pediatrics, Wayne State University, Detroit, MI, United States; [5]Biomedical Engineering, Wayne State University, Detroit, MI, United States; [6]Perinatology Research Branch, Wayne State University, Detroit, MI, United States

17:42 **0167.** **Susceptibility Weighted Imaging at 3 Tesla Is Superior to Time-Of-Flight-Angiography for the Detection of Peripheral Thrombi in Patients with Acute Stroke**

Alexander Radbruch[1, 2], Johanna Mucke[1], Matthias Roethke[2], Heinz-Peter Schlemmer[2], Sabine Heiland[1], Martin Bendszus[1], Stefan Rohde[1]
[1]Department of Neuroradiology, Heidelberg University Medical Center, Heidelberg, Germany; [2]Department of Radiology, German Cancer Research Center (DKFZ), Heidelberg, Germany

17:54 **0168.** **Regularized QSM in Seconds**

ISMRM MERIT AWARD summa cum laude

Berkin Bilgic[1], Itthi Chatnuntawech[1], Audrey Peiwen Fan[1], Elfar Adalsteinsson[2, 3]
[1]EECS, Massachusetts Institute of Technology, Cambridge, MA, United States; [2]EECS, MIT, Cambridge, MA, United States; [3]Harvard-MIT Division of Health Sciences and Technology, Cambridge, MA, United States

18:06 **0169.** **Susceptibility Mapping Using Regularization Enabled Harmonic Artifact Removal**

ISMRM MERIT AWARD summa cum laude

Hongfu Sun[1], Alan H. Wilman[1]
[1]Biomedical Engineering, University of Alberta, Edmonton, Alberta, Canada

18:18 **0170.** **Efficient and Automatic Harmonic Field Pre-Filtering for Brain Quantitative Susceptibility Mapping**

Ludovic De Rochefort[1], Hongchen Wang[2], Paulo Loureiro de Sousa[3], Jean-Paul Armspach[3]
[1]Univ Paris-Sud, Orsay, France; [2]Univ. Paris Sud - CNRS, UMR 8081, IR4M, Orsay, France; [3]Université de Strasbourg, CNRS, ICube (UMR 7357), FMTS, Strasbourg, France

Advanced Fetal & Pediatric CNS Imaging

Room 355 EF 16:30-18:30 *Moderators:* Patricia Ellen Grant & Tetsu Niwa

16:30 0171. Accelerated Human Cortical Microstructural Changes from 35 to 40 Weeks of Gestation Characterized with DTI

Qiaowen Yu[1], Tina Jeon[1], Shuwei Liu[2], Hao Huang[1]

[1]Advanced Imaging Research Center, University of Texas Southwestern Medical Center, Dallas, TX, United States; [2]Research Center for Sectional and Imaging Anatomy, Shandong University, Jinan, Shandong, China

16:42 0172. Evaluation of the Longitudinal Relaxation Rate of Blood in Neonates.

ISMRM MERIT AWARD magna cum laude

Jill Britt De Vis[1], Jeroen Hendrikse[1], Nikki Dieleman[1], Floris Groenendaal[2], Karina J. Kersbergen[2], Linda S. de Vries[2], Manon J.N.L. Benders[2], Esben Thade Petersen[1]

[1]Radiology, University Medical Center Utrecht, Utrecht, Netherlands; [2]Neonatology, Wilhelmina Children's Hospital, Utrecht, Netherlands

16:54 0173. Quantitative Measurement of Deep Medullary Venous in Susceptibility Weighted Imaging:Comparison of Hypoxic-Ischemic and Normal Neonates

Ning Ning[1], Xianjun Li[1, 2], Jie Gao[3], Yumiao Zhang[1], Jianghong Han[1], Xue Luo[1], Gang Niu[1], Youmin Guo[1], Ed X. Wu[4], Jian Yang[1]

[1]Department of radiology, the first affiliated hospital of medical college, Xi'an Jiaotong University, Xi'an, Shaanxi, China; [2]Department of Biomedical Engineering, School of Life Science and Technology, , Xi' an Jiaotong University, Xi'an, Shaanxi, China; [3]Department of radiology, The First Affiliated Hospital of Medical College, Xi¡¯an Jiaotong University, Xi'an, Shaanxi, China; [4]Laboratory of Biomedical Imaging and Signal Processing, The University of Hong Kong, Hong Kong SAR, China

17:06 0174. Increased Incidence of Intracranial Hemorrhage in Extremely Premature Infants Treated with Hypercapnic Ventilation

Xiawei Ou[1], Charles M. Glasier[1], Raghu H. Ramakrishnaiah[1], Sarah B. Mulkey[2], Vivien L. Yap[2], Jeffrey R. Kaiser[2]

[1]Radiology, Arkansas Children's Hospital; University of Arkansas for Medical Sciences, Little Rock, AR, United States; [2]Pediatrics, Arkansas Children's Hospital; University of Arkansas for Medical Sciences, Little Rock, AR, United States

17:18 0175. Quantitative Assessment of Cerebral Metabolism Rate of Oxygen in Neonates

ISMRM MERIT AWARD magna cum laude

Peiying Liu[1], Hao Huang[1], Nancy K. Rollins[2], Tina Jeon[1], Lina Chalak[3], Hanzhang Lu[1]

[1]Advanced Imaging Research Center, University of Texas Southwestern Medical Center, Dallas, TX, United States; [2]Department of Radiology, University of Texas Southwestern Medical Center, Dallas, TX, United States; [3]Department of Pediatrics, University of Texas Southwestern Medical Center, Dallas, TX, United States

17:30 0176. Whole-Brain Connectivity Mapping in Infants Reveals Widespread Areas of White Matter Damage Associated with Prematurity

ISMRM MERIT AWARD summa cum laude

Anand Pandit[1, 2], Emma Robinson[3], Paul Aljabar[1], Gareth Ball[1], Ioannis S. Gousias[4], Zi Wang[5], Giovanni Montana[5], Jo Hajnal[1], Daniel Rueckert[6], Serena J. Counsell[7], A. David Edwards[1]

[1]Centre for the Developing Brain, King's College, London, United Kingdom; [2]Centre for the Developing Brain, Imperial College, London, London, United Kingdom; [3]FMRIB, University of Oxford, Oxford, Oxfordshire, United Kingdom; [4]Centre for the Developing Brain, Imperial College, London, United Kingdom; [5]Statistics Section, Department of Mathematics, Imperial College, London, United Kingdom; [6]Department of Computing, Imperial College, London, United Kingdom; [7]Centre for the Developing Brain, King's College London, London, United Kingdom

17:42 0177. Atlas-Based Quantification of Diffusion Tensor Imaging (DTI) and Resting-State Functional MRI (Rs-FMRI) in Children with Cerebral Palsy (CP)

Shoko Yoshida[1], Andreia V. Faria[2], Diane L. Damiano[3], Chunxiao Zhou[4], Alexander Hoon[5], Elaine Stashinko[5], Kenichi Oishi[1], James J. Pekar, [1,6], Susumu Mori[1, 6]

[1]The Russell H. Morgan Department of Radiology and Radiological Science, Johns Hopkins University School of Medicine, Baltimore, MD, United States; [2]The Russell H. Morgan Department of Radiology and Radiological Science, Johns Hopkins University, Baltimore, MD, United States; [3]National Institutes of Health, Bethesda, MD, United States; [4]Rehabilitation Medicine Department, National Institutes of Health, Bethesda, MD, United States; [5]Division of Neurology and Developmental Medicine, Kennedy Krieger Institute, Baltimore, MD, United States; [6]F. M. Kirby Research Center for Functional Brain Imaging, Kennedy Krieger Institute, Baltimore, MD, United States

17:54 **0178. The Structural Connectome of the Human Brain in Agenesis of the Corpus Callosum**
Julia P. Owen[1], Yi-Ou Li[1], Etay Ziv[1], Zoe Strominger[2], Jacquelyn Gold[2], Polina Bukshpun[2], Mari Wakahiro[2], Elliott Sherr[2], Pratik Mukherjee[1]
[1]Radiology, UCSF, San Francisco, CA, United States; [2]Neurology, UCSF, San Francisco, CA, United States

18:06 **0179. Revealing Morphological Connectome Alternation in Autistic Brain**
Feng Shi[1], Li Wang[1], Ziwen Peng[1, 2], Chong-Yaw Wee[1], Dinggang Shen[1]
[1]Department of Radiology and BRIC, University of North Carolina at Chapel Hill, Chapel Hill, NC, United States; [2]Department of Psychology, South China Normal University, Guangzhou, Guangdong, China

18:18 **0180. Altered Structural and Functional Connectivity in Late Preterm Preadolescents**
Jessica L. Wisnowski[1, 2], Vincent J. Schmithorst[2], Rafael C. Ceschin[3, 4], Patricia Corby[5], Hanna Damasio[1], Ashok Panigrahy[2]
[1]Brain and Creativity Institute, University of Southern California, Los Angeles, CA, United States; [2]Radiology, Children's Hospital of Pittsburgh of UPMC, Pittsburgh, PA, United States; [3]Radiology, Children's Hospital of Pittsburgh, Pittsburgh, PA, United States; [4]Biomedical Informatics, University of Pittsburgh, Pittsburgh, PA, United States; [5]Dentistry, New York University, New York, NY, United States

Educational Course
Female Pelvis

*Organizers:*Masoom A. Haider, M.D., F.R.C.P.C., Shahid M. Hussain, M.D., Ph.D., John P. Mugler, III, Ph.D. & Shreyas S. Vasanawala, M.D., Ph.D.

Room 250 BCEF 16:30-18:30 *Moderators:*Patricia Noël & Caroline Reinhold

16:30 **Tips & Tricks for Pelvic Imaging**
Patricia Noël, M.D., F.R.C.P.C.

17:00 **Adnexal Mass Characterization**
Isabelle Thomassin-Naggara, M.D., Ph.D.

17:30 **Endometrial Carcinoma: Impact of MR on Management**
Caroline Reinhold, M.D.

18:00 **Cervical Carcinoma: Staging & Follow-Up**
Evis Sala, M.D., Ph.D.

18:30 **Adjournment**

Educational Course
Added Value of DWI for Your Clinical Practice

*Organizers:*Masoom A. Haider, M.D., F.R.C.P.C. & Elizabeth A. Morris, M.D., F.A.C.R.

Room 251 BCEF 16:30-18:30 *Moderators:*Dow-Mu Koh & Anwar R. Padhani

16:30 **Liver Lesions: Added Value of Diffusion MRI**
Bachir Taouli, M.D.

16:50 **Renal Lesions: Added Value of Diffusion MRI**
Harriet C. Thoeny, M.D.

17:10 **Pelvis: Added Value of Diffusion MRI**
Nandita M. DeSouza, M.D., F.R.C.R.

17:30 **Response to Treatment**
Kinh Gian Do, M.D., Ph.D.

17:50 **Bones**
Anwar R. Padhani, M.B.B.S., F.R.C.P.

18:10 **Round Table & Tweets**

18:30 **Adjournment**

Sunrise Educational Course
Hot Topics in Body MRI

*Organizers:*Masoom A. Haider, M.D., F.R.C.P.C., Shahid M. Hussain, M.D., Ph.D., John P. Mugler, III, Ph.D., Caroline Reinhold, M.D. & Shreyas S. Vasanawala, M.D., Ph.D.

Room 250 BCEF 07:00-07:50 *Moderator:*Shahid M. Hussain

Body Vascular Imaging

07:00 **Non-Contrast MRA**
Mitsue Miyazaki, Ph.D.

07:25 **Contrast-Enhanced MRA & MRV**
Pejman Ghanouni, M.D., Ph.D.

07:50 **Adjournment**

Sunrise Educational Course
MRS

*Organizers:*Peter B. Barker, D.Phil. & Robert E. Lenkinski, Ph.D.

Room 150 AG 07:00-07:50 *Moderators:*Peter B. Barker & Robert E. Lenkinski

07:00 **The Basics**
Alexander P. Lin, Ph.D.

07:25 **Using Edited MRS to Reveal Extra Metabolites**
Richard A. Edden, Ph.D.

07:50 **Adjournment**

Sunrise Educational Course
Cardiac MR Today & Tomorrow

*Organizer:*Craig H. Meyer, Ph.D.

Room 155 A 07:00-07:50 *Moderators:*Victor A. Ferrari & Jeanette Schulz-Menger

The Forgotten Right Ventricle

07:00 **Techniques for Evaluating Right Ventricle & Pulmonary Arteries**
Michael Salerno, M.D., Ph.D.

07:16 **Clinical Applications of MRI for Evaluating the Right Ventricle**
Susan Matulevicius, M.D.

07:32 **Clinical Applications of MRI in Pulmonary Vascular Disease**
Jens Vogel-Claussen, M.D.

07:50 **Adjournment**

Sunrise Educational Course
Emerging Clinical Techniques

*Organizers:*Brian A. Hargreaves, Ph.D. & Shreyas S. Vasanawala, M.D., Ph.D.

Room 251 BCEF 07:00-07:50 *Moderators:*Brian A. Hargreaves & Shreyas S. Vasanawala

07:00 **High Angular Resolution Diffusion Imaging**
Maxime Descoteaux, Ph.D.

07:25 **SWI**
Chunlei Liu, Ph.D.

07:50 **Adjournment**

Sunrise Educational Course
Practical Quantitative Imaging

*Organizers:*Gareth J. Barker, Ph.D., David L. Buckley, Ph.D. & Mark D. Does, Ph.D.

Room 255 BC 07:00-07:50 *Moderator:*Gareth J. Barker

Basic Measurements

07:00 **Basic Image Manipulation & Measurements**
Stephen J. Wastling, M.Sc.

07:25 **Practical Tips & Tricks to Maximize Repeatability**
Mark A. Horsfield, Ph.D.

07:50 **Adjournment**

Sunrise Educational Course
Translational Pathways & Validation

*Organizers:*Kevin M. Bennett, Ph.D. & Robia G. Pautler, Ph.D.

Room 255 EF 07:00-07:50 *Moderators:*Kevin M. Bennett & Robia G. Pautler

Cool Image - Now What?!

07:00 **Mapping MRI Contrast Enhancement with Histology**
Kai-Hsiang Chuang, Ph.D.

07:25 **Magnetic Resonance Histology- Cool Images- But Who Cares?**
G. Allan Johnson, Ph.D.

07:50 **Adjournment**

Sunrise Educational Course
Absolute Beginner's Guide to Neuroimaging Methods

*Organizers:*Karla L. Miller, Ph.D., Matthias J. P. van Osch, Ph.D. & Claudia A. M. Wheeler-Kingshott, Ph.D.

Room 151 AG 07:00-07:50 *Moderator:*Torben Schneider

Diffusion

07:00 **Diffusion Basics**
Seth A. Smith, Ph.D.

07:25 **Diffusion Analysis**
David Raffelt, Ph.D.

07:50 **Adjournment**

Sunrise Educational Course
Advanced MSK MRI Techniques with Clinical Applications

*Organizers:*Richard Kijowski, M.D. & William B. Morrison, M.D.

Room 155 EF 07:00-07:50 *Moderators:*Richard Kijowski & William B. Morrison

Dynamic Contrast Enhancement in MSK

07:00 **Technical Aspects - How to Do It**
Kyunghyun Sung, Ph.D.

07:25 **Clinical Applications**
William B. Morrison, M.D.

07:50 **Adjournment**

Sunrise Educational Course
From Pulse Sequence to Clinical Applications in the Brain

*Organizers:*Soonmee Cha, M.D. & Maria A. Rocca, M.D.

Room 355 BC 07:00-07:50 *Moderator:*Kamil Uludag

07:00 **Fast & Super-Fast Imaging**
Daniel K. Sodickson, M.D., Ph.D.

07:25 **MR in ER**
Pamela Schaefer, M.D.

07:50 **Adjournment**

Sunrise Educational Course
Nuts & Bolts of Advanced Imaging

*Organizers:*Alexey Samsonov, Ph.D. & Jeffrey Tsao, Ph.D., M.B.A.

Room 355 EF 07:00-07:50 *Moderators:*Alexey Samsonov & Jeffrey Tsao

Image Reconstruction - Parallel Imaging

07:00 **Fundamentals of Image Reconstruction in Parallel Imaging**
Michael S. Hansen,Ph.D. & Philip J. Beatty, Ph.D.

07:50 **Adjournment**

Plenary Session
MRI in Cancer: Promises, Controversies & Technical Innovation in Breast MRI

*Organizers:*Brian A. Hargreaves, Ph.D. & Elizabeth A. Morris, M.D., F.A.C.R.

Plenary Hall 08:15-09:30

08:15 **0181.** **How Clinical Research Trials Changed the Use of Breast MRI**
Constance D. Lehman, M.D., Ph.D.

08:40 **0182.** **Innovations in Breast MRI**
Donald B. Plewes, Ph.D.

09:05 **0183.** **Screening for Breast Cancer with MRI**
Christiane K. Kuhl, M.D., Ph.D.

09:30 **Adjournment**

Traditional Poster Session: Neuro A

Exhibition Hall 10:00-12:00 *(no CME credit)*

Electronic Poster Sessions: Musculoskeletal; Cancer

Exhibition Hall 10:00-12:00 *(no CME credit)*

Study Group Session: Psychiatric MR Spectroscopy & Imaging

Room 254 ABC 10:00-12:00 *(no CME credit)*

Translational Scientific Session: Fast Cardiac Imaging

Room 150 AG 10:00-12:00 *Moderators:*Reza Rezavi & Valentina Taviani

10:00 **0184.** **High Temporal Resolution Retrospective Real-Time Cine Imaging: Shortened Acquisition Via Nonlinear Reconstruction**
Hui Xue[1], Peter Kellman[2], Andrew E. Arai[2], Michael Schacht Hansen[3]
[1]Siemens Corporate Research, Princeton, NJ, United States; [2]National Institutes of Health, National Heart, Lung and Blood Institute, Bethesda, MD, United States; [3]National Institutes of Health, Bethesda, MD, United States

10:12 **0185.** **Multi-Node, Multi-GPU Radial GRAPPA Reconstruction for Online, Real-Time, Low-Latency MRI**
Haris Saybasili[1, 2], Daniel A. Herzka[3], Kestutis Barkauskas[4], Nicole Seiberlich[4], Mark A. Griswold[1, 4]
[1]Radiology, Case Western Reserve University, Cleveland, OH, United States; [2]Biomedical Engineering, Johns Hopkins University School of Medicine, Baltimore, MD, United States; [3]Biomedical Engineering, Johns Hopkins University, Baltimore, MD, United States; [4]Biomedical Engineering, Case Western Reserve University, Cleveland, OH, United States

10:24 **0186.** **Multicenter Evaluation of Dynamic Three-Dimensional Whole-Heart Myocardial Perfusion Imaging at 3.0 Tesla for the Detection of Coronary Artery Disease Defined by Fractional Flow Reserve**
ISMRM MERIT AWARD summa cum laude
Robert Manka[1, 2], Rolf Gebker[3], Lukas Wissmann[1], Roy Jogiya[4], Manish Motawani[5], Michael Frick[6], Sebastian Reinartz[6], Bernhard Schnackenburg[7], Eike Nagel[4], Sven Plein[5], Sebastian Kozerke[1]
[1]University and ETH Zurich, Zurich, Switzerland; [2]University Hospital Zurich, Zurich, Switzerland; [3]German Heart Institute Berlin, Berlin, Germany; [4]King's College London, London, United Kingdom; [5]University of Leeds, Leeds, United Kingdom; [6]University Hospital RWTH Aachen, Aachen, Germany; [7]Philips Healthcare, Clinical Sciences, Berlin, Germany

10:36 **0187.** **Deformable Registration for Improved Constrained Reconstruction of Ungated Cardiac Perfusion MRI**
ISMRM MERIT AWARD summa cum laude
Ganesh Adluru[1], Edward V.R. DiBella[1]
[1]Radiology, University of Utah, Salt lake city, UT, United States

10:48 **0188.** **Accelerated Sub-Mm Whole-Heart Coronary MRI: Compressed Sensing Vs. Parallel Imaging**
ISMRM MERIT AWARD magna cum laude
Mehmet Akçakaya[1], Tamer A. Basha[1], Raymond H. Chan[1], Warren J. Manning[1], Reza Nezafat[1]
[1]Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA, United States

11:00 **0189.** **Autofocusing Nonrigid Respiratory Motion Correction for 3D Cones Coronary MR Angiography**
ISMRM MERIT AWARD magna cum laude
R. Reeve Ingle[1], Holden H. Wu[2], Nii Okai Addy[1], Joseph Y. Cheng[1], Bob S. Hu[1, 3], Dwight G. Nishimura[1]
[1]Electrical Engineering, Stanford University, Stanford, CA, United States; [2]Department of Radiology, University of California, Los Angeles, CA, United States; [3]Palo Alto Medical Foundation, Palo Alto, CA, United States

11:12 **0190.** **Accelerated 4D Flow CMR Imaging with Variable-Density Random Undersampling and Parallel Imaging**
Jing Liu[1], Petter Dyverfeldt[2], Michael Hope[1], David A. Saloner[1]
[1]University of California San Francisco, San Francisco, CA, United States; [2]Linkoping University, Linkoping, Sweden

11:24 **0191.** **Quantification of Hepatic Blood Flow in Portal Hypertension Using 4D-Flow MRI: A Meal Challenge Study**
ISMRM MERIT AWARD summa cum laude
Alejandro Roldán-Alzate[1], Alex Frydrychowicz[2], Oliver Wieben[1, 3], Scott B. Reeder[1, 3]
[1]Radiology, University of Wisconsin, Madison, WI, United States; [2]Radiology, Universitätsklinikum Schleswig-Holstein, Lübeck, Germany; [3]Medical Physics, University of Wisconsin, Madison, WI, United States

11:36 **0192.** **The 30-Second Time-Of-Flight Exam: Improving Image Quality with Modern Acceleration Methods**
ISMRM MERIT AWARD magna cum laude
Jerome Yerly[1, 2], Richard Frayne, [2, 3], R. Marc Lebel, [2, 4]
[1]Electrical and Computer Engineering, University of Calgary, Calgary, AB, Canada; [2]Seaman Family MR Research Centre, Foothills Medical Centre, Calgary, AB, Canada; [3]Radiology and Clinical Neurosciences, University of Calgary, Calgary, AB, Canada; [4]Applied Science Laboratory, GE Healthcare, Calgary, AB, Canada

11:48 **0193.** **Ultrafast Non-Contrast Enhanced 4D Dynamic MRA with 3D Stack-Of-Stars Golden Angle Radial Acquisition and KWIC Reconstruction**
Robert X. Smith[1], Lirong Yan[1], Stanislas Rapacchi[2], Yiqun Xue[3], Subashini Srinivasan[2], Daniel B. Ennis[4], Peng Hu[4], Hee Kwon Song[3], Danny J.J. Wang[1, 2]
[1]Neurology, UCLA, Los Angeles, CA, United States; [2]Radiology, UCLA, Los Angeles, CA, United States; [3]Radiology, University of Pennsylvania, Philadelphia, PA, United States; [4]Radiology, University of California Los Angeles, Los Angeles, CA, United States

Breast MRI: Clinical & Technical

Room 151 AG 10:00-12:00 *Moderators:* Fiona J. Gilbert & Linda Moy

12:00 **0194.** **Effect of Risk-Reducing Salpingo-Oophorectomy on Breast MRI Fibroglandular Tissue and Background Parenchymal Enhancement in *BRCA1/2* Mutation Carriers: A Quantitative Assessment**
ISMRM MERIT AWARD magna cum laude
Shandong Wu[1], Susan M. Domchek[2], Michael J. DeLeo, III[3], Emily F. Conant[3], Susan P. Weinstein[3], Despina Kontos[1]
[1]Radiology, University of Pennsylvania, Philadelphia, PA, United States; [2]Medicine, University of Pennsylvania, Philadelphia, PA, United States; [3]Radiology, Hospital of the University of Pennsylvania, Philadelphia, PA, United States

12:12 **0195.** **Parenchymal Enhancement in the Contralateral Normal Breast of Patients Undergoing Neoadjuvant Chemotherapy Measured by DCE-MRI**

Jeon-Hor Chen[1, 2], Hon J. Yu[1], Christine Hsu[1], Muqing Lin[1], Rita S. Mehta[3], Min-Ying Su[1]

[1]Center for Functional Onco-Imaging,Department of Radiological Sciences, University of California Irvine, Irvine, CA, United States; [2]Department of Radiology, , E-Da Hospital and I-Shou University, Kaohsiung, Taiwan; [3]Department of Medicine, University of California Irvine, Irvine, CA, United States

12:24 **0196.** **Diffusion Weighted Imaging of the Breast at 7T – Ready for Clinical Application?**

ISMRM MERIT AWARD summa cum laude

Olgica Zaric[1], Katja Pinker, Stephan Gruber[1], David Porter[2], Thomas Helbich, Siegfried Trattnig[1], Wolfgang Bogner[1, 3]

[1]MR Centre of Excellence, Department of Radiology, Medical University of Vienna, Wien, Austria; [2]MR PLM AW Neurology, Siemens Healthcare , Erlangen, Germany, Germany; [3]Athinoula A. Martinos Center for Biomedical Imaging, Department of Radiology, Massachusetts General Hospital, Harvard Medical School, Boston, MA, United States

12:36 **0197.** **Simultaneous Diffusion MRI and PET Imaging of Breast Cancer Patients**

Eric E. Sigmund[1], Sungheon Kim[1], Christian Geppert[2], Linda Moy[3], David Faul[2], Christopher B. Glielmi[4], Kimberly Jackson[3], Kamil Bani-baker[3], Amy Melsaether[3]

[1]Radiology, NYU Langone Medical Center, Bernard and Irene Schwartz Center for Biomedical Imaging, New York, NY, United States; [2]Siemens Medical Systems, New York, NY, United States; [3]Radiology, NYU Langone Medical Center, New York, NY, United States; [4]Siemens Medical Systems, New York, NY, United States

12:48 **0198.** **Compartmental Diffusion in Breast Cancer**

Edna Furman-Haran[1], Myra Feinberg-Shapiro[2], Erez Eyal[1], Dov Grobgeld[1], Noemi Weisenberg[2], Noam Nissan[1], Tania Zehavi[2], Hadassa Degani[3]

[1]The Weizmann Institute of Science, Rehovot, Israel; [2]Meir Medical Center, Kfar Saba, Israel; [3]Weizmann Institue of Science, Rehovot, Israel

13:00 **0199.** **Reproducibility of Chemical Exchange Saturation Transfer (CEST) MRI of the Breast at 7 Tesla**

Adrienne N. Dula[1, 2], Lori R. Arlinghaus[2], Jason M. Williams[2], Richard G. Abramson[1, 2], Richard D. Dortch[1, 2], Seth A. Smith[1, 2], Thomas E. Yankeelov[1, 2]

[1]Radiology and Radiological Sciences, Vanderbilt University, Nashville, TN, United States; [2]Institute of Imaging Science, Vanderbilt University, Nashville, TN, United States

13:12 **0200.** **Separation of Benign and Malignant Breast Lesions Using Pharmacokinetic Analysis for a Biopsy Cohort**

ISMRM MERIT AWARD magna cum laude

Melanie Freed[1], Ana Paula Klautau Leite[1, 2], Jin Zhang[1], Melanie Moccaldi[3], Kai Tobias Block[4], Linda Moy[3], Sungheon Kim[1]

[1]Radiology, Center for Biomedical Imaging, New York University School of Medicine, New York, NY, United States; [2]Radiology, Hosptial das Clinicas-FMUSP, School of Medicine - University of Sao Paolo, Sao Paolo, SP, Brazil; [3]Radiology, Cancer Institute, New York University School of Medicine, New York, NY, United States; [4]Radiology, Center for Biomedical Imaging, NYU Langone Medical Center, New York, NY, United States

13:24 **0201.** **Impact of Factors Affecting the Accuracy of Breast MRI in Determining Residual Tumor Size Following Neoadjuvant Chemotherapy**

Jeon-Hor Chen[1, 2], Shadfar Bahri[1], Rita S. Mehta[3], Philip M. Carpenter[4], Christine E. Mclaren[5], Wen-Pin Chen[6], David J. B. Hsiang[7], Min-Ying Su[1]

[1]Center for Functional Onco-Imaging,Department of Radiological Sciences, University of California Irvine, Irvine, CA, United States; [2]Department of Radiology, E-Da Hospital and I-Shou University, Kaohsiung, Taiwan; [3]Department of Medicine, University of California Irvine, Irvine, CA, United States; [4]Department of Pathology, University of California Irvine, Irvine, CA, United States; [5]Department of Epidemiology, University of California Irvine, Irvine, CA, United States; [6]Chao Family Comprehensive Cancer Center, University of California Irvine, Irvine, CA, United States; [7]Department of Surgery, University of California Irvine, Irvine, CA, United States

13:36 **0202.** **Comparison of a High Spatial Resolution DTI Sequence to Standard DTI for Evaluating Fractional Anisotropy of Breast Tumors**

Lisa J. Wilmes[1], Cheng-Liang Liu[1], David C. Newitt[1], Suchandrima Banerjee[2], Rebekah L. McLaughlin[1], Evelyn Proctor[1], Emine U. Saritas[3], Ajit Shankaranarayanan[2], Nola M. Hylton[1]

[1]University of California San Francisco, San Francisco, CA, United States; [2]GE Healthcare, Menlo Park, CA, United States; [3]University of California Berkeley, Berkeley, CA, United States

13:48 **0203. Manganese-Enhanced MRI for Early Detection of Breast Cancer Metastatic Potential**
Joris Tchouala Nofiele[1, 2], Gregory J. Czarnota, [23], Hai-Ling Margaret Cheng[1, 2]
[1]The Hospital for Sick Children, Toronto, Ontario, Canada; [2]Medical Biophysics, University of Toronto, Toronto, Ontario, Canada; [3]Sunnybrook Health Sciences Centre, Toronto, Ontario, Canada

Advanced Stroke Imaging

Room 155 EF 10:00-12:00 *Moderators:* Jeroen Hendrikse & Lawrence N. Tanenbaum

10:00 **0204. The Robustness of DSC-PWI for Acute Stroke Imaging; Timing Is Everything: The Vanishing Perfusion Abnormality.**
Irene Klaerke Mikkelsen[1], Lars Riisgaard Ribe[1], Susanne Lise Bekke[1], Kim Mouridsen[1], Leif Østergaard[1]
[1]Center for Functionally Integrative Neuroscience, Aarhus University Hospital, Aarhus, Denmark

10:12 **0205. Multi-Delay Multi-Parametric Arterial Spin-Labeled Perfusion MRI in Acute Ischemic Stroke – Comparison with Dynamic Susceptibility Contrast Enhanced Perfusion Imaging**
Danny J.J. Wang[1, 2], David S. Liebeskind[1], Joe X. Qiao[2], Matthias Günther[3], Whitney B. Pope[2], Jeffrey L. Saver[1], Noriko Salamon[2], Jeffry R. Alger[1, 2]
[1]Neurology, UCLA, Los Angeles, CA, United States; [2]Radiology, UCLA, Los Angeles, CA, United States; [3]Institute for Medical Image Computing, University of Bremen, Bremen, Germany

10:24 **0206. Derivation of Flow Information from a Hypocarbia Challenge Study Using Time Delay Correlation Processing**
Blaise Frederick[1, 2], Yunjie Tong[1, 2], Megan Strother[3], Lisa Nickerson[1, 2], Kim Lindsey[1, 2], Manus Donahue[3]
[1]Brain Imaging Center, McLean Hospital, Belmont, MA, United States; [2]Department of Psychiatry, Harvard Medical School, Boston, MA, United States; [3]Department of Radiology, Vanderbilt University, Nashville, TN, United States

10:36 **0207. Noninvasive Multi-Echo Vessel-Encoded Arterial Spin Labeling Reactivity for More Comprehensive Quantification of Hemodynamic Compensation: Development and Clinical Implementation in 50 Patients with Cerebrovascular Disease**
Manus J. Donahue[1], Paul Clemmons[1], Ricardo Andal[1], Robert Singer[1], Diane Brown[1], Morgan Anderson[1], Dan Claassen[1], John Connors[1], Lisa Hermann[1], Lori Jordan[1], Howard Kirshner[1], J. Mocco[1], Ryan Moore[1], Anne O'Duffy[1], Derek Riebau[1], Allen Sills[1], Megan Strother[1]
[1]Vanderbilt University, Nashville, TN, United States

10:48 **0208. Cerebral Perfusion and Vascular Reactivity in Insulin Resistance and Obesity**
Henry Rusinek[1], Jenny Ha[2], Po Lai Yau[2], Aziz Tirsi[2], Wai Hon Tsui[2], Antonio Convit[2]
[1]Radiology, NYU School of Medicine, New York, United States; [2]Psychiatry, NYU School of Medicine, New York, United States

11:00 **0209. Evaluation of a Multiparamteric QBOLD Approach in Acute Stroke Patients**
ISMRM MERIT AWARD magna cum laude
Julien Bouvier[1, 2], Olivier Detante[1], Irène Troprès[3], Sylvie Grand[1, 4], David Chechin[5], Jean-François Le Bas, [34], Alexandre Krainik[1, 4], Emmanuel Luc Barbier[1]
[1]INSERM U836, Grenoble Institute of Neurosciences, Grenoble, France; [2]Philips Healthcare , Suresnes, France; [3]Plate-forme IRMaGe, UJF – INSERM US17 – CNRS UMS 3552, Grenoble, France; [4]CHU de Grenoble, Clinique Universitaire de Neuroradiologie et d'IRM, Grenoble, France; [5]Philips Healthcare, Suresnes, France

11:12 **0210. Brain Connectivity and CBF Canges Fllowing Motor Training by MI-BCI Combined with TDCS in Stroke Patients**
ISMRM MERIT AWARD summa cum laude
Xin Hong[1], Yan Zhi Ong[2], Irvin Teh[3], Fatima Ali Nasrallah[1], Zhong Kang Lu[4], Wei Peng Teo[5], Cuntai Guan[4], Kai Keng Ang[4], Kok Soon Phua[4], Ling Zhao[5], Effie Chew[5], Kai-Hsiang Chuang[1]
[1]Singapore Bioimaging Consortium, Singapore, Singapore; [2]Department of Biological Sciences, National University of Singapore, Singapore, Singapore; [3]A*STAR-NUS Clinical Imaging Research Centre, Singapore, Singapore; [4]Institute for Infocomm Research, Singapore, Singapore; [5]The Division of Neurology and Rehabilitation Medicine, National University Hospital System, Singapore, Singapore

11:24 **0211. Dual-Echo Diffusion-Weighted EPI for Better Sensitivity to Acute Stroke**
Samantha J. Holdsworth[1], Stefan Skare[2], Kristen Yeom[1], Michael U. Antonucci[1], Jalal B. Andre[3], Jarrett Rosenberg[1], Matus Straka[1], Nancy J. Fischbein[1], Greg Zaharchuk[1], Roland Bammer[1]
[1]Department of Radiology, Stanford University, Palo Alto, CA, United States; [2]Karolinska Institute, Clinical Neuroscience,, Stockholm, Sweden; [3]Department of Radiology, University of Washington, Seattle, WA, United States

11:36 **0212.** **Subcortical Volumetric Differences in Children with Sickle Cell Disease and Silent Infarction**

ISMRM MERIT AWARD summa cum laude

Jamie M. Kawadler[1], Jonathan D. Clayden[2], Fenella J. Kirkham[3], Christopher A. Clark[2]
[1]Imaging & Biophysics Unit, UCL Institute of Child Health, London, United Kingdom; [2]Imaging & Biophysics Unit, University College London, London, United Kingdom; [3]Neurosciences Unit, UCL Institute of Child Health, London, United Kingdom

11:48 **0213.** **Amide Proton Transfer (APT) Imaging of Acute Cerebral Infarction: A Preliminary Study on Clinical Patients**

Takashi Yoshiura[1], Akio Hiwatashi[1], Osamu Togao[2], Jochen Keupp[3], Koji Yamashita[1], Kazufumi Kikuchi[1], Yuriko Suzuki[4], Makoto Obara[4], Hiroshi Honda[1]
[1]Department of Clinical Radiology, Kyushu University, Fukuoka, NA, Japan; [2]Department of Molecular Imaging and Diagnosis, Kyushu University, Fukuoka, NA, Japan; [3]Technical Systems, Philips Research Laboratories, Hamburg, NA, Germany; [4]Philips Electronics Japan, Tokyo, NA, Japan

MRS: Cancer & Aberrant Metabolism

Room 255 BC 10:00-12:00 *Moderators:* Zaver M. Bhujwalla & Michal Neeman

10:00 **0214.** ***in vivo* Spectroscopic Imaging of 2-Hydroxyglutarate in Human Gliomas at 7.0 T**

ISMRM MERIT AWARD summa cum laude

Sandeep Ganji[1], Keith M. Hulsey[1], Elizabeth A. Maher[2, 3], Changho Choi[4]
[1]Advanced Imaging Research Center, UT Southwestern Medical Center, Dallas, TX, United States; [2]Harold C. Simmons Cancer Center,, UT Southwestern Medical Center, Dallas, TX, United States; [3]Department of Internal Medicine, UT Southwestern Medical Center, Dallas, TX, United States; [4]Advanced Imaging Research Center, University of Texas Southwestern Medical Center, Dallas, TX, United States

10:12 **0215.** **Imaging Real-Time Cancer Metabolism with MAD-STEAM HP ^{13}C MRSI**

ISMRM MERIT AWARD summa cum laude

Christine Leon[1, 2], Adam B. Kerr[3], Robert A. Bok[4], Mark Van Criekinge[1], Galen D. Reed[1], Klaus Kruttwig[5], Andrei Goga[5], John Kurhanewicz[1], John M. Pauly[3], Daniel B. Vigneron[1], Peder E.Z. Larson[1]
[1]Department of Radiology and Biomedical Imaging, University of California, San Francisco, San Francisco, CA, United States; [2]UC Berkeley-UCSF Graduate Program in Bioengineering, Berkeley and San Francisco, CA, United States; [3]Magnetic Resonance Systems Research Laboratory, Department of Electrical Engineering, Stanford University, Stanford, CA, United States; [4]Department of Radiology and Biomedical Imaging, University of California San Francisco, San Francisco, CA, United States; [5]Department of Medicine, University of California, San Francisco, San Francisco, CA, United States

10:24 **0216.** **Partial Volume Corrected $CMRO_2$ Determination in a Glioblastoma Patient by ^{17}O MRI**

ISMRM MERIT AWARD magna cum laude

Stefan H. Hoffmann[1], Alexander Radbruch[1, 2], Wolfhard Semmler[1], Armin M. Nagel[1]
[1]Dpt. of Medical Physics in Radiology, German Cancer Research Center (DKFZ), Heidelberg, Germany; [2]Department of Neuroradiology, University of Heidelberg, Heidelberg, Germany

10:36 **0217.** **Improved Quantification of Choline in Breast MRS Using Dixon Imaging Water Referencing**

ISMRM MERIT AWARD magna cum laude

Lenka Minarikova[1], Stephan Gruber[1], Wolfgang Bogner[1, 2], Katja Pinker-Domenig[3], Siegfried Trattnig[1], Thomas Helbich[3], Marek Chmelik[1]
[1]MR Center of Excellence, Department of Radiology, Medical University of Vienna, Vienna, Austria; [2]Athinoula A. Martinos Center for Biomedical Imaging, Department of Radiology, Massachusetts General Hospital, Harvard Medical School, Boston, MA, United States; [3]Division of Molecular and Gender Imaging, Department of Radiology, Medical University of Vienna, Vienna, Austria

10:48 **0218.** **Using Paired Tissue and Serum Samples to Characterize Human Lung Cancer Metabolomics with *ex vivo* 1H HRMAS MRS**

ISMRM MERIT AWARD magna cum laude

Hailiang Huang[1], Emily Decelle[1], Yannick Berker[1], Andreas Schuler[1, 2], Isabel Dittman[1, 2], Li Su[3], Eugene J. Mark[1], Mark J. Daly[1], David C. Christiani[1, 3], Leo L. Cheng[1]
[1]Massachusetts General Hospital, Boston, MA, United States; [2]Charité Universitätsmedizin, Berlin, Germany; [3]Harvard School of Public Health, Boston, MA, United States

11:00 **0219.** ***in vivo* Evidence for Abnormal Cerebral Bioenergetics in Schizophrenia Measured by 31P Magnetization Transfer Spectroscopy**

Fei Du[1], Alissa Cooper[2], Thida Thida[2], Selma Sehovic[2], Scott Lukas[1], Bruce Cohen[1], Xiaoliang Zhang[3], Dost Ongur[1]
[1]McLean Hospital, Harvard Medical School, Belmont, MA, United States; [2]McLean Hospital, Belmont, MA, United States; [3]Department of Radiology, University of California, San Francisco, San Francisco, CA, United States

11:12 **0220.** **Longitudinal Magnetic Resonance Spectroscopy in Premanifest and Early Huntington Disease.**
ISMRM MERIT AWARD magna cum laude
Bretta Russell-Schulz[1], Alex L. MacKay[1, 2], Blair R. Leavitt[3]
[1]Radiology, University of British Columbia, Vancouver, BC, Canada; [2]Physics & Astronomy, University of British Columbia, Vancouver, BC, Canada; [3]Medical Genetics, University of British Columbia, Vancouver, BC, Canada

11:24 **0221.** **Serial Proton MR Spectroscopy of Gray and White Matter in Relapsing-Remitting Multiple Sclerosis**
ISMRM MERIT AWARD magna cum laude
Ivan I. Kirov[1], Assaf Tal[1], James S. Babb[1], Joseph Herbert[2], Oded Gonen[1]
[1]Radiology, New York University, New York, NY, United States; [2]Neurology, New York University, New York, NY, United States

11:36 **0222.** **Cerebral Glucose Metabolism During Euglycemia and Hypoglycemia in Patients with Type 1 Diabetes**
Kim C.C. van de Ven[1, 2], Marinette van der Graaf[1, 3], Bastiaan E. de Galan[4], Cees J. Tack[4], Arend Heerschap[1]
[1]Radiology, Radboud University Nijmegen Medical Centre, Nijmegen, Netherlands; [2]Present Address: Philips Healthcare, Best, Netherlands; [3]Pediatrics, Radboud University Nijmegen Medical Centre, Nijmegen, Netherlands; [4]General Internal Medicine, Radboud University Nijmegen Medical Centre, Nijmegen, Netherlands

11:48 **0223.** **Metabonomics of Gastrointestinal Mucosa in Celiac Disease Using In-Vitro Proton NMR Spectroscopy**
Naranamangalam R. Jagannathan[1], Uma R. Sharma[1], Sujeet R. Mewar[1], Govind K. Makharia[2]
[1]Department of NMR & MRI Facility, All India Institute of Medical Sciences, New Delhi, Delhi, India; [2]Department of Gastroenterology & Human Nutrition, All India Institute of Medical Sciences, New Delhi, Delhi, India

Thermotherapy & Thermometry

Room 255 EF 10:00-12:00 *Moderators:* L. Wilbert Bartels & Nicholas Todd

10:00 **0224.** **MR-Guided Focused Ultrasound for the Treatment of Essential Tremor: Initial Experience on MR-Based Targeting and Temperature Monitoring**
Yuexi Huang[1], Nir Lipsman[2], Michael L. Schwartz[3], Andres M. Lozano[2], Kullervo Hynynen[1]
[1]Sunnybrook Research Institute, Toronto, ON, Canada; [2]Division of Neurosurgery, Toronto Western Hospital, Toronto, ON, Canada; [3]Division of Neurosurgery, Sunnybrook Health Sciences Centre, Toronto, ON, Canada

10:12 **0225.** **Pain Palliation in Patients with Bone Metastasis Using MR-Guided Focused Ultrasound with Conformal Bone System: A Preliminary Report**
Bio Joo[1], Mi-Suk Park[2], Soo Hyun Lee[1], Hye Jin Choi[1], Young Tag Oh[1], Itay Rachmilevitch[3], Ori Atar[3]
[1]Yonsei University Medical School, Seoul, Korea; [2]Yonsei University Medical School, Seoul , Korea; [3]Insightec, Israel, Israel

10:24 **0226.** **MRI-Guided Focused Ultrasound-Mediated Drug Delivery to Pancreatic Cancer: Safety and Efficacy**
Natalya Rapoport[1], Allison H. Payne[2], Christopher Dillon[1], Jill E. Shea[3]
[1]Bioengineering, University of Utah, Salt Lake City, UT, United States; [2]Radiology Research, University of Utah, Salt Lake City, UT, United States; [3]Surgery, University of Utah, Salt Lake City, UT, United States

10:36 **0227.** **Apparent Diffusion Coefficient Decrease During Thermal Ablation of the Prostate as an Early Indicator for Loss of Tissue Viability.**
ISMRM MERIT AWARD summa cum laude
Juan C. Plata[1], Andrew B. Holbrook[1], Michael Marx[1], Vasant Salgaonkar[2], Peter Jones[2], Chris J. Diederich[2], Aurea Pascal-Tenorio[3], Donna Bouley[3], Graham Sommer[4], Kim R. Butts Pauly[5]
[1]Radiology, Stanford, Stanford, CA, United States; [2]Radiaiton Oncology, University of California San Francisco, San Francisco, CA, United States; [3]Comparative Medicine, Stanford, Stanford, CA, United States; [4]Clinical Radiology, Stanford, Stanford, CA, United States; [5]Radiology, Stanford University, Stanford, CA, United States

10:48 **0228.** **Selective Brain Cooling in Sheep by Intra-Ventricular Catheters: A 7T BIRDS Study**
Daniel Coman[1], Yuegao Huang[1], John W. Simmons[2], James A. Goodrich[3], Brain McHugh[4], John A. Elefteriades[5], Douglas L. Rothman[1, 6], Fahmeed Hyder[1, 6]
[1]Diagnostic Radiology, Yale University, New Haven, CT, United States; [2]CoolSpine LLC, Woodbury, CT, United States; [3]Comparative Medicine, Yale University, New Haven, CT, United States; [4]Neurosurgery, Yale University, New Haven, CT, United States; [5]Cardiothoracic Surgery, Yale University, New Haven, CT, United States; [6]Biomedical Engineering, Yale University, New Haven, CT, United States

11:00 **0229.** **Comprehensive Comparison of Six Referenceless PRF Shift MR Thermometry Methods**
Changjun Tie[1], Chao Zou[1], Mengyue He[1], Wensha Guo[1], Yiu-Cho Chung[1], Xin Liu[1]
[1]Paul C.Lauterbur Research Center for Biomedical Imaging,Shenzhen Key Laboratory for MRI, Shenzhen Institutes of Advanced Technology,Chinese Academy of Sciences, Shenzhen, Guangdong, China

11:12 **0230.** ***in vivo* Validation of T2-Based MR Thermometry in Adipose Tissue Layers for HIFU Near-Field Monitoring**
Paul Baron[1], Mario Ries[1], Martijn de Greef[1], Roel Deckers[1], Max Köhler[2], Jukka Tanttu[2], Chrit T.W. Moonen[1], Lambertus W. Bartels[1]
[1]Image Sciences Institute, University Medical Center Utrecht, Utrecht, Netherlands; [2]Philips Healthcare, Vantaa, Finland

11:24 **0231.** **Non-Invasive *in vivo* Loss Tangent Imaging: Thermal Sensitivity Estimation at the Larmor Frequency**
ISMRM MERIT AWARD magna cum laude
Narae Choi[1], Joonsung Lee[1], Min-Oh Kim[1], Jaewook Shin[1], Dong-Hyun Kim[1]
[1]Electrical and Electronic Engineering, Yonsei University, Seodaemun-gu, Seoul, Korea

11:36 **0232.** **Towards Improving Predictive Capabilities of MR-ARFI for Transcranial Focused Ultrasound Therapy**
ISMRM MERIT AWARD magna cum laude
Elena Kaye[1], Yoni Herzberg[2], Gil Navon[3], Kim R. Butts Pauly[1]
[1]Radiology, Stanford University, Palo Alto, CA, United States; [2]School of Physics and Astronomy, Tel Aviv University, Tel Aviv, Israel; [3]School of Chemistry, Tel Aviv University, Tel Aviv, Israel

11:48 **0233.** **Hybrid US-MR Guided HIFU Treatment Method with 3D Motion Compensation**
ISMRM MERIT AWARD magna cum laude
Zarko Celicanin[1], Vincent Auboiraux[2], Oliver Bieri[1], Lorena Petrusca[2], Yutaka Natsuaki[3], Francesco Santini[1], Magalie Viallon[2], Klaus Scheffler[4, 5], Rares Salomir[2]
[1]Radiological Physics, University of Basel Hospital, Basel, Switzerland; [2]Radiology Department, University Hospitals of Geneva, Geneva, Switzerland; [3]Siemens Medical Solutions, Inc., Los Angeles, CA, United States; [4]MRC Department, MPI for Biological Cybernetics, Tübingen, Germany; [5]Dept. Neuroimaging and MR-Physics, University of Tübingen, Tübingen, Germany

Targeted Molecular Imaging Agents

Room 355 BC 10:00-12:00 *Moderators:* David P. Cormode & Angelique Louie

10:00 **0234.** **Casein Coated Magnetic Iron Oxide Nanoparticles for Targeted Imaging and Drug Delivery**
Jing Huang[1], Hyunseok Kang[2], Liya Wang[1], Run Lin[1], Xianghong Peng[2], Lily Yang[3], Dong Moon Shin[2], Hui Mao[4]
[1]Department of Radiology and Imaging Sciences, Emory University, Atlanta, GA, United States; [2]Department of Haematology and Oncology, Emory University, Atlanta, GA, United States; [3]Department of Surgery, Emory University, Atlanta, GA, United States; [4]1. Department of Radiology and Imaging Sciences, 2. Center for Systems Imaging, Emory University, Atlanta, GA, United States

10:12 **0235.** **Sustained Restoration of LV Dysfunction in a Pig Ischemia-Reperfusion Injury Model Using Human Amnion-Derived Mesenchymal Stem Cells Tracked by Manganese-Enhanced MRI**
Rajesh Dash[1], Paul Kim[1], Yuka Matsuura[1], Fumiaki Ikeno[1], Jennifer Lyons[1], Xiaohu Ge[1], Scott Metzler[2], Ngan Huang[1], Patricia Nguyen[3], Joseph Wu[1, 4], John Cooke[1], Pilar Ruiz-Lozano[2], Robert C. Robbins[5], Michael V. McConnell[1], Alan C. Yeung[1], Phillip Harnish[6], Phillip C. Yang[1]
[1]Medicine / Cardiovascular Medicine, Stanford University Medical Center, Stanford, CA, United States; [2]Pediatrics, Lucille Packard Childrens Hospital, Stanford, CA, United States; [3]Medicine / Cardiovascular Medicine, Palo Alto VA Medical Center, Stanford, CA, United States; [4]Radiology, Stanford University Medical Center, Stanford, CA, United States; [5]Cardiac Surgery, Stanford University Medical Center, Stanford, CA, United States; [6]Eagle Vision Pharmaceutical Corporation, Downington, PA, United States

10:24 **0236.** **MR Imaging of Cancer Vasculature Using VEGF Receptor-Targeted Dual Contrast Labeled Liposomes**
Yoshinori Kato[1, 2], Wenlian Zhu[1], Marina V. Backer[3], Ronnie C. Mease, [14], Susanta K. Sarkar[5], Joseph M. Backer[3], Dmitri Artemov[1, 2]
[1]JHU ICMIC Program, The Russell H. Morgan Department of Radiology and Radiological Science, The Johns Hopkins University School of Medicine, Baltimore, MD, United States; [2]Department of Oncology, The Sidney Kimmel Comprehensive Cancer Center, The Johns Hopkins University School of Medicine, Baltimore, MD, United States; [3]SibTech, Inc., Brookfield, CT, United States; [4]Division of Neuroradiology, The Russell H. Morgan Department of Radiology and Radiological Science, The Johns Hopkins University School of Medicine, Baltimore, MD, United States; [5]Translational/Clinical Imaging, Sanofi Oncology, Cambridge, MA, United States

10:36 **0237.** **E-Selectin Targeted USPIO Enhancement of Atherosclerotic Plaques Visualizes Treatment Response and Mechanism of Action**

Brigit den Adel[1], Ernst Suidgeest[2], Carmen Burtea[3], Marieke Stammes[2], Kim van der Heiden[4], Sophie Laurent[3], Robert E. Poelmann[5], Robert N. Muller[3, 6], Louise van der Weerd[7]

[1]Pathology, Amsterdam Medical Center, Amsterdam, Netherlands; [2]Radiology, Leiden University Medical Center, Leiden, Netherlands; [3]General, Organic and Biomedical Chemistry, University of Mons-Hainault, Mons, Belgium; [4]Biomedical Engineering, Erasmus Medical Center, Rotterdam, Netherlands; [5]Anatomy, Leiden University Medical Center, Leiden, Netherlands; [6]Center for Microscopy and Molecular Imaging, University of Mons, Mons, Belgium; [7]Radiology , Leiden University Medical Center, Leiden, Netherlands

10:48 **0238.** **Two Component System for MR/optical Image-Guided Delivery and Cell Surface Targeting of HER2(+) Cancer Cells.**

ISMRM MERIT AWARD summa cum laude

Sudath Hapuarachchige[1], Wenlian Zhu[1], Yoshinori Kato[1, 2], Dmitri Artemov[1, 2]

[1]Division of Cancer Imaging Research, Department of Radiology and Radiological Science, The Johns Hopkins University School of Medicine, Baltimore, MD, United States; [2]Department of Oncology, The Johns Hopkins University School of Medicine, Baltimore, MD, United States

11:00 **0239.** **A PSMA-Targeted Theranostic Nanoplex Combining TRAIL Gene CDNA and Prodrug Enzyme Delivery for Prostate Cancer Treatment**

Zhihang Chen[1], Marie-France Penet[1], Balaji Krishnamachary[1], Sangeeta Ray[1], Cong Li[2], Paul T. Winnard[1], Martin G. Pomper[1], Zaver M. Bhujwalla[3]

[1]The Johns Hopkins University School of Medicine, Baltimore, MD, United States; [2]School of Pharmacy, Fudan University, Shanghai, China; [3]Johns Hopkins University, Baltimore, MD, United States

11:12 **0240.** ***EGFR MAb-Bioconjugated Superparamagnetic Iron Oxide Nanoparticles as a Specific MRI Contrast Agent for Detection of Brain Glioma in vivo</i>*tao Mu[1], Yuanyuan Qin[1], Yan Zhang[1], He Wang[2], Wenzhen Zhu[1]**

[1]Tongji Hospital, Tongji Medical College, Huazhong University of Science and Technology, Wuhan, Hubei, China; [2]MR Rresearch China,GE Healthcare, Shang hai, China

11:24 **0241.** **Integrated PET/MRI with ^{68}Ga-DOTATOC in Patients with Neuroendocrine Tumors - First Results.**

Karsten Beiderwellen[1], Thorsten D. Poeppel[2], Verena Hartung-Knemeyer[2], Christian Buchbender[3], Hilmar Kuehl[1], Andreas Bockisch[2], Thomas C. Lauenstein[1]

[1]Department of Diagnostic and Interventional Radiology and Neuroradiology, University Hospital Essen, Essen, Germany; [2]Clinic for Nuclear Medicine, University Hospital Essen, Essen, Germany; [3]Department of Diagnostic and Interventional Radiology, University Hospital Dusseldorf, Dusseldorf, Germany

11:36 **0242.** **Molecular Imaging of Cancer with Paramagnetic Vesicles Targeted to Phosphatidylserine**

Patrick Winter[1], John Pearce[1], Zhengtao Chu[2], Jing-Huei Lee[3], Xiaoyang Qi[2]

[1]Radiology, Cincinnati Children's Hospital, Cincinnati, OH, United States; [2]Hematology and Oncology, University of Cincinnati, Cincinnati, OH, United States; [3]Center for Imaging Research, University of Cincinnati, Cincinnati, OH, United States

11:48 **0243.** ***in vivo* Quantification of Inflammation Burden in an Experimental Allergic Encephalomyelitis Rat Model Using Fluorine-19 MRI**

ISMRM MERIT AWARD magna cum laude

Jia Zhong[1, 2], Penelope Morel[3], Hongyan Xu, [24], Lisa Pusateri, [24], Eric T. Ahrens, [24]

[1]Department of Biological Sciences , Carnegie Mellon University, Pittsburgh, PA, United States; [2]The Pittsburgh NMR Center for Biomedical Research, Carnegie Mellon University, Pittsburgh, PA, United States; [3]Department of Immunology, University of Pittsburgh School of Medicine, pittsburgh, PA, United States; [4]Department of Biological Sciences, Carnegie Mellon University, Pittsburgh, PA, United States

Sequences & Applications

Room 355 EF 10:00-12:00 *Moderators:*Oliver Bieri & Vibhas Deshpande

10:00 **0244.** **T1-Weighted Imaging of Lumbar Spine Using Multiband Slice Accelerated Spin Echo**

Dingxin Wang[1, 2], Peter D. Kollasch[3], Edward J. Auerbach[2], Steen Moeller[2], Bhat Himanshu[4], Kamil Ugurbil[2], Vibhas Deshpande[5]

[1]Siemens Medical Solution USA, Inc., Minneapolis, MN, United States; [2]Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, MN, United States; [3]Siemens Medical Solutions USA, Inc., Minneapolis, MN, United States; [4]Siemens Medical Solutions USA, Inc., Charlestown, MA, United States; [5]Siemens Medical Solutions USA, Inc., Austin, TX, United States

10:12 **0245.** **Fast T2 Weighted Imaging with PSIF in the Abdomen at 3T**

ISMRM MERIT AWARD magna cum laude

Chao Zou[1], Wensha Guo[1], Xin Liu[1], Yiu-Cho Chung[1]
[1]Paul C. Lauterbur Research Center for Biomedical Imaging, Shenzhen Key Laboratory for MRI, Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences, Shenzhen, Guangdong, China

10:24 **0246.** **A Variable Bandwidth Radial Gradient and Spin-Echo (VB-RadGRASE) Method for Improved T2 and Fat-Water Parameter Estimation**

ISMRM MERIT AWARD magna cum laude

Mahesh Bharath Keerthivasan[1], Jean-Philippe Galons[2], Puneet Sharma[2], Diego R. Martin[2], Ali Bilgin, [13], Maria I. Altbach[2]
[1]Electrical and Computer Engineering, University of Arizona, Tucson, AZ, United States; [2]Medical Imaging, University of Arizona, Tucson, AZ, United States; [3]Biomedical Engineering, University of Arizona, Tucson, AZ, United States

10:36 **0247.** **Multi-Echo Acquisition of 3D TOF and SWI of Radiation-Induced Cerebral Microbleeds at 7T**

ISMRM MERIT AWARD magna cum laude

Wei Bian[1, 2], Suchandrima Banerjee[3], Douglas A.C. Kelly[4], Susan M. Chang[5], Sarah J. Nelson[1, 2], Janine M. Lupo[2]
[1]Graduate Program in Bioengineering, University of California San Francisco & Berkeley, San Francisco, CA, United States; [2]Radiology and Biomedical Imaging, University of California San Francisco, San Francisco, CA, United States; [3]Global Applied Science Laboratory, GE Healthcare, Menlo Park, CA, United States; [4]Global Applied Science Laboratory, GE Healthcare, San Francisco, CA, United States; [5]Neurological Surgery, University of California San Francisco, San Francisco, CA, United States

10:48 **0248.** **Optimization of Cube-FLAIR 3D FSE Imaging at 7T**

Manojkumar Saranathan[1], Thomas Tourdias[1], Michael Zeineh[1], Adam Kerr[2], Jeffrey D. Bernstein[3], Geoff A. Kerchner[3], Brian K. Rutt[1]
[1]Dept. of Radiology, Stanford University, Stanford, CA, United States; [2]Electrical Engineering, Stanford University, Stanford, CA, United States; [3]Dept. of Neurology and Neurological Sciences, Stanford University, Stanford, CA, United States

11:00 **0249.** **SAR and Scan-Time Optimized 3D Whole-Brain Double Inversion Recovery (DIR) Imaging**

Eberhard Daniel Pracht[1], Thorsten Feiweier[2], Philipp Ehses[3], Daniel Brenner[1], Bernd Weber[4], Tony Stöcker[1]
[1]German Center for Neurodegenerative Diseases (DZNE), Bonn, Germany; [2]Siemens AG, Siemens AG, Erlangen, Germany; [3]Max Planck Institute for Biological Cybernetics, Tübingen, Germany; [4]Department of Epileptology, University Hospital Bonn, Bonn, Germany

11:12 **0250.** **Rapid Tracking of Soft Palate Motion During Speech Using Pencil Beam and Turbo Navigators**

ISMRM MERIT AWARD magna cum laude

Andrew David Scott[1], Redha Boubertakh[2], Malcolm Birch[1], Marie Pinkstone[3], Marc Eric Miquel[1, 2]
[1]Clinical Physics, Barts Health NHS Trust, London, United Kingdom; [2]NHLI Cardiovascular BRU, Barts Health NHS Trust, London, United Kingdom; [3]Cleft Lip and Palate Team, Great Ormond Street Hospital for Children, London, United Kingdom

11:24 **0251.** **Real-Time MRI Can Differentiate Sleep-Related Breathing Disorders in Children**

ISMRM MERIT AWARD magna cum laude

Yoon-Chul Kim[1], Shirleen Loloyan[2], Ziyue Wu[1], Winston Tran[1], Roberta Kato[2], Sally L.D. Ward[2], Michael C.K. Khoo[1], Krishna S. Nayak[1]
[1]University of Southern California, Los Angeles, CA, United States; [2]Children's Hospital Los Angeles, Los Angeles, CA, United States

11:36 **0252.** **Fat Saturation for 2D Small-Tip Fast Recovery Imaging Using Tailored 3D Spectral-Spatial Pulses**

ISMRM MERIT AWARD magna cum laude

Feng Zhao[1], Jon-Fredrik Nielsen[1], Douglas C. Noll[1]
[1]Biomedical Engineering Department, The University of Michigan, Ann Arbor, MI, United States

11:48 **0253.** **Reduction of Acoustic Noise to Improve Patient Comfort Through Optimized Sequence Design**

ISMRM MERIT AWARD magna cum laude

Eric Yann Pierre[1], David Manuel Grodzki[2], Bjoern Heismann[2], Vikas Gulani, [13], Jeffrey Sunshine[4], Kecheng Liu[5], Mark A. Griswold, [14]
[1]Biomedical Engineering, Case Western Reserve University, Cleveland, OH, United States; [2]Siemens AG, Erlangen, Germany; [3]Radiology, University Hospitals Case Medical Center, Cleveland, OH, United States; [4]Radiology, Case Western Reserve University, Cleveland, OH, United States; [5]Siemens Medical Solutions, USA Inc., Malvern, PA, United States

Educational Course
Bowel

*Organizers:*Masoom A. Haider, M.D., F.R.C.P.C., Shahid M. Hussain, M.D., Ph.D., John P. Mugler, III, Ph.D. & Caroline Reinhold, M.D.

Room 250 BCEF 10:00-12:00 *Moderators:*Shahid M. Hussain & Diego R. Martin

10:00 **Inflammatory Bowel Disease: Technique**
Sharon E. Clarke, M.D., Ph.D.

10:30 **Inflammatory Bowel Disease: Case Studies**
Stuart A. Taylor, F.R.C.R.

11:00 **MRI of Perianal Fistulas**
Roy S. Dwarkasing, M.D.

11:30 **Rectal Carcinoma: Staging & Follow-Up**
Stephanie Nougaret, M.D.

12:00 **Adjournment**

Educational Course
Imaging Bone Architecture & Composition

*Organizers:*Richard Kijowski, M.D. & William B. Morrison, M.D.

Room 251 BCEF 10:00-12:00 *Moderators:*Thomas M. Link & Felix W. Wehrli

10:00 **Clinical & Research Applications of Bone Imaging**
Thomas M. Link, M.D., Ph.D.

10:20 **Free Induction Decay Imaging of Short-Lived Signals**
Michael Garwood, Ph.D.

10:40 **MRI Assessment of Trabecular & Cortical Bone Structure & Strength**
Felix W. Wehrli, Ph.D.

11:00 **Imaging Bone Marrow**
Xiaojuan Li, Ph.D.

11:20 **Imaging Bone Water Compartments**
Jiang Du, Ph.D.

11:40 **Spine Diffusion Imaging**
Lawrence Neil Tanenbaum, M.D.

12:00 Adjournment

Gold Corporate Symposium: Philips Healthcare

Plenary Hall 12:15-13:15 *(no CME credit)*

Traditional Poster Session: Pulse Sequences & Reconstruction A

Exhibition Hall 13:30-15:30 *(no CME credit)*

Electronic Poster Session: Neuro B

Exhibition Hall 13:30-15:30 *(no CME credit)*

Study Group Session: Molecular & Cellular Imaging

Room 155 ABC 13:30-15:30 *(no CME credit)*

Study Group Session: MR Flow & Motion Quantitation

Room 254 ABC 13:30-15:30 *(no CME credit)*

Tissue Characterization of the Myocardium: Different Insights

Room 150 AG 13:30-15:30 *Moderators:* Peter Kellman & Jeanette Schulz-Menger

13:30 **0254.** **Acute Hemorrhagic Myocardial Infarction Leads to Localized Chronic Iron Deposition: A CMR Study**

ISMRM MERIT AWARD summa cum laude

Avinash Kali[1, 2], Ivan Cokic[1], Andreas Kumar[3], Richard L Q Tang[1], Sotirios A. Tsaftaris[4], Matthias G. Friedrich[5], Rohan Dharmakumar[1]

[1]Biomedical Imaging Research Institute, Cedars-Sinai Medical Center, Los Angeles, CA, United States; [2]Department of Biomedical Engineering, University of California, Los Angeles, CA, United States; [3]Québec Heart and Lung Institute, Laval University, Québec City, QC, Canada; [4]Computer Science and Applications, IMT Institutions, Lucca, Italy; [5]Montréal Heart Institute, Université de Montréal, Montréal, QC, Canada

13:42 **0255.** **Quantitative T2 Mapping Visualizes Hemorrhage and Edema After Acute Myocardial Infarction in Swine**

Haiyan Ding[1, 2], Michael Schär[3, 4], Elliot R. McVeigh[2], Henry Halperin[5], M. Muz Zviman[6], Roy Beinart[6], Daniel A. Herzka[7]

[1]Biomedical Engineering, Tsinghua University, Beijing, China; [2]Biomedical Engineering, Johns Hopkins School of Medicine, Baltimore, MD, United States; [3]Russell H. Morgan Department of Radiology and Radiological Science, Johns Hopkins School of Medicine, Baltimore, MD, United States; [4]Philips Healthcare, Cleveland, OH, United States; [5]Medicine, Cardiology, Johns Hopkins University, Baltimore, MD, United States; [6]Medicine, Cardiology, Johns Hopkins School of Medicine, Baltimore, MD, United States; [7]Biomedical Engineering, Johns Hopkins University, Baltimore, MD, United States

13:54 **0256.** **T1 Mapping After Acute Myocardial Infarction: Multiphase Phase-Sensitive Inversion-Recovery (MpPSIR) Method as Valuable Alternative to the Modified Look-Locker Inversion Recovery (MOLLI) Method**

Oliver M. Weber[1, 2], Javier Sanchez-Gonzalez[1], Leticia Fernandez-Friera[2], Gonzalo Pizarro-Sanchez[2], Jesus G. Mirelis[2], Rodrigo Fernandez-Jimenez[2], Luis Jesus Jimenez-Borreguero[2], Christian Stehning[3], Valentin Fuster[2], Borja Ibañez[2]

[1]Philips Healthcare Iberia, Madrid, Spain; [2]Epidemiology, Atherothrombosis & Imaging, Centro Nacional de Investigaciones Cardiovasculares, Madrid, Spain; [3]Philips Research, Hamburg, Germany

14:06 **0257.** **Combined Saturation/Inversion Recovery Sequences for Improved Evaluation of Scar and Diffuse Fibrosis in Patients with Arrhythmia or Heart Rate Variability**

ISMRM MERIT AWARD magna cum laude

Sebastian Weingärtner[1, 2], Mehmet Akçakaya[1], Kraig V. Kissinger[1], Beth Goddu[1], Sophie J. Berg[1], Warren J. Manning[1], Reza Nezafat[1]

[1]Department of Medicine, Beth Israel Deaconess Medical Center and Harvard Medical School, Boston, MA, United States; [2]Computer Assisted Clinical Medicine, University Medical Center Mannheim, Heidelberg University, Mannheim, Germany

14:18 **0258.** **Three-Dimensional MOLLI for Myocardial T1 Mapping Using Respiratory Navigation and Inversion Time Gating**

Tobias Voigt[1], Tobias Schaeffter[2], Rene M. Botnar[2], Jouke Smink[3], Markus Henningsson[2]

[1]Clinical Research Europe, Philips Research, London, United Kingdom; [2]Division of Imaging Sciences, King's College London, London, United Kingdom; [3]Philips Healthcare, Best, Netherlands

14:30 **0259.** **Assessment of Myocardial Radiofrequency Ablation Lesions with 3D High Resolution Free-Breathing T2 Mapping**

Daniel A. Herzka[1], Haiyan Ding[2, 3], Farhad Pashakhanloo[3], Karl H. Schuleri[4], Aravindan Kolandaivelu[4], Elliot R. McVeigh[3], Henry Halperin[5], M. Muz Zviman[4], Roy Beinart[4]

[1]Biomedical Engineering, Johns Hopkins University, Baltimore, MD, United States; [2]Biomedical Engineering, Tsinghua University, Beijing, China; [3]Biomedical Engineering, Johns Hopkins School of Medicine, Baltimore, MD, United States; [4]Department of Medicine, Cardiology, Johns Hopkins School of Medicine, Baltimore, MD, United States; [5]Department of Medicine, Cardiology, Johns Hopkins University, Baltimore, MD, United States

14:42 **0260.** **The Dual-IR Sequence Improves the Inter-Observer Correlation in Post-Ablation Atrial Scar Size Measurements Compared to the Traditional IR Sequence.**

Sarah Anne Peel[1], Aruna Arujuna[1, 2], James Harrison[1, 2], Zhong Chen[1, 2], Kawal Rhode[1], Jaswinder Gill[1, 2], Reza Razavi[1, 2], Tobias Schaeffter[1], Rene M. Botnar[1]

[1]Imaging Sciences and Bioengineering, King's College London, London, United Kingdom; [2]Department of Cardiology, Guy's and St. Thomas' NHS Foundation Trust, London, United Kingdom

14:54 **0261.** **Is Fat-Suppression Necessary to Evaluate Remodeling in the Left Atrium with Late Gadolinium Enhancement?**
Dana C. Peters[1], Jaime L. Shaw[2], James William Goldfarb[3], Warren J. Manning[4, 5]
[1]Diagnostic Radiology, Yale Medical School, New Haven, CT, United States; [2]Biomedical Engineering, UCLA, Los Angeles, CA, United States; [3],Department of Research and Education,, St. Francis Hospital, Roslyn, NY, United States; [4]Medicine, Beth Israel Deaconess Medical Center, Boston, MA, United States; [5]Radiology, Harvard Medical School, Boston, MA, United States

15:06 **0262.** **A New Method for Accurate Myocardial T1 Mapping Using Variable Angle Long Echo Train Relaxometric Imaging (VALERI)**
Thanh D. Nguyen[1], Mitchell A. Cooper, [12], Pascal Spincemaille[1], Jonathan W. Weinsaft[3], Martin R. Prince[1], Yi Wang[1, 2]
[1]Radiology, Weill Cornell Medical College, New York, NY, United States; [2]Biomedical Engineering, Cornell University, Ithaca, NY, United States; [3]Cardiology, Weill Cornell Medical College, New York, NY, United States

15:18 **0263.** **Myocardial ATP Turnover Rates in the *in vivo* Hearts with Post-Infarction Remodeling**
Qiang Xiong[1], Pengyuan Zhang[1], Lei Ye[1], Jinfeng Tian[1], Cory Swingen[1], Albert Jang[1], J. Thomas Vanghan[1], Jianyi Zhang[1]
[1]Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, MN, United States

High Resolution Brain Morphometry

Room 151 AG 13:30-15:30 *Moderators:* J. Michael Tyszka & Kei Yamada

13:30 **0264.** **A Multi-Resolution Anatomical Atlas of the Human Brainstem Based on Diffusion Tensor Imaging at 11.7T**
ISMRM MERIT AWARD summa cum laude
Manisha Aggarwal[1], Jiangyang Zhang[1], Olga Pletnikova[2], Barbara Crain[2], Juan Troncoso[2], Susumu Mori[1]
[1]Department of Radiology, Johns Hopkins University School of Medicine, Baltimore, MD, United States; [2]Department of Pathology, Johns Hopkins University School of Medicine, Baltimore, MD, United States

13:42 **0265.** **Comparison with Histology of Quantitative MR Properties of the Brain Stem Tissue in 3T and 7T**
Anna I. Blazejewska[1], Samuel J. Wharton[1], Stefan T. Schwarz[2], James Lowe[3], Dorothee P. Auer[2], Richard W. Bowtell[1], Penelope A. Gowland[1]
[1]SPMMRC, University of Nottingham, Nottingham, Notts, United Kingdom; [2]Division of Radiological and Imaging Sciences, Nottingham University Hospitals NHS Trust, Nottingham, Notts, United Kingdom; [3]Division of Pathology, Nottingham University Hospitals NHS Trust, Nottingham, Notts, United Kingdom

13:54 **0266.** **Exploring Cortical Cytoarchitecture in High Resolution R1 Maps**
José P. Marques[1], Rolf Gruetter[2, 3]
[1]CIBM, University of Lausanne, Lausanne, Vaud, Switzerland; [2]LIFMET - Laboratory for Functional and Metabolic Imaging, École Polytechnique Fédérale de Lausanne, Lausanne, Vaud, Switzerland; [3]Department of Radiology, University of Lausanne and Geneva, Lausanne, Switzerland

14:06 **0267.** **High-Resolution Quantitative T1 Maps of the Human Stria of Gennari at 7 Tesla**
ISMRM MERIT AWARD summa cum laude
Christine Lucas Tardif[1], Miriam Waehnert[1], Juliane Dinse[1], Andreas Schäfer[1], Pierre-Louis Bazin[1], Robert Turner[1]
[1]Department of Neurophysics, Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Saxony, Germany

14:18 **0268.** **Motion-Corrected 350 &[mu]m Isotropic MPRAGE at 3 T Using Volumetric Navigators (VNavs)**
ISMRM MERIT AWARD magna cum laude
Matthew Dylan Tisdall[1, 2], Jonathan R. Polimeni[1, 2], André J. W. van der Kouwe[1, 2]
[1]A. A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Charlestown, MA, United States; [2]Radiology, Harvard Medical School, Boston, MA, United States

14:30 **0269.** **A Simple Method to Denoise MP2RAGE**
Kieran O'Brien[1], Gunnar Krueger[2, 3], François Lazeyras[1], Rolf Gruetter, [14], Alexis Roche[2, 5]
[1]CIBM, University of Geneva, Geneva, Switzerland; [2]Advanced Clinical Imaging Technology, Siemens Healthcare IM S AW, Lausanne, Switzerland; [3]CIBM, Ecole Polytechnique Fédérale de Lausanne & University of Lausanne, Lausanne, Switzerland; [4]CIBM, École Polytechnique Fédérale de Lausanne, Lausanne, Switzerland; [5]CIBM, CHUV, Lausanne, Switzerland

14:42 **0270.** **How Much Resolution Is Needed for *in-vivo* Analysis of Cortical Myeloarchitecture?**
Miriam Waehnert[1], Juliane Dinse[1, 2], Christine Lucas Tardif[1], Andreas Schäfer[1], Stefan Geyer[1], Pierre-Louis Bazin[1], Robert Turner[1]
[1]Department of Neurophysics, Max-Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany; [2]Faculty of Computer Science, OvGU Magdeburg, Magdeburg, Germany

14:54 **0271.** **The Fixation Protocol Alters Brain Morphology in *ex-vivo* MRI Mouse Phenotyping**
A. Elizabeth de Guzman[1, 2], Michael D. Wong[1, 2], Jacqueline A. Gleave[1], Brian J. Nieman[1, 2]
[1]Mouse Imaging Centre, Hospital for Sick Children, Toronto, Ontario, Canada; [2]Department of Medical Biophysics, University of Toronto, Toronto, Ontario, Canada

15:06 **0272.** **MRI of Cell Layers in Mouse Brain *in Vivo* Using Intra- And Extra-Cellular Contrast Agents**
Takashi Watanabe[1], Jens Frahm[1], Thomas Michaelis[1]
[1]Biomedizinische NMR Forschungs GmbH am Max-Planck-Institut für biophysikalische Chemie, Goettingen, Germany

15:18 **0273.** **Magic Angle Enhanced MR Microscopy of Fibrous Structures in the Eye**
Kevin C. Chan[1, 2], Zion Tse[3], Ning-Jiun Jan[4], Joel S. Schuman[2], Seong-Gi Kim, [15], Ian A. Sigal, [24]
[1]Neuroimaging Laboratory, University of Pittsburgh, Pittsburgh, PA, United States; [2]Departments of Ophthalmology and Bioengineering, University of Pittsburgh, Pittsburgh, PA, United States; [3]College of Engineering, University of Georgia, Athens, GA, United States; [4]Laboratory of Ocular Biomechanics, University of Pittsburgh, Pittsburgh, PA, United States; [5]Department of Radiology, University of Pittsburgh, Pittsburgh, PA, United States

Hepatobiliary/Pancreas

Room 155 EF 13:30-15:30 *Moderators:* Mustafa Shadi R. Bashir & Claude B. Sirlin

13:30 **0274.** **High Resolution Diffusion Weighted Imaging of Pancreatic Adenocarcinoma Using 2D Reduced Field of View Single-Shot Echo-Planar Imaging at 3.0 Tesla**
Yan Li[1], Chao Ma[1], He Wang[2], Shi Yue Chen[1], Jian Ping Lu[1]
[1]Department of Radiology, Changhai Hospital, The Second Military Medical University, Shanghai, China; [2]MR Research China, GE Healthcare, Shanghai, China

13:42 **0275.** **Precontrast T1-Weighted Hyperintense Nodules in Patients with Liver Cirrhosis: The Utility of Dynamic and Hepatobiliary Phases with Gadoxetate-Enhanced MRI.**
Jing Luo[1], Ka-kei Ngan[1], Michael Nalesnik[2], Keyanoosh Hosseinzadeh[1]
[1]Radiology, University of Pittsburgh, Pittsburgh, PA, United States; [2]Pathology, University of Pittsburgh, Pittsburgh, PA, United States

13:54 **0276.** **A Novel MRI Protocol to Examine Haemodynamic Compartments in Compensated Liver Cirrhosis**
ISMRM MERIT AWARD summa cum laude
Eleanor F. Cox[1], Antonella Ghezzi[2], Andrea Bennet[2], Mina Patel[2], Andrew Jackson[2], David Harman[2], Carolyn Costigan[1], Nur Farhayu Omar[1], Martin W. James[2], Stephen D. Ryder[2], Penelope A. Gowland[1], Guru P. Aithal[2], I. Neil Guha[2], Susan T. Francis[1]
[1]Sir Peter Mansfield Magnetic Resonance Centre, University of Nottingham, Nottingham, Nottinghamshire, United Kingdom; [2]NIHR Biomedical Research Unit in Gastrointestinal and Liver Diseases, Nottingham University Hospitals NHS Trust and the University of Nottingham, Nottingham, Nottinghamshire, United Kingdom

14:06 **0277.** **Evaluation of Liver Fibrosis and Hepatic Venous Pressure Gradient with Magnetic Resonance Elastography in a Novel Swine Model of Cirrhosis.**
Steven Y. Huang[1], Samer Harmoush[1], Mohamed E. Abdelsalam[1], Joe Ensor[2], Katherine Dixon[1], Ken-Pin Hwang[3], Rony Avritscher[1]
[1]Dept of Diagnostic Radiology, University of Texas MD Anderson Cancer Center, Houston, TX, United States; [2]Dept of Biostatistics, University of Texas MD Anderson Cancer Center, Houston, TX, United States; [3]Dept of Imaging Physics, University of Texas MD Anderson Cancer Center, Houston, TX, United States

14:18 **0278.** **MR Elastography of Liver with Iron Overload: Development, Evaluation and Preliminary Clinical Experience with Improved Spin Echo and Spin Echo EPI Sequences**
ISMRM MERIT AWARD magna cum laude
Yogesh K. Mariappan[1], Sudhakar K. Venkatesh[1], Kevin J. Glaser[1], Kiaran P. McGee[1], Richard Leroy Ehman[1]
[1]Department of Radiology, Mayo Clinic, Rochester, MN, United States

14:30 **0279.** **Detection of Tissue Inflammatory Change with Multifrequency 3-D Magnetic Resonance Elastography**
Meng Yin[1], Kevin J. Glaser[1], Jun Chen[1], Yogesh K. Mariappan[1], Jayant A. Talwalkar[2], Richard Leroy Ehman[1]
[1]Radiology, Mayo Clinic, Rochester, MN, United States; [2]Gastroenterology and Hepatology, Mayo Clinic, Rochester, MN, United States

14:42 **0280.** **Assessing Liver Fibrosis: Comparison of Arterial Enhancement Fraction and Diffusion-Weighted Imaging**
ISMRM MERIT AWARD magna cum laude
David Bonekamp[1], Susanne Bonekamp[1], Hsin-You Ou[1], Michael S. Torbenson[2], Celia Pamela Corona-Villalobos[1], Ihab R. Kamel[1]
[1]The Russell H. Morgan Department of Radiology and Radiological Science, Johns Hopkins University, Baltimore, MD, United States; [2]Department of Pathology, Johns Hopkins University, Baltimore, MD, United States

14:54 **0281.** **Distinction Between Pure Steatosis and NASH Using a Fat Quantification Method in Combination with Liver Intravoxel Incoherent Motion Imaging in MRI at 3.0 T.**
Benjamin Leporq[1], Frank Pilleul[1, 2], Jerome Dumortier[3], Olivier Guillaud[3], Thibaud Lefort[3], Olivier Beuf[1]
[1]CREATIS; CNRS UMR 5220; INSERM U1044; INSA-Lyon; UCBL, Université de Lyon, Villeurbanne, Rhône-Alpes, France; [2]CHU Edouard Herriot; Department of digestive imaging, Hospices Civils de Lyon, Lyon, Rhône-Alpes, France; [3]CHU Edouard Herriot; Department of Hepatology, Hospices Civils de Lyon, Lyon, Rhône-Alpes, France

15:06 **0282.** **Comprehensive Assessment of Diffuse Liver Disease with Quantitative MRI Biomarkers of Steatosis, Fibrosis and Portal Flow: A Biopsy Correlation Study.**
ISMRM MERIT AWARD summa cum laude
Alejandro Roldán-Alzate[1], Alejandro Muñoz del Rio[1], Rashmi Agni[2], Adnan Said[3], Oliver Wieben[1, 4], Scott B. Reeder[1, 4]
[1]Radiology, University of Wisconsin, Madison, WI, United States; [2]Pathology, University of Wisconsin, Madison, WI, United States; [3]Hepatology, University of Wisconsin, Madison, WI, United States; [4]Medical Physics, University of Wisconsin, Madison, WI, United States

15:18 **0283.** **Initial *in vivo* Validation of a Hybrid Magnitude/Complex MRI-Based Method for Liver Fat Quantification**
ISMRM MERIT AWARD magna cum laude
Ghaneh Fananapazir[1], Xiaodong Zhong[2], Lauren M.B. Burke[1], Brian M. Dale[3], Berthold Kiefer[4], Daniel T. Boll[1], Mustafa R. Bashir[1]
[1]Radiology, Duke University Medical Center, Durham, NC, United States; [2]MR R&D Collaborations, Siemens Healthcare, Atlanta, GA, United States; [3]MR R&D Collaborations, Siemens Healthcare, Morrisville, NC, United States; [4]MR R&D Collaborations, Siemens Healthcare, Erlangen, Germany

Transmit Arrays & RF Safety

Room 255 EF 13:30-15:30 *Moderators:* Pierre-Francois A. Van de Moortele & Mark A. Griswold

13:30 **0284.** ***in vivo* Radio-Frequency Heating Did Not Change Due to the Power Deposition from Similar 3T and 7T Head Coils**
Devashish Shrivastava[1], Lynn Utecht[1], Jinfeng Tian[1], Rachana Visaria[2], John Hughes[1], University of Minnesota University of Minnesota Vaughan[1]
[1]University of Minnesota, Minneapolis, MN, United States; [2]MR Safe Devices, Burnsville, MN, United States

13:42 **0285.** **Temperature and Perfusion Monitoring During RF Heating of the Human Calf Muscle**
ISMRM MERIT AWARD summa cum laude
Frank F.J. Simonis[1], Esben Thade Petersen[1], Alexander J.E. Raaijmakers[1], Jan J.W. Lagendijk[1], Cornelis A.T. van den Berg[1]
[1]Radiotherapy, UMC Utrecht, Utrecht, Netherlands

13:54 **0286.** **Rapid RF Safety Evaluation for Transmit-Array Coils**
Martijn A. Cloos[1], Leoor Anon[2], Gang Chen[2], Graham C. Wiggins[3], Daniel Sodickson, [23]
[1]Radiology, New York University School of Medicine, New York, NY, United States; [2]The Sackler Institute of Graduate Biomedical Sciences, New York University School of Medicine, New York, NY, United States; [3]Radiology, NYU Langone Medical Center, New York, NY, United States

14:06 **0287.** **Parallel Transmit Excitation at 1.5 T Based on the Minimization of a Driving Function for Device Heating**
ISMRM MERIT AWARD magna cum laude
Natalia Gudino[1, 2], Merdim Sonmez[2], Anthony Z. Faranesh[2], Robert J. Lederman[2], Robert S. Balaban[2], Michael Schacht Hansen[2], Mark A. Griswold[1, 3]
[1]Department of Biomedical Engineering, Case Western Reserve University, Cleveland, OH, United States; [2]Division of Intramural Research, National Heart Lung and Blood Institute, National Institutes of Health, Bethesda, MD, United States; [3]Department of Radiology, Case Western Reserve University, Cleveland, OH, United States

14:18 **0288.** **Local SAR Estimation for Human Brain Imaging Using Multi-Channel Transceiver Coil at 7T**
ISMRM MERIT AWARD magna cum laude
Xiaotong Zhang[1], Sebastian Schmitter[2], Jiaen Liu[1], Pierre-Francois Van de Moortele[2], Bin He[1, 3]
[1]Department of Biomedical Engineering, University of Minnesota, Minneapolis, MN, United States; [2]Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, MN, United States; [3]Institute for Engineering in Medicine, University of Minnesota, Minneapolis, MN, United States

14:30 **0289.** **Generating Anatomical Human Head Model for Specific Absorption Rate Estimation in Parallel MR Excitation**
ISMRM MERIT AWARD magna cum laude
Ara K. Yeramian[1], Martin Haas[1], Maxim Zaitsev[1], Chris A. Cocosco[1], Jan G. Korvink[2, 3], Jürgen Hennig[1]
[1]Dep. of Radiology, Medical Physics, University Medical Center Freiburg, Freiburg, BW, Germany; [2]IMTEK, University of Freiburg, Freiburg, BW, Germany; [3]FRIAS, Freiburg, BW, Germany

14:42 **0290.** **Use of "Dark Modes" in a Loop + Dipole Array to Reduce SAR in 7T C-Spine Imaging**
ISMRM MERIT AWARD summa cum laude
Yigitcan Eryaman[1, 2], Elfar Adalsteinsson[3, 4], Lawrence L. Wald[2, 4]
[1]Research Laboratory of Electronics, Massachusetts Institute of Technology, Cambridge, MA, United States; [2]Martinos Center for Biomedical Imaging, Dept. of Radiology, MGH, Charlestown, MA, United States; [3]Dept. of Electrical Engineering and Computer Science, Massachusetts Institute of Technology, Cambridge, MA, United States; [4]Harvard-MIT Health Sciences and Technology, Cambridge, MA, United States

14:54 **0291.** **RF Shimming Capabilities at 9.4 Tesla Using a 16-Channel Dual-Row Array**
ISMRM MERIT AWARD magna cum laude
Jens Hoffmann[1], Gunamony Shajan[1], Klaus Scheffler[1, 2], Rolf Pohmann[1]
[1]High-Field Magnetic Resonance Center, Max Planck Institute for Biological Cybernetics, Tuebingen, Baden-Wuerttemberg, Germany; [2]Department for Biomedical Magnetic Resonance, University of Tuebingen, Tuebingen, Baden-Wuerttemberg, Germany

15:06 **0292.** **Parallel Transceiver Array Design Using the Modified Folded Dipole for 7T Body Applications**
ISMRM MERIT AWARD magna cum laude
Wonje Lee[1], Martijn A. Cloos[2], Daniel Sodickson[1], Graham Wiggins[1]
[1]Radiology, NYUMC, New York, NY, United States; [2]Radiology, New York University School of Medicine, New York, NY, United States

15:18 **0293.** **Concurrent Monitoring of RF and Gradient Waveforms of Parallel Transmission Pulses by a Field Camera**
ISMRM MERIT AWARD summa cum laude
David Otto Brunner[1], Benjamin E. Dietrich[1], Mustafa Cavusoglu[1], Christoph Barmet[1, 2], Bertram J. Wilm[1], Klaas P. Pruessmann[1]
[1]Institute for Biomedical Engineering, University and ETH Zurich, Zurich, Switzerland; [2]Skope Magnetic Resonance Technologies, Zurich, Switzerland

High Resolution fMRI Applications to Neuroscience

Room 355 BC 13:30-15:30 *Moderators:* Josef Pfeuffer & Essa S. Yacoub

13:30 **0294.** **Laminar Specificity of fMRI Onset Times Distinguishes Top Down from Bottom Up Neural Inputs Mediating Cortical Plasiticty**
ISMRM MERIT AWARD summa cum laude
Xin Yu[1], Chunqi Qian[1], Der-Yow Chen[1], Stephen Dodd[2], Alan P. Koretsky[1]
[1]NIH, Bethesda, MD, United States; [2]National Institutes of Health, Bethesda, MD, United States

13:42 **0295.** **Tonotopic Columns and Cortical Depth Dependent Modulations in Human A1: Preliminary Results.**
Federico De Martino[1, 2], Michelle Moerel[1], Rainer Goebel[1], Kamil Ugurbil[2], Elia Formisano[1], Essa S. Yacoub[2]
[1]University of Maastricht, Maastricht, Netherlands; [2]Center for Magnetic Resonance Research, Minneapolis, MN, United States

13:54 **0296.** **Laminar-Specific fMRI Changes in Rat Olfactory Bulb Following Evoked Odor Stimulation**
ISMRM MERIT AWARD magna cum laude
Alexander John Poplawsky[1], Seong-Gi Kim[1]
[1]Radiology, University of Pittsburgh, Pittsburgh, PA, United States

14:06 **0297.** **Regional Structural Differences Across Functionally Parcellated Brodmann Areas of Human Primary Somatosensory Cortex**
ISMRM MERIT AWARD magna cum laude
Rosa M. Sanchez Panchuelo[1], Julien Besle[2], Olivier E. Mougin[1], Penelope A. Gowland[3], Richard W. Bowtell[3], Denis Schluppeck[2], Susan T. Francis[3]
[1]Sir Peter Mansfield Magnetic Resonance Centre , University of Nottingham, Nottingham, United Kingdom; [2]School of Psychology, University of Nottingham, Nottingham, United Kingdom; [3]Sir Peter Mansfield Magnetic Resonance Centre, University of Nottingham, Nottingham, United Kingdom

14:18 **0298.** **BOLD fMRI Study of Rat Inferior Colliculus Activated by an Oddball Paradigm**
ISMRM MERIT AWARD magna cum laude
Patrick P. Gao[1, 2], Jevin W. Zhang[1, 2], Joe S. Cheng[1, 2], Russell W. Chan[1, 2], Leon C. Ho[1, 2], Iris Y. Zhou[1, 2], Ed X. Wu[1, 2]
[1]Laboratory of Biomedical Imaging and Signal Processing, The University of Hong Kong, Hong Kong, Hong Kong SAR, China; [2]Department of Electrical and Electronic Engineering, The University of Hong Kong, Hong Kong, Hong Kong SAR, China

14:30 **0299.** **Neurometabolic and Neurovascular Couplings Across Cortical Layers of Rat Brain**
Peter Herman[1], Basavaraju G. Sanganahalli[1], Douglas L. Rothman[1, 2], Hal Blumenfeld[3, 4], Fahmeed Hyder[1, 2]
[1]Department of Diagnostic Radiology, Yale University, New Haven, CT, United States; [2]Biomedical Engineering, Yale University, New Haven, CT, United States; [3]Neurology, Yale University, New Haven, CT, United States; [4]Neurobiology, Yale University, New Haven, CT, United States

14:42 **0300.** **Experimental Investigation of the Relation Between Gradient Echo BOLD fMRI Contrast and Underlying Susceptibility Changes at 7T**
ISMRM MERIT AWARD summa cum laude
Dávid Z. Balla[1], Rosa M. Sanchez Panchuelo[2], Samuel J. Wharton[2], Gisela E. Hagberg[1, 3], Klaus Scheffler[1, 3], Susan T. Francis[2], Richard W. Bowtell[2]
[1]High-field MR Centre, Max Planck Institute for Biological Cybernetics, Tübingen, Germany; [2]Sir Peter Mansfield Magnetic Resonance Centre, University of Nottingham, Nottingham, United Kingdom; [3]Department for Biomedical Magnetic Resonance Imaging, University of Tübingen, Tübingen, Germany

14:54 **0301.** **Investigating the Field Strength Dependence of BOLD Onset Time**
ISMRM MERIT AWARD magna cum laude
Ian D. Driver[1], Susan T. Francis[1], Penelope A. Gowland[1]
[1]Sir Peter Mansfield Magnetic Resonance Centre, University of Nottingham, Nottingham, United Kingdom

15:06 **0302.** **bSSFP fMRI Study of Sound Amplitude Modulation in Inferior Colliculus**
ISMRM MERIT AWARD summa cum laude
Jevin W. Zhang[1, 2], Condon Lau[1], Patrick P. Gao[1, 2], Joe S. Cheng[1, 2], Gehua Tong[1], Iris Y. Zhou[1, 2], Ed X. Wu[1, 2]
[1]Laboratory of Biomedical Imaging and Signal Processing, The University of Hong Kong, Hong Kong, Hong Kong SAR, China; [2]Department of Electrical and Electronic Engineering, The University of Hong Kong, Hong Kong, Hong Kong SAR, China

15:18 **0303.** **Simultaneous Multi-Slab Echo Volume Imaging: Comparison in Sub-Second fMRI**
ISMRM MERIT AWARD magna cum laude
Liyong Chen[1, 2], David Feinberg, [2,3]
[1]Advanced MRI Technologies, LLC, Sebastopol, CA, United States; [2]Helen Wills Neuroscience Institute, University of California, Berkeley, CA, United States; [3]Advanced MRI Technologies, Sebastopol, CA, United States

Motion Artifact Correction

Room 355 EF 13:30-15:30 *Moderators:* Hua Guo & Maxim Zaitsev

13:30 **0304.** **Field Decoupling for Real-Time Prospective Motion Correction Using Gradient Tones and Concurrent Field Monitoring**
ISMRM MERIT AWARD magna cum laude
Maximilian Haeberlin[1], Lars Kasper[1], Christoph Barmet[2], David Otto Brunner[1], Klaas P. Pruessmann[1]
[1]Institute for Biomedical Engineering, University and ETH Zurich, Zurich, Switzerland; [2]Skope Magnetic Resonance Technologies , Zurich, Switzerland

13:42 **0305.** **Prospective Rigid-Body Motion Correction Using Miniature Wireless RF-Coils as Position Tracking Probes**
Melvyn B. Ooi[1], Murat Aksoy[1], Julian R. Maclaren[1], Ronald D. Watkins[1], Roland Bammer[1]
[1]Radiology, Stanford University, Stanford, CA, United States

13:54 **0306.** **Can Multi-Channel FID Navigators Quantify Head Motion?**
ISMRM MERIT AWARD magna cum laude
Maryna Babayeva[1, 2], Tobias Kober[2, 3], Michael Herbst[4], Jürgen Hennig[4], Matthias Seeger[5], Rolf Gruetter[3, 6], Maxim Zaitsev[4], Gunnar Krueger[2, 3]
[1]CIBM-AIT, École Polytechnique Fédérale de Lausanne and University of Lausanne, Lausanne, Switzerland; [2]Advanced Clinical Imaging Technology, Siemens Healthcare IM S AW, Lausanne, Switzerland; [3]CIBM-AIT, École Polytechnique Fédérale de Lausanne, Lausanne, Switzerland; [4]Department of Radiology, University Medical Center Freiburg, Freiburg, Germany; [5]Laboratory for Probabilistic Machine Learning, École Polytechnique Fédérale de Lausanne, Lausanne, Switzerland; [6]Departments of Radiology, Universities of Lausanne and Geneva, Lausanne, Switzerland

14:06 **0307.** **Multi-Slice Free Breathing Liver Imaging Using a 2D CAIPIRINHA Navigator**
ISMRM MERIT AWARD magna cum laude
Daniel Giese[1], Martin Buehrer[2], Constantin von Deuster[1, 2], Tobias Schaeffter[1], Sebastian Kozerke, [12]
[1]Division of Imaging Sciences and Biomedical Engineering, King's College London, London, United Kingdom; [2]Institute for Biomedical Engineering, University and ETH Zurich, Zurich, Switzerland

14:18 **0308.** **2D Fat Navigators (FatNav) for Real-Time Correction of Nodding Motion of the Patient's Head**
Axel Hartwig[1], Magnus Mårtensson[2], Stefan Skare[1]
[1]Neuroradiology, Karolinska University Hospital, Stockholm, Sweden; [2]EMEA Research and Collaboration, Applied Science Laboratory, GE Healthcare, Stockholm, Sweden

14:30 **0309.** **FatNavs: Exploiting the Natural Sparsity of Head Fat Images for High-Resolution Motion-Navigation at Very High Acceleration Factors**
Daniel Gallichan[1], José P. Marques[2], Rolf Gruetter[3, 4]
[1]LIFMET, Ecole Polytéchnique Fédérale de Lausanne, Lausanne, Vaud, Switzerland; [2]Dept. of Radiology, University of Lausanne, Lausanne, Vaud, Switzerland; [3]LIFMET, École Polytechnique Fédérale de Lausanne, Lausanne, Vaud, Switzerland; [4]Depts. of Radiology, Universities of Lausanne and Geneva, Lausanne, Vaud, Switzerland

14:42 **0310.** **Suppression of High Intensity Flow Artifacts in Subtractionless First-Pass Peripheral Angiography with Dual-Echo Dixon Imaging**
Holger Eggers[1], Peter Boernert[2], Tim Leiner[3]
[1]Philips Research Laboratories, Hamburg, Germany; [2]Philips Research, Hamburg, Germany; [3]Department of Radiology, University Medical Center Utrecht, Utrecht, Netherlands

14:54 **0311.** **Motion Robust High Resolution FLASH**
ISMRM MERIT AWARD magna cum laude
Onur Afacan[1], Ali Gholipour[1], Erez Nevo[2], Simon K. Warfield[1]
[1]Computational Radiology Laboratory, Department of Radiology, Boston Children's Hospital and Harvard Medical School, Boston, MA, United States; [2]Robin Medical, Inc, Baltimore, MD, United States

15:06 **0312.** **Free-Breathing Pediatric Imaging with Nonrigid Motion Correction and Parallel Imaging**
ISMRM MERIT AWARD magna cum laude
Joseph Y. Cheng[1], Martin Uecker[2], Marcus T. Alley[3], Shreyas S. Vasanawala[3], John M. Pauly[1], Michael Lustig[2]
[1]Electrical Engineering, Stanford University, Stanford, CA, United States; [2]Electrical Engineering and Computer Sciences, University of California, Berkeley, CA, United States; [3]Radiology, Stanford University, Stanford, CA, United States

15:18 **0313.** **GPU Based Fast Inverse Gauss-Newton Motion Correction Method for High Throughput ofMRI**
ISMRM MERIT AWARD magna cum laude
Zhongnan Fang[1], Jin Hyung Lee[1, 2]
[1]Electrical Engineering, University of California, Los Angeles, Los Angeles, CA, United States; [2]Department of Neurology and Neurological Sciences, Department of Bioengineering, Stanford University, Stanford, CA, United States

Educational Course
Bringing Radiation Therapy to the Next Level: Technical Concepts & Clinical Applications of Combined MRI-Radiation-Therapy Systems

*Organizers:*Michael Bock, Ph.D. & Tim Leiner, M.D., Ph.D., E.B.C.R.
Room 250 BCEF 13:30-15:30 *Moderators:*Michael Bock & Tim Leiner

13:30 **Current Status of Radiotherapy – Is There A Need for (MR) Image-Guidance?**
Bruce L. Daniel, M.D.

13:45 **MR-Guided RT: Through the Magnet**
Jan J. W. Lagendijk, Ph.D.

14:15 **MR-Guided RT: Between the Magnets**
James F. Dempsey, Ph.D.

14:45 **MR-Guided RT: Rotating the Magnet**
B. Gino Fallone, Ph.D., F.C.C.P.M.

15:15 **Panel Discussion & Meet the Teachers**

15:15 **Roundtable Discussion**

15:30 **Adjournment**

Educational Course
Imaging Muscle Structure & Function

*Organizers:*Richard Kijowski, M.D. & William B. Morrison, M.D.

Room 255 BC 13:30-15:30 *Moderators:*Robert D. Boutin & Michael D. Noseworthy

13:30 **Clinical Aspects of Muscle Physiology & Pathology**
Robert D. Boutin, M.D.

13:50 **Imaging Muscle Oxygenation & Perfusion**
Michael D. Noseworthy, Ph.D.

14:10 **Imaging Muscle Fiber Structure & Function**
Shantanu Sinha, Ph.D.

14:30 **Imaging Muscle Composition**
Dimitrios Karampinos, Ph.D.

14:50 **MR Spectroscopy**
Laura M. Fayad, M.D.

Special Abstract Presentation:

15:10 **0314. Candidate Skeletal Muscle Outcome Measures for Therapy Trials: Dependence of MRI Measures Upon Age, Gender and Weight**
Jasper M. Morrow[1], Christopher D.J. Sinclair[1, 2], Arne Fischmann[3], Mary M. Reilly[1], Michael G. Hanna[1], Tarek A. Yousry[1, 2], John S. Thornton[1, 2],
[1]MRC Centre for Neuromuscular Diseases, UCL Institute of Neurology, London, England, United Kingdom; [2]Academic Neuroradiological Unit, UCL Institute of Neurology, London, England, United Kingdom; [3]Department of Radiology, University of Basel, Basel, Switzerland

15:22 **Discussion**

15:30 **Adjournment**

Educational Course
Cerebrovascular Disease: From Acute to Chronic

*Organizer:*Pratik Mukherjee, M.D., Ph.D.

Room 251 BCEF 13:30-15:30 *Moderators:*Feng Feng & Pratik Mukherjee

13:30 **Imaging Diffusion / Perfusion Mismatch: Technical Considerations**
Roland Bammer, Ph.D.

14:00 **The Diffusion / Perfusion Mismatch Hypothesis**
Katie D. Vo, M.D.

14:30 **Imaging Cerebral Blood Flow, Oxygenation & Cerebrovascular Reserve with MRI**
Hanzhang Lu, Ph.D.

15:00 **Chronic Ischemia & Cerebrovascular Reserve**
Tadashi Nariai, M.D., Ph.D.

15:30 **Adjournment**

Traditional Poster Sessions: Body; Molecular Imaging

Exhibition Hall 16:00-18:00 *(no CME credit)*

Electronic Poster Session: Pulse Sequences & Reconstruction A

Exhibition Hall 16:00-18:00 *(no CME credit)*

Study Group Session: MR of Cancer

Room 155 ABC 16:00-18:00 *(no CME credit)*

Study Group Session: Perfusion

Room 254 ABC 16:00-18:00 *(no CME credit)*

Myocardial Perfusion: Technical Development & Clinical Needs

Room 150 AG 16:00-18:00 *Moderators:* Christopher J. P. François & Michael Jerosch-Herold

16:00 **0315.** **Introduction**
Amit R. Patel

16:12 **0316.** **Quantitative Spiral Perfusion Imaging: Initial Clinical Experience**
Michael Salerno[1, 2], Yang Yang[3], Sujith Kuruvilla[1], Craig H. Meyer[3], Christopher M. Kramer,[12]
[1]Medicine, Cardiology, University of Virginia, Charlottesville, VA, United States; [2]Department of Radiology, University of Virginia, Charlottesville, VA, United States; [3]Biomedical Engineering, University of Virginia, Charlottesville, VA, United States

16:24 **0317.** **Myocardial Perfusion Assessment in Humans Using Steady-Pulsed Arterial Spin Labeling**
Thibaut Capron[1], Thomas Troalen[1], Benjamin Robert[2], Alexis Jacquier[1], Patrick J. Cozzone[1], Monique Bernard[1], Frank Kober[1]
[1]Centre de Résonance Magnétique Biologique et Médicale CRMBM UMR CNRS 7339, Aix-Marseille Université, Marseille, France; [2]Siemens Healthcare, Saint-Denis, France

16:36 **0318.** **Use of Deformable Registration for Quantification of Cardiac Perfusion in Patients with Arrhythmia**
Devavrat Likhite[1], Ganesh Adluru[1], Christopher J. McGann[2], Edward V.R. DiBella[1]
[1]UCAIR/Radiology, University of Utah, Salt Lake City, UT, United States; [2]Cardiology, University of Utah, Salt Lake City, UT, United States

16:48 **0319.** **Rapid Ungated CMR Perfusion Imaging to Evaluate Coronary Artery Disease in Patients with Arrhythmia**
Krishna N. Velagapudi[1, 2], Alexis Harrison[1, 2], Ganesh Adluru[3], Akram Shaaban, Brent Wilson[1, 2], Daniel Kim[2, 3], Nassir F. Marrouche[1, 2], Christopher J. McGann[1, 2], Edward V.R. DiBella[2, 3]
[1]Division of Cardiology, University of Utah, Salt Lake City, UT, United States; [2]CARMA, Department of Internal Medicine, University of Utah, Salt Lake City, UT, United States; [3]Utah Center for Advanced Imaging Research, Department of Radiology, University of Utah, Salt Lake City, UT, United States

17:00 **0320.** **First-Pass Contrast-Enhanced Cardiac Perfusion with 3D Coverage Per Heartbeat with 3D Through-Time Radial GRAPPA**
Kestutis Barkauskas[1], Jesse Hamilton[1], Bruce S. Spottiswoode[2], Sven Zuehlsdorff[2], Mark A. Griswold[1, 3], Nicole Seiberlich[1]
[1]Biomedical Engineering, Case Western Reserve University, Cleveland, OH, United States; [2]Cardiovascular MR R&D, Siemens Medical Solutions, Chicago, IL, United States; [3]Radiology, Case Western Reserve University, Cleveland, OH, United States

17:12 **0321.** **A Comparison of Myocardial Signal Intensity Correction Methods in First-Pass Perfusion MRI**
Jacob Fluckiger[1], Daniel Lee[1]
[1]Northwestern University, Chicago, IL, United States

17:24 **0322.** **Subcellular Distribution of Manganese and Its Impact on Mitochondrial Function in Rat Cardiac Myocytes**
Ya Chen[1], Mariana G. Rosca[2], Charles L. Hoppel[2, 3], Xin Yu[1]
[1]Department of Biomedical Engineering, Case Western Reserve University, Cleveland, OH, United States; [2]School of Medicine, Case Western Reserve University, Cleveland, OH, United States; [3]Department of Pharmacology, Case Western Reserve University, Cleveland, OH, United States

17:36 **0323.** **Feasibility of Cyclic Myocardial Perfusion Variation Assessment During Adenosine-Induced Stress in Rats**
Thomas Troalen[1], Thibaut Capron[1], Monique Bernard[2], Patrick J. Cozzone[2], Frank Kober[1]
[1]Centre de Résonance Magnétique Biologique et Médicale (CRMBM), UMR CNRS N°7339, Faculté de Médecine, Aix-Marseille Université, Marseille, France; [2]Centre de Résonance Magnétique Biologique et Médicale (CRMBM), Aix-Marseille Université, Marseille, France

17:48 **0324.** **First-Pass MRI Detects Reduced Myocardial Perfusion Reserve in ApoE$^{-/-}$ Mice on a High-Cholesterol Diet**
Nivedita K. Naresh[1], Xiao Chen[1], Patrick F. Antkowiak[1], Rene J. Roy[2], Frederick H. Epstein[1, 3]
[1]Biomedical Engineering, University of Virginia, Charlottesville, VA, United States; [2]School of Medicine, University of Virginia, Charlottesville, VA, United States; [3]Radiology, University of Virginia, Charlottesville, VA, United States

fMRI Connectivity: Applications

Room 151 AG 16:00-18:00 *Moderators:* Shella D. Keillholz & Christopher P. Pawela

16:00 **0325.** **Introduction**
Xiaoping P. Hu

16:12 **0326.** **Resting-State Functional Connectivity-Based Parcellation of the Thalamus**
ISMRM MERIT AWARD summa cum laude
Yang Fan[1], Qihong Zou[1], Jia-Hong Gao[1, 2]
[1]MRI Research Center and Beijing City Key Lab for Medical Physics, Peking University, Beijing, China; [2]Brain Research Imaging Center and Department of Radiology, University of Chicago, Chicago, IL, United States

16:24 **0327.** **Mapping Thalamocortical Networks in the Awake Rat Brain Using Resting-State Functional Connectivity**
ISMRM MERIT AWARD magna cum laude
Zhifeng Liang[1], Nanyin Zhang[1]
[1]Center for Comparative NeuroImaging, Department of Psychiatry, University of Massachusetts Medical School, Worcester, MA, United States

16:36 **0328.** ***Combining Structural and Funcional Connectivity Techniques to Characterize the Thalamo-Cortical Networks in vivo***
ISMRM MERIT AWARD magna cum laude
Chiara Mastropasqua[1, 2], Marco Bozzali[3], Giacomo Koch[4, 5], Carlo Caltagirone[6], Mara Cercignani, [17]
[1]Neuroimaging Laboratory, IRCCS Santa Lucia, Rome, Italy; [2]Dep of Neuroscience, Trieste University, Trieste, Italy; [3]Neuroimaging Laboratory, Santa Lucia Foundation, Rome, Italy; [4]Department of Clinical and Behavioural Neurology, IRCCS Santa Lucia, Rome, Italy; [5]Stroke Unit, Department of Neuroscience, University of Rome Tor Vergata, Rome, Italy; [6]Department of Clinical and Behavioural Neurology, IRCCS Santa Lucia Foundation, Rome, Italy; [7]Clinical Imaging Sciences Centre, Brighton & Sussex Medical School, Falmer, United Kingdom

16:48 **0329.** **Interhemispheric Functional Connectivity in the Thalamus and Dorsolateral Prefrontal Cortex of Mild TBI Patients with and Without Post-Concussive Syndrome**
Joseph H. Rosenberg[1], Chandler R. Sours[1], Jiachen Zhuo[1], Elijah O. George[1, 2], Rao P. Gullapalli[1]
[1]Department of Diagnostic Radiology and Nuclear Medicine, University of Maryland School of Medicine, Baltimore, MD, United States; [2]Department of Bioengineering, University of Maryland, College Park, MD, United States

17:00 **0330.** **The Effects of Altered Hemodynamics on Measurements of Functional Connectivity Following Ischemic Stroke**
ISMRM MERIT AWARD summa cum laude
Adam Bauer[1], Andrew Kraft[2], Patrick Wright[1], Jin-Moo Lee[2], Joseph Culver[1]
[1]Radiology, Washington University in Saint Louis, Saint Louis, MO, United States; [2]Neurology, Washington University in Saint Louis, Saint Louis, MO, United States

17:12 **0331.** **Alterations of Resting-State Functional Activity and Connectivity in the Rat Brain Induced by Acute Ketamine Treatment – Implications for Schizophrenia**
ISMRM MERIT AWARD summa cum laude
Dany D'Souza[1], Andreas Bruns[2], Basil Kuennecke[1], Daniela Alberati[1], Edilio Borroni[1], Markus von Kienlin[1], Annemie Van der Linden[3], Thomas Mueggler[1]
[1]pRED, Pharma Research & Early Development, DTA Neuroscience, F. Hoffmann-La Roche AG, Basel, Switzerland; [2]pRED, Pharma Research & Early Development, DTA Neuroscience, F. Hoffmann-La Roche Ltd, Basel, Switzerland; [3]Bio-Imaging Lab, University of Antwerp, Antwerp, Belgium

17:24 **0332.** **Resting-State MRI Detects Donepezil Effects on Functional Connectivity and Maze Learning in Rodent Brain**
ISMRM MERIT AWARD magna cum laude
Fatima Ali Nasrallah[1], Xuan Vinh To[1], Tovia Yun Jie Ng[1], Kai-Hsiang Chuang[1]
[1]Magnetic Resonance Imaging Group, A*Star Biomedical Research Institutes, Singapore, Singapore

17:36 **0333.** **Functional and Structural Connectivity Impairments Precede Plaque Deposition in a Transgenic Mouse Model of Alzheimer's Disease**
Joanes Grandjean[1], Pan He[2], Aileen Schröter[1], Markus Rudin[1, 3]
[1]Inst. f. Biomedizinische Technik, ETH and University Zürich, Zürich, Switzerland; [2]ETH Zürich, Zürich, Switzerland; [3]Institute of Pharmacology and Toxicology, University of Zürich, 8057, Switzerland

17:48 **0334.** **Change in Tissue Microstructure and Resting-State Functional Connectivity in Hippocampus During Pregnancy**
ISMRM MERIT AWARD magna cum laude
Russell W. Chan[1, 2], Leon C. Ho[1, 2], Iris Y. Zhou[1, 2], Ed X. Wu[1, 2]
[1]Laboratory of Biomedical Imaging and Signal Processing, The University of Hong Kong, Hong Kong SAR, China; [2]Department of Electrical and Electronic Engineering, The University of Hong Kong, Hong Kong SAR, China

Animal Models 2

Room 155 EF 16:00-18:00 *Moderators:* Ichio Aoki & Emmanuel L. Barbier

16:00 **0335.** **A Modified Photothrombotic Stroke Model Using Implantable Optic Fiber: In-Bore Stroke Induction for Probing Peri-Infarct Spreading Depolarization**
ISMRM MERIT AWARD magna cum laude
Yu-Chieh Jill Kao[1], Hsin-Yi Lai[1], Chris Kao[1], Yen-Yu Ian Shih[1]
[1]Experimental Neuroimaging Laboraory, Department of Neurology and Biomedical Research Imaging Center, University of North Carolina, Chapel Hill, Chapel Hill, NC, United States, Chapel Hill, NC, United States

16:12 **0336.** ***in vivo* Assessments of Ocular Dynamics, Axonal Transport and Microstructural Integrity in the Visual System Upon Neonatal Hypoxic-Ischemic Injury**
Kevin C. Chan[1, 2], Swarupa Kancherla[3], Ed X. Wu[4]
[1]Neuroimaging Laboratory, University of Pittsburgh, Pittsburgh, PA, United States; [2]Departments of Ophthalmology and Bioengineering, University of Pittsburgh, Pittsburgh, PA, United States; [3]Department of Ophthalmology, University of Pittsburgh, Pittsburgh, PA, United States; [4]Department of Electrical and Electronic Engineering, The University of Hong Kong, Pokfulam, Hong Kong, China

16:24 **0337.** **A Novel Neuroprotective Strategy Using Methylene Blue---A Longitudinal MRI Study**
Qiang Shen[1], Fang Du[1], Shiliang Huang[1], Yash Vardhan Tiwari[1], Timothy O. Duong[2]
[1]Research Imaging Institute, University of Texas Health Science Center at San Antonio, San Antonio, TX, United States; [2]Research Imaging Institute, UT Health Science Center at San Antonio, San Antonio, TX, United States

16:36 **0338.** **Rapamycin Treatment Ameliorates Brain Metabolite Levels After Transient Focal Ischemia in Rats**
Anjali Chauhan[1], Uma R. Sharma[2], Naranamangalam R. Jagannathan[2], Y. K. Gupta[1]
[1]Department of Pharmacology, All India Institute of Medical Sciences, New Delhi, Delhi, India; [2]Department of NMR & MRI Facility, All India Institute of Medical Sciences, New Delhi, Delhi, India

16:48 **0339.** **Longitudinal Evaluation of White Matter Injury in a Macaque Model of Ischemic Stroke with DTI**
Yumei Yan[1], Frank Tong[2], Chunxia Li[1], Stuart Zola[1], Leonard Howell[1], Xiaodong Zhang[1]
[1]Yerkes National Primate Research Center, Emory University, Atlanta, GA, United States; [2]Department of Radiology, Emory University, Atlanta, GA, United States

17:00 **0340.** **Effect of Normobaric Hyperoxia (NBO) on Progression of Ischemic Stroke**
Yash Vardhan Tiwari[1], Fang Du[1], Qiang Shen[1], Timothy O. Duong[2]
[1]Research Imaging Institute, University of Texas Health Science Center at San Antonio, San Antonio, TX, United States; [2]Research Imaging Institute, UT Health Science Center at San Antonio, San Antonio, TX, United States

17:12 **0341.** **MR Elastography in a Murine Stroke Model Reveals Correlation Between Macroscopic Viscoelastic Properties of the Brain and Neuronal Density**

Ingolf Sack[1], Florian B. Freimann[2], Susanne Müller[3], Kaspar-Josche Streitberger[1], Juergen Braun[4]
[1]Department of Radiology, Charité - Universitätsmedizin Berlin, Berlin, Germany; [2]Department of Neurosurgery, Charité - Universitätsmedizin Berlin, Berlin, Germany; [3]Center of Stroke Research, Charité - Universitätsmedizin Berlin, Berlin, Germany; [4]Institute of Medical Informatics, Charite - University Medicine Berlin, Berlin, Germany

17:24 **0342.** **Treatment Efficacy of FTY720 on Experimental Autoimmune Encephalomyelitis Mice Assessed by *in vivo* Diffusion Basis Spectrum Imaging**

ISMRM MERIT AWARD summa cum laude

Xiaojie Wang[1], Yong Wang[2], Anne H. Cross[3, 4], Sheng-Kwei Song[2, 4]
[1]Chemistry, Washington University, St. Louis, MO, United States; [2]Radiology, Washington University, St. Louis, MO, United States; [3]Neurology, Washington University in St. Louis, St. Louis, MO, United States; [4]Hope Center of Neurological DIsorders, Washington University, St. Louis, MO, United States

17:36 **0343.** **Microtubule Stabilizer Ameliorates Functional Connectivity in a MAP6 Deficient Mouse: A Manganese Enhanced Magnetic Resonance Imaging Study**

ISMRM MERIT AWARD summa cum laude

Alexia Daoust[1, 2], Emmanuel Luc Barbier[1, 2], Annie Andrieux[1, 2], Sylvain Bohic[1, 3], Jean-Critophe Deloulme[1, 2]
[1]INSERM U836, grenoble, France; [2]Université Joseph Fourier, Grenoble institut des neurosciences, grenoble, France; [3]European Synchrotron Radiation Facility, grenoble, France

17:48 **0344.** **Layer-Specific Manganese-Enhanced MRI of Diabetic Rat Retinas Associated with Light and Dark Adaptation at 11.7T**

Bryan H. De La Garza[1], Charkradhar Velagapudi[2], Hanna E. Abboud[2], Guang Li[3], Timothy O. Duong[4]
[1]Ophthalmology/Radiology , Research Imaging Institute, Univ. of Texas Health Science Center at San Antonio, san antonio, tx, United States; [2]Division of Nephrology, Department of Medicine, Univ. of Texas Health Science Center at San Antonio, San Antonio, tx, United States; [3]Ophthalmology/Radiology, Research Imaging Institute, Univ. of Texas Health Science Center at San Antonio, san antonio, tx, United States; [4]Ophthalmology/Radiology, UT Health Science Center at San Antonio, san antonio, tx, United States

Spine & Spinal Cord

Room 255 EF 16:00-18:00 *Moderators:* Guillaume Duhamel & Meng Law

16:00 **0345.** **Chronic Low Back Pain Patients Exhibit Distinct Patterns of Increased Resting Cerebral Blood Flow**

ISMRM MERIT AWARD magna cum laude

Ashley D. Harris[1], Ann M. Taylor[2], Judith E. Hall[2], Richard G. Wise[1]
[1]CUBRIC, School of Psychology, Cardiff University, Cardiff, United Kingdom; [2]Department of Anaesthetics, Cardiff University, Cardiff, United Kingdom

16:12 **0346.** **Morphological Standards for the Human Spinal Cord – Validations and Preliminary Applications to Patients**

Virginie Callot[1], Léo Fradet[2, 3], Jean-Philippe Ranjeva[4], Guillaume Duhamel[5], Olivier M. Girard[4], Pierre-Jean Arnoux[2], Yvan Petit[3]
[1]Centre de Résonance Magnétique Biologique et Médicale (CRMBM, UMR 7339), Aix-Marseille University, Marseille , France; [2]Laboratoire de Biomécanique Appliquée (LBA, UMRT 24), IFSTTAR / Aix-Marseille Université, Marseille, France; [3]Department of Mechanical Engineering, École de technologie superieure, Montreal, Quebec, Canada; [4]Centre de Résonance Magnétique Biologique et Médicale (CRMBM, UMR 7339), CNRS / Aix-Marseille Université, Marseille, France; [5]Centre de Résonance Magnétique Biologique et Médicale (CRMBM, UMR 7339), Aix-Marseille University, Marseille, France

16:24 **0347.** **Quantitative Assessment of the White Matter Damage Following Dorsal Column Transection in Rat Spinal Cord Using Frequency Shift Mapping**

ISMRM MERIT AWARD summa cum laude

I-Wen Evan Chen[1], Jie Liu[2], Wolfram Tetzlaff[2, 3], Vanessa Wiggermann[4], Edenino Hernandez-Torres[4], Piotr Kozlowski, [4,5], Alexander Rauscher, [4,5]
[1]MRI Research Center, Vancouver, B.C., Canada; [2]International Collaboration On Repair Discoveries, Vancouver, B.C., Canada; [3]Zoology, University of British Columbia, Vancouver, B.C., Canada; [4]UBC MRI Research Centre, Vancouver, B.C., Canada; [5]Radiology, University of British Columbia, Vancouver, B.C., Canada

16:36 **0348.** **Spinal Cord Structural Imaging with Suppressed CSF Signal Using DANTE Pulse Trains**

ISMRM MERIT AWARD summa cum laude

Linqing Li[1], Yazhuo Kong[1], Yuri Zaitsu[1], Lucy A.E. Matthews[2], Peter Jezzard[1]
[1]FMRIB Centre, Nuffield Department of Clinical Neurosciences, University of Oxford, Oxford, United Kingdom; [2]Oxford University Hospitals NHS Trust, University of Oxford, Oxford, United Kingdom

16:48 **0349.** **Perfusion MRI of the Human Cervical Spinal Cord Using Arterial Spin Labeling**

ISMRM MERIT AWARD magna cum laude

Olivier M. Girard[1], Virginie Callot[2], Benjamin Robert[3], Patrick J. Cozzone[4], Guillaume Duhamel[2]
[1]CRMBM UMR 7339, CNRS / Aix-Marseille Université, Marseille, France; [2]CRMBM UMR 7339, Aix-Marseille University, Marseille, France; [3]Siemens Healthcare, Saint-Denis, France; [4]CRMBM UMR 7339, Aix-Marseille Université, Marseille, France

17:00 **0350.** **Quantification of Myelin in the Cervical Spinal Cord Using Inhomogeneous Magnetization Transfer Imaging**

Novena Rangwala[1], Gopal Varma[1], David Hackney[1], David C. Alsop[1]
[1]Department of Radiology, Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA, United States

17:12 **0351.** **FUSS- Fast Ultrashort T_2 Sensitive Sodium MRS of the Spinal Cord**

ISMRM MERIT AWARD summa cum laude

Bhavana S. Solanky[1], Frank Riemer[1], Xavier Golay[2], Claudia Angela M. Wheeler-Kingshott[1]
[1]NMR Research Unit, Queen Square MS Centre, Department of Neuroinflammation, UCL Institute of Neu[illegible]nited Kingdom; [2]Department of Brain Repair and Rehabilitation, University College London, London, United Kingdom

17:24 **0352.** **Pool Size Ratio Mapping in the Spine from a Single Magnetization Transfer Measurement**

Alex K. Smith[1, 2], Richard D. Dortch[2, 3], Seth A. Smith[2, 3]
[1]Biomedical Engineering, Vanderbilt University, Nashville, TN, United States; [2]Vanderbilt University Institute of Imaging Science, Vanderbilt University, Nashville, TN, United States; [3]Department of Radiology and Radiological Sciences, Vanderbilt University, Nashville, TN, United States

17:36 **0353.** **7T MRI of the Pathological Spinal Cord**

Julien Cohen-Adad[1], Wei Zhao[2], Anne Louise Oaklander[3], Merit Cudkowicz[3], Nazem Atassi[3], Lawrence L. Wald[2, 4]
[1]Department of Electrical Engineering, Ecole Polytechnique de Montreal, Montreal, Quebec, Canada; [2]A.A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Harvard Medical School, Charlestown, MA, United States; [3]Department of Neurology, Massachusetts General Hospital, Boston, MA, United States; [4]Harvard-MIT Division of Health Sciences and Technology, MIT, cambridge, MA, United States

17:48 **0354.** **Quantitative MR Assessment of Spinal Cord Injury Induced Non-Invasively Using Focused Ultrasound**

Wendy Oakden[1], Meaghan A. O'Reilly[2], Margarete K. Akens[3, 4], Isabelle Aubert[5, 6], Cari Whyne[3, 4], Kullervo Hynynen, [12], Greg J. Stanisz, [12]
[1]Medical Biophysics, University of Toronto, Toronto, ON, Canada; [2]Imaging Research, Sunnybrook Research Institute, Toronto, ON, Canada; [3]Orthopaedic Biomechanics Laboratory, Sunnybrook Research Institute, Toronto, ON, Canada; [4]Department of Surgery, University of Toronto, Toronto, ON, Canada; [5]Brain Sciences Research Program, Sunnybrook Research Institute, Toronto, ON, Canada; [6]Laboratory Medicine and Pathobiology, University of Toronto, Toronto, ON, Canada

Muscle: Physiology & Function

Room 355 BC 16:00-18:00 *Moderators:* Ronald A. Meyer & S. Sendhil Velan

16:00 **0355.** **Skeletal Muscle State Estimation by T_2 and Rotating Frame Relaxations in Ischemic Hind Limb Mouse Model**

Hanne Hakkarainen[1], Galina Dragneva, Petra Korpisalo-Pirinen, Seppo Ylä-Herttuala, Olli Gröhn, Timo Liimatainen
[1] A.I. Virtanen Institute for Molecular Sciences, University of Eastern Finland, Kuopio, Finland

16:12 **0356.** **Monitoring Skeletal Muscle Regeneration and Dystrophy in Mice Using T_2 and Diffusion Tensor MRI and Fiber Tracking**

Khan Hekmatyar[1], Steven J. Foltz[2], Marisa J. Fortunato[2], Aaron M. Beedle[2]
[1]BioImaging Research Center/Complex Carbohydrate Research Center, University of Georgia, Athens, GA, United States; [2]Department of Pharmaceutical and Biomedical Sciences, University of Georgia College of Pharmacy, Athens, GA, United States

16:24 **0357.** **Magnetic Resonance Imaging Detects Therapeutic Effects of Endothelial Progenitor Cells on Tissue Repair and Muscle Regeneration Into Ischemia Hindlimb**

ISMRM MERIT AWARD magna cum laude

Xingui Peng[1], Shenghong Ju[1], Judy Rose James[2], Darya P. Shlapak[2]
[1]Jiangsu Key Laboratory of Molecular and Functional Imaging, Department of Radiology, Zhongda Hospital, Medical School, Southeast University, Nanjing, Jiangsu Province, China; [2]Department of Radiology, University of Mississippi Medical Center, Jackson, MS, United States

16:36 **0358.** **Three Dimensional Mapping of the Creatine Kinase Reaction Rate in Muscles of the Lower Leg**

ISMRM MERIT AWARD summa cum laude

Prodromos Parasoglou[1], Ding Xia[1], Gregory Chang[1], Antonio Convit[2], Ravinder R. Regatte[1]
[1]Department of Radiology, New York University Langone Medical Center, New York, United States; [2]Departments of Psychiatry and Medicine, New York University Langone Medical Center, New York, United States

16:48 **0359.** **Multi-Parameter MRI Analysis of the Time Course of Induced Muscle Damage and Regeneration**

Donghoon Lee[1], Shu Feng[1], Daniel Chen[1], Martin Kushmerick[1]
[1]University of Washington, Seattle, WA, United States

17:00 **0360.** ***in vivo* Diffusion Assessment of Intramyocellular Lipid Droplet Size Changes Associated with High-Fat Diet Induced Obesity and Streptozotocin Induced Diabetes**

ISMRM MERIT AWARD magna cum laude

Peng Cao[1, 2], Anna M. Wang[1, 2], Victor B. Xie[1, 2], Shu-Juan J. Fan[1, 2], Zhongwei Qiao[3], Ed X. Wu[1, 2]
[1]The University of Hong Kong, Hong Kong, Hong Kong SAR, China; [2]Department of Electrical and Electronic Engineering, Hong Kong, Hong Kong SAR, China; [3]Department of Radiology, Fudan University, Shanghai, China

17:12 **0361.** **Assessing Lower-Extremity Hemodynamics in Individuals with Diabetes**

Jie Zheng[1], Mary K. Hasting[1], iaodong Zhang[2], Andrew Coggan[1], Hongyu An[3], David Muccigrosso[1], Darrah Snozek[1], Adil Bashir[1], Robert J. Gropler[1], Michael Mueller[4]
[1]Washington University in St. Louis, Saint Louis, MO, United States; [2]Peking University First Hospital, Beijing, China; [3]University of North Carolina, Chapel Hill, NC, United States; [4]Physical Therapy, Washington University in St. Louis, Saint Louis, MO, United States

17:24 **0362.** ***in vivo* Oxidative Capacity Vs. Mitochondrial Volume Density in Skeletal Muscle of Age-Matched, Elderly Athletes and Sedentary Subjects – a Matter of Function and Content**

ISMRM MERIT AWARD magna cum laude

Andreas Boss[1], Nicholas Thomas Broskey[2], Roland Kreis[1], Francesca Amati, [12], Chris Boesch[1]
[1]Depts Clinical Research and Radiology, University Bern, Bern, Switzerland; [2]Dept of Physiology, University of Lausanne, Lausanne, Switzerland

17:36 **0363.** **Time-Dependent Diffusion in Skeletal Muscle of Normal Controls and Chronic Exertional Compartment Syndrome Patients**

Eric E. Sigmund[1], Dmitry S. Novikov[1], Steven Baete[1], Kecheng Liu[2], Jenny Bencardino[3], Els Fieremans[4]
[1]Radiology, NYU Langone Medical Center, Bernard and Irene Schwartz Center for Biomedical Imaging, New York, NY, United States; [2]Siemens Medical Systems, Cleveland, OH, United States; [3]Radiology, NYU Langone Medical Center, New York, NY, United States; [4]Radiology, New York University, New York, NY, United States

17:48 **0364.** **Age Related Changes in 2D Strain Rate Tensor of the Medial Gastrocnemius Under Passive Plantarflexion.**

Usha Sinha[1], Ali Moghadasi[2], Ryuta Kinugasa[3], Shantanu Sinha[4]
[1]Physics, San Diego State University, San Diego, CA, United States; [2]University of California at San Diego, San Diego, CA, United States; [3]Human Science, Kanagwa University, Kanagawa, Japan; [4]Radiology, University of California at San Diego, San Diego, CA, United States

B_1 Mapping & Corrections

Room 355 EF 16:00-18:00 *Moderators:* Vasily L. Yarnykh & Xiaohong Joe Zhou

16:00 **0365.** **DREAM B_1^+ Mapping for Short-T_2 and -T_2* Components**

Kay Nehrke[1], Maarten J. Versluis[2], Andrew Webb[2], Peter Börnert[1, 2]
[1]Philips Research Laboratory, Hamburg, Germany; [2]Leiden University Medical Center, Leiden, Netherlands

16:12 **0366.** **3D B_1 Mapping for Short T_2^* Spins Using Radial Gradient Echo with Gradient Offset Independent Adiabaticity**

Naoharu Kobayashi[1], Michael Garwood
[1]Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, MN, United States

16:24 **0367.** **Hybrid Excitation and Bloch-Siegert Encoding Pulses for Short-TE 3D $|B_1^+|$ Mapping**

Marcin Jankiewicz[1], William A. Grissom[2]
[1]MRC/UCT Medical Imaging Research Unit, Department of Human Biology, University of Cape Town, Observatory, Western Cape, South Africa; [2]Department of Biomedical Engineering, Vanderbilt University, Nashville, TN, United States

16:36 **0368.** **Unexpected Lateral Asymmetry in TSE Image Contrast Explained: Tissues with Short T2 Show Extreme Sensitivity to B_1 Inhomogeneity**
Jaco J.M. Zwanenburg[1], Fredy Visser[1, 2], Jeroen Hendrikse[1], Peter R. Luijten[1]
[1]Radiology, University Medical Center Utrecht, Utrecht, Netherlands; [2]Philips Healthcare, Best, Netherlands

16:48 **0369.** **Multiband Spokes Pulses and Design Algorithm for B_1^+ Inhomogeneity-Compensated Multislice Excitation at 7T**
ISMRM MERIT AWARD summa cum laude
Anuj Sharma[1], Samantha J. Holdsworth[2], Rafael O'Halloran[2], Eric Aboussouan[2], Anh Tu Van[2], Murat Aksoy[2], Julian R. Maclaren[2], Roland Bammer[2], Victor Andrew Stenger[3], William A. Grissom[1]
[1]Biomedical Engineering, Vanderbilt University, Nashville, TN, United States; [2]Radiology, Stanford University, Stanford, CA, United States; [3]Medicine, University of Hawaii, Honolulu, HI, United States

17:00 **0370.** **B_1 Estimation Using Adiabatic Refocusing: BEAR**
ISMRM MERIT AWARD summa cum laude
Kalina V. Jordanova[1], Dwight G. Nishimura[1], Adam B. Kerr[1]
[1]Electrical Engineering, Stanford University, Stanford, CA, United States

17:12 **0371.** **Spatial Phase Encoding Using a Bloch-Siegert Shift Gradient**
ISMRM MERIT AWARD magna cum laude
Ralf Kartäusch[1], Florian Fidler[1], Toni Drießle[1], Thomas Kampf[2], Thomas C. Basse-Lüsebrink, [12], Uvo C. Hoelscher[1], Peter M. Jakob, [12], Xavier Helluy[2]
[1]MRB Research Center for Magnetic-Resonance-Bavaria, Würzburg, Bavaria, Germany; [2]EP5, Universität Würzburg, Würzburg, Bavaria, Germany

17:24 **0372.** **Improved Bloch-Siegert Based B_1 Mapping by Reducing Off-Resonance Shift**
Qi Duan[1], Peter van Gelderen[1], Jeff H. Duyn[1]
[1]Advanced MRI section, LFMI, NINDS, National Institutes of Health, Bethesda, MD, United States

17:36 **0373.** **Bloch-Siegert Shift B1 Mapping with Multi-Band Excitation**
Tiejun Zhao[1], Yujuan Zhao[2], Anthony DeFranco[2], Tamer S. Ibrahim[2]
[1]Siemens Healthcare; Siemens Medical Solutions USA, Inc., Pittsburgh, PA, United States; [2]University of Pittsburgh, Pittsburgh, PA, United States

17:48 **0374.** **Compensating Temporal B1 Field Inhomogeneities Using Paired Self-Compensated Spin-Lock Pulses**
ISMRM MERIT AWARD magna cum laude
Bogdan G. Mitrea[1], Axel J. Krafft[1], Ruitian Song[1], Ralf B. Loeffler[1], Claudia M. Hillenbrand[1]
[1]Radiological Sciences, St Jude Children's Research Hospital, Memphis, TN, United States

Educational Course
Cardiovascular MR Imaging: Pushing the Limits - Part 1: CMR in Cardiac Arrhythmias

Organizers: Victor A. Ferrari, M.D. Christopher J. P. François, M.D., Craig H. Meyer, Ph.D., Thoralf Niendorf, Ph.D., Jeanette Schulz-Menger, M.D. & David E. Sosnovik, M.D., F.A.C.C.

Room 255 BC 16:00-18:00 *Moderators:* Victor A. Ferrari & David E. Sosnovik

16:00 **The Need for Better Imaging in EP**
Wolfgang R. Bauer, M.D., Ph.D.

16:20 **ICD Implantation: Refining Risk with MRI**
Katherine C. Wu, M.D.

16:40 **Imaging the Left Atrium -Technique**
Edward V. R. DiBella, Ph.D.

17:00 **Pushing Sequences to the Limit for EP**
Reza Nezafat, Ph.D.

17:20 **MRI in Atrial Fibrillation**
Nassir F. Marrouche, M.D.

17:40 **Interventional EP: Achievements & Challenges**
Ehud J. Schmidt, Ph.D.

18:00 **Adjournment**

Educational Course
MR Physics & Techniques for Clinicians

*Organizers:*Marcus T. Alley, Ph.D. & Michael Markl, Ph.D.
Room 250 BCEF 16:00-18:00 *Moderators:*Marcus T. Alley & Michael Markl

16:00 **Spin Echo Imaging**
Pauline W. Worters, Ph.D.

17:00 **Gradient Echo Imaging**
Daniel B. Ennis, Ph.D.

18:00 **Adjournment**

Educational Course
Revenge: Game Show

*Organizers:*David B. Hackney, M.D. & Claudia A. Wheeler-Kingshott, Ph.D.
Room 251 BCEF 16:00-18:00 *Moderators:*David B. Hackney & Claudia A. Wheeler-Kingshott

16:00 **Ground Rules**
David B. Hackney, M.D.

16:10 **Radiologist/Clinician Presenting**
Vivian S. Lee, M.D., Ph.D., M.B.A.

16:20 **Scientist Presenting**
Timothy P. Roberts, Ph.D.

16:30 **Radiologist/Clinician Presenting**
Olga Ciccarelli, Ph.D.

16:40 **Scientist Presenting**
Jürgen K. Hennig, Ph.D.

16:50 **Q & A for First Four Cases**

17:00 **Radiologist/Clinician Presenting**
Sanjay Saini, M.D.

17:10 **Scientist Presenting**
Robert E. Lenkinski, Ph.D.

17:20 **Radiologist/Clinician Presenting**
Pia C. Maly Sundgren, M.D., Ph.D.

17:30 **Scientist Presenting**
Walter F. Block, Ph.D.

17:40 **Bonus Case**

17:50 **Q & A for Last Four Cases with Bonus & Voting**

18:00 **Adjournment**

Bronze Corporate Symposium
Bracco: Contrast-Enhanced MRA: Optimizing Safety and Efficacy
Room 255 EF 18:30-20:30 *(no CME credit)*

Sunrise Educational Course
Hot Topics in Body MRI

*Organizers:*Masoom A. Haider, M.D., F.R.C.P.C., Shahid M. Hussain, M.D., Ph.D., John P. Mugler, III, Ph.D., Caroline Reinhold, M.D. & Shreyas S. Vasanawala, M.D., Ph.D.

Room 250 BCEF 07:00-07:50 *Moderators:*Raj Mohan Paspulati & Caroline Reinhold

Genotype to Phenotype

07:00 **Liver Cell Adenoma: A New Perspective**
Raj Mohan Paspulati, M.D.

07:25 **The MRI Phenotype in Renal Cell Carcinoma: Is It Clinically Relevant?**
Ivan Pedrosa, M.D.

07:50 **Adjournment**

Sunrise Educational Course
MRS

*Organizers:*Peter B. Barker, D.Phil. & Robert E. Lenkinski, Ph.D.

Room 150 AG 07:00-07:50 *Moderators:*Peter B. Barker & Robert E. Lenkinski

07:00 **MRS in the Body**
Patrick J. Bolan, Ph.D.

07:25 **P-31 MRS of Skeletal Muscle**
Ronald A. Meyer, Ph.D.

07:50 **Adjournment**

Sunrise Educational Course
Cardiac MR Today & Tomorrow

*Organizers:*Craig H. Meyer, Ph.D.

Room 155 A 07:00-07:50 *Moderators:*Peng Hu & Craig H. Meyer

Coronary Artery & Vessel Wall Imaging

07:00 **Coronary MRA Techniques**
Debiao Li, Ph.D.

07:16 **Coronary Artery Wall Imaging & Assessment of Flow**
Jennifer Keegan, Ph.D.

07:32 **Clinical Applications of Coronary MRA**
Hajime Sakuma, M.D.

07:50 **Adjournment**

Sunrise Educational Course
Emerging Clinical Techniques

*Organizers:*Brian A. Hargreaves, Ph.D. & Shreyas S. Vasanawala, M.D., Ph.D.

Room 251 BCEF 07:00-07:50 *Moderators:*Brian A. Hargreaves & Shreyas S. Vasanawala

07:00 **Advanced Diffusion (IVIM)**
Bram Stieltjes, M.D., Ph.D.

07:25 **Quantitative DCE**
David L. Buckley, Ph.D.

07:50 **Adjournment**

Sunrise Educational Course
Practical Quantitative Imaging

*Organizers:*Gareth J. Barker, Ph.D., David L. Buckley, Ph.D. & Mark D. Does, Ph.D.

Room 255 BC 07:00-07:50 *Moderator:*Mark D. Does

Relaxation Time, MT & Diffusion Measures

07:00 **Relaxation Time, MT**
Richard Dortch, Ph.D.

07:25 **Diffusion Measures**
Jacques-Donald Tournier, Ph.D.

07:50 **Adjournment**

Sunrise Educational Course
Translational Pathways & Validation

*Organizers:*Kevin M. Bennett, Ph.D. & Robia G. Pautler, Ph.D.

Room 255 EF 07:00-07:50 *Moderators:*Kevin M. Bennett & Robia G. Pautler

Molecular Biology: Validation with Molecular Biological Methods

07:00 **Histology & Molecular Biology Techniques for Non-Biologists**
Carlos J. Perez-Torres, Ph.D.

07:25 **There's More than Meets the Eye: Interpreting Your MR Images Using Molecular Biology**
Louise van der Weerd, Ph.D.

07:50 **Adjournment**

Sunrise Educational Course
Absolute Beginner's Guide to Neuroimaging Methods

*Organizers:*Karla L. Miller, Ph.D., Matthias J. P. van Osch, Ph.D. & Claudia A. M. Wheeler-Kingshott, Ph.D.

Room 151 AG 07:00-07:50 *Moderator:* Jan M. Warnking

Perfusion

07:00 **Perfusion: ASL Basics & Analysis**
Esben T. Petersen, Ph.D.

07:25 **Perfusion: DSC & DCE Basics & Analysis**
Linda Knutsson, Ph.D.

07:50 **Adjournment**

Sunrise Educational Course
Advanced MSK MRI Techniques with Clinical Applications

*Organizers:*Richard Kijowski, M.D. & William B. Morrison, M.D.

Room 155 EF 07:00-07:50 *Moderators:*Richard Kijowski & William B. Morrison

Imaging Around Metal

07:00 **Emerging Techniques**
Brian A. Hargreaves, Ph.D.

07:25 **Clinical Applications & Cases**
Hollis G. Potter, M.D.

07:50 **Adjournment**

Sunrise Educational Course
From Pulse Sequence to Clinical Applications in the Brain

*Organizers:*Soonmee Cha, M.D. & Maria A. Rocca, M.D.

Room 355 BC 07:00-07:50 *Moderator:*Keith R. Thulborn

07:00 **Practical fMRI**
Karla L. Miller, Ph.D.

07:25 **Neuropsychiatric Disorders**
Steven C. R. Williams, Ph.D.

07:50 **Adjournment**

Sunrise Educational Course
Nuts & Bolts of Advanced Imaging

*Organizers:*Alexey Samsonov, Ph.D. & Jeffrey Tsao, Ph.D., M.B.A.

Room 355 EF 07:00-07:50 *Moderators:*Alexey Samsonov & Jeffrey Tsao

Parallel Transmit, SAR

07:00 **Coils, RF Shimming & SAR**
Tamer S. Ibrahim, Ph.D.

07:25 **Parallel Transmit Pulse Design**
William A. Grissom, Ph.D.

07:50 **Adjournment (Take-home excercises will be provided to reinforce the learning.)**

Plenary Session
Standardization of MR-Based Biomarkers for Evidence Based Medicine Across Institutions

*Organizers:*Robert E. Lenkinski, Ph.D. & Keith R. Thulborn, M.D., Ph.D.

Plenary Hall 08:10-09:30

08:10 **0375.** **The Evolution in the MR-Based Biomarker**
Neil M. Rofsky, M.D.

08:30 **0376.** **The European Experience with Multi-Center Breast MR Trials**
Francesco Sardanelli, M.D.

08:50 **0377.** **The American College of Radiology Imaging Network (ACRIN): Successes & Failures**
Mitchell D. Schnall, M.D., Ph.D.

09:10 **0378.** **NIBIB New Horizons: Frontiers in Body MRI: From Qualitative to Quantitative**
Scott B. Reeder, M.D., Ph.D.

09:30 **Adjournment**

Traditional Poster Session: Pulse Sequences & Reconstruction B

Exhibition Hall 10:00-12:00 *(no CME credit)*

Electronic Poster Sessions: Molecular Imaging; MR Spectroscopy

Exhibition Hall 10:00-12:00 *(no CME credit)*

Study Group Session: White Matter

Room 155 ABC 10:00-12:00 *(no CME credit)*

Neurodegenerative: Clinical

Room 150 AG 10:00-12:00 *Moderators:* Rao P. Gullapalli & David B. Hackney

10:00 **0379.** **Differential Effects of Levodopa and Deep Brain Stimulation on Motor Networks in Parkinson's Disease**

Karsten Mueller[1], Stefan Holiga[1], Harald E. Möller[1], Matthias L. Schroeter[1, 2], Josef Vymazal[3], Filip Ružicka[4, 5], Dušan Urgošík[4, 5], Evžen Ružicka[4], Robert Jech[4]

[1]Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Sachsen, Germany; [2]Clinic for Cognitive Neurology, Leipzig, Sachsen, Germany; [3]Department of Radiology, Na Homolce Hospital, Prague, Czech Republic; [4]Department of Neurology and Center of Clinical Neuroscience, First Faculty of Medicine, Charles University in Prague, Prague, Czech Republic; [5]Department of Stereotactic and Radiation Neurosurgery, Na Homolce Hospital, Prague, Czech Republic

10:12 **0380.** **Brain Softening - A Hallmark of Neurodegeneration: Cerebral MR Elastography in Patients with Supranuclear Palsy and Idiopathic Parkinson's Disease.**

Ingolf Sack[1], Axel Lipp[2], Radmila Trbojevic[1], Friedemann Paul[3], Andreas Fehlner[4], Sebastian Hirsch[1], Michael Scheel[1], Cornelia Noack[2], Jing Guo[5], Dieter Klatt[1], Jens Wuerfel[3], Juergen Braun[6]

[1]Department of Radiology, Charité - Universitätsmedizin Berlin, Berlin, Germany; [2]Department of Neurology, Charité - Universitätsmedizin Berlin, Berlin, Germany; [3]Neurocure, Charité - Universitätsmedizin Berlin, Berlin, Germany; [4]Department of Radiology, Charité University Medicine, Berlin, Germany; [5]Department of Radiology, Charite - University Medicine Berlin, Berlin, Germany; [6]Institute of Medical Informatics, Charite - University Medicine Berlin, Berlin, Germany

10:24 **0381.** **Elevated Arteriolar Cerebral Blood Volume in Prodromal Huntington's Disease**

ISMRM MERIT AWARD magna cum laude

Jun Hua[1, 2], Paul G. Unschuld[3, 4], Russell L. Margolis[3, 5], Peter C.M. van Zijl[1, 2], Christopher A. Ross[3, 6]

[1]Neurosection, Div. of MRI Research, Dept. of Radiology, Johns Hopkins University School of Medicine, Baltimore, MD, United States; [2]F.M. Kirby Research Center for Functional Brain Imaging, Kennedy Krieger Institute, Baltimore, MD, United States; [3]Department of Psychiatry and Behavioral Sciences, Johns Hopkins University School of Medicine, Baltimore, MD, United States; [4]Division of Psychiatry Research and Psychogeriatric Medicine, University of Zürich, Zürich, Switzerland; [5]Department of Neurology, Johns Hopkins University School of Medicine, Baltimore, MD, United States; [6]Department of Neuroscience and Pharmacology, Johns Hopkins University School of Medicine, Baltimore, MD, United States

10:36 **0382.** **Disrupted Frontal White Matter Development and Integrity in Patients Treated for Pediatric Infratentorial Brain Tumors**

John O. Glass[1], Robert J. Ogg[1], Yimei Li[2], Amar Gajjar[3], Wilburn E. Reddick[1]

[1]Radiological Sciences, St. Jude Children's Research Hospital, Memphis, TN, United States; [2]Biostatistics, St. Jude Children's Research Hospital, Memphis, TN, United States; [3]Oncology, St. Jude Children's Research Hospital, Memphis, TN, United States

10:48 **0383.** **CEST MR Imaging Investigation of Parkinson Disease at 3 T**

Chunmei Li[1], Xuna Zhao[2], Rui Wang[1], Shuai Peng[1], Cheng Zhou[1], Jinyuan Zhou[3], Min Chen[1]

[1]Department of Radiology, Beijing Hospital of the Ministry of Health, Beijing, China; [2]Peking University, Beijing, China; [3]Department of Radiology, Johns Hopkins University, Baltimore, MD, United States

11:00 **0384.** **Physical Exercise Impacts Brain Structure: A Longitudinal VBM and TBSS Study in Overweight and Obese Subjects**

Karsten Mueller[1], Harald E. Möller[1], Alfred Anwander[1], Franziska Busse[1], Annette Horstmann[1, 2], Matthias Raschpichler[2], Jöran Lepsien[1], Matthias L. Schroeter[1, 3], Matthias Blüher[2, 4], Arno Villringer[1, 3], Burkhard Pleger[1, 3]

[1]Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Sachsen, Germany; [2]Integrated Research and Treatment Center (IFB) AdiposityDiseases, Leipzig, Sachsen, Germany; [3]Clinic for Cognitive Neurology, Leipzig, Sachsen, Germany; [4]Department for Internal Medicine, University Hospital Leipzig, Leipzig, Sachsen, Germany

11:12 **0385.** **A Multivariate Approach to a MR Based Biomarker for Amyotrophic Lateral Sclerosis**

Robert Cary Welsh[1, 2], Bradley R. Foerster[1]

[1]Radiology, University of Michigan, Ann Arbor, MI, United States; [2]Psychiatry, University of Michigan, Ann Arbor, MI, United States

11:24 **0386.** **Presymptomatic Altered White Matter Diffusivity in Inherited Prion Disease**

Harpreet Hyare[1], Enrico De Vita[2], Gerard R. Ridgway[1], Marie-Claire Porter[1], Peter Rudge[1], Tarek A. Yousry[2], Simon Mead[1], John Collinge[3], John Thornton[2]

[1]UCL - Institute of Neurology, London, United Kingdom; [2]Lysholm Department of Neuroradiology, London, United Kingdom; [3]UCL Institute of Neurology, London, United Kingdom

11:36 **0387.** **GABA Level Correlates with Occupational Manganese Exposure and Motor Tests in Smelters**
Zaiyang Long[1, 2], Yue-Ming Jiang[3], Xiang-Rong Li[4], Jun Xu[1, 2], Li-Ling Long[4], Wei Zheng[1], James B. Murdoch[5], Ulrike Dydak[1, 2]
[1]School of Health Sciences, Purdue University, West Lafayette, IN, United States; [2]Department of Radiology and Imaging Sciences, Indiana University School of Medicine, Indianapolis, IN, United States; [3]Dept. of Occupational Health and Toxicology, Guangxi Medical University, Nanning, Guangxi, China; [4]Department of Radiology, the First Affiliated Hospital of Guangxi Medical University, Nanning, Guangxi, China; [5]Toshiba Medical Research Institute USA, Mayfair village, OH, United States

11:48 **0388.** **Gray Matter Perfusion and Its Association with Neurocognitive Performance to Evaluate Late Effects of Cancer Treatment**
ISMRM MERIT AWARD magna cum laude
Adam M. Winchell[1, 2], Kevin R. Krull[3], Matthew A. Scoggins[1], Ralf B. Loeffler[1], Robert J. Ogg[1], Melissa Hudson[3], Claudia M. Hillenbrand[1]
[1]Radiological Sciences, St. Jude Children's Research Hospital, Memphis, TN, United States; [2]Biomedical Engineering, University of Memphis, Memphis, TN, United States; [3]Epidemiology & Cancer Control, St. Jude Children's Research Hospital, Memphis, TN, United States

RF Engineering: Far Fields & High Dielectrics

Room 151 AG 10:00-12:00 *Moderators:* David O. Brunner & Cornelis A. T. van den Berg

10:00 **0389.** **Miniaturized Patch Antenna for Traveling-Wave Excitation: Pilot Study at 7 T MRI**
Sukhoon Oh[1], Elena Semouchkina[2], Thomas Neuberger[3], Michael T. Lanagan[4], Bei Zhang[1], Cem Murat Deniz, Christopher Michael Collins[1]
[1]Center for Biomedical Imaging, School of Medicine, New York University, New York, United States; [2]Department of Electrical and Computer Engineering, Michigan Technological University, Houghton, MI, United States; [3]Department of Bioengineering, The Pennsylvania State University, University Park, PA, United States; [4]Engineering Science and Mechanics, The Pennsylvania State University, University Park, PA, United States

10:12 **0390.** **Designing a Practical Dielectric Lining for a Whole Body Traveling Wave Setup at 7T: Tradeoff Between RF Performance and Ease of Handling**
ISMRM MERIT AWARD magna cum laude
Anna Andreychenko[1], Hugo Kroeze[1], Wouter Koning[1], Alexander J.E. Raaijmakers[1], Froukje E. Euwe[2], Jan J.W. Lagendijk[1], Peter R. Luijten[1], Dennis W.J. Klomp[1], Cornelis A.T. van den Berg[1]
[1]Imaging Division, UMC Utrecht, Utrecht, Netherlands; [2]Medical Technology, UMC Utrecht, Utrecht, Netherlands

10:24 **0391.** **Mode Matching for the Modeling and Safety Assessment of Multiple-Channel Waveguide Transmission**
ISMRM MERIT AWARD magna cum laude
Jan Paška[1], David Otto Brunner[2], Juerg Froehlich[1], Klaas P. Pruessmann[2]
[1]Laboratory for Electromagnetic Fields and Microwave Electronics, ETH Zurich, Zurich, Switzerland; [2]Institute for Biomedical Engineering, University and ETH Zurich, Zurich, Switzerland

10:36 **0392.** **A Travelling Wave Antenna with Matched Waveguide for Head Imaging at 7 T**
Daniel James Lee[1], Paul M. Glover[1]
[1]SPMMRC, University of Nottingham, Nottingham, Nottinghamshire, United Kingdom

10:48 **0393.** **Combined Loop + Dipole Arrays for 7 T Brain Imaging**
ISMRM MERIT AWARD magna cum laude
Yigitcan Eryaman[1, 2], Bastien Guérin[3], Robert Kosior[1, 2], Elfar Adalsteinsson[4, 5], Lawrence L. Wald[2, 5]
[1]Research Laboratory of Electronics, Massachusetts Institute of Technology, Cambridge, MA, United States; [2]Martinos Center for Biomedical Imaging, Dept. of Radiology, MGH, Charlestown, MA, United States; [3]Martinos Center for Biomedical Imaging, Dept. of Radiology, Massachusetts General Hospital, Charlestown, MA, United States; [4]Dept. of Electrical Engineering and Computer Science, Massachusetts Institute of Technology, Cambridge, MA, United States; [5]Harvard-MIT Health Sciences and Technology, Cambridge, MA, United States

11:00 **0394.** **Towards Ultimate SNR: Combination of a Multi-Element TX/RX Dipole Antenna Array with Nested and Meander Shaped RX Dipole Antenna at 7.0 Tesla**
Celal Özerdem[1], Lukas Winter[1], Katharina Fuchs[1], Thoralf Niendorf[1, 2]
[1]Berlin Ultrahigh Field Faciliy (BUFF), Max Delbrück Center for Molecular Medicine (MDC),, Berlin-Buch, Germany; [2]Experimental and Clinical Research Center, a joint cooperation between the Charité Medical Faculty , Berlin, Germany

11:12 **0395.** **A Two-Dimensional 16 Channel Dipole Transceiver Array for Cardiac MR at 7.0 T: Design, Evaluation of RF Shimming Behavior and Application in CINE Imaging**

ISMRM MERIT AWARD summa cum laude

Andreas Graessl[1], Lukas Winter[1], Celal Özerdem[1], Fabian Hezel[1], Katharina Fuchs[1], Harald Pfeiffer[2], Werner Hoffmann[2], Thoralf Niendorf[1, 3]

[1]Berlin Ultrahigh Field Facility, Max-Delbrueck-Center for Molecular Medicine, Berlin, Germany; [2]Physikalisch-Technische Bundesanstalt (PTB), Berlin, Germany; [3]Experimental and Clinical Research Center (ECRC), Charité Campus Buch, Humboldt-University, Berlin, Germany

11:24 **0396.** **Drastic Enhancement and Manipulation of RF Field with Ultra High Dielectric Constant (UHDC) Material at 3T**

Sebastian Rupprecht[1], Christopher T. Sica[1], Raffi Sahul[2], Seongtae Kwon[2], Michael T. Lanagan[3], Qing X. Yang[1, 4]

[1]Department of Radiology, The Pennsylvania State University College of Medicine, Hershey, PA, United States; [2]TRS Technologies Inc., State College, PA, United States; [3]Department of Engineering Science and Mechanics, The Pennsylvania State University, State College, PA, United States; [4]Department of Neurosurgery, The Pennsylvania State University College of Medicine, Hershey, PA, United States

11:36 **0397.** **Practical Methods for Improved B_1+-Homogeneity in 3T Breast Imaging**

Simone Angela Winkler[1], Brian K. Rutt[1]

[1]Department of Radiology, Stanford University, Stanford, CA, United States

11:48 **0398.** **Design of a Resonant Ceramic Array for Cardiac Imaging at High Field Strengths**

ISMRM MERIT AWARD magna cum laude

Sebastian A. Aussenhofer[1], Maarten J. Versluis[1], Andrew Webb[1]

[1]Department of Radiology Leiden University Medical Center, CJ Gorter Center for High Field MRI, Leiden, South Holland, Netherlands

Translational Scientific Session: Fat-Water Imaging - Translational Applications

Room 155 EF 10:00-12:00 *Moderators:* Catherine D. G. Hines & Dimitrios Karampinos

10:00 **0399.** **Free-Breathing Whole-Heart 3D Water-Fat Imaging: Clinical Experience**

ISMRM MERIT AWARD magna cum laude

Valentina Taviani[1], Diego Hernando[2], Christopher J. Francois[2], Scott K. Nagle[1], Mark L. Schiebler[1], Thomas M. Grist[2, 3], Karl K. Vigen[1], Ann Shimakawa[4], Scott B. Reeder[1, 3]

[1]Radiology, University of Wisconsin, Madison, WI, United States; [2]Radiology, University of Wisconsin-Madison, Madison, WI, United States; [3]Medical Physics, University of Wisconsin, Madison, WI, United States; [4]Global MR Applied Science Laboratory, GE Healthcare, Menlo Park, CA, United States

10:12 **0400.** **CAIPIRINHA-DIXON-TWIST (CDT) – Volume-Interpolated Breathhold Exam (VIBE) – a New Technique for Fast Time-Resolved Dynamic Three-Dimensional Imaging of the Abdomen with High Spatial Resolution**

Henrik J. Michaely[1], Katrin Koziel, Philipp Riffel, Johannes Budjan[1], Stefan O. Schoenberg, Ulrike I. Attenberger

[1]IKRN, UMM, Mannheim, BW, Germany

10:24 **0401.** **Fat and Iron Quantification Using a Multi-Step Adaptive Fitting Approach with Multi-Echo GRE Imaging**

Xiaodong Zhong[1], Marcel D. Nickel[2], Stephan A.R. Kannengiesser[2], Brian M. Dale[3], Berthold Kiefer[2], Mustafa Bashir[4]

[1]MR R&D Collaborations, Siemens Healthcare, Atlanta, GA, United States; [2]MR Applications Development, Siemens AG, Healthcare Sector, Erlangen, Germany; [3]MR R&D Collaborations, Siemens Healthcare, Cary, NC, United States; [4]Division of Abdominal Imaging, Duke University Medical Center, Durham, NC, United States

10:36 **0402.** **Proton Density Fat Fraction Is a Highly Accurate Biomarker of Hepatic Steatosis in Adolescent Girls and Young Women**

Jennifer Leigh Rehm[1], Peter Wolfgram[1], Ellen Lacon Connor[1], Wei Zha[2], David Allen[1], Diego Hernando[3], Scott B. Reeder[4]

[1]Pediatrics, University of Wisconsin, Madison, WI, United States; [2]Medical Physics, University of Wisconsin, Madison, WI, United States; [3]Radiology, University of Wisconsin-Madison, Madison, WI, United States; [4]Radiology, University of Wisconsin, Madison, WI, United States

10:48 **0403.** **Comparing Brown Adipose Tissue in Infants and Teenagers by Chemical-Shift Water-Fat MRI**

Houchun Harry Hu[1], Larry Yin[2], Thomas G. Perkins[3], Jonathan M. Chia[3], Patricia Aggabao[1], Vicente Gilsanz[1]

[1]Radiology, Children's Hospital Los Angeles, Los Angeles, CA, United States; [2]General Pediatrics, Children's Hospital Los Angeles, Los Angeles, CA, United States; [3]Philips Healthcare, Cleveland, OH, United States

11:00 **0404. Detection of Brown Fat Mass and Activity by Hyperpolarized Xenon MR**
Rosa Tamara Branca[1, 2], Christian White[1], Le Zhang[3]
[1]Physics and Astronomy, University of North Carolina at Chapel Hill, Chapel Hill, NC, United States; [2]UNC at Chapel Hill, Biomedical Research Imaging Center, Chapel Hill, NC, United States; [3]Material Science, University of North Carolina at Chapel Hill, Chapel Hill, NC, United States

11:12 **0405. Simultaneous Fat, Water and T2* Mapping for Quantitative Characterization of Bone Marrow Pathology**
Pippa Storey[1], Stephen Honig[2], David R. Stoffel[1], Sandra L. Moore[1]
[1]Radiology Department, New York University School of Medicine, New York, NY, United States; [2]Division of Rheumatology, New York University School of Medicine, New York, NY, United States

11:24 **0406. Water-Fat MR Imaging for Assessing Changes in Bone Marrow Composition Due to Radiation and Chemotherapy in Gynecologic Cancer Patients**
Patrick J. Bolan[1], Luke Arentsen[2], Thanasak Sueblinvong[3], Yan Zhang[4], Steen Moeller[1], Jori Carter[3], Levi S. Downs[3], Rahel Ghebre[3], Douglas Yee[4, 5], Jerry Froelich[1], Susanta K. Hui[4, 6]
[1]Radiology, University of Minnesota, Minneapolis, MN, United States; [2]Medical Physics, University of Minnesota, Minneapolis, MN, United States; [3]Obstetrics and Gynecology, University of Minnesota, Minneapolis, MN, United States; [4]Masonic Cancer Center, University of Minnesota, Minneapolis, MN, United States; [5]Department of Medicine, University of Minnesota, Minneapolis, MN, United States; [6]Therapeutic Radiology, University of Minnesota, Minneapolis, MN, United States

11:36 **0407. Combination of a Fat Volume Fraction Quantification Method with a Dedicated Automatic Segmentation Algorithm for Simultaneous Measurement of Infiltrated Fatty Tissue Fraction and Muscle Relaxation Times.**
Benjamin Leporq[1], Arnaud Le Troter[2], Yann Le Fur[2], Emmanuelle Salort-Campana[3], Patrick J. Cozzone[2], Olivier Beuf[4], David Bendahan[2]
[1]CREATIS; CNRS UMR 5220; INSERM U1044; INSA-Lyon; UCBL , Université de Lyon, Villeurbanne, Rhone-Alpes, France; [2]CRMBM; CNRS UMR 6612, Aix-Marseille Université, Marseille, PACA, France; [3]Reference Center for Neuromuscular Disorders, Timone Hospital, Assistance Publique Hopitaux de Marseille, Marseille, PACA, France; [4]CREATIS; CNRS UMR 5220; INSERM U1044; INSA-Lyon; UCBL, Université de Lyon, Villeurbanne, Rhone-Alpes, France

11:48 **0408. Combined T2 and IDEAL MRI Permit Identification of Nerve Injury Prior to Distal Muscle Inflammation and Atrophy, and Nerve Repair Prior to Muscle Regrowth**
Saurav Chandra[1], Nicole Londraville[2], Samuel Cadena[2], Erica C. Henning[1]
[1]Global Imaging Group, Novartis Institutes for Biomedical Research (NIBR), Cambridge, MA, United States; [2]Musculoskeletal Disease Area, Novartis Institutes for Biomedical Research (NIBR), Cambridge, MA, United States

Novel fMRI Acquisition Methods & Contrast Mechanisms

Room 255 BC 10:00-12:00 *Moderators:* Fa-Hsuan Lin & Wietske van der Zwaag

10:00 **0409. Blipped-CAIPI Spiral for Simultaneous Multi-Slice BOLD FMRI**
Benjamin Zahneisen[1], Benedikt A. Poser[1], Thomas Ernst[2], Victor Andrew Stenger[1]
[1]Department of Medicine, John A. Burns School of Medicine, University of Hawaii, Honolulu, HI, United States; [2]Department of Medicine, John A. Burns School of Medicine, University of Hawaii at Manoa, Honolulu, HI, United States

10:12 **0410. Characterization of Artifactual Correlation in Highly-Accelerated Simultaneous Multi-Slice (SMS) fMRI Acquisitions**
Kawin Setsompop[1, 2], Jonathan R. Polimeni[1, 2], Himanshu Bhat[3], Lawrence L. Wald[1, 2]
[1]A.A. Martinos Center for Biomedical Imaging, MGH, Charlestown, MA, United States; [2]Harvard Medical School, Boston, MA, United States; [3]Siemens Medical Solutions, Charlestown, MA, United States

10:24 **0411. An Approach to 3-Dimensional Multi-Band Acquisition**
Bruno Riemenschneider[1], Jakob Assländer[1], Jürgen Hennig[1]
[1]Dept. of Radiology, Medical Physics, University Medical Center Freiburg, Freiburg, Germany

10:36 **0412. Simultaneous SE-BOLD and T2* Measurement by Functional MRS of Water Signal**
ISMRM MERIT AWARD magna cum laude
Peng Cao[1, 2], Jevin W. Zhang[1, 2], Victor B. Xie[1, 2], Iris Y. Zhou[1, 2], Ed X. Wu[1, 2]
[1]The University of Hong Kong, Hong Kong, Hong Kong SAR, China; [2]Department of Electrical and Electronic Engineering, Hong Kong, Hong Kong SAR, China

10:48 **0413.** **T2- Prepared Blood-Oxygenation-Level-Dependent (BOLD) fMRI Using Single-Shot 3D Fast Gradient Echo (GRE) Sequence with Whole Brain Coverage at 7T**

ISMRM MERIT AWARD summa cum laude

Jun Hua[1, 2], Craig K. Jones[1, 2], Qin Qin[1, 2], Peter C.M. van Zijl[1, 2]
[1]Neurosection, Div. of MRI Research, Dept. of Radiology, Johns Hopkins University School of Medicine, Baltimore, MD, United States; [2]F.M. Kirby Research Center for Functional Brain Imaging, Kennedy Krieger Institute, Baltimore, MD, United States

11:00 **0414.** **T_2-Weighted BOLD fMRI at 9.4 T Using a S_2-SSFP-EPI Sequence**

ISMRM MERIT AWARD summa cum laude

Philipp Ehses[1, 2], Juliane Budde[1], Gunamony Shajan[1], Klaus Scheffler[1, 2]
[1]High-Field MR Center, Max Planck Institute for Biological Cybernetics, Tübingen, Germany; [2]Dept. of Biomedical Magnetic Resonance, University of Tübingen, Tübingen, Germany

11:12 **0415.** **Simultaneous Spin Echo and Gradient Echo for fMRI Using the USPIO Agent Ferumoxytol in Humans: Enhanced Sensitivity and Potentials for High Resolution Mapping**

Deqiang Qiu[1], Thomas Christen[1], Wendy W. Ni[1], Heiko Schmiedeskamp[1], Greg Zaharchuk[1], Michael E. Moseley[1]
[1]Radiology, Stanford University, Stanford, CA, United States

11:24 **0416.** **Diffusion fMRI Can Detect Neural Activation When the BOLD fMRI Response Is Abolished by Nitroprussiate**

Tomokazu Tsurugizawa[1], Boucif Djemai[1], Luisa Ciobanu[1], Denis Le Bihan[1]
[1]Neurospin/CEA, Gif-sur-Yvette, Essonne, France

11:36 **0417.** **Diffusion fMRI Detects White-Matter Dysfunction in Mice with Acute Optic Neuritis**

ISMRM MERIT AWARD magna cum laude

Tsen-Hsuan Lin[1], William M. Spees[2, 3], Robert Mikesell[4], Anne H. Cross, [35], Sheng-Kwei Song[2, 3]
[1]Physics, Washington University , St. Louis, MO, United States; [2]Radiology, Washington University School of Medicine, St. Louis, MO, United States; [3]The Hope Center for Neurological Disorders, Washington University School of Medicine, St. Louis, MO, United States; [4]Neurology, Washington University School of Medicine, St. Louis, MO, United States; [5]Neurology, Washington University in St. Louis, St. Louis, MO, United States

11:48 **0418.** **Magnetic Resonance Imaging of Neuronal Currents in an in Vitro Turtle Cerebellum**

Padmavathi Sundaram[1], William Wells[2], Darren B. Orbach[1], Daniel Orringer[3], Mukund Balasubramanian[1], Robert Mulkern[1], Yoshio Okada[4]
[1]Radiology, Children's Hospital Boston, Harvard Medical School, Boston, MA, United States; [2]Radiology, Brigham and Women's Hospital, Harvard Medical School, Boston, MA, United States; [3]Neurosurgery, University of Michigan, Ann Arbor, MI, United States; [4]Neurology, Children's Hospital Boston, Harvard Medical School, Boston, MA, United States

Saturation Transfer: New Frontiers & Application

Room 255 EF 10:00-12:00 *Moderators:* Gil Navon & Peter van Zijl

10:00 **0419.** **Ultra-Fast One-Shot Z Spectrum Acquisition**

ISMRM MERIT AWARD summa cum laude

Xiang Xu[1], Jae-Seung Lee[1, 2], Alexej Jerschow[1]
[1]Chemistry Department, New York University, New York, NY, United States; [2]Radiology Department, New York University, New York, NY, United States

10:12 **0420.** **Correlation of Exercise Induced Changes in Cr CEST and 31P MRS in Human Calf Muscles**

ISMRM MERIT AWARD magna cum laude

Feliks Kogan[1], Mohammad Haris[1], Anup Singh[1], Kejia Cai[1], Catherine DeBrosse[1], Ravi Prakash Reddy Nanga[1], Hari Hariharan[1], Ravinder Reddy[1]
[1]Center for Magnetic Resonance and Optical Imaging (CMROI), University of Pennsylvania, Philadelphia, PA, United States

10:24 **0421.** **CytoCEST: Cells as CEST Agents**

Giuseppe Ferrauto[1], Daniela Delli Castelli[1], Enza Di Gregorio[1], Enzo Terreno[1], Holger Gruell[2], Silvio Aime[1]
[1]Molecular Biotecnology & helath Sciences, Molecular Imaging Center, torino, Italy; [2]Eindhoven University of Technology, Eindhoven, Netherlands

10:36 **0422.** **Development of CEST Liposomes for Monitoring Nanoparticle-Based Cancer Therapies**

ISMRM MERIT AWARD magna cum laude

Kannie W.Y. Chan[1, 2], Tao Yu[3, 4], Yuan Qiao[5], Guanshu Liu[1, 6], Ming Yang[4], Jeff W.M. Bulte,[27], Peter C.M. van Zijl[1, 6], Justin S. Hanes[3], Michael T. McMahon[1, 6]

[1]Russell H. Morgan Department of Radiology and Radiological Science, The Johns Hopkins University School of Medicine, Baltimore, MD, United States; [2]Cellular Imaging Section and Vascular Biology Program, Institute for Cell Engineering, Baltimore, MD, United States; [3]Center for Nanomedicine, The Wilmer Eye Institute, The Johns Hopkins University School of Medicine, Baltimore, MD, United States; [4]Department of Biomedical Engineering, The Johns Hopkins University School of Medicine, Baltimore, MD, United States; [5]The Ludwig Center for Cancer Genetics and Therapeutics, Howard Hughes Medical Institute and Sidney Kimmel Cancer Center, Baltimore, MD, United States; [6]F.M. Kirby Research Center for Functional Brain Imaging, Kennedy Krieger Institute, Baltimore, MD, United States; [7]Russell H. Morgan Department of Radiology and Radiological Science, Johns Hopkins University, Baltimore, MD, United States

10:48 **0423.** **Amide Proton Transfer Imaging of High Intensity Focused Ultrasound-Treated Tumor Tissue**

ISMRM MERIT AWARD magna cum laude

Stefanie J.C.G. Hectors[1], Igor Jacobs[1], Gustav J. Strijkers[1], Klaas Nicolay[1]

[1]Biomedical NMR, Department of Biomedical Engineering, Eindhoven University of Technology, Eindhoven, Netherlands

11:00 **0424.** **GlucoCEST for the Detection of Human Xenografts Glioblastoma at Early Stage.**

ISMRM MERIT AWARD magna cum laude

Francisco Torrealdea[1], Marilena Rega[1], Angela Richard-Loendt[1], Sebastian Brandner[1], David L. Thomas[1], Simon Walker-Samuel[2], Xavier Golay[3]

[1]Institute of Neurology, UCL, London, Greater London, United Kingdom; [2]Centre for Advanced Biomedical Imaging, UCL, London, Greater London, United Kingdom; [3]Institute of Neurology, University College London, London, Greater London, United Kingdom

11:12 **0425.** **Chemical Exchange Saturation Transfer (CEST) MRI of 2DG and FDG as a Tool for Molecular Imaging of Tumors and Metastases**

ISMRM MERIT AWARD summa cum laude

Michal Rivlin[1], Uzi Eliav[1], Judith Horev[2], Ilan Tsarfaty[2], Gil Navon[1]

[1]School of Chemistry, Tel-Aviv University, Tel-Aviv, Israel; [2]Sackler School of Medicine, Tel-Aviv University, Tel-Aviv, Israel

11:24 **0426.** **Molecular CEST Imaging of Mucins with Different Glycosylation Levels**

ISMRM MERIT AWARD summa cum laude

Xiaolei Song[1, 2], Raag D. Airan[1, 2], Dian R. Arifin[1, 2], Amnon Bar-Shir,[23], Lea Miranda[1, 2], Deepak K. Kadayakkara[1, 2], Guanshu Liu[1, 4], Assaf A. Gilad,[23], Peter C.M. van Zijl[1, 4], Michael T. McMahon[1, 4], Jeff W.M. Bulte,[23]

[1]Division of MR Research, The Russell H. Morgan Department of Radiology and Radiological Science, The Johns Hopkins University, Baltimore, MD, United States; [2]Cellular Imaging Section, Institute for Cell Engineering, The Johns Hopkins University, Baltimore, MD, United States; [3]Division of MR Research, The Russell H. Morgan Department of Radiology and Radiological Science, Johns Hopkins University, Baltimore, MD, United States; [4]F.M. Kirby Research Center for Functional Brain Imaging, Kennedy Krieger Institute, Baltimore, MD, United States

11:36 **0427.** **Application of Chemical Exchange Saturation Transfer (CEST) MRI in Acute Human Stroke Patients Demonstrates New Potential for Visualization of Tissue Acidosis and Infarction Risk**

Manus J. Donahue[1], Anna Tietze[2, 3], Irene Klaerke Mikkelsen[2], Leif Ostergaard[2], Megan Strother[1], Seth Smith[1], Jakob Blicher[2, 4]

[1]Radiology and Radiological Sciences, Vanderbilt University, Nashville, TN, United States; [2]Center for Functionally Integrative Neuroscience, Aarhus University Hospital, Aarhus, Denmark; [3]Neuroradiology, Aarhus University Hospital, Aarhus, Denmark; [4]Hammel Neurorehabilitation and Research, Aarhus University Hospital, Hammel, Denmark

11:48 **0428.** **NOE Imaging in the Human Brain at 7T**

Craig K. Jones[1, 2], Alan Huang[1, 2], Jiadi Xu[1, 2], Richard Anthony Edward Edden,[23], Michael Schär[4, 5], Jun Hua[1, 2], Nikita Oskolkov[1, 2], Michael T. McMahon[1, 2], Peter C.M. van Zijl[1, 2]

[1]Department of Radiology and Radiological Sciences, Johns Hopkins University School of Medicine, Baltimore, MD, United States; [2]FM Kirby Center for Functional Brain Imaging, Kennedy Krieger Institute, Baltimore, MD, United States; [3]Department of Radiology and Radiological Sciences, Johns Hopkins University, Baltimore, MD, United States; [4]Philips Medical Systems, Highland Heights, OH, United States; [5]Keller Center for Imaging Innovation, Barrow Neurological Institute, Phoenix, AZ, United States

Cartilage & Basic Science: Emerging Techniques

Room 355 BC 10:00-12:00 *Moderators:* Xiaojuan Li & Miika T. Nieminen

10:00 0429. ISMRM MERIT AWARD magna cum laude

Susceptibility Weighted Imaging of Cartilage Canals of the Distal Femur ex Vivo and in Vivo</I> **Mikko J. Nissi[1, 2], Ferenc Toth[3], Jinjin Zhang[1, 2], Sebastian Schmitter[1], Michael Benson[1], Bruce Hammer[1], Cathy Carlson[3], Jutta Maria Ellermann[1]**

[1]CMRR and Department of Radiology, University of Minnesota, Minneapolis, MN, United States; [2]Department of Orthopaedic Surgery, University of Minnesota, Minneapolis, MN, United States; [3]Department of Veterinary Population Medicine, College of Veterinary Medicine, University of Minnesota, St. Paul, MN, United States

10:12 0430. ISMRM MERIT AWARD summa cum laude

Regional Analysis of Hip Cartilage MR Relaxation Times in Subjects with and Without Femoroacetabular Impingement

Karupppasamy Subburaj[1], Alexander Valentinitsch[1], Alexander B. Dillon[1], Xiaojuan Li[1], Thomas M. Link[1], Thomas P. Vail[2], Sharmila Majumdar[1]

[1]Radiology and Biomedical Imaging, University of California San Francisco, San Francisco, CA, United States; [2]Orthopaedic Surgery, University of California San Francisco, San Francisco, CA, United States

10:24 0431. ISMRM MERIT AWARD magna cum laude

Factors Influencing Quantitative Magnetization Transfer (QMT) Parameters of Articular Cartilage

Pouria Mossahebi[1], Rajeev Chaudhary[2], Nade Sritanyaratana[1], Walter F. Block[2, 3], Alexey A. Samsonov[4], Richard Kijowski[4]

[1]Biomedical Engineering, University of Wisconsin, Madison, WI, United States; [2]Biomedical Engineering, University of Wisconsin-Madison, Madison, WI, United States; [3]Medical Physics, University of Wisconsin, Madison, WI, United States; [4]Radiology, University of Wisconsin, Madison, WI, United States

10:36 0432. ISMRM MERIT AWARD magna cum laude

Assessment of Degradation of Proteoglycans and Matrix Proteins in Intervertebral Disc Degeneration by Diffusion Weighted MRS

Anna M. WANG[1, 2], Peng Cao[1, 2], Jian Yang[3], Ed X. Wu[1, 2]

[1]Laboratory of Biomedical Imaging and Signal Processing, The University of Hong Kong, Hong Kong, China; [2]Department of Electrical and Electronic Engineering, The University of Hong Kong, Hong Kong , China; [3]Department of Radiology, Xi'an Jiaotong University, Xi'an, Shanxi, China

10:48 0433. **Classification of OARSI Scored Human Articular Cartilage Explants Through Multiparametric MRI Analysis at 3T**

Vanessa A. Lukas[1], Kenneth W. Fishbein[1], Ping-Chang Lin[2], Michael Schär[3], Corey P. Neu[4], Richard G. Spencer[1], David A. Reiter[5]

[1]Magnetic Resonance Imaging and Spectroscopy Section, National Institute on Aging, National Institutes of Health, Baltimore, MD, United States; [2]Department of Radiology, Howard University College of Medicine, Washington, DC, United States; [3]Philips Healthcare, Highland Heights, OH, United States; [4]Weldon School of Biomedical Engineering, Purdue University, West Lafayette, IN, United States; [5]Clinical Research Branch, National Institute on Aging, National Institutes of Health, Baltimore, MD, United States

11:00 0434. ISMRM MERIT AWARD magna cum laude

Assessment of Human Tibial Cartilage-Bone Interface in Osteoarthritis Using SWIFT

Jari Rautiainen[1, 2], Elli-Noora Salo[3], Virpi Tiitu[4], Mikko A.J. Finnilä[5], Olli-Matti Aho[6], Simo Saarakkala[5], Petri Lehenkari[6], Jutta Maria Ellermann[7], Mikko J. Nissi[7, 8], Miika T. Nieminen[2, 3]

[1]Department of Applied Physics, University of Eastern Finland, Kuopio, Finland; [2]Department of Radiology, University of Oulu, Oulu, Finland; [3]Department of Diagnostic Radiology, Oulu University Hospital, Oulu, Finland; [4]Institute of Biomedicine, Anatomy, University of Eastern Finland, Kuopio, Finland; [5]Department of Medical Technology, University of Oulu, Oulu, Finland; [6]Department of Anatomy and Cell Biology, University of Oulu, Oulu, Finland; [7]Center for Magnetic Resonance Research, Department of Radiology, University of Minnesota, Minneapolis, MN, United States; [8]Department of Orthopaedic Surgery, University of Minnesota, Minneapolis, MN, United States

11:12 0435. ISMRM MERIT AWARD magna cum laude

Validation of a Clinical Protocol for DTI of Articular Cartilage in Whole Knee Specimen Using a New Method for One-To-One Correlation of DTI with Histology

Jose G. Raya[1], Tony Wong[1], You Jin Lee[2], Christian Glaser[1], Thorsten Kirsch[2]

[1]Radiology, New York University Langone Medical Center, New York, NY, United States; [2]Orthopaedic Surgery, New York University Langone Medical Center, New York, NY, United States

11:24 **0436.** **CubeQuant T1rho, QDESS T2, and Cones Sodium Measurements Are Sufficiently Reproducible for *In Vivo* Cartilage Studies**
Caroline D. Jordan[1, 2], Uche D. Monu[1, 3], Emily J. McWalter[1], Ronald D. Watkins[1], Weitian Chen[4], Neal K. Bangerter[5], Brian Andrew Hargreaves[1], Garry E. Gold[1, 6]
[1]Radiology, Stanford University, Stanford, CA, United States; [2]Bioengineering, Stanford University, Stanford, CA, United States; [3]Electrical Engineering, Stanford University, Stanford, CA, United States; [4]Global Applied Science Laboratory, GE Healthcare, Menlo Park, CA, United States; [5]Electrical & Computer Engineering, Brigham Young University, Provo, UT, United States; [6]Orthopaedic Surgery, Stanford University, Stanford, CA , United States

11:36 **0437.** **Magic Angle Effect Plays a Significant Role in T1rho Relaxation in Articular Cartilage**
Pedram Golnari[1], Jiang Du[1], Won C. Bae[1], Reni Biswas[1], Sheronda Statum[1], Eric Chang[1], Christine Chung[1]
[1]Radiology, University of California, San Diego, San Diego, CA, United States

11:48 **0438.** **Numerical Validation of Two-Component T2* Mapping for Cartilages in Human Knee**
Yongxian Qian[1], Tiejun Zhao[2], Fernando Emilio Boada[3]
[1]Radiology, University of Pittsburgh, Pittsburgh, PA, United States; [2]MR R&D Collaborations, Siemens Healthcare USA, Pittsburgh, PA, United States; [3]Radiology, University of Pittsburgh, New York, NY, United States

Preclinical Cancer Imaging: Molecular & Traditional

Room 355 EF 10:00-12:00 *Moderators:* Kristine Glunde & Sabrina M. Ronen

10:00 **0439.** **Quantitative MRI Reporter Gene Imaging of the Recruitment of Ferritin Over-Expressing Fibroblasts to the Vascular Niche of Solid Tumors**
ISMRM MERIT AWARD summa cum laude
Moriel Vandsburger[1], Marina Radoul[1], Yoseph Addadi[1], Senzeni Mpofu[1], Batya Cohen[1], Michal Neeman[1]
[1]Weizmann Institute of Science, Rehovot, None, Israel

10:12 **0440.** ***in vivo* Monitoring of Tumor Response to Anti-Cancer Therapy Using MRI and a Novel Caspase-3 Activatable Gadolinium Contrast Agent for Imaging Apoptosis**
ISMRM MERIT AWARD summa cum laude
Prachi Pandit[1], Deju Ye[1], Adam Shuhendler[1], Jianghong Rao[1, 2], Brian K. Rutt[1]
[1]Radiology, Stanford University, Stanford, CA, United States; [2]Chemistry, Stanford University, Stanford, CA, United States

10:24 **0441.** **Monitoring the Effects of Bicarbonate Treatment on Tumor Extracellular pH Using AcidoCEST MRI**
Liu Qi Chen[1], Christy M. Howison[2], Justin J. Jeffery[2], Ian F. Robey[3], Marty Pagel[2]
[1]Department of Chemistry and Biochemistry, University of Arizona, Tucson, AZ, United States; [2]Biomedical Engineering, University of Arizona, Tucson, AZ, United States; [3]University of Arizona Cancer Center, University of Arizona, Tucson, AZ, United States

10:36 **0442.** **Investigating the Role of Macromolecular Transport in the Formation of Malignant Ascites and Metastases**
Marie-France Penet[1], Zhihang Chen[1], Arvind P. Pathak[1], Dmitri Artemov[1], Zaver M. Bhujwalla[2]
[1]JHU ICMIC Program Division of Cancer Imaging Research The Russell H. Morgan Department of Radiology, The Johns Hopkins University School of Medicine, Baltimore, MD, United States; [2]JHU ICMIC Program Division of Cancer Imaging Research The Russell H. Morgan Department of Radiology, Johns Hopkins University, Baltimore, MD, United States

10:48 **0443.** **Tracking 4T1-PiPSCs Homing to Primary and Metastatic Tumor with MRI**
Hong Li[1, 2], Jianjun Wang[3], Qianqian Li[3], Mengfan Yan[4], Guojun Wu[4], Yimin Shen[2], Ewart Mark Haacke[2], Jiani Hu[2]
[1]Radiology, Union Hospital, Tongji Medical College, Huazhong University of Science and Technology, Wuhan, Hubei, China; [2]Radiology, Wayne State University, Detroit, MI, United States; [3]Biochemistry and Molecular Biology, Wayne State University, Detroit, MI, United States; [4]Pharmacology, Karmanos Cancer Institute,Wayne State University School of Medicine, Detroit, MI, United States

11:00 **0444.** **Tumor Blood Flux Quantification Using Flow Enhanced MRI and Comparison with Histology**
ISMRM MERIT AWARD magna cum laude
Olivier Reynaud[1], Françoise Geffroy[1], Luisa Ciobanu[1]
[1]NeuroSpin, Saclay, France

11:12 **0445.** **Synthesis and Evaluation of CREKA-Tris(Gd-DOTA)3 for MR Molecular Imaging of Breast Cancer**
Zhuxian Zhou[1], Zhen Ye[1], Xueming Wu[1], Zheng-Rong Lu[1]
[1]Biomedical Engineering, Case Western Reserve Universtiy, Cleveland, OH, United States

11:24 **0446.** **The Relationship Between Short and Long Diffusion Time ADC Values in Rat Brain Tumors**

ISMRM MERIT AWARD summa cum laude

Alexander D. Cohen[1], Peter S. LaViolette[2], Kathleen M. Schmainda,[12]
[1]Biophysics, Medical College of Wisconsin, Milwaukee, WI, United States; [2]Radiology, Medical College of Wisconsin, Milwaukee, WI, United States

11:36 **0447.** **Imaging Glucose Uptake in a Preclinical Brain Tumor Model Using GlucoCEST**

ISMRM MERIT AWARD summa cum laude

Kannie W.Y. Chan[1, 2], Guanshu Liu[1, 3], Bachchu Lal[3, 4], Jeff W.M. Bulte,[25], John Laterra[3, 6], Dmitri Artemov[7, 8], Michael T. McMahon[1, 3], Peter C.M. van Zijl[1, 3]
[1]Russell H. Morgan Department of Radiology and Radiological Science, The Johns Hopkins University School of Medicine, Baltimore, MD, United States; [2]Cellular Imaging Section and Vascular Biology Program, Institute for Cell Engineering, Baltimore, MD, United States; [3]F.M. Kirby Research Center for Functional Brain Imaging, Kennedy Krieger Institute, Baltimore, MD, United States; [4]Department of Neurology, Kennedy Krieger Institute, Baltimore, MD, United States; [5]Russell H. Morgan Department of Radiology and Radiological Science, Johns Hopkins University, Baltimore, MD, United States; [6]Department of Neuroscience, Kennedy Krieger Institute, Baltimore, MD, United States; [7]JHU In Vivo Cellular Molecular Imaging Center, The Johns Hopkins University School of Medicine, Baltimore, MD, United States; [8]Division of Cancer Imaging Research, The Johns Hopkins University School of Medicine, Baltimore, MD, United States

11:48 **0448.** **Noninvasive Investigation of the Viscoelastic Properties of Intracranial Tumours with Magnetic Resonance Elastography**

ISMRM MERIT AWARD magna cum laude

Yann Jamin[1], Jessica K.R. Boult[1], Jin Li[1], Craig Cummings[1], Jeffrey C. Bamber[1], Ralph Sinkus[2], Simon P. Robinson[1]
[1]Division of Radiotherapy and Imaging, The Institute of Cancer Research, Sutton, Surrey, United Kingdom; [2]INSERM U773, CRB3,, Centre de Recherche Biomédicale Bichat-Beaujon, Paris, France

Educational Course
Lung

*Organizers:*Masoom A. Haider, M.D., F.R.C.P.C., Shahid M. Hussain, M.D., Ph.D., John P. Mugler, III, Ph.D., Caroline Reinhold, M.D. & Shreyas S. Vasanawala, M.D., Ph.D.

Room 250 BCEF 10:00-12:00 *Moderators:*John P. Mugler, III & Scott K. Nagle

10:00 **Ultra-Short Echo Time MRI of the Lung**
Scott K. Nagle, M.D., Ph.D.

10:30 **Pulmonary Perfusion (Including Emboli)**
J. Paul Finn, M.D.

11:00 **Disease Characterization with Hyperpolarized Gases**
Talissa Altes, M.D.

11:30 **Upper Airway Imaging**
Lewis Shin, M.D.

12:00 **Adjournment**

Educational Course
Motion Artifacts & Practical Solutions

*Organizers:*Roland Bammer, Ph.D. & Debiao Li, Ph.D.

Room 251 BCEF 10:00-12:00 *Moderators:*Roland Bammer & Debiao Li

10:00 **Physical Basis for Motion Artifacts**
Murat Aksoy, Ph.D.

10:30 **Adaptive Motion Correction Methods**
Julian Maclaren, Ph.D.

11:00 **Respiratory Gating: Cardiovascular & Body Imaging**
Peng Hu, Ph.D.

11:30 **Retrospective Motion Correction for Cardiovascular & Body Imaging**
Freddy Odille, Ph.D.

12:00 Adjournment

Hands-On Workshop 1: GE Healthcare
Room 155 D 10:00-12:00 *(no CME credit)*

Hands-On Workshop 1: Philips Healthcare
Room 255 D 10:00-12:00 *(no CME credit)*

Hands-On Workshop 1: Siemens - MR Angiography Techniques, Protocol Optimization & Post-Processing
Room 355 D 10:00-12:00 *(no CME credit)*

Gold Corporate Symposium: Siemens
Plenary Hall 12:15-13:15 *(no CME credit)*

Traditional Poster Sessions: Musculoskeletal; Engineering
Exhibition Hall 13:30-15:30 *(no CME credit)*

Electronic Poster Session: Body
Exhibition Hall 13:30-15:30 *(no CME credit)*

Study Group Session: Current Issues in Brain Function
Room 155 ABC 13:30-15:30 *(no CME credit)*

Study Group Session: MR in Drug Research
Room 254 ABC 13:30-15:30 *(no CME credit)*

Novel Neuroimaging Methods
Room 150 AG 13:30-15:30 *Moderators:* Christopher D. Kronke & Joshua S. Shimony

13:30 **0449.** **3D MRI Microscopy of the Lens, Vitreous, and Anterior Chamber Volumes in Normal Mouse Eyes and Eyes with Retinal Degeneration**
ISMRM MERIT AWARD magna cum laude
Eric R. Muir[1], Timothy O. Duong[2]
[1]Research Imaging Institute, University of Texas Health Science Center, San Antonio, TX, United States; [2]Research Imaging Institute, UT Health Science Center at San Antonio, San Antonio, TX, United States

13:42 **0450.** **Anatomical and ASL Imaging of the Retina at 7 T**
ISMRM MERIT AWARD summa cum laude
Daniel James Lee[1], Ehsan Vaghefi[2], Kevin F. Webb, Alexander J E Foss[3], Richard W. Bowtell[1], Susan T. Francis[1]
[1]SPMMRC, University of Nottingham, Nottingham, Nottinghamshire, United Kingdom; [2]University of Auckland, Auckland, New Zealand; [3]Queen's Medical Centre, Nottingham, Nottinghamshire, United Kingdom

13:54 **0451.** **A Fingerprinting Approach to Compute Blood Volume, Vessel Diameter and Blood Oxygenation Maps in the Human Brain**
ISMRM MERIT AWARD summa cum laude
Thomas Christen[1], Nicolas Pannetier[2, 3], Wendy W. Ni[1], Deqiang Qiu[1], Norbert Schuff[2, 3], Michael E. Moseley[1], Greg Zaharchuk[1]
[1]Radiology, Stanford University, Stanford, CA, United States; [2]Radiology, University of California San Francisco, San Francisco, CA, United States; [3]Center for Imaging of Neurodegenerative diseases, Veterans Affairs Medical Centre, San Francisco, CA, United States

14:06 **0452.** **Multi-Spectral T1 Weighted Imaging and T1 Quantification Using 3D Radial K-Space Trajectory**

ISMRM MERIT AWARD summa cum laude

Steven Kecskemeti[1], Nagesh Adluru[1], Samuel A. Hurley[2], Andrew L. Alexander[1]
[1]University of Wisconsin, Madison, WI, United States; [2]University of Wisconsin-Madison, Madison, WI, United States

14:18 **0453.** **MRI Measurements of ICP in Simulated Acute Mountain Sickness (AMS)**

Justin Stevan Lawley[1], Noam Alperin[2], Sang H. Lee[2], Paul Gerald Mark Mullins[3], Samuel James Oliver[1], Jamie Hugo Macdonald[1]
[1]Health and Exercise Sciences, Bangor University, Bangor, Gwynedd, United Kingdom; [2]University of Miami, Miami, FL, United States; [3]Bangor Imaging Center, Bangor University, Bangor, Gwynedd, United Kingdom

14:30 **0454.** **Spatial Distribution of Sevoflurane in the Human Brain Revealed by *in-vivo* 19F Imaging at Clinical-Relevant Concentrations: Preliminary Results**

Maolin Qiu[1], Ramachandran Ramani[2], Robert Todd Constable[3]
[1]Diagnostic Radiology, Yale University School of Medicine, New Haven, CT, United States; [2]Anesthesiology, Yale University School of Medicine, New Haven, CT, United States; [3]Diagnostic Radiology, Yale University, New Haven, CT, United States

14:42 **0455.** **Brain Sodium Accumulation Correlates with Electrical Abnormalities in Drug-Resistant Epilepsy: A 23Na MRI and Intracranial EEG Recording Study**

Wafaa Zaaraoui[1], Caroline Rey[1], Fabrice Bartolomei[2, 3], Patrick Chauvel[2, 3], Elisabeth Soulier[1], Sylviane Confort-Gouny[1], Patrick J. Cozzone, Lothar R. Schad[4], Jean-Philippe Ranjeva[1], Maxime Guye[1, 5]
[1]CRMBM, UMR 7339, CNRS, Aix-Marseille Université, Marseille, France; [2]Pôle de Neurosciences Cliniques, APHM, Marseille, France; [3]Laboratoire de Neurophysiologie et Neuropsychologie, U751, INSERM, Aix-Marseille Université, Marseille, France; [4]Computer Assisted Clinical Medicine, Heidelberg University, Mannheim, Germany; [5]Pôle d'Imagerie Médicale, APHM, Marseille, France

14:54 **0456.** **Quiet T1-Weighted Head Scanning Using PETRA**

David Manuel Grodzki[1], Bjoern Heismann[1, 2]
[1]Siemens AG, Erlangen, Germany; [2]Friedrich-Alexander-University Erlangen-Nuremberg, Erlangen, Germany

15:06 **0457.** **7T MRSI in Temporal Lobe Epilepsy**

ISMRM MERIT AWARD magna cum laude

David Bonekamp[1], He Zhu[1], Gregory Bergey[2], Peter B. Barker[1]
[1]The Russell H. Morgan Department of Radiology and Radiological Science, Johns Hopkins University, Baltimore, MD, United States; [2]Department of Neurology, Johns Hopkins University, Baltimore, MD, United States

15:18 **0458.** **Imaging of Focal Cortical Dysplasia at 7 Tesla**

Mathijs Buijs[1], Albert Colon, [12], Matthias van Osch[1], Jeroen van der Grond[1], Paul A. Boon, [23], Paul A.M. Hofman, [24], Mark A. van Buchem[1]
[1]Leiden University Medical Center, Leiden, Zuid-Holland, Netherlands; [2]Epilepsy Centre Kempenhaeghe, Heeze, Noord-Brabant, Netherlands; [3]Ghent University Hospital, Ghent, Oost-Vlaanderen, Belgium; [4]Maastricht University Medical Center, Maastricht, Limburg, Netherlands

Relaxometry & Parameter Mapping

Room 151 AG 13:30-15:30 *Moderators:* Maria I. Altbach & Sean C. L. Deoni

13:30 **0459.** **Cellular Compartment Specific T2* Relaxation in White Matter**

ISMRM MERIT AWARD summa cum laude

Pascal Sati[1], Peter van Gelderen[2], Afonso C. Silva[3], Daniel S. Reich[1], Hellmut Merkle, Jacco A. De Zwart[2], Jeff H. Duyn[2]
[1]Translational Neuroradiology Unit, Neuroimmunology Branch, National Institute of Neurological Disorders and Stroke, Bethesda, MD, United States; [2]Advanced MRI Section, Laboratory of Functional and Molecular Imaging, National Institute of Neurological Disorders and Stroke, Bethesda, MD, United States; [3]Cerebral Microcirculation Unit, Laboratory of Functional and Molecular Imaging, National Institute of Neurological Disorders and Stroke, Bethesda, MD, United States

13:42 **0460.** **Non-Invasive Investigation of the Compartmentalization of Iron in the Human Brain**

ISMRM MERIT AWARD summa cum laude

Ferdinand Schweser[1, 2], Jan Sedlacik[3], Andreas Deistung[1], Jürgen R. Reichenbach[1]
[1]Medical Physics Group, Institute of Diagnostic and Interventional Radiology I, Jena University Hospital - Friedrich Schiller University Jena, Jena, Germany; [2]School of Medicine, Friedrich Schiller University Jena, Jena, Germany; [3]Neuroradiolology, University Medical Center Hamburg-Eppendorf, Hamburg, Germany

13:54 **0461.** **Exchange Rate Selective Imaging Using $T_{1\&|rho|}$ Dispersion**
ISMRM MERIT AWARD summa cum laude
John T. Spear[1, 2], Zhongliang Zu[2, 3], John C. Gore,[3]
[1]Department of Physics and Astronomy, Vanderbilt University, Nashville, TN, United States; [2]Vanderbilt University Institute of Imaging Science, Nashville, TN, United States; [3]Department of Radiology, Vanderbilt University, Nashville, TN, United States

14:06 **0462.** **Efficient Tissue Permittivity and Conductivity Mapping Using Standard MR Images**
Seung-Kyun Lee[1], Selaka Bandara Bulumulla[1], Ileana Hancu[1]
[1]GE Global Research, Niskayuna, NY, United States

14:18 **0463.** ***in vivo* Imaging of Electrical Properties of Human Brain Using a Gradient Based Algorithm**
ISMRM MERIT AWARD magna cum laude
Jiaen Liu[1], Xiaotong Zhang[1], Sebastian Schmitter[2], Pierre-Francois Van de Moortele[2], Bin He[1, 3]
[1]Biomedical Engineering, University of Minnesota, Minneapolis, MN, United States; [2]Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, MN, United States; [3]Institute for Engineering in Medicine, University of Minnesota, Minneapolis, MN, United States

14:30 **0464.** **Volumetric Measurement of Human Brain T1 *in vivo* Using Pulsed Pseudo Random Amplitude Modulation**
ISMRM MERIT AWARD magna cum laude
Xiaowei Zou[1, 2], Truman R. Brown[2]
[1]Columbia University, New York, NY, United States; [2]Medical University of South Carolina, Charleston, SC, United States

14:42 **0465.** **T1 Estimation for Aqueous Iron Oxide Nanoparticle Suspensions Using a Variable Flip Angle SWIFT Sequence**
ISMRM MERIT AWARD summa cum laude
Luning Wang[1], Curtis Andrew Corum[2], Djaudat Idiyatullin[2], Michael Garwood[2], Qun Zhao[1]
[1]Department of Physics and Astronomy, University of Georgia, Athens, GA, United States; [2]Department of Radiology, University of Minnesota, Minneapolis, MN, United States

14:54 **0466.** **Improved T1 Relaxometry with NMR Field Probes: Demonstration of Contrast Agent Characterization**
ISMRM MERIT AWARD magna cum laude
Simon Gross[1], Benjamin E. Dietrich[2], Christoph Barmet[2, 3], Klaas P. Prüssmann[2]
[1]Institute for Biomedical Engineering, , University and ETH Zurich, Zurich, Switzerland; [2]Institute for Biomedical Engineering, University and ETH Zurich, Zurich, Switzerland; [3]Skope Magnetic Resonance Technologies, Zurich, Switzerland

15:06 **0467.** **Triple Echo Steady State (TESS) Relaxometry**
ISMRM MERIT AWARD magna cum laude
Rahel Heule[1], Carl Ganter[2], Oliver Bieri[1]
[1]Department of Radiology, University of Basel Hospital, Basel, Switzerland; [2]Department of Radiology, Klinikum rechts der Isar, Technische Universität München, Munich, Germany

15:18 **0468.** **Effects of Diffusion on High Resolution Quantitative T2 MRI**
ISMRM MERIT AWARD magna cum laude
Wendy Oakden[1], Greg J. Stanisz[2]
[1]Medical Biophysics, University of Toronto, Toronto, ON, Canada; [2]Imaging Research, Sunnybrook Research Institute, Toronto, ON, Canada

Of Catheters, Guidewires & Needles: MR-Guided Interventions

Room 155 EF 13:30-15:30 *Moderators:* Charles L. Dumoulin & Graham Wright

13:30 **0469.** **Evaluation of an Integrated MR-EP Suite and Catheter-Navigated Local MR Lesion Monitoring After RF Ablation**
Steffen Weiss[1], Sascha Krueger[1], Peter Koken[1], Gregg Stenzel[2], Steve Wedan[2], Ronald Holthuizen[3], Jouke Smink[4], Anne Krogh Grøndal[5], Lars Ølgaard Bloch[5], James Harrison[6], Mark O'Neill[6], Reza Razavi[6], Tobias Schaeffter[6]
[1]Innovative Technologies, Research Laboratories, Philips Technologie GmbH, Hamburg, Germany; [2]Imricor Medical Systems, Burnsville, MN, United States; [3]MR Clinical Functionality, Philips Healthcare, Best, Netherlands; [4]MR Clinical Science, Philips Healthcare, Best, Netherlands; [5]MR Research Centre, Aarhus University Hospital, Aarhus, Denmark; [6]Division of Imaging Sciences and Biomedical Engineering, King's College London, London, United Kingdom

13:42 **0470.** **Atrial Wall Thickness Imaging for Cavotricuspid Isthmus Ablation**
ISMRM MERIT AWARD magna cum laude
Tobias Voigt[1], Peter Koken[2], James Harrison[3], Steffen Weiss[2], Sascha Krueger[2], Tobias Schaeffter[3]
[1]Clinical Research Europe, Philips Research, London, United Kingdom; [2]Tomographic Imaging Systems, Philips Research, Hamburg, Germany; [3]Division of Imaging Sciences, King's College London, London, United Kingdom

13:54 **0471.** **MR-Guided Sclerotherapy of Low-Flow Vascular Malformations: Visualization and Needle Guidance Using Contrast-Prepared SSFP (CP-SSFP)**

ISMRM MERIT AWARD magna cum laude

Di Xu[1], Daniel A. Herzka[2], Paul A. DiCamillo[3], Wesley D. Gilson[4], Elliot R. McVeigh[1], Jonathan S. Lewin[3], Clifford R. Weiss[3]

[1]Biomedical Engineering, The Johns Hopkins School of Medicine, Baltimore, MD, United States; [2]Biomedical Engineering, Johns Hopkins University, Baltimore, MD, United States; [3]Radiology, The Johns Hopkins School of Medicine, Baltimore, MD, United States; [4]Siemens Corporation, Corporate Technology, Baltimore, MD, United States

14:06 **0472.** **Catheters for Interventional MR: LaserLathe Fabrication of Micro-Coils for Remote Catheter Tip Deflection**

ISMRM MERIT AWARD summa cum laude

Prasheel Lillaney[1], Vincent Malba[1], Leland Evans[1], Anthony Bernhardt[1], Mark Wilson[1], Timothy Roberts[2], Alastair Martin[1], Maythem Saeed[1], Ronald Arenson[1], Steven W. Hetts[1]

[1]Radiology and Biomedical Imaging, University of California San Francisco, San Francisco, CA, United States; [2]Radiology Department, University of Pennsylvania, Philadelphia, PA, United States

14:18 **0473.** **Accelerated, Motion-Corrected High-Resolution Intravascular MRI at 3T**

Shashank Sathyanarayana Hegde[1], Yi Zhang[2], Paul A. Bottomley[1]

[1]Radiology, Johns Hopkins University, Baltimore, MD, United States; [2]Electrical and Computer Engineering, Johns Hopkins University, Baltimore, MD, United States

14:30 **0474.** ***in vivo*** **Active Visualization of an Ablation Guidewire for the Revascularization of Occlusive Arterial Disease**

Kevan Anderson[1], Nicolas Yak[1], Labonny Biswas[1], Jennifer Barry[1], Graham Wright[1, 2]

[1]Physical Sciences, Sunnybrook Research Institute, Toronto, Ontario, Canada; [2]Medical Biophysics, University of Toronto, Toronto, Ontario, Canada

14:42 **0475.** **Quantification of Intra-Procedural Gland Motion During Transperineal MRI-Guided Prostate Biopsy**

Andriy Fedorov[1], Kemal Tuncali[1], Tobias Penzkofer[1, 2], Junichi Tokuda[1], Sang-Eun Song[1], Nobuhiko Hata[1], Clare Tempany[1]

[1]Radiology, Brigham and Women's Hospital, Harvard Medical School, Boston, MA, United States; [2]Department of Diagnostic and Interventional Radiology, RWTH Aachen University Hospital , Aachen, North Rhine-Westphalia, Germany

14:54 **0476.** **SPIO-Labeled 90Y Microspheres Permit Accurate Quantification of Macroscopic Intra-Hepatic Biodistribution**

Weiguo Li[1, 2], Zhuoli Zhang[1], Yang Guo[1], Jodi Nicolai[1], Reed A. Omary[1], Andrew C. Larson[1]

[1]Radiology, Northwestern University, Chicago, IL, United States; [2]Research Resource Center, University of Illinois at Chicago, Chicago, IL, United States

15:06 **0477.** **An Experimental Setup to Simulate the Magnetohydrodynamic (MHD)-Effect with Respect to Intra Cardiac ECG Signals**

ISMRM MERIT AWARD magna cum laude

Waltraud Brigitte Buchenberg[1], Ramona Lorenz[1], Peter Laudy[2], Wolfgang Mader[3], Carsten Bienek[4], Bernd Jung[1]

[1]Dept. of Radiology, Medical Physics, University Medical Center, Freiburg, Baden-Württemberg, Germany; [2]CardioTek B.V., Maastricht-Airport, Limburg, Netherlands; [3]Freiburg Center for Data Analysis and Modeling, Albert-Ludwigs-University, Freiburg, Baden-Württemberg, Germany; [4]R&D, Schwarzer GmbH, Heilbronn, Baden-Württemberg, Germany

15:18 **0478.** **Boosting MR Temporal Resolution Using Rapid Ultrasound Measurements, for Motion-Tracking Purposes**

Matthew Toews[1], Chang-Sheng Mei[1], Renxin Chu[1], W. Scott Hoge[1], Benjamin M. Schwartz[1], Guangyi Wang[1, 2], Lawrence P. Panych[1], Bruno Madore[1]

[1]Department of Radiology, Harvard Medical School, Brigham and Women's Hospital, Boston, MA, United States; [2]Department of Radiology, Guangdong General Hospital, Guangdong Academy of Medical Sciences, Guangzhou, Guangdong, China

Cardiac Microstructure & Function

Room 255 EF 13:30-15:30 *Moderators:* Daniel B. Ennis & David N. Firmin

13:30 0479. Time-Resolved *In Vivo* Cardiac Diffusion Tensor MRI of the Human Heart

Sonia Nielles-Vallespin[1, 2], Pedro Ferreira[3], Peter David Gatehouse[1], Jennifer Keegan[1], Ranil de Silva[3], Tevfik Ismail[1], Andrew Scott[1], Timothy G. Reese[4], Choukri Meekaoui[4], Peter Speier[5], Thorsten Feiweier[6], David E. Sosnovik[4], Andrew E. Arai[2], David N. Firmin[1]

[1]Royal Brompton Hospital, Imperial College, London, United Kingdom; [2]National Heart Lung and Blood Institue (NHLBI), National Institues of Health (NIH), DHHS, Bethesda, MD, United States; [3]Royal Brompton Hospital, London, United Kingdom; [4]Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Charlestown, MA, United States; [5]Siemens AG Healthcare Sector, Erlangen, Germany; [6]Siemens AG, Erlangen, Germany

13:42 0480. High-Resolution Single-Shot DTI of the *in-vivo* Human Heart Using Asymmetric Diffusion Encoding

ISMRM MERIT AWARD summa cum laude

Christian T. Stoeck[1], Constantin von Deuster[1, 2], Nicolas Toussaint[2], Sebastian Kozerke[1, 2]

[1]Institute for Biomedical Engineering, University and ETH Zurich, Zurich, Switzerland; [2]Imaging Sciences and Biomedical Engineering, King's College London, London, United Kingdom

13:54 0481. Diffusion MRI Tractography of the Developing Human Fetal Heart

Choukri Mekkaoui[1], Prashob Porayette[2], Marcel Parolin Jackowski[3], William Kostis[4], Guangping Dai[5], Stephen Sanders, David E. Sosnovik[4]

[1]Harvard Medical School - Massachusetts General Hospital - Athinoula A Martinos center for Biomedical, Boston, MA, United States; [2]Cardiology, Children's Hospital Boston, Boston, MA, United States; [3]University of São Paulo, São Paulo, Brazil; [4]Harvard Medical School - Massachusetts General Hospital - Athinoula A Martinos center for Biomedical, Charlestown, MA, United States; [5]Massachusetts General Hospital, Charlestown, MA, United States

14:06 0482. Quantitative Analysis of Cardiac Motion Effects on *in vivo* Diffusion Tensor Parameters

Hongjiang Wei[1], Magalie Viallon[1, 2], Benedicte M.A. Delattre[1], Lihui Wang[1], Vinay M. Pai[3], Han Wen[3], Pierre Croisille[1, 4], Yuemin Zhu[1]

[1]CREATIS,, CNRS (UMR 5220), INSERM (U1044),INSA Lyon,University of Lyon,, Lyon, France; [2]Department of Radiology,University Hospitals of Geneva,, Geneva, Switzerland; [3]Imaging Physics Lab, BBC/NHLBI/NIH,, Bethesda, Maryland 20892, United States; [4]Jean-Monnet University,, Saint-Etienne, France

14:18 0483. Diffusion Tensor MRI Revealed Developmental Changes of Cardiomyocyte Architecture in Pig Hearts

Junjie Chen[1], Lei Zhang[2], John S. Allen[3], Lingzhi Hu[4], Shelton D. Caruthers[3], Gregory M. Lanza[3], Samuel A. Wickline[3]

[1]Internal Medicine, Washington University In Saint Louis, Saint Louis, MO, United States; [2]Washington University School of Medicine, Saint Louis, mo, United States; [3]Internal Medicine, Washington University School of Medicine, Saint Louis, mo, United States; [4]Physics, Washington University School of Medicine, Saint Louis, mo, United States

14:30 0484. Cardiac Laminae Structure Dynamics from *in-vivo* Diffusion Tensor Imaging

ISMRM MERIT AWARD summa cum laude

Nicolas Toussaint[1], Christian T. Stoeck[2], Tobias Schaeffter[1], Maxime Sermesant[3], Sebastian Kozerke, [12]

[1]Imaging Sciences and Biomedical Engineering, King's College London, London, United Kingdom; [2]Institute for Biomedical Engineering, University and ETH, Zurich, Switzerland; [3]Asclepios Research Group, INRIA, Sophia-Antipolis, France

14:42 0485. Improved Cardiac Motion Self-Gating

ISMRM MERIT AWARD magna cum laude

Fei Han[1], Stanislas Rapacchi[1], Peng Hu[2]

[1]Department of Radiological Sciences, David Geffen School of Medicine, University of California, Los Angeles, CA, United States; [2]Department of Radiological Sciences, University of California Los Angeles, Los Angeles, CA, United States

14:54 0486. Characterising Global and Regional Myocardial Motion Patterns for the Whole Cardiac Cycle Using Retrogated Spiral Phase Velocity Mapping

ISMRM MERIT AWARD magna cum laude

Robin Simpson[1, 2], Jennifer Keegan[1, 2], David N. Firmin[1, 2]

[1]Imperial College London, England, United Kingdom; [2]Cardiovascular BRU, Royal Brompton Hospital, London, United Kingdom

15:06 0487. Myocardial Tagging in the Polar Coordinate System; Initial Clinical Results

ISMRM MERIT AWARD magna cum laude

Sarah N. Khan[1], Abbas N. Moghaddam[2], Razieh Kaveh[2], Ali Nsair[3], Mona Bhatia[4], J. Paul Finn[5]

[1]Diagnostic Cardiovascular Imaging, Department of Radiology,, UCLA, Los Angeles, CA, United States; [2]Biomedical Engineering, Amirkabir University of Technology, Tehran, Iran; [3]Department of Cardiology, UCLA, Los Angeles, CA, United States; [4]Diagnostic Cardiovascular Imaging, Department of Radiology, UCLA, Los Angeles, CA, United States; [5]Diagnostic Cardiovascular Imaging, Department of Radiology, University of California Los Angeles, Los Angeles, CA, United States

15:18 **0488.** **Left Ventricular Twist and Systolic Twist-Per-Volume Slope in Patients with Mitral Regurgitation**

ISMRM MERIT AWARD magna cum laude

Meral L. Reyhan[1, 2], Ming Li[3], Hyun Grace Kim[1], Himanshu Gupta[4, 5], Steven G. Lloyd[4, 5], Louis J. Dell'Italia[4, 5], Thomas Stewart Denney[3], Daniel B. Ennis[1, 2]

[1]Department of Radiological Sciences, University of California Los Angeles, Los Angeles, CA, United States; [2]Biomedical Physics Interdepartmental Program, University of California Los Angeles, Los Angeles, CA, United States; [3]Department of Electrical and Computer Engineering, Auburn University, Auburn, AL, United States; [4]Division of Cardiovascular Disease, Department of Medicine, University of Alabama at Birmingham, Birmingham, AL, United States; [5]Birmingham VA Medical Center, Birmingham, AL, United States

Diffusion Biophysics & Modeling

Room 355 BC 13:30-15:30 *Moderators:* Evren Ozarslan & Dmitriy A. Yablonskiy

13:30 **0489.** **Observation of Muscle Fiber Diameter Increase with Exercise Using Time-Dependent Diffusion**

Els Fieremans[1], Gregory Lemberskiy[2], Jens H. Jensen[3], Dmitry S. Novikov[2]

[1]Center for Biomedical Imaging, Department of Radiology, New York University, New York, NY, United States; [2]Center for Biomedical Imaging, Department of Radiology, NYU School of Medicine, New York, NY, United States; [3]Center for Biomedical Imaging, Department of Radiology and Radiological Science, Medical University of South Carolina, Charleston, SC, United States

13:42 **0490.** **Effects of Hypotonic Stress and Ouabain on Apparent Diffusion Coefficient at Cellular and Tissue Levels.**

Ileana Ozana Jelescu[1], Luisa Ciobanu[1], Françoise Geffroy[1], Denis Le Bihan[1]

[1]NeuroSpin, Gif-sur-Yvette, Essonne, France

13:54 **0491.** **Viable and Fixed White Matter: DTI and Microstructural Comparisons at Physiological Temperature**

Simon Richardson[1, 2], Bernard M. Siow[1, 2], Eleftheria Panagiotaki[3], Torben Schneider[4], Mark F. Lythgoe[1], Daniel C. Alexander[5]

[1]Division of Medicine and Institute of Child Health, UCL Centre for Advanced Biomedical Imaging, University College London, London, United Kingdom; [2]Centre for Medical Image Computing, University College London, London, United Kingdom; [3]Dept of Medical Phys and Bioengineering, Centre for Medical Image Computing, University College London, London, United Kingdom; [4]NMR Research Unit, Queen Square MS Centre, Department of Neuroinflammation , UCL Institute of Neurology, London, United Kingdom; [5]Department of Computer Science, Centre for Medical Image Computing, University College London, London, United Kingdom

14:06 **0492.** **Reduced Diffusion Encoding for Accurately Estimating Axonal Injury, Demyelination, and Inflammation in Mouse Optic Nerve**

Chia-Wen Chiang[1], Yong Wang[2], Anne H. Cross[3, 4], Sheng-Kwei Song[2, 4]

[1]Chemistry, Washington University in Saint Louis, Saint Louis, MO, United States; [2]Radiology, Washington University School of Medicine, Saint Louis, MO, United States; [3]Neurology, Washington University in St. Louis, Saint Louis, MO, United States; [4]The Hope Center for Neurological Disorders, Washington University School of Medicine, Saint Louis , MO, United States

14:18 **0493.** **Accurate Estimation of Intra-Axonal Water Diffusion Requires Proper Modeling of Surrounding Cellularity&[mu]&[mu]**

ISMRM MERIT AWARD summa cum laude

Yong Wang[1], Sheng-Kwei Song[1, 2]

[1]Radiology, Washington University in St. Louis, Saint Louis, MO, United States; [2]The Hope Center for Neurological disorders, Washington University in St. Louis, Saint Louis, MO, United States

14:30 **0494.** **New Insights Into &[gamma]-Stretched Exponential Anomalous-Diffusion Imaging Experiments**

Marco Cavalieri[1], Marco Palombo[1, 2], Alessandro Gozzi[3], Andrea Gabrielli[4], Angelo Bifone[3], Silvia Capuani[1, 2]

[1]Physics Department, Sapienza University, Rome, Italy; [2]CNR IPCF UOS Roma, Physics Department, Sapienza University, Rome, Italy; [3]Istituto Italiano di Tecnologia, Center for Nanotechnology Innovation, IIT@NEST, Pisa, Italy; [4]CNR-ISC Roma, Sapienza University, Rome, Italy

14:42 **0495.** **Singular Behavior of Time-Dependent Diffusion in a Fiber Bundle Geometry Due to a Disordered Packing**

Lauren Burcaw[1], Els Fieremans[2], Dmitry S. Novikov[1]

[1]NYUMC, New York, NY, United States; [2]New York University, New York, NY, United States

14:54 **0496.** **dPFG MRI Assessment of Axonal Beading in an Injury Model**
Michal E. Komlosh[1, 2], Dan Benjamini[1, 3], Matthew D. Budde[4], Lynne A. Holtzclaw[5], Martin J. Lizak[6], Ferenc Horkay[1], Uri Nevo[3], Peter J. Basser[1]
[1]NICHD/PPITS/STBB, NIH, Bethesda, MD, United States; [2]CNRM, USUHS, Bethesda, MD, United States; [3]Department of Biomedical Engineering, The Iby and Aladar Fleischman Faculty of Engineering, Tel-Aviv University, Tel Aviv, Israel; [4]Department of Neurosurgery, Medical College of Wisconsin, Milwaukee, WI, United States; [5]NICHD/SCBS, NIH, Bethesda, MD, United States; [6]NINDS/MIF, NIH, Bethesda, MD, United States

15:06 **0497.** **Protocol Optimization of the Double Pulsed Field Gradient (D-PFG) Based Filter-Exchange Imaging (FEXI) Sequence Enables Comparative Studies of the Diffusional Apparent Exchange Rate (AXR) at Reduced Scan Times and Smaller Group Sizes.**
Björn Lampinen[1], Filip Szczepankiewicz[1], Danielle van Westen[2], Pia Sundgren[2], Freddy Ståhlberg[1, 2], Jimmy Lätt[3], Markus Nilsson[4]
[1]Department of Medical Radiation Physics, Lund University, Lund, Sweden; [2]Department of Diagnostic Radiology, Lund University, Lund, Sweden; [3]Center for Medical Imaging and Physiology, Lund University Hospital, Lund, Sweden; [4]Lund University Bioimaging Center, Lund University, Lund, Sweden

15:18 **0498.** **Application of Diffusional Kurtosis to Modeling of the Cerebral Microenvironment**
Edward S. Hui[1, 2], Ali Tabesh[1, 2], Joseph A. Helpern[1, 2], Jens H. Jensen[1, 2]
[1]Center for Biomedical Imaging, Medical University of South Carolina, Charleston, SC, United States; [2]Dept of Radiology and Radiological Science, Medical University of South Carolina, Charleston, SC, United States

Tumor Therapy Response: Clinical & Preclinical

Room 355 EF 13:30-15:30 *Moderators:* Nandita M. DeSouza & Tom W. J. Scheenen

13:30 **0499.** **Investigating Quantitative Imaging Biomarkers of Response to Cabozantinib in a VCaP Model of Prostate Bone Metastasis**
ISMRM MERIT AWARD summa cum laude
Timothy James Graham[1], Gary Box[2], Ruth Riisnaes[2], Susana Miranda[2], Gerhardt Attard[2], Johann S. de Bono[2], Suzanne A. Eccles[2], Faith E. Davies[2], Simon P. Robinson[1]
[1]Division of Radiotherapy and Imaging, The Institute of Cancer Research, Sutton, Surrey, United Kingdom; [2]Cancer Therapeutics Unit, The Institute of Cancer Research, Sutton, Surrey, United Kingdom

13:42 **0500.** **Diffusion-Weighted Magnetic Resonance Imaging of Response to PI3-Kinase/mTOR Inhibition Studied in Human Ovarian Cancer Xenografts**
ISMRM MERIT AWARD magna cum laude
Jana Cebulla[1], Siver A. Moestue[1], Else Marie Huuse[1], Geir Bjørkøy[2], Tone Frost Bathen[1], Ingrid Susann Gribbestad[1]
[1]Department of Circulation and Medical Imaging, Norwegian University of Science and Technology, Trondheim, Norway; [2]Department of Technology, University College of Sør-Trøndelag (HiST), Trondheim, Norway

13:54 **0501.** **Dual PI3K/mTOR Inhibition Suppresses Tumor PO_2 Within Viable Tumor Assessed by ^{19}F-MRI and Multispectral Analysis**
Yunzhou Shi[1], Jason Oeh[2], Jeffrey Eastham-Anderson[3], Sharon Yee[2], David Finkle[2], Franklin V. Peale[3], Jed Ross[1], Maj Hedehus[1], Nicholas van Bruggen[1], Rayna Venook[2], Sarajane Ross[2], Deepak Sampath[2], Richard A. D. Carano[4]
[1]Biomedical Imaging, Genentech Inc.(Roche Group), South San Francisco, CA, United States; [2]Translational Oncology, Genentech Inc.(Roche Group), South San Francisco, CA, United States; [3]Pathology, Genentech Inc.(Roche Group), South San Francisco, CA, United States; [4]Biomedical Imaging, Genentech, South San Francisco, CA, United States

14:06 **0502.** **Using MRI to Track SPIO-Labeled Effector and Regulatory Immune Cells in a Cancer Model**
Kimberly Brewer[1, 2], Christa Davis[3], Iulia Dude[3], Genevieve Weir[1], Olivia Stanley[3], Mohan Karkada[1], Marc Mansour[1], Chris Bowen, [23]
[1]Immunovaccine Inc., Halifax, NS, Canada; [2]Biomedical Engineering, Dalhousie University, Halifax, NS, Canada; [3]Institute for Biodiagnostics (Atlantic), Halifax, NS, Canada

14:18 **0503.** **Amide Proton Transfer MRI Evaluation of Bladder Cancer Neoadjuvant Chemotherapy**
Guang Jia[1], Huyen Thanh Nguyen[1], Kamal S. Pohar[2], Amir Mortazavi[3], Zarine K. Shah[1], Lai Wei[4], Michael V. Knopp[1]
[1]Department of Radiology, The Ohio State University, Columbus, OH, United States; [2]Department of Urology, The Ohio State University, Columbus, OH, United States; [3]Department of Medical Oncology, The Ohio State University, Columbus, OH, United States; [4]Center for Biostatistics, The Ohio State University, Columbus, OH, United States

14:30 **0504. Early Prediction of Breast Cancer Therapeutic Response and Evaluation of Residual Disease Using Quantitative DCE-MRI**
Alina Tudorica[1], Karen Y. Oh[1], Stephen Y.-C. Chui[1], Nicole Roy[1], Megan L. Troxell[1], Yiyi Chen[1], Arpana Naik[1], Ariel Lopez-Chavez[1], Megan L. Holtorf[1], Aneela Afzal[1], Mohan L. Jayatilake[1], Zunqiu Chen[1], Charles S. Springer, Jr. [1], Xin Li[1], Wei Huang[1]
[1]Oregon Health & Science University, Portland, OR, United States

14:42 **0505. Characterizing Response in Head and Neck Cancer with Cluster Analysis of Multi-Parametric MRI Data**
Marco Borri[1], Maria A. Schmidt[1], Ceri Powell[2], Dow-Mu Koh, [13], Angela Riddell[3], Kate Newbold[2], Martin O. Leach[1]
[1]CR-UK and EPSRC Cancer Imaging Centre, Institute of Cancer Research and Royal Marsden, Sutton, Surrey, United Kingdom; [2]Head and Neck Dept., The Royal Marsden NHS Foundation Trust, Sutton, Surrey, United Kingdom; [3]Radiology Dept., The Royal Marsden NHS Foundation Trust, Sutton, Surrey, United Kingdom

14:54 **0506. Comparison of Arterial Spin Labelling and R2* as Predictive Response Biomarkers for Vascular Targeting Agents in Liver Metastases**
Sean Peter Johnson[1], Rajiv Ramasawmy[2], Adrienne E. Campbell-Washburn[2], Mathew Robson[1], Jack Wells[2], Vineeth Rajkumar[1], Simon Walker-Samuel[2], Mark F. Lythgoe[2], Rosamund Barbara Pedley[1]
[1]Cancer Institute, University College London, London, Greater London, United Kingdom; [2]Centre for Advanced Biomedical Imaging, University College London, London, Greater London, United Kingdom

15:06 **0507. Evaluate the Efficacy of Intravoxel Incoherent Motion Imaging in Predicting Treatment Outcome in Patients with Head and Neck Cancer**
Yonggang Lu[1], Jacobus F.A. Jansen[2], Hilda E. Stambuk[3], Gaorav Gupta[4], Nancy Lee[4], Mithat Gonen[5], Andre E. Moreira[6], Snehal G. Patel[7], Joseph O. Deasy[1], Jatin P. Shah[7], Amita Shukla-Dave[1, 3]
[1]Medical Physics Department, Memorial Sloan-kettering Cancer Center, New York, NY, United States; [2]Department of Radiology, Maastricht University, Maastricht, Netherlands; [3]Radiology Department, Memorial Sloan-kettering Cancer Center, New York, NY, United States; [4]Radiation Oncology Department, Memorial Sloan-kettering Cancer Center, New York, NY, United States; [5]Biostatistics Department, Memorial Sloan-kettering Cancer Center, New York, NY, United States; [6]Pathology Department , Memorial Sloan-kettering Cancer Center, New York, NY, United States; [7]Surgery Department, Memorial Sloan-kettering Cancer Center, New York, NY, United States

15:18 **0508. Diffusion Weighted Imaging Detects Significant Cohort Responses After Seven Days of Treatment with Cediranib in a Phase I Clinical Trial Setting**
Matthew R. Orton[1], Christina Messiou[2], David John Collins[1], Veronica A. Morgan[2], Dionysis Papadatospastos[3], Andre Brunetto[3], Jooern Ang[3], Helen Mann[4], Jean Tessier[4], Helen Young[4], Stan Kaye[3], Johann S. de Bono[3], Martin O. Leach[1], Nandita M. De Souza[1]
[1]CR-UK and EPSRC Cancer Imaging Centre, Institute of Cancer Research, Sutton, Surrey, United Kingdom; [2]Radiology Department, Royal Marsden NHS Foundation Trust, Sutton, Surrey, United Kingdom; [3]Department of Medicine, Royal Marsden NHS Foundation Trust, Sutton, Surrey, United Kingdom; [4]AstraZeneca, Macclesfield, Cheshire, United Kingdom

Educational Course
Cardiovascular MR Imaging: Pushing the Limits - Part 2: Case-Based Studies in CMR

*Organizers:*Victor A. Ferrari, M.D. Christopher J. P. François, M.D., Craig H. Meyer, Ph.D., Thoralf Niendorf, Ph.D., Jeanette Schulz-Menger, M.D. & David E. Sosnovik, M.D., F.A.C.C.

Room 250 BCEF 13:30-15:30 *Moderators:*David A. Bluemke & Jeanette Schulz-Menger

13:30 **Congenital**
Matthias Gutberlet, M.D., Ph.D.

13:50 **Ischemic Cardiomyopathy**
Tim Leiner, M.D., Ph.D., E.B.C.R.

14:10 **Non-Ischemic CMP**
Eric E. Williamson, M.D.

14:30 **ARVC / Right Ventricle**
Harikrishna Tandri, M.D.

14:50 **Valvular Heart Disease**
Bernd J. Wintersperger, M.D.

15:10 **Coronary Angiography**
Qi Yang, M.D.

15:30 **Adjournment**

Special Session
Women in MRI - Networking & Panel Discussion

*Organizers:*Angelique Louie, Ph.D., Robia G. Pautler, Ph.D. & Louise van der Weerd, Ph.D.
Room 255 BC 13:30-15:30 *(no CME credit)* *Moderator:*Robia G. Pautler

13:30 **Questions & Discussion from the Panel & Audience**
Panel:
Penny Anne Gowland, Ph.D.
Paula J. Foster, Ph.D.
Shella D. Keilholz, Ph.D.
Angelique Louie, Ph.D.
Karla L. Miller, Ph.D.
Belinda Seto, Ph.D.
Kaori Togashi, M.D., Ph.D.
Louise van der Weerd, Ph.D.

15:30 **Adjournment**

Educational Course
Multiple Sclerosis: from Pathology to Patients' Monitoring

*Organizers:*Caterina Mainero, M.D. & Maria A. Rocca, M.D.
Room 251 BCEF 13:30-15:30 *Moderators:*Caterina Mainero & Maria A. Rocca

13:30 **Using MRI to Assess Brain Pathology in Multiple Sclerosis**
Klaus Schmierer, Ph.D., F.R.C.P.

14:00 **What Have We Learned about MS from MRI**
Jeroen J. G. Geurts, Ph.D.

14:30 **Differential Diagnosis in MS**
Alex Rovira, M.D.

15:00 **The Role of MR in MS Management**
Jack H. Simon, M.D., Ph.D.

15:30 **Adjournment**

Hands-On Workshop 2: GE Healthcare
Room 155 D 13:30-15:30 *(no CME credit)*

Hands-On Workshop 2: Philips Healthcare
Room 255 D 13:30-15:30 *(no CME credit)*

Hands-On Workshop 2: Siemens - Conditional Metal Implant Imaging & MapIT, Protocol Optimization & Post-Processing
Room 355 D 13:30-15:30 *(no CME credit)*

Traditional Poster Sessions: Cancer; Interventional
Exhibition Hall 16:00-18:00 *(no CME credit)*

Electronic Poster Session: Pulse Sequences & Reconstruction B
Exhibition Hall 16:00-18:00 *(no CME credit)*

Study Group Session: Susceptibility Weighted Imaging
Room 155 ABC 16:00-18:00 *(no CME credit)*

Study Group Session: Musculoskeletal MR
Room 254 ABC 16:00-18:00 *(no CME credit)*

Human Brain Tumors: Diagnosis & Response
Room 150 AG 16:00-18:00 *Moderators:* Patricia M. Desmond & Benjamin M. Ellingson

16:00 **0509.** **Clinical Utility of *in-vivo* MRS Measurements of 2-Hydroxyglutarate in IDH-Mutated Gliomas**
Changho Choi[1], Sandeep Ganji[2], Akshay Madan[1], Ralph DeBerardinis[1], Bruce Mickey[1], Craig R. Malloy[1], Robert Bachoo[1], Elizabeth A. Maher[1]
[1]University of Texas Southwestern Medical Center, Dallas, TX, United States; [2]UT Southwestern Medical Center, Dallas, TX, United States

16:12 **0510.** **Image-Guided Metabolomic Analysis of 2-Hydroxyglutarate in IDH-Mutant Gliomas**
ISMRM MERIT AWARD summa cum laude
Llewellyn E. Jalbert[1], Adam Elkhaled[2], Joanna J. Phillips[3], Susan M. Chang[4], Sarah J. Nelson[1, 2]
[1]Bioengineering & Therapeutic Sciences, University of California, San Francisco, San Francisco, CA, United States; [2]Radiology & Biomedical Imaging, University of California, San Francisco, San Francisco, CA, United States; [3]Pathology, University of California, San Francisco, San Francisco, CA, United States; [4]Neurological Surgery, University of California San Francisco, San Francisco, CA, United States

16:24 **0511.** **Investigation of the Correlation of MRS Measurable 2-Hydroxyglutarate (2HG) Concentration and Tumor Progression in Brain Tumors Harboring IDH1/2 Mutations**
Liya Wang[1, 2], Juliya Kalinina[3], Ruya Zhao[2], Run Lin[1, 2], Shaoxiong Wu[4], Erwin Van Meir[3], Hui Mao[1, 2]
[1]Department of Radiology and Imaging Sciences, Emory University, Atlanta, GA, United States; [2]Center for Systems Imaging, Emory University, Atlanta, GA, United States; [3]Department of Neurosurgery, Emory University, Atlanta, GA, United States; [4]Department of Chemistry, Emory University, Atlanta, GA, United States

16:36 **0512.** **DSC-MRI Measures of Standardized RCBV Predict Response to Bevacizumab in High-Grade Brain Tumor Patients**
Kathleen M. Schmainda[1], Melissa A. Prah[1], Scott D. Rand[1], Jennifer Connelly[2], Eric S. Paulson[3], Peter S. LaViolette[1], Wade Mueller[4], Mark G. Malkin[2]
[1]Radiology, Medical College of Wisconsin, Milwaukee, WI, United States; [2]Neurology, Medical College of Wisconsin, Milwaukee, WI, United States; [3]Radiation Oncology, Medical College of Wisconsin, Milwaukee, WI, United States; [4]Neurosurgery, Medical College of Wisconsin, Milwaukee, WI, United States

16:48 **0513.** **Post-Bevacizumab &[Delta]T1 Maps Detect Residual Contrast Enhancement and Predict Survival in Recurrent Glioblastoma**
Davis C. Woodworth[1, 2], Timothy F. Cloughesy[3], Robert J. Harris[1, 2], Whitney B. Pope[1], Albert Lai[3], Phioanh (Leia) Nghiemphu[3], Benjamin M. Ellingson[1, 2]
[1]Dept. of Radiological Sciences, UCLA, Los Angeles, CA, United States; [2]Biomedical Physics, UCLA, Los Angeles, CA, United States; [3]Neurology, UCLA, Los Angeles, CA, United States

17:00 **0514.** **DCE-MRI Defined Subvolumes of a Tumor for Therapy Assessment**
ISMRM MERIT AWARD magna cum laude
Reza Farjam[1], Christina I. Tsien[2], Felix Y. Feng[2], Theodore S. Lawrence[2], Yue Cao[2]
[1]Biomedical Engineering, University of Michigan, Ann Arbor, MI, United States; [2]Radiation Oncology, University of Michigan, Ann Arbor, MI, United States

17:12 **0515.** **Combined Visualization of ADC Diffusion Maps and CBV Perfusion Maps in Patients with Newly Diagnosed Glioblastoma**

Alexander Radbruch[1, 2], Kira Lutz[1], Benedikt Wiestler[3], Philipp Bäumer[1], Markus Graf[2], Ralf Floca[2], Wolfgang Wick[3], Heinz Peter Schlemmer[2], Martin Bendszus[1], Sabine Heiland[1]

[1]Department of Neuroradiology, Heidelberg University Medical Center, Heidelberg, Germany; [2]Department of Radiology, German Cancer Research Center (DKFZ), Heidelberg, Germany; [3]Department of Neurooncology, Heidelberg University Medical Center, Heidelberg, Germany

17:24 **0516.** **Voxel-Wise Repeatability of Apparent Diffusion Coefficient in Patients with Newly Diagnosed Glioblastoma**

ISMRM MERIT AWARD magna cum laude

Pavlina Polaskova[1], Kourosh Jafari-Khouzani[1], Alexander R. Guimaraes[1], Steven M. Stufflebeam[1], Patrick Y. Wen[2], Tracy T. Batchelor[3], Bruce R. Rosen[1], Elizabeth R. Gerstner[3], Jayashree Kalpathy-Cramer[1]

[1]Radiology, Athinoula A. Martinos Center for Biomedical Imaging / Massachusetts General Hospital, Charlestown, MA, United States; [2]Neuro-oncology, Brigham and Women's Hospital / Harvard Medical School, Boston, MA, United States; [3]Neurology, Massachusetts General Hospital / Harvard Medical School, Boston, MA, United States

17:36 **0517.** **Treatment Effect on Delay in Growth of Superior Frontal Lobe in Childhood Acute Lymphoblastic Leukemia**

ISMRM MERIT AWARD magna cum laude

Byeong-Yeul Lee[1], Xiao-Hong Zhu[1], Wei Chen[1], Paul J. Eslinger[2], Qing X. Yang[3, 4]

[1]Center for Magnetic Resonance Research (CMRR), Radiology Department, University of Minnesota, Minneapolis, MN, United States; [2]Neurology Department, Penn State University College of Medicine, Hershey, PA, United States; [3]Center for NMR Research, Radiology Department, Penn State University College of Medicine, Hershey, PA, United States; [4]Neurosurgery Department, Penn State University College of Medicine, Hershey, PA, United States

17:48 **0518.** **Comparison of Diffusion Kurtosis Imaging, Dynamic Susceptibility Weighted Imaging and Short Echo Time Chemical Shift Imaging for Grading Gliomas**

Sofie Van Cauter[1], Diana M. Sima[2], Anca R. Croitor Sava[2], Jelle Veraart[3], Stefan Sunaert[1, 4], Sabine Van Huffel[2], Uwe Himmelreich[5]

[1]Radiology, University Hospitals of Leuven, Leuven, Vlaams-Brabant, Belgium; [2]ESAT-PSI, Department of Electrical Engineering, Catholic University of Leuven, Heverlee, Vlaams-Brabant, Belgium; [3]Vision Lab, Department of Physics, University of Antwerp, Antwerp, Belgium; [4]Translational MRI, University Hospitals of Leuven, Leuven, Vlaams-Brabant, Belgium; [5]Biomedical NMR Unit/Molecular Small Animal Imaging Center, Department of Medical Diagnostic Sciences, KU Leuven, Leuven, Vlaams-Brabant, Belgium

fMRI in Brain Disorders

Room 151 AG 16:00-18:00 *Moderators:* Alberto Bizzi & Kirk Welker

16:00 **0519.** **Disrupted Network Interactions in Chronic Cocaine Dependents as Revealed by Modular Network Analysis of Resting-State Functional MRI**

Xia Liang[1, 2], Hong Gu[1], Betty Jo Salmeron[1], Yuzheng Hu[1], Yong He[2], Elliot Stein[1], Yihong Yang[1]

[1]Neuroimaging Research Branch, National Institute on Drug Abuse, Baltimore, MD, United States; [2]State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China

16:12 **0520.** **Identification of Neural Connectivity Signatures of Autism Using Machine Learning**

ISMRM MERIT AWARD magna cum laude

Gopikrishna Deshpande[1, 2], Karthik Ramakrishnan Sreenivasan[3], Hrishikesh Deshpande[4], Rajesk K. Kana[5]

[1]AU MRI Research Center, Department of Electrical and Computer Engineering, Auburn University, Auburn, AL, United States; [2]Department of Psychology, Auburn University, Auburn, AL, United States; [3] AU MRI Research Center, Department of Electrical and Computer Engineering, Auburn University, Auburn, AL, United States; [4]Department of Biomedical Engineering, University of Alabama, Birmingham, AL, United States; [5]Department of Psychology, University of Alabama, Birmingham, AL, United States

16:24 **0521.** **Real-Time fMRI Neurofeedback Training of Amygdala Modulates Frontal EEG Asymmetry in MDD Patients**

Vadim Zotev[1], Han Yuan[1], Masaya Misaki[1], Raquel Phillips[1], Kymberly D. Young[1], Jerzy Bodurka[1, 2]

[1]Laureate Institute for Brain Research, Tulsa, OK, United States; [2]College of Engineering, University of Oklahoma, Tulsa, OK, United States

16:36 **0522.** **Ultra-Fast fMRI Reveals High-Frequency Fluctuations in Response to Neuronal Discharges**

ISMRM MERIT AWARD magna cum laude

Pierre LeVan[1], Julia Jacobs[2], Vasumathi Jayakumar[1], Jürgen Hennig[1]

[1]Radiology, Medical Physics, University Medical Center Freiburg, Freiburg, Baden-Württemberg, Germany; [2]Neuropediatrics and Muscular Diseases, University Medical Center Freiburg, Freiburg, Baden-Württemberg, Germany

16:48 **0523.** **A NRG1 Genetic Variant Associated with Decreased Activation in Verbal Working Memory in Patients with Schizophrenia**

Kayako Matsuo[1], Chih-Min Liu[2], Shen-Hsing Annabel Chen[3], Hai-Gwo Hwu[2], Wen-Yih Isaac Tseng[1]
[1]Advanced Biomedical MRI Lab, Center for Optoelectronic Biomedicine, National Taiwan University College of Medicine, Taipei, Taiwan; [2]Department of Psychiatry, National Taiwan University Hospital & College of Medicine, Taipei, Taiwan; [3]Division of Psychology, School of Humanities and Social Sciences, Nanyang Technological University, Singapore, Singapore

17:00 **0524.** **Involvement of Cerebellum in the Dopaminergic Treatment of Parkinson's Disease: A Resting-State fMRI Study**

ISMRM MERIT AWARD magna cum laude

Stefan Holiga[1], Karsten Mueller[1], Harald E. Möller[1], Gabriele Lohmann[1], Tomáš Sieger[2, 3], Josef Vymazal[4], Filip Ruzicka[2, 5], Dušan Urgošík[5], Matthias L. Schroeter[1, 6], Evzen Ruzicka[2], Robert Jech[2]
[1]Max Planck Institute for Human Cognitive and Bran Sciences, Leipzig, Germany; [2]Department of Neurology and Center of Clinical Neuroscience, First Faculty of Medicine, Charles University in Prague, Prague, Czech Republic; [3]Department of Cybernetics, Faculty of Electrical Engineering, Czech Technical University in Prague, Prague, Czech Republic; [4]Department of Radiology, Na Homolce Hospital, Prague, Czech Republic; [5]Department of Stereotactic and Radiation Neurosurgery, Na Homolce Hospital, Prague, Czech Republic; [6]Clinic for Cognitive Neurology, University of Leipzig, Leipzig, Germany

17:12 **0525.** **Retinotopic-Specific Changes of Cerebral Blood Flow and Grey Matter in Visual Cortex of Patients with Glaucoma**

Bo Wang[1], Shaodan Zhang[2, 3], Y Xie[2], Ningli Wang[2], Chun Zhang[3], Xiaohong Joe Zhou[4], Yan Zhuo[1]
[1]State Key Lab of Brain & Cognitive Science, Institute of Biophysics, Chinese Academy of China, Beijing, China; [2]Beijing Tongren Hospital affiliated to Capital Medical University, Beijing, China; [3]Peking University Third Hospital, Beijing, China; [4]University of Illinois Medical Center at Chicago, Chicago, IL, United States

17:24 **0526.** **Transfer Function of the Resting State: A Novel Approach to Assess Optic Neuritis**

Samiul Hayder Choudhury[1], Michael Richard Smith[2, 3], Bradley Goodyear[3], Fiona Costello[4]
[1]Electrical and Computer Engineering , University of Calgary, Calgary, Alberta, Canada; [2]Electrical and Computer Engineering, University of Calgary, Calgary, Alberta, Canada; [3]Department of Radiology, University of Calgary, Calgary, Alberta, Canada; [4]Department of Clinical Neuroscience, University of Calgary, Calgary, Alberta, Canada

17:36 **0527.** **Characterization of Structural and Functional Brain Impairment and Phenotypic Association in Autism Spectrum Disorder**

Yongxia Zhou[1], Xi-Nian Zuo[2], Daniel K. Sodickson[1], Yulin Ge[1], Michael P. Milham[3], Robert I. Grossman[4], Yvonne W. Lui[1]
[1]Radiology/Center for Biomedical Imaging, New York University Langone Medical Center, New York, NY, United States; [2]Psychology, Chinese Academy of Sciences, Beijing, China; [3]Child Mind Institute, New York University Langone Medical Center, New York, NY, United States; [4]Radiology/Center for Biomedical Imaging, New York University, New York, NY, United States

17:48 **0528.** **Frequency Distribution of Enhanced Sensorimotor Network in Stroke-Recovered Rat**

Woo Shim[1], Ji-Yeon Suh[1, 2], Jeong Kon Kim[2], Bruce Rosen[1], Young Kim[1]
[1]Massachusetts General Hospital, Charlestown, Ma, United States; [2]Asan Medical Center, Seoul, Korea

MRS: Methods, Physiologic & MR Parameters

Room 155 EF 16:00-18:00 *Moderators:* Priti Balchandani & Andrew A. Maudsley

16:00 **0529.** **Higher-Order Feedback Field Control Improves Linewidths in MR Spectroscopy at 7T**

ISMRM MERIT AWARD magna cum laude

Bertram J. Wilm[1], Yolanda Duerst[1], Benjamin E. Dietrich[2], Michael Wyss[1], David Otto Brunner[2], Christoph Barmet[2, 3], Thomas Schmid[1], Signe Johanna Vannesjo[1], Klaas P. Pruessmann[1]
[1]Institute for Biomedical Engineering, ETH Zurich and University of Zurich, Zurich, ZH, Switzerland; [2]Institute for Biomedical Engineering, University and ETH Zurich, Zurich, ZH, Switzerland; [3]Skope Magnetic Resonance Technologies, 8004, ZH, Switzerland

16:12 **0530.** **Spectroscopy with Linear Algebraic Modeling (SLAM): Speed and Quantification in Brain Tumor Studies**

ISMRM MERIT AWARD magna cum laude

Yi Zhang[1, 2], Refaat E. Gabr[1], Jinyuan Zhou[1, 3], Robert G. Weiss[1, 4], Paul A. Bottomley[1, 2]
[1]Division o MR Research, Department of Radiolgoy, Johns Hopkins University, Baltimore, MD, United States; [2]Electrical and Computer Engineering, Johns Hopkins University, Baltimore, MD, United States; [3]F. M. Kirby Research Center for Functional Brain Imaging, Kennedy Krieger Institute, Baltimore, MD, United States; [4]Division of Cardiology, Department of Medicine, Johns Hopkins University, Baltimore, MD, United States

16:24 **0531.** **Indirectly-Detected Heteronuclear MR Spectroscopy & Imaging by Amplified Solvent Proton Signals**
Zhao Li[1], Jamie D. Walls[1], Susie Y. Huang[1], Yung-Ya Lin[1]
[1]Chemistry and Biochemistry, UCLA, Los Angeles, CA, United States

16:36 **0532.** **Combining Parallel Detection of Proton Spectroscopic Imaging (PEPSI) Measurements with a Data-Consistency Constraint Improves SNR**
Shang-Yueh Tsai[1], Ying-Hua Chu[2], Yi-Cheng Hsu[3], Wen-Jui Kuo[4], Fa-Hsuan Lin[2]
[1]Graduate Institute of Applied Physics, National Cheng-Chi University, Taipei, Taiwan; [2]Institute of Biomedical Engineering, National Taiwan University, Taipei, Taiwan; [3]Department of Mathematics, Nnational Taiwan University, Taipei, Taiwan; [4]Institute of Neuroscience, National Yang-Ming University, Taipei, Taiwan

16:48 **0533.** **An Accurate Calibration of MRS Thermometry at 3T**
ISMRM MERIT AWARD magna cum laude
Ben Babourina-Brooks[1], Rob Simpson[2], Theodoros N. Arvanitis[3, 4], Andrew C. Peet[1, 4], Nigel Paul Davies, [15]
[1]School of Cancer Sciences, University of Birmingham, Birmingham, West Midlands, United Kingdom; [2]National Physical Laboratory, Middlesex, Greater London, United Kingdom; [3]School of Electronic, Electrical & Computer Engineering, University of Birmingham, Birmingham, West Midlands, United Kingdom; [4]Birmingham Children's Hospital NHS Foundation Trust, Birmingham, West Midlands, United Kingdom; [5]Imaging & Medical Physics, University Hospitals Birmingham NHS Foundation Trust, Birmingham, West Midlands, United Kingdom

17:00 **0534.** **Uniform Spinning Sampling Gradient Electron Paramagnetic Resonance Imaging**
ISMRM MERIT AWARD magna cum laude
David H. Johnson[1], Zhiyu Chen[1], Rizwan Ahmad[1], Alexandre Samouilov[1], Jay L. Zweier[1]
[1]Davis Heart and Lung Research Institute, Ohio State University, Columbus, OH, United States

17:12 **0535.** **Intracellular Water Preexchange Lifetime in Cultured Mixed Neurons and Astrocytes**
ISMRM MERIT AWARD summa cum laude
Donghan Yang[1], James E. Huettner[2], Jeffrey J. Neil[3, 4], Joseph J.H. Ackerman[1, 5]
[1]Department of Chemistry, Washington University in St. Louis, St. Louis, MO, United States; [2]Department of Cell Biology & Physiology, Washington University in St. Louis, St. Louis, MO, United States; [3]Department of Neurology, Washington University in St. Louis, St. Louis, MO, United States; [4]Department of Pediatrics, Washington University in St. Louis, St. Louis, MO, United States; [5]Department of Radiology, Washington University in St. Louis, St. Louis, MO, United States

17:24 **0536.** **Metabolite T1 Relaxation Enhancement by Spectrally-Selective Excitation**
ISMRM MERIT AWARD summa cum laude
Noam Shemesh[1], Jean-Nicolas Dumez[1], Lucio Frydman[1]
[1]Department of Chemical Physics, Faculty of Chemistry, Weizmann Institute of Science, Rehovot, Israel

17:36 **0537.** **Simultaneous Measurement Carbon-13 MR Spin-Relaxation, Diffusion, and Kinetic Parameters**
ISMRM MERIT AWARD summa cum laude
Christine Leon[1], Cornelius Von Morze[1], Bertram Koelsch[1], Adam B. Kerr[2], Robert A. Bok[3], John M. Pauly[2], John Kurhanewicz[1], Daniel B. Vigneron[1], Peder E.Z. Larson[1]
[1]Department of Radiology and Biomedical Imaging, University of California, San Francisco, San Francisco, CA, United States; [2]Magnetic Resonance Systems Research Laboratory, Department of Electrical Engineering, Stanford University, Stanford, CA, United States; [3]Department of Radiology and Biomedical Imaging, University of California San Francisco, San Francisco, CA, United States

17:48 **0538.** **Quantification of T_1 Relaxation Times and Nuclear Overhauser Effect of ^{31}P Metabolites in the Human Prostate at 7T**
ISMRM MERIT AWARD summa cum laude
Miriam W. Lagemaat[1], Marnix C. Maas[1], Eline K. Vos[1], Thiele Kobus[1], Andreas K. Bitz[2, 3], Mark J. van Uden[1], Stephan Orzada[2, 3], Arend Heerschap[1], Tom W.J. Scheenen[1, 2]
[1]Radiology, Radboud University Nijmegen Medical Centre, Nijmegen, Netherlands; [2]Erwin L. Hahn Institute for Magnetic Resonance Imaging, Essen, Germany; [3]Diagnostic and Interventional Radiology and Neuroradiology, University Hospital Essen, Essen, Germany

MRA: Still Worth Mining

Room 255 EF 16:00-18:00 *Moderators:* J. Paul Finn & Stefan O. Schönberg

16:00 **0539.** **Time-Resolved Non-Contrast Enhanced 4-D Dynamic MRA Using Multi-Bolus TrueFISP Based Spin Tagging with Alternating Radiofrequency (True-STAR)**
ISMRM MERIT AWARD summa cum laude
Lirong Yan[1], Noriko Salamon[2], Danny J.J. Wang[1]
[1]Neurology, UCLA, Los Angeles, CA, United States; [2]Radiology, UCLA, Los Angeles, CA, United States

16:12 **0540.** **Non-Contrast Enhanced Time-Resolved MR Angiography with Time-Of-Arrival Mapping: A Feasibility Trial in Cerebral AVM**

Masanobu Nakamura[1], Masami Yoneyama[1], Takashi Tabuchi[1], Atsushi Takemura[2], Makoto Obara[2], Taro Takahara[3]
[1]Yaesu clinic, Tokyo, Japan; [2]Philips Electronics Japan, Tokyo, Japan; [3]Tokai University School of Engineering, Kanagawa, Japan

16:24 **0541.** **Comparison of Noncontrast FSD MRA to Time Resolved (TWIST) and High Resolution Contrast Enhanced MRA of the Hands in Patients with Systemic Lupus Erythematosus (SLE) and Clinical Vasculopathy.**

Rola Saouaf[1], Zhaoyang Fan[2], Mariko L. Ishimori[3], Lindsy J. Forbess[3], Emmanuil Smorodinsky[1], Daniel J. Wallace[3], Michael H. Weisman[3], Debiao Li[2]
[1]Imaging, Cedars-Sinai Medical Center, Los Angeles, CA, United States; [2]Biomedical Imaging Research Institute, Cedars-Sinai Medical Center, Los Angeles, CA, United States; [3]Rheumatology, Cedars-Sinai Medical Center, Los Angeles, CA, United States

16:36 **0542.** **High Spatial and Temporal Resolution Dynamic Contrast-Enhanced Magnetic Resonance Angiography (CE-MRA) Using Compressed Sensing with Magnitude Image Subtraction**

ISMRM MERIT AWARD summa cum laude

Stanislas Rapacchi[1], Fei Han[1], Yutaka Natsuaki[2], Randall Kroeker[3], Adam Plotnik[1], Evan Lehrman[1], James Sayre[1], Gerhard Laub, J. Paul Finn[4], Peng Hu[4]
[1]Departement of Radiology, UCLA, Los Angeles, CA, United States; [2]Cardiovascular, Siemens Healthcare, Los Angeles, CA, United States; [3]Siemens Healthcare, Winnipeg, MB, Canada; [4]Departement of Radiology, University of California Los Angeles, Los Angeles, CA, United States

16:48 **0543.** **Off-Resonance-Robust Velocity-Selective Magnetization Preparation for Non-Contrast-Enhanced Peripheral MRA**

ISMRM MERIT AWARD magna cum laude

Taehoon Shin[1], Bob S. Hu[1, 2], Dwight G. Nishimura[1]
[1]Electrical Engineering, Stanford University, Stanford, CA, United States; [2]Palo Alto Foundation, Palo Alto, CA, United States

17:00 **0544.** **Time-Resolved Nonenhanced QISS MR Angiography Using a Golden Angle Radial Trajectory and HYPR**

Ioannis Koktzoglou[1, 2], Charles A. Mistretta[3], Shivraman Giri[4], Parag Amin[5], Robert R. Edelman[1, 6]
[1]Radiology, NorthShore University HealthSystem, Evanston, IL, United States; [2]The University of Chicago Pritzker School of Medicine, Chicago, IL, United States; [3]Radiology, University of Wisconsin-Madison, Madison, WI, United States; [4]Siemens Healthcare, Chicago, IL, United States; [5]Radiology, Northwestern University, Chicago, IL, United States; [6]Northwestern University Feinberg School of Medicine, Chicago, IL, United States

17:12 **0545.** **CMRA with 100% Navigator Efficiency with Radial 2D Self Navigation**

ISMRM MERIT AWARD summa cum laude

Jonathan Powell[1], Markus Henningsson[1], Claudia Prieto[2], Rene M. Botnar[1]
[1]Division of Imaging Sciences and Biomedical Engineering , Kings College London, London, United Kingdom; [2]Division of Imaging Sciences and Biomedical Engineering, Kings College London, London, United Kingdom

17:24 **0546.** **Highly Efficient Respiratory Motion Compensated Free-Breathing Coronary MRA Using Golden-Step Cartesian Acquisition**

Claudia Prieto[1, 2], Mariya Doneva[3], Muhammad Usman[1], Rene M. Botnar[1], Tobias Schaeffter[1]
[1]Division of Imaging Sciences and Biomedical Engineering, King's College London, London, United Kingdom; [2]Escuela de Ingenieria, Pontificia Universidad Catolica de Chile, Santiago, Chile; [3]Philips Research Europe, Hamburg, Germany

17:36 **0547.** **An Initial Report on the Performance of Post Contrast Self-Navigated Whole-Heart Coronary MRI in Patients with Suspected or Established Coronary Artery Disease**

Davide Piccini[1, 2], Christophe Sierro[3], Juerg Schwitter[3], Pierre Monney[3], Gabriella Vincenti[3], Simon C. Koestner[3], Didier Locca[3], Tobias Rutz[3], Arne Littmann[4], Michael O. Zenge[4], Gunnar Krueger[1, 5], Matthias Stuber[2]
[1]Advanced Clinical Imaging Technology, Siemens Healthcare IM S AW, Lausanne, Switzerland; [2]Department of Radiology, University Hospital (CHUV) and University of Lausanne (UNIL) / Center for Biomedical Imaging (CIBM), Lausanne, Switzerland; [3]Division of Cardiology and Cardiac MR Center, University Hospital of Lausanne (CHUV), Lausanne, Switzerland; [4]MR Application and Workflow Development, Healthcare Sector, Siemens AG, Erlangen, Germany; [5]CIBM-AIT, Ecole Polytechnique Federale de Lausanne, Lausanne, Switzerland

17:48 **0548.** **Assessment of Coronary Artery Disease Using 3.0T Magnetic Resonance Coronary Angiography: A National Multicenter Trial**
Kuncheng Li[1], Qi Yang, Bin Sun[2], Hong Yun[3], Lijun Tang[4], Junling Xu[5], Shurong Li[6], Mengqi Wei[7], Zhenbin Cao[8], Lixin Jin[9], Mengsu Zeng[3], Qing Duan[2], Yi Huan[7], Quanfei Meng[6], Xiangquan Kong[8], Dehang Wang[4]
[1]Radiology Department, Xuanwu Hospital, Beijing, China; [2]Fujian Union Hospital, Fuzhou, China; [3]Zhongshan hospital, Fudan University, Shanghai, China; [4]Jiangsu Province Hospital, Nanjing Medical University, Nanjing, China; [5]Henan Provincial Hospital, Zhengzhou, China; [6]First Affiliated Hospital, Sun Yat-Sen University, Guangzhou, China; [7]Xijing Hospital, Fourth Military Medical University, Xian, China; [8]Wuhan Union Hospital, Huazhong University of Science, Wuhan, China; [9]Siemens Healthcare, MR Collaboration NE Asia, Shanghai, China

Correction for Eddy Currents & Off-Resonance

Room 355 BC 16:00-18:00 *Moderators:* Michael H. Buonocore & Dan Xu

16:00 **0549.** **Eddy Current Compensated IDEAL**
ISMRM MERIT AWARD magna cum laude
Trevor P. Wade[1], [2], Curtis N. Wiens[3], Charles A. McKenzie[1], [4]
[1]Medical Biophysics, University of Western Ontario, London, Ontario, Canada; [2]Robarts Research Institute, University of Western Ontario, London , Ontario, Canada; [3]Physics and Astronomy, University of Western Ontario, London, Ontario, Canada; [4]Physics and Astronomy, University of Western Ontario, London , Ontario, Canada

16:12 **0550.** **Linear Phase Shift Correction for Field Map Estimation with Bipolar Gradient Dual-Echo Sequence Using the Noise PDF**
ISMRM MERIT AWARD summa cum laude
Hiroyuki Takeda[1], Boklye Kim[2]
[1]Radiology, University of Michigan, Ann Arbor, MI, United States; [2]Radiology, University of Michigan, ann arbor, MI, United States

16:24 **0551.** **Rapid Method of Mapping Eddy Current Fields**
Andrew J. Wheaton[1], Wayne R. Dannels[1]
[1]Toshiba Medical Research Institute USA, Mayfield, OH, United States

16:36 **0552.** **Image Reconstruction Using the Gradient Impulse Response for Trajectory Prediction**
ISMRM MERIT AWARD summa cum laude
Nadine N. Graedel[1], Signe Johanna Vannesjo[1], Lars Kasper[1], Simon Gross[1], Benjamin E. Dietrich, Christoph Barmet[1], [2], Klaas P. Pruessmann[1]
[1]Institute for Biomedical Engineering, University and ETH Zurich, Zurich, Switzerland; [2]Skope Magnetic Resonance Technologies, Zurich, Switzerland

16:48 **0553.** **Automatic Reconstruction of Gradient Echo Imaging Sequences by Concurrent and Continuous Monitoring of Gradient and RF Waveforms**
ISMRM MERIT AWARD summa cum laude
David Otto Brunner[1], Benjamin E. Dietrich[1], Christoph Barmet[1], [2], Simon Gross[1], Bertram J. Wilm[1], Klaas P. Pruessmann[1]
[1]Institute for Biomedical Engineering, University and ETH Zurich, Zurich, Switzerland; [2]Skope Magnetic Resonance Technologies, Zurich, Switzerland

17:00 **0554.** **Correction of Dynamic B_0 Field Changes in MRSI of the Prostate at 7T Using an Internal Field Probe**
ISMRM MERIT AWARD summa cum laude
Catalina S. Arteaga de Castro[1], Vincent Oltman Boer[1], Mariska P. Luttje[1], Marco van Vulpen[1], Peter R. Luijten[1], Uulke A. van der Heide[2], Dennis W.J. Klomp[1]
[1]Imaging Division, University Medical Center Utrecht, Utrecht, Netherlands; [2]Radiotherapy, The Netherlands Cancer Institute, Amsterdam, Netherlands

17:12 **0555.** **Sliding Interleaved Cylinder (SLINCY) Imaging with Dynamic Center Frequency Adjustment**
Kie Tae Kwon[1], Adam B. Kerr[1], Bob S. Hu[2], [3], Dwight G. Nishimura[1]
[1]Electrical Engineering, Stanford University, Stanford, CA, United States; [2]Palo Alto Medical Foundation, Palo Alto, CA, United States; [3]HeartVista Inc., Los Altos, CA, United States

17:24 **0556.** **An Improved Maxwell Term Compensation Method for FSE Images**
Weiwei Zhang[1], Yongchuan Lai[1], Xiaocheng Wei[1]
[1]GE Healthcare, Beijing, China

17:36 **0557.** **Fast Imaging of Metallic Implants by Data Subsampling**

ISMRM MERIT AWARD magna cum laude

Bragi Sveinsson[1], Pauline W. Worters[2], Garry E. Gold[1], Brian Andrew Hargreaves[1]
[1]Stanford University, Stanford, CA, United States; [2]GE Healthcare, Menlo Park, CA, United States

17:48 **0558.** **Accelerating Sequences in the Presence of Metal by Exploiting the Spatial Distribution of Off-Resonance**

ISMRM MERIT AWARD summa cum laude

Matthew R. Smith[1], Nathan S. Artz[1], Kevin M. Koch[2], Scott B. Reeder[1, 3]
[1]Radiology, University of Wisconsin, Madison, WI, United States; [2]Applied Sciences Laboratory, General Electric, Waukesha, WI, United States; [3]Medical Physics, University of Wisconsin, Madison, WI, United States

Acquisition & Detection Strategies in Molecular Imaging

Room 355 EF 16:00-18:00 *Moderators:* Michael F. Tweedle & Patrick M. Winter

16:00 **0559.** **New Approaches in B_1-Mapping Compensation for *in Vivo* Quantitative ^{19}F MR Molecular Imaging Using UTE BSSFP**

ISMRM MERIT AWARD magna cum laude

Matthew J. Goette[1], Todd A. Williams[1], John S. Allen[1], Jochen Keupp[2], Gregory M. Lanza[1], Samuel A. Wickline[1], Shelton D. Caruthers[1]
[1]C-TRAIN, Washington University in St. Louis, St. Louis, MO, United States; [2]Philips Research Europe, Hamburg, Germany

16:12 **0560.** **Improving Contrast of Delta Relaxation Enhanced MR (DreMR) Imaging**

Francisco M. Martinez-Santiesteban[1], Yonathan Araya[2], Chad Harris[3], William B. Handler[3], Blaine A. Chronik[4, 5], Timothy J. Scholl[2, 5]
[1]Medical Biophysics, University of Western Ontario, London, Ontario , Canada; [2]Medical Biophysics, University of Western Ontario, London, Ontario, Canada; [3]Physics and Astronomy, University of Western Ontario, London, Ontario, Canada; [4]Physics and Astronomy, Western University, London, Ontario, Canada; [5]Robarts Research Institute, University of Western Ontario, London, Ontario, Canada

16:24 **0561.** **A Novel Strategy to Track Short-Term Stem Cell Viability and Integration Using Diffusion-Activated MRI Contrast Agents in a Murine Model of Radiation-Induced Cognitive Dysfunction**

ISMRM MERIT AWARD summa cum laude

Ethel Ngen[1], Lee Wang[1], Yoshinori Kato[1], Nishant Gandhi[2], Balaji Krishnamachary[1], Barbara Smith[3], Wenlian Zhu[1], Micheal Armour[2], John Wong[2], Zaver M. Bhujwalla[4], Katheleen Gabrielson[5], Dmitri Artemov[1]
[1]Russell H. Morgan Department of Radiology and Radiological Sciences, Johns Hopkins University School of Medicine, Baltimore, MD, United States; [2]Department of Radiation Oncology and Molecular Radiation Sciences, Johns Hopkins University School of Medicine, Baltimore, MD, United States; [3]Institute for Basic Biomedical Sciences, Johns Hopkins University School of Medicine, Baltimore, MD, United States; [4]Russell H. Morgan Department of Radiology and Radiological Sciences, Johns Hopkins University, Baltimore, MD, United States; [5]Department of Molecular and Comparative Pathobiology, Johns Hopkins University School of Medicine, Baltimore, MD, United States

16:36 **0562.** **Real-Time MR Imaging of Stem Cell Delivery to the Central Nervous System of Small and Large Animal Models Using EPI**

Miroslaw Janowski[1, 2], Joanna Wojtkiewicz[3], Adam Nowakowski[2], Aleksandra Habich[3], Piotr Holak[4], Hubert Matyjasik[4], Dawn Ruben[5], Jiadi Xu[6], Sunil Patil[7], Zbigniew Adamiak[4], Monica S. Pearl[1], Philippe Gailloud[1], Barbara Lukomska[2], Wojciech Maksymowicz[3], Jeff W.M. Bulte[1, 8], Piotr Walczak[1, 8]
[1]Rusell H. Morgan Dept. of Radiology and Radiological Science, Johns Hopkins University, Baltimore, MD, United States; [2]NeuroRepair Department, Mossakowski Medical Research Centre, Warsaw, Mazowsze, Poland; [3]Department of Neurology and Neurosurgery, University of Warmia and Mazury, Olsztyn, Warmia and Mazury, Poland; [4]Faculty of Veterinary Medicine, University of Warmia and Mazury, Olsztyn, Warmia and Mazury, Poland; [5]Department of Molecular and Comparative Pathobiology, Johns Hopkins University, Baltimore, MD, United States; [6]F. M. Kirby Research Center, Kennedy Krieger Institute, Baltimore, MD, United States; [7]Center for Applied Medical Imaging, Siemens Corporate Research, Baltimore, MD, United States; [8]Institute for Cell Engineering, Johns Hopkins University, Baltimore, MD, United States

16:48 **0563.** **Quantification of MRI Sensitivity for Monodisperse Microbubble-Based Contrast Agent to Measure Fluid Pressure Changes.**

Amgad Alrwaili[1, 2], Martin Bencsik[3], Robert Morris[3], David Fairhurst[4], Victoria Mundell[4], Gareth Cave[4], Jonathan McKendry[5], Stephen Evans[5]
[1]Physics and Mathematical Sciences, Nottingham Trent University, Nottingham, United Kingdom; [2]Physics and Mathematical Sciences , Nottingham Trent University , Nottingham, United Kingdom; [3]Physics and Mathematical Sciences , Nottingham Trent University, Nottingham, United Kingdom; [4]Physics and Mathematical Sciences, Nottingham Trent University, Nottingham, United Kingdom; [5]School of Physics and Astronomy, University of Leeds, Leeds, United Kingdom

17:00 **0564.** **Multi-Modality Imaging of Endothelial Progenitor Cells Mediates Neovascularization and Muscle Regeneration in Ischemia Muscle**

ISMRM MERIT AWARD summa cum laude

Shenghong Ju[1], Xingui Peng[2]
[1]Jiangsu Key Laboratory of Molecular and Functional Imaging, Department of Radiology, Zhongda Hospital, Medical School, Southeast University, Nanjing, Jiangsu, China; [2]Jiangsu Key Laboratory of Molecular and Functional Imaging, Department of Radiology, Zhongda Hospital, Medical School, Southeast University, Nanjing, Jiangsu Province, China

17:12 **0565.** **MRI Detection of Bacterial Infection Through Endogenous CEST Contrast**

Guanshu Liu[1, 2], Yuan Qiao[3], Chetan Bettegowda[3], Verena Staedtke[3], Kannie W.Y. Chan[4, 5], Renyuan Bai[3], Gregory Riggins[3], Kenneth W. Kinzler[3], Jeff W.M. Bulte[4, 5], Michael T. McMahon[1, 2], Assaf A. Gilad[4, 5], Bert Vogelstein[3], Shibin Zhou[3], Peter C.M. van Zijl[1, 2]
[1]F.M. Kirby Research Center for Functional Brain Imaging, Kennedy Krieger Institute, Baltimore, MD, United States; [2]Department of Radiology, Johns Hopkins University School of Medicine, Baltimore, MD, United States; [3]Ludwig Center, Howard Hughes Medical Institute and Sidney Kimmel Cancer Center, Johns Hopkins University School of Medicine, Baltimore, MD, United States; [4]Department of Radiology, Johns Hopkins University, Baltimore, MD, United States; [5]Cellular Imaging Section, Institute for Cell Engineering, Johns Hopkins University School of Medicine, Baltimore, MD, United States

17:24 **0566.** ***in vivo* Detection of Membrane-Bound Radicals Using Molecular MRI and Immuno-Spin-Trapping in a Mouse Model for ALS**

Rheal A. Towner[1], Nataliya Smith[1], Debra Saunders[1], Florea Luou[2], Robert Silasi-Mansat[2], Melinda West[3], Dario C. Ramirez[4], Sandra E. Gomez-Mejiba[4], Marcelo G. Bonini[5], Ronald P. Mason[6], Marilyn I. Ehrenshaft[6], Kenneth Hensley[7]
[1]Advanced Magnetic Resonance Center, Oklahoma Medical Research Foundation, Oklahoma City, OK, United States; [2]Cardiovascular Biology, Oklahoma Medical Research Foundation, Oklahoma City, OK, United States; [3]Free Radical Biology & Aging, Oklahoma Medical Research Foundation, Oklahoma City, OK, United States; [4]4Laboratory of Experimental Medicine & Therapeutics, National University of San Luis, San Luis, Argentina; [5]Medicine, Univ. of Illinois at Chicago, Chicago, IL, United States; [6]Laboratory of Pharmacology and Chemistry, National Institute of Environmental Health Sciences, Research Triangle Park, NC, United States; [7]Department of Pathology, University of Toledo Health Sciences Campus, Toledo, OH, United States

17:36 **0567.** **Complete Separation of Extra- And Intracellular Hyperpolarized ^{13}C Metabolite Signal with Diffusion Weighted MR**

ISMRM MERIT AWARD magna cum laude

Bertram L. Koelsch[1], Kayvan R. Keshari[2], Tom H. Peeters[2], Peder E.Z. Larson, [12], David M. Wilson[2], John Kurhanewicz, [12]
[1]UC Berkeley - UCSF Graduate Program in Bioengineering, San Francisco, CA, United States; [2]Dept. of Radiology and Biomedical Imaging, UCSF, San Francisco, CA, United States

17:48 **0568.** **Towards Early Detection of Pancreatic Cancers by CA 19-9 Conjugated Magnetic Nanoparticles and Active Feedback MRI**

Zhao Li[1], Chaohsiung Hsu[2], Chih-Wei Lai[1], Matthew Rochefort[3], Yu-Hao Chen[2], James S. Tomlinson[3], Lian-Pin Hwang[2], Vay Liang W. Go[4], Yung-Ya Lin[1]
[1]Chemistry and Biochemistry, UCLA, Los Angeles, CA, United States; [2]Chemistry, National Taiwan University, Taipei, Taiwan; [3]Surgical Oncology, UCLA, Los Angeles, CA, United States; [4]UCLA Center for Excellence in Pancreatic Diseases, UCLA, Los Angeles, CA, United States

Educational Course Case-Based Teaching
Body MR Artifacts: A Game Show!

*Organizers:*Masoom A. Haider, M.D., F.R.C.P.C., Shahid M. Hussain, M.D., Ph.D., John P. Mugler, III, Ph.D., Caroline Reinhold, M.D. & Shreyas S. Vasanawala, M.D., Ph.D.

Room 250 BCEF 16:00-18:00 *Moderators:*Masoom A. Haider & Donald G. Mitchell

16:00 **Diffusion-Weighted Imaging: Artifacts & Remedies in Body MRI**
Catherine J. Moran, Ph.D.

16:30 **Artifacts in Clinical Practice: Cause & Cures**
Martin J. Graves, Ph.D. & Donald G. Mitchell, M.D.

18:00 **Adjournment**

Educational Course
MR Physics & Techniques for Clinicians

*Organizers:*Marcus T. Alley, Ph.D. & Michael Markl, Ph.D.
Room 251 BCEF 16:00-18:00 *Moderators:*Marcus T. Alley & Michael Markl

16:00 **Ultrafast Imaging**
Mariya Doneva, Ph.D.

16:40 **Parallel Imaging**
Charles A. McKenzie, Ph.D.

17:20 **Artifacts to Artefacts: Causes & Cures from Clinical Perspective**
Walter F. Block, Ph.D.

18:00 **Adjournment**

Educational Course
Emerging Technologies for Clinical Neuroimaging

*Organizer:*Kamil Uludag, Ph.D
Room 255 BC 16:00-18:00 *Moderators:*Noam Harel & Kamil Uludag

16:00 **Arterial Spin Labeling: Where's the Label Now?**
David C. Alsop, Ph.D.

16:30 **Ultra-High Field MR: High-Resolution Neuroanatomy**
Mark A. van Buchem, M.D., Ph.D.

17:00 **Ultra-High Field MR: Multi-Nuclear Imaging**
Ian C. Atkinson, Ph.D.

17:30 **DCE Perfusion**
Daniel P. Barboriak, M.D.

18:00 **Adjournment**

ISMRM Business Meeting

Room 150 AG 18:15-19:15 *(no CME credit)*

Sunrise Educational Course
Hot Topics in Body MRI

*Organizers:*Masoom A. Haider, M.D., F.R.C.P.C., Shahid M. Hussain, M.D., Ph.D., John P. Mugler, III, Ph.D., Caroline Reinhold, M.D. & Shreyas S. Vasanawala, M.D., Ph.D.

Room 250 BCEF 07:00-07:50 *Moderators:*Masoom A. Haider & Riccardo Manfredi

Biliary Tree & Pancreas

07:00 **Cholangiocarcinoma: Case Studies**
Karik S. Jhaveri, M.D.

07:25 **MR Imaging and Management of Cystic Pancreatic Lesions**
Koenraad J. Mortele, M.D.

07:50 **Adjournment**

Sunrise Educational Course
MRS

*Organizers:*Peter B. Barker, D.Phil. & Robert E. Lenkinski, Ph.D.

Room 150 AG 07:00-07:50 *Moderators:*Peter B. Barker & Robert E. Lenkinski

07:00 **Lipid Metabolism & Cancer**
Rheal A. Towner, Ph.D.

07:25 **C-13 Studies of Human Brain Metabolism**
Douglas L. Rothman, Ph.D.

07:50 **Adjournment**

Sunrise Educational Course
Cardiac MR Today & Tomorrow

*Organizers:*Craig H. Meyer, Ph.D.

Room 155 A 07:00-07:50 *Moderators:*Thoralf Niendorf & Matthew D. Robson

Explorations into CV Disease Using 7T

07:00 **Cardiovascular MR at 7T: Hype or Hope?**
Kamil Ugurbil, Ph.D.

07:16 **Innovations in UHF-MR Technology/Methodology: An Update**
Cornelis A. T. van den Berg, Ph.D.

07:32 **Emerging Applications of Cardiovascular MR at 7T**
Jeanette Schulz-Menger, M.D.

07:50 **Adjournment**

Sunrise Educational Course
Emerging Clinical Techniques

*Organizers:*Brian A. Hargreaves, Ph.D. & Shreyas S. Vasanawala, M.D., Ph.D.

Room 251 BCEF 07:00-07:50 *Moderators:*Brian A. Hargreaves & Shreyas S. Vasanawala

07:00 **Temporal Acceleration Methods**
Daniel K. Sodickson, M.D., Ph.D.

07:25 **Myocardial Mechanics**
Daniel A. Herzka, Ph.D.

07:50 **Adjournment**

Sunrise Educational Course
Practical Quantitative Imaging

*Organizers:*Gareth J. Barker, Ph.D., David L. Buckley, Ph.D. & Mark D. Does, Ph.D.
Room 255 BC 07:00-07:50 *Moderator:*David L. Buckley

Contrast Agents & Basic Contrast-Enhanced Measures

07:00 **Principles of the use of Contrast Agents**
Josephine H. Naish, Ph.D.

07:25 **Basic Contrast-Enhanced Measures**
Steven P. Sourbron, Ph.D.

07:50 **Adjournment**

Sunrise Educational Course
Translational Pathways & Validation

*Organizers:*Kevin M. Bennett, Ph.D. & Robia G. Pautler, Ph.D.
Room 255 EF 07:00-07:50 *Moderators:*Kevin M. Bennett & Robia G. Pautler

Sorting Cells & MEMRI Validations: Flow Cytometry & Manganese in Beta Islets

07:00 **Cytometry for Cell Phenotyping & Isolation: From Probes Conjugated to Fluorophores to Probes Conjugated to Metals**
Christine Beeton, Ph.D.

07:25 **Is Your MEMRI Correct? Listen to Your Gut…Or at Least Your Pancreas**
Brian B. Roman, Ph.D.

07:50 **Adjournment**

Sunrise Educational Course
Absolute Beginner's Guide to Neuroimaging Methods

*Organizers:*Karla L. Miller, Ph.D., Matthias J. P. van Osch, Ph.D. & Claudia A. M. Wheeler-Kingshott, Ph.D.
Room 151 AG 07:00-07:50 *Moderator:*Molly G. Bright

fMRI

07:00 **fMRI Basics**
Natalia Petridou, D.Sc.

07:25 **fMRI Analysis**
Jerzy A. Bodurka, Ph.D.

07:50 **Adjournment**

Sunrise Educational Course
Advanced MSK MRI Techniques with Clinical Applications

*Organizers:*Richard Kijowski, M.D. & William B. Morrison, M.D.
Room 155 EF 07:00-07:50 *Moderators:*Richard Kijowski & William B. Morrison

3D FSE

07:00 **Background**
John P. Mugler, III, Ph.D.

07:25 **Clinical Applications**
Richard Kijowski, M.D.

07:50 **Adjournment**

Sunrise Educational Course
From Pulse Sequence to Clinical Applications in the Brain

*Organizers:*Soonmee Cha, M.D. & Maria A. Rocca, M.D.

Room 355 BC 07:00-07:50 *Moderator:*Maria A. Rocca

07:00 **Diffusion Tensor Imaging**
Alexander Leemans, Ph.D.

07:25 **Traumatic Brain Injury**
Pratik Mukherjee, M.D., Ph.D.

07:50 **Adjournment**

Sunrise Educational Course
Nuts & Bolts of Advanced Imaging

*Organizers:*Alexey Samsonov, Ph.D. & Jeffrey Tsao, Ph.D., M.B.A.

Room 355 EF 07:00-07:50 *Moderators:*Alexey Samsonov & Jeffrey Tsao

Advanced Imaging Interactive Session
NOTE: The audience is expected to bring a laptop with Matlab 6+ installed to follow the exercises.

07:00 **Introduction of Session**
Jeffrey Tsao, Ph.D., M.B.A.

07:10 **Work on Exercises on Image Reconstruction**
Philip J. Beatty, Ph.D. & Michael S. Hansen, Ph.D.

07:40 **Regroup To Go Over Solution Approaches**

07:50 **Adjournment**

Plenary Session

Plenary Hall 08:00-10:00

08:00 **Young Investigator Awards Presentation**
Peter Jezzard, Ph.D., 2013-14 ISMRM President

08:15 **Mansfield Lecture: MRI & Mechanobiology: Emerging Science at the Intersection of Engineering & Medicine**
Richard L. Ehman, M.D.

MR-PET

*Organizers:*Roland Bammer, Ph.D., Marco Essig, M.D., Ph.D. & Garry E. Gold, M.D.

09:00 **0569.** **Next Generation of Integrated Diagnostics**
Sanjiv S. Gambhir, M.D., Ph.D.

09:20 **0570.** **MR-PET Instrumentation & the Gains for Both Modalities**
Bernd J. Pichler, Ph.D.

09:40 **0571.** **A Clinical Tool for Radiologists?**
Ciprian Catana, M.D., Ph.D.

10:00 **Adjournment**

Traditional Poster Sessions: MR Spectroscopy; Functional MRI
Exhibition Hall 10:30-12:30 *(no CME credit)*

Electronic Poster Sessions: Interventional; Engineering
Exhibition Hall 10:30-12:30 *(no CME credit)*

Study Group Session: Diffusion
Room 155 ABC 10:30-12:30 *(no CME credit)*

Study Group Session: Detection & Correction of Motion in MRI & MRS
Room 254 ABC 10:30-12:30 *(no CME credit)*

Cutting-Edge Cardiac MRI
Room 150 AG 10:30-12:30 *Moderators:*Orlando P. Simonetti & David E. Sosnovik

10:30 **0572.** **Introduction**
Paul A. Bottomley

10:42 **0573.** **Feasibility of MRI Attenuation Correction in Cardiac-Gated FDG-PET**
Jeffrey MC Lau[1], Richard Laforest[2], Shivak Sharma[1], Jonathan McConathy[2], Agus Priatna[2], [3], Luciano Amado[1], Robert J. Gropler[2], Pamela K. Woodard[2]
[1]Cardiology, Washington University in St. Louis, Saint Louis, MO, United States; [2]Radiology, Washington University in St. Louis, Saint Louis, MO, United States; [3]Siemens Medical Solutions, Malvern, PA, United States

10:52 **0574.** **Hybrid PET/MRI Imaging of the Heart: Feasibility and Initial Results**
ISMRM MERIT AWARD summa cum laude
Felix Nensa[1], Thorsten D. Poeppel[2], Karsten Beiderwellen[1], Amir Abbas Mahabadi[3], Philipp Heusch[4], Thomas Schlosser[1]
[1]Radiology, University Hospital Essen, Essen, NRW, Germany; [2]Nuclear Medicine, University Hospital Essen, Essen, NRW, Germany; [3]Cardiology, University Hospital Essen, Essen, NRW, Germany; [4]Radiology, University Hospital Duesseldorf, Duesseldorf, NRW, Germany

11:06 **0575.** ***in vivo* Diffusion Tensor Imaging of the Human Heart with Free-Breathing in Healthy Volunteers**
Hongjiang Wei[1], Magalie Viallon[1, 2], Benedicte M.A. Delattre[1], Vinay M. Pai[3], Han Wen[3], Hui Xue[4], Christoph Guetter[4], Marie-Pierre Jolly[4], Pierre Croisille[1, 5], Yuemin Zhu[1]
[1]CREATIS,, CNRS (UMR 5220), INSERM (U1044),INSA Lyon,University of Lyon,, Lyon, France; [2]Department of Radiology,University Hospitals of Geneva, , Geneva, Switzerland; [3]Imaging Physics Lab, BBC/NHLBI/NIH,, Bethesda, Maryland 20892, United States; [4]Siemens Corporation, Corporate Technology,, Princeton, New Jersey 08540, United States; [5]5Jean-Monnet University,, Saint-Etienne, France

11:18 **0576.** **Simultaneous Measurement of Myocardial Perfusion by Dynamic Contrast Enhancement MR and Ammonia PET**
ISMRM MERIT AWARD summa cum laude
HuaLei Shelley Zhang[1, 2], Christopher Rischpler[1], Nicolas Langwieser[1], Carmel Hayes[3], Anja Batrice[1], Tareq Ibrahim[1], Karl-Ludwig Laugwitz[1], Markus Schwaiger[1], Stephan G. Nekolla[1]
[1]Klinikum rechts der Isar der Technischen Universitaet München, Muenchen, Bayern, Germany; [2]Brigham and Women's Hospital, Boston, MA, United States; [3]Siemens Medical Solutions, Erlangen, Bayern, Germany

11:30 **0577.** ***in vivo* Fluorine-19 MRI at 3 Tesla to Visualize Myocardial Infarction Inflammation in a Porcine Model**
Jia Zhong[1, 2], David Schwartzman[3], Claudiu Schirda[4], Anthony Balducci[5], Brooke Helfer[5], Amy Wesa[5], Eric T. Ahrens[1, 2]
[1]Department of Biological Sciences, Carnegie Mellon University, Pittsburgh, PA, United States; [2]The Pittsburgh NMR Center for Biomedical Research, Carnegie Mellon University, Pittsburgh, PA, United States; [3]Cardiology, University of Pittsburgh School of Medicine, Pittsburgh, PA, United States; [4]Radiology, University of Pittsburgh School of Medicine, Pittsburgh, PA, United States; [5]Celsense Inc, Pittsburgh, PA, United States

11:42 **0578.** **Human Cardiac ^{31}P Magnetic Resonance Spectroscopy at 7 Tesla**
ISMRM MERIT AWARD magna cum laude
Christopher T. Rodgers[1], William T. Clarke[2], Carl Snyder[3], University of Minnesota University of Minnesota Vaughan[3], Stefan Neubauer[1], Matthew D. Robson[1]
[1]Univ Oxford, Oxford, United Kingdom; [2]University of Oxford, Oxford, United Kingdom; [3]CMRR, Univ Minnesota, Minneapolis, MN, United States

11:54 **0579.** **Noninvasive Assessment of Cardiac Work and CK Energy Supply in Healthy and Failing Human Hearts**
Refaat E. Gabr[1], AbdEl-Monem M. El-Sharkawy[1], Michael Schär[1, 2], Robert G. Weiss, [1,3], Paul A. Bottomley[1]
[1]Division of MR Research, Department of Radiology, Johns Hopkins University, Baltimore, MD, United States; [2]Philips Healthcare, Cleveland, OH, United States; [3]Cardiology, Johns Hopkins University, Baltimore, MD, United States

12:06 **0580.** **2D CINE SSFP Imaging at 7.0T Using 8-Channel Bowtie Antenna Transceiver Arrays: A Cardiac MR Feasibility Study**
ISMRM MERIT AWARD magna cum laude
Oliver Kraus[1], Matthias Alexander Dieringer[1, 2], Fabian Hezel[1], Lukas Winter[1], Andreas Graessl[1], Celal Oezerdem[1], Thoralf Niendorf[1, 2]
[1]Berlin Ultrahigh Field Facility (B.U.F.F.), Max-Delbrueck Center for Molecular Medicine, Berlin, Germany; [2]Cardiovascular Magnetic Resonance, Experimental and Clinical Research Center, A joint cooperation between Charité Medical Faculty and Max-Delbrueck Center for Molecular Medicine, Berlin, Germany

12:18 **0581.** **Dynamics of the Fiber Architecture Matrix in the Human Heart *In Vivo***
Choukri Mekkaoui[1], Sonia Nielles-Vallespin[2], Marcel Parolin Jackowski[3], Timothy G. Reese[4], Peter David Gatehouse[2], David N. Firmin[5], David E. Sosnovik[4]
[1]Harvard Medical School - Massachusetts General Hospital - Athinoula A Martinos center for Biomedical, Boston, MA, United States; [2]CMR Unit, Royal Brompton Hospital, London, United Kingdom; [3]University of São Paulo, São Paulo, Brazil; [4]Harvard Medical School - Massachusetts General Hospital - Athinoula A Martinos center for Biomedical, Charlestown, MA, United States; [5]CMR Unit, Royal Brompton Hospital, London, United States

Perfusion & Permeability Measured with Contrast Agents

Room 151 AG 10:30-12:30 *Moderators:* Christopher Chad Quarles & Steven P. Sourbron

10:30 **0582.** **A Radial 3D GRE-EPI Pulse Sequence with k_z Blip Encoding for Whole-Brain Isotropic 3D Perfusion Using DSC-MRI Bolus Tracking with Sliding Window Reconstruction (3D RAZIR)**
Sumeeth Vijay Jonathan[1], Parmede Vakil[1], Yong Jeong[1], Sameer A. Ansari[2], Michael Hurley[2], Bernard R. Bendok[3], Timothy J. Carroll[1, 2]
[1]Biomedical Engineering, Northwestern University, Chicago, IL, United States; [2]Radiology, Northwestern University, Chicago, IL, United States; [3]Neurological Surgery, Northwestern University, Chicago, IL, United States

10:42 **0583.** **High Resolution Dynamic Susceptibility Contrast Perfusion Imaging Using Multi-Echo Spirals and Temporal Compressed Sensing-Based Reconstruction**
Julia V. Velikina[1], Youngkyoo Jung[2], Aaron A. Field[3], Alexey A. Samsonov[3]
[1]Medical Physics, University of Wisconsin - Madison, Madison, WI, United States; [2]Radiology, Wake Forest University, Winston-Salem, NC, United States; [3]Radiology, University of Wisconsin - Madison, Madison, WI, United States

10:54 **0584.** **Slice Accelerated EPI for Dynamic-Susceptibility Contrast Enhanced (DSC) MRI**
Dingxin Wang[1, 2], Charles G. Cantrell[3], Bruce S. Spottiswoode[4], Vibhas Deshpande[5], Timothy J. Carroll[3], Keith A. Heberlein[6]
[1]Siemens Medical Solution USA, Inc., Minneapolis, MN, United States; [2]Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, MN, United States; [3]Department of Radiology, Northwestern University, Chicago, IL, United States; [4]Siemens Medical Solutions USA, Inc., Chicago, IL, United States; [5]Siemens Medical Solutions USA, Inc., Austin, TX, United States; [6]Siemens Healthcare USA, Charlestown, MA, United States

11:06 **0585.** **Optimized Processing of Quantitative Susceptibility Mapping-Based Gadolinium Perfusion MRI: Correction of Bulk Susceptibility Effects and Comparison of Arterial Input Function Selection from &[Delta]R_2^* and QSM Data**
ISMRM MERIT AWARD magna cum laude
David Bonekamp[1], Xu Li[1, 2], Richard Leigh[3], Peter C.M. van Zijl[1, 2], Peter B. Barker[1, 2]
[1]The Russell H. Morgan Department of Radiology and Radiological Science, Johns Hopkins University, Baltimore, MD, United States; [2]FM Kirby Research Center for Functional Brain Imaging, Kennedy Krieger Institute, Baltimore, MD, United States; [3]Neurology, Johns Hopkins University, Baltimore, MD, United States

11:18 **0586.** **The Choice of Arterial Input Function in Perfusion-Weighted MR Imaging - Size Matters in Terms of Saturation-Like Effects**
Peter Brunecker[1], Ann-Christin Ostwaldt[1], Ivana Galinovic[1], Jochen B. Fiebach[1], Martin Ebinger[1, 2]
[1]Center for Stroke Research Berlin (CSB), Charité - Universitätsmedizin Berlin, Berlin, -, Germany; [2]Klinik und Poliklinik Hochschulambulanz für Neurologie, Charité - Universitätsmedizin Berlin, Berlin, -, Germany

11:30 **0587.** ***in vivo* Assessment of the Tissue Cellularity Index (TCI) in Brain Tumors Using Multi-Echo DSC-MRI**

ISMRM MERIT AWARD magna cum laude

Natenael B. Semmineh[1], Jack T. Skinner[1], Christopher C. Quarles[1]
[1]Institute of Imaging Science, Vanderbilt University, Nashville , TN, United States

11:42 **0588.** **Combined Spin and Gradient Echo Imaging Following Injection of USPIOs in Humans**

ISMRM MERIT AWARD magna cum laude

Thomas Christen[1], Deqiang Qiu[1], Wendy W. Ni[1], Heiko Schmiedeskamp[1], Roland Bammer[1], Michael E. Moseley[1], Greg Zaharchuk[1]
[1]Radiology, Stanford University, Stanford, CA, United States

11:54 **0589.** **Determination of the Vascular Input Function Using Magnitude or Phase-Based MRI: Influence on Dynamic Contrast-Enhanced MRI Model Parameters in Carotid Plaques**

Raf van Hoof[1, 2], Martine Truijman[1, 3], Evelien Hermeling[1, 2], Robert J. van Oostenbrugge, [2,4], R.J. van der Geest[5], A.H. Schreuder[6], A.G.G.C. Korten[7], N.P. van Orshoven[8], Be Meens[9], M.J.A.P. Daemen, [2,10], Joachim E. Wildberger[1, 2], Walter H. Backes[1], M.E. Kooi[1, 2]
[1]Radiology, Maastricht University Medical Center, Maastricht, Netherlands; [2]Cardiovascular Research Institute Maastricht (CARIM), Maastricht University, Maastricht, Netherlands; [3]Clinical Neurophysiology, Maastricht University Medical Center, Maastricht, Netherlands; [4]Neurology, Maastricht University Medical Center, Maastricht, Netherlands; [5]Radiology, Leiden University Medical Center, Leiden, Netherlands; [6]Neurology, Atrium Medical Centre, Heerlen, Netherlands; [7]Neurology, Laurentius Medical Centre, Roermond, Netherlands; [8]Neurology, Orbis Medical Centre, Sittard, Netherlands; [9]Neurology, VieCuri Medical Centre, Venlo, Netherlands; [10]Pathology, Academic Medical Centre, Amsterdam, Netherlands

12:06 **0590.** **Investigation of the Necessity of Pre-Contrast T1-Determination in DCE MRI; Simulations and Clinical Data**

Christopher Larsson[1], Magne Kleppestø[1], Atle Bjørnerud[1, 2]
[1]The Intervention Centre, Oslo University Hospital, Rikshospitalet, Oslo, Norway; [2]Department of Physics, University of Oslo, Oslo, Norway

12:18 **0591.** **Free-Breathing Vs. Breath-Hold Pulmonary Perfusion MRI: Quantification and Reproducibility**

Michael Ingrisch[1], Daniel Maxien[1], Felix Schwab[1], Maximilian F. Reiser[1], Konstantin Nikolaou[1], Olaf Dietrich[1]
[1]Institute for Clinical Radiology, Ludwig-Maximilians-University Hospital, Munich, Germany

Emerging Body MR Techniques

Room 155 EF 10:30-12:30 *Moderators:* Bobby Kalb & Dow-Mu Koh

10:30 **0592.** **Whole Body Quantitative, Multi-Parametric Characterisation of Tumour Heterogeneity for Response Evaluation**

ISMRM MERIT AWARD summa cum laude

Mihaela Rata[1], Nina Tunariu, [2], Dow M. Koh, Johann S. de Bono[3], Martin O. Leach, David John Collins, Matthew D. Blackledge[1]
[1] CR-UK and EPSRC Cancer Imaging Centre,, Institute of Cancer Research/ Royal Marsden Hospital, Sutton, Surrey, United Kingdom; [2]Drug Development Unit, Institute of Cancer Research/ Royal Marsden Hospital, Sutton, Surrey, United Kingdom; [3]Drug Development Unit, , Institute of Cancer Research/ Royal Marsden Hospital, Sutton, Surrey, United Kingdom

10:42 **0593.** **Accelerated Diffusion Weighted Imaging in the Liver with Blipped CAIPIRINHA Based Simultaneous Multi Slice Acquisition**

Himanshu Bhat[1], Juan Cevasco[2], Daniel Cornfeld[3], Ralph Strecker[4], Bruce S. Spottiswoode[5], Frank H. Miller[6], Charles Fasanati[6], Stephen F. Cauley[7], Kawin Setsompop[7], Keith A. Heberlein[8]
[1]Siemens Medical Solutions, Charlestown, MA, United States; [2]Centro de Diagnósticos Brasil (CDB), Sao Paulo, Brazil; [3]Department of Diagnostic Radiology, Yale-New Haven Hospital, New Haven, CT, United States; [4]Siemens Healthcare, Sao Paulo, Brazil; [5]Siemens Medical Solutions USA Inc., Chicago, IL, United States; [6]Department of Radiology, Northwestern University Feinberg School of Medicine, Chicago, IL, United States; [7]A. A. Martinos Center for Biomedical Imaging, Department of Radiology, Massachusetts General Hospital, Charlestown, MA, United States; [8]Siemens Healthcare USA, Charlestown, MA, United States

10:54 **0594.** **Clinical Utility of Endovaginal MRI at 3T with a Zonal Oblique Multislice (Zoom) Diffusion-Weighted Technique for Selecting Patients with Carcinoma of the Cervix for Fertility Sparing Surgery**

K Downey[1], M. Jafar[1], S Hazell[2], A D. Attygalle[2], Veronica A. Morgan[1], M Schmidt[1], T. E. Ind[3], D. P. Barton[3], J. H. Shepherd[3], Nandita M. deSouza[1]
[1]Magnetic Resonance Imaging, Institute of Cancer Research, Surrey, United Kingdom; [2]Histopathology, The Royal Marsden Hospital, London, United Kingdom; [3]Gynecological Surgery, The Royal Marsden Hospital, London, United Kingdom

11:06 **0595.** **Comparison of SUV to Whole Body Restricted Diffusion – a Study Using Simultaneous PET-MRI in Patients with Cancer**
Ronald Borra[1], Shanaugh McDermott[2], Onofrio Catalano[3], Ciprian Catana[4], Bruce R. Rosen[1], Alexander R. Guimaraes[1, 2]
[1]Radiology; Massachusetts General Hospital, Martinos Center for Biomedical Imaging, Charlestown, MA, United States; [2]Radiology, Massachusetts General Hospital; Division of Abdominal Imaging and Interventional Radiology, Boston, MA, United States; [3]Radioloy, Naples General Hospital, Naples, Italy; [4]Radiology; Massachusetts General Hospital, Massachusetts General Hospital, Charlestown, MA, United States

11:18 **0596.** **Early DWI in Assessing Tumor Response in Locally Advanced Cervical Cancer: Is There a Role in 3D MRI Guided Brachytherapy?**
Keyanoosh Hosseinzadeh[1], Amir A. Borhani[1], Sushil Beriwal[2], Peyman Kabolizadeh[2]
[1]Radiology, University of Pittsburgh Medical Center, Pittsburgh, PA, United States; [2]Radiation Oncology, University of Pittsburgh Medical Center, Pittsburgh, PA, United States

11:30 **0597.** **Single-Voxel Diffusion-Weighted MR Spectroscopy for Fat-Corrected ADC Measurement**
ISMRM MERIT AWARD magna cum laude
Valentina Taviani[1], Diego Hernando[2], Scott B. Reeder[1, 3]
[1]Radiology, University of Wisconsin, Madison, WI, United States; [2]Radiology, University of Wisconsin-Madison, Madison, WI, United States; [3]Medical Physics, University of Wisconsin, Madison, WI, United States

11:42 **0598.** ***in vivo* Non-Invasive Measurement of Altered Hepatic Glutathione Concentration and Synthesis Rate in Acute and Chronic Models of Liver Oxidative Stress**
Peter E. Thelwall[1, 2], John Skamarauskas[1, 2], Daniel Vidler,[23], Michael Dunn,[23], Fiona Oakley[2], Michael P. Gamcsik[4]
[1]Newcastle Magnetic Resonance Centre, Newcastle University, Newcastle upon Tyne, Tyne and Wear, United Kingdom; [2]Institute of Cellular Medicine, Newcastle University, Newcastle upon Tyne, Tyne and Wear, United Kingdom; [3]Medical Toxicology Centre, Newcastle University, Newcastle upon Tyne, Tyne and Wear, United Kingdom; [4]Joint Department of Biomedical Engineering, University of North Carolina, Raleigh, NC, United States

11:54 **0599.** **Intramolecular Zero-Quantum-Coherence 2D NMR Spectroscopy of Lipids in Human Breast Tissue at 7 T**
Robin A. de Graaf[1], Peter R. Luijten[2], Dennis W. J. Klomp[2], Vincent Oltman Boer[3]
[1]Yale University, MRRC, New Haven, CT, United States; [2]UMC Utrecht, Utrecht, Netherlands; [3]University Medical Center Utrecht, Utrecht, Netherlands

12:06 **0600.** **High Resolution 3D Abdominal T_1 Mapping in One Breath-Hold Using the Look-Locker Method and Non-Cartesian GRAPPA Acceleration**
ISMRM MERIT AWARD summa cum laude
Yong Chen[1], Gregory R. Lee[1], Katherine L. Wright[2], Mark A. Griswold[1, 2], Nicole Seiberlich[2], Vikas Gulani[1, 2]
[1]Department of Radiology, University Hospitals of Cleveland, Cleveland, OH, United States; [2]Department of Biomedical Engineering, Case Western Reserve University, Cleveland, OH, United States

12:18 **0601.** **3D High Spatiotemporal Resolution Quantitative Liver Perfusion Imaging Using a Stack-Of-Spirals Acquisition and Through-Time Non-Cartesian GRAPPA Acceleration**
ISMRM MERIT AWARD summa cum laude
Yong Chen[1], Gregory R. Lee[1], Katherine L. Wright[2], Mark A. Griswold[1, 2], Nicole Seiberlich[2], Vikas Gulani[1, 2]
[1]Department of Radiology, University Hospitals of Cleveland, Cleveland, OH, United States; [2]Department of Biomedical Engineering, Case Western Reserve University, Cleveland, OH, United States

Compressed Sensing: Novel Methods & Applications

Room 250 BCEF 10:30-12:30 *Moderators:* Justin P. Haldar & Lei Leslie Ying

10:30 **0602.** **Reference Histogram Constrained Artifact Suppression (RHiCA) for Incoherently Undersampled Magnetic Resonance Imaging**
Thomas Gaass[1], Guillaume Potdevin[2], Grzegorz Bauman[3, 4], Peter Noël[5], Axel Haase[1]
[1]Zentralinstitut für Medizintechnik, Technische Universität München, Garching, Germany; [2]Department of Physics, Technische Universität München, Garching, Germany; [3]Department of Medical Physics, German Cancer Research Center, Heidelberg, Germany; [4]Department of Medical Physics, University of Wisconsin, Madison, WI, United States; [5]Department of Diagnostic and Interventional Radiology, Technische Universität München, Munich, Germany

10:42 **0603.** **A Unified Tensor Regression Framework for Calibrationless Dynamic, Multi-Channel MRI Reconstruction**
ISMRM MERIT AWARD summa cum laude
Joshua D. Trzasko[1], Armando Manduca[1]
[1]Mayo Clinic, Rochester, MN, United States

10:54 **0604.** **Accelerating Encoded Simultaneous Multi Slice MRI with Compressed Sensing**



Sagar Mandava[1], Jean-Philippe Galons[2], Ali Bilgin[1, 3]
[1]Electrical and Computer Engineering, University of Arizona, Tucson, AZ, United States; [2]Medical Imaging, University of Arizona, Tucson, AZ, United States; [3]Biomedical Engineering, University of Arizona, Tucson, AZ, United States

11:06 **0605.** **Compressed Sensing ASL Perfusion Imaging Using Adaptive Nonlinear Sparsifying Transforms**



Yihang Zhou[1, 2], Yanhua Wang[1, 2], Jie Zheng[3], Leslie Ying[1, 2]
[1]Department of Electrical Engineering, University at Buffalo, Buffalo, NY, United States; [2]Department of Biomedical Engineering, University at Buffalo, Buffalo, NY, United States; [3]Department of Radiology, Washington University, St. Louis, MO, United States

11:18 **0606.** **Compressed Sensing Reconstruction with an Additional Respiratory-Phase Dimension for Free-Breathing Imaging**



Li Feng[1, 2], Jing Liu[3], Kai Tobias Block[4], Jian Xu[5], Leon Axel[1, 2], Daniel K. Sodickson[1, 2], Ricardo Otazo[1, 2]
[1]Center for Biomedical Imaging, New York University, School of Medicine, New York, United States; [2]Sackler Institute of Graduate Biomedical Sciences, New York University, School of Medicine, New York, United States; [3]Radiology and Biomedical Imaging, University of California, San Francisco, San Francisco, CA, United States; [4]Center for Biomedical Imaging, NYU Langone Medical Center, New York, United States; [5]Siemens Medical Solutions, New York, United States

11:30 **0607.** **High-Frame-Rate Full-Vocal-Tract Imaging Based on the Partial Separability Model and Volumetric Navigation**

Maojing Fu[1, 2], Bo Zhao[1, 2], Joseph Holtrop, [2,3], Jamie Perry[4], David Kuehn[5], Zhi-Pei Liang[1, 2], Bradley P. Sutton, [2,3]
[1]Department of Electrical and Computer Engineering, University of Illinois at Urbana-Champaign, Urbana, IL, United States; [2]Beckman Institute for Advanced Science and Technology, University of Illinois at Urbana-Champaign, Urbana, IL, United States; [3]Department of Bioengineering, University of Illinois at Urbana-Champaign, Urbana, IL, United States; [4]Department of Communication Sciences and Disorders, East Carolina University, Greenville, NC, United States; [5]Department of Speech and Hearing Science, University of Illinois at Urbana-Champaign, Urbana, IL, United States

11:42 **0608.** **Ultra-Fast Dynamic MRI for Lung Tumor Tracking Based on Compressed Sensing**

Manoj K. Sarma[1], M. Albert Thomas[1], Peng Hu[2], Daniel B. Ennis[2], Ke K. Sheng[3]
[1]Radiological Sciences, UCLA School of Medicine, Los Angeles, CA, United States; [2]Radiological Sciences, University of California Los Angeles, Los Angeles, CA, United States; [3]Radiation Oncology, UCLA School of Medicine, Los Angeles, CA, United States

11:54 **0609.** **Whole Heart Motion Corrected Compressed Sensing for 3D Free Breathing Dynamic Cardiac MRI**

Muhammad Usman[1], Mariya Doneva[2], Tobias Schaeffter[1], Claudia Prieto[1, 3]
[1]King's College London, London, United Kingdom; [2]Philips Research Europe, Hamburg, Germany; [3]Pontificia Universidad Catolica de Chile, Santiago, Chile

12:06 **0610.** **Compressive Diffusion MRI – Part 1: Why Low-Rank?**

Hao Gao[1, 2], Longchuan Li[3], Xiaoping P. Hu[3]
[1]Department of Mathematics and Computer Science, Emory University, Atlanta, GA, United States; [2]Department of Radiology and Imaging Sciences, Emory University, Atlanta, GA, United States; [3]Department of Biomedical Engineering, Emory University and Georgia Institute of Technology, Atlanta, GA, United States

12:18 **0611.** **Accelerating Compressed-Sensing-Based DCE-MR Image Reconstruction with GPU**

Jiangsheng Yu[1], Yiqun Xue[2], Hee Kwon Song[2]
[1]Toshiba Medical Research Institute USA, Cleveland, OH, United States; [2]University of Pennsylvania, Philadelphia, PA, United States

Advanced Imaging for Dementia

Room 251 BCEF 10:30-12:30 *Moderators:*Marco Essig & Yukio Miki

10:30 **0612.** **Cognitive Reserve Modulates the Defaul Mode Network in Patients with MCI and AD**

Marco Bozzali[1], Claire Dowling[2], Laura Serra[3], Barbara Spano[3], Carlo Caltagirone[4, 5], Mara Cercignani[6]
[1]Neuroimaging Laboratory, Santa Lucia Foundation, Rome, Italy; [2]School of Life Sciences, University of Sussex, Brighton, United Kingdom; [3]Neuroimaging Laboratory, IRCSS Santa Lucia, Rome, Italy; [4]Dept of Clinical and Behavioural Neurology, IRCCS Santa Lucia Foundation, Rome, Italy; [5]Dept. of NeuroScience, University of Rome "Tor Vergata", Rome, Italy; [6]CISC, Brighton & Sussex Medical School, Brighton, United Kingdom

10:42 **0613. Structural Neuroimaging Phenotype of Dementia in Adult Survivors of Childhood ALL**

Wilburn E. Reddick[1], John O. Glass[1], Nan Zhang[2], Ronald C. Peterson[3], Larry E. Kun[1], Ching-Hon Pui[4], Melissa M. Hudson[4], Leslie L. Robison[5], Kevin R. Krull[5], Gregory T. Armstrong[5]

[1]Radiological Sciences, St. Jude Children's Research Hospital, Memphis, TN, United States; [2]Biostatistics, St. Jude Children's Research Hospital, Memphis, TN, United States; [3]Neurology, The Mayo Clinic, Rochester, MN, United States; [4]Oncology, St. Jude Children's Research Hospital, Memphis, TN, United States; [5]Epidemiology & Cancer Control, St. Jude Children's Research Hospital, Memphis, TN, United States

10:54 **0614. Free-Water Correction Reveals Wide Spread Differences Between Stable and Converting MCI Subjects**

ISMRM MERIT AWARD magna cum laude

Klaus Hermann Fritzsche[1, 2], Carl-Fredrik Westin[1], Hans-Peter Meinzer[2], Bram Stieltjes[3], Ofer Pasternak[1]

[1]Laboratory of Mathematics in Imaging, Harvard Medical School, Boston, MA, United States; [2]Medical and Biological Informatics, German Cancer Research Center, Heidelberg, BW, Germany; [3]Quantitative imaging based disease characterization, German Cancer Research Center, Heidelberg, BW, Germany

11:06 **0615. ROI-Based Analysis of Diffusional Kurtosis Estimates for Identification of MCI-Patients at High Risk for Conversion to Alzheimers Disease in a Heterogeneous MCI Cohort**

Daniel Svärd[1, 2], Filip Szczepankiewicz[3], Jimmy Lätt[2], Markus Nilsson[4], Sebastian Palmqvist[5, 6], Katarina Nägga[5], Oskar Hansson[5, 6], Danielle van Westen[1, 2]

[1]Diagnostic Radiology, Clinical Sciences Lund, Lund University, Lund, -, Sweden; [2]Center for Medical Imaging and Physiology, Skane University Hospital, Lund, Lund, -, Sweden; [3]Medical Radiation Physics, Lund University, Lund, -, Sweden; [4]Lund BioImaging Center, Lund University, Lund, -, Sweden; [5]Clinical Memory Research Unit, Department of Clinical Sciences Malmö, Malmö, -, Sweden; [6]Department of Neurology, Skane University Hospital Lund, Lund, -, Sweden

11:18 **0616. Parametric MRI Reveals Vascular Effects of Antibodies to the &[alpha]1-Adrenergic Receptor by Demonstrating a Reduction in Relative Cerebral Blood Volume (RCBV)**

Andreas Pohlmann[1], Babette Dieringer[1], Peter Karczewski[2], Natali Wisbrun[3], Irina Palatnik[1], Christina Eichhorn[4], Petra Hempel[2], Rudolf Kunze[5], Marion Bimmler[6], Thoralf Niendorf[1, 7]

[1]Berlin Ultrahigh Field Facility (B.U.F.F.), Max-Delbrueck Center for Molecular Medicine, Berlin, Germany; [2]E.R.D.E.-AAK-Diagnostik GmbH, Berlin, Germany; [3]Animal Facilities, Max Delbrück Center for Molecular Medicine, Berlin, Germany; [4]IT Department, Max-Delbrueck Center for Molecular Medicine, Berlin, Germany; [5]E.R.D.E. e.V., Berlin, Germany; [6]Autoimmunity and G Protein-Coupled Receptors, Max Delbrück Center for Molecular Medicine, Berlin, Germany; [7]Experimental and Clinical Research Center, a cooperation between the Charité Medical Faculty and the Max Delbrück Center for Molecular Medicine, Berlin, Germany

11:30 **0617. Assessing Arterial Spin Labeled Perfusion MRI as an Early-Alzheimer's Disease Marker Using the ADNI 2 Data**

Ze Wang[1], Sandhitsu Das[2], David Wolk[3], John A. Detre[3]

[1]Psychiatry, University of Pennsylvania, Philadelphia, PA, United States; [2]Radiology, University of Pennsylvania, Philadelphia, PA, United States; [3]Neurology, University of Pennsylvania, Philadelphia, PA, United States

11:42 **0618. Regional CBF in Patients with AD and MCI: Effect of Apolipoprotein Epsilon4 Allele**

Geon-Ho Jahng[1], Kyung-Mi Lee[2], Sun-Mi Kim[3], Min-Ji Kim[3], Eo-Jin Hwang[3], Hyug-Gi Kim[4], Hak-Young Rhee[5], Chang-Woo Ryu[1], Wook Jin[1], Dal-Mo Yang[1], Ji Seon Park[6]

[1]Radiology, Kyung Hee University Hospital at Gangdong, Kyung Hee University, Seoul, Korea; [2]Radiology, Graduate College of of Medicine, Kyung Hee University, Seoul, Korea; [3]Radiology, Kyung Hee University Hospital at Gangdong, Seoul, Korea; [4]Biomedical Engineering, Graduate College of Electronics and Information, Kyung Hee University, Youngin, Gyeonggi-do, Korea; [5]Neurology, Kyung Hee University Hospital at Gangdong, Kyung Hee University, Seoul, Korea; [6]Radiology, Kyung Hee University Hospital, Kyung Hee University, Seoul, Korea

11:54 **0619. Characterization of CMRO2, Resting CBF, and Cerebrovascular Reactivity in Patients with Very Early Stage of Alzheimer's Disease**

ISMRM MERIT AWARD summa cum laude

Binu Panjikattil Thomas[1, 2], Min Sheng[1], Benjamin Tseng[3], Peiying Liu[1], Kristin Martin-Cook[4], Munro Cullum[5], Myron Weiner[5], Benjamin Levine[3], Rong Zhang[3], Hanzhang Lu[1]

[1]Advanced Imaging Research Center, University of Texas Southwestern Medical Center, Dallas, TX, United States; [2]Department of Bioengineering, University of Texas Southwestern Medical Center/University of Texas at Arlington, Arlington, TX, United States; [3]Institute of Exercise and Environmental Medicine, Texas Health Presbyterian Hospital, Dallas, TX, United States; [4]Department of Neurology and Neurotherapeutics, University of Texas Southwestern Medical Center, Dallas, TX, United States; [5]Department of Psychiatry, University of Texas Southwestern Medical Center, Dallas, TX, United States

12:06 **0620.** **Hippocampal Volumes in Subjects at Risk of Alzheimer's Disease with a New Registration Template**
Bernd Merkel[1, 2], Nicola T. Lautenschlager[3], Christopher Steward[24], Lucy Vivash[5], Bob Tran[4], David Ames[6], Kay Cox[7], Elizabeth Cyarto[6], Kathryn Ellis[3], Pramit Phal[4], Matthew Sharman[8], Cassandra Szoeke[9], Patricia M. Desmond[24]

[1]University of Melbourne , Parkville, Victoria, Australia; [2]Radiology, Royal Melbourne Hospital, Parkville, Victoria, Australia; [3]University of Melbourne, Kew, Victoria, Australia; [4]University of Melbourne, Parkville, Victoria, Australia; [5]Medicine, University of Melbourne, Parkville, Victoria, Australia; [6]National Ageing Research Institute, Parkville, Victoria, Australia; [7]University of Western Australia, Perth, Western Australia, Australia; [8]Edith Cowan University, Joondalup, Western Australia, Australia; [9]CSIRO, Parkville, Victoria, Australia

12:18 **0621.** **Automatic Detection of Cerebral Microbleed in SWI Using Radon Transform**
Amir Fazlollahi[1, 2], Fabrice Meriaudeau[2], Luca Giancardo[23], Patricia M. Desmond[4], Victor L. Villemagne[5], Christopher C. Rowe[5], Paul Yates[5], Olivier Salvado[1], Bourgeat Pierrick[1], the AIBL Research Group[6]

[1]The Australian E-Health Research Centre-BioMedIA, Brisbane, QLD, Australia; [2]Laboratoire Le2I, Université de Bourgogne, Le Creusot, France; [3]Istituto Italiano di Tecnologia, Genoa, Italy; [4]Department of Radiology, The Melbourne Brain Centre at Royal Melbourne Hospital, University of Melbourne, Melbourne, VIC, Australia; [5]Department of Nuclear Medicine and Centre for PET, Austin Hospital, Melbourne, VIC, Australia; [6]http://www.aibl.csiro.au/, Australia, Australia

Advanced Neurovascular MRA

Room 255 EF 10:30-12:30 *Moderators:* Brian K. Rutt & David Saloner

10:30 **0622.** **Cerebrospinal Arterial and Venous Blood Flow Variability Assessed with 4D Flow MRI**
Eric Mathew Schrauben[1], Kevin M. Johnson[1], Jason Huston[2], Aaron Field[2], Oliver Wieben[1, 2]

[1]Medical Physics, University of Wisconsin - Madison, Madison, WI, United States; [2]Radiology, University of Wisconsin - Madison, Madison, WI, United States

10:42 **0623.** **Comparison of Vessel-Encoded Arterial Spin Labeling Dynamic Angiography with X-Ray Digital Subtraction Angiography in Patients with Vertebrobasilar Disease**
ISMRM MERIT AWARD magna cum laude
Thomas W. Okell[1], Ursula G. Schulz[2], Michael A. Chappell[13], Meritxell Garcia[4], Wilhelm Küker[2], Peter Jezzard[1]

[1]FMRIB Centre, Nuffield Department of Clinical Neurosciences, University of Oxford, Oxford, United Kingdom; [2]Stroke Prevention Research Unit, Nuffield Department of Clinical Neurosciences, University of Oxford, Oxford, United Kingdom; [3]IBME, Department of Engineering, University of Oxford, Oxford, United Kingdom; [4]Division of Diagnostic & Interventional Neuroradiology, Department of Radiology & Nuclear Medicine, University of Basel Hospital, Basel, Switzerland

10:54 **0624.** **Time of Arrival Enhanced 4D MRA**
Yijing Wu[1], Jane Maksimovic[2], Patrick Turski[2], Charles A. Mistretta[3]

[1]Medical Physics, University of Wisconsin, Madison, WI, United States; [2]Radiology, University of Wisconsin, Madison, WI, United States; [3]Medical Physics and Radiology, University of Wisconsin, Madison, WI, United States

11:06 **0625.** **Non-Contrast-Enhanced High-Temporal-Resolution 4D MRA with an Acquisition Window Covering Two Cardiac Cycles: Assessment of Arteriovenous Malformations in the Brain**
ISMRM MERIT AWARD magna cum laude
Hélène Raoult[1, 2], Elise Bannier[2], Benjamin Robert[3], Peter Schmitt[4], Jean-Yves Gauvrit[1, 2]

[1]Neuroradiology, University Hospital, Rennes, France; [2]Unité VISAGES U746 INSERM-INRIA, IRISA UMR CNRS 6074, University of Rennes, Rennes, France; [3]Siemens S.A.S., Saint Denis, France, Metropolitan; [4]Siemens AG, MR Application & Workflow Development, Erlangen, Germany

11:18 **0626.** **HYPR FLOW Dynamic MR Angiography in Intracrianal Arterio-Venous Malformations: Comparison to TRICKS MR Angiography and Catheter Angiography.**
Raphaël Dautry[1], Pauline Roca[1], Myriam Edjlali-Goujon[1], Cécile Rabrait[2], Kevin M. Johnson[3], Yijing Wu[3], Olivier Naggara[1], Christine Rodriguez[1], Fawaz Alshareef[1], Olivier Wieben[3], Catherine Oppenheim[1], Jean-François Meder[1]

[1]Neuroradiology, Centre hospitalier Sainte Anne, Paris, France; [2]GE healthcare, Vélizy Villacoublay, France; [3]Departments of Medical Physics and Radiology, University of Wisconsin School of Medicine and Public Health, Madison, WI, United States

11:30 **0627.** **Natural Course of Intracranial Vessel Wall Lesions in Stroke- And TIA Patients at 7.0 Tesla MRI**
ISMRM MERIT AWARD magna cum laude
Anja G. van der Kolk[1], Jaco J.M. Zwanenburg[1], Manon Brundel[2], Geert Jan Biessels[2], Fredy Visser[1, 3], Peter R. Luijten[1], Jeroen Hendrikse[1]

[1]Department of Radiology, University Medical Center Utrecht, Utrecht, Netherlands; [2]Department of Neurology, University Medical Center Utrecht, Utrecht, Netherlands; [3]Philips Healthcare, Best, Netherlands

11:42 **0628. 7 Tesla MRA Enables Differentiation Between Intracranial Aneurysms and Infundibula**
Maarten J. Versluis[1, 2], Matthias J.P. van Osch[1, 2], Marianne A.A. van Walderveen[1], Marieke J.H. Wermer[3]
[1]Radiology, Leiden University Medical Center, Leiden, Netherlands; [2]C.J. Gorter Center for High FIeld MRI, Leiden University Medical Center, Leiden, Netherlands; [3]Neurology, Leiden University Medical Center, Leiden, Netherlands

11:54 **0629. Cerebral Aneurysm Wall Permeability, a New Parameter for Assessing Ruptue Risk**
Parmede Vakil[1], Sameer A. Ansari, Marie Wasliewski, Susanne Schnell, Hunt Batjer[2], Christopher S. Eddleman[2], Bernard R. Bendok[3], Michael Markl, Timothy J. Carroll[1]
[1]Biomedical Engineering and Radiology, Northwestern University, Chicago, IL, United States; [2]Neurosurgery, University of Texas Southwestern, Dallas, TX, United States; [3]Neurosurgery, Northwestern University, Chicago, IL, United States

12:06 **0630. Comprehensive Vessel Wall Imaging for Concomitant Extracranial and Intracranial Atherosclerotic Plaques in Symptomatic Patients Using Fast 3D Multicontrast Black-Blood MR Imaging Sequences**
Xihai Zhao[1], Rui Li[1], Jinnan Wang[2], Le He[1], Zechen Zhou[1], Xiping Gong[3], Donghua Mi[3], Xingquan Zhao[3], Chun Yuan[1, 4]
[1]Center for Biomecial Imaging research & Department of Biomedical Engineering, Tsinghua University, Beijing, China; [2]2.Philips Research North America, Briarcliff Manor, NY, United States; [3]Department of Neurology, Tiantan Hospital, Capical Medical University, Beijing, China; [4]Department of Radiology, University of Washington, Seattle, WA, United States

12:18 **0631. Wall Shear Stress Distribution in Carotid Artery Stenosis: Changes Pre- And Post-Intervention by Carotid Endarterectomy**
Michael Markl[1], Sebastian Berg[2], Alex J. Barker[1], J Schöllhorn[2], Martin Schumacher[2], Cornelius Weiller[2], Andreas Harloff[2]
[1]Northwestern University, Chicago, IL, United States; [2]University of Freiburg, Freiburg, Germany

Cartilage: Clinical & Translational

Room 355 BC 10:30-12:30 *Moderators:* Hollis G. Potter & Siegfried Trattnig

10:30 **0632. Cartilage T1ρ and T2 Quantification in ACL-Reconstructed Knees: A 2-Year Follow-Up**
Favian Su[1], Joan Hilton[2], Lorenzo Nardo[1], Samuel Wu[1], Fei Liang[1], Thomas M. Link[1], C. Benjamin Ma[3], Xiaojuan Li[1, 3]
[1]Musculoskeletal Quantitative Imaging Research, Department of Radiology and Biomedical Imaging, University of California, San Francisco (UCSF), San Francisco, CA, United States; [2]Department of Epidemiology and Biostatistics, University of California, San Francisco (UCSF), San Francisco, CA, United States; [3]Department of Orthopaedic Surgery, University of California, San Francisco (UCSF), San Francisco, CA, United States

10:42 **0633. Intra-Articular DGEMRIC: Contrast Concentration in Joint Cavity May Impact Cartilage T1 Measurements**
Wei Li[1], Martin Lazarus[1], Jason Koh[2], Ewa Gliwa[1], Pottumarthi Vara Prasad[1]
[1]Radiology, NorthShore University HealthSystem, Evanston, IL, United States; [2]Orthopaedic Surgery, NorthShore University HealthSystem, Evanston, IL, United States

10:54 **0634. Detection and Staging of Acetabular Cartilage Damage in Femoroacetabular Impingement Using DGEMRIC and T_2 Mapping**
Daniele Ascani[1], Catherine Petchprapa[2], James S. Babb[2], Michael P. Recht[2], Riccardo Lattanzi[1, 3]
[1]Radiology/Center for Biomedical Imaging, NYU Langone Medical Center, New York, NY, United States; [2]Radiology, NYU Langone Medical Center, New York, NY, United States; [3]The Sackler Institute of Graduate Biomedical Sciences, New York University School of Medicine, New York, NY, United States

11:06 **0635. Morphological and Biochemical Assessment of Repair Tissue After Chondrosphere-Based Autologous Chondrozyte Transplantation**
Benjamin Schmitt[1], Beser Ferzan Suezer[2], Patrik Zamecnik[3], Vladimir Jellus[4], Marco Essig[3], Siegfried Trattnig, Rainer Siebold[5]
[1]Department of Radiology, Medical University of Vienna, Vienna, Austria; [2]Atos Hospital Heidelberg, Heidelberg, BW, Germany; [3]German Cancer Research Center, Heidelberg, BW, Germany; [4]Healthcare Sector, Siemens AG, Erlangen, BY, Germany; [5]Center Hip-Knee-Foot Surgery, Atos Hospital Heidelberg, Heidelberg, BW, Germany

11:18 **0636. Multi-Component T2 Analysis of Articular Cartilage with Synovial Fluid Partial Volume Correction Using McDESPOT at 3.0T**
Fang Liu[1], Samuel A. Hurley[1], Alexey Samosonov[1], Andrew L. Alexander[1], Sean C. L. Deoni[2], Walter F. Block[1, 3], Richard Kijowski[4]
[1]Department of Medical Physics, University of Wisconsin-Madison, Madison, WI, United States; [2]Division of Engineering, Brown University, Providence, RI, United States; [3]Department of Biomedical Engineering, University of Wisconsin-Madison, Madison, WI, United States; [4]Department of Radiology, University of Wisconsin-Madison, Madison, WI, United States

11:30 **0637. High-Resolution Knee MRI Using Prospective Motion Correction for Quantification of Cartilage Compression Under in Situ Mechanical Loading**
Thomas Lange[1], Michael Herbst[1], Julian R. Maclaren[2], Cris Lovell-Smith[1], Kaywan Izadpanah[3], Maxim Zaitsev[1]
[1]Department of Radiology, University Medical Center Freiburg, Freiburg, Germany; [2]Department of Radiology, Stanford University, Stanford, CA, United States; [3]Department of Orthopedic and Trauma Surgery, University Medical Center Freiburg, Freiburg, Germany

11:42 **0638. Classification of Sodium MRI Data of Cartilage with Machine Learning and Logistic Regression**
Guillaume Madelin[1], James S. Babb[1], Ravinder R. Regatte[1]
[1]Radiology Department, New York University Langone Medical Center, New York, NY, United States

11:54 **0639. Longitudinal Clinical Evaluation of Cartilage and Meniscus UTE-T2* Following ACL Reconstruction**
Ashley A. Williams[1], Yongxian Qian[2], Constance R. Chu[1]
[1]Cartilage Restoration Center, University of Pittsburgh, Pittsburgh, PA, United States; [2]Radiology, University of Pittsburgh, Pittsburgh, PA, United States

12:06 **0640. MRI Is Predictive of Adverse Tissue Reaction in Failed Metal-On-Metal Hip Arthroplasty**
Alissa J. Burge[1], Danyal H. Nawabi[2], Stephanie Gold[1], Stephen Lyman[3], Douglas E. Padgett[2], Matthew F. Koff[1], Hollis G. Potter[1]
[1]Department of Radiology and Imaging, Hospital for Special Surgery, New York, NY, United States; [2]Department of Orthopaedic Surgery, Hospital for Special Surgery, New York, NY, United States; [3]Division of Epidemiology and Biostatistics, Hospital for Special Surgery, New York, NY, United States

12:18 **0641. *In Vivo* Comparison of Intravenous and Intra-Articular DGEMRIC and Delayed Quantitative CT Arthrography**
Jukka Hirvasniemi[1], Katariina A.M. Kulmala[2], Eveliina Lammentausta[3], Risto Ojala[4], Petri Lehenkari[5, 6], Alaaeldin Kamel[3], Jukka S. Jurvelin[2], Juha Töyräs[2, 7], Miika T. Nieminen[3, 4], Simo Saarakkala[1, 3]
[1]Department of Medical Technology, University of Oulu, Oulu, Finland; [2]Department of Applied Physics, University of Eastern Finland, Kuopio, Finland; [3]Department of Diagnostic Radiology, Oulu University Hospital, Oulu, Finland; [4]Department of Diagnostic Radiology, University of Oulu, Oulu, Finland; [5]Department of Anatomy and Cell Biology, University of Oulu, Oulu, Finland; [6]Department of Surgery, Oulu University Hospital, Oulu, Finland; [7]Department of Clinical Neurophysiology, Kuopio University Hospital, Kuopio, Finland

Pulmonary Imaging: From Mouse to Man

Room 355 EF 10:30-12:30 *Moderators:* Grzegorz Bauman & Jens Vogel-Claussen

10:30 **0642. Molecular MR Imaging of Pulmonary Fibrosis in a Mouse Model**
Peter Caravan[1], Yan Yang[1], Roshini Zachariah[2], David E. Sosnovik[1], Guangping Dai[1], Bryan Fuchs[2], Michael Lanuti[2]
[1]A. A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Charlestown, MA, United States; [2]Surgery, Massachusetts General Hospital, Boston, MA, United States

10:42 **0643. High-Resolution UTE MRI Longitudinal Non-Invasive Characterization of a Mouse Model of Chronic Asthma: From Inflammation to Bronchial Remodeling Assessment**
ISMRM MERIT AWARD summa cum laude
Andrea Bianchi[1], Annaig Ozier[1], Olga Ousova[1], Gérard Raffard[2], Yannick Crémillieux[1]
[1]Cardio-Thoracic Center of Bordeaux, University of Bordeaux Segalen, Bordeaux, France, France; [2]Centre de Résonance Magnétique des Systèmes Biologiques, University of Bordeaux Segalen, Bordeaux, France, France

10:54 **0644.** **Imaging of Lung Structure and Function in the Same Breath with Triple Nuclear (He-Xe-H) MRI**

Jim M. Wild[1], Helen Marshall[1], Xiaojun Xu[1], Graham Norquay[1], Steven Parnell[1], Matthew Clemence[2], Paul Griffiths[1], Juan Parra-Robles[1]

[1]Academic Radiology, University of Sheffield, Sheffield, Yorkshire, United Kingdom; [2]Philips Medical Systems, Best, Netherlands, Netherlands

11:06 **0645.** **Progress in MR Elastography of Human Lung Parenchyma: Evaluation of Regional Density Measurements and Faster Imaging Sequences**

ISMRM MERIT AWARD magna cum laude

Yogesh K. Mariappan[1], David L. Levin[1], Kevin J. Glaser[1], Richard Leroy Ehman[1], Kiaran P. McGee[1]

[1]Department of Radiology, Mayo Clinic, Rochester, MN, United States

11:18 **0646.** **Lung Tissue Differentiation with Magnetization Transfer Prepared Multi-Echo Ultrashort Echo Time MRI**

Kevin M. Johnson[1], Scott K. Nagle[1, 2], Orhan Unal[1, 2], Sean B. Fain[1, 2]

[1]Medical Physics, UW-Madison, Madison, WI, United States; [2]Radiology, UW-Madison, Madison, WI, United States

11:30 **0647.** **Oxygen Enhanced Lung MRI by Simultaneous Measurement of T_1 and T_2* During Free Breathing**

ISMRM MERIT AWARD summa cum laude

Simon Triphan[1, 2], Felix A. Breuer[1], Hans-Ulrich Kauczor[2], Peter M. Jakob[1, 3]

[1]Research Centre Magnetic Resonance Bavaria e.V., Würzburg, Bayern, Germany; [2]Diagnostic and Interventional Radiology, Heidelberg University Hospital, Heidelberg, Baden-Württemberg, Germany; [3]Experimental Physics 5, University Würzburg, Würzburg, Bayern, Germany

11:42 **0648.** **Dynamic OE-MRI of the Lung in Asthma**

ISMRM MERIT AWARD magna cum laude

Weijuan Zhang[1, 2], Robert M. Niven[3, 4], Simon S. Young[5], Yuzhen Liu[5], Penny L. Hubbard[1, 2], Geoffrey J. M. Parker[1, 2], Josephine H. Naish[1, 2]

[1]Centre of Imaging Sciences, The University of Manchester, Manchester, United Kingdom; [2]Biomedical Imaging Institute, The University of Manchester, Manchester, United Kingdom; [3]North West Lung Centre, University Hospital of South Manchester, Manchester, United Kingdom; [4]Department of Respiratory Medicine, University Hospital of South Manchester, Manchester, United Kingdom; [5]Personalised Healthcare and Biomarkers, AstraZeneca, Alderley Park, United Kingdom

11:54 **0649.** **Quantification of Ventilation and Perfusion Using Non-Contrast Enhanced Quasi-Randomly Acquired DC Gated ^{1}H Lung Imaging**

ISMRM MERIT AWARD magna cum laude

André Fischer[1], Christian O. Ritter[1], Stefan Weick[2], Dietbert Hahn[3], Herbert Köstler[1]

[1]Institute of Radiology, University of Wuerzburg, Wuerzburg, Bavaria, Germany; [2]Department of Experimental Physics 5, University of Wuerzburg, Wuerzburg, Bavaria, Germany; [3]Institute of Radiology, University of Würzburg, Wuerzburg, Bavaria, Germany

12:06 **0650.** **Quantitative Analysis of Pulmonary Inflammation After Endobronchial Allergen Challenge Using T1-Mapping MRI**

ISMRM MERIT AWARD magna cum laude

Julius Renne[1], Jens Hohlfeld[2], Jan Hinrichs[1], Christian Schönfeld[1], Marcel Gutberlet[1], Carla Winkler[3], Cornelia Faulenbach[2], Peter M. Jakob[4], Norbert Krug[2], Frank Wacker[1], Jens Vogel-Claussen[1]

[1]Diagnostic and Interventional Radiology, Hannover Medical School, Hannover, Lower Saxony, Germany; [2]Fraunhofer Institute for Toxicology and Experimental Medicine, Hannover, Germany; [3]Dep. of Pneumology, Hannover Medical School, Hannover, Germany; [4]Experimental Physics (Biophysics), University of Würzburg, Würzburg, Germany

12:18 **0651.** **Non-Contrast-Enhanced Preoperative Assessment of Lung Perfusion in Patients with Non-Small-Cell Lung Cancer Using Fourier Decomposition Magnetic Resonance Imaging**

ISMRM MERIT AWARD magna cum laude

Gregor Sommer[1, 2], Michael Puderbach[3], Marcel Koenigkam-Santos[3, 4], Christopher Draenkow[5], Claus-Peter Heussel[3], Hans-Ulrich Kauczor[6], Heinz-Peter Schlemmer[2], Grzegorz Bauman[7, 8]

[1]Radiology and Nuclear Medicine, University of Basel Hospital, Basel, Switzerland; [2]Radiology, German Cancer Research Center (DKFZ), Heidelberg, Germany; [3]Radiology, Thoraxklinik Heidelberg, Heidelberg, Germany; [4]Radiology, University Hospital of the School of Medicine of Ribeirao Preto - University of Sao Paulo, Ribeirao Preto, Brazil; [5]Surgery, Thoraxklinik Heidelberg, Heidelberg, Germany; [6]Diagnostic and Interventional Radiology, University Hospital Heidelberg, Heidelberg, Germany; [7]Medical Physics in Radiology, German Cancer Research Center, Heidelberg, Germany; [8]Medical Physics, University of Wisconsin School of Medicine and Public Health, Madison, WI, United States

Special Session
Emerging Techniques - Meet the Experts

*Organizers:*Marco Essig, M.D., Ph.D.
Room 255 BC 10:30-12:30 *(no CME credit)* *Moderator:*Marco Essig

Diffusion Tensor Imaging
Denis Le Bihan, M.D., Ph.D.

Functional MRI
Richard B. Buxton, Ph.D.

MR Elastography
Richard L. Ehman, M.D.

Contrast Agents
Robert N. Muller, Ph.D.

Non-Contrast MRA
Mitsue Miyazaki, Ph.D.

Quantitative Imaging in Cancer
Anwar R. Padhani, M.B.B.S., F.R.C.P.

Motion Correction
James G. Pipe, Ph.D.

Interventional Imaging
Michael Bock, Ph.D. & Harald H. Quick, Ph.D.

PET/MR
Bruce R. Rosen, M.D., Ph.D.

Whole-Body Imaging
Stefan O. Schönberg, M.D.

Accelerated Imaging Techniques
Jeffrey Tsao, Ph.D., M.B.A.

12:30 **Adjournment**

Hands-On Workshop 3: GE Healthcare
Room 155 D 10:30-12:30 *(no CME credit)*

Hands-On Workshop 3: Philips Healthcare
Room 255 D 10:30-12:30 *(no CME credit)*

Hands-On Workshop 3: Siemens - fMRI & DTI: Acquisition Protocols & Post-Processing
Room 355 D 10:30-12:30 *(no CME credit)*

Traditional Poster Session: Neuro B
Exhibition Hall 13:30-15:30 *(no CME credit)*

Electronic Poster Session: Cardiovascular

Exhibition Hall 13:30-15:30 *(no CME credit)*

Hyperpolarized ^{13}C

Room 150 AG 13:30-15:30 *Moderators:* Sean B. Fain & Peder E. Z. Larson

13:30 0652. Optimal Variable Flip Angle Schemes for Multi-Band Dynamic Acquisition of Hyperpolarized 13C MRSI
Yan Xing[1], Galen D. Reed[1], John M. Pauly[2], Adam B. Kerr[2], Peder E.Z. Larson[1]
[1]Radiology and Biomedical Imaging, U of California - San Francisco, San Francisco, CA, United States; [2]Electrical Engineering, Stanford University, Stanford, CA, United States

13:42 0653. Improved Measures of Renal Pyruvate-To-Lactate Conversion Using Diffusion Gradients
ISMRM MERIT AWARD summa cum laude
Jeremy W. Gordon[1], David J. Niles[1], Kevin M. Johnson[1], Sean B. Fain[1]
[1]Medical Physics, University of Wisconsin-Madison, Madison, WI, United States

13:54 0654. *in vivo* Single-Scan 13C Spatiotemporally-Encoded Spectroscopic Imaging of Hyperpolarized Metabolites
ISMRM MERIT AWARD magna cum laude
Rita Schmidt[1], Christoffer Laustsen[2, 3], Jan Henrik Ardenkjaer-Larsen, [3,4], Lucio Frydman[1]
[1]Chemical Physics, Weizmann Institute of Science, Rehovot, Israel; [2]The MR Research Centre, Aarhus University, Aarhus, Denmark; [3]Danish Research Centre for Magnetic Resonance, Hvidovre Hospital, Hvidovre, Denmark; [4]GE healthcare, Broendby, Denmark

14:06 0655. Differentiation of Pyruvate Flux Versus Exchange in Rat Liver *in vivo* Using a Three-Site Exchange Model
ISMRM MERIT AWARD magna cum laude
Jae Mo Park[1, 2], Ralph Hurd[3], Kelvin Bilingsly[1], Sonal Josan, [1,4], Yi-Fen Yen[1], Dirk Mayer[1, 4], Daniel Spielman[1, 2]
[1]Radiology, Stanford University, Stanford, CA, United States; [2]Electrical Engineering, Stanford University, Stanford, CA, United States; [3]Applied Science Laboratory, GE Healthcare, Menlo Park, CA, United States; [4]Neuroscience Program, SRI International, Menlo Park, CA, United States

14:18 0656. Simultaneous Examination of Metabolism and Perfusion of Embolized Hepatocellular Carcinoma in Rats by Hyperpolarized Fumarate and Copolarization of Pyruvate and Urea
ISMRM MERIT AWARD magna cum laude
Stephan Düwel[1, 2], Markus Durst[1, 3], Concetta V. Gringeri[3], Yvonne Kosanke[4], Claudia Gross[4], Martin A. Janich[3], Markus Schwaiger[5], Axel Haase[1], Steffen J. Glaser[2], Rolf F. Schulte[3], Rickmer Braren[4], Marion I. Menzel[3]
[1]Institute of Medical Engineering, Technische Universität München, Garching, Germany; [2]Chemistry, Technische Universität München, Garching, Germany; [3]GE Global Research, Garching, Germany; [4]Institute of Radiology, Klinikum rechts der Isar, Technische Universität München, München, Germany; [5]Institute of Nuclear Medicine, Klinikum rechts der Isar, Technische Universität München, München, Germany

14:30 0657. The Fate of Hyperpolarized [1-^{13}C]Pyruvate During Substrate Competition Reveals Increased Bicarbonate as a Potential Biomarker for Decreased Fatty Acid Oxidation
Karlos X. Moreno[1], A. Dean Sherry[1], Craig R. Malloy[1], Matthew E. Merritt[1]
[1]Advanced Imaging Research Center, University of Texas Southwestern Medical Center, Dallas, TX, United States

14:42 0658. *In Vivo* Assessment of IDH Status in Glioblastoma Using 2D ^{13}C Dynamic CSI of Hyperpolarized &[alpha]-Ketoglutarate
ISMRM MERIT AWARD magna cum laude
Myriam Marianne Chaumeil[1], Peder E.Z. Larson[1], Hikari A. I. Yoshihara[1], Daniel B. Vigneron[1], Sarah J. Nelson[1], Russell O. Pieper[2], Joanna J. Phillips[2], Sabrina M. Ronen[1]
[1]Radiology, University of California, San Francisco, San Francisco, CA, United States; [2]Neurological Surgery, University of California, San Francisco, San, CA, United States

14:54 0659. Detection of Sudden Changes in Cardiac Metabolism by Hyperpolarized ^{13}C MRS
ISMRM MERIT AWARD magna cum laude
Chalermchai Khemtong[1], Nicholas R. Carpenter[1], Lloyd L. Lumata[1], Matthew E. Merritt[1], Karlos X. Moreno[1], Zoltan Kovacs[1], Craig R. Malloy[1], A. Dean Sherry[1, 2]
[1]Advanced Imaging Research Center, University of Texas Southwestern Medical Center, Dallas, TX, United States; [2]Department of Chemistry, University of Texas at Dallas, Richardson, TX, United States

15:06 **0660.** **Non-Invasive Assessment of Cardiac Metabolic Alterations Following LAD Occlusion Using Hyperpolarized 13C Imaging**

ISMRM MERIT AWARD magna cum laude

Angus Z. Lau[1, 2], Albert P. Chen[3], Yiping Gu[1], Jennifer Barry[4], Nilesh R. Ghugre[1, 2], Graham A. Wright[1, 2], Charles H. Cunningham[1, 2]

[1]Imaging Research, Sunnybrook Health Sciences Centre, Toronto, Ontario, Canada; [2]Department of Medical Biophysics, University of Toronto, Toronto, Ontario, Canada; [3]GE Healthcare, Toronto, Ontario, Canada; [4]Imaging Research, Sunnybrook Research Institute, Toronto, Ontario, Canada

15:18 **0661.** **Spin Echo Measurements of the Extravasation and Tumor Cell Uptake of Hyperpolarized [1-^{13}C]lactate and [1-^{13}C]pyruvate**

Mikko I. Kettunen[1], Brett W.C Kennedy[1], De-En Hu[2], Kevin M. Brindle[2]

[1]Department of Biochemistry, University of Cambridge & Cancer Research UK Cambridge Research Institute, Cambridge, Cambridgeshire, United Kingdom; [2]Department of Biochemistry, University of Cambridge, Cambridge, Cambridgeshire, United Kingdom

Gradients, Shims & Field Monitoring

Room 151 AG 13:30-15:30 *Moderators:* Richard W. Bowtell & Sebastian Littin

13:30 **0662.** **Micro Magnetic Resonance *x,y*-Gradient System for Microscopic Samples**

Markus V. Meissner[1], Robert Ch. Meier[1], Peter T. While[1], Ali Moazenzadeh[2], Jan G. Korvink[1, 3]

[1]Lab. for Simulation, IMTEK - University of Freiburg, Freiburg, Germany; [2]Lab. for Microactuators, IMTEK - University of Freiburg, Freiburg, Germany; [3]Freiburg Institute for Advanced Studies – FRIAS, University of Freiburg, Freiburg, Germany

13:42 **0663.** **Genuine Minimum Power Gradient Coil Design Accounting for Gaps Between Tracks or Wires**

Peter T. While[1], Michael S. Poole[2], Jan G. Korvink[1, 3]

[1]Department of Microsystems Engineering (IMTEK), Laboratory for Simulation, University of Freiburg, Freiburg im Breisgau, Baden-Württemberg, Germany; [2]Institute of Neuroscience and Medicine - 4, Forschungszentrum Jülich GmbH, Jülich, Nordrhein-Westfalen, Germany; [3]Freiburg Institute for Advanced Studies (FRIAS), University of Freiburg, Freiburg im Breisgau, Baden-Württemberg, Germany

13:54 **0664.** **Integrated Parallel Reception, Excitation, and Shimming (IPRES)**

ISMRM MERIT AWARD summa cum laude

Hui Han[1], Allen W. Song[1], Trong-Kha Truong[1]

[1]Brain Imaging and Analysis Center, Duke University, Durham, NC, United States

14:06 **0665.** **Combined Shim-RF Array for Highly Efficient Shimming of the Brain at 7 Tesla**

ISMRM MERIT AWARD summa cum laude

Jason P. Stockmann[1], Thomas Witzel[1], James N. Blau[1], Jonathan R. Polimeni[1], Wei Zhao[1], Boris Keil[1], Lawrence L. Wald[1]

[1]Athinoula A. Martinos Center for Biomedical Imaging, Department of Radiology, Massachusetts General Hospital, Charlestown, MA, United States

14:18 **0666.** **Matrix Gradient System: Concept and Performance Evaluation**

ISMRM MERIT AWARD magna cum laude

Feng Jia[1], Gerrit Schultz[1], Anna M. Welz[1], Sebastian Littin[1], Hans Weber[1], Jürgen Hennig[1], Maxim Zaitsev[1]

[1]Dept. of Radiology, Medical Physics, University Medical Center Freiburg, Freiburg, Germany

14:30 **0667.** **Dynamic Multi-Coil Shimming of the Rat Brain at 11.7 Tesla**

Christoph Juchem[1], Basavaraju G. Sanganahalli[1], Peter Herman[1], Peter B. Brown[1], Scott McIntyre[1], Terence W. Nixon[1], Robin A. de Graaf[1]

[1]MR Research Center (MRRC), Yale University, New Haven, CT, United States

14:42 **0668.** **Dynamic Field Monitoring by 20 Channel Field Probes Integrated with 12 Channel Head Coil**

Ying-Hua Chu[1], Yi-Cheng Hsu[2], Wen-Jui Kuo[3], Fa-Hsuan Lin[1]

[1]Institute of Biomedical Engineering, National Taiwan University, Taipei, Taiwan; [2]Department of Mathematics, Nnational Taiwan University, Taipei, Taiwan; [3]Institute of Neuroscience, National Yang-Ming University, Taipei, Taiwan

14:54 **0669.** **Full 3rd Order Real-Time Shim Feedback for Field Stabilization and Its Application in Brain MRI at 7T**

ISMRM MERIT AWARD summa cum laude

Yolanda Duerst[1], Bertram J. Wilm[2], Benjamin E. Dietrich[3], David Otto Brunner[3], Christoph Barmet[3, 4], Thomas Schmid[2], Signe Johanna Vannesjo[2], Klaas P. Pruessmann[2]
[1]Institute for Biomedical Engineering, University of Zurich and ETH Zurich , Zurich, Switzerland; [2]Institute for Biomedical Engineering, University of Zurich and ETH Zurich, Zurich, Switzerland; [3]Institute for Biomedical Engineering, University and ETH Zurich, Zurich, Switzerland; [4]Skope Magnetic Resonance Technologies, Zurich, Switzerland

15:06 **0670.** **A Low-Cost, Mechanically Simple Apparatus for Measuring Eddy Currents**

Kyle M. Gilbert[1], L. Martyn Klassen[1], Ravi S. Menon[1]
[1]Robarts Research Institute, The University of Western Ontario, London, Ontario, Canada

15:18 **0671.** **Digital Cross-Term Pre-Emphasis for Higher-Order Dynamic Shimming**

ISMRM MERIT AWARD magna cum laude

Signe Johanna Vannesjo[1], Benjamin E. Dietrich[1], Matteo Pavan[1], Christoph Barmet[1, 2], Klaas P. Pruessmann[1]
[1]Institute for Biomedical Engineering, University and ETH Zurich, Zurich, Switzerland; [2]Skope Magnetic Resonance Technologies, Zurich, Switzerland

Diabetes, Nutrition & Gastrointestinal

Room 155 EF 13:30-15:30 *Moderators:* Houchun Harry Hu & Martin P. Smith

13:30 **0672.** **Introduction**

Houchun H. Hu

13:42 **0673.** **Impact of Isocaloric Fructose and Glucose Diets on Lipid Metabolism Studied *in Vivo* by Multinuclear MR Spectroscopy**

ISMRM MERIT AWARD magna cum laude

Patricia M. Nunes[1], Alan J. Wright[1], Andor Veltien[1], Jack JA van Asten[1], Cees J. Tack[2], John G. Jones[3], Arend Heerschap[1]
[1]Radiology, Radboud University Nijmegen Medical Centre, Nijmegen, Gelderland, Netherlands; [2]Internal Medicine, Radboud University Nijmegen Medical Centre, Nijmegen, Gelderland, Netherlands; [3]Center for Neurosciences and Cell Biology, Coimbra, Portugal

13:54 **0674.** ***in vivo* Assessment of Fatty Diabetic Kidney by Diffusion Weighted and BOLD MRI in Rats**

Koji Sagiyama[1], Orson W. Moe[2], Masaya Takahashi[1]
[1]Advanced Imaging Research Center, University of Texas Southwestern Medical Center, Dallas, TX, United States; [2]Mineral Metabolism/Internal Medicine, University of Texas Southwestern Medical Center, Dalla, TX, United States

14:06 **0675.** **Non-Invasive Quantification of Hepatic Metabolic Rate of Oxygen (HMRO2) by MRI**

Deng Mao[1], Lisa Krishnamurthy[1], Hanzhang Lu[1]
[1]Advanced Imaging Research Center, University of Texas Southwestern Medical Center, Dallas, TX, United States

14:18 **0676.** **Real-Time MRI of Esophageal Function at a Resolution of 50 Ms: Initial Results in Healthy Subjects**

Shuo Zhang[1], Alexander Beham[2], Arun Joseph[1], Henrik Forster[2], Aaron Niebergall[1], Martin Uecker[3], Jens Frahm[1]
[1]Biomedizinische NMR Forschungs GmbH am Max-Planck-Institut fuer biophysikalische Chemie, Goettingen, Niedersachsen, Germany; [2]Allgemein- und Visceralchirurgie, University Hospital Goettingen, Goettingen, Lower Saxony, Germany; [3]Dept. of Electrical Engineering and Computer Sciences, University of California, Berkeley, CA, United States

14:30 **0677.** **A Novel Technique for Global Small Bowel Motility Assessment Using Dynamic MRI**

ISMRM MERIT AWARD magna cum laude

Alex Menys[1], Stuart A. Taylor[1], Anton Emmanuel[2], Asia Ahmed[1], Andrew Plumb[1], Freddy Odille[3, 4], Ahsan Alam[2], Steve Halligan[1], David Atkinson[1]
[1]Centre for Medical Imaging, UCL, London, UK, United Kingdom; [2]GI Physiology UCLH, London, UK, United Kingdom; [3]INSERM U947, Nancy, France; [4]IADI, Université de Lorraine, Nancy, France

14:42 **0678.** **Magnetic Resonance Imaging for Detection of Early Intestinal Injury of Neonatal Necrotizing Enterocolitis in a Rodent Model**

Devkumar Mustafi[1], Sheng-Ru Shiou[2], Xiaobing Fan[3], Erica Markiewicz[1], Gregory S. Karczmar[1], Erika Claud[4]
[1]Radiology, The University of Chicago, Chicago, IL, United States; [2]Pediatrics, The University of Chicago, Chicago, IL, United States; [3]Radiology, University of Chicago, Chicago, IL, United States; [4]Pediatrics and Medicine, The University of Chicago, Chicago, IL, United States

14:54 **0679.** **A New Validated MRI Method for Measuring Colonic Transit Time**
Gemma Louise Chaddock[1]
[1]Physics & Astronomy, The University of Nottingham, Nottingham, Nottinghamshire, United Kingdom

15:06 **0680.** **First In-Human MR-Visualisation of Surgical Mesh Implants for Inguinal Hernia Treatment.**
Nienke Lynn Hansen[1], *Alexandra Barabasch*[1], *Martina Distelmaier*[1], *Alexander Ciritsis*[2], *Nicolas Kuehnert*[3], *Jens Otto*[3], *Joachim Conze*[3], *Christiane K. Kuhl*[1], *Nils Andreas Kraemer*[1]
[1]Department of Diagnostic and Interventional Radiology, RWTH Aachen University Hospital, Aachen, NRW, Germany; [2]Department of Diagnostic and Interventional Radiology, RWTH University Hospital, Aachen, NRW, Germany; [3]Department of Surgery, RWTH Aachen University Hospital, Aachen, NRW, Germany

15:18 **0681.** **"Purse String" Morphology of External Anal Sphincter in Nullipara Women with Ultrasound, High Resolution MRI, DTI and Fiber Tracking.**
Shantanu Sinha[1], *Valmik Bhargava*[2], *Melissa Ledgerwood*[2], *Ravinder Mittal*[2]
[1]Radiology, University of California at San Diego, San Diego, C, United States; [2]Medicine, University of California at San Diego, San Diego, CA, United States

Translational Scientific Session: Musculoskeletal Translational Imaging

Room 255 BC 13:30-15:30 *Moderators:* Christopher J. Hamrahan & Roland Krug

13:30 **0682.** **Introduction**
Timothy Mosher

13:42 **0683.** **Clinical Assessment of Knee MRI in the Presence of Metal Implants Comparing MAVRIC-SL and FSE at 1.5T and 3T**
Hans Liebl[1], *Ursula Heilmeier*[1], *Sonia Lee*[1], *Lorenzo Nardo*[1], *Christopher Schuppert*[1], *Misung Han*[1], *Suchandrima Banerjee*[2], *Kevin Koch*[3], *Thomas M. Link*[1], *Roland Krug*[1]
[1]Department of Radiology and Biomedical Imaging, University of California San Francisco, San Francisco, CA, United States; [2]GE healthcare, Menlo Park, CA, United States; [3]GE healthcare, Milwaukee, WI, United States

13:54 **0684.** **Assessment of Porcine Intervertebral Disc Specimen pH Via Chemical Exchange Saturation Transfer (CEST) MRI**
ISMRM MERIT AWARD summa cum laude
Gerd Melkus[1], *Michelle Grabau*[1], *Dimitrios C. Karampinos,* [12], *Sharmila Majumdar*[1]
[1]Radiology and Biomedical Imaging, University of California San Francisco, San Francisco, CA, United States; [2]Diagnostic and Interventional Radiology, Technical University of Munich, Munich, Bavaria, Germany

14:06 **0685.** **Technical Feasibility of Two-Component T2* Mapping on Cartilages in Human Knee with 54-TE Acquisitions**
Yongxian Qian[1], *Jinbai Huang*[1], *Vincent K. Lee*[1], *Fernando Emilio Boada*[2]
[1]Radiology, University of Pittsburgh, Pittsburgh, PA, United States; [2]Radiology, New York University, New York, NY, United States

14:18 **0686.** **T_2 and T_2* Relaxometry in the Meniscus Using a Novel, Rapid Multi-Echo Steady State Sequence**
Emily J. McWalter[1], *Garry E. Gold*[1], *Marcus T. Alley*[1], *Brian Andrew Hargreaves*[1]
[1]Radiology, Stanford University, Stanford, CA, United States

14:30 **0687.** **Quantitative ^{23}Na MRI of Human Knee Cartilage Using Dual-Tuned ^{1}H/^{23}Na Transceiver Array RF Coil at 7T**
Chan Hong Moon[1], *Jung-Hwan Kim*[1], *Tiejun Zhao*[2], *Kyongtae Ty Bae*[1]
[1]Radiology, University of Pittsburgh, Pittsburgh, PA, United States; [2]MR R&D Collaborations, Siemens Healthcare, Pittsburgh, PA, United States

14:42 **0688.** **Advanced Bi-Exponential Analysis of T2* in the Achilles Tendon of Pre- And Post-Operative Patients Using a Variable Echo Time Sequence at 3T**
Vladimir Juras[1], [2], *Sebastian Apprich*[1], *Pavol Szomolanyi*[1], *Oliver Bieri*[3], *Xeni Deligianni*[3], *Siegfried Trattnig*[1]
[1]MR Centre of Excellence, Department of Radiology, Medical University of Vienna, Vienna, Austria; [2]Department of Imaging Methods, Institute of Measurement Science, Bratislava, Slovakia; [3]Department of Radiology, Division of Radiological Physics, University of Basel Hospital, Basel, Switzerland

14:54 **0689.** **Soleus Muscle Water T2 Values in Duchenne Muscular Dystrophy: Associations with Age and Corticosteroid Treatment**

William D. Rooney[1], Sean C. Forbes[2], William Triplett[3], D-J Wang[4], James Pollaro[1], Soren DeVos[2], Rebecca J. Willcocks[3], Richard Finkel[5], Barry Russman[6], Barry Byrne[7], Lee Sweeney[8], Glenn A. Walter[3], Krista Vandenborne[2]

[1]Advanced Imaging Research Center, Oregon Health & Science University, Portland, OR, United States; [2]Department of Physical Therapy, University of Florida, Gainesville, FL, United States; [3]Department of Physiology and Functional Genomics, University of Florida, Gainesville, FL, United States; [4]Radiology, The Children's Hospital of Philadelphia, Philadelphia, PA, United States; [5]Neurology, The Children's Hospital of Philadelphia, Philadelphia, PA, United States; [6]Neurology, Oregon Health & Science University, Portland, OR, United States; [7]Department of Pediatrics, University of Florida, Gainesville, FL, United States; [8]Department of Physiology, University of Pennsylvania, Philadelphia, PA, United States

15:06 **0690.** **Dynamic Diffusion Tensor Parameters in Muscle Tissue Using Single Voxel Multiple Echo Diffusion Tensor Acquisition Technique on a 3T Clinical Scanner**

ISMRM MERIT AWARD summa cum laude

Steven Baete[1], Gene Cho[1, 2], Eric E. Sigmund[1]

[1]Center for Biomedical Imaging, Dept. of Radiology, NYU Langone Medical Center, New York, NY, United States; [2]Sackler Institute of Graduate Biomedical Sciences, NYU School of Medicine, New York, NY, United States

15:18 **0691.** **Multi-Parameter Quantitation of Coincident Fat and Water Skeletal Muscle Pathology**

Christopher D.J. Sinclair[1, 2], Jasper M. Morrow[1], Robert L. Janiczek[3], Michael G. Hanna[1], Mary M. Reilly[1], Tarek A. Yousry[1, 2], Rebecca S. Samson[4], Nikolaus Weiskopf[5], Antoine Lutti[5], David L. Thomas[2], Xavier Golay[6], John S. Thornton[1, 2]

[1]MRC Centre for Neuromuscular Diseases, UCL Institute of Neurology, London, United Kingdom; [2]Department of Brain Repair and Rehabilitation, UCL Institute of Neurology, London, United Kingdom; [3]United Kingdom, GlaxoSmithKline, Brentford, Middlesex, United Kingdom; [4]Department of Neuroinflammation, UCL Institute of Neurology, London, United Kingdom; [5]Wellcome Trust Centre for Neuroimaging, UCL Institute of Neurology, London, United Kingdom; [6]Department of Brain Repair and Rehabilitation, University College London, London, United Kingdom

Advances in Image Analysis

Room 255 EF 13:30-15:30 *Moderators:* James C. Gee & Joseph V. Hajnal

13:30 **0692.** **Dynamic Magnetic Property of Multiple Sclerosis Lesions at Various Ages Measured by Quantitative Susceptibility Mapping**

Weiwei Chen[1], Susan A. Gauthier[2], Ajay Gupta[2], Joseph Comunale[2], Tian Liu[2], Shuai Wang[3], Mengchao Pei[2], David Pitt[4], Yi Wang[2]

[1]Radiology, Tongji Hospital, Tongji Medical College, Huazhong University of Science and Technology, Wuhan, Hubei, China; [2]Weill Cornell Medical College, New York, NY, United States; [3]School of Electronic Engineering, University of Electronic Science and Technology of China, Chengdu, Sichuan, China; [4]The Ohio State University, Columbus, OH, United States

13:42 **0693.** **Imaging Multipole Magnetic Susceptibility Anisotropy *in vivo***

Chunlei Liu[1], Wei Li[1]

[1]Brain Imaging and Analysis Center, Duke University, Durham, NC, United States

13:54 **0694.** **Artery-Vein Segmentation in Non-Contrast-Enhanced Flow-Independent 3D Peripheral Angiography**

ISMRM MERIT AWARD magna cum laude

Serena Y. Yeung[1], Kie Tae Kwon[1], Bob S. Hu[1, 2], Dwight G. Nishimura[1]

[1]Electrical Engineering, Stanford University, Stanford, CA, United States; [2]Palo Alto Medical Foundation, Palo Alto, CA, United States

14:06 **0695.** **Optimal Enhancement of Brain Structures by Combining Different MR Contrasts: Demonstration of Venous Vessel Enhancement in Multi-Echo Gradient-Echo MRI**

Andreas Deistung[1], Ferdinand Schweser[2], Jürgen R. Reichenbach[2]

[1]Medical Physics Group, Institute of Diagnostic and Interventional Radiology I, Jena University Hospital - Friedrich Schiller University Jena, Jena, Germany; [2]Medical Physics Group, Institute of Diagnostic and Interventional Radiology I, Jena University Hospital - Friedrich Schiller University, Jena, Germany

14:18 **0696.** **Automatic Bolus Analysis for DCE-MRI Using Radial Golden-Angle Stack-Of-Stars GRE Imaging**

ISMRM MERIT AWARD summa cum laude

Robert Grimm[1], Li Feng[2], Christoph Forman[3], Jana Hutter[1], Berthold Kiefer[4], Joachim Hornegger[1], Kai Tobias Block[5]

[1]Pattern Recognition Lab, FAU Erlangen-Nuremberg, Erlangen, Germany; [2]Department of Radiology, New York University Langone Medical Center, New York City, NY, United States; [3]Pattern Recognition Lab, Friedrich-Alexander-University Erlangen-Nürnberg, Erlangen, Germany; [4]Siemens Healthcare, Erlangen, Germany; [5]Department of Radiology, NYU Langone Medical Center, New York City, NY, United States

14:30 **0697.** **Articulation Analysis Using Real Time Spiral MRI with TRACER**
ISMRM MERIT AWARD magna cum laude
Bo Xu[1], Sam Tilsen, Pascal Spincemaille[2], Madhur Srivastava, Peter Doerschuk, Yi Wang[1]
[1]Biomedical Engineering, Cornell University, Ithaca, NY, United States; [2]Weill Cornell Medical College, New York, United States

14:42 **0698.** **Model-Based Super-Resolution of Diffusion MRI for Microstructure Imaging**
Alexandra Tobisch[1], Hui Zhang[2]
[1]Department of Medical Physics and Bioengineering, University College London, London, United Kingdom; [2]Department of Computer Science and Centre for Medical Image Computing, University College London, London, United Kingdom

14:54 **0699.** **Experimentally and Computationally Fast Method for Estimation of the Mean Kurtosis**
Brian Hansen[1], Torben E. Lund[1], Ryan Sangill[1], Sune N. Jespersen[1, 2]
[1]CFIN, Aarhus University, Aarhus C, Denmark; [2]Department of Physics, Aarhus University, Aarhus C, Denmark

15:06 **0700.** **REKINDLE: Robust Extraction of Kurtosis INDices with Linear Estimation**
ISMRM MERIT AWARD magna cum laude
Chantal M.W. Tax[1], Willem M. Otte[1], Max A. Viergever[1], Rick M. Dijkhuizen[1], Alexander Leemans[1]
[1]Image Sciences Institute, University Medical Center Utrecht, Utrecht, Netherlands

15:18 **0701.** **Framework for Task-Based Assessment of MR Image Quality**
Christian G. Graff[1]
[1]Division of Imaging and Applied Mathematics, U. S. Food and Drug Administration, Silver Spring, MD, United States

Microstructure By All Means

Room 355 BC 13:30-15:30 *Moderators:* Yoram Cohen & Samuel J. Wharton

13:30 **0702.** **Common Features in the Orientation Dependence of MR Diffusion, Susceptibility and Relaxation Measurements in the Human Brain *in vivo*: Constrained Susceptibility Anisotropy Estimation**
Cynthia Wisnieff[1], Pascal Spincemaille[2], Yi Wang[1]
[1]Cornell Univerisity, New York, United States; [2]Weill Cornell Medical College, New York, United States

13:42 **0703.** **Fiber Density Estimation from Single Q-Shell DWI by Tensor Divergence**
Marco Reisert[1], Elias Kellner[1], Henrik Skibbe[1], Valerij Kiselev[1]
[1]Medical Physics, University Medical Center, Freiburg, Baden-Württemberg, Germany

13:54 **0704.** **MR Diffusion-Based Histology and Micro-Tractography Reveal Mesoscale Features of the Human Cerebellum**
ISMRM MERIT AWARD magna cum laude
Flavio Dell'Acqua[1, 2], Istvan Bodi[3], David Alexander Slater[1], Marco Catani[1, 4], Michel Modo[5, 6]
[1]NATBRAINLAB, Department of Neuroimaging, King's College London, Institute of Psychiatry, London, United Kingdom; [2]NIHR Biomedical Research Centre for Mental Health at South London and Maudsley NHS Foundation Trust, King's College London, Institute of Psychiatry, London, United Kingdom; [3]Department of Clinical Neuropathology, King's College Hospital, London, United Kingdom; [4]NATBRAINLAB, Forensic and Neurodevelopmental Sciences, King's College London, Institute of Psychiatry, London, United Kingdom; [5]McGowan Institute for Regenerative Medicine, University of Pittsburgh, Pittsburgh, PA, United States; [6]Department of Radiology, University of Pittsburgh, Pittsburgh, PA, United States

14:06 **0705.** **Investigating the Orientation Dependence of Non-Linear GRE Phase Evolution in White Matter Using a High Resolution Geometric Magnetic Susceptibility WM Model**
ISMRM MERIT AWARD summa cum laude
Way Cherng Chen[1, 2], Sean Foxley[1], Karla Miller[1]
[1]FMRIB Centre, University of Oxford, Oxford, Oxon, United Kingdom; [2]Magnetic Resonance Imaging Group, Singapore Bioimaging Consortium, Singapore, Singapore

14:18 **0706.** **Susceptibility Tensor Imaging in the P-Space Without Any Rotation**
Chunlei Liu[1, 2], Wei Li[1]
[1]Brain Imaging and Analysis Center, Duke University, Durham, NC, United States; [2]Radiology, Duke University, Durham, NC, United States

14:30 **0707.** **Localized *in vivo* High Resolution HARDI Reveals Complex Microstructure in the Mouse Brain**

ISMRM MERIT AWARD summa cum laude

Dan Wu[1], Jiadi Xu[2], Xiaoying Cai[3], Peter C.M. van Zijl[2, 4], Susumu Mori, [2,4], Jiangyang Zhang[4]
[1]Department of Biomedical Engineering, Johns Hopkins University School of Medicine, Baltimore, MD, United States; [2]F.M. Kirby Research Center for Functional Brain Imaging, Kennedy Krieger Institute, Baltimore, MD, United States; [3]Department of Biomedical Engineering, Tsinghua University, Beijing, China; [4]Department of Radiology, Johns Hopkins University School of Medicine, Baltimore, MD, United States

14:42 **0708.** **The Anisotropy of Myelin Magnetic Susceptibility**

Peter van Gelderen[1], Hendrik Mandelkow[1], Jacco A. De Zwart[1], Jeff H. Duyn[1]
[1]AMRI, LFMI, NINDS, National Institutes of Health, Bethesda, MD, United States

14:54 **0709.** **Probe Microstructure and Improve Contrast of Myelinated Axons Using Gd-Enhanced Susceptibility Mapping**

ISMRM MERIT AWARD summa cum laude

Russell Dibb[1, 2], Wei Li[3], Gary Cofer[1], Chunlei Liu[3, 4]
[1]Center for In Vivo Microscopy, Duke University Medical Center, Durham, NC, United States; [2]Biomedical Engineering, Duke University, Durham, NC, United States; [3]Brain Imaging & Analysis Center, Duke University Medical Center, Durham, NC, United States; [4]Radiology, Duke University Medical Center, Durham, NC, United States

15:06 **0710.** **Mean Apparent Propagator (MAP) MRI: A Novel Diffusion Imaging Method for Mapping Tissue Microstructure**

Evren Ozarslan[1, 2], Cheng Guan Koay[3], Timothy M. Shepherd[4], Michal E. Komlosh[2, 5], Mustafa Okan Irfanoglu[2, 5], Carlo Pierpaoli[2], Peter J. Basser[2]
[1]Department of Radiology, Brigham and Women's Hospital, Harvard Medical School, Boston, MA, United States; [2]STBB, PPITS, NICHD, National Institutes of Health, Bethesda, MD, United States; [3]Department of Medical Physics, University of Wisconsin, Madison, WI, United States; [4]Department of Radiology, New York University Langone Medical Center, New York, NY, United States; [5]Center for Neuroscience and Regenerative Medicine, USUHS, Bethesda, MD, United States

15:18 **0711.** ***in vivo* Measurement of Conduction Velocity and Axon Diameter Properties in the Human Brain**

ISMRM MERIT AWARD summa cum laude

Assaf Horowitz[1], Daniel Barazany[1], Ido Tavor[1], Moran Berenstein[1], Galit Yovel[2], Yaniv Assaf[1]
[1]Neurobiology, Tel Aviv University, Tel Aviv, Israel, Israel; [2]School of psychology, Tel Aviv University, Tel Aviv, Israel, Israel

Perfusion & Permeability: Applications

Room 355 EF 13:30-15:30 *Moderators:* David J. Collins & Matthias J. P. van Osch

13:30 **0712.** **Whole Brain Arterial Transit Times in the Elderly Estimated Using Arterial Spin Labeling**

ISMRM MERIT AWARD summa cum laude

Henri J.M.M. Mutsaerts[1], Edo Richard[2], Dennis F.R. Heijtel[1], Charles B.L.M. Majoie[1], Aart J. Nederveen[1]
[1]Radiology, Academic Medical Center, Amsterdam, Netherlands; [2]Neurology, Academic Medical Center, Amsterdam, Netherlands

13:42 **0713.** **Changes in Cerebral Blood Flow and Vasoreactivity to CO2 Measured by Arterial Spin Labeling After 6 Days at 4,350 M**

ISMRM MERIT AWARD summa cum laude

Marjorie Villien[1], Pierre Bouzat[1], Thomas Rupp[2], Paul Robach[3], Laurent Lamalle[4], Irène Troprès[4], François Estève[5], Alexandre Krainik[6], Patrick Levy[2], Jan M. Warnking[1], Samuel Verges[2]
[1]Grenoble Institut of Neurosciences, INSERM, Grenoble, France; [2]Laboratoire HP2, INSERM, Echirolles, France; [3]Ecole Nationale de Ski et d'Alpinisme, Chamonix, France; [4]SFR1, Université Joseph Fourier, Grenoble, France; [5]ESRF, Grenoble, France; [6]Clinique universitaire de neuroradiologie et d'IRM, CHU Grenoble, Grenoble, France

13:54 **0714.** **Decreased Retinal and Choroidal Blood Flow by MRI Is Correlated with Electroretinography in Retinitis Pigmentosa**

ISMRM MERIT AWARD summa cum laude

Yi Zhang[1], Joseph Harrison[2], Oscar San Emeterio Nateras[1], Steven Chalfin[2], Timothy O. Duong[1, 2]
[1]Radiology, University of Texas Health Science Center at San Antonio, San Antonio, TX, United States; [2]Ophthalmology, University of Texas Health Science Center at San Antonio, San Antonio, TX, United States

14:06 **0715.** **Multi-Site Evaluations of a TRUST MRI Technique to Measure Brain Oxygenation**

ISMRM MERIT AWARD summa cum laude

Peiying Liu[1], Ivan E. Dimitrov, [12], Trevor Andrews[2, 3], David E. Crane[4], Jacinda K. Dariotis[5], John Desmond[6], Julie Dumas[3], Guillaume Gilbert[2], Anand Kumar[7], Jean-Maxime Leroux[8], Bradley MacIntosh[4, 9], Shaolin Yang[7], Guanghua Xiao[10], Hanzhang Lu[1]

[1]Advanced Imaging Research Center, University of Texas Southwestern Medical Center, Dallas, TX, United States; [2]Philips Medical Systems, Cleveland, OH, United States; [3]University of Vermont College of Medicine, Burlington, VT, United States; [4]Heart and Stroke Foundation Centre for Stroke Recovery, Sunnybrook Research Institute, Toronto, Ontario, Canada; [5]Department of Population, Family, and Reproductive Health, Johns Hopkins University, Baltimore, MD, United States; [6]Department of Neurology, Johns Hopkins University, Baltimore, MD, United States; [7]Department of Psychiatry, University of Illinois at Chicago, Chicago, IL, United States; [8]Department of Radiology, Hospital of the University of Montreal, Montreal, Quebec, Canada; [9]Department of Medical Biophysics, University of Toronto, Toronto, Ontario, Canada; [10]Department of Clinical Sciences, University of Texas Southwestern Medical Center, Dallas, TX, United States

14:18 **0716.** **Minimizing the Influence of Blood Volume Fraction on Other Pharmacokinetic Parameters in DCE-MRI**

Xin Li[1], Jeffrey M. Njus[1], Seymur Gahramanov[2], Csanad G. Várallyay[2], John W. Grinstead[3], Charles S. Springer, Jr. [1], Edward A. Neuwelt[2], William D. Rooney[1]

[1]Advanced Imaging Research Center, Oregon Health & Science University, Portland, OR, United States; [2]Department of Neurology, Oregon Health & Science University, Portland, OR, United States; [3]Siemens Healthcare, Portland, OR, United States

14:30 **0717.** **Prediction of Response to Chemotherapy in Patients with Osteosarcoma and Ewing's Sarcoma**

Louisa Bokacheva[1], Ya Wang[1], Wei Huang[2], David M. Panicek[3], Jason A. Koutcher[1, 3]

[1]Department of Medical Physics, Memorial Sloan-Kettering Cancer Center, New York, NY, United States; [2]Advanced Imaging Research Center, Oregon Health & Science University, Portland, OR, United States; [3]Department of Radiology, Memorial Sloan-Kettering Cancer Center, New York, NY, United States

14:42 **0718.** **Differentiation of Myeloma and Metastatic Cancer in the Spine Using Dynamic Contrast Enhanced MRI**

Ning Lang[1], Min-Ying Su[2], Hon J. Yu[2], Muqing Lin[2], Huishu Yuan[1]

[1]Department of Radiology, Peking University Third Hospital, Beijing, China; [2]Center for Functional Onco-Imaging, Department of Radiological Sciences, University of California, Irvine, CA, United States

14:54 **0719.** **Initial Clinical Application of Simultaneous MR Angiography and Perfusion (MRAP) in Peripheral Arterial Disease**

ISMRM MERIT AWARD magna cum laude

Katherine L. Wright[1], Arash Aghel[2], Nicole Seiberlich[1], Mark A. Griswold, [13], Anne Hamik[2], Vikas Gulani, [14]

[1]Biomedical Engineering, Case Western Reserve University, Cleveland, OH, United States; [2]Case Cardiovascular Research Institute, Case Western Reserve Univ. and University Hospitals, Cleveland, OH, United States; [3]Radiology, University Hospitals Case Medical Center, Cleveland, OH, United States; [4]Radiology, Case Western Reserve University, Cleveland, OH, United States

15:06 **0720.** **Preliminary Analysis of Arterial Input Function Derived from Dynamic Contrast Enhanced MRI in Children with Cancer**

Keiko Miyazaki[1], Matthew R. Orton[1], David John Collins[1], James A. d'Arcy[1], Toni Wallace[2], Lucas Moreno[3], Andrew Pearson[3], Stergios Zacharoulis[3], Martin O. Leach[1], Dow-Mu Koh[2]

[1]CR-UK and EPSRC Cancer Imaging Centre, The Institute of Cancer Research, Sutton, Surrey, United Kingdom; [2]Department of Diagnostic Radiology, The Royal Marsden NHS Foundation Trust, Sutton, Surrey, United Kingdom; [3]Department of Paediatric Oncology, The Royal Marsden NHS Foundation Trust, Sutton, Surrey, United Kingdom

15:18 **0721.** **Dynamic Contrast-Enhanced Magnetic Resonance Imaging Enables Personalized Anti-EMMPRIN Therapy for Pancreatic Cancer**

Hyunki Kim[1], Christopher Rigell[1], Guihua Zhai[1], Kyle Lee[1], Sharon Samuel[1], Amber Martin[1], Timothy Beasley[1], Long Shan Li[2], David Boothman[2], Kurt Zinn[1]

[1]University of Alabama at Birmingham, Birmingham, AL, United States; [2]Radiation Oncology, UT Southwestern Medical Center, Dallas, TX, United States

Educational Course
Cardiovascular MR Imaging: Pushing the Limits - Part 3: Accelerated Cardiovascular Imaging: Technique & Clinical Applications

*Organizers:*Victor A. Ferrari, M.D., Christopher J. P. François, M.D., Craig H. Meyer, Ph.D., Thoralf Niendorf, Ph.D., Jeanette Schulz-Menger, M.D. & David E. Sosnovik, M.D., F.A.C.C.

Room 250 BCEF 13:30-15:30 *Moderators:*Christopher J. P. François & Craig H. Meyer

13:30 **The Motion Problem**
Claudia Prieto, Ph.D.

13:50 **Highly Parallel Imaging: Hardware & Methods**
Lawrence L. Wald, Ph.D.

14:10 **Temporal Acceleration Methods**
Jeffrey Tsao, Ph.D., M.B.A.

14:30 **Accelerated MRA**
Julia V. Velikina, Ph.D.

14:50 **Accelerated Function: Whole Heart & Real-Time**
Daniel Kim, Ph.D.

15:10 **Accelerated Perfusion & Parametric Mapping**
Ricardo Otazo, Ph.D.

15:30 **Adjournment**

Educational Course
Off-Mainstream Techniques

*Organizers:*Michael Bock, Ph.D. & Maxim Zaitsev, Ph.D.

Room 251 BCEF 13:30-15:30 *Moderators:*Michael Bock & Maxim Zaitsev

13:30 **Squid Detected MRI**
Michelle A. Espy, Ph.D.

14:00 **NMR & MRI in Rotating Magnetic Fields**
Dimitrios Sakellariou, Ph.D.

14:30 **Imaging with Hyperpolarized Silicon Nanoparticles**
Maja C. Cassidy, M.Sc.

15:00 **MRI Without Gradients**
Jonathan C. Sharp, Ph.D.

15:30 **Adjournment**

Hands-On Workshop 4: GE Healthcare

Room 155 D 13:30-15:30 *(no CME credit)*

Hands-On Workshop 4: Philips Healthcare

Room 255 D 13:30-15:30 *(no CME credit)*

Hands-On Workshop 4: Siemens - Biograph mMR, Tissue4D & Onco-Treat

Room 355 D 13:30-15:30 *(no CME credit)*

RF Circuits & Concepts

Room 150 AG 16:00-18:00 *Moderators:* Andreas Bitz & Arthur W. Magil

16:00 0722. A High-Efficiency Linear MRI Transmit Amplifier Using Envelope-Tracking

ISMRM MERIT AWARD magna cum laude

Pascal P. Stang[1], John M. Pauly[1], Greig C. Scott[1]

[1]Electrical Engineering, Stanford University, Stanford, CA, United States

16:12 0723. Image-Based Validation of Optically Coupled Current Sensor for RF Safety Monitoring

Maryam Etezadi-Amoli[1], Pascal P. Stang[1], Adam Kerr[1], John Pauly[1], Greig C. Scott[1]

[1]Electrical Engineering, Stanford University, Stanford, CA, United States

16:24 0724. Magnetic Walls for RF Coil Elements Decoupling

Mohamed Ahmed Abou-Khousa[1], Joseph S. Gati[1], Ravi Menon[1, 2]

[1]Robarts Research Institute, Western University, London, Ontario, Canada; [2]Dept. of Medical Biophysics, Western University, London, Onatrio, Canada

16:36 0725. Enhancement Mode GaN (EGaN) FETs for On-Coil MRI Transmit Amplifiers

ISMRM MERIT AWARD summa cum laude

Michael Twieg[1], Matthew J. Riffe[2], Natalia Gudino[2], Mark A. Griswold, [13]

[1]Dept. of Electrical Engineering and Computer Science, Case Western Reserve University, Cleveland, OH, United States; [2]Dept. of Biomedical Engineering, Case Western Reserve University, Cleveland, OH, United States; [3]Dept. of Radiology, Case Western Reserve University, Cleveland, OH, United States

16:48 0726. Muti-Channel, In-Bore Power Amplifiers for Multi-Channel Coil at 7T

Lance DelaBarre[1], Daniel Myer[2], University of Minnesota University of Minnesota Vaughan[3]

[1]Radiology - Center for MR Research, University of Minnesota, Minneapolis, MN, United States; [2]CPC Amps, Inc., Hauppauge, NY, United States; [3]Radiology - Center for MR Research, U. of Minnesota, Minneapolis, MN, United States

17:00 0727. Highly Accelerated Parallel Imaging Using Rotating Radiofrequency Coil Array at 7T

Mingyan Li[1], Jin Jin[1], Feng Liu[1], Adnan Trakic[1], Ewald Weber[1], Stuart Crozier[1]

[1]School of Information Technology and Electrical Engineering , The University of Queensland, Brisbane, Queensland, Australia

17:12 0728. Energy Harvesting Towards Autonomous MRI Detection

Jens Höfflin[1], Elmar Fischer[2], Jürgen Hennig[2], Jan G. Korvink, [13]

[1]Lab of Simulation - Department of Microsystems Engineering, University of Freiburg - IMTEK, Freiburg, Germany; [2]Department of Radiology, University Medical Center Freiburg, Freiburg, Germany; [3]Freiburg Institute for Advanced Studies - FRIAS, University of Freiburg, Freiburg, Germany

17:24 0729. A Quantum Description of Signal Transduction in Magnetic Resonance: Analytical Results, Cavity Damping, and Relaxation

James Tropp[1]

[1]GE Healthcare Technologies, Fremont, CA, United States

17:36 0730. Signal and Noise Propagation in MR Receive Arrays: Theory and Experimental Validation

ISMRM MERIT AWARD summa cum laude

Matteo Pavan[1], David Otto Brunner, [12], Manuel Schneider[1], Klaas P. Pruessmann[1]

[1]ETH and University Zurich, Zurich, Switzerland; [2]University and ETH Zurich, Zurich, Switzerland

17:48 0731. RF Coil Design with Automatic Tuning and Matching

Sung-Min Sohn[1], Lance DelaBarre[2], Anand Gopinath[1], University of Minnesota University of Minnesota Vaughan, [12]

[1]Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN, United States; [2]Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, MN, United States

Imaging Biomarkers In Psychiatric Diseases

Room 151 AG 16:00-18:00 *Moderators:* Stefan Sunaert & Steven C. R. Williams

16:00 **0732.** **Abnormal Resting-State Default Mode Network Connectivity in Major Depressive Disorder: Multimodal EEG and BOLD fMRI Study**

Han Yuan[1], Vadim Zotev[1], Raquel Phillips[1], Kymberly D. Young[1], Masaya Misaki[1], Jerzy Bodurka[1, 2]

[1]Laureate Institute for Brain Research, Tulsa, OK, United States; [2]College of Engineering, University of Oklahoma, Norman, OK, United States

16:12 **0733.** **Dynamic T1rho Imaging in Panic Disorder**

Vincent A. Magnotta[1, 2], Casey P. Johnson[1], Robin Follmer[2], Simon Roh[1], John A. Wemmie[2]

[1]Radiology, The University of Iowa, Iowa City, IA, United States; [2]Psychiatry, The University of Iowa, Iowa City, IA, United States

16:24 **0734.** **Structural and Functional Connectivity Changes in the Brain Associated with Shyness But Not with Social Anxiety**

ISMRM MERIT AWARD magna cum laude

Xun Yang[1], Keith Maurice Kendrick[2], Taolin Chen[1], Bochao Cheng[1], Li Yao[1], Shiguang Li[1], Xiaoqi Huang[1], Qiyong Gong[1]

[1]Huaxi MR Research Center (HMRRC), West China Hospital of Sichuan University, Chengdu, Sichuan, China; [2]Key Laboratory for Neuroinformation, School of Life Science and Technology, University of Electronic Science and Technology of China, Chengdu, Sichuan, China

16:36 **0735.** **Cortical Thickness Revealing Cerebral Anatomical Deficits in Drug-Naive First-Episode Schizophrenia**

ISMRM MERIT AWARD magna cum laude

Yuan Xiao[1], Su Lui[1], Li Yao[1], Teng Xie[2], Yong He[2], Qiyong Gong[1]

[1]Department of Radiology, Huaxi MR Research Center,West China Hospital, Chengdu, Sichuan, China; [2]State Key Laboratory of Cognitive Neuroscience and Learning,Beijing Normal University, Beijing, China

16:48 **0736.** **CBF Differences Between Healthy and Schizophrenic Brains – a FBIRN Phase 3 Multisite Study at 3T Using CBFBIRN Database and Analysis Pipeline**

David Shin[1], Jerod Rasmussen[2], Burak Ozyurt[1], Juan Bustillo[3], Theodorus GM Van Erp[2], Jatin Vaidya[4], Daniel Mathalon[5], Bryon Mueller[6], James Voyvodic[7], Douglas Greve[8], Judith Ford[5], Gary H. Glover[9], Gregory Brown[1], Steven Potkin[3], Thomas Liu[1]

[1]University of California, San Diego, La Jolla, CA, United States; [2]University of California, Irvine, Irvine, CA, United States; [3]University of New Mexico, Albuquerque, NM, United States; [4]University of Iowa, Iowa City, IA, United States; [5]University of California, San Francisco, San Francisco, CA, United States; [6]University of Minnesota, Twin Cities, Minneapolis, MN, United States; [7]Duke University, Durham, NC, United States; [8]Harvard Medical School, Massachusetts General Hospital, Charlestown, MA, United States; [9]Stanford University, Stanford, CA, United States

17:00 **0737.** **Hippocampal Choline Level Predicts Symptomatic Improvement with Agomelatine in Major Depressive Disorder: A 3 Tesla Single Voxel Spectroscopy Study**

Najib Allaïli[1, 2], Romain Valabregue[3], Malgorzata MarjanskaA[3, 4], Pauline Delaveau[1], Éric Bardinet[2], Maritza Jabourian[5], Judith LAREDO[5], Philippe Fossati[1, 6], Stéphane Lehéricy[2, 7]

[1]USR 3246, CNRS, Paris, Île-de-France, France; [2]Centre de Neuroimagerie de Recherche - CENIR, Institut du Cerveau et de la Moelle épinière - ICM, Paris, Île-de-France, France; [3]Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, MN, United States; [4]Department of Radiology, University of Minnesota, Minneapolis, MN, United States; [5]Institut de Recherches Internationales Servier - IRIS, Courbevoie, Île-de-France, France; [6]Psychiatry, APHP - GH Pitié Salpêtrière, Paris, Île-de-France, France; [7]UMR-S975 ; Inserm, U975 ; CNRS, UMR 7225, Paris, France, CRICM, Université Pierre et Marie Curie, Paris, Île-de-France, France

17:12 **0738.** **Impact of Cocaine Use on Brain Metabolism: Hypoactivity, Dose Dependence, and Relationship to Cognitive Ability**

ISMRM MERIT AWARD magna cum laude

Peiying Liu[1], Bryon Adinoff[2, 3], Carol Tamminga[2], Francesca Filbey[4], Hanzhang Lu[1]

[1]Advanced Imaging Research Center, University of Texas Southwestern Medical Center, Dallas, TX, United States; [2]Department of Psychiatry, University of Texas Southwestern Medical Center, Dallas, TX, United States; [3]VA North Texas Health Care System, Dallas, TX, United States; [4]Center For Brain Health, University of Texas at Dallas, Dallas, TX, United States

17:24 **0739.** **Effects of an Antidepressant Dose of Ketamine on Prefrontal Aspartate, Glutamine and Gaba Levels in Healthy Subjects: Assessing the Post-Infusion Interval with 1H-MRS**

ISMRM MERIT AWARD magna cum laude

Milan Scheidegger[1, 2], Alexander Fuchs[1], Mick Lehmann[2], Simone Grimm[2, 3], Heinz Boeker[2], Erich Seifritz[2], Anke Henning[1, 4]

[1]Institute for Biomedical Engineering, University and ETH Zurich, Zurich, Switzerland; [2]Clinic of Affective Disorders and General Psychiatry, University Hospital of Psychiatry Zurich, Zurich, Switzerland; [3]Cluster Languages of Emotion, Freie Universität Berlin, Berlin, Germany, Germany; [4]Max Planck Institute for Biological Cybernetics, Tübingen, Germany

17:36 **0740.** **Spatial Working Memory in Attention Deficit Hyperactivity Disorder**

ISMRM MERIT AWARD magna cum laude

Steffen Bollmann[1, 2], Carmen Ghisleni[1, 3], Ruth L. O'Gorman[1, 3], Simon S. Poil[1, 3], Peter Klaver, [3,4], Lars Michels[1, 5], Juliane Ball[6], Dominique Eich-Höchli[7], Ernst Martin[1, 3], Daniel Brandeis[6, 8]

[1]Center for MR-Research, University Children's Hospital, Zürich, Switzerland; [2]Center for Integrative Human Physiology (ZIHP), University of Zürich, Zürich , Switzerland; [3]Center for Integrative Human Physiology (ZIHP), University of Zürich, Zürich, Switzerland; [4]Institute of Psychology, University of Zürich, Zürich, Switzerland; [5]Institute of Neuroradiology, University of Zürich, Zürich, Switzerland; [6]Department of Child & Adolescent Psychiatry, University of Zürich, Zürich, Switzerland; [7]Psychiatric University Hospital, University of Zürich, Zürich, Switzerland; [8]Central Institute of Mental Health Mannheim, Medical Faculty Mannheim/ Heidelberg University, Mannheim, Germany

17:48 **0741.** **CoQ10 Effect on Cerebral Metabolites and Mood Conditions in Geriatric Bipolar Depression**

Chun S. Zuo[1], Brent Forester[1], Fei Du[1], Perry F. Renshaw[2]

[1]McLean Hospital, Belmont, MA, United States; [2]The Brain Institute, Dept. of Psychiatry, University of Utah, Salt Lake City, UT, United States

Body Perfusion & Contrast Agents

Room 155 EF 16:00-18:00 *Moderators:* Peter Caravan & Brian A. Hargreaves

16:00 **0742.** **Liver Perfusion Quantification with MR-DCE Imaging at 3.0 T for Liver Fibrosis Assessment in Patients with Chronic Liver Diseases**

Benjamin Leporq[1], Frank Pilleul, [1,2], Jerome Dumortier[3], Olivier Guillaud[3], Thibaud Lefort[2], Sdika Michaël[1], Olivier Beuf[1]

[1]CREATIS; CNRS UMR 5220; INSERM U1044; INSA-Lyon; UCBL, Université de Lyon, Villeurbanne, Rhône-Alpes, France; [2]CHU Edouard Herriot; Department of digestive imaging, Hospices Civils de Lyon, Lyon, Rhône-Alpes, France; [3]CHU Edouard Herriot; Department of Hepatology, Hospices Civils de Lyon, Lyon, Rhône-Alpes, France

16:12 **0743.** **The Impact of Dixon Fat Suppression on Liver T1 and DCE Perfusion Quantification**

Yuan Le[1], Fatih Akisik[1], Brian M. Dale[2], Karen Koons[1], Chen Lin[1]

[1]Radiology and Imaging Science, Indiana University School of Medicine, Indianapolis, IN, United States; [2]MR R&D, Siemens Medical Solutions, Morrisville, NC, United States

16:24 **0744.** **Comparison of Contrast-Enhanced Magnetic Resonance Perfusion Imaging and Magnetic Resonance Fourier Decomposition with Single-Photon Emission Computed Tomography as Clinical Reference Standard for Lung Perfusion in Patients with Suspected Chronic Thromboe**

ISMRM MERIT AWARD magna cum laude

Marcel Gutberlet[1], Christian Schönfeld[1], Jan Hinrichs[2], Julius Renne[1], Georg Berding[3], Marius Hoeper[4], Tobias Welte[4], Frank Bengel[3], Frank Wacker[1], Jens Vogel-Claussen[1]

[1]Institute of Radiology, Medical School Hannover, Hannover, Lower Saxony, Germany; [2]Institute of Radiology, Hannover Medical School, Hannover, Lower Saxony, Germany; [3]Clinic for Nuclear Medicine, Medical School Hannover, Hannover, Lower Saxony, Germany; [4]Clinic of Pneumology, Medical School Hannover, Hannover, Lower Saxony, Germany

16:36 **0745.** **Bone Marrow Uptake of Ferumoxytol: A Preliminary Study in Healthy Human Subjects**

Pippa Storey[1], Arnaldo A. Arbini[2]

[1]Radiology Department, New York University School of Medicine, New York, NY, United States; [2]Department of Pathology, New York University School of Medicine, New York, NY, United States

16:48 **0746.** **Comparative Relaxivities and Efficacies of Gadolinium-Based Commercial Contrast Agents.**

Luce Vander Elst[1], Jean-Sebastien Raynaud[2], Veronique Vives[2], Robin Santus[2], Gaelle Louin[2], Philippe Robert[2], Marc Port[2], Claire Corot[3], Robert N. Muller[1]

[1]Department of General, Organic and Biomedical Chemistry, NMR and Molecular Imaging Laboratory, Mons, Belgium; [2]Experimental Imaging, Guerbet, Roissy CdG Cedex, France; [3]Experimental Imaging, Guerbet Research, Roissy CdG Cedex, France

17:00 **0747.** **Risk Factors for Immediate Adverse Events to Gadolinium-Based Contrast Agents (GBCA)**
ISMRM MERIT AWARD magna cum laude
Silvina P. Dutruel[1], Zhitong Zou[1], Martin R. Prince[1]
[1]Radiology, Weill Cornell Medical College, New York, NY, United States

17:12 **0748.** **Intra-Individual Assessment of the Bolus Properties of 0.5M Gadopentetate Dimeglumine and 1.0M Gadobutrol in Time-Resolved Contrast-Enhanced 4D-MRA and Dynamic CT in a Minipig Model**
Dariusch Reza Hadizadeh[1], Gregor Jost[2], Hubertus Pietsch[2], Martin Weibrecht[3], Marco Lierfeld[4], Jack Boschewitz[1], Hans H. Schild[1], Winfried Albert Willinek[1]
[1]Radiology, University of Bonn, Bonn, NRW, Germany; [2]MR and CT Contrast Media Research, Bayer Healthcare, Berlin, Germany; [3]Research Laboratories, Philips Technologie GmbH Innovative Technologies,, Aachen, NRW, Germany; [4]Institute of Imaging & Computer Vision), RWTH Aachen University, Aachen, NRW, Germany

17:24 **0749.** **Anamolous Behavior of Lanthanide Chelates at 7T**
Talaignair N. Venkatraman[1], Christopher D. Lascola[2]
[1]Radiolgy, Duke University Medical Center, Durham, NC, United States; [2]Radiology, Duke University Medical Center, Durham, NC, United States

17:36 **0750.** **Imaging of Dual ^{19}F Tracer Gases for Measurement of Lung Ventilation Properties**
Peter E. Thelwall[1, 2], Christopher R. Fox[2], Hannah Walden[3], Andrew Fisher[2]
[1]Newcastle Magnetic Resonance Centre, Newcastle University, Newcastle upon Tyne, United Kingdom; [2]Institute of Cellular Medicine, Newcastle University, Newcastle upon Tyne, United Kingdom; [3]Biomedical and Biomolecular Research Centre, Northumbria University, Newcastle upon Tyne, United Kingdom

fMRI with Simultaneous [Insert Modality Here]

Room 255 BC 16:00-18:00 *Moderators:* Galit Pelled & Robert Turner

16:00 **0751.** **Deep Brain Stimulation at the Internal Globus Pallidus Produces fMRI Response in the Motor Cortex**
ISMRM MERIT AWARD summa cum laude
John Robert Younce[1], Hsin-Yi Lai[1], Yen-Yu Ian Shih[1]
[1]Experimental Neuroimaging Laboraory, Department of Neurology and Biomedical Research Imaging Center, UNC Chapel Hill, Chapel Hill, NC, United States

16:12 **0752.** **Direct Intracranial Stimulation and Simultaneous fMRI Using Implanted Electrodes**
Stephen Jones[1], Rafi Avitsian[1], Pallab K. Bhattacharyya[1], Juan Bulacio[1], Rei Enatsu[1], Jorge A. Gonzalez-Martinez[1], Dileep Nair[1], Imad Najm[1], Michael Phillips[1], Myron Zhang[1]
[1]Cleveland Clinic Foundation, Cleveland, OH, United States

16:24 **0753.** **Combined Intraneural Microstimulation and High Resolution fMRI at 7T**
ISMRM MERIT AWARD magna cum laude
Rosa M. Sanchez Panchuelo[1], Rochelle Ackerley[2], Paul M. Glover[3], Bader Al Debasi[3], Richard W. Bowtell[3], Johan Wessberg[2], Susan T. Francis[3], Francis McGlone[4]
[1]Sir Peter Mansfield Magnetic Resonance Centre , University of Nottingham, Nottingham, United Kingdom; [2]Physiology, University of Gothenburg, Göteborg, Sweden; [3]Sir Peter Mansfield Magnetic Resonance Centre, University of Nottingham, Nottingham, United Kingdom; [4]Cognitive Neuroscience, Liverpool John Moores University, Liverpool, United Kingdom

16:36 **0754.** **Neuroelectrical Decomposition of Spontaneous Brain Activity Observed with Functional Magnetic Resonance Imaging**
ISMRM MERIT AWARD summa cum laude
Zhongming Liu[1], Jacco A. De Zwart[1], Catie Chang[1], Qi Duan[1], Peter van Gelderen[1], Jeff H. Duyn[1]
[1]Advanced MRI Section, Laboratory of Functional and Molecular Imaging, NINDS, National Institutes of Health, Bethesda, MD, United States

16:48 **0755.** **Tight Neurovascular Coupling in Human Sensorimotor Cortex: A Combined ECoG and 7T BOLD fMRI Experiment**
ISMRM MERIT AWARD summa cum laude
Jeroen Cornelis Willem Siero[1, 2], Dora Hermes[1, 3], Hans Hoogduin[2], Peter R. Luijten[2], Natalia Petridou[2], Nick F. Ramsey[1]
[1]Rudolf Magnus Institute, University Medical Center Utrecht, Utrecht, Netherlands; [2]Radiology, University Medical Center Utrecht, Utrecht, Netherlands; [3]Stanford University, Stanford, CA, United States

17:00 **0756.** **Variability in Distribution of fMRI BOLD Response Linked to Prestimulus Alpha Power in Simultaneously-Acquired EEG**
Jennifer Marie Walz[1], Michael Carapezza[1], Bin Lou[1], Robin Goldman[1], Truman Brown[2], Paul Sajda[1]
[1]Biomedical Engineering, Columbia University, New York, NY, United States; [2]Radiology and Radiological Science, Medical University of South Carolina, Charleston, SC, United States

17:12 **0757.** **Does VASO Contrast Really Allow Measurement of CBV at High Field (&[ge]7T)? An *In-Vivo* Quantification Using Concurrent Optical Imaging Spectroscopy.**
Aneurin James Kennerley[1], Laurentius Huber[2], Toralf Mildner[2], John Edward Mayhew[1], Robert Turner[3], Harald E. Möller[2], Jason Berwick[1]
[1]Faculty of Science, University of Sheffield, Sheffield, South Yorks., United Kingdom; [2]Nuclear Magnetic Resonance Unit, Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany; [3]Neurophysics, Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany

17:24 **0758.** **Targeting Projection Fibers for Optogenetics and fMRI**
ISMRM MERIT AWARD summa cum laude
Xin Yu[1], Stephen Dodd[2], Alan P. Koretsky[1]
[1]NIH, Bethesda, MD, United States; [2]National Institutes of Health, Bethesda, MD, United States

17:36 **0759.** **Evaluation of fMRI Signal Versus Receptor Occupancy Using Simultaneous PET/fMRI**
ISMRM MERIT AWARD summa cum laude
Christin Y. Sander[1, 2], Jacob M. Hooker[1], Bruce R. Rosen[1, 3], Joseph B. Mandeville[1]
[1]A. A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Harvard Medical School, Charlestown, MA, United States; [2]Electrical Engineering, Massachusetts General Hospital, Cambridge, MA, United States; [3]Health Sciences and Technology, Harvard-MIT, Cambridge, MA, United States

17:48 **0760.** **Simultaneous fMRI-PET Imaging of the Opioidergic Pain System in Human Brain**
ISMRM MERIT AWARD magna cum laude
Hsiao-Ying Wey[1], Ciprian Catana[2], Jacob M. Hooker[1], Darin D. Dougherty, [13], Gitte M. Knudsen[4], Bruce R. Rosen[1], Randy L. Gollub, [13], Jian Kong[3]
[1]Athinoula A. Martinos Center, Department of Radiology, Massachusetts General Hospital, Harvard Medical School, Charlestown, MA, United States; [2]Athinoula A. Martinos Center, Department of Radiology, Massachusetts General Hospital, Charlestown, MA, United States; [3]Department of Psychiatry, Massachusetts General Hospital, Harvard Medical School, Charlestown, MA, United States; [4]Neurobiology Research Unit, Rigshospitalet and University of Copenhagen, Copenhagen, DK-2100, Denmark

UTE: Methods & Applications

Room 255 EF 16:00-18:00 *Moderators:* Michael Carl & Peder E. Z. Larson

16:00 **0761.** **High-Bandwidth ZTE Imaging with Sub-Millisecond TR**
Markus Weiger[1], David Otto Brunner[1], Benjamin E. Dietrich[1], Klaas P. Pruessmann[1]
[1]Institute for Biomedical Engineering, University and ETH Zurich, Zurich, Switzerland

16:12 **0762.** **Zero Echo Time (ZTE) Imaging with Anisotropic Field-Of-View**
ISMRM MERIT AWARD magna cum laude
Cheng Li[1], Alan C. Seifert[1], Jeremy F. Magland[1], Felix W. Wehrli[1]
[1]Laboratory for Structural NMR Imaging, Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States

16:24 **0763.** **Adiabatic Inversion Recovery Prepared Ultrashort Echo Time (IR-UTE) Imaging of Bound Water in Cortical Bone**
Shihong Li[1, 2], Michael Carl[3], Eric Chang[1], Won C. Bae[1], Christine Chung[1], Graeme M. Bydder[4], Jiang Du[1]
[1]Radiology, University of California, San Diego, San Diego, CA, United States; [2]Huadong Hospital, Fudan University, Shanghai, China; [3]Global Applied Science Laboratory, GE Healthcare, San Diego, CA, United States; [4]Radiology, University of California San Diego, San Diego, CA, United States

16:36 **0764.** **SWIFT with Magnetization Preparation: Signal Partitioning and 3D Measurement of Adiabatic T1rho in Osteochondral Specimen**
ISMRM MERIT AWARD magna cum laude
Jinjin Zhang[1, 2], Mikko J. Nissi[1, 3], Djaudat Idiyatullin[1], Shalom Michaeli[1], Michael Garwood[1], Jutta Maria Ellermann[1]
[1]Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, MN, United States; [2]Department of Orthopedic Surgery, University of Minnesota, Minneapolis, Minnesota, United States; [3]Department of Orthopedic Surgery, University of Minnesota, Minneapolis, MN, United States

16:48 **0765. Off-Resonant Reconstruction of Balanced 3D-Radial Acquisitions with Half-Echo Sampling for Unique Cell Tracking Contrast**
Clemens Diwoky[1], Daniel Gungl[2], Andreas Reinisch[2], Nicole Anette Hofmann[2], Dirk Strunk[2], Rudolf Stollberger[1]
[1]Institute of Medical Engineering, Graz University of Technology, Graz, Austria; [2]Stem Cell Research Unit, Dept. of Hematology, Univ. Clinic of Internal Medicine, Medical University of Graz, Graz, Austria

17:00 **0766. Off-Resonance Saturation Enhanced Phase Contrast of the Brain at Ultra-Short TE**
Chunlei Liu[1, 2], Wei Li[1], Peder Larson[3]
[1]Brain Imaging and Analysis Center, Duke University, Durham, NC, United States; [2]Department of Radiology, Duke University, Durham, NC, United States; [3]Radiology and Biomedical Imaging, UCSF School of Medicine, San Francisco, CA, United States

17:12 **0767. Decoupling of Tx/Rx Coils Using a Tx-Array System: Application to UTE and CEA**
Ali Caglar Ozen[1, 2], Ergin Atalar[1, 2]
[1]Electrical and Electronics Engineering, Bilkent University, Ankara, Turkey; [2]National Magnetic Resonance Research Center (UMRAM), Ankara, Turkey

17:24 **0768. Comparison of Sequences for MR-Based Cortical Bone Imaging and Tissue Classification in the Pelvis at 3.0T with Subsequent Generation of Electron Density Maps and Digitally Reconstructed Radiographs**
Michael Helle[1], Christian Stehning[1], Melanie S. Traughber[2], Nicole Schadewaldt[1], Heinrich Schulz[1], Steffen Renisch[1], Stefanie Remmele[3]
[1]Philips Research Laboratories, Hamburg, Germany; [2]Philips Healthcare, Cleveland, OH, United States; [3]Hochschule Landshut (FH), Landshut, Germany

17:36 **0769. Rapid Acquisition of PET Attenuation Maps from Highly Undersampled UTE Images Using Sparse-SENSE Reconstruction**
ISMRM MERIT AWARD magna cum laude
Andrew Peter Aitken[1], Christoph Kolbitsch[1], Tobias Schaeffter[1], Claudia Prieto[1]
[1]Division of Imaging Sciences and Biomedical Engineering, King's College London, London, United Kingdom

17:48 **0770. On the Reproducibility of MR-Based PET Attenuation Correction Using a Probabilistic Atlas-Based Method**
Kevin T. Chen[1, 2], Daniel B. Chonde, [2,3], Ciprian Catana[4]
[1]Health Sciences and Technology, Massachusetts Institute of Technology, Cambridge, MA, United States; [2]Athinoula A. Martinos Center for Biomedical Imaging, Charlestown, MA, United States; [3]Biophysics, Harvard University, Boston, MA, United States; [4]Massachusetts General Hospital, Charlestown, MA, United States

Fibers & Tractography

Room 355 BC 16:00-18:00 *Moderators:* Maxime Descoteaux & Carl-Fredrik Westin

18:00 **0771. Estimation of White Matter Fiber Orientations with the Funk-Radon and Cosine Transform**
Justin P. Haldar[1], David W. Shattuck[2], Richard M. Leahy[1]
[1]Signal and Image Processing Institute, University of Southern California, Los Angeles, CA, United States; [2]Laboratory of Neuro Imaging, University of California, Los Angeles, CA, United States

18:12 **0772. A Robust Spherical Deconvolution Method for the Analysis of Low SNR or Low Angular Resolution Diffusion Data**
Jacques-Donald Tournier[1, 2], Fernando Calamante, [2,3], Alan Connelly[1, 2]
[1]Advanced MRI development, The Florey Institute of Neuroscience and Mental Health, Melbourne, Victoria, Australia; [2]Department of Medicine, University of Melbourne, Melbourne, Victoria, Australia; [3]Advanced MRI development, Florey Institute of Neuroscience and Mental Health, Melbourne, Victoria, Australia

18:24 **0773. ND-Track: Tractography Utilising Parametric Models of White Matter Fibre Orientation Dispersion**
ISMRM MERIT AWARD magna cum laude
Matthew Rowe[1], Hui Zhang[1], Daniel C. Alexander[1]
[1]Department of Computer Science and Centre for Medical Image Computing, University College London, London, United Kingdom

18:36 **0774.** **Robustifying Probabilistic Tractography by Using Track Orientation Distributions**

ISMRM MERIT AWARD summa cum laude

Thijs Dhollander[1, 2], Louise Emsell[1, 3], Wim Van Hecke[1], Frederik Maes[1, 2], Stefan Sunaert[1, 3], Paul Suetens[1, 2]
[1]Medical Imaging Research Center (MIRC), KU Leuven, Leuven, Belgium; [2]Department of Electrical Engineering (ESAT), KU Leuven, Leuven, Belgium; [3]Translational MRI, KU Leuven, Leuven, Belgium

18:48 **0775.** **Online Filtering Tractography: Tracking with Anatomical Priors**

Gabriel Girard[1], Maxime Descoteaux[1]
[1]Computer Science Department, Université de Sherbrooke, Sherbrooke, Québec, Canada

19:00 **0776.** **Tractography with Physiology Rendering of Human Brain Using Diffusion Basis Spectrum Imaging**

ISMRM MERIT AWARD magna cum laude

Yong Wang[1], Peng Sun[1], Fang-Chang Yeh[2], Robert Naismith[3, 4], Anne H. Cross[3, 4], Sheng-Kwei Song[1, 4]
[1]Radiology, Washington University in St. Louis, Saint Louis, MO, United States; [2]Departments of Biomedical Engineering, Carnegie Mellon University, Pittsburgh, PA, United States; [3]Neurology, Washington University in St. Louis, Saint Louis, MO, United States; [4]Hope Center of Neurological disorders, Washington University in St. Louis, Saint Louis, MO, United States

19:12 **0777.** **Atlas-Guided Cluster Analysis of Fiber Tracts**

Christian Ros[1, 2], Daniel Guellmar[1], Martin Stenzel[2], Hans-Joachim Mentzel[2], Jürgen R. Reichenbach[3]
[1]Medical Physics Group, Institute of Diagnostic and Interventional Radiology I, Jena University Hospital - Friedrich Schiller University Jena , Jena, TH, Germany; [2]Pediatric Radiology, Institute of Diagnostic and Interventional Radiology I, Jena University Hospital - Friedrich Schiller University Jena , Jena, TH, Germany; [3]Medical Physics Group, Institute of Diagnostic and Interventional Radiology I, Jena University Hospital - Friedrich Schiller University Jena, Jena, TH, Germany

19:24 **0778.** **Fast and Fully Automated Clustering of Whole Brain Tractography Results Using Shape-Space Analysis**

ISMRM MERIT AWARD summa cum laude

Greg D. Parker[1], David Marshall[2], Paul L. Rosin[2], Nicholas Drage[3], Stephen Richmond[3], Derek K. Jones[1]
[1]CUBRIC, School of Psychology, Cardiff University, Cardiff, South Glamorgan, United Kingdom; [2]School of Computer Science, Cardiff University, Cardiff, South Glamorgan, United Kingdom; [3]School of Dentistry, Cardiff University, Cardiff, South Glamorgan, United Kingdom

19:36 **0779.** **Study of the Variability of Short Association Bundles Segmented Using an Automatic Method Applied to a HARDI Database.**

Edison Pardo[1], Pamela Guevara[1], Delphine Duclap[2], Josselin Houenou[2], Alice Lebois[2], Benoit Schmitt[2], Denis Le Bihan[2], Jean-François Mangin[2], Cyril Poupon[2]
[1]University of Concepción, Concepción, Chile; [2]I2BM, CEA-Neurospin, Gif-sur-Yvette, France, France

19:48 **0780.** **Mapping Putative Centrality Hubs in Rhesus Macaques and Humans Using Diffusion Tractography and Graph Theory**

ISMRM MERIT AWARD summa cum laude

Longchuan Li[1], Xiaoping P. Hu[2], Todd Preuss[3, 4], Matthew F. Glasser[5], Frederick William Damen[2], Yuxuan Qiu[6], James Rilling[4, 7]
[1]Biomedical Imaging Technology Center, Emory University/Georiga Tech, Atlanta, GA, United States; [2]Department of Biomedical Engineering, Emory University/Georgia Tech, Atlanta, GA, United States; [3]Division of Neuropharmacology and Neurologic Diseases, Yerkes National Primate Research Center, Emory University, Atlanta, GA, United States; [4]Center for Translational and Social Neuroscience, Emory University, Atlanta, GA, United States; [5]Department of Anatomy and Neurobiology, Washington University School of Medicine, St. Louis, MO, United States; [6]School of Chemistry and Biochemistry, Georgia Institute of Technology, Atlanta, GA, United States; [7]Department of Anthropology, Emory University, Atlanta, GA, United States

Brain Diffusion Imaging: Clinical Applications Across the Lifespan

Room 355 EF 16:00-18:00 *Moderators:* Hao Huang & Wen-Yih Issac Tseng

16:00 **0781.** **A Critical Consideration on the Absence of Significance and the Impact of Structure Size When Interpreting DTI and DKI Results**

ISMRM MERIT AWARD magna cum laude

Filip Szczepankiewicz[1], Jimmy Lätt[2], Ronnie Wirestam[1], Alexander Leemans[3], Pia Sundgren[2, 4], Danielle van Westen[2, 4], Freddy Ståhlberg[1, 4], Markus Nilsson[1]
[1]Department of Medical Radiation Physics, Lund University, Lund, Sweden; [2]MR Department, Lund University Hospital, Lund, Sweden; [3]Image Sciences Institute, University Medical Center Utrecht, Utrecht, Netherlands; [4]Department of Diagnostic Radiology, Lund University, Lund, Sweden

16:12 **0782.** **Abnormal White Matter Microstructure of Posterior Cerebral Tracts Correlates with Sensory Dysfunction, Impaired Multisensory Integration and Inattention in Children with Sensory Processing Disorders**
Julia P. Owen[1], Elysa Marco[2], Emily Fourie[1], Shivani Desai[2], Julia Harris[2], Susanna Hill[2], Pratik Mukherjee[1]
[1]Radiology, UCSF, San Francisco, CA, United States; [2]Neurology, UCSF, San Francisco, CA, United States

16:24 **0783.** **Atypical Axonal Integrity in Young Adults with High-Functioning Autism**
Mariana Lazar[1], Laura Miles[1], Jeffrey Donaldson[1]
[1]Department of Radiology, New York University School of Medicine, New York, NY, United States

16:36 **0784.** **Clinical Utility of NODDI in Assessing Patients with Epilepsy Due to Focal Cortical Dysplasia**
ISMRM MERIT AWARD magna cum laude
Gavin P. Winston[1], Mark R. Symms[1], Daniel C. Alexander[2], John S. Duncan[1], Hui Zhang[2]
[1]Epilepsy Society MRI Unit & Department of Clinical and Experimental Epilepsy, UCL Institute of Neurology, London, United Kingdom; [2]Department of Computer Science & Centre for Medical Image Computing, University College London, London, United Kingdom

16:48 **0785.** **Altered Structural Connectivity and Network Organization in Mesial Temporal Lobe Epilepsy**
Matthew DeSalvo[1], Linda Douw[1], Naoaki Tanaka[1], Claus Reinsberger[1], Steven M. Stufflebeam[1]
[1]Athinoula A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Charlestown, MA, United States

17:00 **0786.** **Biophysical Microstructure Markers Are Correlated with Disease Severity in Medial Temporal Lobe Epilepsy**
Ali Tabesh[1, 2], Jens H. Jensen[1, 2], Edward S. Hui[1, 2], Maria V. Spampinato[1, 2], Jonathan C. Edwards[3], Joseph A. Helpern[1, 2], Leonardo Bonilha,[2 3]
[1]Radiology and Radiological Science, Medical University of South Carolina, Charleston, SC, United States; [2]Center for Biomedical Imaging, Medical University of South Carolina, Charleston, SC, United States; [3]Comprehensive Epilepsy Center, Neurosciences, Medical University of South Carolina, Charleston, SC, United States

17:12 **0787.** **Apparent Fibre Density Shows Tract-Specific White Matter Changes in Temporal Lobe Epilepsy**
ISMRM MERIT AWARD magna cum laude
David Vaughan[1, 2], David A. Raffelt[1, 3], Jacques-Donald Tournier[1, 3], Graeme Jackson[1, 2], Alan Connelly[1, 3]
[1]Brain Research Institute, Florey Institute of Neuroscience and Mental Health, Melbourne, Victoria, Australia; [2]Department of Neurology, Austin Health, Melbourne, Victoria, Australia; [3]Department of Medicine, University of Melbourne, Melbourne, Victoria, Australia

17:24 **0788.** **A History of Fight Exposure Predicts DTI Measures in Fighter Populations**
ISMRM MERIT AWARD magna cum laude
Wanyong Shin[1], Shamseldeen Mahmoud[1], Ken E. Sakaie[1], Banks Sarah[2], Mark J. Lowe[1], Michael Phillips[1], Michael T. Modic[1], Charles Bernicks[2]
[1]Radiology Dept., Cleveland Clinic, Cleveland, OH, United States; [2]Lou Ruvo Center for Brain Health, Cleveland Clinic, Las Vegas, NV, United States

17:36 **0789.** **Improve Diagnosis of Sport-Related Sub-Concussive Injury of Individual Football Athletes: Changes in DTI and Mechanical Impact Metrics from Real-Time Recording**
Tong Zhu[1], Eric Blackman[2], Xing Qiu[3], Jeffray Bazarian[4], Rui Hu[3], Eric Rozen[5], Jianhui Zhong[1]
[1]Imaging Sciences, University of Rochester, Rochester, NY, United States; [2]Physics and Astronomy, University of Rochester, Rochester, NY, United States; [3]Biostatistics, University of Rochester, Rochester, NY, United States; [4]Emergency Medicine, University of Rochester, Rochester, NY, United States; [5]Athletics and Recreation, University of Rochester, Rochester, NY, United States

17:48 **0790.** **Free-Water Elimination for Assessing Microstructural Gray Matter Pathology - With Application to Alzheimer's Disease**
Thomas van Bruggen[1], Hui Zhang[2], Ofer Pasternak[3], Hans-Peter Meinzer[1], Bram Stieltjes[4], Klaus Hermann Fritzsche[1, 4]
[1]Division of Medical and Biological Informatics, German Cancer Research Center, Heidelberg, Germany; [2]Department of Computer Science & Centre for Medical Image Computing, UCL, London, United Kingdom; [3]Department of Psychiatry, Brigham and Women's Hospital, Harvard Medical School, Boston, MA, United States; [4]Division of Quantitative Image-based Disease Characterization, German Cancer Research Center, Heidelberg, Germany

Educational Course
MR Physics & Techniques for Clinicians

*Organizers:*Marcus T. Alley, Ph.D. & Michael Markl, Ph.D.
Room 251 BCEF 16:00-18:00 *Moderators:*Marcus T. Alley & Michael Markl

16:00 **Diffusion & Perfusion Weighted Imaging**
Matthias Weigel, Ph.D.

16:40 **Contrast Agents**
Michael V. Knopp, M.D., Ph.D.

17:20 **High Field Imaging**
Priti Balchandani, Ph.D.

18:00 **Adjournment**

Educational Course
Game Show: Lower-Higher: The Transition from Low Field to High Field - Case-Based Teaching

*Organizers:*Charles A. McKenzie, Ph.D. & Thoralf Niendorf, Ph.D.
Room 250 BCEF 16:00-18:00 *Moderator:*Charles A. McKenzie

Hosts:
Walter F. Block, Ph.D.
Thoralf Niendorf, Ph.D.
Nicole E. Seiberlich, Ph.D.

16:00 **Artifact Identification & Elimination Game Show**

18:00 **Adjournment**

Closing Party

Salt Palace Convention Center, Hall AB 18:15-22:00

Plenary Session
Connectomics: A New Frontier in Neuroscience

Organizers: Xiaoping P. Hu, Ph.D., Derek K. Jones, Ph.D. & Karla L. Miller, Ph.D.

Plenary Hall 08:15-09:30

08:15 **0791.** **Establishing the Brain's Connections: How Connectomics with Change Basic & Clinical Neuroscience**
Klaas E. Stephan, M.D.

08:40 **0792.** **State of the Art in Hardware, Acquisition & Analysis for In-Vivo Connectivity**
Lawrence L. Wald, Ph.D.

09:05 **0793.** **Innovations in Multi-Modal Imaging for Mapping a Comprehensive Human Connectome**
Kamil Ugurbil, Ph.D.

09:30 **Adjournment**

Normal Developing Brain

Room 150 AG 10:30-12:30 *Moderators:* Petra S. Hüppi & Duan Xu

10:30 **0794.** **Diffeomorphic Construction of a Normative Spatiotemporal Fetal Brain MRI Template**
Ali Gholipour[1], Catherine Limperopoulos[2], Cedric Clouchoux[2], Alireza Akhondi-Asl[1], Judy A. Estroff[1], Simon K. Warfield[1]
[1]Department of Radiology, Boston Children's Hospital and Harvard Medical School, Boston, MA, United States; [2]Children's National Medical Center, Washington, DC, United States

10:42 **0795.** **Brain Development in Preterm and Term Neonates Assessed by White Matter Model of Diffusion Kurtosis Imaging with Tract-Based Spatial Statistics Analysis**
Xianjun Li[1, 2], Jie Gao[1], Yumiao Zhang[1], Xue Luo[1, 2], Jianghong Han[1], Gang Niu[1], Mingxi Wan[2], Ed X. Wu[3], Jian Yang[1, 2]
[1]Department of Radiology, The First Affiliated Hospital of Medical College, Xi'an Jiaotong University, Xi'an, Shaanxi, China; [2]Department of Biomedical Engineering, School of Life Science and Technology, Xi'an Jiaotong University, Xi'an, Shaanxi, China; [3]Laboratory of Biomedical Imaging and Signal Processing, The University of Hong Kong, Hong Kong, Hong Kong SAR, China

10:54 **0796.** **Brain Microstructure Assessed by CHARMED and NODDI in the Newborn**
Nicolas Kunz[1], Hui Zhang[2], Yaniv Assaf[3], François Lazeyras[4], Daniel Alexander[2], Petra Susan Hüppi[1, 5]
[1]Pediatrics, University of Geneva, Geneva, Switzerland; [2]Computer Science, University College London, London, United Kingdom; [3]Neurobiology, Tel Aviv University, Tel Aviv, Israel; [4]Radiology-CIBM, Geneva University Hospitals, Geneva, Switzerland; [5]Department of Neurology, Children's Hospital, Geneva, Switzerland

11:06 **0797.** **High B-Value HARDI Analysis in Neonates Scanned at Term-Equivalent Age Reveals Correlation Between Apparent White Matter Fibre Density and Immaturity at Birth**
Jacques-Donald Tournier[1, 2], Serena J. Counsell[3], David A. Raffelt[1], Nora Tusor[4], Phumza Nongena[4], A. David Edwards[3], Joseph V. Hajnal[3], Alan Connelly[1, 2]
[1]Advanced MRI development, The Florey Institute of Neuroscience and Mental Health, Melbourne, Victoria, Australia; [2]Department of Medicine, University of Melbourne, Melbourne, Victoria, Australia; [3]Centre for the Developing Brain, King's College London, London, United Kingdom; [4]Department of Medicine (Paediatrics), Imperial College London, London, United Kingdom

11:18 **0798.** **The Effect of Preterm Birth on Cortico-Cortical Connectivity: The Preterm Connectome**
ISMRM MERIT AWARD magna cum laude
Kerstin Pannek[1], Xanthy Hatzigeorgiou[2], Paul Colditz[3], Stephen Rose[4]
[1]The University of Queensland, Brisbane, Queensland, Australia; [2]Novita Children's Services, Adelaide, Australia; [3]The University of Queensland, Brisbane, Australia; [4]The Australian E-Health Research Centre, CSIRO, Brisbane, Australia

11:30 **0799.** **Thalamic Parcellation Based on Probabilistic Neocortical Connections in a Neonatal Population**
ISMRM MERIT AWARD magna cum laude
Katyucia de Macedo Rodrigues[1, 2], Emma Ben-Avi[2], Myong-Sun Choe[3], Marie Drottar[3], Patricia Ellen Grant, [2-4], Lilla Zöllei[2, 3]
[1]Radiology, Boston Children's Hospital, Boston, MA, United States; [2]Radiology, A.A. Martinos Center for Biomedical Imaging/Massachusetts General Hospital, Charlestown, MA, United States; [3]Newborn Medicine, Boston Children's Hospital, Boston, MA, United States; [4]Newborn Medicine, Radiology, Boston Children's Hospital, Boston, MA, United States

11:42 **0800.** **Coherent Cortical Pruning and Axonal Integrity Enhancement During Brain Development Accessed by DTI Tractography from Parcellated Cortex**
Tina Jeon[1], Virendra Mishra[1], Hao Huang[1]
[1]Advanced Imaging Research Center, University of Texas Southwestern Medical Center, Dallas, TX, United States

11:54 **0801.** **Typical Patterns of Myelin Neurodevelopment and Cognitive Abilities in Babies and Toddlers**
ISMRM MERIT AWARD magna cum laude
Jonathan O'Muircheartaigh[1, 2], Douglas C. Dean III[1], Holly Dirks[1], Nicole Waskiewicz[1], Katie Lehman[1], Michelle Han[1], Lindsay Walker[1], Beth A. Jerskey[1], Sean C. L. Deoni[1]
[1]Engineering, Brown University, Providence, RI, United States; [2]Neuroimaging, King's College London, London, United Kingdom

12:06 **0802.** **Variegation in the Adolescent Cortical Folding Pattern in Preterm and Control Populations**
ISMRM MERIT AWARD summa cum laude
Man Wong[1], Andrew Melbourne[2], Manuel Jorge Cardoso[2], Gemma Northam[1], Sebastien Ourselin[2], Torsten Baldeweg[1]
[1]Institute for Childs Health, University College London, London, United Kingdom; [2]Centre for Medical Image Computing, University College London, London, United Kingdom

12:18 **0803.** **Effects of Aging and Gender on Brain Intrinsic Functional Connectivity: A Resting State Study in a Large Cohort of Healthy Subjects**
Massimo Filippi[1], Paola Valsasina[1], Paolo Misci[1], Andrea Falini[2], Giancarlo Comi[3], Maria A. Rocca[1]
[1]Neuroimaging Research Unit, Institute of Experimental Neurology, San Raffaele Scientific Institute, Vita-Salute San Raffaele University, Milan, MI, Italy; [2]Department of Neuroradiology, San Raffaele Scientific Institute, Vita-Salute San Raffaele University, Milan, MI, Italy; [3]Department of Neurology, San Raffaele Scientific Institute, Vita-Salute San Raffaele University, Milan, MI, Italy

Preclinical Cancer Spectroscopy

Room 151 AG 10:30-12:30 *Moderators:* E. Jim Delikatny & Lu Jiang

10:30 **0804.** **Interplay of Choline Metabolites and Genes in Patient-Derived Breast Cancer Xenografts**
ISMRM MERIT AWARD summa cum laude
Maria T. Grinde[1, 2], Saurabh S. Gorad[1], Nirma Skrbo[3, 4], Siver A. Moestue[1], Einar A. Rødland[5], Eldrid Borgan[1, 6], Alexandr Kristian[3], Beathe Sitter[1, 7], Tone Frost Bathen,[28], Anne Lise Børresen-Dale[4, 6], Gunhild M. Maelandsmo[3, 9], Olav Engebråten[4, 10], Therese Sørlie[6], Elisabetta Marangoni[11], Ingrid Susann Gribbestad,[28]
[1]Dept. of Circulation and Medical Imaging, NTNU, Trondheim, Norway; [2]St. Olavs University Hospital, Trondheim, Norway; [3]Dept. of Tumor Biology, Institute of Cancer Research, Oslo University Hospital Radiumhospitalet, Oslo, Norway; [4]Institute of Clinical Medicine, Faculty of Medicine, University of Oslo, Oslo, Norway; [5]Dept. of Informatics, University of Oslo, Oslo, Norway; [6]Dept. of Genetics, Oslo University Hospital Radiumhospitalet, Oslo, Norway; [7]Dept. of Technology, Sør-Trondelag University College, Trondheim, Norway; [8]Dept. of Circulation and Medical Imaging, Norwegian University of Science and Technology, Trondheim, Norway; [9]Dept. of Pharmacy, Faculty of Health Sciences, University of Tromsø, Tromsø, Norway; [10]Dept. of Oncology, Oslo University Hospital Radiumhospitalet, Oslo, Norway; [11]Preclinical Investigation Unit, Translational Research Department, Institut Curie, Paris, France

10:42 **0805.** **IDH1 Mutated Gliomas Exhibit a Distinct 31P MRS Profile**
ISMRM MERIT AWARD summa cum laude
Morteza Esmaeili[1], Bob C. Hamans[2], Anneke C. Navis[3], Remco V. Horssen[4], Tone Frost Bathen[1], Ingrid Susann Gribbestad[5], William P. Leenders[3], Arend Heerschap, [12]
[1]Department of Circulation and Medical Imaging, Norwegian University of Science and Technology (NTNU), Trondheim, Norway; [2]Departments of Radiology, Radboud University Nijmegen Medical Centre, Nijmegen, Netherlands; [3]Departments of Pathology, Radboud University Nijmegen Medical Centre, Nijmegen, Netherlands; [4]Departments of Cell Biology, Radboud University Nijmegen Medical Centre, Nijmegen, Netherlands; [5]Department of Circulation and Medical Imaging, Norwegian University of Science and Technology, Trondheim, Norway

10:54 **0806.** **Lactate and Pyruvate as Mediators of Metabolic Cooperation Between Stromal and Breast Cancer Cells**
Ellen Ackerstaff[1], Brij B. Patel[2], Yanique I. Rattigan[2], Natalia Kruchevsky[1], John W. Glod[2], George Sukenick[1], Jason A. Koutcher[1], Debabrata Banerjee[2]
[1]Memorial Sloan Kettering Cancer Center, New York, NY, United States; [2]The Cancer Institute of New Jersey, RWJMS, UMDNJ, New Brunswick, NJ, United States

11:06 **0807.** **Effects of Phosphatidylcholine-Specific Phospholipase C Inhibition on Tumour Growth, Metabolism and HER2 Expression in Preclinical Models of HER-2 Overexpressing Ovarian Cancer**
ISMRM MERIT AWARD magna cum laude
Rossella Canese[1], Alessandro Ricci[1], Maria Elena Pisanu[1], Luisa Paris[1], Luisa Altabella[1], Emiliano Surrentino[1], Marina Bagnoli[2], Ludmila Liliac[3], Anna Granata[2], Silvana Canevari[2], Delia Mezzanzanica[2], Egidio Iorio[1], Franca Podo[1]
[1]Istituto Superiore di Sanità, Rome, RM, Italy; [2]Fondazione IRCCS Istituto Nazionale dei Tumori;, Milan, Mi, Italy; [3]Morphofunctional Sciences - Histology , University of Medicine and Pharmacy, Iasi, Romania

11:18 **0808.** **Mutation in Isocitrate Dehydrogenase 1 (IDH1) Leads to Increased T2, ADC and Decreased Lactate and Glutamate in Glioblastoma Model**

Jelena Lazovic[1], Soto Horacio[2], Sichen Li[3], Albert Lai[3], Linda Liau[2], Robert Prins[2], Timothy F. Cloughesy[4], Whitney Pope[5]

[1]Radiology, University of California at Los Angeles, Los Angeles, CA, United States; [2]Neurosurgery, University of California, Los Angeles, CA, United States; [3]Neuro-Oncology, University of California, Los Angeles, CA, United States; [4]Neuro-Oncology, UCLA, Los Angeles, CA, United States; [5]Radiology, University of California, Los Angeles, CA, United States

11:30 **0809.** **Lonidamine Induced Selective Acidification of DB-1 Human Melanoma Xenografts Enhances Tumor Response to Doxorubicin**

ISMRM MERIT AWARD magna cum laude

Kavindra Nath[1], David S. Nelson[1], Christina Gustafson[1], Andrew M. Ho[1], Cory Alvey[2], Rong Zhou[1], Dennis B. Leeper[3], Jerry D. Glickson[1]

[1]Radiology, University of Pennsylvania, Philadelphia, PA, United States; [2]Pharmacology, University of Pennsylvania, Philadelphia, PA, United States; [3]Radiation Oncology, Thomas Jefferson University, Philadelphia, PA, United States

11:42 **0810.** **Hypoxia Enhances De Novo Fatty Acid Synthesis from Glutamine and Reduces De Novo Fatty Acid Synthesis from Glucose in TSC2-/- Mouse Fibroblasts**

Anthony Mancuso[1], Regina M. Young[2], Brian D. Keith[3], Craig B. Thompson[4], M. Celeste Simon[2]

[1]Cancer Biology/Radiology, University of Pennsylviania, Philadelphia, PA, United States; [2]Cell and Developmental Biology, University of Pennsylvania, Philadelphia, PA, United States; [3]Cell and Molecular Biology, University of Pennsylvania, Philadelphia, PA, United States; [4]Sloan Kettering Institute, New York, NY, United States

11:54 **0811.** **Combining MRSI and Mass Spectrometric Imaging Reveals Protein Biomarkers in Breast Tumor Models**

ISMRM MERIT AWARD magna cum laude

Lu Jiang[1], Kamila Chughtai[2], Tiffany Greenwood[1], Gert Eijkel[2], Ron Heeren[2], Kristine Glunde[3]

[1]Division of Cancer Imaging Research, Department of Radoilogy, Johns Hopkins School of Medicine, BALTIMORE, MD, United States; [2]FOM-Institute AMOLF, Amsterdam, Netherlands; [3]Division of Cancer Imaging Research, Department of Radoilogy, Johns Hopkins University, BALTIMORE, MD, United States

12:06 **0812.** **Establishment of Patient-Derived Models of Renal Cell Carcinoma to Study Metabolism and Develop Relevant Clinical Biomarkers**

ISMRM MERIT AWARD magna cum laude

Renuka Sriram[1], Kayvan R. Keshari[1], Mark Van Criekinge[1], John Kurhanewicz[1], David M. Wilson[1], Donna M. Peehl[2], Zhen J. Wang[1]

[1]University of California, San Francisco, San Francisco, CA, United States; [2]Stanford University, Palo Alto, CA, United States

12:18 **0813.** **Inhibition of Prostate Cancer Growth by Deferiprone**

Rui V. Simoes[1], Natalia Kruchevsky[1], Inna Serganova[2], Ellen Ackestaff[1], George Sukenick[3], Ronald G. Blasberg[2, 4], Jason A. Koutcher[1, 5]

[1]Medical Physics, Memorial Sloan Kettering Cancer Center, New York, NY, United States; [2]Neurology, Memorial Sloan Kettering Cancer Center, New York, NY, United States; [3]NMR Core Facility, Memorial Sloan Kettering Cancer Center, New York, NY, United States; [4]Radiology, Memorial Sloan Kettering Cancer Center, New York, NY, United States; [5]Weill Cornell Medical College, Cornell University, New York, NY, United States

Hyperpolarized Gases: The Lung & Beyond

Room 155 EF 10:30-12:30 *Moderators:* Giles E. Santyr & Jim M. Wild

10:30 **0814.** **Detection of Brown Fat Thermogenesis by Hyperpolarized Xenon Gas MR**

Rosa Tamara Branca[1], Le Zhang[2], Christian White[1], Ting He[1]

[1]Physics and Astronomy, University of North Carolina at Chapel Hill, Chapel Hill, NC, United States; [2]Material Science, University of North Carolina at Chapel Hill, Chapel Hill, NC, United States

10:42 **0815.** **Revealing the Hyperpolarized ^{129}Xe Red Blood Cell Resonance Using Transgenic Mice**

ISMRM MERIT AWARD magna cum laude

Matthew S. Freeman[1], Zackary I. Cleveland[2], Yi Qi[2], Bastiaan Driehuys, [12]

[1]Medical Physics Graduate Program, Duke University, Durham, NC, United States; [2]Department of Radiology, Duke University, Durham, NC, United States

10:54 **0816.** **^{129}Xe as an in Vivo Probe for MR Oximetry**

General Leung[1], Graham Norquay[1], Jim M. Wild[1]

[1]Department of Cardiovascular Science, University of Sheffield, Sheffield, South Yorkshire, United Kingdom

11:06 **0817.** **Detecting Pulmonary Capillary Blood Pulsations Using Hyperpolarized 129Xe CSSR**
Kai Ruppert[1], Talissa A. Altes[1], Jaime F. Mata[1], Iulian C. Ruset[2, 3], F. William Hersman[2, 3], John P. Mugler, III[1]
[1]University of Virginia, Charlottesville, VA, United States; [2]Xemed, LLC, Durham, NH, United States; [3]University of New Hampshire, Durham, NH, United States

11:18 **0818.** **Single-Breath Gas and Dissolved-Phase ^{129}Xe MRI in Healthy Subjects Using a 3D Radial Sequence: Effect of Posture on Signal Distribution**
ISMRM MERIT AWARD magna cum laude
Suryanarayanan S. Kaushik[1, 2], Matthew S. Freeman, [23], Zackary I. Cleveland, [24], Rohan S. Virgincar[2], Scott H. Robertson, [23], John Davies[5], Jane Stiles[6], William Michael Foster[6], H. Page McAdams[4], Bastiaan Driehuys[2, 4]
[1]Biomedical Engineering, Duke University, Durham, NC, United States; [2]Center For In Vivo Microscopy, Duke University, Durham, NC, United States; [3]Medical Physics Graduate Program, Duke University, Durham, NC, United States; [4]Radiology, Duke University, Durham, NC, United States; [5]Respiratory Therapy, Duke University, Durham, NC, United States; [6]Pulmonary Medicine, Duke University, Durham, NC, United States

11:30 **0819.** **Diffusion-Weighted Hyperpolarized Helium-3 and Xenon-129 Magnetic Resonance Imaging of Elderly Never-Smokers and Ex-Smokers with Chronic Obstructive Pulmonary Disease**
ISMRM MERIT AWARD magna cum laude
Miranda Kirby[1], Sarah Svenningsen[1], Alexei V. Ouriadov[1], Giles E. Santyr[1], David G. McCormack[2], Grace Parraga[1]
[1]Imaging Research Laboratories, Robarts Research Institute, London, Ontario, Canada; [2]Division of Respirology, Department of Medicine, The University of Western Ontario, London, Ontario, Canada

11:42 **0820.** **Characterization of ^{3}He Diffusion in Lungs Using a Stretched Exponential Model**
Juan Parra-Robles[1], Helen Marshall[1], Jim M. Wild[1]
[1]Unit of Academic Radiology, University of Sheffield, Sheffield, United Kingdom

11:54 **0821.** **A Multiple-Breath ^{3}He Wash-In Regimen to Reduce the Limitation of ^{3}He P_AO_2-Imaging Due to Delayed Ventilation and Slow Filling**
Hooman Hamedani[1], Stephen J. Kadlecceck[1], Biao Han[1], Kiarash Emami[1], Yi Xin[1], Masaru Ishii[2], Milton Rossman[3], Rahim Rizi[1]
[1]Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States; [2]Otolarynology, Johns Hopkins Medical Center, Baltimore, MD, United States; [3]Pulmonary, allergy and Critical Care Division, University of Pennsylvania, Philadelphia, PA, United States

12:06 **0822.** **Long-Time-Scale Hyperpolarized ^{3}He Diffusion MRI Is More Sensitive Than Short-Time-Scale ^{3}He Diffusion MRI for Detecting COPD**
Chengbo Wang[1, 2], John P. Mugler, III[2, 3], Eduard E. De Lange[2], G Wilson Miller[2], Talissa A. Altes[2]
[1]Faculty of Science and Engineering, University of Nottingham Ningbo China, Ningbo, Zhejiang, China; [2]Radiology and Medical Imaging, University of Virginia, CHARLOTTESVLE, VA, United States; [3]Biomedical Engineering, University of Virginia, CHARLOTTESVLE, VA, United States

12:18 **0823.** **Effect of Pulmonary Hysteresis on Airspace Dimensions During Positive End Expiratory Pressure Trials in Mechanically Ventilated Rats Using Hyperpolarized Gas Diffusion MRI**
Maurizio Cereda[1], Yi Xin[2], Kiarash Emami[2], Jessie Huang[2], Jennia Rajaei[2], Harrilla Profka[2], Biao Han[2], Puttisarn Mongkolwisetwara[2], Stephen J. Kadlececk[2], Nicholas N. Kuzma[2], Stephen B. Pickup[2], Brian Kavanagh[3], Clifford Deutschman[1], Rahim Rizi[2]
[1]Department of Anesthesiology and Critical Care, University of Pennsylvania, Philadelphia, PA, United States; [2]Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States; [3]Departments of Critical Care Medicine and Anesthesia, Hospital for Sick Children, University of Toronto, Toronto, Ontario, Canada

Hybrid Systems

Room 250 BCEF 10:30-12:30 *Moderators:* Blaine A. Chronik & Fraser J. L. Robb

10:30 **0824.** **A 16-Channel Breast RF-Coil for Simultaneous PET/MR**
Manoj M. Nimbalkar[1], Matthias Müller[2], Titus Lanz[2], Stephan G. Nekolla[1], Sibylle Ziegler[1], Rebekka Kraus[1], Sebastian Fürst[1], Axel Haase[3], Markus Schwaiger[1], Isabel Dregely[1]
[1]Klinikum rechts der Isar, Technischen Universität München, München, Bayern, Germany; [2]RAPID Biomedical GmbH, Rimpar, Germany; [3]Zentralinstituts für Medizintechnik, Technische Universität München, München, Bayern, Germany

10:42 **0825.** **A PET Optimized 16-Element Anterior Array Coil for 3T Simultaneous MR/PET System**
Yun-Jeong Stickle[1], Tae-Young Yang[1], Tom E. Zink[1], Sahil Bhatia[1], Victor Taracila[1], Fraser Robb[1], Bijay K. Shah[2], David M. Goldhaber[2]
[1]Engineering, GE Healthcare, Aurora, OH, United States; [2]Engineering, GE Healthcare, Waukesha, WI, United States

10:54 **0826.** **Low 511keV-Attenuation Array Coil Setup for Simultaneous PET/MR Imaging of the Monkey Brain**
ISMRM MERIT AWARD summa cum laude
Christin Y. Sander[1, 2], Avilash Cramer[1], Boris Keil[1], Azma Mareyam[1], Bruce R. Rosen[1, 3], Lawrence L. Wald[1, 3]
[1]A. A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Harvard Medical School, Charlestown, MA, United States; [2]Electrical Engineering, Massachusetts Institute of Technology, Cambridge, MA, United States; [3]Health Sciences and Technology, Harvard-MIT, Cambridge, MA, United States

11:06 **0827.** **3T Head Neck Coil for Simultaneous MR-PET Imaging**
Sahil Bhatia[1], Gabriel Searles[2], Dmitriy Londarskiy[2], Tom E. Zink[2], Darren Gregan[2], Tae-Young Yang[2], Bijay Shah[3], Yun-Jeong Stickle[2]
[1]GE Healthcare, Aurora, OH, United States; [2]G.E. Healthcare, Aurora, OH, United States; [3]G.E. Healthcare, Waukesha, WI, United States

11:18 **0828.** **Highly Efficient Inductively Coupled Double Resonant Surface Coil for Simultaneous $^{1}H/^{19}F$ PET-MRI**
Christian Findeklee[1], Christoph Leussler[1], Daniel Wirtz[1], Jochen Keupp[1]
[1]Research Laboratories Hamburg, Philips Technologie GmbH, Hamburg, Germany

11:30 **0829.** **MR-PET Respiration Compensation Using Self-Gated Motion Modeling**
ISMRM MERIT AWARD summa cum laude
Robert Grimm[1], Sebastian Fürst[2], Isabel Dregely[2], Stephan G. Nekolla[2], Sibylle Ziegler[2], Simon Bauer[3], Dominik Nickel[3], Berthold Kiefer[3], Joachim Hornegger[1], Markus Schwaiger[2], Kai Tobias Block[4]
[1]Pattern Recognition Lab, FAU Erlangen-Nuremberg, Erlangen, Germany; [2]Department of Nuclear Medicine, Technische Universität München, Munich, Germany; [3]Siemens Healthcare, Erlangen, Germany; [4]Department of Radiology, NYU Langone Medical Center, New York City, NY, United States

11:42 **0830.** **Simultaneous PET/MR Imaging: Automatic Attenuation Correction of Flexible RF Coils**
ISMRM MERIT AWARD summa cum laude
René Kartmann[1], Daniel H. Paulus[1], Bassim Aklan[1], Susanne Ziegler[1], Harald Braun[1], Bharath Navalpakkam[1], Harald H. Quick[1]
[1]Institute of Medical Phyics, Erlangen, Bavaria, Germany

11:54 **0831.** **Modular Rotating Gamma Camera Insert for Simultaneous SPECT and MR Small-Animal Imaging**
Mark Jason Hamamura[1], Seunghoon Ha[2], Werner W. Roeck[3], James W. Hugg[4], Dirk Meier[5], Orhan Nalcioglu[3, 6]
[1]Tu & Yuen Center for Functional Onco-Imaging, University of California, Irvine, CA, United States; [2]Tu & Yuen Center for Functional Onco-Imaging, University of California Irvine, Irvine, CA, United States; [3]Tu & Yuen Center for Functional Onco-Imaging, University of California, Irvine, CA, United States; [4]Gamma Medica, Inc., Northridge, CA, United States; [5]Gamma Medica, Inc., Fornebu, Norway; [6]Department of Cogno-Mechatronics, Pusan National University, Busan, Korea

12:06 **0832.** **A 10-Channel RF Coil for Use in Magnetic Resonance Guided High Intensity Focused Ultrasound of the The Brain.**
ISMRM MERIT AWARD magna cum laude
Emilee Minalga[1], Robb Merrill[1], Nick Todd[1], Dennis L. Parker[1], J. Rock Hadley[1]
[1]Department of Radiology, University of Utah, Salt Lake City, UT, United States

12:18 **0833.** **Hybrid MRI/RF-Heating at 7.0 Tesla and 11.7 Tesla: Electro-Magnetic Field Simulations, Temperature Simulations/Measurements, Dipole Antenna Design and Heating Experiments**
Lukas Winter[1], Tessa van de Lindt[1], Celal Özerdem[1], Werner Hoffmann[2], Davide Santoro[1], Alexander Müller[1], Andreas Graessl[1], Reiner Seemann[2], Jaroslav Marek[1], Thoralf Niendorf[1, 3]
[1]Berlin Ultrahigh Field Faciltiy (B.U.F.F.), Max-Delbrück Center for Molecular Medicine, Berlin, Germany; [2]Metrology in Medicine, Physikalisch Technische Bundesanstalt, Berlin, Germany; [3]Experimental and Clinical Research Center (ECRC), a joint cooperation between Charité Medical Faculty and Max-Delbrück Center for Molecular Medicine, Berlin, Germany

Cortex, Connections & Connectomes

Room 251 BCEF 10:30-12:30 *Moderators:* Jonathan D. Clayden & Jennifer A. McNab

10:30 0834. Parcellation of the Cortex Using Restricted Diffusion Properties

ISMRM MERIT AWARD magna cum laude

Shani Ben Amitay[1], Yaniv Assaf[1]
[1]Department of Neurobiology, Tel Aviv University, Tel Aviv, Israel

10:42 0835. Comparison of Diffusion MRI Predictions and Histology in the Macaque Brain

ISMRM MERIT AWARD summa cum laude

Stamatios N. Sotiropoulos[1], Charlie Chen[2], Krikor Dikranian[2], Saad Jbabdi[1], Timothy E.J. Behrens[1], David C. Van Essen[2], Matthew F. Glasser[2]
[1]FMRIB Centre, University of Oxford, Oxford, Oxfodshire, United Kingdom; [2]Department of Anatomy & Neurobiology, Washington University, St Louis, MO, United States

10:54 0836. *Cortical Depth Dependence of the Diffusion Anisotropy in the Human Cortical Gray Matter in vivo</i>*ong-Kha Truong[1], Arnaud Guidon[1], Allen W. Song[1]

[1]Brain Imaging and Analysis Center, Duke University, Durham, NC, United States

11:06 0837. Detailed Laminar Characteristics of the Human Neocortex Revealed by NODDI

ISMRM MERIT AWARD magna cum laude

Michiel Kleinnijenhuis[1, 2], Hui Zhang[3], Dirk Wiedermann[4], Benno Küsters[5], Anne-Marie van Cappellen van Walsum[1, 6], David G. Norris[2, 6]
[1]Department of Anatomy, Radboud University Nijmegen Medical Centre, Nijmegen, Netherlands; [2]Donders Institute for Brain, Cognition and Behaviour, Radboud University Nijmegen, Nijmegen, Netherlands; [3]Department of Computer Science & Centre for Medical Image Computing, University College London, London, United Kingdom; [4]Max Planck Institute for Neurological Research, Cologne, Germany; [5]Department of Pathology, Radboud University Nijmegen Medical Centre, Nijmegen, Netherlands; [6]MIRA Institute for Biomedical Technology and Technical Medicine, Enschede, Netherlands

11:18 0838. Probing Cytoarchitectural Heterogeneity in the Human Hippocampus with Oscillating Gradient Diffusion Tensor Imaging

ISMRM MERIT AWARD summa cum laude

Manisha Aggarwal[1], Jiangyang Zhang[1], Susumu Mori[1]
[1]Russell H. Morgan Department of Radiology and Radiological Science, Johns Hopkins University School of Medicine, Baltimore, MD, United States

11:30 0839. Diffusion MRI Study of Cortical Plasticity Induced by a Short Linguistic Task

ISMRM MERIT AWARD magna cum laude

Shir Hofstetter[1, 2], Naama Friedmann[1, 3], Yaniv Assaf[1, 2]
[1]Sagol School of Neuroscience, Tel Aviv University, Tel Aviv, Israel; [2]Neurobiology, Tel Aviv University, Tel Aviv, Israel; [3]School of Education, Tel Aviv University, Tel Aviv, Israel

11:42 0840. Tractography from Regularized High Resolution Rs-EPI Diffusion Weighted Imaging

Gernot Reishofer[1], Christian Langkammer[2], David Porter[3], Karl Koschutnig[4], Margit Jehna[1], Robert Merwa[5], Franz Ebner[1]
[1]Radiology, Medical University of Graz, Graz, Austria; [2]Neurology, Medical University of Graz, Graz, Austria; [3]MR R&D, Siemens AG, Healthcare Sector, Erlangen, Germany; [4]Institute of Psychology, Universtiy of Graz, Graz, Austria; [5]Medical Engineering, Upper Austria University of Applied Sciences, Linz, Austria

11:54 0841. Tractographic Threshold-Free Cluster Enhancement: Whole-Brain Statistical Analysis of Diffusion MRI Measures in the Presence of Crossing Fibres

ISMRM MERIT AWARD summa cum laude

David A. Raffelt[1], Robert E. Smith[1], Jacques-Donald Tournier[1, 2], Gerard R. Ridgway[3], Victor L. Villemagne[4], Christopher C. Rowe[4], Olivier Salvado[5], Alan Connelly[1, 2]
[1]Advanced MRI Development, Florey Institute of Neuroscience and Mental Health, Melbourne, VIC, Australia; [2]Department of Medicine, University of Melbourne, Melbourne, VIC, Australia; [3]Wellcome Trust Centre for Neuroimaging, UCL Institute of Neurology, London, England, United Kingdom; [4]Department of Nuclear Medicine, Austin Health, Melbourne, VIC, Australia; [5]The Australian E-Health Research Centre, CSIRO, Brisbane, QLD, Australia

12:06 0842. HARDI and Fiber Tractography at 1 Mm Isotropic Resolution

ISMRM MERIT AWARD summa cum laude

Sjoerd B. Vos[1], Murat Aksoy[2], Zhaoying Han[2], Samantha J. Holdsworth[2], Christoph Seeger[2], Maclaren Julian[2], Alexander Brost[2], Alexander Leemans[1], Roland Bammer[2]
[1]Image Sciences Institute, University Medical Center Utrecht, Utrecht, Netherlands; [2]Center for Quantitative Neuroimaging, Department of Radiology, Stanford University, Stanford, CA, United States

12:18 **0843.** **The CONNECT Brain Atlas of White Matter Microstructure**

ISMRM MERIT AWARD summa cum laude

Silvia De Santis[1], Yaniv Assaf[2], Sonya Bells[1], Sean C. L. Deoni[3], Derek K. Jones[1]
[1]CUBRIC Cardiff University, Cardiff, United Kingdom; [2]Department of Neurobiology, Tel Aviv University, Tel Aviv, Israel; [3]School of Engineering, Brown University, Providence, RI, United States

Probing Brain Physiology & Metabolism with fMRI

Room 255 BC 10:30-12:30 *Moderators:* Richard Hoge & Robert Turner

10:30 **0844.** **Baseline GABA Concentration More Strongly Predicts Baseline BOLD Signal Synchrony Than CBF in Visual Cortex**

ISMRM MERIT AWARD magna cum laude

Swati Rane[1], Emily Mason[2], Subechhya Pradhan[1], Erin Hussey[2], Kevin Waddell[1], John C. Gore[1, 3], Brandon Ally, [2,4], Manus J. Donahue[1, 4]
[1]VUIIS, Radiology and Radiological Sciences, Vanderbilt University, Nashville, TN, United States; [2]Neurology, Vanderbilt University, Nashville, TN, United States; [3]Biomedical Engineering, Vanderbilt University, Nashville, TN, United States; [4]Psychiatry, Vanderbilt University, Nashville, TN, United States

10:42 **0845.** **Elimination of Non-Steady-State Blood Spins in Vascular-Space-Occupancy (VASO) FMRI**

ISMRM MERIT AWARD magna cum laude

Jun Hua[1, 2], Craig K. Jones[1, 2], Qin Qin[1, 2], Peter C.M. van Zijl[1, 2]
[1]Neurosection, Div. of MRI Research, Dept. of Radiology, Johns Hopkins University School of Medicine, Baltimore, MD, United States; [2]F.M. Kirby Research Center for Functional Brain Imaging, Kennedy Krieger Institute, Baltimore, MD, United States

10:54 **0846.** **Vessel-Specific Quantification of Blood Oxygenation with T2-Relaxation-Under-Phase-Contrast (TRU-PC) MRI**

ISMRM MERIT AWARD magna cum laude

Lisa C. Krishnamurthy[1, 2], Peiying Liu[1], Yulin Ge[3], Hanzhang Lu[1]
[1]Advanced Imaging Research Center, UT Southwestern Medical Center, Dallas, TX, United States; [2]Dept. of Bioengineering, UT Arlington, Arlington, TX, United States; [3]Dept. of Radiology, New York University Langone Medical Center, New York, NY, United States

11:06 **0847.** **Cerebral Blood Volume Changes in Negative BOLD Regions During Visual Stimulation in Humans at 7T**

ISMRM MERIT AWARD magna cum laude

Laurentius Huber[1], Jozien Goense[2], Dimo Ivanov[3, 4], Steffen N. Krieger[3], Robert Turner[3], Harald E. Moeller[1]
[1]NMR-Unit, Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany; [2]Physiology of Cognitive Processes, Max Planck Institute for Biological Cybernetics, Tübingen, Germany; [3]Neurophysics, Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany; [4]Cognitive and Clinical Neuroscience, Maastricht University, Maastricht, Netherlands

11:18 **0848.** **Significant BOLD Signal Reduction Induced by Perfluorocarbon Emulsion in the Rat Brain**

ISMRM MERIT AWARD magna cum laude

Xiao Wang[1], Xiao-Hong Zhu[1], Yi Zhang[1], Wei Chen[2]
[1]Center for Magnetic Resonance Research,Department of Radiology, University of Minnesota Medical School, Minneapolis, MN, United States; [2]Center for Magnetic Resonance Research,Department of Radiology, University of Minnesota, Minneapolis, MN, United States

11:30 **0849.** **Measurement of Absolute $CMRO_2$ by Simultaneous Hypercapnic and Hyperoxic Calibration of fMRI Signal**

Richard G. Wise[1], Ashley D. Harris[1], Alan J. Stone[1], Kevin Murphy[1]
[1]CUBRIC, School of Psychology, Cardiff University, Cardiff, United Kingdom

11:42 **0850.** **Physiologic Underpinnings of Negative Cerebrovascular Reactivity in Brain Ventricles**

ISMRM MERIT AWARD magna cum laude

Binu Panjikattil Thomas[1, 2], Peiying Liu[1], Kevin S. King[3], Matthias J.P. van Osch[4], Hanzhang Lu[1]
[1]Advanced Imaging Research Center, University of Texas Southwestern Medical Center, Dallas, TX, United States; [2]Department of Bioengineering, University of Texas Southwestern Medical Center/University of Texas at Arlington, Arlington, TX, United States; [3]Department of Radiology, University of Texas Southwestern Medical Center, Dallas, TX, United States; [4]Department of Radiology, Leiden University Medical Center, Leiden, ZA, Netherlands

11:54 **0851.** **The Impact of Dissolved Oxygen in Blood on Hyperoxia-Based BOLD Calibration**

ISMRM MERIT AWARD magna cum laude

Avery J.L. Berman[1], Richard D. Hoge[2], G. Bruce Pike[1]
[1]McConnell Brain Imaging Centre, Montreal Neurological Institute, McGill University, Montréal, Québec, Canada; [2]IUGM/Université de Montréal, Montréal, Québec, Canada

12:06 **0852. Cerebrovascular Reactivity Measured Using Targeted Hypo/Hypercapnia BOLD Imaging at 7T**
Alex Bhogal[1], Marielle E.P. Philippens[2], Joe Fisher[3], Jeroen Cornelis Willem Siero[1, 4], Peter R. Luijten[2], Hans Hoogduin[1]
[1]Radiology, UMC Utrecht, Utrecht, Netherlands; [2]Radiotherapy, UMC Utrecht, Utrecht, Netherlands; [3]Thornhill Research Inc., Toronto, Ontario, Canada; [4]Rudolf Magnus Institute, University Medical Center Utrecht, Utrecht, Netherlands

12:18 **0853. Analysis of Calibrated BOLD Based Methods for Quantifying the Resting Oxygen Extraction Fraction**
Nicholas P. Blockley[1], Valerie E M Griffeth[2], Peter Jezzard[1], Daniel P. Bulte[1]
[1]FMRIB, University of Oxford, Oxford, United Kingdom; [2]Center for Functional MRI, University of California San Diego, La Jolla, CA, United States

MRS of the Brain

Room 255 EF 10:30-12:30 *Moderators:* Penny Anne Gowland & Tracy R. McKnight

10:30 **0854. Quantitative Standardization of Volumetric Whole-Brain MR Spectroscopic Imaging**
Mohammad Sabati[1], Sulaiman Sheriff[1], Meng Gu[2], Henry Zhu[3], Peter B. Barker[3], Daniel Spielman[2], Andrew A. Maudsley[1]
[1]Radiology, University of Miami, Miami, FL, United States; [2]Radiology, Stanford University, Stanford, CA, United States; [3]Radiology, Johns Hopkins University, Baltimore, MD, United States

10:42 **0855. Real-Time Motion and Shim Correction by Volumetric EPI Navigators Improves 3D LASER Localized Spiral MRSI of the Brain at 3T**
Wolfgang Bogner[1, 2], Aaron T. Hess[3], Borjan Gagoski[4], Matthew Dylan Tisdall[1], André J. W. van der Kouwe[1], Siegfried Trattnig[2], Ovidiu C. Andronesi[1]
[1]Athinoula A. Martinos Center for Biomedical Imaging, Department of Radiology, Massachusetts General Hospital, Harvard Medical School, Boston, MA, United States; [2]MR Center of Excellence, Department of Radiology, Medical University Vienna, Vienna, Austria; [3]Department of Cardiovascular Medicine, University of Oxford, Oxford, United Kingdom; [4]Fetal-Neonatal Neuroimaging & Developmental Science Center, Children's Hospital Boston, Harvard Medical School, Boston, MA, United States

10:54 **0856. A Pilot Evaluation of Accelerated Echo-Planar J-Resolved Spectroscopic Imaging in the Human Brain Using Compressed Sensing**
Manoj K. Sarma[1], Rajakumar Nagarajan[1], Jonathan Furuyama[1], Jenny Li[1], Paul M. Macey[2], Rajesh Kumar[3], M. Albert Thomas[1]
[1]Radiological Sciences, UCLA School of Medicine, Los Angeles, CA, United States; [2]School of Nursing, UCLA School of Medicine, Los Angeles, CA, United States; [3]Neurobiology, UCLA School of Medicine, Los Angeles, CA, United States

11:06 **0857. Two-Dimensional J-Resolved LASER Spectroscopy of Human Brain at 3T**
Meijin Lin[1], Anand Kumar[1], Shaolin Yang[1, 2]
[1]Department of Psychiatry, University of Illinois at Chicago, Chicago, IL, United States; [2]Department of Radiology, University of Illinois at Chicago, Chicago, IL, United States

11:18 **0858. NAAG Detection in the Human Brain by Wiener Filtering and TE Optimization at 7T**
Li An[1], Shizhe Li[1], Emily T. Wood[2, 3], Daniel S. Reich[2, 3], Jun Shen[1]
[1]National Institute of Mental Health, National Institutes of Health, Bethesda, MD, United States; [2]NeuroImmunology Branch (NINDS), National Institutes of Health, Bethesda, MD, United States; [3]Department of Neuroscience, Johns Hopkins University School of Medicine, Baltimore, MD, United States

11:30 **0859. *In Vivo* MR Study of Intracellular NAD Contents and Redox State in Healthy Human Brain**
Xiao-Hong Zhu[1], Ming Lu[1], Byeong-Yeul Lee[1], Kamil Ugurbil[1], Wei Chen[2]
[1]Center of Magnetic Resonance Research, Department of Radiology, University of Minnesota Medical School, Minneapolis, MN, United States; [2]Center of Magnetic Resonance Research, Department of Radiology, University of Minnesota, Minneapolis, MN, United States

11:42 **0860. Slice-Selective FID Acquisition of Proton Spectroscopic Imaging to Access Functional Metabolic Changes During GABAergic Stimulation with µl Resolution in the Mouse Brain**
ISMRM MERIT AWARD magna cum laude
Aline Seuwen[1], Aileen Schröter[1], Markus Rudin[1, 2]
[1]ETH & University of Zürich, Zürich, Switzerland; [2]Institute of Pharmacology & Toxicology, Zürich, Switzerland

11:54 **0861.** ***In Vivo* ^{31}P MRS Imaging of Intracellular NAD Contents and NAD$^+$/NADH Redox States in Normal and Ischemic Brains**

Xiao-Hong Zhu[1], Ming Lu[1], Yi Zhang[1], Wei Chen[2]
[1]Center of Magnetic Resonance Research, Department of Radiology, University of Minnesota Medical School, Minneapolis, MN, United States; [2]Center of Magnetic Resonance Research, Department of Radiology, University of Minnesota, Minneapolis, MN, United States

12:06 **0862.** **Metabolic Flux Maps from 3D MRSI of Rat Brain in Situ**

Sungtak Hong[1], Golam M.I. Chowdhury[2], Xiaomin Ma[1], Monique Thomas[2], Graeme F. Mason[2], Gerard Sanacora[2], Douglas L. Rothman[1], Kevin L. Behar[2], Robin A. de Graaf[1]
[1]Diagnostic Radiology, Yale University, New Haven, CT, United States; [2]Psychiatry, Yale University, New Haven, CT, United States

12:18 **0863.** **Oxygen-17 MRS for $CMRO_2$ Measurements in the Mouse Brain at 16.4T**

Weina Cui[1], Xiao-Hong Zhu[1], Manda Vollmers[1], Emily Colonna[1], Gregor Adriany[1], Brandon Tramm[2], Janet Dubinsky[1], Gulin Oz[1]
[1]University of Minnesota, Minneapolis, MN, United States; [2]Virtumed, LLC, Minneapolis, MN, United States

Contrast Generation & Elastography

Room 355 BC 10:30-12:30 *Moderators:* Jongho Lee & Jesse L. Wei

10:30 **0864.** **2-In-1: Simultaneously T_2/T_2^* Weighted Double Echo Fast Spin Echo Imaging**

ISMRM MERIT AWARD summa cum laude

Katharina Fuchs[1], Fabian Hezel[1], Sabrina Klix[1], Thoralf Niendorf[1, 2]
[1]Berlin Ultrahigh Field Facility (B.U.F.F.), Max-Delbrueck Center for Molecular Medicine, Berlin, Germany; [2]Experimental and Clinical Research Center, a cooperation of the Charité Medical Faculty and the Max-Delbrueck Center for Molecular Medicine, Berlin, Germany

10:42 **0865.** **T2-Weighted Fat Suppressed Balanced SSFP Imaging (Contrast-Prepared SSFP) for Interventional Guidance**

ISMRM MERIT AWARD magna cum laude

Di Xu[1], Clifford R. Weiss[2], Ozan Sayin[1], Wesley D. Gilson[3], Jonathan S. Lewin[2], Elliot R. McVeigh[1], Daniel A. Herzka[4]
[1]Biomedical Engineering, The Johns Hopkins School of Medicine, Baltimore, MD, United States; [2]Radiology, The Johns Hopkins School of Medicine, Baltimore, MD, United States; [3]Siemens Corporation, Corporate Technology, Baltimore, MD, United States; [4]Biomedical Engineering, Johns Hopkins University, Baltimore, MD, United States

10:54 **0866.** **On the Role of Neuronal Magnetic Susceptibility and Structure Symmetry on Gradient Echo MR Signal Formation**

Alexander L. Sukstanskii[1], Dmitriy A. Yablonskiy[1]
[1]Radiology, Washington University, St. Louis, MO, United States

11:06 **0867.** **Background-Suppressed Myelin Water Imaging**

ISMRM MERIT AWARD summa cum laude

Se-Hong Oh[1], Jongho Lee[1]
[1]Department of Radiology, Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA, United States

11:18 **0868.** **Differential Developmental Trajectories of Magnetic Susceptibility in Human Brain Gray and White Matter**

ISMRM MERIT AWARD summa cum laude

Wei Li[1], Bing Wu[2], Anastasia Batrachenko[1], Christian Langkammer[3], Stefan Ropele[3], Rajendra Morey[1, 4], Vandana Shashi[5], Allen W. Song[1, 6], Chunlei Liu[1, 6]
[1]Brain Imaging & Analysis Center, Duke University, Durham, NC, United States; [2]GE Healthcare China, Beijing, China; [3]Neurology, Medical University of Graz, Graz, Austria; [4]Psychiatry and Behavioral Sciences, Durham VA Medical Center, Durham, NC, United States; [5]Pediatrics, Duke University, Durham, NC, United States; [6]Radiology, Duke University, Durham, NC, United States

11:30 **0869.** **MRI Contrasts Generated Using Fictitious Fields in High-Rank Rotating Frames Correlate with Myelin Content in Normal Rat Brain *ex vivo***

Timo Liimatainen[1], Alejandra Sierra[1], Hanne Hakkarainen[1], Djaudat Idiyatullin[2], Christine Storino[2], Silvia Mangia[2], Olli Gröhn[1], Michael Garwood[2], Shalom Michaeli[2]
[1]A.I.Virtanen Institute for Molecular Sciences, University of Eastern Finland, Kuopio, Fi, Finland; [2]Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, MN, United States

11:42 **0870.** **MR Elastography as a Method to Estimate Brain Stiffness and Its Correlation to Intracranail Pressure in Pseudotumor Ceribri Patients**
Wael Marashdeh[1], Bradley Gans[1], Brian Raterman[1], Eric Bourekas[1], Arunark Kolipaka[1]
[1]Radiology, ohio state university wexner medical center, Columbus, OH, United States

11:54 **0871.** **Selective Spectral Displacement Projection in 3D Multifrequency MRE**
Temel Kaya Yasar[1], Dieter Klatt[2], Richard L. Magin[2], Thomas J. Royston[2]
[1]Department of Mechanical & Industrial Engineering, The University of Illinois at Chicago, Chicago, IL, United States; [2]Department of Bioengineering, The University of Illinois at Chicago, Chicago, IL, United States

12:06 **0872.** **Detection of Amyotrophic Lateral Sclerosis Using *in vivo* Waveguide Elastography**
Anthony J. Romano[1], Jing Guo[2], Torben Proksch[3], Sebastian Hirsch[4], Juergen Braun[5], Ingolf Sack[3], Michael Scheel[3]
[1]Physical Acoustics, Naval Research Laboratory, Washington, DC, United States; [2]Department of Radiology, Charite - University Medicine Berlin, Berlin, Germany; [3]Department of Radiology, Charite-Universitatsmedizin, Berlin, Germany; [4]Department of Radiology, Charité - Universitätsmedizin Berlin, Berlin, Germany; [5]Institute of Medical Informatics, Charite - University Medicine Berlin, Berlin, Germany

12:18 **0873.** **An Atlas of the Anatomy of Human Brain Viscoelasticity**
Jing Guo[1], Sebastian Hirsch[2], Sebastian Papazoglou[1], Andreas Fehlner[3], Michael Scheel[1], Jens Wuerfel[4], Juergen Braun[5], Ingolf Sack[1]
[1]Department of Radiology, Charite - University Medicine Berlin, Berlin, Germany; [2]Department of Radiology, Charité - Universitätsmedizin Berlin, Berlin, Germany; [3]Department of Radiology, Charité University Medicine, Berlin, Germany; [4]Institute of Neuroradiology, University Luebeck, Luebeck, Schleswig-Holstein, Germany; [5]Department of Medical Informatics, Charite - University Medicine Berlin, Berlin, Germany

Vessel Wall Imaging

Room 355 EF 10:30-12:30 *Moderators:*Zahi A. Fayad & M. Eline Kooi

10:30 **0874.** **Introduction**
Zahi A. Fayad

10:42 **0875.** **MRI Screening for Lipid-Rich Necrotic Core in Multicenter Clinical Trials of Lipid-Lowering Therapy**
Niranjan Balu[1], Daniel S. Hippe[1], Jie Sun[1], Dongxiang Xu[1], Thomas Hatsukami[2], Chun Yuan[1]
[1]Radiology, University of Washington, Seattle, WA, United States; [2]Surgery, University of Washington, Seattle, WA, United States

10:54 **0876.** **Black-Blood Dynamic Contrast-Enhanced Coronary Artery Wall MRI: A Potential Tool for Kinetic-Modeling-Based Wall Inflammation Assessment**
ISMRM MERIT AWARD summa cum laude
Zhaoyang Fan[1], Jingsi Xie[1], Yi He[2], Yutaka Natsuaki[3], Ning Jin[4], Daniel S. Berman[1], Debiao Li[1]
[1]Cedars-Sinai Medical Center, Los Angeles, CA, United States; [2]Radiology, Beijing Anzhen Hospital, Capital Medical University, Beijing, China; [3]Siemens Healthcare, Los Angeles, CA, United States; [4]Siemens Healthcare, Columbus, OH, United States

11:06 **0877.** **Validation of 3D Multi-Contrast Black Blood Sequences with Large Coverage for One-Stop Neurovascular Screening**
ISMRM MERIT AWARD magna cum laude
Zechen Zhou[1], Rui Li[1], Xihai Zhao[1], Le He[1], Chun Yuan, [12]
[1]Department of Biomedical Engineering, Tsinghua University, Beijing, China; [2]Department of Radiology, University of Washington (Seattle), Seattle, WA, United States

11:18 **0878.** **3D Dark Blood Cine Magnetic Resonance Imaging of the Carotid Arteries**
Ioannis Koktzoglou[1], [2], Tina Desai, [23], NavYash Gupta, [23]
[1]Radiology, NorthShore University HealthSystem, Evanston, IL, United States; [2]The University of Chicago Pritzker School of Medicine, Chicago, IL, United States; [3]Vascular Surgery, NorthShore University HealthSystem, Skokie, IL, United States

11:30 **0879.** **Assessment of Carotid Atherosclerotic Disease Using 3D Fast Black Blood MR Imaging: Comparison with DSA&[null]**
Huilin Zhao[1], Jinnan Wang[2], [3], Xihai Zhao[4], Xiaosheng Liu[1], Ye Cao[1], Jianrong Xu[1], Daniel S. Hippe[3], Chun Yuan[3]
[1]Radiology, Renji hospital, Shanghai Jiao Tong Univesity School of Medicine, Shanghai, China; [2]Philips Research North America, Seattle, WA, United States; [3]Radiology, University of Washington, Seattle, WA, United States; [4]Center for Biomedical Imaging Research,Tsinghua University School of Medicine, Beijing, China

11:42 **0880. 3D Carotid Wall T_1 Quantification Using Variable Flip Angle 3D Merge with Steady-State Recovery**
Bram F. Coolen[1], Dennis F.R. Heijtel[1], Wouter V. Potters[1], Aart J. Nederveen[1]
[1]Department of Radiology, Academic Medical Center Amsterdam, Amsterdam, Netherlands

11:54 **0881. Time Resolved Coronary Vessel Wall MRI Using Phase-Sensitive DIR (TRAPD)**
Khaled Z. Abd-Elmoniem[1], Ahmed M. Gharib[1], Roderic I. Pettigrew[2]
[1]National Institute of Diabetes and Digestive and Kidney Diseases, NIH, Bethesda, MD, United States; [2]National Institute of Biomedical Imaging and Bioengineering, NIH, Bethesda, MD, United States

12:06 **0882. Motion, Resolution and Noise Thresholds for the Accurate Classification of Human Coronary Atherosclerotic Plaque by MRI**
Paula Montesinos[1, 2], Himanshu Bhat[3], Guangping Dai[4], Manuel Desco[1, 2], Elfar Adalsteinsson[5], Reza Nezafat[6], David E. Sosnovik[7]
[1]Departamento de Bioingeniería e Ingeniería Aeroespacial, Universidad Carlos III de Madrid, Madrid, Spain; [2]Instituto de Investigación Sanitaria Gregorio Marañón (IiSGM), Madrid, Spain; [3]Siemens Medical Solutions, Charlestown, MA, United States; [4]Massachusetts General Hospital, Charlestown, MA, United States; [5]Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Harvard Medical School, Charlestown, MA, United States; [6]Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA, United States; [7]Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Harvard Medical School, Charlestown, MA, United States

12:18 **0883. Theragnostic Imaging of Micelle-Mediated Rosiglitazone Delivery to Atherosclerotic Plaques**
Brigit den Adel[1, 2], Sandra Bovens[3], Ernst Suidgeest[4], Gustav J. Strijkers[5], Gerard Pasterkamp[3], Robert E. Poelmann[2], Louise van der Weerd[6, 7]
[1]Pathology, Amsterdam Medical Center, Amsterdam, Netherlands; [2]Anatomy, Leiden University Medical Center, Leiden, Netherlands; [3]Cardiology, University Medical Center Utrecht, Utrecht, Netherlands; [4]Radiology, Leiden University Medical Center, Leiden, Netherlands; [5]Biomedical Engineering, Eindhoven University of Technology, Eindhoven, Netherlands; [6]Radiology , Leiden University Medical Center, Leiden, Netherlands; [7]Human Genetics, Leiden University Medical Center, Leiden, Netherlands

Traditional Poster
Normal Developing Brain

Exhibition Hall Tuesday 10:00-12:00

0884. Assessing the Impact of Excluding a Subset of the Diffusion Acquisition on the Resultant Fractional Anisotropy Values in the Preterm Brain

Antonios Makropoulos[1], Gareth Ball[2], Joseph V. Hajnal[2], A. David Edwards[2], Daniel Rueckert[3], Serena J. Counsell[2]
[1]Centre for the Developing Brain, Imperial College London, London, United Kingdom; [2]Centre for the Developing Brain, King's College London, London, United Kingdom; [3]Biomedical Image Analysis Group, Department of Computing, Imperial College London, London, United Kingdom

0885. Emerging Pathways and Dissociated Projections of the Middle Cerebellar Peduncle Ranging from Newborns to Young Adults

Thomas J. Re[1, 2], Allison C.R. Scott[3], Michael J. Paldino[4], Andrea Righini[2], Patricia Ellen Grant,[45], Emi Takahashi[6]
[1]Department of Radiology and Neuroradiology, University of Milan, Milan, MI, Italy; [2]Buzzi Children's Hospital, Milan, MI, Italy; [3]Columbia University, New York, NY, United States; [4]Department of Radiology, Boston Children's Hospital, Boston, MA, United States; [5]Division of Newborn Medicine, Boston Children's Hospital, Boston, MA, United States; [6]Division of Newborn Medicine, Boston Children's Hospital, Harvard Medical School, Boston, MA, United States

0886. Three-Dimensional Maximum Probabilistic Cerebellar Atlas of Young Children

Priya lakshmi Narayanan[1, 2], Jesuchristopher Joseph[1, 2], Chirstopher Warton[1], Chirstopher D. Molteno[3], Joseph L. Jacobson,[14], Sandra W. Jacobson,[14], Ernesta M. Meintjes[1, 2]
[1]University of Cape Town, Cape Town, Western Cape, South Africa; [2]MRC/UCT Medical Imaging Research Unit, Cape Town, Western Cape, South Africa; [3]Department of Psychiatry, University of Cape Town, Cape Town, Western Cape, South Africa; [4]Department of Psychiatry and Behavioral Neurosciences, Wayne State University School of Medicine, Detroit, MI, United States

0887. Cerebral Maturation in the Early Preterm Period - A Magnetization Transfer and Diffusion Tensor Imaging Study Using Voxel-Based Analysis

Revital Nossin-Manor[1, 2], Dallas Card[1], Charles Raybaud[1, 3], Margot J. Taylor[1, 2], John G. Sled[4, 5]
[1]Diagnostic Imaging, The Hospital for Sick Children, Toronto, ON, Canada; [2]Neurosciences & Mental Health, Research Institute, The Hospital for Sick Children, Toronto, ON, Canada; [3]Medical Imaging, University of Toronto, Toronto, ON, Canada; [4]Physiology Experimental Medicine, Research Institute, The Hospital for Sick Children, Toronto, ON, Canada; [5]Medical Biophysics, University of Toronto, Toronto, ON, Canada

0888. Development of Somatosensory Cortical Responses in the Preterm Period Characterized with fMRI and a Novel Robotic Device

Tomoki Arichi[1, 2], Alessandro Allievi[3], Alejandro Melendez-Calderon[3], Nora Tusor[1, 2], Libuse Pazderova[1, 2], Hilary Toulmin[1], Serena J. Counsell[4], Etienne Burdet[3], A. David Edwards[1, 3]
[1]Centre for the Developing Brain, Kings College, London, United Kingdom; [2]MRC Clinical Sciences Centre, Imperial College, London, United Kingdom; [3]Department of Bioengineering, Imperial College, London, United Kingdom; [4]Centre for the Developing Brain, King's College London, London, United Kingdom

0889. Support Vector Classification and Prediction of Resting-State Functional Connectivity Over the Lifespan

Scott J. Peltier[1, 2], Jillian Wiggins[3], Laura Jelsone-Swain[4], Christopher Monk[3], Rachael Seidler,[35], Robert Cary Welsh[4, 6]
[1]Functional MRI Laboratory, University of Michigan, Ann Arbor, MI, United States; [2]Biomedical Engineering, University of Michigan, Ann Arbor, MI, United States; [3]Psychology, University of Michigan, Ann Arbor, MI, United States; [4]Radiology, University of Michigan, Ann Arbor, MI, United States; [5]Kinesiology, University of Michigan, Ann Arbor, MI, United States; [6]Psychiatry, University of Michigan, Ann Arbor, MI, United States

0890. Maturation of the Structural Connectome: A Network-Driven Approach

Olga Tymofiyeva[1], Christopher P. Hess[1], Etay Ziv[1], Patricia N. Lee[1], Hannah C. Glass[2, 3], Donna M. Ferriero[3], A James Barkovich[1], Duan Xu[1]
[1]Department of Radiology & Biomedical Imaging, UCSF, San Francisco, CA, United States; [2]Department of Neurology, UCSF, San Francisco, CA, United States; [3]Department of Pediatrics, UCSF, San Francisco, CA, United States

0891. A Comprehensive Evaluation of Regional Cortical Thickness in a Large Cohort of Healthy Controls: Gender and Field Strength Dependence

Koushik A. Govindarajan[1], Ponnada A. Narayana[1]
[1]Department of Diagnostic and Interventional Imaging, UT Health Science Center at Houston, Houston, TX, United States

0892. Volumetric Brain Changes Following Standardized Dynamic Enrichment of Mice

Jan Scholz[1], Rylan Allemang-Grand[1], Jason P. Lerch[1]
[1]Mouse Imaging Centre, Toronto, ON, Canada

0893. On the Comparability of Volumetric Brain Data in the Multicentric IMAGEN Study

Rüdiger Brühl[1], Albrecht Ihlenfeld[1], Semiha Aydin[1], Penelope A. Gowland[2], Gareth John Barker[3], Tomas Paus[4], Jürgen Finsterbusch[5], Simone Kühn[6], Jürgen Gallinat[7], Arun Bokde[8], Michael Smolka[9], Frauke Nees[10], Jean-Luc Martinot[11], Gunter Schumann[3], the IMAGEN Consortium[3], Bernd Ittermann[1]
[1]PTB, Berlin, Germany; [2]University of Nottingham, Nottingham, United Kingdom; [3]Institute of Psychiatry, King's College London, London, United Kingdom; [4]Rotman Research Institute, University of Toronto, Toronto, Ontario, Canada; [5]University Medical Center Hamburg-Eppendorf, Hamburg, Germany; [6]Max-Planck-Institut für Bildungsforschung, Berlin, Germany; [7]Psychiatry and Psychotherapy, Charité – Universitätsmedizin, Berlin, Germany; [8]Institute of Neuroscience, Trinity College Dublin, Dublin, Ireland; [9]Department of Psychology, Technische Universität Dresden, Dresden, Germany; [10]Central Institute of Mental Health, Mannheim, Germany; [11]University Paris Descartes, Paris, France

0894. Effect of Hyperbaric Oxygen on MRI Including T1, T2, T2*, and Bo

Eric R. Muir[1], Damon P. Cardenas[1, 2], Shiliang Huang[3], John W. Roby[1], Timothy O. Duong[4]
[1]Research Imaging Institute, University of Texas Health Science Center, San Antonio, TX, United States; [2]Biomedical Engineering, University of Texas San Antonio, San Antonio, TX, United States; [3]Research Imaging Institute, University of Texas Health Science Center at San Antonio, San Antonio, TX, United States; [4]Research Imaging Institute, UT Health Science Center at San Antonio, San Antonio, TX, United States

Traditional Poster
High Resolution Pediatric CNS Imaging

Exhibition Hall Tuesday 10:00-12:00

0895. Serial Structural Imaging in the Postpartum Period Reveals Increases and Decreases in Regional Brain Volumes Following Childbirth

Derek K. Jones[1], Tim Vivian-Griffiths[1], C John Evans[1], Nicholas Lange[2]
[1]CUBRIC, School of Psychology, Cardiff University, Cardiff, Caerdydd, United Kingdom; [2]Neurostatistics Laboratory,Harvard School of Public Health, Harvard Medical School, Boston, MA, United States

0896. Regional Changes of Cortical Thickness and Cortical Surface in Children Born Prematurely and Children Born with Intrauterine Growth Restriction at School Age

Lana Vasung[1], Laura Gui[1], Elda Fischi-Gomez[1, 2], Cristina Borradori-Tolsa[3], François Lazeyras[4, 5], Petra Susan Hüppi[1]
[1]Division of Development and Growth, Department of Pediatrics, University of Geneva, Geneva, Switzerland; [2]Signal Processing Laboratory 5(LTS5), École Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland; [3]Division of Development and Growth, Department of Pediatrics, University of Geneva and University Hospital Geneva, Geneva, Switzerland; [4]Department of Radiology, University of Geneva and University Hospital Geneva, Geneva, Switzerland; [5]Center for Biomedical Imaging (CIBM), Geneva and Lausanne, Switzerland

0897. Half-Quantitative Assessment of Myelination Progression in Normal Infants and Children During 6-48 Months with Conventional T2-Weighted Images

Zhijie Jian[1], Jie Gao[1], Jianghong Han[1], yumiao zhang[1], Bolang Yu[1], Jian Yang[1]
[1]Department of Radiology, The First Affiliated Hospital of Medical College, Xi¡¯an Jiaotong University, xi'an, shann xi, China

0898. Towards a Connectome Mapping Pipeline for Neonates Using High-Resolution MP2RAGE and DTI

Andreina Pauli[1], Juliane Schneider[2], Meritxell Bach Cuadra, [13], Alessandra Griffa, [13], Elda Fischi Gomez[3], Reto Meuli[1], Jean-Philippe Thiran, [13], Anita C. Truttmann[2], Patric Hagmann, [13]
[1]Department of Radiology, University Hospital Center and University of Lausanne, Lausanne, Switzerland; [2]Clinic of Neonatology, University Hospital Center and University of Lausanne, Lausanne, Switzerland; [3]Signal Processing Laboratory (LTS5), Ecole Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland

0899. Exploring the Development of the Human Structural Connectome in Preterm Neonates
Gareth Ball[1], Paul Aljabar[1], Antonios Makropoulos[1], Tomoki Arichi[1], Nazakat Merchant[1], A. David Edwards[1], Serena J. Counsell[1]
[1]Centre for the Developing Brain, King's College London, London, United Kingdom

0900. Probabilistic Neighborhood Tractography in the Preterm Neonatal Brain at 3 T
Devasuda Anblagan[1, 2], Mark E. Bastin[3], Lucy Kershaw[1], Susana Muñoz Maniega[4], Jonathan D. Clayden[5], Chinthika Piyasena[6], Graham Wilkinson[7], Neil Roberts[1], Scott I. Semple[1], Jane Norman[2], James P. Boardman[2]
[1]Clinical Research Imaging Centre, University of Edinburgh, Edinburgh, United Kingdom; [2]MRC Centre for Reproductive Health, Queen's Medical Research Institute, University of Edinburgh, Edinburgh, United Kingdom; [3]Centre for Clinical Brain Sciences, University of Edinburgh, Edinburgh, United Kingdom; [4]Brain Research Imaging Centre, University of Edinburgh, Edinburgh, United Kingdom; [5]Institute of Child Health, University College London, London, United Kingdom; [6]BHF Centre for Cardiovascular Science, University of Edinburgh, Edinburgh, United Kingdom; [7]NHS Lothian, Edinburgh, United Kingdom

0901. Comparing Diffusion Tensor Imaging Metrics of Motor and Sensory Tracts in Children with Spastic Cerebral Palsy and the Levels of Gross Motor Function by TBSS and Tractography
Jiang Hao Xiang[1, 2], Li Xian jun[3, 4], Gao Jie[3], Song Yang[5], Zhang Zhe[3], Zhang Zeng jun[6], Yang Jian[7]
[1]Department of Radiology, The First Affiliated Hospital of Medical College, Xi¡¯an Jiaotong University, Xi'an, Shan xi, China; [2]Department of Radiology, The Xi¡¯an children's hospital, Xi¡¯an , Shan xi , China; [3]Department of Radiology, The First Affiliated Hospital of Medical College, Xi¡¯an Jiaotong University, Xi¡¯an, Shan xi, China; [4]Department of Biomedical Engineering, School of Life Science and Technology, Xi' an Jiaotong University, Xi' an , Shan xi, China; [5]Child healthcare Department, The First Affiliated Hospital of Medical College, Xi¡¯an Jiaotong University, Xi¡¯an, Shan xi, China; [6]Department of Radiology, The Xi¡¯an children's hospital, Xi¡¯an, Shan xi, China; [7]Department of radiology, The First Affiliated Hospital of Medical College, Xi¡¯an Jiaotong University.Xi¡¯an, Xi¡¯an, Shan xi, China

0902. White Matter Development in Preterm Infants at Term Equivalent Age: Assessment Using TBSS
Jeong Hye Jin[1], Shim So-Yeon[2], Jeong Joon-Sup[1], Oh Se-Hong[1], Park Sung-Yeon[1], Kim Young-Bo[1], Cho Zang-Hee[1]
[1]Neuroscience Research Institute, Gachon university, Namdong-gu, Incheon, Korea; [2]Department of Pediatrics, Gachon University Gil Hospital, Namdong-gu, Incheon, Korea

0903. Influence of Prematurity on Local Cortical Development
Laura Gui[1], François Lazeyras[2], Lana Vasung[1], Anita Truttmann[3], Cristina Borradori-Tolsa[1], Petra Susan Hüppi[4]
[1]Pediatrics, Children's Hospital, Geneva, Switzerland; [2]Radiology, Geneva University Hospitals, Geneva, Switzerland; [3]Pediatrics, Children's Hospital, Lausanne, Vaud, Switzerland; [4]Pediatrics, University of Geneva, Geneva, Switzerland

0904. Evaluation of White Matter Development and Small World Anatomical Networks in Fetal Brain by SBTFE Sequence from MRI.
Bing Zhang[1], Chenchen Yan[1], Ming Li[1], Huiting Wang[1], Fei Chen[1], Bin Zhu[1]
[1]Department of Radiology, The Affiliated Drum Tower Hospital of Nanjing University Medical School, Nanjing, Jiangsu, China

0905. Relationship Between Optic Radiation Microstructure and Visual Function in Adolescents Born Extremely Preterm or Extremely Low Birth Weight
Claire E. Kelly[1, 2], Jeannie L.Y. Cheong, [13], Carly Molloy[1], Peter J. Anderson[1], Alan Connelly[4], Lex W. Doyle, [13], Deanne K. Thompson[1, 2]
[1]Murdoch Childrens Research Institute, Parkville, Victoria, Australia; [2]University of Melbourne, Parkville, Victoria, Australia; [3]Royal Women's Hospital, Parkville, Victoria, Australia; [4]Melbourne Brain Centre, Heidelberg, Victoria, Australia

0906. Long Range White Matter Connectivity Deficit in Pediatric Cerebral Palsy
Zoe A. Englander[1], Anastasiya Batrachenko[1], Carolyn E. Pizoli, [12], Christopher M. Petty[1], Jessica Sun[2, 3], Mohamad A. Mikati[2], Joanne Kurtzberg[4, 5], Allen W. Song[1]
[1]Brain Imaging and Analysis Center, Duke University, Durham, NC, United States; [2]Department of Pediatrics, Duke University, Durham, NC, United States; [3]The Robertson Cell and Translational Therapy Center, Duke University, Durham , NC, United States; [4]The Robertson Cell and Translational Therapy Center, Duke University, Durham, NC, United States; [5]Department of Pediatrics, Duke University, Durham , NC, United States

0907. White Matter Variations in Children with Spastic Cerebral Palsy Analyzed by Diffusion Tensor Imaging with Tract-Based Spatial Statistics and Probabilistic Tractography

Jiang Hao Xiang[1], Yang Jian[2]
[1]Department of radiology, Xi'an Jiaotong University, Xi'an, Shan xi, China; [2]Department of radiology, Xi¡¯an Jiaotong University., Xi¡¯an, Shan xi, China

0908. BOLD fMRI in Infants Under Sedation: Comparing the Impact of Pentobarbital and Propofol on Auditory and Language Activation and Connectivity

Mark William DiFrancesco[1], Prasanna Karunanayaka[2], Sara Robertson, Scott K. Holland
[1]Pediatric Neuroimaging Research Consortium, Cincinnati Children's Hospital Medical Center, Cincinnati, OH, United States; [2]The Milton S. Hershey Medical Center, Pennsylvania State University, Hershey, PA, United States

0909. Longitudinal Changes in Diffusion Properties in the White Matter Pathways in Patients with Tuberous Sclerosis Complex

Fiona M. Baumer[1], Jae W. Song[1], Paul D. Michell[1], Rudolph Pienaar[1], Mustafa Sahin[1], Patricia Ellen Grant[2], Emi Takahashi[1]
[1]Boston Children's Hospital, Harvard Medical School, Boston, MA, United States; [2]Boston Children's Hospital, Boston, MA, United States

0910. Age-Related Changes of Susceptibility and Phase Changes at Subependymal Nodes in Infants and Children with Tuberous Sclerosis.

Tetsu Niwa[1], Noriko Aida[2], Taro Takahara[3], Tomohiro Yamashita[1], Noriharu Yanagimachi[1], Tomoaki Nagaoka[4], Yutaka Imai[1]
[1]Radiology, Tokai University School of Medicine, Isehara, Kanagawa, Japan; [2]Radiology, Kanagawa Children's Medical Center, Yokohama, Kanagawa, Japan; [3]Biomedical Engineering, Tokai University School of Engineering, Isehara, Kanagawa, Japan; [4]Electromagnetic Compatibility Laboratory, Applied Electromagnetic Research Institute, National Institute of Information and Communications Technology, Koganei, Tokyo, Japan

0911. Is Myelin Content Associated with Early Language Development in Healthy Toddlers?

Lindsay Walker[1], Irene Piryatinsky[1], Jonathan O'Muircheartaigh[2], Douglas C. Dean III[1], Michelle Han[1], Katie Lehman[1], Nicole Waskiewicz[1], Beth A. Jerskey[1, 3], Holly Dirks[1], Sean C. L. Deoni[1]
[1]Advanced Baby Imaging Lab, Brown University, Providence, RI, United States; [2]King's College London, Institute of Psychiatry, London, United Kingdom; [3]Warren Alpert Medical School, Brown University, Providence, RI, United States

0912. Altered Dorsal Attention and Default Network Connectivity Associated with Dimensional Measures of Attention-Deficit/Hyperactivity Disorder

Amanda Elton[1], Sarael Alcauter[1], Wei Gao[1]
[1]University of North Carolina at Chapel Hill, Chapel Hill, NC, United States

0913. Abnormal Functional Network Connectivity Among Spatially Independent Resting State Networks in Children with Frontal Lobe Epilepsy

Mojdeh Zamyadi[1], Charles Raybaud[1], Carter Snead[2], Mary Lou Smith[3], Elysa Widjaja[1]
[1]Diagnostic Imaging, The Hospital for Sick Children, Toronto, Ontario, Canada; [2]Division of Neurology, The Hospital for Sick Children, Toronto, Ontario, Canada; [3]Department of Psychology, The Hospital for Sick Children, Toronto, Ontario, Canada

0914. Comparison of Pulsed Arterial Spin Labeling (PASL) and Pseudo-Continuous Arterial Spin Labeling (PCASL) Methods for Measuring Brain Perfusion in Newborns

Elodie Boudes[1], Guillaume Gilbert[2], Christine Saint-Martin[3], Ilana Ruth Leppert[4], Bruce G. Pike[4], Pia Wintermark[1]
[1]Department of Pediatrics, Division of Newborn Medicine, McGill University, Montreal, QC, Canada; [2]MR Clinical Science, Philips Healthcare, Montreal, QC, Canada; [3]Department of Radiology, McGill University, Montreal, QC, Canada; [4]Montreal Neurological Institute, McGill University, Montreal, QC, Canada

0915. The Effect of Haematocrit Levels and Arrival Times on ASL Measures in Neonates.

Rishma Vidyasagar[1], Laurence Abernethy[2], Laura M. Parkes[1]
[1]Biomedical Imaging Institute, School of Population Health, Manchester, Greater Manchester, United Kingdom; [2]Alder Hey Children's Hospital, Liverpool, Merseyside, United Kingdom

0916. A Comparative Study of Dynamic Susceptibility Contrast and Arterial Spin Labeling in Childhood Brain Tumours.

Rishma Vidyasagar[1], Laura M. Parkes[1], Shivaram Avula[2], Barry Pizer[2], Laurence Abernethy[2]
[1]Biomedical Imaging Institute, School of Population Health, University of Manchester, Manchester, Greater Manchester, United Kingdom; [2]Alder Hey Children's Hospital, Liverpool, Merseyside, United Kingdom

0917. MRI Based Quantification of Global Cerebral Metabolism in Neonates with Congenital Heart Defect

Varsha Jain[1], Erin Buckley[2], Jennifer Lynch[2], Peter Schwab[2], Maryam Naim[2], Susan Nicolson[2], Lisa Montenegro[2], Daniel Licht[2], Felix Wehrli[1]
[1]University of Pennsylvania, Philadelphia, PA, United States; [2]Childrens Hospital of Philadelphia, Philadelphia, PA, United States

0918. T2* Measurement of Fetal Brain Using a Motion Tolerant Method

Serge Vasylechko[1], Christina Malamateniou[2], Rita Nunes[2, 3], Matthew J. Fox[2], Joanna M. Allsop[2], Mary A. Rutherford[2], Daniel Rueckert[1], Joseph V. Hajnal[2]
[1]Biomedical Image Analysis Group, Department of Computing, Imperial College, London, United Kingdom; [2]Division of Imaging Sciences and Biomedical Engineering, King's College, London, United Kingdom; [3]Institute of Biophysics and Biomedical Engineering, University of Lisbon, Lisbon, Portugal

0919. Prediction of Clinical Outcome of Hypoxic-Ischemic Encephalopathy Using Diffusion Tensor Imaging Assessed by a Reproducible Objective Quantification Scheme (ROQS) in the Perinatal Period

Sumit Narayan Niogi[1], Daniel Rosenbaum[1], Jeffrey Perlman[2], Linda Heier[1], Arzu Kovanlikaya[1]
[1]Radiology, NY Presbyterian Hospital Weill Cornell Medical Center, New York, NY, United States; [2]Pediatrics, NY Presbyterian Hospital Weill Cornell Medical Center, New York, NY, United States

0920. Altered Glutamatergic Metabolism Is Associated with Punctate White Matter Lesions in Preterm Infants

Jessica L. Wisnowski[1, 2], Stefan Bluml[1], Lisa Paquette[3], Elizabeth Zelinski[4], Marvin D. Nelson, Jr[1], Michael J. Painter[5], Hanna Damasio[2], Floyd Gilles[6], Ashok Panigrahy, [17]
[1]Radiology, Children's Hospital Los Angeles, Los Angeles, CA, United States; [2]Brain and Creativity Institute, University of Southern California, Los Angeles, CA, United States; [3]Pediatrics, Children's Hospital Los Angeles, Los Angeles, CA, United States; [4]Gerontology, University of Southern California, Los Angeles, CA, United States; [5]Pediatrics, Children's Hospital of Pittsburgh of UPMC, Pittsburgh, PA, United States; [6]Pathology, Children's Hospital Los Angeles, Los Angeles, CA, United States; [7]Radiology, Children's Hospital of Pittsburgh of UPMC, Pittsburgh, PA, United States

0921. A Combined GABA-MRS and Behavioural Study in Children with Autism Spectrum Disorder

Nicolaas A. J. Puts[1, 2], Taylor Koriakin, Ericka L. Wodka, Mark Tommerdahl[3], Peter B. Barker[1, 2], Stewart H. Mostofsky[4], Richard Anthony Edward Edden[1, 2]
[1]The Russell H. Morgan Department of Radiology and Radiological Science, Johns Hopkins University, Baltimore, MD, United States; [2]FM Kirby Centre for functional neuroimaging, Kennedy Krieger Institute, Baltimore, MD, United States; [3]Biomedical engineering, University of North Carolina, Chapel hill, NC, United States; [4]School of Medicine, Johns Hopkins University, Baltimore, MD, United States

0922. Non-Invasive Regional Brain Temperature Measurements During and After Hypothermia Therapy in Newborns with Suspected Hypoxic/ischemic Brain Injury

Tai-Wei Wu[1], Ida Ashoori[2, 3], Jessica L. Wisnowski[2], Marvin D. Nelson[2], Thomas G. Perkins[4], Jonathan M. Chia[4], Ashok Panigrahy[5], Stefan Blüml[2, 3]
[1]Neonatology, Children's Hospital Los Angeles, Los Angeles, CA, United States; [2]Radiology, Children's Hospital Los Angeles, Los Angeles, CA, United States; [3]Rudi Schulte Research Institute, Santa Barbara, CA, United States; [4]Philips Healthcare, Cleveland, OH, United States; [5]Radiology, Children's Hospital of Pittsburgh, Pittsburgh, PA, United States

0923. MR Imaging Within the Neonatal Intensive Care Unit: Initial Experience

Jean A. Tkach[1], Stephanie L. Merhar[2], Beth M. Kline-Fath[1], Ronald G. Pratt[1], Wolfgang Loew[1], Barret R. Daniels[1], Randy O. Giaquinto[1], Mantosh S. Rattan[1], Blaise V. Jones[1], Michael D. Taylor[3], Janice M. Tiefermann[1], Lisa M. Tully[1], E. Colleen Murph-Eigel[4], Rachel N. Wolf-Severs[1], Angela A. LaRuffa[5], Charles L. Dumoulin[6]
[1]Radiology, Cincinnati Children's Hospital Medical Center, Cincinnati, OH, United States; [2]Neonatology and Pulmonary Biology, Cincinnati Children's Hospital Medical Center, Cincinnati, OH, United States; [3]The Heart Institute, Cincinnati Children's Hospital Medical Center, Cincinnati, OH, United States; [4]Translational Research Trials Office, Cincinnati Children's Hospital Medical Center, Cincinnati, OH, United States; [5]Newborn Intensive Care Unit, Cincinnati Children's Hospital Medical Center, Cincinnati, OH, United States; [6]Radiology, Cincinnati Children's Hospital, Cincinnati, OH, United States

0924. Reduced Thalamo-Cortical Connectivity at Term Is Associated with Impaired Cognition in Children Who Were Born Preterm

Gareth Ball[1], Libuse Pazderova[2], Andrew Chew[1], Nazakat Merchant[1], Nora Tusor[1], Tomoki Arichi[1], Joanna M. Allsop[1], A. David Edwards[1], Serena J. Counsell[1]
[1]Centre for the Developing Brain, King's College London, London, United Kingdom; [2]Dept of Paediatrics, Imperial College, London, United Kingdom

0925. Cortical Thickness Abnormalities and Impaired Cognitive Control Ability in Adolescents with Internet Addiction Disorder

Kai Yuan[1], Wei Qin[1], Jie Tian[1, 2]
[1]School of Life Sciences and Technology, Xidian University, China, xi'an, Shaan xi, China; [2]Institute of Automation, Chinese Academy of Sciences, Beijing, China

Traditional Poster
High Resolution Brain Anatomy & Morphometry

Exhibition Hall Tuesday 10:00-12:00

0926. The Cortical Architecture Presentation of Visual System Functional Selectivity

Daniel Barazany[1], Shani Ben Amitay[1], Ido Tavor[1], Galit Yovel[2, 3], Yaniv Assaf[1]
[1]Neurobiology, Tel Aviv University, Tel Aviv, Israel; [2]School of Psychological Sciences, Tel Aviv University, Tel Aviv, Israel; [3] Sagol School of Neuroscience, Tel Aviv University, Tel Aviv, Israel

0927. Quantitative Analysis of Lateral Geniculate Nucleus (LGN) in Glaucoma Using 7.0T MRI

Jeong Hye Jin[1], Lee Jong-Yeon[2], Lee Jong-Hwan[2], Choi Sang-Han[1], Kim Young-Bo[1], Cho Zang-Hee[1]
[1]Neuroscience Research Institute, Gachon University, Namdong-gu, Incheon, Korea; [2]Department of Ophthalmology, Gachon University Gil Hospital, Namdong-gu, Incheon, Korea

0928. Assessment of Multiple Sclerosis at 7.0 T Using High Spatial Resolution, Fluid Attenuated Inversion Recovery Prepared Susceptibility Weighted Fast Spin Echo Imaging

Elena Maria Tovar Martinez[1], Katharina Fuchs[1], Fabian Hezel[1], Matthias Alexander Dieringer[1, 2], Jens Wuerfel[3, 4], Thoralf Niendorf[4, 5]
[1]Berlin Ultrahigh Field Facility (B.U.F.F.), Max-Delbrueck Center for Molecular Medicine, Berlin, Germany; [2]Working Group on Cardiovascular Magnetic Resonance, Experimental and Clinical Research Center (ECRC), Berlin, Germany; [3]Institute of Neuroradiology, University Medicine Goettingen, Goettingen, Germany; [4]NeuroCure Clinical Research Center, Charité University Medicine Berlin, Berlin, Germany; [5]Experimental and Clinical Research Center, a cooperation of the Charité Medical Faculty and the Max-Delbrueck Center for Molecular Medicine, Berlin, Germany

0929. Direct Validation of MRI Findings in Postmortem Brain

Nikolaus Krebs[1, 2], Christian Langkammer[3], Thomas Ehammer[1], Karl-Olof Lövblad[4], Gerlinde Komatz[5], Stefan Ropele[3], Franz Fazekas[6], Kathrin Yen[7], Eva Scheurer[1, 2]
[1]Ludwig Boltzmann Institute for Clinical-Forensic Imaging, Graz, Austria; [2]Medical University, Graz, Austria; [3]Department of Neurology, Medical University, Graz, Austria; [4]Department of Radiology, University Hospital, Genève, Switzerland; [5]CT/MR-Center Graz Geidorf, Graz, Austria; [6]Department of Neurology, Medical University of Graz, Graz, Austria; [7]Institute of Legal and Traffic Medicine, University Hospital, Heidelberg, Germany

0930. Patterns of Cortical Myelination Are Intact in Lower Limb Amputees

Nicholas A. Bock[1], Eyesha Hashim[1], Norman B. Konyer[2], Sharon Grad[3]
[1]Medical Physics, McMaster University, Hamilton, ON, Canada; [2]Imaging Research Centre, St. Joseph's Healthcare Hamilton, Hamilton, ON, Canada; [3]Physcial Medicine and Rehabilitation, McMaster University, Hamilton, ON, Canada

0931. Morphometric Cortical Correlates of Pain Catastrophizing Behaviour in Patients with Chronic Painful Knee OA

Hamza Alshuft[1, 2], Laura Condon[1], Jennifer Dixon[1, 2], Robert Dineen[1], Dorothee P. Auer[1, 2]
[1]Radiological and Imaging Sciences, University of Nottingham, Nottingham, Nottinghamshire, United Kingdom; [2]Arthritis Research UK Pain Centre, Nottingham, Nottinghamshire, United Kingdom

0932. Sexual Dimorphism in the Human Corpus Callosum After Controlling for Brain Size
Babak A. Ardekani[1]
[1]Center for Advanced Brain Imaging, The Nathan Kline Institute for Psychiatric Research, Orangeburg, NY, United States

0933. MRI of Congenital Arteriovenous Malformation in Wistar Rats: the Effect of Altering Diffusion Tensor Imaging in Accessing White Matter Integrity
Tsang-Wei Tu[1], *L. Christine Turtzo*[1], *Jacob D. Lescher*[1], *Dana D. Dean*[1], *Tiziana T. Coppola*[1], *Rashida A. Williams*[1], *Joseph A. Frank*[1]
[1]Radiology and Imaging Sciences, National Institute of Health, Bethesda, MD, United States

0934. A Quantitative Comparison of PSIR and MP-RAGE at 7T Using Tissue Classification
Alain Pitiot[1], *Olivier E. Mougin*[2], *Penelope A. Gowland*[2]
[1]School of Psychology, University of Nottingham, Nottingham, Nottinghamshire, United Kingdom; [2]Sir Peter Mansfield MR Centre, University of Nottingham, Nottingham, Nottinghamshire, United Kingdom

0935. High-Resolution Quantitative T1-Based Cortical Thickness Estimates at 7 Tesla
ISMRM MERIT AWARD magna cum laude
Christine Lucas Tardif[1], *Pierre-Louis Bazin*[1], *Andreas Schäfer*[1], *Robert Turner*[1]
[1]Department of Neurophysics, Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Saxony, Germany

0936. Fiber-Driven Resolution Enhancement of Diffusion-Weighted Images - An Evaluation Using High Resolution Data
Pew-Thian Yap[1], *Hongyu An*[1], *Yasheng Chen*[1], *Dinggang Shen*[1]
[1]Department of Radiology and BRIC, University of North Carolina, Chapel Hill, NC, United States

0937. An Improved Population-Based Multi-Tensor Atlas of White Matter Tracts
Demian Wassermann[1], *Nikos Makris*[2], *Yogesh Rathi*[3], *Martha E. Shenton*[3], *Marek Kubicki*[3], *Carl-Fredrik Westin*[1], *Ron Kikinis*[1]
[1]Radiology, Brigham and Women's Hosptial & Harvard Medical School, Boston, MA, United States; [2]Psychiatry, Massachusetts General Hospital and Harvard Medical School, Charlestown, MA, United States; [3]Psychiatry, Brigham and Women's Hosptial & Harvard Medical School, Boston, MA, United States

0938. The Sources of White Matter Lateralization Explored by Conjunction of Quantitative MRI Methods
Aviv Mezer[1], *Jason Yeatman*[1], *Ariel Rokem*[1], *Brian Wandell*[1]
[1]Stanford university, Stanford, CA, United States

0939. Derivation of Unbiased Anatomical and Diffusion MRI Templates of Primate Brains for Cross-Species Analysis
Frederick William Damen[1], *Longchuan Li*[2], *Xiaoping P. Hu*[1, 2]
[1]Biomedical Engineering, Georgia Institute of Technology, Atlanta, GA, United States; [2]Biomedical Imaging and Technology Center, Emory University, Atlanta, GA, United States

0940. Longitudinal Regional Brain Volume Changes in Mild Traumatic Brain Injury
Yongxia Zhou[1], *Andrea S. Kierans*[1], *Damon Kenul*[1], *Yulin Ge*[1], *Joseph Rath*[2], *Joseph Reaume*[1], *Robert I. Grossman*[3], *Yvonne W. Lui*[1]
[1]Radiology and Center for Biomedical Imaging, New York University Langone Medical Center, New York, NY, United States; [2]Rusk Institute of Rehabilitation Medicine, New York University Langone Medical Center, New York, NY, United States; [3]Radiology and Center for Biomedical Imaging, New York University, New York, NY, United States

0941. Functional Measures Improve Separation of Marijuana Smokers with Comorbid Psychiatric Disorders from Healthy Controls and Marijuana Smokers Without Psychiatric Disorders in a Three-Group LDA Classification
Piotr Bogorodzki[1], *Melissa Lopez-Larson*[2, 3], *Jadwiga Rogowska*, *Deborah Yurgelun-Todd*[2, 3]
[1]Institute of Radioelectronics, Warsaw Technical University, Warsaw, Poland; [2]Psychiatry, University of Utah, Salt Lake City, UT, United States; [3]SLC VA MIRECC, Salt lake city, UT, United States

0942. Visualization and Quantitative Evaluation of Lumbar Nerve Roots Using Diffusion Tensor Imaging.
Yasuhiro OIkawa[1], Yawara Eguchi[1], Seiji Ohtori[1], Sumihisa Orita[1], Kazuyo Yamauchi[1], Miyako Suzuki[1], Yoshihiro Sakuma[1], Go Kubota[1], Kazuhide Inage[1], Takeshi Saino[1], HIrotaka Sato[2], Hiroki Ando[2], Masatoshi Kojima[2], Kenichiro Okumura[2], Yoshitada Masuda[2], Atsuya Watanabe[3], Kazuhisa Takahashi[1]
[1]Orthopaedic Surgery, Graduate School of Medicine, Chiba University, Chiba, Japan; [2]Radiology, Graduate School of Medicine, Chiba University, Chiba, Japan; [3]Orthopaedic Surgery, Teikyou University Chiba Medical Center, Ichihara, Chiba, Japan

0943. Do Regional Cerebral Blood Volume (RCBV) Effects Partially Explain Short-Termed Changes of Voxel-Based Morphometry (VBM)?
Dirk Ernst Cleppien[1, 2], Lei Zheng[3], Claudia Falfan-Melgoza[1], Barbara Vollmayr[2, 4], Gabriele Ende[5], Wolfgang Weber-Fahr[1, 5], Alexander Sartorius, [12]
[1]RG Translational Imaging, Central Institute of Mental Health, Medical Faculty Mannheim/ Heidelberg University, Mannheim, Germany; [2]Department of Psychiatry and Psychotherapy, Central Institute of Mental Health, Medical Faculty Mannheim/ Heidelberg University, Mannheim, Germany; [3]Experimental Radiation Oncology, University Medical Center Mannheim, Heidelberg University, Mannheim, Germany; [4]Research Group Animal Models in Psychiatry, Central Institute of Mental Health, Medical Faculty Mannheim/ Heidelberg University, Mannheim, Germany; [5]NeuroImaging, Central Institute of Mental Health, Medical Faculty Mannheim/ Heidelberg University, Mannheim, Germany

0944. High Spatial Resolution Cerebral Blood Flow Imaging of Rat Brain
Qiang Shen[1], Fang Du[1], Timothy O. Duong[2]
[1]Research Imaging Institute, University of Texas Health Science Center at San Antonio, San Antonio, TX, United States; [2]Research Imaging Institute, UT Health Science Center at San Antonio, San Antonio, TX, United States

0945. MRI-Detectable Changes in Mouse Brain Structure Induced by Voluntary Exercise
Lindsay S. Cahill[1], Patrick Steadman[1], Christine L. Laliberté[1], Patrick Macos[1], Jun Dazai[1], Jason P. Lerch[1, 2], Bojana Stefanovic, [23], John G. Sled[1, 2]
[1]Mouse Imaging Centre, Hospital for Sick Children, Toronto, Ontario, Canada; [2]Department of Medical Biophysics, University of Toronto, Toronto, Ontario, Canada; [3]Sunnybrook Research Institute, Toronto, Ontario, Canada

0946. An *in vivo* Tree Shrew Brain Anatomical Imaging Template for Tissue Segmentation and Morphormetry Analysis
Shuxia Wang[1], Dai Shan[1], Xuxia Wang[1], Yong Fan[2], Yuanye Ma[3], Hao Lei[1]
[1]State Key Laboratory of Magnetic Resonance and Atomic and Molecular Physics, Wuhan Institute of Physics and Mathematics, Chinese Academy of Sciences, Wuhan, Hubei, China; [2]National Laboratory of Pattern Recognition, Institute of Automation, Chinese Academy of Sciences, Beijing, China; [3]Laboratory of Primate Neurosciences, Kunming Institute of Zoology, Chinese Academy of Sciences, Kunming, Yunnan, China

0947. Quantitative Comparison of Morphometric Data from Multi-Echo MPRAGE with Variable Acceleration and Different Head Coils
Ross W. Mair[1, 2], Martin Reuter[2, 3], André J. W. van der Kouwe[2], Bruce Fischl[2, 4], Randy Buckner[1, 2]
[1]Center for Brain Science, Harvard University, Cambridge, MA, United States; [2]Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Charlestown, MA, United States; [3]Dept. of Mechanical Engineering, Massachusetts Institute of Technology, Cambridge, MA, United States; [4]Computer Science and Artificial Intelligence Laboratory, Massachusetts Institute of Technology, Cambridge, MA, United States

0948. Classical Segmentation Methods on Novel MR Imaging: A Study of Brain Tissue Segmentation of MP2RAGE Vs MPRAGE
Meritxell Bach Cuadra[1, 2], Sebastien Gelin, [23], Alexis Roche[1, 4], Oscar Esteban, [25], Tobias Kober[4], José P. Marques[6], Cristina Granziera[7], Gunnar Krüger[4, 8]
[1]Radiology Department, University Hospital Center (CHUV) and University of Lausanne (UNIL), Lausanne, Vaud, Switzerland; [2]Signal Processing Laboratory (LTS5), Ecole Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Vaud, Switzerland; [3]Bern University, Bern, Switzerland; [4]Advanced Clinical Imaging Technology, Siemens Healthcare Sector IM&WS S, Lausanne, Vaud, Switzerland; [5]Biomedical Image Technologies (BIT), Universidad Politécnica de Madrid, Madrid, Spain; [6]CIBM-Animal Imaging and Technology core, University of Lausanne, Lausanne, Vaud, Switzerland; [7]Department of Clinical Neurosciences, University Hospital Center (CHUV) and University of Lausanne (UNIL), Lausanne, Vaud, Switzerland; [8]CIBM-AIT, Ecole Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Vaud, Switzerland

0949. Classification of Cortical Layers at Sub-Pixel Resolution
Shlomi Lifshits[1], Daniel Barazany[2], Saharon Rosset[1], Yaniv Assaf[2]
[1]Department of Statistics and Operations Research, Tel-Aviv University, Tel-Aviv, Israel; [2]Department of Neurobiology, Tel-Aviv University, Tel-Aviv, Israel

0950. Comparison of Cortical Surface Reconstructions Between Quantitative T_1 and T_1-Weighted Volumetric Data
Kyoko Fujimoto[1], Lawrence L. Wald[2, 3], Jonathan R. Polimeni[2]
[1]Department of Neurology, Weill Cornell Medical College, New York, NY, United States; [2]Athinoula A. Martinos Center for Biomedical Imaging, Department of Radiology, Harvard Medical School, Massachusetts General Hospital, Charlestown, MA, United States; [3]3Harvard-MIT Division of Health Sciences and Technology, Massachusetts Institute of Technology, Cambridge, MA, United States

0951. Evaluation of Three Automated Methods of Identifying the Hippocampus on T1 Weighted Images
Jian Lin[1], Mingyi Li[1], Katherine A. Koenig[1], Mark J. Lowe[1], Micheal Phillips[1]
[1]Radiology, Cleveland Clinic, Cleveland, OH, United States

0952. Fully Automatic Segmentation of the Amygdala on High Resolution T1 Images Using a Shape Model
Frank Thiele[1, 2], Lukas Scheef[2], Fabian Wenzel[3], Carsten Meyer[3], Henning Boecker[2], Michael Wagner[4], Hans H. Schild[2], Frank Jessen[4]
[1]Philips Research, Aachen, Germany; [2]Radiology, University of Bonn, Bonn, Germany; [3]Philips Research, Hamburg, Germany; [4]Psychiatry, University of Bonn, Bonn, Germany

0953. Imaging of the Nigrosomes of the Substantia Nigra at 3T
Anna I. Blazejewska[1], Stefan T. Schwarz[2], Samuel J. Wharton[1], Richard W. Bowtell[1], Dorothee P. Auer[2], Penelope A. Gowland[1]
[1]SPMMRC, University of Nottingham, Nottingham, Notts, United Kingdom; [2]Division of Radiological and Imaging Sciences, Nottingham University Hospitals NHS Trust, Nottingham, Notts, United Kingdom

0954. Visualization of Accessory Root of Trigeminal Nerve Using HFMRI: Potential for Preoperative Planning
Julien Sein[1], Bharathi D. Jagadeesan[2, 3], Andrew W. Grande[3, 4], Julian Tokarev[5], Michael Salmella[2], Kamil Ugurbil[1], Pierre-Francois Van de Moortele[1]
[1]CMRR, University of Minnesota, Minneapolis, MN, United States; [2]Department of Radiology, University of Minnesota, Minneapolis, MN, United States; [3]Department of Neurosurgery, University of Minnesota, Minneapolis, MN, United States; [4]Department of Neurology, University of Minnesota, Minneapolis, MN, United States; [5]Medical School TC, University of Minnesota, Minneapolis, MN, United States

Traditional Poster
Human Brain Tumors: Diagnosis & Response

Exhibition Hall Tuesday 10:00-12:00

0955. Amide Proton Transfer Imaging of Diffuse Gliomas: Correlation with Histopathological Grades
Osamu Togao[1, 2], Takashi Yoshiura[2], Jochen Keupp[3], Akio Hiwatashi[2], Koji Yamashita[2], Kazufumi Kikuchi[2], Yuriko Suzuki[4], Mariya Doneva[3], Koji Sagiyama[5], Masaya Takahashi[5], Hiroshi Honda[2]
[1]Molecular Imaging and Diagnosis, Graduate School of Medical Science, Kyushu University, Fukuoka, Japan; [2]Clinical Radiology, Graduate School of Medical Science, Kyushu University, Fukuoka, Japan; [3]Philips Research Europe, Hamburg, Germany; [4]Philips Electronics Japan, Minato-ku, Tokyo, Japan; [5]Advanced Imaging Research Center, UT Southwestern Medical Center, Dallas, TX, United States

ISMRM MERIT AWARD magna cum laude

0956. Whole Brain Dynamic Contrast Enhanced Imaging Via Compressed Sensing Techniques
Haonan Wang[1], Matthias C. Schabel[2], Alex Schabel[3], Karen Salzman[3], Neal K. Bangerter[1], Edward V.R. DiBella[4]
[1]Electrical & Computer Engineering, Brigham Young University, Provo, UT, United States; [2]Oregon Health & Science University, Portland, OR, United States; [3]Department of Radiology, University of Utah, Salt Lake City, UT, United States; [4]Utah Center for Advanced Imaging Research, University of Utah, Salt Lake City, UT, United States

0957. Contrast Dose Dependence of Arterial-Venous Overlap in High-Grade Glioma
Peter S. LaViolette[1], Mitchell Daun[2], Alexander D. Cohen[3], Jennifer Connelley[2], Kathleen M. Schmainda[1]
[1]Radiology, Medical College of Wisconsin, Milwaukee, WI, United States; [2]Neurology, Medical College of Wisconsin, Milwaukee, WI, United States; [3]Biophysics, Medical College of Wisconsin, Milwaukee, WI, United States

0958. Intravoxel Distribution of Water Diffusion Rates Reveals Proliferative Activity in Human Astrocytoma
Wen-Zhen Zhu[1], Wei Xiong[2], He Wang[3], Yuan-Yuan Qin[1]
[1]Tongji hospital, Tongji medical college, Huazhong university of science and technology, wuhan, hubei, China; [2]Mr modality, GE healthcare, wuhan, hubei, China; [3]MR Research China, GE healthcare, Pudong District, Shanghai, China

0959. Perfusion Correction of Brain Tumor Functional Diffusion Maps
Alexander D. Cohen[1], Pete S. LaViolette[2], Melissa A. Prah[2], Kathleen M. Schmainda, [12]
[1]Biophysics, Medical College of Wisconsin, Milwaukee, WI, United States; [2]Radiology, Medical College of Wisconsin, Milwaukee, WI, United States

0960. Evaluation of Metabolic Heterogeneity in Regions of Contrast-Enhancing Versus Non-Enhancing GBM Using ^{1}H HR-MAS Spectroscopy
Adam Elkhaled[1], Joanna J. Phillips[2], Susan M. Chang[3], Soonmee Cha[1], Sarah J. Nelson[1, 4]
[1]Department of Radiology and Biomedical Imaging, University of California, San Francisco, San Francisco, CA, United States; [2]Department of Pathology, University of California, San Francisco, San Francisco, CA, United States; [3]Department of Neurological Surgery, University of California San Francisco, San Francisco, CA, United States; [4]Bioengineering and Therapeutic Sciences, University of California, San Francisco, San Francisco, CA, United States

0961. First Proton CSI of a Human Brain Tumor at 9.4T
Grzegorz L. Chadzynski[1, 2], Sotirios Bisdas[3], Gisela E. Hagberg[1, 2], Rolf Pohmann[2], Gunamony Shajan[2], Rupert Kolb[3], Uwe Klose[3], Klaus Scheffler[1, 2]
[1]Dept. Biomedical Magnetic Resonance, University Hospital Tuebingen, Tuebingen, Germany; [2]Dept. High-Field Magnetic Resonance, Max Planc Institute for Biological Cybernetics, Tuebingen, Germany; [3]Dept. Neuroradiology, University Hospital Tuebingen, Tuebingen, Germany

0962. Multivoxel Lactate Editing in Glioma Patients at 3.0T
Lawrence Kenning[1], Martin Lowry[1], Ralph Noeske[2], Lindsay W. Turnbull[1]
[1]Centre for MR Investigations, Hull York Medical School at University of Hull, Hull, East Yorkshire, United Kingdom; [2]EMEA Research and Collaboration, , Applied Science Laboratory, GE Healthcare, 10587 Berlin, Germany

0963. The Characteristics of Amide Proton Transfer MR Imaging of Human Brain Tumors
Ge Zhang[1], Xianlong Wang[1], Shilong Lu[1], Zhibo Wen[1], Jinyuan Zhou[2]
[1]Department of Radiology, Zhujiang Hospital, Southern Medical University, Guangzhou, Guangdong, China; [2]Department of Radiology and Radiological Science, Johns Hopkins University School of Medicine, Baltimore, MD, United States

0964. Investigation of Vascular MRI (ASL and SWI) in Complement to RANO Criteria to Characterize Anti-Angiogenic Therapeutic Response of Glioblastomas
Slim Fellah[1], Olivier Chinot[2], Nadine Girard[1, 3], Maxime Guye[4], Virginie Callot[5]
[1]Centre de Résonance Magnétique Biologique et Médicale (CRMBM), CNRS / Aix-Marseille Université, Marseille , France; [2]Service de Neurochirurgie, Hôpital de la Timone, AP-HM, Marseille, France; [3]Service de Neuroradiologie, Hôpital de la Timone, AP-HM, Marseille, France; [4]Centre de Résonance Magnétique Biologique et Médicale (CRMBM), CNRS / Aix-Marseille Université, Marseille, France; [5]Centre de Résonance Magnétique Biologique et Médicale (CRMBM), Aix-Marseille University, Marseille , France

0965. Detection and Quantification of 2-Hydroxyglutarate in Gliomas with IDH Gene Mutation Using High Resolution 900MHz 1H-NMR Spectroscopy
Hyeon-Man Baek[1], Yun-Ju Lee[1], Eun-Hee Kim[1], Chaejoon Cheong[1], Seung-Ho Yang[2]
[1]Division of Magnetic Resonance, Korea Basic Science Institute, Ochang, Chungbuk, Korea; [2]Neurosurgery St. Vincent's Hospital, Catholic University, Suwon, Gyeonggi-do, Korea

0966. Feasibility of High-Resolution Pituitary MRI at 7.0 Tesla
A.A.J. De Rotte[1], A.G. Van der Kolk[1], D.R. Rutgers[1], P.M.J. Zelissen[2], Fredy Visser[1, 3], Peter R. Luijten[1], Jeroen Hendrikse[1]
[1]Radiology, University Medical Center Utrecht, Utrecht, Netherlands; [2]Internal Medicine, University Medical Center Utrecht, Utrecht, Netherlands; [3]Philips Healthcare, Best, Noord-Brabant, Netherlands

0967. Fiber Pathways Alteration Reveals Brain Tumor Typology

Martina Campanella[1], Tamara Ius[2], Miran Skrap[2], Luciano Fadiga[1, 3]
[1]RBCS, Italian Institute of Technology, Genova, Italy; [2]Department of Neurosurgery, Az. Ospedaliero-Universitaria Santa Maria della Misericordia, Udine, Italy; [3]Section of Human Physiology, University of Ferrara, Ferrara, Italy

0968. Assessing Radiation Toxicity to the Normal Brain by Echo-Planar Spectroscopic Imaging and Diffusion Tensor Imaging

Sanjeev Chawla[1], Sumei Wang[1], Sungheon Kim[2], Sulaiman Sheriff[3], Ramesh Rengan[4], Alexander Lin[4], Elias R. Melhem[1], Andrew Maudsley[3], Harish Poptani[1]
[1]Radiology, University of Pennsylvania, Philadelphia, PA, United States; [2]Radiology, New York University, New York, NY, United States; [3]Radiology, University of Miami, Miami, FL, United States; [4]Radiation Oncology, University of Pennsylvania, Philadelphia, PA, United States

0969. Using Proton MRSI to Predict Response to Vorinostat Treatment in Recurrent GBM

Li Wei[1], Scott N. Hwang[2], Andrew H. Miller[3], Ying Guo[4], Daniel Brat[5, 6], Chad A. Holder[2], Xiaoping P. Hu[1], Jeffrey J. Olson[7], Hyunsuk Shim[2, 6]
[1]Department of Biomedical Engineering, Emory University, Atlanta, GA, United States; [2]Department Radiology and Imaging Science, Emory University, Atlanta, GA, United States; [3]Department of Psychiatry, Emory University, Atlanta, GA, United States; [4]Department of Biostatistics, school of public health, Emory University, Atlanta, GA, United States; [5]Department of Pathology and Laboratory Medicine, Emory University, Atlanta, GA, United States; [6]Winship Cancer Institute, Emory University, Atlanta, GA, United States; [7]Department of Neurosurgery, Emory University, Atlanta, GA, United States

0970. Effects of Age on Brain Tumour Metabolite Levels Measured by In-Vivo ^{1}H MRS in Children and Young People Are Tumour Type Specific

Nigel Paul Davies[1, 2], Simrandip Gill[2, 3], Lesley MacPherson[3], Theodoros N. Arvanitis[4], Andrew C. Peet[2, 3]
[1]Imaging & Medical Physics, University Hospitals Birmingham NHS Foundation Trust, Birmingham, West Midlands, United Kingdom; [2]Cancer Sciences, University of Birmingham, Birmingham, West Midlands, United Kingdom; [3]Birmingham Children's Hospital NHS Foundation Trust, Birmingham, West Midlands, United Kingdom; [4]School of Electronic, Electrical & Computer Engineering, University of Birmingham, Birmingham, West Midlands, United Kingdom

0971. Repeatability of the Perfusion MRI Brain Tumor Vasculature Sensitive Biomarker, Arterio-Venous Overlap (AVOL) in Recurrent Brain Tumor Patients with Two Baseline Imaging Scans

Peter S. LaViolette[1], Mitchell Daun[2], Melissa A. Prah[1], Kourosh Jafari-Khouzani[3], Pavlina Polaskova[3], Elizabeth R. Gerstner[4], Steven M. Stufflebeam[3], Kathleen M. Schmainda[1]
[1]Radiology, Medical College of Wisconsin, Milwaukee, WI, United States; [2]Neurology, Medical College of Wisconsin, Milwaukee, WI, United States; [3]Radiology, Massachusetts General Hospital, Charlestown, MA, United States; [4]Neurology, Massachusetts General Hospital, Boston, MA, United States

0972. Identification of the Anterior Choroidal Arteries in Patients with Sella and Parasella Tumors Using Time-Of-Flight Magnetic Resonance Angiography with 7 Tesla MR Imager

Tsukasa Wada[1], Toshiyuki Murakami[1], Takamasa Nanba[1], Kohsuke Kudo[2], Makoto Sasaki[2], Kuniaki Ogasawara[1]
[1]Department of Neurosurgery, Iwate Medical University, Morioka, Iwate, Japan; [2]Division of Ultrahigh Field MRI, Institute for Biomedical Sciences, Iwate Medical University, Morioka, Iwate, Japan

0973. MR-Elastography Differentiates Intracranial Tumors in Presurgical Patients-A Prospective Histology Controlled Study

Jing Guo[1], Martin Simon[2], Sebastian Papazoglou[3], Christian Erdmann[4], Uwe Melchert[2], Matteo Bonsanto[4], Juergen Braun[5], Dirk Petersen[2], Ingolf Sack[3], Jens Wuerfel[6]
[1]Department of Radiology, Charite - University Medicine Berlin, Berlin, Germany; [2]neuroradiology, University Luebeck, Luebeck, Schleswig-Holstein, Germany; [3]Department of Radiology, Charite- University Medicine Berlin, Berlin, Germany; [4]neuroradiology, University Medical Center Schleswig-Holstein - Campus Luebeck, Luebeck, Schleswig-Holstein, Germany; [5]Department of Medical Informatics, Charite - University Medicine Berlin, Berlin, Germany; [6]neuroradiology, University Medicine Goettingen, Goettingen, Lower Saxony, Germany

0974. Relating Physiological MR Imaging to Neurocognitive Function in Patients with Glioma

Janine M. Lupo[1], Caroline A. Racine[2], Angela Jakary[1], Sarah J. Nelson[1, 3], Susan M. Chang[4], Nicholas Butowski[2]
[1]Department of Radiology and Biomedical Imaging, University of California, San Francisco, CA, United States; [2]Department of Neurological Surgery, University of California, San Francisco, CA, United States; [3]Department of Bioengineering and Therapeutic Sciences, University of California, San Francisco, CA, United States; [4]Department of Neurological Surgery, University of California San Francisco, San Francisco, CA, United States

0975. A Novel Scheme for Producing Multi-Parametric Volumes

Lawrence Kenning[1], Martin Lowry[1], Lindsay W. Turnbull[1]
[1]Centre for MR Investigations, Hull York Medical School at University of Hull, Hull, East Yorkshire, United Kingdom

0976. Parametric Response Maps from DCE-MRI Predict Response to Chemoradiotherapy in High Grade Gliomas

Martin Lowry[1], Lawrence Kenning[1], Christopher Rowland-Hill[2], Sanjay Dixit[3], Shailendra Achawal[4], Chittoor Rajaraman[4], Lindsay Turnbull[1]
[1]Centre for MR Investigations, Hull York Medical School, Hull, UK, United Kingdom; [2]Department of Radiology, Hull and East Yorkshire NHS Hospitals Trust, Hull, East Yorkshire, United Kingdom; [3]Department of Oncology, Hull and East Yorkshire NHS Hospitals Trust, Hull, East Yorkshire, United Kingdom; [4]Department of Neurosurgery, Hull and East Yorkshire NHS Hospitals Trust, Hull, East Yorkshire, United Kingdom

0977. Reduced Diffusion and Perfusion in Bevacizumab-Induced Diffusion Restricted Necrosis Versus Brain Tumor Hypercellularity

Peter S. LaViolette[1], Elizabeth Cochran[2], Alexander D. Cohen[3], Mona Al-Gizawiy[1], Jennifer Connelley[4], Scott D. Rand[1], Mark G. Malkin[4], Kathleen M. Schmainda[1]
[1]Radiology, Medical College of Wisconsin, Milwaukee, WI, United States; [2]Pathology, Medical College of Wisconsin, Milwaukee, WI, United States; [3]Biophysics, Medical College of Wisconsin, Milwaukee, WI, United States; [4]Neurology, Medical College of Wisconsin, Milwaukee, WI, United States

0978. Classification of Hyperintense FLAIR Lesion Area in Patients with Glioblastoma Following Treatment with Bevacizumab

Moran Artzi[1, 2], Orna Aizenstein[3], Deborah T. Blumenthal[4], Felix Bokstein[4], Benjamin W. Corn[5, 6], Dafna Ben Bashat[3]
[1]The Functional Brain Center, The Wohl Institute for Advanced Imaging , Tel Aviv Sourasky Medical Center, Tel Aviv , Israel; [2]Sackler Faculty of Medicine, Tel Aviv University , Tel Aviv, Israel; [3]The Functional Brain Center, The Wohl Institute for Advanced Imaging , Tel Aviv Sourasky Medical Center, Tel Aviv, Israel; [4]Neuro-Oncology Service, Tel Aviv Sourasky Medical Center, Tel Aviv, Israel; [5]Institute of Radiotherapy, Tel Aviv Sourasky Medical Center, Tel Aviv, Israel; [6]Sackler Faculty of Medicine, Tel Aviv University , Tel Aviv , Israel

0979. Challenges for the Functional Diffusion Map in Paediatric Brain Tumours with Different Grades

Matthew Grech-Sollars[1], Dawn E. Saunders[2], Kim P. Phipps[3], Ramneek Kaur[1], Jonathan D. Clayden[1], Christopher A. Clark[1]
[1]UCL Institute of Child Health, University College London, London, United Kingdom; [2]Department of Radiology, Great Ormond Street Hospital for Children, London, United Kingdom; [3]Department of Neuro-oncology, Great Ormond Street Hospital for Children, London, United Kingdom

0980. Investigating the Microenvironment of Childhood Brain Tumours Using MRS

Ben Babourina-Brooks[1], Martin Wilson[1, 2], Theodoros N. Arvanitis, [23], Andrew C. Peet[1, 2], Nigel Paul Davies, [14]
[1]School of Cancer Sciences, University of Birmingham, Birmingham, West Midlands, United Kingdom; [2]Birmingham Children's Hospital NHS Foundation Trust, Birmingham, West Midlands, United Kingdom; [3]School of Electronic, Electrical & Computer Engineering, University of Birmingham, Birmingham, West Midlands, United Kingdom; [4]Imaging & Medical Physics, University Hospitals Birmingham NHS Foundation Trust, Birmingham, West Midlands, United Kingdom

0981. The Local Image Variance - A Tool to Facilitate the Differentiation Between Cerebral Lymphomas and High Grade Brain Gliomas

Günther Grabner[1], Sabine Goed[1], Christine Marosi[2], Stefan Wolfsberger[3], Aygül Mert[3], Georg Widhalm[3], Siegfried Trattnig[1], Matthias Preusser[2]
[1]Department of Radiology, Medical University of Vienna, Vienna, Austria; [2]Institute of Neurology, Medical University of Vienna, Vienna, Austria; [3]Department of Neurosurgery, Medical University of Vienna, Vienna, Austria

0982. Diffusion Weighted Tractography of Nerve Pathology with Reduced Field of View EPI

Jared Narvid[1], Suchandrima Banerjee[2], Jason Talbott[1], Michel Kliot[3], Cynthia Chin[1]
[1]Neuroradiology, UCSF, San Francisco, CA, United States; [2]Global Applied Sciences, GE Healthcare, Menlo Park, CA, United States; [3]Neurosurgery, UCSF, San Francisco, CA, United States

0983. Quantitative Multi-Parametric MRI for Evaluating Early Treatment Response in Recurrent Glioma
Jack T. Skinner[1, 2], Adrienne N. Dula[1, 2], Lori R. Arlinghaus[2], Jason Williams[2], Megan Strother[1], Paul Moots[3], Christopher C. Quarles[1, 2]
[1]Radiology and Radiological Sciences, Vanderbilt University, Nashville, TN, United States; [2]Institute of Imaging Science, Vanderbilt University, Nashville, TN, United States; [3]Neurology, Vanderbilt University, Nashville, TN, United States

0984. Differentiation Between Cerebral Metastases, Meningiomas, and Primary Gliomas by Dynamic Contrast-Enhanced MRI.
Huarui Du[1], Bing Fan[2], Ya Cao[3], Xiaoying Wang[2, 3], Jue Zhang[1, 3], Jing Fang[1, 3]
[1]College of Engineering, Peking University, Beijing, China; [2]Peking University First Hospital, Beijing, China; [3]Academy for Advanced Interdisciplinary Studies, Peking University, Beijing, China

0985. Preliminary Experience with Visualization of Susceptibility Signal Patterns to Differentiate Intracranial Hemangiopericytomas and Meningiomas by T2* Weighted Angiography Imaging
Haiyan Lou[1], Rui Zhang[1], Jingfeng Zhang[1], Qidong Wang[1], Ying Tong[2], Shunliang Xu[1], He Wang[3]
[1]Radiology Department, Medical School of Zhejiang University, hangzhou, Zhejiang, China; [2]Neurosurgery Department, Medical School of Zhejiang University, hangzhou, Zhejiang, China; [3]MR research China,GE healthcare, Shanghai, China

0986. Short Echo Time 1H-MRSI of Glioma Brain Tumors Referenced to Metabolite Levels of Normal Brain.
A.J. Idema[1], Jannie P. Wijnen[2], Arend Heerschap[3]
[1]Neurosurgery, UMC St Radboud, Nijmegen, Netherlands; [2]UMC Utrecht, Utrecht, Netherlands; [3]Radiology, UMC St Radboud, Nijmegen, Netherlands

0987. Multiparametric MRI Analysis of Glioblastoma Multiforme Tissues Using Multi-Class Support Vector Machines
J. Gabe Heredia[1], John K. Hald[2], Pat A. Turski[3], Cheng Guan Koay[1], Mary Elizabeth Meyerand[4]
[1]Medical Physics, University of Wisconsin - Madison, Madison, WI, United States; [2]Neuroradiology, Oslo University Hospital, Oslo, Norway; [3]Department of Radiology, University of Wisonsin - Madison, Madison, WI, United States; [4]Medical Physics and Biomedical Engineering, University of Wisconsin - Madison, Madison, WI, United States

0988. Amide Proton Transfer Imaging for High-Grade and Low-Grade Brain Tumors
Masahiro Ida[1], Toshiki Wakayama, Katsutoshi Murata[2]
[1]Department of Radiology, Tokyo Metropolitan Ebara Hospital, Oota-ku, Tokyo, Japan; [2]Research and Collaboration, Siemens Japan, Shinagawa-ku, Tokyo, Japan

0989. Chemotherapy-Induced Structural Changes in Cerebral White Matter in Breast Cancer Patients: A Longitudinal DTI Study
Jeremy Moreau[1], Arturo Cardenas-Blanco[2], Santanu Chakraborty[2], Mark E. Schweitzer[2], Carole Scherling[3], Joyce Mackenzie, Barbara Collins[4], Andra Smith[1]
[1]School of Psychology, University of Ottawa, Ottawa, Ontario, Canada; [2]Diagnostic Imaging, The Ottawa Hospital, Ottawa, Ontario, Canada; [3]Memory and aging center, University of California, San Francisco, San Francisco, CA, United States; [4]Neuropsychology, The Ottawa Hospital, Ottawa, Ontario, Canada

Traditional Poster
Advanced Imaging for Dementia

Exhibition Hall Tuesday 10:00-12:00

0990. Blood-Brain Barrier Pathology in Dementia: Dual Time Resolution Dynamic Contrast Enhanced-MRI Assessment
Harm J. van de Haar[1], Saartje Burgmans[1], Thijs van Osch[2], Jacobus Jansen[3], Frank C.G. van Bussel[1], Cecile RLPN Jeukens[3], Mark A. van Buchem[2], Paul A.M. Hofman[3], Frans RJ Verhey[1], Walter H. Backes[3]
[1]Maastricht University, Maastricht, Limburg, Netherlands; [2]Leiden University Medical Center, Leiden, Zuid-Holland, Netherlands; [3]Maastricht University Medical Center, Maastricht, Limburg, Netherlands

0991. Using ASL MRI to Measure Perfusion and Arrival Time in Patients with Frontotemporal Lobar Degeneration
Helen Beaumont[1], Geoff J. M. Parker[1], Roland Zahn[2], Laura M. Parkes[1]
[1]Centre for Imaging Sciences & Biomedical Imaging Institute, University of Manchester, Manchester, GMC, United Kingdom; [2]Divisions of Psychology & Psychiatry, University of Manchester, Manchester, GMC, United Kingdom

0992. Relaxation, Magnetization Transfer, and Diffusion Tensor Measurements in the Hippocampal Formation of APP and PS1 Transgenic Mice

Jonathan D. Thiessen[1, 2], Kerrie Hayes[3], Melanie Martin, [24]

[1]Radiology, University of Manitoba, Winnipeg, Manitoba, Canada; [2]Physics & Astronomy, University of Manitoba, Winnipeg, Manitoba, Canada; [3]Biology, University of Winnipeg, Winnipeg, Manitoba, Canada; [4]Physics, University of Winnipeg, Winnipeg, Manitoba, Canada

0993. White Matter Degeneration in Early- And Late-Myelinating Tracts Through the Course of Alzheimer's Disease

Andreana Benitez[1], Els Fieremans[2], Jens H. Jensen[1], Maria F. Falangola[1], Ali Tabesh[1], Rachael L. Deardorff[1], James S. Babb[2], Dmitry S. Novikov[2], Joseph A. Helpern[1]

[1]Center for Biomedical Imaging, Department of Radiology and Radiological Science, Medical University of South Carolina, Charleston, SC, United States; [2]Center for Biomedical Imaging, Department of Radiology, New York University, New York, United States

0994. Blood Water Volume Fraction of White Matter Hyperintensities

Valerie C. Anderson[1], James T. Obayashi[1], Dean Peterson[1], Louis P. Riccelli[2], Jeffrey A. Kaye[3], Joseph F. Quinn[3], William D. Rooney[4]

[1]Neurological Surgery, Oregon Health & Science University, Portland, OR, United States; [2]Neuroradiology, Oregon Health & Science University, Portland, OR, United States; [3]Neurology, Oregon Health & Science University, Portland, OR, United States; [4]Advanced Imaging Research Center, Oregon Health & Science University, Portland, OR, United States

0995. Age-Dependent Changes in White-Matter and Gray Matter Brain T1rho Values

Richard Watts[1], Trevor Andrews[1, 2], Scott Hipko[1], Jay Gonyea[1], Christopher G. Filippi[1, 3]

[1]Department of Radiology, University of Vermont College of Medicine, Burlington, VT, United States; [2]Philips Healthcare, Cleveland, OH, United States; [3]Department of Radiology, Columbia University Medical Center, New York, NY, United States

0996. Imaging for White Matter Alterations After an Exercise Intervention: A DTI Study in MCI and Normal Controls

Wang Zhan[1], Kristy A. Nielson[2, 3], Piero Antuono[3], Jeri-Anne Lyons[4], J. Carson Smith, [35]

[1]Maryland Neuroimaging Center, University of Maryland, College Park, MD, United States; [2]Department of Psychology, Marquette University, Milwaukee, WI, United States; [3]Department of Neurology, Medical College of Wisconsin, Milwaukee, WI, United States; [4]Department of Biomedical Sciences, University of Wisconsin-Milwaukee, Milwaukee, WI, United States; [5]Department of Kinesiology, University of Maryland, College Park, MD, United States

0997. Automatic Detection and Quantification of Progressive Brain Atrophy in Dementia

Audrunas Gruslys[1], Julio Acosta-Cabronero[2], Peter J. Nestor[3], Guy B. Williams[4], Richard E. Ansorge[1]

[1]Department of Physics, University of Cambridge, Cambridge, England, United Kingdom; [2]Department of Clinical Neurosciences, University of Cambridge, Cambridge, England, United Kingdom; [3]German Center for Neurodegenerative Diseases (DZNE), Magdeburg, Germany; [4]Wolfson Brain Imaging Centre, University of Cambridge, Cambridge, England, United Kingdom

0998. *ex-vivo* MR Volumetry of Human Brain Hemispheres.

Aikaterini Kotrotsou[1], David A. Bennett[2], Julie A. Schneider[2], Tom Golak[1], Konstantinos Arfanakis[1, 2]

[1]Department of Biomedical Engineering, Illinois Institute of Technology, Chicago, IL, United States; [2]Rush Alzheimer's Disease Center, Rush University Medical Center, Chicago, IL, United States

0999. R2* in the Normal Ageing Brain and Its Relation to Serum Iron

Lukas Pirpamer[1], Christian Langkammer[1], Stephan Seiler[1], Christian Enzinger[1], Franz Fazekas[1], Reinhold Schmidt[1], Stefan Ropele[1]

[1]Department of Neurology, Medical University of Graz, Graz, Styria, Austria

1000. Alzheimer's Disease Prediction Based on Machine Learning Methods Applied to Multimodal MR Features

Giovanni Giulietti[1], Michael Dayan[1], Laura Serra[1], Elisa Tuzzi[1], Barbara Spano'[1], Mara Cercignani[2], Carlo Caltagirone[3, 4], Marco Bozzali[1]

[1]Neuroimaging Laboratory, Santa Lucia Foundation, Rome, Italy; [2]Clinical Imaging Sciences Centre, Brighton & Sussex Medical School, Brighton, United Kingdom; [3]Clinical and Behavioural Neurology, IRCCS Santa Lucia Foundation, Rome, Italy; [4]Departement of Neuroscience, "Tor Vergata" University, Rome, Italy

1001. Impact of Image Acquisition on Voxel-Based Morphometry for Investigating Age-Related Structural Brain Changes

Daniel-Paolo Streitbürger[1], Karsten Mueller[2], André Pampel[2], Jöran Lepsien[2], Matthias L. Schroeter[2, 3], Harald E. Möller[2]

[1]Nuclear Magnetic Resonance Unit, Max Planck Institute for Human Cognitive and Brain Sciences , Leipzig, Sachsen, Germany; [2]Nuclear Magnetic Resonance Unit, Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Sachsen, Germany; [3]Clinic for Cognitive Neurology, University of Leipzig, Leipzig, Sachsen, Germany

1002. A Study of Corpus Callosum Size and Shape in Early Alzheimer's Disease

Babak A. Ardekani[1]

[1]Center for Advanced Brain Imaging, The Nathan Kline Institute for Psychiatric Research, Orangeburg, NY, United States

1003. Establishing MRI Phase, Abnormal MRI Phase, and Volume Behavior in the Subcortical Deep Gray Matter of Healthy Individuals

Jesper Hagemeier[1], Michael G. Dwyer[1], Niels P. Bergsland[1], Ferdinand Schweser[2], Christopher R. no[1], Mari Heininen-Brown[1], Deepa P. Ramasamy[1], Ellen Carl[1], Cheryl Kennedy[1], Mariya Cherneva[1], Rebecca Melia[1], Paul Polak[1], Andreas Deistung[3], Jürgen R. Reichenbach[2], Robert Zivadinov[1]

[1]Buffalo Neuroimaging Analysis Center, Department of Neurology, University at Buffalo, Buffalo, NY, United States; [2]Medical Physics Group, Institute of Diagnostic and Interventional Radiology I, Jena University Hospital, Jena, Germany; [3]Medical Physics Group, Jena University Hospital - Friedrich Schiller University Jena, Jena, Germany

1004. Systemic Inflammation in Non-Demented Elderly Human Subjects Is Associated with Altered Diffusion Characteristics of Brain White Matter

Giorgia Grisot[1], Debra A. Fleischman[2], Anil K. Vasireddi[1], Christopher M. Bart[1], Lisa L. Barnes[2], David A. Bennett[2], Kostantinos Arfanakis[1, 2]

[1]Biomedical Engineering, Illinois Institute of Technology, Chicago, IL, United States; [2]Rush Alzheimer's Disease Center, Rush University Medical Center, Chicago, IL, United States

1005. Alzheimer's Disease Risk Variant Within the CLU Gene Affects White Matter Microstructure and Function in Nondemented Subjects

Lihua Qiu[1, 2], Yong He[3], Yi Zhou[3], Hehan Tang[1], Qiuju Huang[1], Ling Zou[1], Lanlan Wang[3], Qiyong Gong[1]

[1]Huaxi MR Research Center (HMRRC), Department of Radiology, West China Hospital of Sichuan University, Chengdu, Sichuan, China; [2]Radiology, The second people's hospital of Yibin, Yibin, Sichuan, China; [3]Department of Laboratory Medicine, West China Hospital of Sichuan University, Chengdu, Sichuan, China

1006. Imaging of Glutamate Alterations in Alzheimer's Disease

Mohammad Haris[1], Kavindra Nath[2], Kejia Cai[1], Anup Singh[1], Rachelle Crescenzi[1], Feliks Kogan[1], Gaurav Verma[2], Sanjana Reddy[1], Hari Hariharan[1], Elias R. Melhem, Ravinder Reddy[1]

[1]CMROI, Radiology, University of Pennsylvania, Philadelphia, PA, United States; [2]Molecular Imaging, University of Pennsylvania, Philadelphia, PA, United States

1007. Glutamate Changes in a Mouse Model of Tauopathy

Rachelle Crescenzi[1, 2], Catherine DeBrosse[1, 2], Amy Thomas[2], Mohammed Haris[2], Hari Hariharan[2], Virginia M. Y. Lee[3], Arijitt Borthakur[2], Ravinder Reddy[2]

[1]Biochemistry and Molecular Biophysics, University of Pennsylvania, Philadelphia, PA, United States; [2]Center for Magnetic Resonance and Optical Imaging, Radiology, University of Pennsylvania, Philadelphia, PA, United States; [3]Center for Neurodegenerative Disease Research, Department of Pathology and Laboratory Medicine, University of Pennsylvania, Philadelphia, PA, United States

1008. The Pattern of Metabolic Heterogeneity in the Hippocampus by 3T Multi-Voxel Proton Spectroscopy in Alzheimer's Disease.

Bing Zhang[1], Fei Chen[2], Ming Li[1], Xin Zhang[1], Huiting Wang[1], Yun Xu[2], Bin Zhu[1], Weibo Chen[3]

[1]Department of Radiology, The Affiliated Drum Tower Hospital of Nanjing University Medical School, Nanjing, Jiangsu, China; [2]Department of Neurology, The Affiliated Drum Tower Hospital of Nanjing University Medical School, Nanjing, Jiangsu, China; [3]Philips Healthcare, Shanghai, China

1009. Long-Term Environmental Enrichment Induces CA1 Enlargement in APPswe/PS1dE9 Transgenic Mice: A Deformation-Based Morphormetry Study

Dai Shan[1], Shuxia Wang[1], Yong Fan[2], Fuchun Lin[1], Hao Lei[1]
[1]State Key Laboratory of Magnetic Resonance and Atomic and Molecular Physics, Wuhan Institute of Physics and Mathematics, Chinese Academy of Sciences, Wuhan, Hubei, China; [2]National Laboratory of Pattern Recognition, Institute of Automation, Chinese Academy of Sciences, Beijing, China

1010. Altered Causal Connectivity of Resting State Brain Networks in Amnesic MCI

Peipeng Liang[1], Zhihao Li[2], Gopikrishna Deshpande[3], Zhiqun Wang[1], Xiaoping P. Hu[2], Kuncheng Li[1]
[1]Dept. of Radiology, Xuan wu Hospital, Capital Medical University, Beijing, China; [2]Wallace H Coulter Department of Biomedical Engineering, Georgia Institute of Technology and Emory University, Atlanta, GA, United States; [3]Department of Electrical and Computer Engineering, and Department of Psychology, Auburn University, Auburn, AL, United States

1011. Multimodal Neuroimaging Reveals Gray and White Matter Associations with Language Deficits in Frontotemporal Degeneration

Philip A. Cook[1], Brian B. Avants[1], Corey T. McMillan[2], John Powers[2], Jonathan E. Peelle[3], James C. Gee[1], Murray Grossman[2]
[1]Radiology, University of Pennsylvania, Philadelphia, PA, United States; [2]Neurology, University of Pennsylvania, Philadelphia, PA, United States; [3]Department of Otolaryngology, Washington University School of Medicine, St Louis, MO, United States

1012. MRI of the Neurological Effects in a Rat Model of Hypertension

Adam Bernstein[1], Sumana Veeravelli[1], Alexander Alvarez[1], Megan Fitzhugh[1], Eriko Yoshimaru[1], Michael Valdez[1], John Totenhagen[1], Kewei Chen[2], James Moeller[3], Paul Coleman[4], Kenneth Mitchell[5], Matt Huentelman[6], Carol Barnes[1], Gene Alexander[1], Theodore Trouard[1]
[1]University of Arizona, Tucson, AZ, United States; [2]Banner Alzheimer's Institute, Phoenix, AZ, United States; [3]Columbia University, New York, NY, United States; [4]Banner Sun Health Research Institute, Sun City, AZ, United States; [5]Tulane University, New Orleans, LA, United States; [6]Translational Genomics Research Institute, Phoenix, AZ, United States

1013. A 12 Months Follow-Up of Morphological and Molecular Markers in Subjects with Reverted Mild Cognitive Impairment

Weiqi Liao[1, 2], Xiaojing Long[1, 2], Chunxiang Jiang[1, 2], Yanping Chen[3], Lijuan Zhang[1, 2]
[1]Paul C Lauterbur Research Center for Biomedical Imaging, Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences, Shenzhen, Guangdong Province, China; [2]Shenzhen Key Laboratory for MRI, Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences, Shenzhen, Guangdong Province, China; [3]Industry Development Department, Shenzhen National High-tech Industrial Innovation Center, Shenzhen, Guangdong Province, China

Traditional Poster
Movement Disorders & Degeneration

Exhibition Hall Tuesday 10:00-12:00

1014. Impact of Cerebellar Atrophy on Cortical Grey Matter and Cerebellar Peduncles as Assessed by Voxel Based Morphometry and Diffusion Imaging

Michael Dayan[1], Giusy Olivito[2, 3], Marco Molinari[2], Marco Bozzali[1], Maria Leggio[2, 3]
[1]Neuroimaging Laboratory, Santa Lucia Foundation, Rome, Lazio, Italy; [2]Ataxia Laboratory, Santa Lucia Foundation, Rome, Lazio, Italy; [3]Department of Psychology, "Sapienza" University, Rome, Italy

1015. Shifting Characteristics of Upper Motor Neuron Revealed by Voxel-Based Morphometry in Amyotrophic Lateral Sclerosis

Qiuli Zhang[1], Cuiping Mao[1], Ming Zhang[1], Jingxia Dang[2], Jiaoting Jin[2]
[1]Department of Radiology, the First Affiliated Hospital of Medcine College of Xi'an JiaoTong University, Xi'An, ShaanXi, China; [2]Department of Neurology, the First Affiliated Hospital of Medcine College of Xi'an JiaoTong University, Xi'An, ShaanXi, China

1016. qMT Imaging to Assess Brain Tissue Modifications in Patients with Miotonic Dystrophy Type-1.

Giovanni Giulietti[1], Barbara Spano'[1], Valentina Battistoni[1], Laura Serra[1], Carlo Caltagirone[2, 3], Marco Bozzali[1], Mara Cercignani[4]
[1]Neuroimaging Laboratory, Santa Lucia Foundation, Rome, Italy; [2]Clinical and Behavioural Neurology, IRCCS Santa Lucia Foundation, Rome, Italy; [3]Departement of Neuroscience, "Tor Vergata" University, Rome, Italy; [4]Clinical Imaging Sciences Centre, Brighton & Sussex Medical School, Brighton, United Kingdom

1017. *in vivo* Quantification of Excitatory and Inhibitory Neurotransmitters in Amyotrophic Lateral Sclerosis
Sanjay Kalra[1], Peter Seres[1], Changho Choi[2]
[1]University of Alberta, Edmonton, Alberta, Canada; [2]University of Texas Southwestern Medical Center, Dallas, TX, United States

1018. Ultra High-Field (7T) Magnetic Resonance Spectroscopy (MRS) in People with Amyotrophic Lateral Sclerosis (ALS)
Nazem Atassi[1], Christina Triantanfyllou[2], Boris Keil[2], Robert Lawson[1], Lindsay Kaplan[1], Christina Dheel[1], Alyssa Murphy[1], James Berry[1], Nouha Salibi[3], Ravi T. Seethamraju[4], Bruce Rosen[2], Merit Cudkowicz[1], Eva-Maria Ratai[2]
[1]Neurology, Massachusetts General Hospital, Boston, MA, United States; [2]Radiology, MGH/HST Athinoula A. Martinos Center for Biomedical Imaging, Charlestown, MA, United States; [3]Siemens Healthcare, MR R&D, Siemens, Auburn, AL, United States; [4]Siemens Healthcare, MR R&D, Siemens, Charlestown, MA, United States

1019. Quantitative Magnetic Susceptibility Mapping in Prodromal Huntington's Disease Subjects
Issel Anne L. Lim[1, 2], Xu Li[1, 2], Jiri M.G. van Bergen[3], Paul G. Unschuld[4], Craig K. Jones[1, 2], Russell L. Margolis[4, 5], Christopher A. Ross[4, 5], Peter C.M. van Zijl[1, 2]
[1]Radiology, Johns Hopkins University, Baltimore, MD, United States; [2]F.M. Kirby Research Center for Functional Brain Imaging, Kennedy Krieger Institute, Baltimore, MD, United States; [3]Biomedical Engineering, Eindhoven University of Technology, Eindhoven, Netherlands; [4]Psychiatry and Behavioral Sciences, Johns Hopkins University, Baltimore, MD, United States; [5]Neurology, Johns Hopkins University, Baltimore, MD, United States

1020. A Study on Small-World Brain Functional Networks Altered by Postherpetic Neuralgia
Yue Zhang[1], Jing Liu[2], Jing Wang[1], Minyi Du[3], Wenxue Fang[3], Dongxin Wang[3], Xiaoping P. Hu[4], Xuexiang Jiang[2], Jing Fang[1], Xiaoying Wang[2], Jue Zhang[1]
[1]Peking University, Beijing, China; [2]Department of Radiology, Peking University First Hospital, Beijing, China; [3]Department of Anesthesiology, Peking University First Hospital, Beijing, China; [4]Department of Biomedical Engineering, Georgia Institute of Technology / Emory University, Atlanta, GA, United States

1021. Assessment of Disease Severity in Degenerative Brain Disorders Using Multiparametric MRI
Jonathan P. Dyke[1], Dolan Sondhi[2], Henning Voss[1], Dikoma C. Shungu[1], Xiangling Mao[1], Kaleb Yohay[3], Stefan Worgall[3], Neil Hackett[2], Charleen Hollmann[2], Mary Yeotsas[2], Annie Jeong[2], Benjamin van de Graaf[2], Ida Cao[2], Stephen Kaminsky[2], Linda Heier[1], Kyle Rudser[4], Mark Souweidane[5], Michael Kaplitt[5], Barry Kosofsky[3], Ronald Crystal[2], Douglas Ballon[1]
[1]Radiology, Weill Cornell Medical College, NY, United States; [2]Genetic Medicine, Weill Cornell Medical College, NY, United States; [3]Pediatrics, Weill Cornell Medical College, NY, United States; [4]Division of Biostatistics, University of Minnesota, Minneapolis, MN, United States; [5]Neurological Surgery, Weill Cornell Medical College, NY, United States

1022. Diffusion Tensor Imaging in Diabetes Mellitus Type 2 and Memory Impairment - Initial Findings -
Frank C.G. van Bussel[1], Walter H. Backes[1], Paul A.M. Hofman[1], Harm J. van de Haar[1], Martin P.J. van Boxtel[2], Miranda T. Schram[3], Coen D.A. Stehouwer[3], Joachim E. Wildberger[1], Jacobus F.A. Jansen[1]
[1]Radiology, MUMC+, Maastricht, Netherlands; [2]Psychiatry and Neuropsychology, MUMC+, Maastricht, Netherlands; [3]Internal Medicine, MUMC+, Maastricht, Netherlands

1023. Feasibility of T1rho MR Imaging in Identification of the Epileptogenic Zone in Patients with Mesial Temporal Lobe Epilepsy
X. Li[1], V Lai[1], Queenie Chan[2], R.S.K. Chang[3], Henry Ka Fung Mak[1], W. Mak[3]
[1]Department of Diagnostic Radiology, The University of Hong Kong, Hong Kong, China; [2]Philips Healthcare, Hong Kong, China; [3]Queen Mary Hospital, Hong Kong, China

1024. Robust Myelin Quantitative Imaging Using Edge Preserving Spatial Priors
Xiaobo Shen[1], Thanh D. Nguyen[2], Susan A. Gauthier[3], Ashish Raj[4]
[1]Cornell university, Ithaca, NY, United States; [2]Weill Cornell Medical College, New York, United States; [3]Weill Cornell Medical College, New York,, NY, United States; [4]Weill Cornell Medical College, New York, NY, United States

1025. Longitudinal Changes in Surface-Based Morphometry of U.S. Military Personnel Following Mild Blast-Related Traumatic Brain Injury: A Preliminary Study
Kihwan Han[1], Christine L. Mac Donald[1], David L. Brody[1]
[1]Neurology, Washington University in St. Louis, St. Louis, MO, United States

1026. Temporal Changes of Cerebral Blood Perfusion and Diffusion Kurtosis Parameters in the Thalamus Following Mild Traumatic Brain Injury

Teodora Stoica[1], Jiachen Zhuo[1], Steven Roys[1], Chandler Sours[1, 2], Kathirkama Shanmuganathan[3], Rao P. Gullapalli[1, 2]
[1]Magnetic Resonance Research Center, Diagnostic Radiology & Nuclear Medicine, University Of Maryland School of Medicine, Baltimore, MD, United States; [2]Program of Neuroscience, University Of Maryland School of Medicine, Baltimore, MD, United States; [3]Diagnostic Radiology & Nuclear Medicine, University Of Maryland Baltimore, Baltimore, MD, United States

1027. Neuromelanin-Sensitive Imaging Correlates with Rapid Eye Movement Sleep Behavior Disorders in Parkinson's Disease

Daniel García-Lorenzo[1, 2], Clarisse Longo Dos Santos[3, 4], Cecile Gallea[1, 2], Claire Ewenczyk, [25], Habib Benali[6], Cyril Poupon[3, 4], Smaranda Leu-Semenescu, [27], Isabelle Arnulf, [27], Marie Vidailhet, [25], Stéphane Lehéricy[1, 2]
[1]CENIR, Institut du Cerveau et de la Moelle épinière - ICM, Paris, France; [2]Université Pierre Marie Curie, UMR-S975; Inserm U975; CNRS UMR 7225, Paris, France; [3]NeuroSpin, CEA, Gif-sur-Yvette, France; [4]IFR49, Gif-sur-Yvette, France; [5]Fédération de Neurologie, Pitié-Salpêtrière, Paris, France; [6]Université Pierre Marie Curie, Inserm U678, Paris, France; [7]Service des pathologies du sommeil, Pitié-Salpêtrière, Paris, France

1028. Brain Grey Matter Changes in Young Patients with Mild Type of Essential Arms Tremor: A Voxel-Based Morphometry MRI Study

Hongmei Cao[1], Rong Wang[2], Xue Luo[2, 3], Zhe Zhang[2], Xianjun Li[2], Ed X Wu[4], Qiumin Qu[5], Jian Yang[2]
[1]Neurology department, the First Affiliated Hospital of Medical College,Xi'an Jiaotong University , Xi'an, Shaanxi, China; [2]Radiology department, the First Affiliated Hospital of Medical College,Xi'an Jiaotong University, Xi'an, Shaanxi, China; [3]Department of Biomedical Engineering, School of Life Science and Technology,Xi' an Jiaotong University, Xian, Shaanxi, China; [4]Laboratory of Biomedical Imaging and Signal Processing, The University of Hong Kong, Hong Kong, Hong Kong; [5]Neurology department, the First Affiliated Hospital of Medical College,Xi'an Jiaotong University, Xi'an, Shaanxi, China

1029. Transverse Relaxation Mapping of Nigrostriatal Damage in Early Stage Parkinson's Disease

Jian-Li Wang[1], Xiaoyu Sun[1], Zachary Mosher[1], Jonathan Chu[1], Megha Patel[1], Sarah Ryan[1], Jeffrey Vesek[1], Qing X. Yang[1, 2], Sangam Kanekar[1], Thyagaragian Subramanian[3]
[1]Radiology, Penn State University College of Medicine, Hershey, PA, United States; [2]Neurosurgery, Penn State University College of Medicine, Hershey, PA, United States; [3]Neurology, Penn State University College of Medicine, Hershey, PA, United States

1030. Dysfunction of the Default Mode Network in Early Parkinson'S Disease: A Resting State fMRI Study

Massimo Filippi[1], Federica Agosta[1], Francesca Caso[1], Alberto Inuggi[1], Aleksandra Tomic[2], Iva Stankovic[2], Elisa Canu[1], Igor Petrovic[2], Vladimir S. Kostic[2]
[1]Neuroimaging Research Unit, Institute of Experimental Neurology, San Raffaele Scientific Institute, Vita-Salute San Raffaele University, Milan, MI, Italy; [2]Clinic of Neurology, Faculty of Medicine, University of Belgrade, Belgrade, Yugoslavia

1031. GM and WM Changes Correlation with Duration in MSA-P: Comparison with DTI Changes

Bo Hou[1], Han Wang[2], Hui You[1], Bo Jiang[1], Feng Feng[1]
[1]Department of Radiology, Peking Union Medical College Hospital, Beijing, China; [2]Department of Neurology, Peking Union Medical College Hospital, Beijing, China

1032. Disrupted White Matter Integrity in Depressed Patients with Parkinson's Disease: A Tract-Based Spatial Statistics Study

Peiyu Huang[1], Quanquan Gu[1], Min Xuan[1], Yong Zhang[2], Minming Zhang[1]
[1]Department of Radiology, Second Affiliated Hospital, Zhejiang University School of Medicine, Hangzhou, Zhejiang, China; [2]Applied Science Laboratory, GE Healthcare, Shanghai, China

1033. Iron Deposition Influences Measurement of Water Diffusion Tensor in the Human Brain: A Combined Analysis of Diffusion and Iron-Induced Phase Changes.

Xiaojun Xu[1], Qidong Wang[2], Minming Zhang[1]
[1]No.2 Hospital Zhejiang University School of Medicine, Hangzhou , Zhejiang, China; [2]No.1 Hospital Zhejiang University School of Medicine, Hangzhou, Zhejiang, China

Traditional Poster
Animal Models Other Than Stroke

Exhibition Hall Tuesday 10:00-12:00

1034. Brain Ventricular Enlargement in the SAPAP3 Knockout Mouse Model of OCD

Dionyssios Mintzopoulos[1], Timothy E. Gillis[1], Holly R. Robertson[2], Guoping Feng[2], Scott L. Rauch[1], Marc J. Kaufman[1]
[1]McLean Hospital, Harvard Medical School, Belmont, MA, United States; [2]Dept. of Brain and Cognitive Sciences, MIT McGovern Institute for Brain Research, Cambridge, MA, United States

1035. Laminar Specific Detection of Amyloid Precursor Protein -Induced Neurodegeneration and Recovery Using MEMRI in an Olfactory Based Alzheimer's Disease Mouse Model.

Galit Saar[1], Ning Cheng[2], Leonardo Belluscio[2], Alan P. Koretsky[1]
[1]LFMI/NINDS, NIH, Bethesda, MD, United States; [2]DNPU/NINDS, NIH, Bethesda, MD, United States

1036. A Longitudinal Diffusion Tensor Imaging Study of White Matter Changes in a Transgenic Huntington's Disease Monkey Model

Jie Jiang[1, 2], Tayeb Ahmad Rahim[1], Chunxia Li, [13], Yumei Yan[1, 4], Xiaodong Zhang, [35], Hui Mao[6, 7], Anthony W.S Chan, [25]

[1]Division of Neuropharmacology and Neurologic Disease, Yerkes National Primate Research Center, Emory University, Atlanta, GA, United States; [2]Department of Human Genetics, Emory University School of Medicine, Atlanta, GA, United States; [3]Yerkes Imaging Center,Yerkes National Primate Research Center, Emory University, Atlanta, GA, United States; [4]Yerkes Imaging Center,Yerkes National Primate Research Center, , Emory University, Atlanta, GA, United States; [5]Division of Neuropharmacology and Neurologic Disease, Yerkes National Primate Research Center,, Emory University, Atlanta, GA, United States; [6]Department of Radiology, Emory University Hospital, Atlanta, GA, United States; [7]Center for Systems Imaging, Emory University, Atlanta, GA, United States

1037. Characterization of Transgenic Mouse Models of Alzheimer's Disease by Fully Automated Analysis of Brain MRI

Kai H. Barck[1], Kimberly Malesky[1], Vineela Gandham[1], Maj Hedehus[1], Sara Dominguez[2], William J. Meilandt[2], Claire E. Le Pichon[2], Oded Foreman[3], Kimberly Scearce-Levie[2], Richard A. D. Carano[1]
[1]Biomedical Imaging, Genentech, South San Francisco, CA, United States; [2]Neurobiology, Genentech, South San Francisco, CA, United States; [3]Pathology, Genentech, South San Francisco, CA, United States

1038. *In Vivo* Characterization of Microstructural Changes During Epileptogenesis by High Resolution Diffusion Tensor Imaging of Rat Hippocampal Subfields

Alejandra Sierra[1], Tuukka Miettinen[1], Teemu Laitinen[1], Asla Pitkänen[1, 2], Olli Gröhn[3]
[1]Department of Neurobiology, A.I. Virtanen Institute for Molecular Sciences, University of Eastern Finland, Kuopio, Finland; [2]Department of Neurology, Kuopio University Hospital, Kuopio, Finland; [3]Department of Neurobiology, University of Eastern Finland, Kuopio, Finland

1039. Diffusion MRI Derived Immunohistochemistry Equivalent "Stains" of White Matter Pathology

Tsang-Wei Tu[1], Yong Wang[2], Chia-Wen Chiang[3], Ying-Jr Chen[4], Tsen-Hsuen Lin[5], Anne H. Cross[6], Sheng-Kwei Song[2]
[1]Radiology and Imaging Sciences, National Institute of Health, Bethesda, MD, United States; [2]Department of Radiology, Washington University, St. Louis, MO, United States; [3]Department of Chemistry, Washington University in Saint Louis, St. Louis, MO, United States; [4]Department of Chemistry, Washington University, St. Louis, MO, United States; [5]Department of Physics, Washington University, St. Louis, MO, United States; [6]Department of Neurology, Washington University in St. Louis, St. Louis, MO, United States

1040. Dynamic MRI in the Rat Brain at 3.0 T for Measuring Permeability of the Blood-Brain Barrier in Glioblastoma Multiforme

Hunter R. Underhill[1], Robert C. Rostomily[1]
[1]Neurological Surgery, University of Washington, Seattle, WA, United States

1041. Using Volumetric Measures of Neuroanatomy to Cluster Multiple Mouse Models of Autism.

Jacob Ellegood[1], R Mark Henkelman[1, 2], Jason P. Lerch[1, 2]
[1]Mouse Imaging Centre, Hospital for Sick Children, Toronto, Ontario, Canada; [2]Medical Biophysics, University of Toronto, Toronto, Ontario, Canada

1042. Longitudinal Correlation of T2 and Motor Neuron Loss in the SOD1G93A Mouse Mode of Amyotrophic Lateral Sclerosis

Kimberly Malesky[1], Joan Greve[1], Han Lin[2], Claire E. Le Pichon[2], Kimberly Scearce-Levie[2], Richard A. D. Carano[1]
[1]Biomedical Imaging Department, Genentech, South San Francisco, CA, United States; [2]Neurobiology, Genentech, South San Francisco, CA, United States

1043. Pharmacological MRI and Tensor-Based Morphometry in the 6-OHDA Rat Model of Parkinson's Disease

Robert Westphal[1], Camilla Simmons[1], Michel B. Mesquita[1], Tobias C. Wood[1], William R. Crum[1], Denise Duricki[1], Anthony Vernon[2], Steve C.R. Williams[1], Diana Cash[1]
[1]Neuroimaging, King's College London, Institute of Psychiatry, London, United Kingdom; [2]Psychosis Studies, King's College London, Institute of Psychiatry, London, United Kingdom

1044. MR Imaging and Spectroscopy for Evaluation of Brain Tumor Metabolic Profiles in Primary Glioblastoma Multiforme Xenografts

Yanping Sun[1], Matthew C. Dunn[1], Saadallah Ramadan[2], Kristen L. Jones[1], Adam Green[3], Keith Ligon[4], Andrew L. Kung[1,5]
[1]Lurie Family Imaging Center, Dana Farber Cancer Institute, Harvard Medical School, Boston, MA, United States; [2]School of Health Sciences, University of Newcastle, Callaghan, NSW, Australia; [3]Pediatric Oncology, Dana Farber Cancer Institute, Harvard Medical School, Boston, MA, United States; [4]Medical Oncology, Dana Farber Cancer Institute, Harvard Medical School, Boston, MA, United States; [5]Pediatric Hematology/ Oncology/Stem Cell Transplantation, Columbia University Medical Center, New York, NY, United States

1045. MRI Correlates of Dendrite Abnormalities in the MeCP2-A140V Mouse Model of Rett Syndrome

Gregory H. Turner[1], Qingwei Liu[1], Shannon L. Olfers[2], Garilyn M. Jentarra[3], Sampathkumar Rangasamy[2], Vinodh Narayanan[2]
[1]Neuroimaging Research, Barrow Neurological Institute, Phoenix, AZ, United States; [2]Developmental Neurogenetics Research, Barrow Neurological Institute, Phoenix, AZ, United States; [3]Biochemistry, Midwestern University, Glendale, AZ, United States

1046. High Resolution Diffusion Tensor Imaging to Assess Brain Microstructural Abnormalities in a Neuroligin-3 Knockin Mouse Model Associated with Autism Spectrum Disorders

Manoj Kumar[1], Jeffrey T. Duda[1], Ranjit Ittyerah[1], Adler Daniel[1], Stephen B. Pickup[1], Edward S. Brodkin[2], Ted Abel[3], James C. Gee[1], Harish Poptani[1]
[1]Radiology, University of Pennsylvania, Philadelphia, PA, United States; [2]Psychiatry, University of Pennsylvania, Philadelphia, PA, United States; [3]Biology, University of Pennsylvania, Philadelphia, PA, United States

1047. Metabolic Profiling of RG2, F98 and C6 Glioma Models Using ^{1}H-MRS and Ex-Vivo ^{1}H HRMAS MRS

Nicolas Coquery[1,2], Vasile Stupar,[23], Régine Farion,[23], Séverine Maunoir-Regimbal[4], Emmanuel Luc Barbier,[25], Chantal Rémy[1,2], Florence Fauvelle[4]
[1]U836, INSERM, Grenoble, France; [2]Université Joseph Fourier, grenoble, France; [3]Grenoble MRI Facility IRMaGe, Grenoble, France; [4]IRBA-CRSSA, La Tronche, France; [5]INSERM U836, Grenoble, France

1048. Temporal Changes in Lower-Lumber Spinal Cord in EAE Mouse

Yuki Mori[1], Masaaki Murakami[2], Yasunobu Arima[2], Dasong Zhu[1], Yoshichika Yoshioka[1]
[1]Biofunctional Imaging, WPI Immunology Frontier Research Center, Osaka University, Suita, Osaka, Japan; [2]Developmental Immunology, Graduate School of Frontier Biosciences, Graduate School of Medicine, and WPI Immunology Frontier Research Center, Osaka University, Suita, Osaka, Japan

1049. First Demonstration That Brain Training Alters Macro- And Micro-Structure in a Mouse Model of Huntington's Disease

Jessica Steventon[1,2], David Harrison[2], Rebecca Trueman,[23], Simon Brooks[2], Anne Rosser[2], Derek K. Jones[1]
[1]CUBRIC, Cardiff University, Cardiff, United Kingdom; [2]School of Biosciences, Cardiff University, Cardiff, United Kingdom; [3]School of Biomedical Sciences, University of Nottingham, Nottingham, United Kingdom

1050. Diffusion Tensor Tractography Identifies Demyelination and Remyelination in the Spinal Cord of a Mouse Model of Multiple Sclerosis

Nabeela Nathoo[1], Dayae Jeong[2], Tad Foniok[3], Michael B. Keough[4], V. Wee Yong[4], Jeffrey F. Dunn[1, 5]
[1]Radiology, University of Calgary, Calgary, Alberta, Canada; [2]Rice University, Houston, TX, United States; [3]National Research Council Canada, Calgary, Alberta, Canada; [4]Clinical Neurosciences, University of Calgary, Calgary, Alberta, Canada; [5]Experimental Imaging Centre, University of Calgary, Calgary, Alberta, Canada

1051. Amyloid Beta Causes Different Types of White Matter Damage Characterized by DTI

Hsiao-Fang Liang[1], Jennifer Mei[2], Dan Xu[1], Wei-Xing Shi[1], Shu-Wei Sun[1, 2]
[1]Loma Linda University, Loma Linda, CA, United States; [2]University of California, Loma Linda, CA, United States

1052. Amyloid Plaque Detection in Two Alzheimer's Disease Mice Models Using Magnetization Transfer Contrast Imaging.

Christian Bigot[1], Greetje Vanhoutte[1], Marleen Verhoye[1], Christine Van Broeckhoven[1], Annemie Van Der Linden[1]
[1]biomedical science, University of Antwerp, Antwerp, Belgium

1053. Increased Hippocampal Glutamate After Sleep Deprivation in the Pre-Pubescent BALB/cJ Mice: An *in-vivo* 1H MRS Study

Manoj Kumar[1], Gaurav Verma[1], Ranjit Ittyerah[1], Stephen B. Pickup[1], Edward S. Brodkin[2], Ted Abel[3], Harish Poptani[1]
[1]Radiology, University of Pennsylvania, Philadelphia, PA, United States; [2]Psychiatry, University of Pennsylvania, Philadelphia, PA, United States; [3]Biology, University of Pennsylvania, Philadelphia, PA, United States

1054. Longitudinal MR Based Study of Ipsilateral and Contralateral Hippocampus Volume and Cognitive Assesment in Traumatic Brain Injury Rats

Bhanu Prakash KN[1], Sanjay K. Verma[1], Sankar Seramani[1], Enci Mary Kan[2], Graham S.[3], C. Childs[4], Jia Lu[2], Sendhil S. Velan[1]
[1]Laboratory of Molecular Imaging, Singapore Bioimaging Consortium, Singapore, Singapore; [2]Combat Protection and Performance Lab, Defence Medical and Environmental Research Institute, DSO National Laboratories, Singapore, Singapore; [3]Department of Psychology, National University of Singapore, Singapore, Singapore; [4]Alice Lee Centre for Nursing Studies, Yong Loo Lin School of Medicine, National University of Singapore, Singapore, Singapore

1055. ^{1}H MRS and Tandem Mass Spectrometric Metabolite Signatures Herald HIV-1 Induced Metabolic Abnormalities in the Brains of Humanized Mice

Michael Douglas Boska1, Adrian A. Epstein[2], Prasanta K. Dash[2], Nathan A. Smith[2], Prabagaran Narayanasamy[2], Harris A. Gelbard[3], Larisa Y. Poluektova[2], Howard E. Gendelman[2]
[1]Radiology, University of Nebraska Medical Center, Omaha, NE, United States; [2]Pharmacology and Experimental Neurosciences, University of Nebraska Medical Center, Omaha, NE, United States; [3]Neurology/Center for Neural Development and Disease, University of Rochester School of Medicine and Dentistry, Rochester, NY, United States

1056. Optimization and Trade-Offs of Multi-Spin Echo Myelin Water Imaging at 7T & 15.2T

Kathryn L. West[1], Mark D. Does[1, 2]
[1]Biomedical Engineering, Vanderbilt University, Nashville, TN, United States; [2]Vanderbilt.University Institute of Imaging Science , Vanderbilt University, Nashville, TN, United States

1057. Quantification of Diffusion Tensor Changes in a Rat Model of Primary Blast-Induced Traumatic Brain Injury

Evan Calabrese[1], Cory Riccio[2], G. Allan Johnson[1], Joseph B. Long[2]
[1]Biomedical Engineering, Duke University, Durham, NC, United States; [2]Blast-Induced Neurotrauma Branch, Walter Reed Army Institute of Research, Silver Spring, MD, United States

1058. *In Vivo* Biometry in the Mouse Myopic Eye Using 11.7T MRI

Mathieu David Santin[1], Antoine Joseph[2, 3], Stéphane Lehéricy[1, 4], Renata Kozyraki[2, 3], Olivier Cases[2, 3]
[1]Centre de Neuroimagerie de Recherche – CENIR, Institut du Cerveau et de la Moelle épinière – ICM, Paris, France; [2]Institut de la Vision, INSERM U968, UPMC UMR_S968, Paris, France; [3]Centre Hospitalier National d'Ophtalmologie des Quinze-Vingts, INSERM-DHOS CIC 503, CNRS, UMR_7210,, Paris, France; [4]UMR-S975; Inserm, U975; CNRS, UMR 7225, CRICM, Université Pierre et Marie Curie, Paris, France

1059. The Effect of Increasing Concentrations of Intracranial Albumin on Fluid Flow Rates Within Adjacent White Matter Tracts in Rats

Carmen Kut[1], Vadappuram Chacko[2], Betty Tyler[3], Arvind Pathak[2], Zaver M. Bhujwalla[4], Xingde Li[1], Elliot R. McVeigh[1], Daniel A. Herzka[5], Stuart A. Grossman[6]

[1]Biomedical Engineering, Johns Hopkins, Baltimore, MD, United States; [2]Radiology, Johns Hopkins, Baltimore, MD, United States; [3]Neurosurgery, Johns Hopkins, Baltimore, 21205, United States; [4]Radiology, Johns Hopkins University, Baltimore, MD, United States; [5]Biomedical Engineering, Johns Hopkins University, Baltimore, MD, United States; [6]Oncology, Johns Hopkins, Baltimore, MD, United States

1060. Longitudinal Evaluation of Brain Lesion in SIV Macaques with Magnetization Transfer Imaging

Chun-Xia Li[1], Amelia Komery[2], James G. Herndon[2], Francis J. Novembre[3], Xiaodong Zhang[1, 2]

[1]Yerkes Imaging Center, Yerkes National Primate Research Center, Emory University, Atlanta, GA, United States; [2]Division of Neuropharmacology and Neurologic Diseases, Yerkes National Primate Research Center, Emory University, Atlanta, GA, United States; [3]Divisions of Microbiology and Immunology, Yerkes National Primate Research Center, Emory University, Atlanta, GA, United States

1061. MRI of Focal EAE Progression in a Rat Model Following VEGF-Induced Opening of the Blood Brain Barrier

Jasper Chen[1, 2], Melina Jones[3], Miroslaw Janowski[2, 4], Jiadi Xu[5], Michael Levy[3], Jeff W.M. Bulte[1, 2], Piotr Walczak[1, 2]

[1]Institute for Cell Engineering, Johns Hopkins University, Baltimore, MD, United States; [2]Division of MR Research, Russell H. Morgan Department of Radiology and Cell Imaging Section, Johns Hopkins University, Baltimore, MD, United States; [3]Department of Neurology, Johns Hopkins University, Baltimore, MD, United States; [4]NeuroRepair Department, Mossakowski Medical Research Centre, Polish Academy of Sciences, Warsaw, Poland; [5]F. M. Kirby Research Center, Kennedy Krieger Institute, Baltimore, MD, United States

1062. Altering the Inspired Oxygen Concentration Differentiates Vascular Lesions from Parenchymal Lesions: A Study Using Susceptibility Weighted Imaging in a Mouse Model of Multiple Sclerosis

Nabeela Nathoo[1], Smriti Agrawal[2], V. Wee Yong[3], Jeffrey F. Dunn[1, 4]

[1]Radiology, University of Calgary, Calgary, Alberta, Canada; [2]Cell Biology and Anatomy, University of Calgary, Calgary, Alberta, Canada; [3]Clinical Neurosciences, University of Calgary, Calgary, Alberta, Canada; [4]Experimental Imaging Centre, University of Calgary, Calgary, Alberta, Canada

1063. Diffusion MRI Study of Slowly Growing Human Glioma Models in Mice at 14.1T

Paola Porcari[1, 2], Monika E. Hegi[3], Virginie Clément-Schatlo[4], Marie-France Hamou[3], Irene Vassallo[3], Denis Marino[4], Silvia Capuani[5, 6], Rolf Gruetter[7, 8], Vladimír Mlynárik[1]

[1]Center for Biomedical Imaging, EPFL, Lausanne, Switzerland; [2]Physics Department, Sapienza University of Rome, Rome, Italy; [3]Department of Clinical Neuroscience, Centre Hospitalier Universitaire Vaudois and University of Lausanne, Lausanne, Switzerland; [4]Department of Clinical Neuroscience, University Hospital of Geneva, Geneva, Switzerland; [5]Physics Department, Sapienza University, Rome, Italy; [6]CNR-IPCF UOS Roma Sapienza, Physics Department, Sapienza University of Rome, Rome, Italy; [7]Center for Biomedical Imaging, École Polytechnique Fédérale de Lausanne, Lausanne, Switzerland; [8]Departments of Radiology, Universities of Lausanne and Geneva, Lausanne and Geneva, Switzerland

1064. Enhanced Delivery and Imaging of Neurotherapeutics Via US, MRI, SPECT

Michael Valdez[1], Eriko Yoshimaru[1], Pier Ingram[2], John Totenhagen[1], Aaron Forbes[3], Stephen K. Moore[1], Paul Helquist[4], Terry O. Matsunaga[5], Russell Witte[1], Lars R. Furenlid[6], Zhonglin Liu[2], Robert P. Erickson[7], Theodore Trouard[1]

[1]Biomedical Engineering, University of Arizona, Tucson, AZ, United States; [2]Radiology, University of Arizona, Tucson, AZ, United States; [3]Chemistry & Biochemistry, University of Notre Dame, South Bend, NC, United States; [4]Chemistry & Biochemistry, University of Notre Dame, Notre Dame, IN, United States; [5]Radiology, University of Arizona, Tuscon, AZ, United States; [6]Radiology and Optical Sciences, University of Arizona, Tucson, AZ, United States; [7]Pediatrics, University of Arizona, Tucson, AZ, United States

1065. Changes in Connectivity Associated with Neuronal Migration Disorder as Assessed by Diffusion Tractography

Emi Takahashi[1], Glenn D. Rosen[2], Allison C.R. Scott[3], Veronica J. Peschansky[2], Natsuko Fujisaki[2], Guangping Dai[4], Patricia Ellen Grant[5], Albert M. Galaburda[2]

[1]Boston Children's Hospital, Harvard Medical School, Boston, MA, United States; [2]Beth Israel Deaconess Medical Center, Boston, MA, United States; [3]Columbia University, New York, NY, United States; [4]Massachusetts General Hospital, Boston, MA, United States; [5]Boston Children's Hospital, Boston, MA, United States

1066. Imaging Optic Nerve and Spinal Cord Lesions in Myelin Antigen TCR Transgenic Mice with Contrast-Enhanced MRI

Jordan C. Bell[1], Qingwei Liu[2], Qiang Zhao[3], Yong-Jun Wang[4], Fu-Dong Shi[1], Gregory H. Turner[2]
[1]Neurology, Barrow Neurological Institute, Phoenix, AZ, United States; [2]Neuroimaging Research, Barrow Neurological Institute, Phoenix, AZ, United States; [3]Neurology, Tianjin Neurological Institute, Tianjin, China; [4]Neurology, Capital Medical University, Beijing, China

1067. Erythropoietin (EPO) as Treatment of Mild Traumatic Brain Injury: A Multi Modal MRI Study

Kurt Hermann Bockhorst[1], Robert Garcia[2], Samson Kujit Gaddam[2], Claudia S. Robertson[2], Ponnada A. Narayana[1]
[1]DII, University of Texas, Houston, TX, United States; [2]Neurosurgery, Baylor College of Medicine, Houston, TX, United States

1068. Longitudinal Blast Injury Chracterization Using Magnetic Resonance Spectroscopy in Rat Hippocampus

Sankar Seramani[1], Sanjay K. Verma[1], Kian Chye Ng[2], Enci Mary Kan[2], Bhanu Prakash K.N. [1], Tan Mui Hong[2], Jia Lu[2], Sendhil S. Velan[1], [3]
[1]Laboratory of Molecular Imaging, Singapore Bioimaging Consortium, Singapore, Singapore; [2]Defence Medical and Environmental Research Institute, DSO National Laboratories, Singapore, Singapore; [3]Clinical Imaging Research Centre, Agency for Science, Technology and Research, Singapore, Singapore

1069. *in vivo* Axonal Transport Deficits in a Mouse Model of Frontotemporal Dementia

Tabassum Majid[1], [2], Yousuf Ali[3], Ming-Kuei Jang[4], Hui-Chen Lu[5], [6], Robia G. Pautler, [27]
[1]Molecular Physiology and Biophysics, Baylor College of Medicine, Houston, TX, United States; [2]Interdepartmental Program in Translational Biology and Molecular Medicine, Baylor College of Medicine, Houston, TX, United States; [3]Pediatrics-Neurology, Baylor College of Medicine Cain Foundation Laboratories, Houston, TX, United States; [4]Institute for Applied Cancer Science, The University of Texas MD Anderson Cancer Center, Houston, TX, United States; [5]Department of Pediatrics, Baylor College of Medicine Cain Foundation Laboratories, Houston, TX, United States; [6]Department of Neuroscience, Baylor College of Medicine, Houston, TX, United States; [7]Department of Molecular Physiology and Biophysics, Baylor College of Medicine, Houston, TX, United States

1070. Magnetization Transfer Ratio Differences in the Adult Mouse Brain Due to Cranial Irradiation in Infancy

A. Elizabeth de Guzman[1], [2], Lisa M. Gazdzinski[1], Jonathan Bishop[1], Brian J. Nieman[1], [2]
[1]Mouse Imaging Centre, Hospital for Sick Children, Toronto, Ontario, Canada; [2]Department of Medical Biophysics, University of Toronto, Toronto, Ontario, Canada

1071. Comparison of Diffusion Tensor Imaging and Magnetization Transfer Imaging in the Detection of Brain Trauma

Tsang-Wei Tu[1], L. Christine Turtzo[1], Jacob D. Lescher[1], Dana D. Dean[1], Tiziana T. Coppola[1], Rashida A. Williams[1], Joseph A. Frank[1]
[1]Radiology and Imaging Sciences, National Institute of Health, Bethesda, MD, United States

1072. Multi-Echo Susceptibility Weighted Imaging of Blast Induced Traumatic Brain Injury in Rodent Model

Sanjay K. Verma[1], Sankar Seramani[1], Bhanu Prakash KN[1], Enci Mary Kan[2], Kian Chye Ng[2], Mui Hong Tan[2], Jia Lu[2], Sendhil S. Velan[1], [3]
[1]Laboratory of Molecular Imaging, Singapore Bioimaging Consortium, Singapore, Singapore; [2]Defence Medical and Environmental Research Institute, DSO National Laboratories, Singapore, Singapore; [3]Clinical Imaging Research Centre, Agency for Science, Technology and Research, Singapore, Singapore

1073. Evaluation of Cerebellum and Globus Palidus by *in vivo* Diffusion Tensor Imaging in a Rat Model of Bilirubin Encephalopathy

Dominik Maria Reisinger[1], [2], Jiangyang Zhang[3], Joel Marx[1], Michael Porambo[1], Michael V. Johnston[1], Seyed Ali Fatemi[1], [2]
[1]Neuroscience, Hugo W. Moser Research Institute at Kennedy Krieger, Baltimore, MD, United States; [2]Neurology, Johns Hopkins University School of Medicine, Baltimore, MD, United States; [3]Radiology, Johns Hopkins University School of Medicine, Baltimore, MD, United States

1074. Progression of Brain Volume Reduction in a Rat Model of STZ-Induced Type 1 Diabetes Studied by Anatomical Imaging Combined with Voxel-Based Morphometry

Wei Huang[1], Ziyu Cao[1], Liqing Yang[1], Shuxia Wang[1], Lifeng Gao[1], Hao Lei[1]
[1]State Key Laboratory of Magnetic Resonance and Atomic and Molecular Physics, Wuhan Institute of Physics and Mathematics, Chinese Academy of Sciences, Wuhan, Hubei, China

1075. 3T MRI and MR Spectroscopy of a Feline Model of Sandhoff Disease After AAV-Mediated Gene Therapy

Heather L. Gray-Edwards[1], Nouha Salibi[2], Diane Wilson[1], Ashley Randle[1], Ronald J. Beyers[3], Thomas Stewart Denney[3], Ravi T. Seethamraju[2], Shumin Wang[3], Xiaotong Sun[3], Allison M. Bradbury[4], Victoria J. McCurdy[4], Aime K. Johnson[5], Nancy Cox[1], Douglas R. Martin, [14]
[1]Scott-Ritchey Research Center, Auburn University, Auburn, Al, United States; [2]MR R&D, Siemens Healthcare, Malvern, PA, United States; [3]Department of Electrical and Computer Engineering, Auburn Univeristy, Auburn, AL, United States; [4]Anatomy, Physiology and Pharmacology, Auburn University, Auburn, Al, United States; [5]Clinical Sciences, Auburn University, Auburn, Al, United States

1076. 3T MRI and MR Spectroscopy of a Feline Model of GM1 Gangliosidosis After AAV-Mediated Gene Therapy

Heather L. Gray-Edwards[1], Nouha Salibi[2], Diane Wilson[1], Ashley Randle[1], Ronald J. Beyers[3], Thomas Stewart Denney[3], Ravi T. Seethamraju[2], Shumin Wang[3], Xiaotong Sun[3], Allison M. Bradbury[4], Victoria J. McCurdy[4], Aime K. Johnson[5], Nancy Cox[1], Douglas R. Martin[4]
[1]Scott-Ritchey Research Center, Auburn University, Auburn, Al, United States; [2]MR R&D, Siemens Healthcare, Malvern, PA, United States; [3]Department of Electrical and Computer Engineering, Auburn Univeristy, Auburn, AL, United States; [4]Anatomy, Physiology and Pharmacology, Auburn University, Auburn, Al, United States; [5]Clinical Sciences, Auburn University, Auburn, Al, United States

1077. 3T MRI and MR Spectroscopy of an Ovine Model of Tay-Sachs Disease After AAV-Mediated Gene Therapy

Heather L. Gray-Edwards[1], Nouha Salibi[2], Diane Wilson[1], Ashley Randle[1], Ronald J. Beyers[3], Thomas Stewart Denney[3], Ravi T. Seethamraju[2], Shumin Wang[3], Xiaotong Sun[3], Allison M. Bradbury[4], Victoria J. McCurdy[4], Nancy Cox[1], Douglas R. Martin[4]
[1]Scott-Ritchey Research Center, Auburn University, Auburn, Al, United States; [2]MR R&D, Siemens Healthcare, Malvern, PA, United States; [3]Department of Electrical and Computer Engineering, Auburn Univeristy, Auburn, AL, United States; [4]Anatomy, Physiology and Pharmacology, Auburn University, Auburn, Al, United States

Traditional Poster
Multiple Sclerosis & Deteriorating Diseases

Exhibition Hall Thursday 13:30-15:30

1078. Immune Cells in the Diffusely Abnormal White Matter of Multiple Sclerosis

Cornelia Laule[1], Vlady Pavlova[1], Esther Leung[1], Guojun Zhao[2], Piotr Kozlowski[2], Anthony L. Traboulsee[3], David K.B. Li[2, 3], Wayne Moore[1, 3]
[1]Pathology & Laboratory Medicine, University of British Columbia, Vancouver, BC, Canada; [2]Radiology, University of British Columbia, Vancouver, BC, Canada; [3]Medicine (Neurology), University of British Columbia, Vancouver, BC, Canada

1079. Diffusion Weighted Spectroscopy of NAA in Multiple Sclerosis: Studying the Microstructure, Macrostructure and Organization of Axonal Tracts in the Corpus Callosum

Emily T. Wood[1, 2], Itamar Ronen[3], Aranee Techawiboonwong[4], Pascal Sati[1], Daniel Reich[1, 5]
[1]National Institute of Neurological Disease and Stroke, National Institutes of Health, Bethesda, MD, United States; [2]Dept of Neuroscience, Johns Hopkins University, Baltimore, MD, United States; [3]C.J. Gorter Center for High Field MRI, Department of Radiology, Leiden University Medical Center, Leiden, Netherlands; [4]Dept of Electrical Engineering, Mahidol University, Salaya, Nakhon Pathom, Thailand; [5]Depts of Neurology & Radiology, Johns Hopkins University School of Medicine, Baltimore, MD, United States

1080. Therapy Effects in Cerebral Folate Transport Deficiency with Hypomyelination Monitored by Multimodal Quantitative MR-Imaging

Steffi Dreha-Kulaczewski[1, 2], Robert Steinfeld[3], Knut Brockmann[1], Peter Dechent[2], Jutta Gärtner[1], Gunther Helms[2]
[1]Department of Pediatrics and Pediatric Neurology, University Medical Center , Göttingen, Germany; [2]Department of Cognitive Neurology, MR-Research in Neurology and Psychiatry, University Medical Center , Göttingen, Germany; [3]Department of Pediatrics and Pediatric Neurology, University Medical Center, Göttingen, Germany

1081. Validation of Susceptibility Mapping for Quantification of Iron in Subcortical Grey Matter in Multiple Sclerosis
Hongfu Sun[1], Andrew Walsh[1], R. Marc Lebel[1], Gregg Blevins[2], Ingrid Catz[2], Jian-Qiang Lu[3], Edward Johnson[3], Derek Emery[4], Kenneth Warren[2], Alan H. Wilman[1]
[1]Biomedical Engineering, University of Alberta, Edmonton, Alberta, Canada; [2]Division of Neurology, University of Alberta, Edmonton, Alberta, Canada; [3]Laboratory Medicine and Pathology, University of Alberta, Edmonton, Alberta, Canada; [4]Radiology and Diagnostic Imaging, University of Alberta, Edmonton, Alberta, Canada

1082. Identification of Cortical Pathology in Multiple Sclerosis with 7T MRI
Bing Yao[1], Simon Hametner[2], Peter van Gelderen[1], Hellmut Merkle[1], Hans Lassmann[2], Jeff H. Duyn[1], Bagnato Francesca[3]
[1]Advanced MRI Section, LFMI, NINDS, National Institutes of Health, Bethesda, MD, United States; [2]Center for Brain Research, Medical University of Vienna, Vienna, Austria; [3]Neuroimmunology Branch, National Institutes of Health, Bethesda, MD, United States

1083. Regional Gray Matter Atrophy in Multiple Sclerosis Using Tensor Based Morphometry: A Multi-Center Study
Sushmita Datta[1], Terrell D. Staewen[1], Priya Goel[1], Stacy S. Cofield[2], Gary R. Cutter[2], Fred D. Lublin[3], Jerry S. Wolinsky[4], Ponnada A. Narayana[1]
[1]Diagnostic and Interventional Imaging, Medical School, The University of Texas Health Science Center at Houston, Houston, TX, United States; [2]Biostatistics, University of Alabama at Birmingham, Birmingham, AL, United States; [3]The Corinne Goldsmith Dickinson Center for Multiple Sclerosis, Mount Sinai School of Medicine, New York, NY, United States; [4]Neurology, Medical School, The University of Texas Health Science Center at Houston, Houston, TX, United States

1084. Distinguishing Neuromyelitis Optica from Multiple Sclerosis with Myelin Water Imaging
Margarita Gorodezky[1], Lucy A.E. Matthews[2], Anthony L. Traboulsee[3], Jacqueline Palace[2], Shannon H. Kolind[3]
[1]Goethe Universitaet Frankfurt, Frankfurt am Main, Germany; [2]Oxford University and Oxford Radcliffe Hospitals NHS Trust, Oxford, United Kingdom; [3]University of British Columbia, Vancouver, BC, Canada

1085. Inflammation, Axonal Loss and Trans-Synaptic Degeneration Affect the Visual System in Multiple Sclerosis – a Preliminary 7 Tesla MRI and Optical Coherence Tomography Study.
Tim Sinnecker[1], Timm Oberwahrenbrock[1], Hanna Zimmermann[1], Jan Dörr[1, 2], Caspar Pfueller[1, 2], Lutz Harms[2, 3], Thoralf Niendorf[4, 5], Alexander U. Brandt[1, 2], Friedemann Paul[1, 2], Jens Wuerfel, [16]
[1]NeuroCure Clinical Research Center, Charité - Universitätsmedizin Berlin, Berlin, Germany; [2]Clinical and Experimental Multiple Sclerosis Research Center, Charité - Universitätsmedizin Berlin, Berlin, Germany; [3]Department of Neurology, Charité - Universitätsmedizin Berlin, Berlin, Germany; [4]Experimental and Clinical Research Center, Charité - Universitätsmedizin Berlin and Max Delbrueck Center for Molecular Medicine, Berlin, Germany; [5]Berlin Ultrahigh Field Facility (B.UF.F.), Max Delbrueck Center for Molecular Medicine, Berlin, Germany; [6]Institute of Neuroradiology, Universitätsmedizin Göttingen, Göttingen, Niedersachsen, Germany

1086. Laminar-Specific Variations of T2* Relaxation Decay in the Cortex at 7 Tesla MRI
Sindhuja Tirumalai Govindarajan[1], Julien Cohen-Adad[1], Audrey Fan[2], Maria Pia Sormani[3], Caterina Mainero[1]
[1]Athinoula A. Martinos Center for Biomedical Imaging, Charlestown, MA, United States; [2]Massachusetts Institute of Technology, Cambridge, MA, United States; [3]Department of Health Sciences, University of Genoa, Genova, Liguria, Italy

1087. Assessment of Normal-Appearing Brain Tissue Changes in Multiple Sclerosis Using Diffusion Kurtosis Imaging
Wenshu Qian[1], Koon-Ho Chan[2], Queenie Chan[3], Henry Ka Fung Mak[1]
[1]Diagnostic Radiology, The University of Hong Kong, Hong Kong, China; [2]Medicine, The University of Hong Kong, Hong Kong, China; [3]Philips Healthcare, Hong Kong, China

1088. The Venous Volume Portion Within Multiple Sclerosis Lesions Compared to Healthy Tissue - An Atlas Based Approach
Günther Grabner[1], Assunta Dal-Bianco[2], Simon Hametner[3], Hans Lassmann[3], Siegfried Trattnig[1]
[1]Department of Radiology, Medical University of Vienna, Vienna, Austria; [2]Department of Neurology, Medical University of Vienna, Vienna, Austria; [3]Center for Brain Research, Medical University of Vienna, Vienna, Austria

1089. T1rho MR Is Sensitive to Changes in Normal Appearing White Matter and Gray Matter in Multiple Sclerosis
Jay Gonyea[1], Christopher G. Filippi[2, 3], Angela Applebee[2], Trevor Andrews[1, 4], Lindsay Karr, Scott Hipko[1], Richard Watts[1]
[1]Department of Radiology, University of Vermont College of Medicine, Burlington, VT, United States; [2]Department of Neurology, University of Vermont College of Medicine, Burlington, VT, United States; [3]Department of Radiology, Columbia University Medical Center, New York, NY, United States; [4]Philips Healthcare, Cleveland, OH, United States

1090. Grey Matter Perfusion Abnormalities Are More Extensive Than Grey Matter Atrophy in Early Relapsing-Remitting Multiple Sclerosis Patients
Laetitia Debernard[1], Tracy R. Melzer[1], Saskia Van Stockum[1], Jane Eagle[1], Charlotte Graham[1], Daniel Myall[1], Claudia Angela M. Wheeler-Kingshott[2], John C. Dalrymple-Alford[1], David H. Miller[1, 2], Deborah F. Mason[1]
[1]New Zealand Brain Research Institute, Christchurch, Canterbury, New Zealand; [2]NMR Research Unit, Queen Square MS Centre, UCL Institute of Neurology, London, United Kingdom

1091. Normally Appearing White Matter of Subjects with Multiple Sclerosis Probed by Magnetization Transfer and Rotating Frame Relaxation Methods
Silvia Mangia[1], Adam Carpenter[2], Andy Tyan[1], Timo Liimatainen[3], Michael Garwood[1], Shalom Michaeli[1]
[1]CMRR - Dept. of Radiology, University of Minnesota, Minneapolis, MN, United States; [2]Dept. of Neurology, University of Minnesota, Minneapolis, MN, United States; [3]A.I.Virtanen Institute for Molecular Sciences, University of Eastern Finland, Kuopio, PL, Finland

1092. Can Whole Brain DKI Detect Regional Changes in Multiple Sclerosis Patients?
Paulo Dellani[1], Paul Bronzlik[1], Refik Pul[2], Martin Stangel[2], Heinrich Lanfermann[1], Peter Raab[1]
[1]Neuroradiology, Hannover Medical School, Hannover, Germany; [2]Neurology, Hannover Medical School, Hannover, Germany

1093. Relating Clinical Disability to Brain Volume and Myelin Water Measurements in Primary Progressive Multiple Sclerosis
Anna Combes[1], Gareth John Barker[1], Arshia Seddigh[2], Naomi Sibtain[2], Anthony L. Traboulsee[3], Steven C.R. Williams[1], Peter A. Brex[2], Shannon H. Kolind[3]
[1]Department of Neuroimaging, King's College London, London, United Kingdom; [2]King's College Hospital, London, United Kingdom; [3]Medicine, University of British Columbia, Vancouver, BC, Canada

1094. Impaired Cerebrovascular Reactivity (CVR) in MS Measured with Hypercapnia Perfusion MRI
Yongxia Zhou[1], Hanzhang Lu[2], Feng Xu[2], Damon Kenul[1], Hina Jaggi[1], Joseph Herbert[3], Ilya Kister[4], Robert I. Grossman[5], Yulin Ge[1]
[1]Radiology/Center for Biomedical Imaging, New York University Langone Medical Center, New York, NY, United States; [2]University of Texas Southwestern Medical Center, Dallas, TX, United States; [3]Multiple Sclerosis Comprehensive Care Center, New York University, New York, NY, United States; [4]Multiple Sclerosis Comprehensive Care Center, New York University Langone Medical Center, New York, NY, United States; [5]Radiology/Center for Biomedical Imaging, New York University, New York, NY, United States

1095. Evaluating a Multi-Channel Registration Approach of FA and T1w on MS Patients with Simulated Atrophy
Eloy Roura[1], Torben Schneider[2], Marc Modat[3], Pankaj Daga[3], Nils Muhlert[2], Declan T. Chard[2], Sebastien Ourselin[3], Xavier Lladó[1], Claudia Angela M. Wheeler-Kingshott[2]
[1]Dept. of Computer Architecture and Technology, VICOROB, University of Girona, Girona, Spain; [2]NMR Research Unit, Queen Square MS Centre, Dept. of Neuroinflammation UCL Institute of Neurology, London, United Kingdom; [3]Centre for Medical Image Computing, Dept. of Medical Physics and Bioengineering, UCL, London, United Kingdom

1096. Optimization of GSH Measurement in Multiple Sclerosis
Huijun Liao[1], Sai K. Merugumala[2], Shahamat Tauhid[3], Rohit Bakshi[3], Alexander Lin[2]
[1]Center for Clinical Spectroscopy , Brigham and Women's Hospital, Boston, MA, United States; [2]Center for Clinical Spectroscopy, Brigham and Women's Hospital, Boston, MA, United States; [3]Laboratory for Neuroimaging Research, Department of Neurology, Brigham and Women's Hospital, Boston, MA, United States

1097. Technique Development for Accurate Whole Brain White Matter and Lesion Myelin Water Fraction Analysis for Multiple Sclerosis Using Multi-Component T2 Relaxometry

Kyoko Fujimoto[1], Eve LoCastro[2], Sneha N. Pandya[2], Elizabeth Monohan[1], Ashish Raj[2], Xiaobo Shen[3], Thanh Nguyen[2], Susan A. Gauthier[1]

[1]Department of Neurology, Weill Cornell Medical College, New York, NY, United States; [2]Department of Radiology, Weill Cornell Medical College, New York, NY, United States; [3]Department of Computer Science, Cornell University, Ithaca, NY, United States

1098. Automated Detection, Segmentation, and Longitudinal Tracking of Active MS Lesions Via Subtraction MRI

Colin D. Shea[1], Navid Shiee[2], Emily Wood[1], Dzung Pham[2], Govind Bhagavatheeshwaran[1], Daniel S. Reich[1]

[1]NINDS, National Institutes of Health, Bethesda, MD, United States; [2]Diagnostic Radiology, National Institutes of Health, Bethesda, MD, United States

1099. The Contribution of Cerebellar White Matter Damage to Cortical Grey Matter: Evidence from Voxel Based Morphometry and Diffusion Imaging

Giusy Olivito[1, 2], Michael Dayan[3], Marco Molinari[1], Maria Leggio[1, 2], Marco Bozzali[3]

[1]Ataxia Laboratory, Santa Lucia Foundation, Rome, Lazio, Italy; [2]Department of Psychology, "Sapienza" University, Rome, Italy; [3]Neuroimaging Laboratory, Santa Lucia Foundation, Rome, Lazio, Italy

1100. Deep Gray Matter R2* in Patients with Multiple Sclerosis, Their Healthy Siblings and Unrelated Healthy Controls

Enedino Hernandez-Torres[1], Vanessa Wiggermann[1], David Li[2], Lindsay Machan[2], Dessa Sadovnick[3], Katherine Knox[4], Anthony L. Traboulsee[5], Alexander Rauscher[1]

[1]Radiology, UBC MRI Research Centre, Vancouver, BC, Canada; [2]Radiology, University of British Columbia, Vancouver, BC, Canada; [3]MS Clinic, University of British Columbia, Vancouver, BC, Canada; [4]MS Clinic, Saskatoon City Hospital, Saskatoon, Saskatchewan, Canada; [5]Neurology, University of British Columbia, Vancouver, BC, Canada

1101. Evolution of Multiple Sclerosis Lesions: Preliminary Results from Quantitative Magnetization Transfer Imaging

Meritxell Garcia[1], Monika Gloor[2], Michaela Andelova[3], Till Sprenger[3], Julia Reinhardt[1], Christoph Stippich[1], Ernst-Wilhelm Radue[4], Ludwig Kappos[3], Oliver Bieri[2]

[1]Division of Diagnostic & Interventional Neuroradiology, Department of Radiology, Clinic of Radiology & Nuclear Medicine, University of Basel Hospital, Basel, Switzerland; [2]Division of Radiological Physics, Department of Medical Radiology, University of Basel Hospital, Basel, Switzerland; [3]Department of Neurology, University of Basel Hospital, Basel, Switzerland; [4]Medical Imaging Analysis Center, University of Basel Hospital, Basel, Switzerland

1102. Quantitative Analysis and Mapping of Myelin Water Frequency-Shift Using T_2* Relaxation Signals at 3T

Zhe Wu[1], Dosik Hwang[2], Yiping P. Du[1]

[1]Department of Biomedical Engineering, Zhejiang University, Hangzhou, Zhejiang, China; [2]School of Electrical and Electronic Engineering, Yonsei University, Seoul, Korea

1103. Comparison of Myelin Water Fraction Brain Images Using Multi-Echo T2-Weighted GRASE Relaxation and Steady-State Methods

Jing Zhang[1], Shannon H. Kolind[2], Alex L. MacKay[1, 3]

[1]Department of Radiology, University of British Columbia, Vancouver, British Columbia, Canada; [2]Department of Medicine, University of British Columbia, Vancouver, British Columbia, Canada; [3]Department of Physics and Astonomy, University of British Columbia, Vancouver, British Columbia, Canada

1104. Robust Segmentation of Clinical Optic Nerve MRI

Swetasudha Panda[1], Andrew J. Asman[1], Bennett A. Landman[1, 2], Seth A. Smith[2], Louise A. Mawn[3]

[1]Electrical Engineering, Vanderbilt University, Nashville, TN, United States; [2]Radiology and Radiological Sciences, Vanderbilt University, Nashville, TN, United States; [3]Ophthalmology and Neurological Surgery, Vanderbilt University, Nashville, TN, United States

1105. Within Lesion Differences in Quantitative MRI Parameters Predict Contrast Enhancement in Multiple Sclerosis

Elke Hattingen[1], Marlies Wagner[1], Ralf Deichmann[2], Alina Jurcoane[1]

[1]Neuroradiology, Goethe University, Frankfurt, Germany; [2]Brain Imaging Center, Goethe University, Frankfurt, Germany

1106. Normalized Quantitative Magnetic Resonance Imaging on Multiple Sclerosis
JBM Warntjes[1], Mathias Engström[1, 2], A Tisell[1, 3], I. Blystad[1, 2], A-M Landtblom[1, 4], P. Lundberg[1, 3]
[1]Center for Medical Imaging Science and Visualization, Linköping, Sweden; [2]Department of Medical and Health Sciences, Radiology, Linköping, Sweden; [3]Department of Medical and Health Sciences, radiation Physics, Linköping, Sweden; [4]Department of Clinical and Experimental Medicine, Neurology, Linköping, Sweden

1107. Hippocampal Volume Relates to White Matter Integrity and Episodic Memory in Multiple Sclerosis
Katherine A. Koenig[1], Ken E. Sakaie[1], Mark J. Lowe[1], Jian Lin[1], Lael Stone[2], Robert A. Bermel[3], Erik B. Beall[1], Stephen M. Rao[2], Bruce D. Trapp[4], Micheal D. Phillips[1]
[1]Imaging Sciences, Cleveland Clinic, Cleveland, OH, United States; [2]Neurological Institute, Cleveland Clinic, Cleveland, OH, United States; [3]Neurological Institute, The Cleveland Clinic, Cleveland, OH, United States; [4]Neurosciences, Cleveland Clinic, Cleveland, OH, United States

1108. Quantitative High-Field MRI of Multiple Sclerosis
David A. Rudko[1], Joseph S. Gati[1], Marcelo Kremenchutzky[2], Ravi Menon[1]
[1]Robarts Research Institute, London, Ontario, Canada; [2]Clinical Neurological Sciences, University of Western Ontario, London, Ontario, Canada

1109. Magnetization Transfer Ratio Tractometry in Multiple Sclerosis
Nikola Stikov[1], Antonio Giorgio[2], Jennifer S.W. Campbell[1], Erin L. Mazerolle[1], Nicola De Stefano[2], G Bruce Pike[1]
[1]Montreal Neurological Institute, McGill University, Montreal, QC, Canada; [2]Department of Neurobiological and Behavioral Sciences, University of Siena, Siena, Italy

1110. Extensive and Strong Increase of Radial Diffusivity in Human Hypomyelinating Disorders
Marjan Steenweg[1], Nicole Wolf[1], Frederik Barkhof[2], Marjo van der Knaap[1], Petra Pouwels[3]
[1]Child Neurology, VU University Medical Center, Amsterdam, Netherlands; [2]Radiology, VU University Medical Center, Amsterdam, Netherlands; [3]Physics & Medical Technology, VU University Medical Center, Amsterdam, Netherlands

Traditional Poster
Spinal Cord

Exhibition Hall Thursday 13:30-15:30

1111. Age-Related Metabolite Changes in Healthy Spinal Cord: A 1H MRS Study at 3T
Khaled Abdel-Aziz[1], Bhavana Solanky[1], Marios C. Yiannakas[1], Claudia Angela M. Wheeler-Kingshott[2], Alan Thompson[1], Olga Ciccarelli[3]
[1]NMR Research Unit, Queen Square MS Centre, UCL, London, United Kingdom; [2]NMR Research Unit, Queen Square MS Centre, Department of Neuroinflammation, UCL, London, United Kingdom; [3]NMR Research Unit, Queen Square MS Centre, UCL Institute of Neurology, London, United Kingdom

1112. Mouse Lumbar Spinal Cord Blood Flow Imaging Using Pseudo-Continuous ASL (PCASL) at Very High Field
Guillaume Duhamel[1], Olivier M. Girard[1], Valentin Prevost[1], Patrick J. Cozzone[1], Virginie Callot[1]
[1]CRMBM / CNRS 7339, Aix-Marseille University, Marseille, France

1113. Extended Metabolite Profile of the Human Spinal Cord
Andreas Hock[1], Bertram J. Wilm[2], Erin L. MacMillan[3], Roland Kreis[3], Spyros S. Kollias[4], Peter Boesiger[2], Anke Henning[2, 5]
[1]Institute for Biomedical Engineering , University and ETH Zurich , Zurich, Switzerland; [2]Institute for Biomedical Engineering, University and ETH Zurich, Zurich, Switzerland; [3]Dept. of Clinical Research and Institute of Diagnostic, Interventional and Pediatric Radiology, University of Bern, Bern, Switzerland; [4]Institute of Neuroradiology, University Hospital of Zurich, Zurich, Switzerland; [5]Max Planck Institute for Biological Cybernetics, Tübingen, Germany

1114. Effect of Osmolarity on Myelin Water Fraction Measurement in Aldehyde Fixed Spinal Cord Tissue
Henry Szu-Meng Chen[1, 2], Nathan Holmes[3], Wolfram Tetzlaff[3, 4], Piotr Kozlowski, [35]
[1]Physics and Astronomy, University of British Columbia, Vancouver, BC, Canada; [2]UBC MRI Research Centre, Vancouver, BC, Canada; [3]ICORD, Vancouver, BC, Canada; [4]Zoology, University of British Columbia, Vancouver, BC, Canada; [5]Radiology, University of British Columbia, Vancouver, BC, Canada

1115. High Resolution Quantitative Magnetization Transfer Imaging of Squirrel Monkey Spinal Cord at 9.4T
Feng Wang[1, 2], Ke Li[1, 2], Daniel F. Gochberg[1, 2], Li Min Chen[1, 2], John C. Gore[1, 2]
[1]Institute of Imaging Science, Vanderbilt University, Nashville, TN, United States; [2]Radiology and Radiological Sciences, Vanderbilt University, Nashville, TN, United States

1116. Diagnostic Accuracy of Diffusion Tensor Imaging for Pediatric Cervical Spinal Cord Injury
Nadia Barakat[1], MJ Mulcahey[2], John Gaughan[1], Pallav Shah[1], Scott Faro[1], Amer Samdani[2], Randal Betz[2], Jürgen Finsterbusch[3], Feroze Mohamed[1]
[1]Temple University, Philadelphia, PA, United States; [2]Shriners Hospital for Children, Philadelphia, PA, United States; [3]University Medical Center Hamburg-Eppendorf, Hamburg, Germany

1117. Primary Progressive Multiple Sclerosis Spinal Cord Volume Predicts Clinical Motor Scores
Bretta Russell-Schulz[1], Anna Bley[2], Arshia Seddigh[3], William Regan[1], Gareth John Barker[4], Naomi Sibtain[3], Roger Tam[1], Anthony L. Traboulsee[1], Steven C.R. Williams[4], Peter A. Brex[3], Shannon H. Kolind[1]
[1]University of British Columbia, Vancouver, BC, Canada; [2]TU Berlin, Berlin, Germany; [3]King's College Hospital, London, United Kingdom; [4]Department of Neuroimaging, King's College London, London, United Kingdom

1118. A Longitudinal Quantitative MRI Study of BSCB Permeability After Peripheral Nerve Injury in Mice
Christine Laliberté[1], Lindsay S. Cahill[1], Jonathan Bishop[1], Xue Jun Liu[2], Michael W. Salter[2], R. Mark Henkelman[1]
[1]Mouse Imaging Centre, Hospital for Sick Children, Toronto, Ontario, Canada; [2]Neuroscience and Mental Health Program, Research Institute, Hospital for Sick Children, Toronto, Ontario, Canada

1119. Spinal Cord Template and a Semi-Automatic Image Processing Pipeline
Vladimir S. Fonov[1], Julien Cohen-Adad[2], D. Louis Collins[1]
[1]Montreal Neurological Institute, McGill University, Montreal, QC, Canada; [2]Department of Electrical Engineering, Ecole Polytechnique de Montreal, Montreal, QC, Canada

1120. High *b*-Value Diffusion-Weighted Imaging on Human Spinal Cord *in Vivo*: Investigation of Signal Dependence on Diffusion Time
Novena Rangwala[1], David Hackney[1], David C. Alsop[1]
[1]Department of Radiology, Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA, United States

1121. Structural Correlates of Abnormalities of Cervical Cord Functional MRI Activity in Patients with Multiple Sclerosis
Paola Valsasina[1], Maria A. Rocca[1], Massimiliano Copetti[2], Domenico Caputo[3], Martina Absinta[1], Massimo Filippi[1]
[1]Neuroimaging Research Unit, Institute of Experimental Neurology, San Raffaele Scientific Institute, Vita-Salute San Raffaele University, Milan, MI, Italy; [2]Department of Biostatistics, IRCCS Casa Sollievo della Sofferenza, San Giovanni Rotondo, FG, Italy; [3]Department of Neurology, Scientific Institute Fondazione Don Gnocchi, Milan, Mi, Italy

1122. Single Subject Spinal fMRI Using SE-ZOOM-EPI
Moreno Pasin[1], Marios C. Yiannakas[2], Ahmed Toosy[3], Claudia Angela M. Wheeler-Kingshott[2]
[1]NMR Research Unit, Department of Neuroinflammation , UCL Institute of Neurology, London, England, United Kingdom; [2]NMR Research Unit, Department of Neuroinflammation, UCL Institute of Neurology, London, England, United Kingdom; [3]Department of Brain Repair and Rehabilitation, UCL Institute of Neurology, London, United Kingdom

1123. *In Vivo* Spinal Cord Diffusion Tensor Imaging of Rodent at 9.4T
M. Waleed Gaber[1, 2], Khushali Kotedia[1], Stephen T.C. Wong[3, 4], Kelvin K. Wong[3, 4]
[1]Texas Children's Hospital, Houston, TX, United States; [2]Baylor College of Medicine, Houston, TX, United States; [3]Department of Systems Medicine & Bioengineering, The Methodist Hospital Research Institute, Houston, TX, United States; [4]Department of Radiology, Weill Cornell Medical College, New York, NY, United States

1124. A Preliminary Study of 3D Rat Spine Imaging by Using Wideband MRI Technique
Yun-An Huang[1], Edzer L. Wu[1, 2], Tzi-Dar Chiueh[1], Jyh-Horng Chen[1, 2], Jason Liu[3]
[1]Dept. Electrical engineering, National Taiwan University, Taipei, Taiwan; [2]Institue of biomedical engineering, National Taiwan University, Taipei, Taiwan; [3]University of California, San Francisco, San Francisco, CA, United States

1125. Diffusion Tensor Imaging Detects Injury to Medial Longitudinal Fasciculus
Ken E. Sakaie[1], Masaya Takahashi[2], Koji Sagiyama[2], Bharath Atthe[1], Osamu Togao[2], Ivan E. Dimitrov[3], Gina Remington[4], Teresa Frohman[4], Elliot Frohman[4], Robert Fox[5]
[1]Imaging Institute, The Cleveland Clinic, Cleveland, OH, United States; [2]Advanced Imaging Research Center, UT Southwestern Medical Center, Dallas, TX, United States; [3]Philips Medical Systems, Highland Heights, OH, United States; [4]Neurology and Neurotherapeutics, UT Southwestern Medical Center, Dallas, TX, United States; [5]Mellen Center, The Cleveland Clinic, Cleveland, OH, United States

1126. Conventional DTI and Q-Space Imaging in Brachial Plexus Root Re-Implantation
Torben Schneider[1], Xun Choong[2], Carolina Kachramanoglou[3], David L. Thomas[2], David Choi[4], Claudia Angela M. Wheeler-Kingshott[1], Olga Ciccarelli[2]
[1]NMR Research Unit, Queen Square MS Centre, Department of Neuroinflammation, UCL Institute of Neurology, London, United Kingdom; [2]Department of Brain Repair and Rehabilitation, UCL Institute of Neurology, London, United Kingdom; [3]Spinal Repair Unit, UCL Institute of Neurology, London, United Kingdom; [4]Department of Neurosurgery, National Hospital for Neurology and Neurosurgery, London, United Kingdom

Traditional Poster
Neurovascular Disease - Clinical

Exhibition Hall Thursday 13:30-15:30

1127. Cortical GABA Levels Are Impaired After Stroke, But May Be Normalized with Rehabilitation
Yi-Ching Lynn Ho[1], Erhard Næss-Schmidt[1], Jamie Near[2], Jakob Udby Blicher[1, 3]
[1]Center for Functionally Integrative Neuroscience, Aarhus University, Aarhus, Denmark; [2]Dept. of Psychiatry, McGill University, Montreal, QC, Canada; [3]Hammel Neurorehabilitation & Research, Aarhus University Hospital, Hammel, Denmark

1128. Assessment of Arterial Supply to Arteriovenous Malformations with Vessel-Encoded Arterial Spin Labeling Dynamic Angiography
Thomas W. Okell[1], Meritxell Garcia[2], Michael A. Chappell, [13], James V. Byrne[4], Peter Jezzard[1]
[1]FMRIB Centre, Nuffield Department of Clinical Neurosciences, University of Oxford, Oxford, United Kingdom; [2]Division of Diagnostic & Interventional Neuroradiology, Department of Radiology & Nuclear Medicine, University of Basel Hospital, Basel, Switzerland; [3]IBME, Department of Engineering, University of Oxford, Oxford, United Kingdom; [4]Nuffield Department of Surgery, University of Oxford, Oxford, United Kingdom

1129. High-Risk Mid-Cerebral Artery Atherosclerotic Disease Detection Using Simultaneous Non-Contrast Angiography and IntraPlaque Hemorrhage (SNAP) Imaging
Jinnan Wang[1], Xihai Zhao[2], Kiyofumi Yamada[3], Le He[2], Xiping Gong[4], Peter Börnert[5], Chun Yuan[6]
[1]Philips Research North America, Briarcliff Manor, NY, United States; [2]Tsinghua University, Beijing, China; [3]University of Washington, Seattle, WA, United States; [4]Tiantan Hospital, Beijing, China; [5]Philips Research Laboratory, Hamburg, N.A., Germany; [6]Radiology, University of Washington, Seattle, WA, United States

1130. Intracranial Arterial Wall Imaging Using 3D Isotropic High Resolution Black Blood MRI at 3.0 T
Ye Qiao[1], Steve R. Zeiler[2], Saeedeh Mirbagheri[1], Richard Leigh[2], Victor Urrutia[2], Robert Wityk[2], Bruce A. Wasserman[1]
[1]Radiology, Johns Hopkins Univeristy, Baltimore, MD, United States; [2]Neurology, The Johns Hopkins Hospital, Baltimore, MD, United States

1131. Non-Contrast-Enhanced MRA of the Carotids :Feasibility of a Non-ECG-Gated Sequence Over an Extended Field of View
Hélène Raoult[1, 2], Jean-Yves Gauvrit[1, 2], Vincent Le Couls[3], Peter Schmitt[4], Elise Bannier[2]
[1]Neuroradiology, University Hospital, Rennes, France; [2]Unité VISAGES U746 INSERM-INRIA, IRISA UMR CNRS 6074, University of Rennes, Rennes, France; [3]Siemens Healthcare, Imaging and Therapy, Saint Denis, France; [4]Siemens AG, MR Application & Workflow Development, Erlangen, Germany

1132. A Simple and Effective Approach for Carotid Plaque Risk Assessment in Clinical Practice
XIN PU[1, 2], Chun Yuan[1], Hunter R. Underhill[1], Zhan Ming Fan[3]
[1]Vascular Imaging Lab, Department of Radiology, University of Washington, Seattle, WA, United States; [2]Department of Radiology , Beijing Anzhen Hospital, Capital Medical University, Beijing, China; [3]Department of Radiology, Beijing Anzhen Hospital, Capital Medical University, Beijing, China

1133. Validation of Atherosclerotic Plaque Composition and Structure at 7T and 3T MRI

Maria del Rosario Lopez Gonzalez[1], Sin Yee Foo[2], William M. Holmes[3], Willie Stewart[4], George Welch[5], Barrie Condon[6], Keith W. Muir[1], Kirsten Forbes[7]

[1]Institute of Neuroscience and Psychology, University of Glasgow, Glasgow, Scotland, United Kingdom; [2]School of Medicine, Glasgow, Scotland, United Kingdom; [3]GEMRIC, Institute of Neuroscience and Psychology, University of Glasgow, Glasgow, Scotland, United Kingdom; [4]Department of Neuropathology, Southern General Hospital, Glasgow, Scotland, United Kingdom; [5]Vascular Surgery, Southern General Hospital, Glasgow, Scotland, United Kingdom; [6]MRI, Southern General Hospital, Glasgow, Scotland, United Kingdom; [7]Institute of Neurological Sciences, Southern General Hospital, Glasgow, Scotland, United Kingdom

1134. The Usefulness of the Inflow Enhanced Inversion Recovery Fast Spin Echo (IFIR-FSE) for Supraaortic Artery Imaging

Kei Tsukamoto[1], Takayuki Masui[1], Motoyuki Katayama[1], Kimihiko Sato[1], Kazuma Terauchi[1], Kenichi Mizuki[1], Masayoshi Sugimura[1], Harumi Sakahara[2], Naoyuki Takei[3], Hiroyuki Kabasawa[3]

[1]Radiology, Seirei Hamamatsu general hospital, Hamamatsu, Shizuoka, Japan; [2]radiology, Hamamatsu university school of medicine, Hamamatsu, Shizuoka, Japan; [3]GE Healthcare Japan, hino, Tokyu, Japan

1135. Time-Of-Flight Angiography in Humans at 9.4T

Gisela E. Hagberg[1], Petros Martirosian[2], Jonas Bause[3], Gunamony Shajan[3], Uwe Klose[4], Klaus Scheffler[1, 3]

[1]Biomedical Magnetic Resonance, University Hospital Tuebingen, Tuebingen, Germany; [2]Section of Experimental Radiology, University Hospital Tuebingen, Tuebingen, Germany; [3]High-field Magnetic Resonance, Max Planck Institute for Biological Cybernetics, Tuebingen, Germany; [4]Diagnostic and interventional Neuroradiology, University Hospital Tuebingen, Tuebingen, Germany

1136. MR Selective Flow-Tracking Cartography of Brain Vascular Malformations

Pauline Roca[1], Myriam Edjlali[1], Cécile Rabrait[2], Kevin M. Johnson[3], Yijing Wu[3], Oliver Wieben[3, 4], Olivier Naggara[1], Jean-François Meder[1], Patrick Turski[4], Catherine Oppenheim[1]

[1]Department of Neuroradiology, Sainte-Anne Hospital, Paris, France; [2]GE Healthcare, Vélizy, France; [3]Department of Medical Physics, University of Wisconsin, Madison, WI, United States; [4]Department of Radiology, University of Wisconsin, Madison, WI, United States

1137. Utility of Flat Panel Detector CT (FPD-CT) in Perfusion Assessment of Brain Arteriovenous Malformations

Meritxell Garcia[1, 2], Thomas W. Okell[3], Monika Gloor[4], Michael A. Chappell[5, 6], Peter Jezzard[3], Oliver Bieri[4], James V. Byrne[2]

[1]Division of Diagnostic & Interventional Neuroradiology, Department of Radiology, Clinic of Radiology & Nuclear Medicine, University of Basel Hospital, Basel, Switzerland; [2]Nuffield Department of Surgical Sciences and Department of Neuroradiology, University of Oxford, Oxford, United Kingdom; [3]Centre for Functional Magnetic Resonance Imaging of the Brain, University of Oxford, Oxford, United Kingdom; [4]Division of Radiological Physics, Department of Medical Radiology, University of Basel Hospital, Basel, Switzerland; [5]Institute of Biomedical Engineering, Department of Engineering, University of Oxford, Oxford, United Kingdom; [6]Centre for Functional Magnetic Resonance Imaging of the Brain, University of Oxford, Oxford, United Kingdom

1138. Retrograde Venous Flow in Dural Sinus and Internal Jugular Vein on 3D TOF MRA

Bum-soo Kim[1], Jinhee Jang[1], Hyun Seok Choi[1], So-Lyung Jung[1], Kook-Jin Ahn[1]

[1]Department of Radiology, Seoul St.Mary's Hospital, The Catholic University of Korea, Seoul, Korea

1139. Application of MOBILE (Mapping of Oxygen by Imaging Lipids Relaxation Enhancement) in Stroke : Preclinical and Clinical Studies.

Florence Colliez[1], Caroline Vandeputte[2], Uwe Himmelreich[3], Thierry Duprez[4], Benedicte Jordan[5], Bernard Gallez[1], Julie Magat[6]

[1]Louvain Drug Research Institute, Biomedical Magnetic Resonance Research Group, University of Louvain, Brussels, Belgium; [2]Biomedical Nuclear Magnetic Resonance Unit,, KUL, Leuven, Belgium; [3]Biomedical Nuclear Magnetic Resonance Unit,, KU Leuven, Leuven, Belgium; [4]Radiology and Medical Imaging, St. Luc hospital, Institute of Neuroscience, UCL, Brussels, Belgium; [5]Louvain Drug Research Institute, Biomedical Magnetic Resonance Research Group, UCL, Brussels, Belgium; [6]Louvain Drug Research Institute, Biomedical Magnetic Resonance Research Group, UCL , Brussels , Belgium

1140. Hyperoxic BOLD Contrast in Patients with Unilateral Arterial Steno-Occlusive Disease—comparison with ^{15}O Positron Emission Tomography

Hajime Tamura[1], Masanobu Ibaraki[2], Kazuhiro Nakamura[2], Hideto Toyoshima[2], Keisuke Matsubara[2], Toshibumi Kinoshita[2]

[1]Graduate School of Medicine, Tohoku University, Sendai, Miyagi, Japan; [2]Radiology, Akita Research Institute for Brain and Blood Vessels, Akita, Japan

1141. Susceptibility Weighted Imaging Based Approach to ΔOEF Quantification Using Propofol and Midazolam as Potential OEF Modulators

Jonathan Goodwin[1], Kohsuke Kudo[1], Yutaka Shinohe[2], Ikuko Uwano[1], Fumio Yamashita[1], Yutaka Matsumura[1], Tsuyoshi Metoki[1], Kuniaki Ogasawara[3], Akira Ogawa[3], Makoto Sasaki[1]

[1]Division of Ultrahigh Field MRI, Iwate Medical University, Yahaba, Iwate, Japan; [2]Oral and Maxillofacial Surgery, Iwate Medical University, Morioka, Iwate, Japan; [3]Neurosurgery, Iwate Medical University, Morioka, Iwate, Japan

1142. Cerebrovascular Mechanisms of Idiopathic Parkinson's Disease; an Arterial Spin Labeled Perfusion MRI Study of Cerebrovascular Dysfunction

Sarah Al-Bachari[1], Laura Parkes, Rishma Vidyasagar, Martha Hanby[2], Ira Leroi[3], Hedley Emsley[2]

[1]School of Cancer and Imaging Sciences, University of Manchester, Manchester, United Kingdom; [2]Neurology, Royal Preston Hospital, Preston, Lancashire, United Kingdom; [3]Psychiatry, University of Manchester, Manchester, United Kingdom

1143. Impaired Cerebro-Vascular Reserve in Carotid Artery Disease Correlates with Deficits in Cognitive Functions

Kay Jann[1], Manuela Wapp[2], Frauke Kellner-Weldon[2], Martinus Hauf[2], Yuliya Burren[2], Regula Everts[2, 3], Marwan El-Koussy[2], Patrik Michel[4], Gerhard Schroth[2], Andrea Federspiel[1]

[1]Dept. of Psychiatric Neurophysiology, University Hospital of Psychiatry / University of Bern, Bern, Switzerland; [2]Institut of Diagnostic and Interventional Neuroradiology, University of Bern / Inselspital, Bern, Switzerland; [3]Division of Neuropediatrics, Children's University Hospital / Inselspital, Bern, Switzerland; [4]Department of Neurology, University Hospital Lausanne, Lausanne, Switzerland

1144. Hypoperfusion, Ischemia and Blood Pressure Reduction in Intracerebral Hemorrhage

Didem Aksoy[1, 2], Ryan W. Snider[1, 2], Jonathan Kleinman[1, 2], Michael Mlynash[1, 2], Nancy J. Fischbein[3], Roland Bammer[3], Matus Straka[3], Irina Eyngorn[1, 2], Alisa Gean[4], Chitra Venkat[1, 2], Anna K. Finley Caulfield[1, 2], Christine Wijman[1, 2]

[1]Department of Neurology and Neurological Sciences, Stanford University, Palo Alto, CA, United States; [2]Stanford Neurocritical Care Program, Stanford Stroke Center, Stanford University Medical Center, Palo Alto, CA, United States; [3]Department of Radiology, Stanford University, Palo Alto, CA, United States; [4]Department of Radiology, University of California, San Francisco, San Francisco, CA, United States

1145. Utility of DSC-MRI Indices as Predictors of Cerebral Perfusion Changes After Carotid Angioplasty with Stenting

Pin-Hsun Huang[1], Tsong-Hai Lee[2], Feng-Xian Yan[1], Ho-Fai Wong[3], Ho-Ling Liu[1, 3]

[1]Medical Imaging and Radiological Sciences, Chang Gung University, Taoyuan, Taiwan; [2]Neurology and Stroke Center, Chang Gung Memorial Hospital, Taoyuan, Taiwan; [3]Medical Image and Intervention, Chang Gung Memorial Hospital, Taoyuan, Taiwan

1146. Fully Automatic Maximum Intensity Projections of Regions of Interest in Magnetic Resonance Angiograms

Christoph Seeger[1, 2], Alexander Brost[1], Mircea C. Dobre[1], Nancy J. Fischbein[1], Zhaoying Han[1], Julian R. Maclaren[1], Sjoerd B. Vos[1, 3], Joachim Hornegger[2], Roland Bammer[1]

[1]Center for Quantitative Neuroimaging, Department of Radiology, Stanford University, Stanford, CA, United States; [2]Pattern Recognition Lab, Department of Computer Science, Friedrich-Alexander-University Erlangen-Nuremberg, Erlangen, Germany; [3]Image Sciences Institute, University Medical Center Utrecht, Utrecht, Netherlands

1147. Evaluation of Susceptibility Weighted Imaging in Children with Sickle Cell Disease

Adam M. Winchell[1, 2], Brian Taylor[1], Paul Grundlehner[1], Ralf B. Loeffler[1], Jane Hankins[3], Winfred Wang[3], Kathleen Helton[1], Claudia M. Hillenbrand[1]

[1]Radiological Sciences, St. Jude Children's Research Hospital, Memphis, TN, United States; [2]Biomedical Engineering, University of Memphis, Memphis, TN, United States; [3]Hematology, St. Jude Children's Research Hospital, Memphis, TN, United States

1148. Cerebral Arterial Blood Volume and Blood Flow in Hypertensive and Normotensive Rats

Tae Kim[1], Seong-Gi Kim[1]

[1]University of Pittsburgh, Pittsburgh, PA, United States

1149. Phase Singularities at Fringelines Result in Artifactual Mirohemorrhages in SWI
John Anthony Butman[1, 2], Ningzhi Li[2], Wen-Tung Wang[2], David Joy[2], Dzung Pham[2, 3]
[1]Radiology and Imaging Sciences, Clinical Center of the National Institutes of Health, Bethesda, MD, United States; [2]Center for Neuroscience and Regenerative Medicine, Bethesda, MD, United States; [3]Uniformed Services University of Health Sciences, Bethesda, MD, United States

1150. Assessment of a Continuous Multi-Compartmental Intra-Voxel Incoherent Motion (IVIM) Model for the Human Brain
Burkhard Mädler[1], Dariusch Reza Hadizadeh[2, 3], Jürgen Gieseke[2, 4]
[1]Neurosurgery, University Bonn - Medical Centre, Bonn, Germany; [2]Radiology, University Bonn - Medical Centre, Bonn, Germany; [3]Neuroradiology, University Bonn - Medical Centre, Bonn, Germany; [4]Philips Healthcare, Best, Netherlands

1151. Relationship Analysis of Axial and Radial Diffusivities May Be Helpful in Discriminating Tumor-Infiltrating Edema from Pure Vasogenic Edema
Zhigang Min[1, 2], Chen Niu[1], Ming Zhang[1]
[1]Radiology, First Affiliated Hospital of Xi'an Jiaotong University, Xi'an, Shaanxi, China; [2]Radiology, Yi'xing Hospital Affiliated to Jiangsu University, Yi'xing, Jiangsu, China

Traditional Poster
fMRI of Brain Disorders

Exhibition Hall Thursday 13:30-15:30

1152. Default Mode Interference in Mild Traumatic Brain Injury: Alterations in Functional Connectivity and Cerebral Blood Flow at Rest
ISMRM MERIT AWARD magna cum laude
Chandler Sours[1, 2], Jiachen Zhuo[3], Steven Roys[3], Rao P. Gullapalli[1, 2]
[1]Diagnostic Radiology and Nuclear Medicine, University of Maryland, Baltimore, Baltimore , MD, United States; [2]Program In Neuroscience, University of Maryland, Baltimore, Baltimore, MD, United States; [3]Diagnostic Radiology and Nuclear Medicine, University of Maryland, Baltimore, Baltimore, MD, United States

1153. Primary Olfactory Cortex Involvement in Alzheimer's Disease: A Functional and Morphological MRI Investigation
Megha Vasavada[1], Jian-Li Wang[1], Xiaoyu Sun[1], Sarah Ryan[1], Christopher Weitekamp[1], Prasanna Karunanayaka[1], Qing Yang[1]
[1]Penn State University, Hershey, PA, United States

1154. Repeatability of Standardized and Normalized RCBV in Patients with Newly Diagnosed GBM
Melissa A. Prah[1], Eric S. Paulson[2], Dominique L. Jennings[3], Elizabeth R. Gerstner[4], Tracy T. Batchelor[4], Steven M. Stufflebeam[3], Kathleen M. Schmainda[1, 5]
[1]Radiology, Medical College of Wisconsin, Milwaukee, WI, United States; [2]Radiation Oncology, Medical College of Wisconsin, Milwaukee, WI, United States; [3]Radiology, Massachusetts General Hospital, Charlestown, MA, United States; [4]Neurology, Massachusetts General Hospital, Boston, MA, United States; [5]Biophysics, Medical College of Wisconsin, Milwaukee, WI, United States

1155. Connectivity Matrix Analysis of Depression-Related Network in Patients with Post Stroke Depression
Ji-Young Kim[1], Seong-Uk Jin[2], Jee-Hye Seo[2], Jang Woo Park[2], Jongsu Baek[2], Moon Han[2], Kyung-Eun Jang[2], Young-Hwan Lee[3], Yongmin Chang[4, 5]*
[1]Medical Science, Kyungpook National University School of Medicine, Daegu, Korea; [2]Medical & Biological Engineering, Kyungpook National University, Daegu, Korea; [3]Radiology, Catholic University Medical Center, Daegu, Korea; [4]Radiology, Kyungpook National University, Daegu, Korea; [5]Kyungpook National University School of Medicine, Molecular Medicine, Daegu, Korea

1156. Graph Analysis of rs-fcMRI Reveals Modular Changes Associated with HIV and Aging
Jewell B. Thomas[1], Matthew R. Brier[1, 2], Beau M. Ances[1]
[1]Department of Neurology, Washington University in St. Louis, St. Louis, MO, United States; [2]Medical Scientist Training Program, Washington University in St. Louis, St. Louis, MO, United States

1157. Effect of Injury Severity on Brain Activations and Functional Connectivity Density Mapping in Survivors of Traumatic Brain Injury

Abigail Livny-Ezer[1, 2], Mark Weiser[3, 4], Tammar Kushnir[2, 4], Sagi Harnof[5], Dardo Tomasi[6, 7], Chen Hoffman[2], Anat Biegon[8, 9]

[1]J. Sagol Neuroscience Center, Sheba Medical Center, Tel Hashomer, Israel; [2]Diagnostic Imaging Dept., Sheba Medical Center, Tel Hashomer, Israel; [3]Dept. of Psychiatry, Sheba Medical Center, Tel Hashomer, Israel; [4]Sackler Faculty of Medicine, Tel-Aviv University, Tel-Aviv, Israel; [5]Dept. of Neurosurgery, Sheba Medical Center, Tel Hashomer, Israel; [6]National Institutes of Health, Bethesda, MD, United States; [7]Medical Dept. , Brookhaven National Laboratory, Upton, NY, United States; [8]Medical Dept., Brookhaven National Laboratory, Upton, NY, United States; [9]Dept. of Neurology, Stony Brook University, Stony Brook, NY, United States

1158. The Altered Value-Based Intrinsic Network and Its Association with Impulsive Behavior in Abstinent Heroin Dependent Subjects

Tianye Zhai[1, 2], Tianye Zhai[3], Chunming Xie[1, 2], Zheng Yang[1], Shi-Jiang Li[2]

[1]Center of Brain and Cognition, Beijing Institute of Basic Medical Science, Beijing, China; [2]Biophysics, Medical College of Wisconsin, Milwaukee, WI, United States; [3]Biomedical Engineering, Chinese Academy of Medical Sciences & Peking Union Medical College, Beijing, China

1159. The Role of Neurovascular Coupling in Stroke Recovery

Evelyn Lake[1], Rafal Janik[1], Joydeep Chaudhuri[1], Greg J. Stanisz[1], Bojana Stefanovic[1]

[1]Sunnybrook Research Institute, Toronto, Ontario, Canada

1160. Brain on Fire: Temporal Standard Deviation of Resting State BOLD Signal Increases in Major Depressive Disorders

Masaya Misaki[1], Vadim Zotev[1], Raquel Phillips[1], Kymberly D. Young[1], Han Yuan[1], Jonathan Savitz[1, 2], Wayne C. Drevets[1], Jerzy Bodurka[1, 3]

[1]Laureate Institute for Brain Research, Tulsa, OK, United States; [2]Tulsa School of Community Medicine, University of Tulsa, Tulsa, OK, United States; [3]College of Engineering, University of Oklahoma, Tulsa, OK, United States

1161. Real-Time fMRI Neurofeedback Training of Amygdala in MDD Patients

Raquel Phillips[1], Kymberly Young[1], Vadim Zotev[1], Masaya Misaki[1], Han Yuan[1], Wayne C. Drevets[1], Jerzy Bodurka[1, 2]

[1]Laureate Institute for Brain Research, Tulsa, OK, United States; [2]College of Engineering, The University of Oklahoma, Tulsa, OK, United States

1162. Functional Connectivity in Posterior Cingulate Cortex Alters in Brain Concussion Patients at the Acute Stage

Armin Iraji[1], Valerie Mika[2], Jie Yang[2], Annalise Rahman[2], Grace Ma[2], Robert Welch[2], Randall Benson[2], Scott Millis[2], Hamid Soltanian-Zadeh[3], Ewart Mark Haacke[2], Zhifeng Kou[2]

[1]Biomedical Engineering, Wayne State University, Detroit , MI, United States; [2]Wayne State University, Detroit, MI, United States; [3]University of Tehran, Tehran, Iran

1163. Disruption of Natural Motion Perception in Dystonia Patients with DYT1 Mutation

Wataru Sako[1], An Vo[1], Aziz M. Ulug[1], David Eidelberg[1]

[1]Feinstein Institute for Medical Research, Manhasset, NY, United States

1164. Alteration Pattern of Gray Matter and Small-World Networks in the Human Brain Revealed by Quantitative Water Diffusivity from MRI.

Bing Zhang[1], Ming Li[1], Xin Zhang[1], Fei Chen[1], Huiting Wang[1], Fang Zhang[2], Jiange Zhang[2], Yun Xu[3], Bin Zhu[1]

[1]Department of Radiology, The Affiliated Drum Tower Hospital of Nanjing University Medical School, Nanjing, Jiangsu, China; [2]Department of biomedical engineering, Shanghai Jiao-tong University School of Medicine, Shanghai, China; [3]Neurology of Radiology, The Affiliated Drum Tower Hospital of Nanjing University Medical School, Nanjing, Jiangsu, China

1165. Affective Flattening in Schizophrenia Patients: Differential Association with Amygdala Response to Threat-Related Facial Expression Under Automatic and Controlled Processing Conditions. an fMRI Study
Harald Kugel[1], Christian Lindner[2], Udo Dannlowski[2, 3], Kirsten Walhöfer[2], Maike Roediger[2], Birgit Maisch[4], Jochen Bauer[2], Patricia Ohrmann[2], Rebekka Lencer[2], Pienie Zwitserlood[5], Anette Kersting[6], Walter Heindel[1], Volker Arolt[2], Thomas Suslow[6]
[1]Dept. of Clinical Radiology, University of Muenster, Muenster, NRW, Germany; [2]Dept. of Psychiatry, University of Muenster, Muenster, NRW, Germany; [3]Dept. of Psychiatry, University of Marburg, Marburg, HE, Germany; [4]Klinik am Schlossgarten Duelmen, Duelmen, NRW, Germany; [5]Dept. of Psychology, University of Muenster, Muenster, NRW, Germany; [6]Dept. of Psychosomatic Medicine and Psychotherapy, University of Leipzig, Leipzig, SN, Germany

1166. Altered Functional Connectivity Consistent with Associated Language Impairment in Rolandic Epilepsy
René M.H. Besseling[1], Jacobus Jansen[2], Geke Overvlier[3], Sylvie J. van der Kruijs[4], Johannes Vles[3], Saskia Ebus[4], Paul A.M. Hofman[2], Anton de Louw[4], Albert P. Aldenkamp[4], Walter H. Backes[2]
[1]Radiology, Maastricht University, Maastricht, Limburg, Netherlands; [2]Radiology, Maastricht University Medical Center, Maastricht, Limburg, Netherlands; [3]Neurology, Maastricht University Medical Center, Maastricht, Limburg, Netherlands; [4]Epilepsy Centre Kempenhaeghe, Heeze, Noord-Brabant, Netherlands

1167. Reduced Functional Connectivity of the Executive Network Predicts Mild Cognitive Impairment in Parkinson's Disease
Maryam Abaei[1], Stefan T. Schwarz[1], Nara Dashdorj[1], Nin Bajaj[2], Dorothee P. Auer[1]
[1]Radiological & Imaging Sciences, University of Nottingham, Nottingham, Nottinghamshire, United Kingdom; [2]Neurology, University Hospitals of Nottingham, Nottingham, Nottinghamshire, United Kingdom

1168. Investigation of Visual Perception Functions in Children with Down Syndrome : A Functional MRI Study
Hsin-Yun Lee[1], Cing-Sui Chiang[1], Yi-ting Wan[1], Yee-Pay Wuang[1], Yen-Yu Chiu[2], Sharon Chia-Ju Chen Chen[1]
[1]Kaohsiung Medical University, Kaohsiung, Taiwan, Taiwan; [2]KaohsiungMedical University Chung-Ho Memorial Hospital, Kaohsiung, Taiwan, Taiwan

1169. Understanding Socio-Behavioral Changes in Adolescents with Traumatic Brain Injury Using FMRI
Blessy Mathew[1], Evan Goldstein[2], Mark J. Lowe[1], Angela Ciccia[3]
[1]Cleveland Clinic, Cleveland, OH, United States; [2]Ohio State University, Columbus, OH, United States; [3]Case Western Reserve University, Cleveland, OH, United States

1170. Cerebral Hemodynamic Impairment Assessed with Resting State FMRI
Shiori Amemiya[1], Akira Kunimatsu[1], Kuni Ohtomo[1]
[1]Radiology, University of Tokyo, Tokyo, Japan

1171. Resting-State fMRI in a High-Field Intraoperative MR-Setting: Feasibility and Preliminary Results
Sotirios Bisdas[1], Constantin Roder[2], Edyta Charyasc[1], Michael Erb[1], Marcos Soares Tatagiba[2], Ulrike Ernemann[1], Uwe Klose[1]
[1]Neuroradiology, Eberhard Karls University, Tübingen, Germany; [2]Neurosurgery, Eberhard Karls University, Tübingen, Germany

1172. Disrupted Functional Brain Connectivity in the Salience Network of Post Stroke Depression Patients
Ji-Young Kim[1], Seong-Uk Jin[2], Jee-Hye Seo[2], Jang Woo Park[2], Jongsu Baek[2], Moon Han[2], Kyung-Eun Jang[2], Young-Hwan Lee[3], Yongmin Chang[4, 5]*
[1]Medical Science, Kyungpook National University School of Medicine, Daegu, Korea; [2]Medical & Biological Engineering, Kyungpook National University, Daegu, Korea; [3]Radiology, Catholic University Medical Center, Daegu, Korea; [4]Radiology, Kyungpook National University, Daegu, Korea; [5]Molecular Medicine, Kyungpook National University , Daegy, Korea

1173. Resting State Functional Connectivity Alterations of the Sensorimotor and Extra-Motor Networks in Primary Lateral Sclerosis

Massimo Filippi[1], Federica Agosta[2], Elisa Canu[2], Nilo Riva[3], Alberto Inuggi[1], Adriano Chiò[4], Stefano Messina[5], Sandro Iannaccone[6], Andrea Calvo[4], Vincenzo Silani[5], Paola Valsasina[2], Andrea Falini[7], Giancarlo Comi[3]
[1]Neuroimaging Research Unit, Institute of Experimental Neurology, Division of Neuroscience, San Raffaele Scientific Institute, Vita-Salute San Raffaele University, Milan, MI, Italy; [2]Neuroimaging Research Unit , Institute of Experimental Neurology, Division of Neuroscience, San Raffaele Scientific Institute, Vita-Salute San Raffaele University, Milan, MI, Italy; [3]Department of Neurology, Institute of Experimental Neurology, San Raffaele Scientific Institute, Vita-Salute San Raffaele University, Milan, MI, Italy; [4]Department of Neuroscience, University of Torino, Turin, TO, Italy; [5]Department of Neurology and Laboratory of Neuroscience, IRCCS Istituto Auxologico Italiano, Milan, MI, Italy; [6]Departement of Clinical Neuroscience, San Raffaele Scientific Institute, Vita-Salute San Raffaele University, Milan, MI, Italy; [7]Department of Neuroradiology and CERMAC, San Raffaele Scientific Institute, Vita-Salute San Raffaele University, Milan, MI, Italy

1174. Regional Homogeneity Abnormalities Affected by Depressive Symptoms in Migraine Patients Without Aura

Dahua Yu[1], Kai Yuan[1], Wei Qin[1], Jie Tian[1, 2]
[1]School of Life Sciences and Technology, Xidian University, China, xi'an, Shaan xi, China; [2]Institute of Automation, Chinese Academy of Sciences, Beijing, China

1175. Motor Cortex Functional Connectivity Signatures of Autism

Mary Beth Nebel[1, 2], Ani Eloyan[3], Anita Barber, [12], Brian S. Caffo[4], James J. Pekar, [12], Stewart H. Mostofsky[1, 2]
[1]Kennedy Krieger Institute, Baltimore, MD, United States; [2]Johns Hopkins School of Medicine, Baltimore, MD, United States; [3]Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, United States; [4]Johns Hopkins University, Baltimore, MD, United States

1176. Regional-Dependent Response Functions in Motor Areas Estimated from Multiple Clinical fMRI Measurements

Uwe Klose[1], Marion Batra[1], Benjamin Bender[1], Thomas Nägele[1]
[1]Dep. of Diagnostic and Interventional Neuroradiology, University Hospital Tuebingen, Tuebingen, Germany

1177. Resting-State Abnormalities in Adolescents with Internet Addiction Disorder: Amplitude of Low Frequency Fluctuation Study

Chenwang Jin[1], Kai Yuan[2], Netra Rana[1], Zhigang Min[1], Chen Niu[1], Yuan Wang[1], Ming Zhang[1], Wei Qin[2], Jie Tian[3]
[1]Medical Imaging and Nuclear Medicine, First Affiliated Hospital of Xi'an Jiaotong University, School of Medicine, Xi'an, Shaanxi, China; [2]Life Sciences Research Center, Xidian University, School of Life Sciences and Technology, Xi'an, Shaanxi, China; [3]China Institute of Automation,Chinese Academy of Sciences, Beijing, China

1178. Differentiation of Radiation-Injuries and Tumor Recurrence Using ADC Value

Yu Lin Wang[1]
[1]radiology, PLA general hospital, beijing, China

1179. Altered Functional Brain Connectome in the Behavioral Variant of Frontotemporal Dementia

Massimo Filippi[1, 2], Federica Agosta[1], Sara Sala[1, 3], Paola Valsasina[1], Alessandro Meani[1], Elisa Canu[1], Giuseppe ni[2], Stefano Francesco Cappa[4], Elisa Scola[5], Piero Quatto[3], Mark A. Horsfield[6], Andrea Falini[5], Giancarlo Comi[2]
[1]Neuroimaging Research Unit, Institute of Experimental Neurology, San Raffaele Scientific Institute, Vita-Salute San Raffaele University, Milan, MI, Italy; [2]Department of Neurology, Institute of Experimental Neurology, San Raffaele Scientific Institute, Vita-Salute San Raffaele University, Milan, MI, Italy; [3]Department of Statistics, University of Milano-Bicocca, Milan, MI, Italy; [4]Department of Clinical Neurosciences, Division of Neuroscience, San Raffaele Scientific Institute, Vita-Salute San Raffaele University, Milan, MI, Italy; [5]Department of Neuroradiology and CERMAC, San Raffaele Scientific Institute, Vita-Salute San Raffaele University, Milan, MI, Italy; [6]Medical Physics Group, Department of Cardiovascular Sciences, University of Leicester, Leicester Royal Infirmary, Leicester, Leicestershire, United Kingdom

1180. Altered Interoception and Resting-State Functional Connectivity in the Insular System of Cocaine Dependents

Yuzheng Hu[1], Hong Gu[1], Betty Jo Salmeron[1], Lia Liang[1], Elliot Stein[1], Yihong Yang[1]
[1]Neuroimaging Research Branch, National Institute on Drug Abuse, National Institutes of Health, Baltimore, MD, United States

1181. Probing Distraction to Cognitive Control Using Real-Time fMRI

Jeremy F. Magland[1], Anna Rose Childress[2]
[1]Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States; [2]Department of Psychiatry, University of Pennsylvania, Philadelphia, PA, United States

Traditional Poster
Imaging of Psychiatric Disorders
Exhibition Hall Thursday 13:30-15:30

1182. Structural and Functional Underconnectivity as a Negative Prognostic Marker for Language in Autism Spectrum Disorder.
Marjolein Verly[1], Judith Verhoeven[2], Inge Zink[1], Lieven Lagae[3], Nathalie Rommel[1], Stefan Sunaert[4]
[1]ExpORL, Department of Neurosciences, Catholic University of Leuven, Leuven, Belgium; [2]Epilepsy Center Kempenhaeghe, Heeze, Netherlands; [3]Child Neurology, University Hospitals of the Catholic University of Leuven, Leuven, Belgium; [4]Radiology, University Hospitals of the Catholic University of Leuven, Leuven, Belgium

1183. Optimizing Subcallosal Cingulate DBS for Treatment Resistant Depression Based on Structural Connectivity
ISMRM MERIT AWARD magna cum laude
Ki Sueng Choi[1], Patricio Riva Posse[2], Paul E. Holtzheimer[3], Cameron C. McIntyre[4], Xiaoping P. Hu[1], Helen S. Mayberg[2]
[1]BME, Georgia Institute of Technology / Emory University, Atlanta, GA, United States; [2]Psychiatry, Emory University, Atlanta, GA, United States; [3]Psychiatry and Surgery, Dartmouth-Hitchcock Medical Center, Lebanon, NH, United States; [4]BME, Cleveland Clinic, Cleveland, OH, United States

1184. Brain Bioenergics in Bipolar Depression: A Preliminary Phosphorus-31 Magnetization Transfer MR Spectroscopy Study
Xian-Feng Shi[1, 2], Paul Carlson[1, 2], Douglas G. Kondo[1, 2], Young-Hoon Sung[1, 2], Tracy L. Hellem[2], Lauren Forrest[2], Seong-Eun Kim[3], Chun Zuo[4], Eun-Kee Jeong[3], Perry F. Renshaw[1, 2]
[1]Department of Psychiatry, University of Utah, Salt Lake City, UT, United States; [2]The Brain Institute, University of Utah, Salt Lake City, UT, United States; [3]Department of Radiology, University of Utah, Salt Lake City, UT, United States; [4]Brain Imaging Center, Harvard Medical School, Belmont, MA, United States

1185. Real-Time fMRI Neurofeedback Training of Amygdala Alters Resting-State Default Mode Network Connectivity in Major Depressive Disorder
Han Yuan[1], Raquel Phillips[1], Kymberly D. Young[1], Vadim Zotev[1], Masaya Misaki[1], Jerzy Bodurka[1, 2]
[1]Laureate Institute for Brain Research, Tulsa, OK, United States; [2]College of Engineering, University of Oklahoma, Norman, OK, United States

1186. Disrupted Topological Organization of White Matter Structural Networks in Bipolar Disorder
Fuchun Lin[1], Shenhong Weng[2], Baojun Xie[3], Yunfei Zha[3], Hao Lei[1]
[1]State Key Laboratory of Magnetic Resonance and Atomic and Molecular Physics, Wuhan Institute of Physics and Mathematics,Chinese Academy of Sciences, Wuhan, Hubei, China; [2]Department of Psychiatry, Renmin Hospital, Wuhan University, Wuhan, Hubei, China; [3]Department of Radiology, Renmin Hospital, Wuhan University, Wuhan, Hubei, China

1187. Resting-State Networks and Dissociation in Psychogenic Non-Epileptic Seizures Studied Using ICA
Sylvie J. van der Kruijs[1], Shridhar Rajan Jagannathan[2], Nynke M. Bodde[3], René M.H. Besseling[1], Richard H. Lazeron[3], Kristl E. Vonck[4], Paul A. Boon[4], Pierre J. Cluitmans[2], Geert R. Langereis[5], Paul A.M. Hofman[1], Walter H. Backes[1], Albert P. Aldenkamp[3], Jacobus F.A. Jansen[1]
[1]Mental Health and Neuroscience, Maastricht University, Maastricht, Limburg, Netherlands; [2]Electrical Engineering, University of Technology, Eindhoven, Noord-Brabant, Netherlands; [3]Kempenhaeghe, Heeze, Noord-Brabant, Netherlands; [4]Neurology, Ghent University Hospital, Ghent, Belgium; [5]Industrial Design, University of Technology, Eindhoven, Noord-Brabant, Netherlands

1188. GABA and Glutamate Abnormalities in the Superior Temporal Gyrus and Their Association with Electrophysiological Abnormalities in Schizotypal Personality Disorder and Schizophrenia
Alexander Peter Lin[1], Sai K. Merugumala[1], Huijun Liao[1], Margaret Niznikiewicz[2], Kevin Spencer[3], Yoji Hirano[3], Robert McCarley[3]
[1]Center for Clinical Spectroscopy, Department of Radiology, Brigham and Women's Hospital, Boston, MA, United States; [2]Laboratory of Neuroscience , Veterans Affairs Boston Healthcare System, Brockton, MA, United States; [3]Laboratory of Neuroscience, Veterans Affairs Boston Healthcare System, Brockton, MA, United States

1189. Evidence of Pronounced Surface Deformation of the Subcortical Caudate Nucleus in Attention Deficit Hyperactivity Disorder Boys with a Comorbid Reading Disability
ISMRM MERIT AWARD magna cum laude
Dhruman Goradia[1], Sherry Vogel[1], Brianne Mohl[1], Caroline Zajac-Benitez[1], Dalal Khatib[1], Rachel Dick[1], Usha Rajan[1], Olivia McGarragle[1], David R. Rosenberg[1], Jeffrey A. Stanley[1]
[1]Psychiatry and Behavioral Neurosciences, Wayne State University School of Medicine, Detroit, MI, United States

1190. Neural Network Properties of Combat-Related PTSD
Leslie Yan[1]
[1]New York University, NEW YORK, United States

1191. Quantitative Tract-Based ROI Analysis: Altered Thalamo-Frontal Circuitry Conferred by Schizophrenia-Risk Gene NRXN1 Variant
David Rotenberg[1], *James Kennedy*[2, 3], *Benoit Mulsant,* [3,4], *Aristotle N. Voineskos*[1, 3], *Mallar Chakravarty*[1, 5]
[1]Research Imaging, Center for Addiction and Mental Health, Toronto, Ontario, Canada; [2]Neuroscience, Center for Addiction and Mental Health, Toronto, Ontario, Canada; [3]Department of Psychiatry, University of Toronto, Toronto, Ontario, Canada; [4]Geriatric Mental Health, Center for Addiction and Mental Health, Toronto, Ontario, Canada; [5]Institute of Biomaterials and Biomedical Engineering, University of Toronto, Toronto, Ontario, Canada

1192. High Resolution Mapping of Modafinil Induced Changes in Glutamate Level in Rat Brain
Mohammad Haris[1], *Anup Singh*[1], *Kejia Cai*[1], *Kavindra Nath*[2], *Feliks Kogan*[1], *Hari Hariharan*[1], *John A. Detre*[1], *C Neill Epperson*[3], *Ravinder Reddy*[1]
[1]CMROI, Radiology, University of Pennsylvania, Philadelphia, PA, United States; [2]Molecular Imaging, University of Pennsylvania, Philadelphia, PA, United States; [3]Psychiatry, University of Pennsylvania, Philadelphia, PA, United States

1193. fMRI Evidence of Increasing Disengagement of Sustained Attention-Related Activation with Increasing Age in ADHD Children
Brianne Mohl[1], *Dhruman Goradia*[1], *Dalal Khatib*[1], *Rachel Dick*[1], *Caroline Zajac-Benitez*[1], *Usha Rajan*[1], *Olivia McGarragle*[1], *Arthur L. Robin*[1], *David R. Rosenberg*[1], *Vaibhav A. Diwadkar*[1], *Jeffrey A. Stanley*[1]
[1]Psychiatry and Behavioral Neurosciences, Wayne State University School of Medicine, Detroit, MI, United States

1194. Neural Basis of the Association Between Remitted Geriatric Depression and APOE &[epsilon]4 Allele in the Nondemented Elderly
Hao Shu[1, 2], *Yonggui Yuan*[1, 3], *Chunming Xie*[1, 3], *Feng Bai*[1, 3], *Jiayong You*[4], *Lingjiang Li*[5], *Shi-Jiang Li*[2], *Zhijun Zhang*[1, 3]
[1]Medical College of Southeast University, Institute of Neuropsychiatry, Nanjing, Jiangsu, China; [2]Medical College of Wisconsin, Department of Biophysics, Milwaukee, WI, United States; [3]Affiliated ZhongDa Hospital of Southeast University, Department of Neuropsychiatry, Nanjing, Jiangsu, China; [4]Nanjing Brain Hospital Affliated to Nanjing Medical University, Department of Psychiatry, Nanjing, Jiangsu, China; [5]Second Xiangya Hospital of Central South University, Mental Health Institute, Changsha, Hunan, China

1195. Quantitative High Angular Resolution Diffusion Imaging (HARDI) Assessment of the Auditory Radiation in Autism
Jeffrey I. Berman[1, 2], *Matthew R. Lanza*[1], *Lisa Blaskey*[1], *Timothy P. Roberts*[1, 2]
[1]Radiology, Children's Hospital of Philadelphia, Philadelphia, PA, United States; [2]Radiology, University of Pennsylvania, Philadelphia, PA, United States

1196. Different Deficits of Cerebral Function Between Schizophrenia and Bipolar Disorder: A Resting-State Functional MRI Study
Li Yao[1], *Su Lui*[1], *Fei Li*[1], *Xun Yang*[1], *Godfrey Pearlson*[2], *Matcheri Keshavan*[3], *Carol Tamminga*[4], *Qiyong Gong*[1], *John Sweeney*[4]
[1]Department of Radiology, Huaxi MR Research Center, Chengdu, Sichuan, China; [2]Olin Neuropsychiatry Research Center, Institute of Living, Hartford, CT, United States; [3]Beth Israel Deaconness Medical Center, Boston, MA, United States; [4]Department of Psychiatry, University of Texas Southwestern Medical Center, Dallas, TX, United States

1197. Cortical Thinning in Young Psychosis and Bipolar Patients Correlate with Common Neurocognitive Deficits
Sean Nicholas Hatton[1], *Jim Lagopoulos*[1], *Daniel F. Hermens*[1], *Elizabeth Nicholas Scott*[1], *Ian B. Hickie*[1], *Maxwell R. Bennett*[1]
[1]Clinical Research Unit, Brain & Mind Research Institute, Camperdown, NSW, Australia

1198. Functional Connectivity with the Fear Circuitry in Combat-Related PTSD
Leslie Yan[1], *Mariana Lazar*[1], *Clare Henn-Haase*[1], *Charles Marmar*[1]
[1]New York University, New York, NY, United States

1199. Basal Ganglia Functional Connectivity in Combat-Related PTSD
Leslie Yan[1], Mariana Lazar[1], Clare Henn-Haase[1], Charles Marmar[1]
[1]New York University, NEW YORK, United States

1200. Shape Analysis of the Hippocampus and Caudate in First Episode Psychosis
Cathy Scanlon[1], Liam Kilmartin[2], Heike Schmidt[1], Shane McInerney[1], John McFarland[1], Anna Fullard[1], Sarah Hehir[1], Srinath Ambati[1], Joanne Kenney[1], Michael Murray[1], Jason Ridge[1], Dara Cannon[1], Colm McDonald[1]
[1]Clinical Neuroimaging Laboratory, Department of Psychiatry, National University of Ireland, Galway, Co. Galway, Ireland; [2]Department of Electrical and Electronic Engineering, National University of Ireland, Galway, Co. Galway, Ireland

1201. Alterations in Functional Connectivity in Default Network in Adolescent Internet Gaming Addiction
yan zhou[1], Yawen Sun[1], Weina Ding[1], Yong Zhang[2], Jianrong Xu[1]
[1]Radiology, Ren Ji Hospital, Jiao Tong University School of Medicine, shanghai, China; [2]GE healthcare, shanghai, China

1202. Abnormal Spontaneous Brain Activity in Drug-Naïve, First Episode Depression: A Resting-State fMRI Study
Hong Yang[1], Manli Huang[2], Qidong Wang[1], Zhan Feng[1]
[1]Department of Radiology, First Affiliated Hospital of College of Medical Science, Zhejiang University, Hangzhou, Zhejiang, China; [2]Department of Psychiatry, First Affiliated Hospital of College of Medical Science, Zhejiang University, Hangzhou, Zhejiang, China

1203. A Combined DTI and Structural MRI Study in Medicated-Naïve Chronic Schizophrenia
Liu Xiaoyi[1], Hong Nan[1], Chen Lei[1], Lai Yunyao[1], Hao Chuanxi[1], Yu Xin[2]
[1]radiology, people'hospital,Peking University,China, Beijing, China; [2]Peking University Sixth Hospital, Beijing, China

1204. Chronic Exposure of Neurotoxic Doses of D-Amphetamine Potentiates the Central Effect of an Acute Challenge with Methylphenidate.
A. Schrantee[1, 2], J.L. Tremoleda[2], M. Wylezinska-Arridge[2], W. Gsell[2], L. Reneman[1]
[1]Academic Medical Center, Amsterdam, Netherlands; [2]MRC Clinical Sciences Centre, Biological Imaging Centre, London, United Kingdom

1205. Temporal Dynamics of Distributed Brain Networks in Schizophrenia
Darren Price[1], Lena Palaniyappan[1], Peter F. Liddle[1], Elizabeth B. Liddle[1], Emma Louise Hall[1], Helen J. Smith[1], Mary C. Stephenson[1], Peter G. Morris[1], Matthew J. Brookes[1]
[1]SPMMRC, University of Nottingham, Nottingham, Nottinghamshire, United Kingdom

1206. J-Editing/MEGA-PRESS Time-Course Study of the Neurochemical Effects of Ketamine Administration in Healthy Humans
Lawrence S. Kegeles[1, 2], Xiangling Mao[3], Najate Ojeil[1], Raffael Massuda[1], Mariana Pedrini[1], Chi-Ming Chen[4], Mark Slifstein[1], Anissa Abi-Dargham[1, 2], Matthew S. Milak[1], Carolyn Rodriguez[1], Dikoma C. Shungu[3]
[1]Psychiatry, Columbia University, New York, NY, United States; [2]Radiology, Columbia University, New York, NY, United States; [3]Radiology, Weill Cornell Medical College, New York, NY, United States; [4]Psychology, University of Connecticut, Storrs, CT, United States

1207. A Proton MRS Study of Brain in Patients with OCD and Their First Degree Relatives
Sundar Gnanavel[1], Pratap Sharan[2], Sudhir Khandelwal[2], Uma Sharma[3], Jagannathan NR[4], Rani Gupta Sah[4]
[1]Psychiatry, AIIMS, New Delhi, Select State, India; [2]Psychiatry, AIIMS, New Delhi, Delhi, India; [3]NMR, AIIMS, New Delhi, Select State, India; [4]NMR, AIIMS, New Delhi, Delhi, India

Traditional Poster
Head & Neck

Exhibition Hall Thursday 13:30-15:30

1208. Usefulness of Pseudo Continuous Arterial Spin Labeling for Head and Neck Squamous Cell Carcinoma
Noriyuki Fujima[1], Daisuke Yoshida[1], Tomohiro Sakashita[2], Akihiro Homma[2], Yuriko Suzuki[3], Hiroyuki Sugimori[1], Khin Khin Tha[4], Satoshi Terae[1], Hiroki Shirato[4]
[1]Radiology, Hokkaido University Hospital, Sapporo, Hokkaido, Japan; [2]Head and Neck Surgery, Hokkaido University Hospital, Sapporo, Hokkaido, Japan; [3]Philips Electronics Japan, Minato-ku, Tokyo, Japan; [4]Radiology, Hokkaido University, Graduate School of Medicine, Sapporo, Hokkaido, Japan

1209. Role of Diffusion Weighted Magnetic Resonance Imaging in Stratifying Tumor Aggressiveness in Papillary Thyroid Carcinoma

Amita Shukla-Dave[1], Yonggang Lu[1], Ashok R. Shaha[1], Hilda E. Stambuk[1], Andre E. Moreira[1], Yousef Mazaheri[1], Joseph O. Deasy[1], R. Michael Tuttle[1]
[1]Memorial Sloan-Kettering Cancer Center, New York, United States

1210. Simultaneous Diffusion-Weighted MRI of Brain and Cervical Spinal Cord Using a 64-Channel Head-Neck Array Coil at 3T

Boris Keil[1], Julien Cohen-Adad[1, 2], David A. Porter[3], Stephan Biber[3], Keith A. Heberlein[4], Christina Triantafyllou[1], Lawrence L. Wald[1, 5]
[1]A.A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Harvard Medical School, Charlestown, MA, United States; [2]Department of Electrical Engineering, Ecole Polytechnique de Montreal, Montreal, Quebec, Canada; [3]MR R&D, Siemens AG, Healthcare Sector, Erlangen, Germany; [4]Siemens Medical Solution USA, Siemens Healthcare USA, Charlestown, MA, United States; [5]Health Science and Technology, Harvard-MIT, Cambridge, MA, United States

1211. Textural Analysis of Echo-Planar Diffusion-Weighted Imaging Improves Preoperative Characterisation of Suspected Thyroid Tumours

Anna M. Brown[1, 2], Sidhartha Nagala[3], Daniel Scoffings[4], Mary McLean[2], Andrew N. Priest[4], Piyush Jani[3], John Griffiths[2]
[1]School of Medicine, Duke University, Durham, NC, United States; [2]Department of Oncology, University of Cambridge, Cambridge, Cambridgeshire, United Kingdom; [3]Department of Otolaryngology, Addenbrooke's Hospital, University of Cambridge, Cambridge, Cambridgeshire, United Kingdom; [4]Department of Radiology, Addenbrooke's Hospital, University of Cambridge, Cambridge, Cambridgeshire, United Kingdom

1212. New Acquisition and Analysis for Segmentation of the Intraorbital Optic Nerve *in vivo* at 3T

Marios C. Yiannakas[1], Ahmed T. Toosy[1], Rhian E. Raftopoulos[1], Raj Kapoor[1], David H. Miller[1], Claudia Angela M. Wheeler-Kingshott[1]
[1]NMR Research Unit, Queen Square MS Centre, Department of Neuroinflammation, UCL Institute of Neurology, London, WC1N 3BG, United Kingdom

1213. Visualization of Pulsatile CSF Motion Separated by Membrane-Like Structure Based on Four-Dimensional Phase-Contrast (4D-PC) Velocity Mapping

Akihiro Hirayama[1], Satoshi Yatsushiro[2], Hideki Atsumi[1], Mitsunori Matsumae[1], Kagayaki Kuroda[2]
[1]Neurosurgery, Tokai university, Isehara, Kanagawa, Japan; [2]Human and information Science, Tokai University, Hiratsuka, Kanagawa, Japan

1214. Value of 2D Phase Contrast-MRI for Investigation of Facial Hemodynamic: Preliminary Result in a Face Allograph Woman

Olivier Baledent[1], Stephanie Dakpe[1], Cyrille Capel[1], Malek I. Makki[2], Roger Bouzerar[1], Sylvie Testelin[1], bernard devauchelle[1]
[1]university hospital, amiens, picardie, France; [2]university hospital, zurich, Switzerland

1215. The Value of Pre-Treatment Dynamic Contrast-Enhanced MR Imaging and Tumor Volume in the Prediction of Nasopharyngeal Carcinoma with Distant Metastasis - A Pilot Study

Shy-Chyi Chin[1, 2], Yu-Shi Lin, [23], Ho-Ling Liu, [12]
[1]Medical Imaging and Intervention, Linkou Chang Gung Memorial Hospital, Taoyuan, Taiwan; [2]Medical Imaging and Radiological Sciences, Chang Gung University, Taoyuan, Taiwan; [3]Diagnostic Radiology, Keelung Chang Gung Memorial Hospital, Keelung, Taiwan

1216. Tagged MRI of Ocular Tissues at 3T and 7T

Thomas Stewart Denney Jr[1, 2], Nouha Salibi[3], Ronald J. Beyers[1], Paul Gamlin[4]
[1]AU MRI Research Center, Auburn University, Auburn, AL, United States; [2]Electrical and Computer Engineering, Auburn University, Auburn, AL, United States; [3]Research Collaborations, Siemens Medical Solutions USA, Inc, Auburn, AL, United States; [4]Department of Vision Sciences, University of Alabama Birmingham, Birmingham, AL, United States

1217. Comparison of MRI of the Neck with External Findings in Survived Manual Strangulation

Kathrin Ogris[1, 2], Thomas Widek[1], Sonja Monika Pivec[1, 3], Thomas Ehammer[1], Gerlinde Komatz[4], Sabine Grassegger[1, 2], Kathrin Yen[5], Eva Scheurer[1, 2]

[1]Ludwig Boltzmann Institute for Clinical- Forensic Imaging, Graz, Styria, Austria; [2]Medical University Graz, Graz, Styria, Austria; [3]UKH Graz, Graz, Styria, Austria; [4]MRI Institute Private Clinic of the Holy Sisters, Graz, Styria, Austria; [5]Institue of Forensic and Traffic Medicine, University of Heidelberg, Heidelberg, Germany

1218. To Investigate the Motion Artifact of Diffusion Weighted MRI in Parotid

Yi-Hsiung Lee[1], Yi-Jui Liu[2], Hing-Chiu Chang[3], Chun-Jung Juan[4], Teng-Yi Huang[5], Fu-Nien Wang[6]

[1]Ph. D. Program of Electrical and Communications Engineering, Feng Chia University, Taichung, Taiwan; [2]Department of Automatic Control Engineering, Feng Chia University, Taichung, Taiwan; [3]Brain Imaging and Analysis Center, Duke University, Durham, NC, United States; [4]Department of Radiology, Tri-Service General Hospital, Taipei, Taiwan; [5]Department of Electrical Engineering, National Taiwan University of Science and Technology, Taipei, Taiwan; [6]Department of Biomedical Engineering and Environmental Sciences College of Nuclear Science, National Tsing Hua University, Hsinchu, Taiwan

1219. Measurement of Magnetization Transfer Effects in the Brachial Plexus: Comparison with T2 and Diffusion Effects

Zaid Bin Mahbub[1], Andrew Peters[1], K Siddique Rabbani[2], Olivier E. Mougin[1], Penelope A. Gowland[1]

[1]SPMMRC, School of Physics & Astronomy, University of Nottingham, Nottingham, Nottinghamshire, United Kingdom; [2]Department of Biomedical Physics and Technology, University of Dhaka, Dhaka, Bangladesh

1220. Relaxation Effects of Oxygen on T2 and T1 with Application to Vitreous PO2 Measurement

Eric R. Muir[1], Yi Zhang[1], Jinqi Li[1], Oscar San Emeterio Nateras[1], Wei Zhou[1], Timothy O. Duong[2]

[1]Research Imaging Institute, University of Texas Health Science Center, San Antonio, TX, United States; [2]Research Imaging Institute, UT Health Science Center at San Antonio, San Antonio, TX, United States

1221. High Resolution 3T MR Imaging of the Cochlea Using Composite Gradients and Intratympanic Gadolinium in an Animal Model

Travis A. Abele[1], K. Craig Goodrich[2], Seong-Eun Kim[2], Gretchen Mae Oakley[3], Joshua D. Kaggie[2], J. Rock Hadley[2], Dennis L. Parker[2], Richard H. Wiggins III[1, 3]

[1]Radiology, University of Utah Health Sciences Center, Salt Lake City, UT, United States; [2]UCAIR, University of Utah, Salt Lake City, UT, United States; [3]Surgery, Division of Otolaryngology, University of Utah Health Sciences Center, Salt Lake City, UT, United States

1222. Diffusion Tensor Imaging of Extraocular Muscle Using 2D-Single-Shot Interleaved Multiple Inner Volume Imaging Diffusion-Weighted EPI at 3T

Hyung Suk Seo[1], Seong-Eun Kim[2], John Rose[2], J Rock Hardley[2], Dennis L. Parker[2], Eun-Kee Jeong[2]

[1]Radiology, Korea University, Ansan-si, Gyeonggi-do, Korea; [2]Radiology, Utah Center for Advanced Imaging Research, University of Utah, Salt Lake City, UT, United States

1223. The Diagnostic Value of 3D-FLAIR MRI After Intratympanic Administration of Gd-DTPA in Meniere's Disease

Honglu Shi[1], Guangbin Wang[1], Daogong Zhang[1], Weibo Chen[2], Queenie Chan[3]

[1]Shandong Medical Imaging Research Institute, Jinan, Shandong, China; [2]Philips Healthcare, Shanghai, China; [3]Philips Healthcare, Hong Kong, China

1224. Contrast Reagent Detection Sensitivity Increases with B_0: 3T and 7 T Comparisons of Human Head

William D. Rooney[1], Manoj K. Sammi[1], John Grinstead[1, 2], Jim Pollaro[1], Audrey H. Selzer[1], Xin Li[1], Charles Springer[1]

[1]Advanced Imaging Research Center, Oregon Health & Science University, Portland, OR, United States; [2]Siemens Healthcare USA, Malverne, PA, United States

1225. High Resolution Inner Ear Imaging at 7 Tesla

Maarten J. Versluis[1, 2], Wyger M. Brink[1, 2], Wouter M. Teeuwisse[1, 2], Andrew G. Webb[1, 2], Matthias J.P. van Osch[1, 2], Berit M. Verbist[1]

[1]Radiology, Leiden University Medical Center, Leiden, Netherlands; [2]CJ Gorter Center for high field MRI, Leiden University Medical Center, Leiden, Netherlands

1226. Variation of Myelin Water Fraction as a Function of TR

Saeed Kalantari[1], Nazanin Komeilizadeh[2], Irene Vavasour[1], Ramin S. Sahebjavaher[3], Alex L. MacKay[1]
[1]UBC MRI Research Centre, Vancouver, BC, Canada; [2]Simon Fraser University, Burnaby, BC, Canada; [3]Department of Electrical and Computer Engineering, UBC, Vancouver, BC, Canada

1227. Characterizing Longitudinal Relaxation in Bovine Brain White Matter *ex vivo*

Saeed Kalantari[1], Radim Barta[2], Nazanin Komeilizadeh[3], Carl Michal[2], Alex L. MacKay[1], [2]
[1]UBC MRI Research Centre, Vancouver, BC, Canada; [2]Department of Physics, UBC, Vancouver, BC, Canada; [3]Simon Fraser University, Burnaby, BC, Canada

1228. Assessment of Velopharyngeal Function with Multi-Planar High-Resolution Real-Time Spiral Dynamic MRI

Xue Feng[1], Josh Inouye[2], Silvia Blemker[1], Kant Lin[3], Kathleen Borowitz[3], Talissa A. Altes[4], Tracy Kovach[3], Walid El-Nahal[3], Katie Pelland[2], Craig H. Meyer[1, 4]
[1]Biomedical Engineering, University of Virginia, Charlottesville, VA, United States; [2]Mechanical and Aerospace Engineering, University of Virginia, Charlottesville, VA, United States; [3]Medicine, University of Virginia, Charlottesville, VA, United States; [4]Radiology, University of Virginia, Charlottesville, VA, United States

1229. Combined Radial Acquisition and Regularized Reconstruction for Accelerated Vocal Tract Imaging

Michael Burdumy[1, 2], Matthias Echternach[2], Bernhard Richter[2], Jan G. Korvink[3, 4], Jürgen Hennig[1], Maxim Zaitsev[1]
[1]Medical Physics, University Medical Center Freiburg, Freiburg, Germany; [2]Department of Musicians' Medicine, University Medical Center Freiburg, Freiburg, Germany; [3]IMTEK, University of Freiburg, Freiburg, Germany; [4]FRIAS, Freiburg, Germany

1230. Characterization of Head and Neck Tumors in a Simultaneous Whole-Body MR/PET Scanner Using Diffusion-Weighted Imaging and FDG-PET

Christina Schraml[1], Petros Martirosian[2], Cornelia Brendle[1], Holger Schmidt[1, 3], Mark Mueller[4], Claus D. Claussen, Christina Pfannenberg[1], Nina F. Schwenzer[1]
[1]Diagnostic and Interventional Radiology, University Department of Radiology, Tuebingen, BW, Germany; [2]Section on Experimental Radiology, University Department of Radiology, Tuebingen, BW, Germany; [3]Laboratory for Preclinical Imaging and Imaging Technology of the Werner Siemens-Foundation, Department of Radiology, Tuebingen, BW, Germany; [4]Nuclear Medicine, University Department of Radiology, Tuebingen, BW, Germany

1231. Pretreatment Dynamic Contrast-Enhanced and Diffusion MRI in Predicting Locoregional Control in Oropharyngeal or Hypopharyngeal Cancer Treated with Chemoradiation

Yu-Chun Lin[1], Jiun-jie Wang[2], Shu-Hang Ng[1]
[1]Department of Medical Imaging and Intervention, Chang Gung Memorial Hospital, Linkou, 333, Taiwan; [2]Department of Medical Imaging and Radiological Sciences, Chang Gung University, Taoyuan, 333, Taiwan

1232. Multi-Echo Susceptibility-Weighted Imaging with Adaptive Averaging

Chou-Ming Cheng[1, 2], Hsiao-Wen Chung[1], Hing-Chiu Chang[3, 4], Tzu-Chen Yeh[5, 6], Jen-Chuen Hsieh[7, 8], Shing-Jong Lin[7], Chao-Ying Wang[9]
[1]Graduate Institute of Biomedical Electronics and Bioinformatics, National Taiwan University , New Taipei City, Taiwan, Taiwan; [2]Department of Medical Research and Education, Taipei Veterans General Hospital, Taipei, Taiwan; [3]Graduate Institute of Biomedical Electronics and Bioinformatics, National Taiwan University, New Taipei City, Taiwan, Taiwan; [4]GE Healthcare, Global Applied Science Laboratory, Taipei, Taiwan; [5]Department of Radiology, Taipei Veterans General Hospital, Taipei, Taiwan, Taiwan; [6]Institute of Brain Science, National Yang-Ming University, Taipei, Taiwan, Taiwan; [7]Department of Medical Research and Education, Taipei Veterans General Hospital, Taipei, Taiwan, Taiwan; [8]Institute of Brain Science, National Yang-Ming University, Taipei, Taiwan, Taiwan; [9]Department of Radiology, Tri-Service General Hospital, Taipei, Taiwan, Taiwan

1233. MR Imaging of Meniere's Disease by Intratympanic (IT) and Intravenous (IV) Injection of Gd-DTPA: Double Contrast Injection and a Novel Imaging Strategy, HYDROPS2 for IT+IV

Shinji Naganawa[1], Masahiro Yamazaki[1], Hisashi Kawai[1], Kiminori Bokura[1], Michihiko Sone[2], Tsutomu Nakashima[2]
[1]Department of Radiology, Nagoya University Graduate School of Medicine, Nagoya, Aichi, Japan; [2]Department of Otorhinolaryngology, Nagoya University Graduate School of Medicine, Nagoya, Aichi, Japan

1234. To Investigate the Deep-Gray Nuclei Susceptibility-Weighted Imaging Fltered Phase Shift in Patients with Wilson's Disease
Xue Bai[1, 2], Guangbin Wang[1], Lebin Wu[1], Yube Liu[1], Honglu Shi[1]
[1]Shandong Medical Imaging Research Institute, Jinan, Shandong, China; [2]324#, Jingwu Road, Jinan 250021, Jinan, P.R. China, Jinan, Shandong, China

1235. Caught Sleeping: Recording of Snoring During a Real-Time MRI Scan
Yoon-Chul Kim[1], Michael I. Proctor[2], Michael C.K. Khoo[3], Shrikanth S. Narayanan[1], Krishna S. Nayak[1]
[1]Electrical Engineering, University of Southern California, Los Angeles, CA, United States; [2]Linguistics, University of Western Sydney, Sydney, Australia; [3]Biomedical Engineering and Pediatrics, University of Southern California, Los Angeles, CA, United States

Traditional Poster
Novel Neuroimaging Methods

Exhibition Hall Thursday 13:30-15:30

1236. T2* Measurement of the Pituitary with Susceptibility Artifact Compensation at 3T
Yoonho Nam[1], Eung Yeop Kim[2], Dong-Hyun Kim[1]
[1]School of Electrical and Electronic Engineering, Yonsei University, Seoul, Korea; [2]Department of Radiology, University Hospital, Cincinnati, OH, United States

1237. Vessel Density Imaging in Normal Human Brain Using Ferumoxytol
Helen Erica D'Arceuil[1], Alex de Crespigny[2], Michael E. Moseley[3], Francis Blankenberg[4], Maarten Lansberg[5]
[1]Diagnostic Radiology, Stanford, Stanford, CA, United States; [2]Genentech Inc, South San Francisco, CA, United States; [3]Diagnostic Radiology, Stanford University, Stanford, CA, United States; [4]Pediatric Radiology, Stanford Hospital and Clinics, Palo Alto, CA, United States; [5]Neurology and Neurological Sciences, Stanford Stroke Center, Stanford Hospital and Clinics, Stanford, CA, United States

1238. Measurement of Brain Oxygen Saturation Using Near Infrared Spectroscopy and Susceptibility Maps
M. Ayaz Khan[1, 2], Jie Liu[1, 2], Jaladhar Neelavalli[3, 4], Saifeng Liu[5], Ewart Mark Haacke[3, 5], Rong Zhang[1, 2]
[1]Cardiology, University of Texas Southwestern Medical Center, Dallas, TX, United States; [2]Institute for Exercise and Environmental Medicine, Dallas, TX, United States; [3]Biomedical Engineering Department, Wayne State University, Detroit, MI, United States; [4]Radiology, Wayne State University, Detroit, MI, United States; [5]Biomedical Engineering Department, McMaster University, Hamilton, Ontario, Canada

1239. Metabolic Alterations in Corpus Callosum May Compromise Brain Functional Connectivity in MTBI Patients: An 1H-MRS Study
Brian Johnson[1], Semyon Slobounov[1], Wayne Sebastianelli[1], Thomas Neuberger[1]
[1]The Pennsylvania State University, University Park, PA, United States

1240. Automatic Nonlinear Transformation to Talairach Stereotaxic Space with Quality Assurance
Mingyi Li[1], Blessy Mathew[1], Katherine Koenig[1], Jian Lin[1], Michael Phillips[1], Mark J. Lowe[1]
[1]Cleveland Clinic, Cleveland, OH, United States

1241. Reduced Amygdala Volume in Smokers
Florian Schubert[1], Simone Kühn[2], Ralf Mekle[1], Jürgen Gallinat[3], Bernd Ittermann[1]
[1]Physikalisch-Technische Bundesanstalt, Berlin, Germany; [2]MPI for Human Development, Berlin, Germany; [3]Charite University Medicine, Berlin, Germany

1242. Feasibility of Atlas-Based Segmentation of the Brain in the Presence of Tumor by a Weighted Least-Squares Demons Algorithm
Tom Haeck[1, 2], Thijs Dhollander[1, 2], Frederik Maes[1, 2], Stefan Sunaert[1, 3], Paul Suetens[1, 2]
[1]Medical Imaging Research Center (MIRC), KU Leuven, Leuven, Belgium; [2]Center for Processing Speech and Images (PSI), Department of Electrical Engineering (ESAT), KU Leuven, Leuven, Belgium; [3]Department of Radiology, University Hospitals of the KU Leuven, Leuven, Belgium

1243. Volumetric Effects of Hormonal Contraceptives and Menstrual Cycle Phase in the Fusiform Gyrus: A VBM Study

Timo De Bondt[1, 2], Wim Van Hecke[3], Jan Sijbers[4], Yves Jacquemyn[5], Stefan Sunaert[6], Paul M. Parizel[1, 2]
[1]Radiology, Antwerp University Hospital, Antwerp, Belgium; [2]Radiology, University of Antwerp, Antwerp, Belgium; [3]icoMetrix, Leuven, Belgium; [4]Physics, University of Antwerp, Antwerp, Belgium; [5]Gynaecology and Obstaetrics, Antwerp University Hospital, Antwerp, Belgium; [6]Radiology, University Hospitals of the Catholic University Leuven, Leuven, Belgium

1244. Brain Temperature and Brain Energy Changes During Tasks and Light Anesthesia: Estimation with MRS

Yoshichika Yoshioka[1, 2], Hiroshi Oikawa[3], Yoshiyuki Kanbara[4], Yutaka Matsumura[4], Takashi Inoue[5], Yutaka Shinohe[6], Shigeharu Joh[6], Tsuyoshi Matsuda[7], Akira Nabatani[8], Junji Seki[9]
[1]Immunology Frontier Research Center (WPI-IFReC), Osaka University, Suita, Osaka, Japan; [2]Center for Information and Neural Networks (CiNet), National Institute of Information and Communications Technology, and Osaka University, Suita, Osaka, Japan; [3]Radiology, Ninohe Hospital, Ninohe, Iwate, Japan; [4]High Field MRI Research Institute, Iwate Medical University, Takizawa, Iwate, Japan; [5]Neurosurgery, Kohnan Hospital, Sendai, Miyagi, Japan; [6]Dental Anesthesiology, Iwate Medical University, Morioka, Iwate, Japan; [7]Applied Science Laboratory, GE Healthcare Japan, Hino, Tokyo, Japan; [8]Madical Imaging Strategic Planning Div., Canon, Ohtaku, Tokyo, Japan; [9]National Cerebral and Cardiovascular Center, Suita, Osaka, Japan

1245. Voxel-Based Morphometric Analysis of Brain in Welders with Chronic Manganese Exposure

Seong-Uk Jin[1], Jeehye Seo[1], Jang Woo Park[1], Moon Han[1], Yongmin Chang[1, 2], Kyung Jin Suh[3]
[1]medical & Biological Engineering, Kyungpook National University, Daegu, Korea; [2]Radioloty and molecular medicine, Kyungpook National University, Daegu, Korea; [3]Radiology, College of Medicine, Dongguk University, Gyungju, Korea

1246. Tract Specific Analysis Reveals the Impact of Childhood Manganese Exposure on the Corpus Callosum

Yi Lao[1, 2], Laurie Anne Dion[3], Fernando Yepes,[24], Guillaume Gilbert[5, 6], Maryse Bouchard[5], Dave Saint Amour^[3], Natasha Lepore[1, 2]*
[1]University of Southern California, Los Angeles, CA, United States; [2]Children's Hospital Los Angeles, Los Angeles, CA, United States; [3]Université du Québec à Montréal, Montreal, QC, Canada; [4]University of Barcelona, Barcelona, Cataluña, Spain; [5]Université de Montréal, Montréal, QC, Canada; [6]Philips Healthcare, Montreal, QC, Canada

1247. Effect of Exenatide (A Weight Loss Drug) on fMRI Response to Food-Cues in Lean and Obese

Claudia Huerta[1], Roy Eldor[1], Muhammad Abdul-Ghani[1], Ralph DeFronzo[1], Timothy O. Duong[2]
[1]UTHSCSA, San Antonio, TX, United States; [2]UT Health Science Center at San Antonio, San Antonio, TX, United States

1248. Quantitative Study of Changes in Multi-Parametric MRI Markers Post-Laser Interstitial Ablation Therapy (LITT) for Epilespy

Pallavi Tiwari[1], Shabbar Danish[2], Anant Madabhushi[1]
[1]Biomedical Engineering, Case Western Reserve University, Cleveland, OH, United States; [2]Neurology, University of Medicine and Dentistry, New Jersey, New Brunswick, NJ, United States

1249. Multi-Spectral Quantitative Regional MRI Analysis in Patients with Temporal Lobe Epilepsy

Diego Cantor[1], Terry Peters[2], Ali Khan[2]
[1]Robarts Research - Imaging Labs, Western University, London, ON, Canada; [2]Imaging Labs, Robarts Research, London, ON, Canada

1250. Test-Retest Reproducibility of T1rho Mapping in Brain at 3T

Trevor Andrews[1, 2], Scott Hipko[2], Jay Gonyea[2], Richard Watts[2]
[1]Philips Healthcare, Cleveland, OH, United States; [2]Department of Radiology, University of Vermont College of Medicine, Burlington, VT, United States

1251. CNR-Optimised MT Mapping for Improved Visualisation of the Substantia Nigra

Arjun Sethi[1], Nicholas G. Dowell[2], Neil A. Harrison[1], Mara Cercignani[1]
[1]CISC, Brighton & Sussex Medical School, Brighton, United Kingdom; [2]CISC, Brighton and Sussex Medical School, Brighton, United Kingdom

1252. Combined Diffusion and T2 Parameter Measures Identify Early Onset Cytosolic Oedema in Simulated Altitude Induced Hypoxia
Justin Stevan Lawley[1], Paul Gerald Mark Mullins[2], Sam Oliver[1], Jamie Macdonald[1]
[1]School of Sport Health and Exercise Sciences, Bangor University, Bangor, United Kingdom; [2]School of Psychology, Bangor University, Bangor, United Kingdom

1253. Cerebral Blood Flow: Comparison Between Ultrasound and Phase Contrast MRI
M. Ayaz Khan[1, 2], Jie Liu[1, 2], Peiying Liu[3], David Zhu[4], Hanzhang Lu[3], Rong Zhang[1, 2]
[1]Cardiology, University of Texas Southwestern Medical Center, Dallas, TX, United States; [2]Institute for Exercise and Environmental Medicine, Dallas, TX, United States; [3]Advance Imaging Research Center, University of Texas Southwestern Medical Center, Dallas, TX, United States; [4]Cognitive Imaging Research Center, Michigan State University, East Lancing, MI, United States

1254. Physiology-Based MRI Assessment of CSF Flow at the Foramen Magnum with a Valsalva Maneuver
Samuel Patz[1, 2], Yansong Zhao[3], Neel Madan[4], Mark E. Wagshul[5], James P. Butler, [26], Rafeeque A. Bhadelia, [27]
[1]Radiology, Brigham & Women's Hospital, Boston, MA, United States; [2]Harvard Medical School, Boston, MA, United States; [3]Philips Healthcare, Columbus, OH, United States; [4]Radiology, Tufts Medical Center, Boston, MA, United States; [5]Gruss Magnetic Resonance Research Center, Albert Einstein College of Medicine, Bronx, NY, United States; [6]Sleep Medicine, Brigham & Women's Hospital, Boston, MA, United States; [7]Radiology, Beth Isarael Deaconess Medical Center, Boston, MA, United States

Traditional Poster
Manganese Enhanced MRI

Exhibition Hall Thursday 13:30-15:30

1255. A Surface Diffusion Method for Cortical Mn Administration in MEMRI
ISMRM MERIT AWARD magna cum laude
Wenwen A. Han[1, 2], Shu-Juan J. Fan[1, 2], Ed X. Wu[1, 2]
[1]Laboratory of Biomedical Imaging and Signal Processing, The University of Hong Kong, Hong Kong SAR, China; [2]Department of Electrical and Electronic Engineering, The University of Hong Kong, Hong Kong SAR, China

1256. Transcallosal Connectivity Changes in Rodent Visual Cortex Following Monocular Enucleation or Light Deprivation: An MEMRI Study
ISMRM MERIT AWARD magna cum laude
Shu-Juan J. Fan[1, 2], Ed X. Wu[1, 2]
[1]Laboratory of Biomedical Imaging and Signal Processing, The University of Hong Kong, Hong Kong, China; [2]Department of Electrical and Electronic Engineering, The University of Hong Kong, Hong Kong, China

1257. Aging Deficits in Axonal Transport Are Exacerbated by Abeta Plaques: An MEMRI Study
Elaine L. Bearer[1, 2], Joseph J. Gallagher[2], Aaron Gonzales[3], XiaoWei Zhang[2], Russell E. Jacobs[4]
[1]Pathology, University of New Mexico, Health Sciences Center, Albuquerque, NM, United States; [2]Biology, California Institute of Technology, Pasadena, CA, United States; [3]Pathology, University of New Mexico, Health Sciences Center, Abuquerque, NM, United States; [4]Beckman Institute, California Institute of Technology, Pasadena, CA, United States

1258. Interhemispheric Connectivity in MEMRI Correlates with Interhemispheric in Resting-State fMRI
ISMRM MERIT AWARD magna cum laude
Russell W. Chan[1, 2], Iris Y. Zhou[1, 2], Shu Juan J. Fan[1, 2], Ed X. Wu[1, 2]
[1]Laboratory of Biomedical Imaging and Signal Processing, The University of Hong Kong, Hong Kong SAR, China; [2]Department of Electrical and Electronic Engineering, The University of Hong Kong, Hong Kong SAR, China

1259. Deconvolving the Intra- And Extracellular Water Components in the Rat Brain Using Manganese-Enhanced MRI (MEMRI)
Mohammed Salman Shazeeb[1, 2], Christopher H. Sotak, [12]
[1]Radiology, University of Massachusetts Medical School, Worcester, MA, United States; [2]Biomedical Engineering, Worcester Polytechnic Institute, Worcester, MA, United States

1260. Intratympanic Manganese Administration Revealed Sound Intensity and Frequency Dependent Functional Activity in Rat Auditory Pathway
Mun Han[1], Seong-Uk Jin[1], Jae-Jun Lee[2], Kwan Soo Hong[2], Yongmin Chang[1, 3]
[1]Medical & Biological Engineering, Kyungpook National University, Daegu, Gyeongsangbuk-do, Korea; [2]Division of Magnetic Resonance, Korea Basic Science Institute, Cheongwon, Gyeonggi-do, Korea; [3]Department of Radiology & Molecular Medicine, College of Medicine, Kyungpook National University, Daegu, Gyeongsangbuk-do, Korea

1261. An Improved Activity-Induced Manganese-Dependent MRI Study of the Rat Barrel Cortex
Nathalie Just[1], Mario Lepore[1], Hanne Frenkel[1], Rolf Gruetter[2, 3]
[1]CIBM-AIT, EPFL, Lausanne, Switzerland; [2]CIBM-AIT, École Polytechnique Fédérale de Lausanne, Lausanne, Switzerland; [3]Department of Radiology, Universities of Lausanne and Geneva, Lausanne and Geneva, Switzerland

1262. Manganese-Enhanced MRI (MEMRI) for Investigating a Genetic Rat Epilepsy Model
Lydia Wachsmuth[1], Thomas Seidenbecher[2], Thomas Budde[2], Cornelius Faber[1]
[1]Clinical Radiology, Experimental NMR, University Hospital Münster, Münster, Germany; [2]Clinical Radiology, Experimental NMR, Westfälische Wilhelms University, Münster, Germany

1263. Manganese Enhanced MRI Reveals Stimulus-Evoked Neuronal Activation in Aplysia Californica
Guillaume Radecki[1], Ileana Ozana Jelescu[1], Romuald Nargeot[2], Denis Le Bihan[1], Luisa Ciobanu[1]
[1]Neurospin, CEA, Gif sur Yvette, France; [2]Institut de Neurosciences cognitives et intégratives d'Aquitaine, Université Victor Segalen Bordeaux 2, Bordeaux, France

1264. Role of Neuroinflammation in MEMRI Signal Enhancement
Aditya N. Bade[1], Biyun Zhou[2], Santhi Gorantla[1], Jiangtao Luo[3], Howard E. Gendelman[1], Michael Douglas Boska[4], Yutong Liu[4]
[1]Pharmacology and Experimental Neuroscience, University of Nebraska Medical Center, Omaha., Omaha, NE, United States; [2]Anesthesiology Department, Tongji Medical College, Huanzhong University of Science and Technology, Wuhan, Hubei, China; [3]Department of Biostatistics, University of Nebraska Medical Center, Omaha., Omaha, NE, United States; [4]Department of Radiology, University of Nebraska Medical Center, Omaha., Omaha, NE, United States

1265. Mn Concentration Mapping with MRI: Comparision with Autoradiography and PET
Geoffrey Topping[1], Andrew Yung[2], Paul Schaffer[3], Cornelia Hoehr[3], Thomas Ruth[3], Piotr Kozlowski[2], Vesna Sossi[1]
[1]Physics and Astronomy, University of British Columbia, Vancouver, British Columbia, Canada; [2]MRI Research Centre, University of British Columbia, Vancouver, BC, Canada; [3]Nuclear Medicine, TRIUMF, Vancouver, BC, Canada

1266. Improving Visualization of Mouse Brain Nuclei in Manganese-Enhanced MRI Using Super-Resolution Reconstruction
Esben Plenge[1], Dana S. Poole[2], Dirk H.J. Poot[3], Egbert A.J.F. Lakke[4], Wiro J. Niessen[3, 5], Erik Meijering[3], Louise van der Weerd[2, 6]
[1]The Biomedical Imaging Group (BIGR), Radiology & Medical Informatics, Erasmus MC University Medical Center, Rotterdam , Netherlands; [2]Radiology, Leiden University Medical Center,, Leiden, Netherlands; [3]The Biomedical Imaging Group (BIGR), Radiology & Medical Informatics, Erasmus MC University Medical Center, Rotterdam, Netherlands; [4]Anatomy, Leiden University Medical Center, Leiden, Netherlands; [5]Quantitative Imaging Group, Dept. of Imaging Science and Technology, Faculty of Applied Sciences, Delft University of Technology, Delft, Netherlands; [6]Human Genetics, Leiden University Medical Center, Leiden, Netherlands

1267. Effect of Manganese on Rat Hippocampus Metabolism: A 1H HRMAS Study
Alexia Daoust[1, 2], Emmanuel Luc Barbier[1, 2], Sylvain Bohic[1, 3], Séverine Maunoir-Regimbal[4], Florence Fauvelle[4]
[1]INSERM U836, grenoble, France; [2]Université Joseph Fourier, Grenoble institut des neurosciences, grenoble, France; [3]European Synchrotron Radiation Facility, grenoble, France; [4]IRBA-CRSSA, grenoble, France

1268. MEMRI Based NOD/scid-IL-2R&[gamma]$_c^{null}$ Mouse Brain Atlas for HIV Pathobiology Studies
Balasrinivasa R. Sajja[1], Biyun Zhou[2], Mariano G. Uberti[1], Larisa Y. Poluektova[3], Howard E. Gendelman[3], Michael Douglas Boska[1, 3], Yutong Liu[1, 3]
[1]Radiology, University of Nebraska Medical Center, Omaha, NE, United States; [2]Anesthesiology, Tongji Medical College, Huanzhong University of Science and Technology, Wuhan, China; [3]Pharmacology and Experimental Neuroscience, University of Nebraska Medical Center, Omaha, NE, United States

1269. Functional Mapping of Rat Visual Cortex Following Light Stimulation Using Manganese-Enhanced MRI
Jun-Cheng Weng[1, 2], Liang-Chun Lin[1], Guan-Ming Chen[1], Yeu-Sheng Tyan[1, 2]
[1]School of Medical Imaging and Radiological Sciences, Chung Shan Medical University, Taichung, Taiwan; [2]Department of Medical Imaging, Chung Shan Medical University Hospital, Taichung, Taiwan

1270. Manganese Enhanced Magnetic Resonance Imaging (MEMRI) Reflects Human Neuropathology in a Murine Model of HIV-1 Associated Neurocognitive Disorders (HAND)
Aditya N. Bade[1], Santhi Gorantla[1], Larisa Y. Poluektova[1], Edward Makarov[1], Howard E. Gendelman[1], Michael Douglas Boska[2], Yutong Liu[2]
[1]Pharmacology and Experimental Neuroscience, University of Nebraska Medical Center, Omaha., Omaha, NE, United States; [2]Department of Radiology, University of Nebraska Medical Center, Omaha., Omaha, NE, United States

Traditional Poster
CE & Non CE MRA

Exhibition Hall Monday 10:45-12:45

1271. High-Resolution 7.0 Tesla Post-Contrast Time-Of-Flight MRA of Intracranial Perforators
Anita A. Harteveld[1], Nikki Dieleman[1], Laurens J. De Cocker[1], Catharina J.M. Frijns[2], Fredy Visser[1, 3], Peter R. Luijten[1], Jeroen Hendrikse[1], Anja G. van der Kolk[1]
[1]Radiology, University Medical Center Utrecht, Utrecht, Netherlands; [2]Neurology, University Medical Center Utrecht, Utrecht, Netherlands; [3]Philips Healthcare, Best, Netherlands

1272. T1 and T2* Relaxation Rates of Four Gadolinium Based Contrast Agents in Whole Human Blood at First-Pass Concentrations: Non-Linearities and Their Impact on Optimizing Contrast-Enhanced MRA
Jeffrey H. Maki[1], Charles S. Springer, Jr.[2], Mark Woods[2, 3], Sarah Bastawrous, [14], Puneet Bhargava, [14], Miles A. Kirchin[5], Gregory J. Wilson[1]
[1]Radiology, University of Washington, Seattle, WA, United States; [2]Advanced Imaging Research Center, Oregon Health and Science University, Portland, OR, United States; [3]Chemistry, Portland State University, Portland, OR, United States; [4]Radiology, Puget Sound VAHCS, Seattle, WA, United States; [5]Medical Affairs, Bracco Diagnostics, Milan, Italy

1273. Comparison of IVD-HYCR Sampling-Reconstruction with Clinical View-Shared MRA and DSA in Peripheral Vasculature
Mahdi S. Rahimi[1], Kang Wang[2], Lauren A. Keith[3], James H. Holmes[2], Jean H. Brittain[2], Harald J. Kramer[4], Scott B. Reeder, [34], Frank R. Korosec[3, 4]
[1]Biomedical Engineering, University of Wisconsin Madison, Madison, WI, United States; [2]Global Applied Science Lab, GE Healthcare, Madison, WI, United States; [3]Medical Physics, University of Wisconsin Madison, Madison, WI, United States; [4]Radiology, University of Wisconsin Madison, Madison, WI, United States

1274. Direct Virtual Coil for Dynamic MR Angiography and Perfusion
Kang Wang[1], Scott K. Nagle[2, 3], Scott B. Reeder[2, 3], Philip J. Beatty[4], Mahdi S. Rahimi[3], Laura C. Bell[3], Jean H. Brittain, Frank R. Korosec, [23], James H. Holmes[1]
[1]Global Applied Science Laboratory, GE Healthcare, Madison, WI, United States; [2]Radiology, University of Wisconsin-Madison, Madison, WI, United States; [3]Medical Physics, University of Wisconsin-Madison, Madison, WI, United States; [4]Sunnybrook Research Institute, Toronto, ON, Canada

1275. Initial Evaluation of Ferumoxytol as a Renal-Safe MR Contrast Agent for Abdominal Vascular Assessment
Ghaneh Fananapazir[1], Daniele Marin[1], Paul V. Suhocki[1], Charles Y. Kim[1], Mustafa R. Bashir[1]
[1]Radiology, Duke University Medical Center, Durham, NC, United States

1276. High Resolution ESION-Enhanced MR Angiography in Extremity Vessels of Rabbit Thigh at 3T
Pan-ki Kim[1], Bong-sik Jeon[2], Eun-Ah Park[3], Eung-Gyu Kim[2], Wan-Jae Myeong[2], Whal Lee[3]
[1]Seoul National University, Seoul, Korea; [2]Hanwha Chemical, Daejeon, Korea; [3]Seoul National University Hospital, Seoul, Korea

1277. Inter- And Intra-Observer Variability in Whole-Body Contrast-Enhanced MRA Cardiovascular Analysis
Lynne McCormick[1], Jonathan Weir-McCall[2], Richard White[2], Stephen J. Gandy[3], Jill Belch[4], John Houston[2]
[1]The Institute of Cardiovascular Research, University of Dundee, Dundee, Angus, United Kingdom; [2]Clinical Radiology, Ninewells Hospital and Medical School, Dundee, Angus, United Kingdom; [3]Medical Physics, Ninewells Hospital and Medical School, Dundee, Angus, United Kingdom; [4]Division of Cardiovascular and Diabetes Medicine, University of Dundee, Dundee, Scotland, United Kingdom

1278. The Correlation of Ventricular Arrhythmias in Hypertrophic Cardiomyopathy and the Late Gadolinium Enhancement on Cardiac Magnetic Resonance

Tao Zhao[1], Shihua Zhao[1], Minjie Lu[2], Xiuyu Chen[2], Gang Yin[2], Qiong Liu[1]

[1]Radiology, Fuwai Hospital,Chinese Academy of Medical Sciences (CAMS) and Peking Union Medical College (PUMC), Beijing, China; [2]Radiology, Fuwai Hospital, Chinese Academy of Medical Sciences (CAMS) and Peking Union Medical College (PUMC), Beijing, China

1279. Assessment of Post Infarct Remodeling in CCR2 Knockout and Wild Type Mice with an Elastin-Binding Contrast Agent

Britta Butzbach[1], Andrea Protti[2], Xuebin Dong[2], Frank Tacke[3], Matthias Bartneck[3], David Onthank[4], Eike Nagel[1], Ajay Shah[5], Rene M. Botnar[1]

[1]Imaging Sciences, Rayne's Institute, London, Middlesex, United Kingdom; [2]Cardiovascular division, Cardiology, London, Middlesex, United Kingdom; [3]Medical clinic III, Gastroenterology, Aachen, Nordrhein Westfalen, Germany; [4]Discovery Biology and Veterinary Sciences at Lantheus Medical Imaging, Boston, North Billerica, United States; [5]Cardiovascular Division, Cardiology, London, Middlesex, United Kingdom

1280. MR Direct Thrombus Imaging with Optimised Signal and Improved Lipid Suppression

Andrew N. Priest[1], Ilse Joubert[1], Sarah Hilborne[1], Sally Hunter[1], David J. Bowden[1], Martin John Graves[1], Trevor Baglin[2], Jonathan H. Gillard[3], David J. Lomas[1]

[1]Department of Radiology, Addenbrookes Hospital and University of Cambridge, Cambridge, United Kingdom; [2]Department of Haematology, Addenbrookes Hospital, Cambridge, United Kingdom; [3]Department of Radiology, University of Cambridge, Cambridge, United Kingdom

1281. Value of Contrast-Enhanced MRA of the Peripheral Arteries at 3T: Results of a Large European Multicenter Trial Comparing Gadoterate Meglumine-MRA to Gadobutrol-MRA with DSA

Michael Lell[1], Javier Arnaiz[2], Denis Krause[3], Luis Marti-Bonmati[4], Manuela Aschauer[5], Armando Tartaro[6], Massimo Lombardi[7], Marta Burrel[8], Reynald Izzillo[9], Christian Loewe[10]

[1]Radiology Department, University-Hospital, Erlangen, Germany; [2]University Hospital Marquès de Valdecilla, Santander, Spain; [3]Département de Radiologie et d'Imagerie Médicale Diagnostique et Thérapeutique, CHU Le Bocage, Dijon, France, Metropolitan; [4]Dr Peset Hospital, Valencia, Spain; [5]Radiology, Universitätsklinikum für Radiologie, Graz, Austria; [6]University Gabriel d'Annuzio of Chieti-Pescara, Chieti, Italy; [7]Clinical Physiology Institute CNR National Research Council, Pisa, Italy; [8]Hospital Clinico, Barcelona, Spain; [9]Radiology, Centre Cardiologique du Nord, Saint Denis, France; [10]Radiology, AKH Wien - Medizinische Universität Wien, Vienna, Austria

1282. Peripheral MR Venography Using Sliding Interleaved Cylinder (SLINCY) Imaging

Kie Tae Kwon[1], Bob S. Hu[2, 3], Dwight G. Nishimura[1]

[1]Electrical Engineering, Stanford University, Stanford, CA, United States; [2]Palo Alto Medical Foundation, Palo Alto, CA, United States; [3]HeartVista Inc., Los Altos, CA, United States

1283. High Resolution, Non-Contrast-Enhanced MR-Angiography of Pedal Vessels. Comparison with Digital Subtraction Angiography and Contrast-Enhanced MR-Angiography

Tilman Schubert[1], Markus Klarhöfer[2], Markus Aschwanden[3], Tanja Haas[1], Augustinus Ludwig Jacob[4], Sebastian Kos[5]

[1]Department of Radiology and Nuclear Medicine, University Hospital Basel, Basel, Switzerland; [2]Siemens Switzerland Inc, Zuerich, Switzerland; [3]Department of Angiology, University Hospital Basel, Basel, Switzerland; [4]Centre for Microtherapy, Klinik Hirslanden, Zuerich, Switzerland; [5]Centre for Microtherapy, Klinik Hirslanden, Luzern, Switzerland

1284. Improved Venous Suppression in Non-Contrast MRA with the Spiral Turbo Spin Echo Sequence

Samuel Fielden[1], John P. Mugler, III[1, 2], Patrick Norton[2], Christopher Kramer[2, 3], Craig Meyer[1, 2]

[1]Biomedical Engineering, University of Virginia, Charlottesville, VA, United States; [2]Radiology, University of Virginia, Charlottesville, VA, United States; [3]Medicine, University of Virginia, Charlottesville, VA, United States

1285. Comparative Performance of High Acceleration Quiescent-Interval Single Shot Magnetic Resonance Angiography at 3T with Contrast-Enhanced MR Angiography in Patients with Peripheral Artery Disease

Parag Amin[1], Maria Carr[2], Marie Wasielewski[1], Heron Rodriguez[3], Jeremy D. Collins[2], Robert R. Edelman[4], James C. Carr[2]

[1]Radiology, Northwestern Memorial Hospital, Chicago, IL, United States; [2]Radiology, Northwestern University, Chicago, IL, United States; [3]Vascular Surgery, Northwestern Memorial Hospital, Chicago, IL, United States; [4]Radiology, NorthShore University HealthSystem, Evanston, IL, United States

1286. A Single-Shot Inflow-Based Approach to Simultaneous Non-Contrast-Enhanced MRA and MRV
Daniel V. Litwiller[1], Dan W. Rettmann[1], Mahdi S. Rahimi[2], Harald Kramer[3], James F. Glockner[4], Frank R. Korosec[5], James H. Holmes[6]
[1]Global Applied Science Laboratory, GE Healthcare, Rochester, MN, United States; [2]Biomedical Engineering, University of Wisconsin, Madison, WI, United States; [3]Radiology, University of Wisconsin, Madison, WI, United States; [4]Department of Radiology, Mayo Clinic, Rochester, MN, United States; [5]Radiology and Medical Physics, University of Wisconsin, Madison, WI, United States; [6]Global Applied Science Laboratory, GE Healthcare, Madison, WI, United States

1287. Non-Contrast-Enhanced Imaging of Lower Limb Veins: Improved Imaging Using Multiple Flow Preparations
Andrew N. Priest[1], Ilse Joubert[1], Sarah Hilborne[1], Sally Hunter[1], David J. Bowden[1], Martin John Graves[1], Trevor Baglin[2], David J. Lomas[1]
[1]Department of Radiology, Addenbrookes Hospital and University of Cambridge, Cambridge, United Kingdom; [2]Department of Haematology, Addenbrookes Hospital, Cambridge, United Kingdom

1288. Evaluation of the Arteries in the Pelvis and Extremities: Comparison of Unenhanced MR Angiography with QISS and Delta-Flow Using Peripheral Pulse Gating
Motoyuki Katayama[1], Takayuki Masui[1], Koji Yoneyama[1], Kimihiko Sato[1], Kazuma Terauchi[1], Kei Tsukamoto[1], Kenich Mizuki[1], Takayuki Suzuki[1], Mitusharu Miyoshi[2], Daniel V. Litwiller[3]
[1]Radiology, Seirei Hamamatsu General Hospital, Hamamatsu, Shizuoka, Japan; [2]GE Healthcare Japan, Hino, Tokyo, Japan; [3]Global Applied Science Laboratory, GE Healthcare, Rochester, MN, United States

1289. Time of Flight Magnetic Resonance Venography of the Internal Jugular Vein: Applicability to Chronic Cerebrospinal Venous Insufficiency
Matthew P. Quinn[1, 2], Ravi S. Menon[1, 2]
[1]Medical Biophysics, The University of Western Ontario, London, Ontario, Canada; [2]Centre for Functional and Metabolic Mapping, Robarts Research Institute, London, Ontario, Canada

1290. Non-Contrast-Enhanced MR Angiography of Adrenal Veins as a Preprocedural Examination of Adrenal Vein Sampling.
Masaaki Akahane[1], Yasushi Watanabe[1], Naoyuki Takei[2], Kuni Ohtomo[1]
[1]Radiology, University of Tokyo Hospital, Bunkyo-ku, Tokyo, Japan; [2]Global Applied Science Laboratory, GE Healthcare, Hino-shi, Tokyo, Japan

1291. Quiescent-Inflow Single-Shot (QISS) Magnetic Resonance Angiography Using a Highly Undersampled Radial K-Space Trajectory
Robert R. Edelman[1], Shivraman Giri[2], Eugene Dunkle[3], Mauricio Galizia[3], Parag Amin[3], Ioannis Koktzoglou[3]
[1]Radiology, NorthShore University HealthSystem, Evanston, IL, United States; [2]Siemens Healthcare, Chicago, IL, United States; [3]NorthShore University HealthSsytem, Evanston, IL, United States

1292. Noncontrast-Enhanced Four-Dimensional MR Angiography at 7T
Gregory J. Metzger[1], Sebastian Schmitter[1], Xiufeng Li[1], Pierre-Francois Van de Moortele[1], Peter Schmitt[2], Xiaoming Bi[3]
[1]Center for Magnetic Resonance Reserach, University of Minnesota, Minneapolis, MN, United States; [2]MR Application & Workflow Development, Siemens AG, Erlangen, Germany; [3]Cardiovascular MR R&D, Siemens Healthcare, Chicago, IL, United States

Traditional Poster
Vessel Wall & Coronary Angiography

Exhibition Hall Monday 10:45-12:45

1293. Undersampled Variable-Density 3D Non-Cartesian Trajectories and L1-SPIRiT for Whole-Heart Coronary MR Angiography
Nii Okai Addy[1], Holden H. Wu[2], R. Reeve Ingle[1], Dwight G. Nishimura[1]
[1]Electrical Engineering, Stanford University, Stanford, CA, United States; [2]Department of Radiology, University of California, Los Angeles, Los Angeles, CA, United States

1294. Novel Projection-Based Unsupervised Respiratory Motion Feedback for Free-Breathing Whole-Heart Coronary MR Imaging

Christoph Forman[1, 2], Davide Piccini[3, 4], Joachim Hornegger, [25], Michael O. Zenge[6]
[1]Pattern Recognition Lab, Friedrich-Alexander-University Erlangen-Nürnberg, Erlangen, Germany; [2]Erlangen Graduate School in Advanced Optical Technologies (SAOT), Friedrich-Alexander-Universität Erlangen-Nürnberg, Erlangen, Germany; [3]Advanced Clinical Imaging Technology, Siemens Healthcare IM S AW, Lausanne, Switzerland; [4]CIBM-AIT, Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland; [5]Pattern Recognition Lab, Department of Computer Science, Friedrich-Alexander-Universität Erlangen-Nürnberg, Erlangen, Germany; [6]Healthcare Sector, Siemens AG, Erlangen, Germany

1295. Motion Corrected Sensitivity Encoded Isotropic Projection Reconstruction (SNIPR) for Whole-Heart Coronary MRA

Jianing Pang[1, 2], Behzad Sharif[1], Reza Arsanjani[1], Louise EJ Thomson[1], John D. Friedman[1], Daniel S. Berman[1], Debiao Li[1, 3]
[1]Biomedical Imaging Research Institute, Cedars-Sinai Medical Center, Los Angeles, CA, United States; [2]Biomedical Engineering, Northwestern University, Chicago, IL, United States; [3]Bioengineering, University of California, Los Angeles, CA, United States

1296. Coronary MR Angiography at 7.0 Tesla Using 3D Fat-Water Separated Imaging and a 8 Channel Array of Bowtie Dipole Transceivers: a Feasibility Study

Fabian Hezel[1], Peter Kellman[2], Katharina Fuchs[1], Lukas Winter[1], Oliver Kraus[1], Thoralf Niendorf[1, 3]
[1]Berlin Ultrahigh Field Facility (B.U.F.F.), Max-Delbrueck Center for Molecular Medicine, Berlin, Germany; [2]Medical Imaging Section, National Institutes of Health / NHLBI, Bethesda, MD, United States; [3]Experimental and Clinical Research Center, A joint cooperation between the Charité Medical Faculty and the Max-Delbrueck Center for Molecular, Berlin, Germany

1297. Improving 3D MERGE Black-Blood Imaging Using an Additonal Time Delay and Compressed Sensing

Bo Li[1], Li Dong[2], Yuchen Zhang[3], Jun Li[2], Xiaoying Wang[4, 5], Jue Zhang[1, 5], Jing Fang[1, 5]
[1]College of Engineering, Peking University, Beijing, China; [2]Department of Radiology, Anzhen Hospital, Capital Medical University, Beijing, China; [3]Department of Cardiology, Anzhen Hospital, Capital Medical University, Beijing, China; [4]Department of Radiology, Peking University First Hospital, Beijing, China; [5]Academy for Advanced Interdisciplinary Studies, Peking University, Beijing, China

1298. Coronary Artery Wall Imaging Using DANTE Preparation Pulses

Meihan Wang[1], Christopher Kramer[2, 3], Craig Meyer[1, 2]
[1]Biomedical Engineering, University of Virginia, Charlottesville, VA, United States; [2]Radiology, University of Virginia, Charlottesville, VA, United States; [3]Medicine, University of Virginia, Charlottesville, VA, United States

1299. High Resolution Diffusion-Weighted Imaging with Variable Density Spiral Acquisition of Carotid Vessel Wall

Shuo Chen[1], Hua Guo[1], Wenchuan Wu[1], Xihai Zhao[1], Chun Yuan, [12], Huijun Chen[1]
[1]Center for Biomedical Imaging Research & Department of Biomedical Engineering, Tsinghua University, Beijing, China; [2]Department of Radiology, University of Washington, Seattle, WA, United States

1300. Correlation of Atherosclerotic Disease Between Extracranial and Intracranial Carotid Artery in Symptomatic Patients: A 3.0T MR Vessel Wall Imaging Study

Xu Han[1], Jianming Cai[1], Danqing Liu[1], Lin Ma[1], Youquan Cai[1], Xihai Zhao[2]
[1]Department of Radiology, PLA General Hospital, Beijing, China; [2]Center for Biomedical Imaging Research & Department of Biomedical Engineering, Tsinghua University, Beijing, China

1301. 3D Inversion Recovery Fast Spoiled Gradient Recall (IR-FSPGR) and TOF MRA with Morphology Enhanced Probabilistic Plaque Segmentation (MEPPS) Predicts the Size of Lipid-Rich Necrotic Core of Carotid Plaque

J. Kevin DeMarco[1], Hideki Ota[2], David Zhu[1], William Kerwin[3], Chun Yuan[3]
[1]Michigan State University, East Lansing, MI, United States; [2]Diagnostic Radiology, Tohoku University Hospital, Sendai, Miyagi, Japan; [3]University of Washington, Seattle, WA, United States

1302. Detecting Early Arterial Wall Changes in Premenopausal Women with Metabolic Syndrome by Using Black-Blood DCE-MRI

Huijun Chen[1], Pathmaja Paramsothy[2], Alice Dowdy[2], Arthi Thirumalai[2], Sarah Prager[2], Xihai Zhao[1], Xue-Qiao Zhao[2], Edward Gill[2], William Kerwin[2]
[1]Tsinghua University, Beijing, China; [2]University of Washington, Seattle, WA, United States

1303. Optimisation of Carotid Artery Plaque Imaging Using IMSDE Blood Suppression
Chengcheng Zhu[1], Andrew J. Patterson[1], Martin John Graves[1], Jonathan H. Gillard[1]
[1]University Department of Radiology, University of Cambridge, Cambridge, Cambridgeshire, United Kingdom

1304. High-Resolution Imaging of the Superficial Cranial Arteries Using Highly-Parallel Receive Coils
Chris A. Cocosco[1], Julia Geiger[2], Frederik Testud[1], Adriana Komancsek[1], Thorsten Bley[3], Matthias Weigel[1], Maxim Zaitsev[1], Bernd Jung[1], Jürgen Hennig[1], Ute Ludwig[1]
[1]Dept. of Radiology, Medical Physics, University Medical Center Freiburg, Freiburg, Germany; [2]Dept. of Radiology, University of Freiburg, Freiburg, Germany; [3]Dept. of Radiology, University Medical Center Hamburg-Eppendorf, Hamburg, Germany

1305. Automatic Segmentation and Analysis of Carotid and Middle Cerebral Artery Using 3D CUBE MRI with IMSDE Blood Suppression
Chengcheng Zhu[1], Andrew J. Patterson[1], Jin Zhu[2], Martin John Graves[1], Jonathan H. Gillard[1]
[1]University Department of Radiology, University of Cambridge, Cambridge, Cambridgeshire, United Kingdom; [2]Department of Computer Science, Peking University, Beijing, China

1306. Accelerated Carotid Imaging Using Slice GRAPPA (SGRAPPA)
Xinwei Shi[1], Xiao Wang[2], Feng Huang[3], Kui Ying[4], Chun Yuan[5]
[1]Department of Biomedical Engineering, Tsinghua University, Beijing, China; [2]Weldon School of Biomedical Engineering, Purdue University, West Lafayette, IN, United States; [3]Philips Healthcare, Gainesville, FL, United States; [4]Department of Engineering Physics, Tsinghua University, Beijing, China; [5]Department of Radiology, University of Washington, Seattle, WA, United States

1307. Vessel-Wall Imaging Using Water-Selective Centrically-Encoded 3D SSFP-Echo with Double-Inversion Recovery
Michael C. Langham[1], Cheng Li[1], Erin K. Englund[1], Felix W. Wehrli[1]
[1]University of Pennsylvania, Philadelphia, PA, United States

1308. Phase Sensitive Dual Inversion Recovery for Accelerated Multi-Slice Carotid Vessel Wall Imaging
Gabriele Bonanno[1, 2], David Brotman[1, 2], Matthias Stuber[1, 2]
[1]Department of Radiology, University Hospital (CHUV) and University of Lausanne (UNIL),, Lausanne, Vaud, Switzerland; [2]Center for Biomedical Imaging (CIBM), Lausanne, Vaud, Switzerland

1309. Pre-Contrast and Post-Contrast Isotropic 3D Black-Blood MRI with Identical Imaging Parameters
Niranjan Balu[1], Chun Yuan[1]
[1]Radiology, University of Washington, Seattle, WA, United States

1310. Conversion-Free Interleaved Black Blood and Bright Blood Imaging (CfIBBI) Sequence for Dynamic Contrast Enhanced (DCE) MRI of Vessel Wall
Tingting Wu[1], Huijun Chen[1], Jinnan Wang[2], Juan Wei[3], Feiyu Li[4], Chun Yuan[1, 5]
[1]CBIR, School of Medicine, Tsinghua University, Beijing, China; [2]Clinical Sites Research Program, Philips Research North America, Briarcliff Manor, NY, United States; [3]Philips Research Asia, Shanghai, China; [4]Peking University First Hospital, Beijing, China; [5]Dept. of Radiology, University of Washington, Seattle, WA , United States

ISMRM MERIT AWARD magna cum laude

1311. Improved Fat Signal Suppression for Coronary MRA at 3T Using a Water-Selective Adiabatic T_2-Prep Technique
Andrew J. Coristine[1, 2], Ruud B. van Heeswijk, [2,3], Matthias Stuber, [2,3]
[1]CIBM-CVMR, Centre Hospitalier Universitaire Vaudois , Lausanne, VD, Switzerland; [2]FBM, Université de Lausanne, Lausanne, VD, Switzerland; [3]CIBM-CVMR, Centre Hospitalier Universitaire Vaudois, Lausanne, VD, Switzerland

1312. Pre-Operative Imaging of Coronary Veins in Patients Undergoing CRT: How Good Is Whole Heart MRA Compared to Intraoperative Catheter-Based Venography?
Adrian Lam[1], Luis F. Mora-Vieira[2], Michael Lloyd[2], John N. Oshinski, [1,2]
[1]Georgia Institute of Technology, Atlanta, GA, United States; [2]Emory University, Atlanta, GA, United States

1313. Three-Dimensional Image-Based Navigator for 3D MR Coronary Angiography
Mehdi H. Moghari[1], Markus Henningsson[2], Sébastien Roujol[3], Kraig V. Kissinger[3], David Annese[1], Warren J. Manning[3, 4], Tal Geva[1], Andrew J. Powell[1], Reza Nezafat[3]
[1]Department of Cardiology, Boston Children's Hospital, Boston, MA, United States; [2]King's College London, London, United Kingdom; [3]Cardiovascular Division, Beth Israel Deaconess Medical Center, Boston, MA, United States; [4]Radiology Department , Beth Israel Deaconess Medical Center, Boston, MA, United States

1314. Automatic Respiratory Self-Navigation Processing (ASAP) for Coronary MRA Using Principal Component Analysis
Jianing Pang[1, 2], Hsin-Jung Yang[1, 3], Yibin Xie[1, 3], Rohan Dharmakumar[1], Debiao Li[1, 3]
[1]Biomedical Imaging Research Institute, Cedars-Sinai Medical Center, Los Angeles, CA, United States; [2]Biomedical Engineering, Northwestern University, Chicago, IL, United States; [3]Bioengineering, University of California, Los Angeles, CA, United States

1315. A First Report on Self-Navigated 3D Isotropic Whole Heart MRI for the Visualization of Coronary Artery Bypass Grafts.
Simone Coppo[1, 2], Davide Piccini[3, 4], Gabriella Vincenti[5], Didier Locca[5], Juerg Schwitter[5], Piergiorgio Tozzi[5], Matthias Stuber[1, 6]
[1]Departiment of Radiology, University Hospital (CHUV) and University of Lausanne (UNIL), Lausanne, Switzerland; [2]Center for Biomedical Imaging (CIBM), , Lausanne, Switzerland; [3]Advanced Clinical Imaging Technology, Siemens Healthcare IM S AW, Lausanne, Switzerland; [4]Departiment of Radiology, University Hospital (CHUV) and University of Lausanne (UNIL) / Center for Biomedical Imaging (CIBM), Lausanne, Switzerland; [5]Cardiac Magnetic Resonance Center and Cardiology Service, University Hospital of Lausanne (CHUV), Lausanne, Switzerland; [6]Center for Biomedical Imaging (CIBM),, Lausanne, Switzerland

1316. Optimized Respiratory Reference Position for 3D Self-Navigated Whole Heart Coronary MRA
Davide Piccini[1, 2], Gabriele Bonanno[2], Giulia Ginami[2, 3], Arne Littmann[4], Michael O. Zenge[4], Matthias Stuber[2]
[1]Advanced Clinical Imaging Technology, Siemens Healthcare IM S AW, Lausanne, Switzerland; [2]Department of Radiology, University Hospital (CHUV) and University of Lausanne (UNIL) / Center for Biomedical Imaging (CIBM), Lausanne, Switzerland; [3]Department of Information Engineering, University of Padova, Padova, Italy; [4]MR Application and Workflow Development, Healthcare Sector, Siemens AG, Erlangen, Bayern, Germany

Traditional Poster
Myocardial Perfusion

Exhibition Hall Monday 10:45-12:45

1317. A Multimodality Cross-Validation Study of Cardiac Perfusion Using MR and CT
Giorgos Papanastasiou[1, 2], Lucy Kershaw[1], Michelle Williams[2], Mark Dweck[2], Shirjel Alam[2], Saeed Mirsadraee[1], Calum Gray[1], Tom MacGillivray[1], David C. Newby[1, 2], Scott I. Semple[1, 2]
[1]Clinical Research Imaging Center, University of Edinburgh, Edinburgh, United Kingdom; [2]Centre for Cardiovascular Science, University of Edinburgh, Edinburgh, United Kingdom

1318. Comparison of Reconstruction Methods for Accelerated Cardiac MR Stress Perfusion After Physical Stress with Supine Ergometer
Christophe Schülke[1, 2], Sébastien Roujol[1], Murilo Foppa[1], Ernest V. Gervino[1], Kraig V. Kissinger[1], Beth Goddu[1], Sophie J. Berg[1], Sebastian Kozerke[2], Warren J. Manning[1, 3], Reza Nezafat[1]
[1]Medecine, BIDMC / Harvard Medical School, Boston, MA, United States; [2]Institute for Biomedical Engineering, University and ETH Zurich, Zurich, Switzerland; [3]Radiology, BIDMC / Harvard Medical School, Boston, MA, United States

1319. Real-Time Slice Tracking for Free-Breathing Cardiac MR Stress Perfusion After Physical Exercise
Tamer A. Basha[1], Sébastien Roujol[1], Kraig V. Kissinger[1], Beth Goddu[1], Sophie J. Berg[1], Warren J. Manning[1, 2], Reza Nezafat[1]
[1]Department of Medicine, Beth Israel Deaconess Medical Center and Harvard Medical School, Boston, MA, United States; [2]Radiology, Beth Israel Deaconess Medical Center and Harvard Medical School, Boston, MA, United States

1320. Minimizing Dark-Rim Artifacts in First-Pass Myocardial Perfusion MR by Eliminating Gibbs Ringing Using Projection Imaging
Behzad Sharif[1], Rohan Dharmakumar[1], Troy LaBounty[1], Chrisandra Shufelt[2], Louise EJ Thomson[2], Noel Bairey Merz[2], Daniel S. Berman[2], Debiao Li[1]
[1]Biomedical Imaging Research Institute, Cedars-Sinai Medical Center, Los Angeles, CA, United States; [2]Heart Institute, Cedars-Sinai Medical Center, Los Angeles, CA, United States

1321. A Model-Based Reconstruction Technique for Look-Locker FAIR Gradient Echo ASL Perfusion Data
Johannes Tran-Gia[1], Thomas Troalen[2], Herbert Köstler[1], Frank Kober[2]
[1]Institute of Radiology, University of Würzburg, Würzburg, Germany; [2]Centre de Résonance Magnétique Biologique et Médicale (CRMBM), UMR CNRS N°7339, Faculté de Médecine, Aix-Marseille Université, Marseille, France

1322. A Realistic 4D Numerical Phantom for Quantitative First-Pass Myocardial Perfusion MRI
Lukas Wissmann[1], Johannes F.M. Schmidt[1], Sebastian Kozerke[1]
[1]Institute for Biomedical Engineering, University and ETH Zurich, Zurich, Switzerland

1323. GPU Vs CPU Cluster Reconstruction for Low Latency Iterative Reconstruction of First Pass Stress Cardiac Perfusion with Physiological Stress
Sébastien Roujol[1], Tamer A. Basha[1], Christophe Schülke[1, 2], Martin Buehrer[1, 2], Warren J. Manning[1, 3], Reza Nezafat[1]
[1]Medecine, BIDMC / Harvard Medical School, Boston, MA, United States; [2]Institute for Biomedical Engineering, University and ETH Zurich, Zurich, Switzerland; [3]Radiology, BIDMC / Harvard Medical School, Boston, MA, United States

1324. Myocardial Perfusion Reserve Quantified at 3 and 1.5 Tesla in Comparison to Fractional Flow Reserve as Measured During Coronary Angiography
Peter Bernhardt[1], Thomas Walcher, Katharina Ikuye, Wolfgang Rottbauer, Volker Rasche, Jochen Wöhrle
[1]University of Ulm, Ulm, BW, Germany

1325. II. High Variability in Peak Signal Intensity During CMRI First Pass Perfusion Imaging When a Standard Dose of Contrast Agent Is Used - Blood Pool & Myocardium.
Shona Matthew[1], Deirdre B. Cassidy[1], Stephen J. Gandy[2, 3], Patricia Martin[3], J. Graeme Houston[1, 3]
[1]Cardiovascular & Diabetes Imaging, University of Dundee, Dundee, Angus, United Kingdom; [2]NHS Tayside Medical Physics, Dundee, Angus, United Kingdom; [3]NHS Tayside Clinical Radiology, Dundee, Angus, United Kingdom

Traditional Poster
Flow Quantification

Exhibition Hall Monday 10:45-12:45

1326. Surgical Ventricular Restoration Improves the Intra-Ventricular Flow: MRI/CFD Simulation
Liang Zhong[1], Seyed Saeid Khalafvand[2], Yin Kwee Ng[2], Rusan Tan[1]
[1]National Heart Centre Singapore, Singapore, Singapore; [2]Nanyang Technological University, Singapore, Singapore

1327. Quantitative Flow Measurement of Cerebrospinal Fluids at Sylvian Aqueduct at 3 Tesla
Kezhou Wang[1], Xinjian Du[2], Wei Sun[3], Hagai Ganin[4], Yi Sui[4, 5], Lauren Ostergren[1], Fady T. Charbel, William G. Bradley[6], Xiaohong Joe Zhou[7, 8]
[1]VasSol Inc., River Forest, IL, United States; [2]Neurosurgery, University of Illinois at Chicago, Chicago, IL, United States; [3]GE Healthcare, Waukesha, WI, United States; [4]Center for MR Research, University of Illinois Hospital & Health Sciences System, Chicago, IL, United States; [5]Department of Bioengineering, University of Illinois Hospital & Health Sciences System, Chicago, IL, United States; [6]Department of Radiology, UCSD Medical Center, San Diego, CA, United States; [7]Center for MR Research, University of Illinois at Chicago, Chicago, IL, United States; [8]Departments of Radiology, University of Illinois at Chicago, Chicago, IL, United States

1328. Valve Opening and Closing Kinematic Assessment in Patients with Aortic Stenosis
ISMRM MERIT AWARD magna cum laude
Julio Garcia[1], Romain Capoulade[2], Lyes Kadem[3], Eric Larose[2], Philippe Pibarot[2]
[1]Radiology, Northwestern University, Chicago, IL, United States; [2]Laval University, Quebec, Canada; [3]Concordia University, Montreal, Quebec, Canada

1329. A Novel Method for the Assessment of Valve Effective Orifice Area Using 4D Flow Shear Layer Detection Method in Patients with Aortic Stenosis
ISMRM MERIT AWARD magna cum laude
Julio Garcia[1], Michael Markl[1, 2], Susanne Schnell[1], Pegah Entezari[1], Riti J. Mahadevia[1], Can Wu[1], Chris Malaisrie[3], Philippe Pibarot[4], James C. Carr[1], Alex J. Barker[1]
[1]Radiology, Northwestern University, Chicago, IL, United States; [2]Biomedical Engineering, Northwestern University, Chicago, IL, United States; [3]Division of Cardiac Surgery, Northwestern University, Chicago, IL, United States; [4]Department of Medicine, Laval University, Quebec, Canada

ISMRM MERIT AWARD magna cum laude

1330. Evaluating the Reproducibility and Regional Variation of Wall Shear Stress in Rat Model with the Use of Flow-Sensitive MRI

Shin-Lei Peng[1], Hsu-Hsia Peng[1], Tao-Chieh Yang[2], Jee-Ching Hsu[3], Yi-Chun Wu[4], Fu-Nien Wang[1]

[1]Department of Biomedical Engineering and Environmental Sciences, National Tsing Hua University, Hsinchu, Taiwan; [2]Department of Neurosurgy, Chang Gung Memorial Hospital, Taoyuan, Taiwan; [3]Department of Anesthesiology, Chang Gung Memorial Hospital, Taoyuan, Taiwan; [4]Animal Molecular Center, Chang Gung Memorial Hospital, Taoyuan, Taiwan

1331. Cerebral Blood Flow in Pediatric Multiple-Sclerosis Patients and Age-Matched Controls Using Phase-Contrast MRI

Christopher K. Macgowan[1], Katherine Chan, Suzanne Laughlin[2], Stephanie Khan[3], Ruth Ann Marrie[4], Brenda Banwell[3]

[1]Medical Biophysics, University of Toronto / Hospital for Sick Children, Toronto, ON, Canada; [2]Medical Imaging, University of Toronto / Hospital for Sick Children, Toronto, ON, Canada; [3]Pediatrics (Neurology), University of Toronto / Hospital for Sick Children, Toronto, ON, Canada; [4]Internal Medicine (Neurology) and Community Health Sciences, University of Manitoba, Winnipeg, MB, Canada

1332. Pressure Difference Measurements in Stenotic Flow Phantom: Comparison of 4D Flow MRI, Computational Fluid Dynamics, and Pressure Wire Measurements

Elizabeth Janus Nett[1], Leonardo Rivera[1], Sylvana García-Rodríguez[2], Alejandro Roldán-Alzate[3], Oliver Wieben[1, 3], Kevin M. Johnson[1]

[1]Medical Physics, University of Wisconsin, Madison, WI, United States; [2]Mechanical Engineering, University of Wisconsin, Madison, WI, United States; [3]Radiology, University of Wisconsin, Madison, WI, United States

1333. A Non-Invasive Assessment of Cardiopulmonary Hemodynamics with MRI

Octavia Bane[1, 2], Sanjiv J. Shah[3], Michael J. Cuttica[4], Jeremy D. Collins[1], Senthil Selvaraj[5], Christoph Guetter[6], James C. Carr[1], Timothy J. Carroll[1, 2]

[1]Feinberg School of Medicine, Radiology, Northwestern University, Chicago, IL, United States; [2]Biomedical Engineering, Northwestern University, Evanston, IL, United States; [3]Feinberg School of Medicine, Cardiology, Northwestern University, Chicago, IL, United States; [4]Feinberg School of Medicine, Pulmonary Care, Northwestern University, Chicago, IL, United States; [5]Feinberg School of Medicine, Northwestern University, Chicago, IL, United States; [6]Corporate Research, Siemens Corporation, Princeton, NJ, United States

1334. Segmentation of Aortic Flow in Real-Time Spiral Phase-Contrast MRI for Assessment of Stroke Volume Variability

Gustavo Maia Queiroz Mendonça[1], Joao L. A. Carvalho[1]

[1]Department of Electrical Engineering, University of Brasília, Brasília, DF, Brazil

1335. Sparse Representations for Compressed Sensing Acceleration of Fourier Velocity Encoded MRI

Gabriel L. S. L. Oliveira[1], Joao L. A. Carvalho[1]

[1]Department of Electrical Engineering, University of Brasília, Brasília, DF, Brazil

1336. A Direct Reconstruction Method for Blood Velocity Estimation from Phase-Contrast MRI Data

Rizwan Ahmad[1], Ning Jin, [12], Yu Ding[1], Orlando P. Simonetti[1]

[1]The Ohio State University, Columbus, OH, United States; [2]Siemens Medical Solutions, Columbus, OH, United States

1337. Aortic Coarctation Alters Thoracic Aortic Hemodynamics Across a Large Age Range

Bradley D. Allen[1], Alex J. Barker[1], Julio Garcia[1], Maya Gabbour[2], Miachael Markl[1, 3], Cynthia K. Rigsby, [12], Joshua D. Robinson[4, 5]

[1]Department of Radiology, Northwestern University, Chicago, IL, United States; [2]Department of Medical Imaging, Ann & Robert H Lurie Children's Hospital of Chicago, Chicago, IL, United States; [3]Department of Biomedical Engineering, Northwestern University, Chicago, IL, United States; [4]Department of Pediatrics, Northwestern University, Chicago, IL, United States; [5]Department of Cardiology, Ann & Robert H Lurie Children's Hospital of Chicago, Chicago, IL, United States

1338. Assessing the Effects of Vessel Segmentation Boundary Size on Flow Quantification Error and Comparing Multiple Automatic Segmentation Algorithms

Paul Kokeny[1], Jing Jiang[2, 3], Ewart Mark Haacke[2, 3]

[1]Biomedical Engineering, Wayne State University, Detroit, MI, United States; [2]Radiology, Wayne State University, Detroit, MI, United States; [3]MRI Institute for Biomedical Research, Detroit, MI, United States

1339. Assessment of Energy Loss in Aortic Stenosis and Age-Matched Controls Using Bayesian Multipoint Phase-Contrast MRI

Christian Binter[1], Robert Manka[1, 2], Simon H. Suendermann[3], Verena Knobloch[1], Sebastian Kozerke[1, 4]
[1]Institute for Biomedical Engineering, University and ETH Zurich, Zurich, Switzerland; [2]Dept. of Cardiology, University Hospital Zurich, Zurich, Switzerland; [3]Division of Cardiovascular Surgery, University Hospital Zurich, Zurich, Switzerland; [4]Imaging Sciences and Biomedical Engineering, King's College London, London, United Kingdom

1340. Retrospectively Triggered Local PWV Measurements in the Murine Aorta Using a Radial Sampling

Patrick Winter[1], Eberhard Rommel[1], Wolfgang Rudolf Bauer[2], Peter M. Jakob[1, 3], Volker Herold[1]
[1]Dept. of Experimental Physics 5, University of Würzburg, Würzburg, Bavaria, Germany; [2]Medizinische Klinik und Poliklinik I, Universitätsklinikum Würzburg, Würzburg, Germany; [3]Magnetic Resonance Bavaria, Würzburg, Bavaria, Germany

1341. Quantitative Flow Measurement of Digital Arteries at 3 Tesla

Guanzhong Liu[1], Kezhou Wang[2], Xinjian Du[3], Yi Sui[1, 4], Michael P. Flannery[1], Fady T. Charbel[5], Nadera Sweiss[6], Xiaohong Joe Zhou[1, 7]
[1]Center for MR Research, University of Illinois Hospital & Health Sciences System, Chicago, IL, United States; [2]VasSol, Inc, River Forest, IL, United States; [3]Neurosurgery, University of Illinois Hospital & Health Sciences System, Chicago, IL, United States; [4]Bioengineering, University of Illinois at Chicago, Chicago, IL, United States; [5]Neurosurgery, University of Illinois at Chicago, Chicago, IL, United States; [6]Rheumatology, University of Illinois Hospital & Health Sciences System, Chicago, IL, United States; [7]Departments of Radiology, Neurosurgery and Bioengineering, University of Illinois Hospital & Health Sciences System, Chicago, IL, United States

1342. Semi-Automated Pulse Wave Velocity Measurement in the Thoracic Aorta Using 4D Flow MRI

Bruce S. Spottiswoode[1], Aurelien F. Stalder[2], Mehmet Gulsun[3], Michael Markl[4, 5]
[1]Cardiovascular MR R&D, Siemens Healthcare, Chicago, IL, United States; [2]Magnetic Resonance, Imaging & Therapy, Healthcare Sector, Siemens AG, Erlangen, Germany; [3]Siemens Corporation, Corporate Technology, Princeton, NJ, United States; [4]Department of Radiology, Northwestern University Feinberg School of Medicine, Chicago, IL, United States; [5]Department of Biomedical Engineering, Northwestern University Feinberg School of Medicine, Chicago, IL, United States

1343. Analysis of Wall Shear Stress for Patients with Pulmonary Arterial Hypertension by Phase-Contrast Magnetic Resonance Imaging

Hung-Hsuan Wang[1], Wen-Yih Isaac Tseng[2], Hsi-Yu Yu[3], Hsu-Hsia Peng[1]
[1]Biomedical Engineering and Environmental Sciences, National Tsing Hua University, Hsinchu City, Taiwan; [2]Center for Optoelectronic Biomedicine, National Taiwan University Medical College, Taipei City, Taiwan; [3]Department of Surgery, National Taiwan University Hospital, Taipei City, Taiwan

1344. Comparison of MRI and US Assessment of Vascular Reactivity in Relation to CVD Risk Factors in Old and Young Healthy Subjects

Erica Chirico[1], Michael C. Langham, Erin K. Englund, Susan Schultz[1], Lifeng Zhang[2], Sandy Sehgal[1], Emile R. Mohler[2], Felix W. Wehrli
[1]Radiology, University of Pennsylvania, Philadelphia, PA, United States; [2]Medicine, Cardiovascular Division, Vascular Medicine Section, University of Pennsylvania, Philadelphia, PA, United States

1345. MRI Evaluation of Vessel Wall Stretch in Healthy and Diseased Aortas

Henrik Haraldsson[1, 2], Michael Hope[3], Gabriel Acevedo-Bolton[1, 2], Elaine Tseng[1, 2], Xiaodong Zhong[4], David A. Saloner[1, 2]
[1]University of California, San Francisco, San Francisco, CA, United States; [2]Veteran Affairs Medical Center, San Francisco, CA, United States; [3]University of California San Francisco, San Francisco, CA, United States; [4]MR R&D Collaborations, Siemens Healthcare, Atlanta, GA, United States

1346. A Fast 3D Non-Iterative Approach to Pressure Calculation from PC-MRI: Phantom Experiments

M.J. Negahdar[1], Mo Kadbi[1], JungWon Cha[1], Juan Cebral[2], Amir A. Amini[1]
[1]Electrical and Computer Engineering, University of Louisville, Louisville, Ky, United States; [2]School of Computational Sciences, George Mason University, Fairfax, VA, United States

1347. Variability of Regurgitation Fraction Values by MRI According to the Flow Quantification Method
Pablo Bächler[1, 2], Gerard Crelier[3], Lida Toro[4], Myriam Ferreiro[4], Marcelo Andia[1, 2], Cristian Tejos, [25], Pablo Irarrázabal, [26], Sergio Uribe[1, 2]
[1]Department of Radiology, School of Medicine, Pontificia Universidad Católica de Chile, Santiago, Chile; [2]Biomedical Imaging Center, Pontificia Universidad Católica de Chile, Santiago, Chile; [3]Institute for Biomedical Engineering, University and ETH, Zurich, Switzerland; [4]Hospital Sótero del Río, Santiago, Chile; [5]Department of Electrical Engineering , Pontificia Universidad Católica de Chile, Santiago, Chile; [6]Department of Electrical Engineering, Pontificia Universidad Católica de Chile, Santiago, Chile

1348. Analysis of Flow Vortices in the Pulmonary Artery of Healthy Normals and Patients with pH with 4D Flow MRI
Guilhem Jean Collier[1], Andy Swift[1], David Capener[1], David Kiely[1], Jim M. Wild[1]
[1]Department of Cardiovascular Science, The University of Sheffield, Sheffield, Yorkshire, United Kingdom

1349. Hemodynamic Assessment of Obstructive Hypertrophic Cardiomyopathy Using 4D Flow MRI
Bradley D. Allen[1], Alex J. Barker[1], Jeremy D. Collins[1], Lubna Choudhury[2], James C. Carr[1, 2], Robert O. Bonow[2], Michael Markl[1, 3]
[1]Department of Radiology, Northwestern University, Chicago, IL, United States; [2]Department of Medicine-Cardiology, Northwestern University, Chicago, IL, United States; [3]Department of Biomedical Engineering, Northwestern University, Chicago, IL, United States

1350. Association of Arterial Compliance Between Carotid Artery and Abdominal Aorta and Its Role in Assessment of Carotid Atherosclerotic Disease: A 3.0T MR Imaging Study
Li Jiang[1], Huijun Chen[1], Xu Han[2], Zhensen Chen[1], Rui Li[1], Le He[1], Chun Yuan[1, 3], Xihai Zhao[1]
[1]Center for Biomedical Imaging Research & Department of Biomedical Engineering, Tsinghua University, Beijing, China; [2]Department of Radiology, PLA General Hospital, Beijing, China; [3]Department of Radiology, University of Washington, Seattle, WA, United States

1351. High Temporal Resolution, Simultaneous Quantification of Intravascular Blood Flow and Oxygen Saturation with BRISK K-Space Sampling
Zachary Rodgers[1], Lohith Kini[1], Varsha Jain[1], Michael C. Langham[1], Jeremy F. Magland[1], Felix W. Wehrli[1]
[1]Radiology, University of Pennsylvania, Philadelphia, PA, United States

1352. Acceleration of Spiral Fourier Velocity Encoded MRI Using 3D SPIRiT
Davi Marco Lyra-Leite[1, 2], Krishna S. Nayak[1], Joao L. A. Carvalho[2]
[1]Department of Electrical Engineering, University of Southern California, Los Angeles, CA, United States; [2]Departamento de Engenharia Eletrica, University of Brasilia, Brasilia, Distrito Federal, Brazil

1353. Cerebrovascular Compliance Quantification with Non-Gated, Velocity Encoded Projections
Zachary Rodgers[1], Michael C. Langham[1], Jeremy F. Magland[1], John A. Detre[2], Felix W. Wehrli[1]
[1]Radiology, University of Pennsylvania, Philadelphia, PA, United States; [2]Neurology, University of Pennsylvania, Philadelphia, PA, United States

1354. Carotid Pulse Wave Velocity Quantification with Non-Gated, Velocity-Encoded Projections
Zachary Rodgers[1], Erin K. Englund[1], Michael C. Langham[1], Jeremy F. Magland[1], Felix Wehrli[1]
[1]Radiology, University of Pennsylvania, Philadelphia, PA, United States

ISMRM MERIT AWARD magna cum laude

1355. Improved L1-SPIRiT Reconstruction with a Phase Divergence Penalty for 3D Phase-Contrast Flow Measurements
Michael Loecher[1], Claudio Santelli[2, 3], Oliver Wieben[1, 4], Sebastian Kozerke[2, 3]
[1]Medical Physics, University of Wisconsin Madison, Madison, WI, United States; [2]Biomedical Engineering, University and ETH Zurich, Zurich, Switzerland; [3]Imaging Sciences and Biomedical Engineering, King's College London, London, United Kingdom; [4]Radiology, University of Wisconsin Madison, Madison, WI, United States

1356. 4D Flow-Sensitive MRI Pulmonary Artery Pulse Wave Velocity in Pulmonary Arterial Hypertension
Christopher J. François[1], Alejandro Roldán-Alzate[1], Andrew L. Wentland[1], Heidi B. Kellihan[2], Naomi C. Chesler[3], Oliver Wieben[1, 4]
[1]Radiology, University of Wisconsin, Madison, WI, United States; [2]Veterinary Medicine, University of Wisconsin, Madison, WI, United States; [3]Biomedical Engineering, University of Wisconsin, Madison, WI, United States; [4]Medical Physics, University of Wisconsin, Madison, WI, United States

Traditional Poster
Myocardial Tissue Characterization

Exhibition Hall Monday 10:45-12:45

1357. Real-Time Prospective Adjustment of Inversion Time Using Arrhythmia Insensitive Inversion Recovery (AIIR) Algorithm for Delayed Hyper-Enhancement MRI

ISMRM MERIT AWARD magna cum laude

Ramkumar Krishnamurthy[1], Amol Pednekar[2], Jouke Smink[3], Benjamin Cheong[4], Raja Muthupillai[4]
[1]Rice University, Houston, TX, United States; [2]Philips Health Care, Houston, TX, United States; [3]Philips Health Care, Best, TX, Netherlands; [4]St. Luke's Episcopal Hospital, Houston, TX, United States

1358. Heart-Rate Independent Non-Contrast Myocardial T1 Mapping

ISMRM MERIT AWARD magna cum laude

Sebastian Weingärtner[1, 2], Mehmet Akçakaya[1], Kraig V. Kissinger[1], Warren J. Manning[1], Reza Nezafat[1]
[1]Department of Medicine, Beth Israel Deaconess Medical Center and Harvard Medical School, Boston, MA, United States; [2]Computer Assisted Clinical Medicine, University Medical Center Mannheim, Heidelberg University, Mannheim, Germany

1359. Metabolite-Cycled, ECG-Triggered and Navigator-Gated ^{1}H MRS with Optimised Image-Based B_0 Shimming Achieves High Spectral Quality in the Myocardium at 3T

Donnie Cameron[1], Ariane Fillmer[2], Andreas Hock[2], Thomas W. Redpath[3], Michael P. Frenneaux[3], Dana Dawson[1], Anke Henning[2, 4]
[1]University of Aberdeen, Aberdeen, United Kingdom; [2]Institute for Biomedical Engineering, University and ETH Zurich, Zurich, Switzerland; [3]The University of Aberdeen, Aberdeen, United Kingdom; [4]Max Planck Institute of Biological Cybernetics, Tübingen, Germany

1360. *In Vivo* Ultra Short TE (UTE) MRI Detects Diffuse Fibrosis in Hypertrophic Mouse Hearts

Bastiaan J. van Nierop[1], Jules L. Nelissen[1], Noortje A.M. Bax[2], Abdallah G. Motaal[1], Larry de Graaf[1], Klaas Nicolay[1], Gustav J. Strijkers[1]
[1]Biomedical NMR, Department of Biomedical Engineering, Eindhoven University of Technology, Eindhoven, Noord Brabant, Netherlands; [2]Soft Tissue Biomechanics and Engineering, Department of Biomedical Engineering, Eindhoven University of Technology, Eindhoven, Noord Brabant, Netherlands

1361. High Resolution Fully Quantitative Sodium Mapping in the Acutely Infarcted Mouse Heart

Mahon L. Maguire[1], Kiterie M. Faller[1], Debra Medway[1], Victoria Thornton[1], Craig A. Lygate[1], Andrew M. Blamire[2], Stefan Neubauer[1], Jurgen E. Schneider[1]
[1]Dept. Cardiovascular Medicine, University of Oxford, Oxford, United Kingdom; [2]Newcastle Magnetic Resonance Centre, Newcastle University, Newcastle upon Tyne, United Kingdom

1362. Leakage and Water Exchange Characterization of Gadofosveset in the Myocardium

Octavia Bane[1, 2], Daniel C. Lee[3], Brandon C. Benefield[3], Kathleen R. Harris[1], Neil R. Chatterjee, [23], James C. Carr[1], Timothy J. Carroll[1, 2]
[1]Radiology, Northwestern University, Chicago, IL, United States; [2]Biomedical Engineering, Northwestern University, Evanston, IL, United States; [3]Medicine, Northwestern University, Chicago, IL, United States

1363. Compensation of Signal Loss Due to Cardiac Motion in Point-Resolved Spectroscopy of the Heart

Kilian Weiss[1], Severin Summermatter[1], Christian T. Stoeck[1], Sebastian Kozerke[1]
[1]Institute for Biomedical Engineering, University and ETH Zurich, Zurich, Switzerland

1364. An Efficient Protocol for Infarct Quantification in Mice

Guido Buonincontri[1], Carmen Methner[2], Thomas Krieg[2], T. Adrian Carpenter[1], Stephen J. Sawiak[1, 3]
[1]Wolfson Brain Imaging Centre, University of Cambridge, Cambridge, United Kingdom; [2]Department of Medicine, University of Cambridge, Cambridge, United Kingdom; [3]Behavioural and Clinical Neuroscience Institute, University of Cambridge, Cambridge, United Kingdom

1365. A Fast Myocardial T1 Mapping Method Compatible to MOLLI

Yu-Wei Tang[1], Tzu-Chao Chuang[2], Hsiao-Wen Chung[1], Teng-Ti Huang[3]
[1]Department of Electrical Engineering, National Taiwan University, Taipei, Taiwan; [2]Department of Electrical Engineering, National Sun Yat-Sen University, Kaohsiung, Taiwan; [3]Department of Electrical Engineering, National Taiwan University of Science and Technology, Taipei, Taiwan

1366. Fast Cardiac T1 Quantification with an ECG-Triggered Radial Single-Shot Inversion Recovery Sequence (TRASSI)

Daniel Gensler[1], Philipp Mörchel[1], Florian Fidler[1], Oliver Ritter[2], Mark E. Ladd[3], Harald H. Quick[4], Wolfgang Rudolf Bauer[2], Peter M. Jakob[1, 5], Peter Nordbeck[2]
[1]Research Center for Magnetic Resonance Bavaria e.V., Würzburg, Bavaria, Germany; [2]Department of Internal Medicine I, University Hospital Würzburg, Würzburg, Bavaria, Germany; [3]Erwin L. Hahn Institute for Magnetic Resonance Imaging, University Duisburg-Essen, Essen, Germany; [4]Institute of Medical Physics, University Erlangen-Nürnberg, Erlangen, Bavaria, Germany; [5]Experimental Physics 5, Iniversity of Würzburg, Würzburg, Bavaria, Germany

1367. Black-Blood Preparation Vs. Bright-Blood for Myocardial T_2p-SSFP – Based T_2 Quantification

Ina Vernikouskaya[1, 2], Peter Bernhardt[1], Wolfgang Rottbauer[1], Volker Rasche[1, 2]
[1]Internal Medicine II, University Hospital of Ulm, Ulm, Baden-Wuerttemberg, Germany; [2]Small Animal MRI, University of Ulm, Ulm, Baden-Wuerttemberg, Germany

1368. Late Gadolinium Enhancement MRI Parameters Related to Ventricular Tachyarrhythmia and Subsequent Invasive Treatments in Asymmetric Septal Hypertrophic Cardiomyopathy with Preserved Ejection Fraction

Yasuo Amano[1], Masaki Tachi[1], Mitsunobu Kitamura[1], Hitomi Tani[1], Shinichiro Kumita[1]
[1]Nippon Medical School, Tokyo, Japan

1369. ECG-Triggered and Respiratory Gated Image Based B_0 Shimming for Single Voxel Spectroscopy of the Myocardium at 3T

Ariane Fillmer[1], Donnie Cameron[2], Thomas W. Redpath[2], Michael P. Frenneaux[2], Dana Dawson[2], Anke Henning[1, 3]
[1]Institute for Biomedical Engineering, University and ETH Zurich, Zurich, ZH, Switzerland; [2]University of Aberdeen, Aberdeen, United Kingdom; [3]Max Planck Institut for Biological Cybernetics, Tübingen, Germany

1370. Optimization and Standardization of TI-Selection in Contrast Enhanced Viability Imaging by Automated Analysis of Rapid Quantitative T1 Mapping

Andreas Greiser[1], André Rudolph[2], Matthias Alexander Dieringer[2], Julius Traber[2], Evelyn Polzin[2], Edgar Mueller[1], Jeanette Schulz-Menger[2]
[1]Healthcare Sector, Siemens AG, Erlangen, Bavaria, Germany; [2]Working Group Cardiac MR, Charité, ECRC Humboldt-University, Berlin and HELIOS Clinics, Berlin, Germany

1371. Rapid Breath-Held T1 Weighted Double Inversion Recovery Black-Blood (DIR-BB) Turbo Spin Echo (TSE) Cardiac Imaging Using SENSE, ZOOM and Variable Refocusing Flip Angle Readout

feifei Qu[1], Ramkumar Krishnamurthy[2], Amol Pednekar[3], Benjamin Y. Cheong[4], Claudio Arena[4], Pei-Herng Hor[1], Raja Muthupillai[5]
[1]Physics, University of Houston, Houston, TX, United States; [2]BioEngineering, Rice University, Houston, TX, United States; [3]Philips HealthCare, Houston, TX, United States; [4]Radiology, St. Luke¡¯s Episcopal Hospital, Houston, TX, United States; [5]Radiology, St. Luke's Episcopal Hospital, Houston, TX, United States

1372. Quantification of Epicardial Adipose Tissue in Patients with Major Depressive Disorder by Magnetic Resonance Imaging

Dagmar Hartung[1], Katja Hueper[2], Marcel Gutberlet[1], Anne- Mieke Detlef[3], Claire Weiss[3], Anne Von Bohlen[3], Refik Pul[4], Ulrich Schweiger[5], Helge Frieling[3], Ralf Lichtinghagen[6], Frank Wacker[1], Kai G. Kahl[3]
[1]Radiology, Medical School Hannover, Hannover, Germany; [2]Radiology, Hannover Medical School, Hannover, Germany; [3]Psychiatry, Medical School Hannover, Hannover, Germany; [4]Neurology, Medical School Hannover, Hannover, Germany; [5]Psychiatry, University Medical Center Schleswig-Holstein, Lübeck, Germany; [6]Clinical Chemistry, Medical School Hannover, Hannover, Germany

1373. Supplemental Oxygenation and Hyper Ventilation for Accelerated 3D Late Gadolinium Enhancement Imaging of Left Ventricle Within a Single Breath Hold

Sébastien Roujol[1], Tamer A. Basha[1], Mehmet Akçakaya[1], Murilo Foppa[1], Kraig V. Kissinger[1], Beth Goddu[1], Sophie J. Berg[1], Warren J. Manning[1, 2], Reza Nezafat[1]
[1]Medecine, BIDMC / Harvard Medical School, Boston, MA, United States; [2]Radiology, BIDMC / Harvard Medical School, Boston, MA, United States

1374. Differences in Blood T1-Value Between Right and Left Ventricles on 4-Chamber View Contrast-Enhanced Look-Locker CMR
Yasuo Amano[1], Masaki Tachi[1], Yoshio Matsumura[1], Tetsuro Sekine[1]
[1]Nippon Medical School, Tokyo, Japan

1375. Contrast-Enhanced Look-Locker and Delayed-Enhancement MRI in Patients with Apical Hypertrophic Cardiomyopathy: Distribution of Myocardial Damages and Its Association with Risk Factors and Cardiac Function
Yasuo Amano[1], Masaki Tachi[1], Hitomi Tani[1], Shinichiro Kumita[1], Makoto Obara[2]
[1]Nippon Medical School, Tokyo, Japan; [2]Philips Healthcare Asia Pacific, Tokyo, Japan

1376. Quantitative Changes in T2* Reflect Remodeling of Both Remote and Ischemic Myocardium in a Murine Heart Failure Model
Eissa Aguor[1], Cees van de Kolok[1], Pieter A.F.M Doevendans[1], Gustav J. Strijkers[2], Fatih Arslan[1]
[1]Cardilogy, UMC, Utrecht, Netherlands; [2]Department of Biomedical Engineering, Eindhoven University of Technology, Eindhoven, Netherlands

1377. An Intuitive Model of Several Factors Affecting Accuracy of MOLLI T_1 Values
Kelvin Chow[1], Joseph J. Pagano[1], Richard B. Thompson[1]
[1]Biomedical Engineering, University of Alberta, Edmonton, Alberta, Canada

1378. Comparison Between Multi-Point Exponential and Two-Points Logarithmic Methods for Cardiac T2 Measurments.
Antoine Delmas[1], Marine Beaumont[2], Jacques Felblinger[2]
[1]Université de Rennes1, CESSON-SEVIGNE, Ille-et-Vilaine, France, Metropolitan; [2]IADI laboratory, VANDOEUVRE-LES-NANCY, Meurthe et Moselle, France, Metropolitan

Traditional Poster
Cardiac Microstructure & Function

Exhibition Hall Monday 10:45-12:45

1379. Effects of Perfusion on Cardiac MR Diffusion Measurements
ISMRM MERIT AWARD magna cum laude
Osama Abdullah[1], Arnold David Gomez[2], Samer Merchant[2], Owen Stedham[2], Michael Heidinger[3], Steven Poelzing[3], Edward Hsu[2]
[1]Bioengineering , University of Utah, salt lake city, UT, United States; [2]Bioengineering, University of Utah, salt lake city, UT, United States; [3]Cardiovascular Research and Training Institute, University of Utah, salt lake, UT, United States

1380. A Quantitative Comparison Between Slice-Followed and Non-Slice-Followed 3T BSSFP CSPAMM Myocardial Motion Tracking
Hélène Feliciano[1, 2], Davide Piccini[3, 4], Joost P. A. Kuijer[5], Matthias Stuber[1, 2]
[1]Department of Radiology, University Hospital (CHUV) and University of Lausanne (UNIL), Lausanne, Switzerland; [2]Center for Biomedical Imaging (CIBM), Lausanne, Switzerland; [3]Department of Radiology, University Hospital (CHUV) and University of Lausanne (UNIL) / Center for Biomedical Imaging (CIBM), Lausanne, Switzerland; [4]Advanced Clinical Imaging Technology, Siemens Healthcare IM S AW, Lausanne, Switzerland; [5]Dept. Physics and Medical Technology, ICaR-VU, VU University Medical Center, Amsterdam, Netherlands

1381. Right Ventricular Failure in the R6/2 Mouse Model of Huntington's Disease Is Unmasked by Dobutamine
ISMRM MERIT AWARD magna cum laude
Guido Buonincontri[1], Nigel I. Wood[2], Simon Puttick[2], Alexander O. Ward[1], T. Adrian Carpenter[1], Stephen J. Sawiak[1, 3], A Jennifer Morton[2]
[1]Wolfson Brain Imaging Centre, University of Cambridge, Cambridge, United Kingdom; [2]Department of Pharmacology, University of Cambridge, Cambridge, United Kingdom; [3]Behavioural and Clinical Neuroscience Institute, University of Cambridge, Cambridge, United Kingdom

1382. Epigenetic Upregulation of VEGF-A Decreases Infarct Size in Mouse Myocardium: MR Cine Imaging of Left Ventricle

ISMRM MERIT AWARD magna cum laude

Haja-Sherief N Musthafa[1], Mikko Turunen[1, 2], Svetlana Laidinen[1, 2], Tiia Husso[1], Sanna Honkanen[1], Suvi Kuosmanen[1], Erhe Gao[3], Hanne Hakkarainen[1], Seppo Ylä-Herttuala[1, 2], Timo Liimatainen[1]

[1]A.I. Virtanen Institute For Molecular Sciences, Kuopio, Eastern Finland, Finland; [2]Ark Therapeutics Ltd., Kuopio, Eastern Finland, Finland; [3]Temple University, Philadelphia, PA, United States

1383. Cardiac Structure and Function Are Altered in Adults with Non-Alcoholic Fatty Liver Disease with No Known Cardiac Involvement

Kieren Grant Hollingsworth[1], Kate Hallsworth[2], Christian Thoma[2], Djordje G. Jakovljevic[2], Guy A. MacGowan[3], Quentin Anstee[1], Andrew M. Blamire[1], Roy Taylor[1], Chris P. Day[1], Michael I. Trenell[2]

[1]Institute of Cellular Medicine, Newcastle University, Newcastle upon Tyne, Tyne and Wear, United Kingdom; [2]MOVElab, Newcastle University, Newcastle upon Tyne, Tyne and Wear, United Kingdom; [3]Institute of Genetic Medicine, Newcastle University, Newcastle upon Tyne, Tyne and Wear, United Kingdom

1384. Towards Myocardial T_2^* Mapping at 7.0 T: Assessment and Implications of Static Magnetic Fields Variations

Fabian Hezel[1], Peter Kellman[2], Lukas Winter[1], Oliver Kraus[1], Katharina Fuchs[1], Thoralf Niendorf[1, 3]

[1]Berlin Ultrahigh Field Facility (B.U.F.F.), Max-Delbrueck Center for Molecular Medicine, Berlin, Germany; [2]Medical Imaging Section, National Institutes of Health / NHLBI, Bethesda, MD, United States; [3]Cardiovascular Magnetic Resonance, Experimental and Clinical Research Center, Berlin, Germany

1385. Hypertrophic Remodelling and Subendocardial Dysfunction in Mitochondrial DNA Point Mutation Carriers Without Known Cardiac Involvement

Kieren Grant Hollingsworth[1], Matthew G.D. Bates[2], Jane H. Newman[3], Djordje G. Jakovljevic[3], Andrew M. Blamire[1], Guy A. MacGowan[4], Bernard D. Keavney[4], Patrick F. Chinnery[4], Douglass M. Turnbull[2], Robert W. Taylor[2], Michael I. Trenell[3], Grainne S. Gorman[3]

[1]Institute of Cellular Medicine, Newcastle University, Newcastle upon Tyne, Tyne and Wear, United Kingdom; [2]Mitochondrial Research Group, Newcastle University, Newcastle upon Tyne, Tyne and Wear, United Kingdom; [3]MOVElab, Newcastle University, Newcastle upon Tyne, Tyne and Wear, United Kingdom; [4]Institute of Genetic Medicine, Newcastle University, Newcastle upon Tyne, Tyne and Wear, United Kingdom

1386. FDA-Approved Intralipid Can Protect Hearts Against Ischemic Reperfusion Injury: An Integrated Cellular and Functional Cardiac MRI Study

Yijen Lin Wu[1], Brent D. Barbe[1], Li Liu[1], T. Kevin Hitchens[1], Chien Ho[1, 2]

[1]Pittsburgh NMR Center for Biomedical Research, Carnegie Mellon University, Pittsburgh, PA, United States; [2]Department of Biological Sciences, Carnegie Mellon University, Pittsburgh, PA, United States

1387. Development of Cardiac MRI for Studying Zebrafish Models of Cardiovascular Disease

Gavin D. Merrifield[1], Jim Mullin[2], Carl S. Tucker[3], Martin A. Denvir[3], William M. Holmes[2]

[1]School of Clinical Sciences and Community Health, University of Edinburgh, Edinburgh, Scotland, United Kingdom; [2]Glasgow experimental MRI Centre, University of Glasgow, Glasgow, Scotland, United Kingdom; [3]Cardiovascular Sciences, University of Edinburgh, Edinburgh, Scotland, United Kingdom

1388. The Impact of Chronic Exercise on Cardiac Function in PEPCK-Cmus Mice Characterized by DENSE MRI

Yuchi Liu[1], Xunbai Mei[1], Martin W. Zhu[2], Saul Flores[3], Parvin Hakimi[4], Richard Hanson[4], Michiko Watanabe[3], Xin Yu[1]

[1]Department of Biomedical Engineering, Case Western Reserve University, Cleveland, OH, United States; [2]Hawken School, Gates Mills, OH, United States; [3]Department of Pediatrics, Case Western Reserve University, Cleveland, OH, United States; [4]Department of Biochemistry, Case Western Reserve University, Cleveland, OH, United States

1389. Novel Results from Cardiac Magnetic Resonance Imaging in a Spider Species

Gavin D. Merrifield[1], Nichola M. Brydges[2], Lynsey S. Hall[3], Jim Mullin[4], Lindsay Gallagher[4], Romain Pizzi[5], William M. Holmes[4]

[1]Centre for Clinical Brain Sciences, University of Edinburgh, Edinburgh, Midlothian, United Kingdom; [2]Centre for Cardiovascular Science, University of Edinburgh, Edinburgh, United Kingdom; [3]School of Molecular and Clinical Medicine, Royal Edinburgh Hospital, Edinburgh, United Kingdom; [4]Institute of Neuroscience and Psychology, College of Medical, Veterinary and Life Sciences, University of Glasgow, Glasgow, United Kingdom; [5]Zoological Medicine Ltd, Dunfermline, United Kingdom

1390. Comparison of BSSFP-Cine Imaging and PV Loop Measurements in a Swine Model of Chronic Ischemic Cardiomyopathy

Karl K. Vigen[1], Eric G. Schmuck[2], Nicholas S. Hendren[2], Jill M. Koch[2], Timothy A. Hacker[2], Amish N. Raval[2]
[1]Radiology, University of Wisconsin-Madison, Madison, WI, United States; [2]Medicine, University of Wisconsin-Madison, Madison, WI, United States

1391. MR Quantification of Longitudinal and Circumferential Strain in Left and Right Ventricles Subjected to Patchy Microinfarct, Large Infarct and Combined Insult

Mohammed Suhail[1, 2], Mark W. Wilson[1], Steven W. Hetts[1], Robert F. Mattrey[3], Maythem Saeed[1]
[1]Department of Radiology, University of California San Francisco, San Francisco, CA, United States; [2]School of Medicine, University of California San Diego, La Jolla, CA, United States; [3]Department of Radiology, University of California San Diego, La Jolla, CA, United States

1392. Comparison of Left Ventricle Circumferential Strain in Animals Subjected to Coronary Artery Microemboli or Occlusion/Reperfusion

Mohammed Suhail[1, 2], Mark W. Wilson[1], Steven W. Hetts[1], Robert F. Mattrey[3], Maythem Saeed[1]
[1]Department of Radiology, University of California San Francisco, San Francisco, CA, United States; [2]School of Medicine, University of California San Diego, La Jolla, CA, United States; [3]Department of Radiology, University of California San Diego, La Jolla, CA, United States

1393. Dynamic Cardiac Phantom for Magnetic Resonance Imaging and Ultrasonography

Konrad Werys[1, 2], Lukasz Blaszczyk[1, 2], Szymon Cygan[3]
[1]Institute of Radioelectronics, Warsaw University of Technology, Warsaw, Poland; [2]Cardiac Magnetic Resonance Unit, The Cardinal Stefan Wyszynski Institute of Cardiology, Warsaw, Poland; [3]Institute of Metrology and Biomedical Engineering, Warsaw University of Technology, Warsaw, Poland

Traditional Poster
CV Imaging Technology & Methodology

Exhibition Hall Monday 10:45-12:45

1394. Comparison of Myocardial T1-Mapping Protocols: Accuracy and Precision

Peter Kellman[1], Hui Xue[2], Michael Schacht Hansen[3]
[1]NHLBI, NIH, Bethesda, MD, United States; [2]Siemens Corporate Research, Princeton, NJ, United States; [3]NHLBI, National Institutes of Health, Bethesda, MD, United States

1395. Arrhythmia Insensitive Rapid Cardiac T1 Mapping Pulse Sequence: In Vitro Study

Michelle Fitts[1, 2], Elodie Breton[3], Eugene G. Kholmovski[2, 4], Derek J. Dosdall[2, 5], Sathya Vijayakumar,[2 4], Kyung P. Hong[1, 2], Ravi Ranjan[2, 5], Nassir F. Marrouche[2, 5], Leon Axel[6], Daniel Kim[2, 4]
[1]Bioengineering, University of Utah, Salt Lake City, UT, United States; [2]CARMA Center, University of Utah, Salt Lake City, UT, United States; [3]ICube, Strasbourg University, Strasbourg, Alsace, France; [4]UCAIR, Department of Radiology, University of Utah, Salt Lake City, UT, United States; [5]Internal Medicine, University of Utah, Salt Lake City, UT, United States; [6]Department of Radiology, New York University, New York, United States

1396. Improved Adiabatic Inversion Design for Myocardial T1-Mapping

Peter Kellman[1], Daniel A. Herzka[2], Michael Schacht Hansen[3]
[1]NHLBI, NIH, Bethesda, MD, United States; [2]Biomedical Engineering, Johns Hopkins University, Baltimore, MD, United States; [3]NHLBI, National Institutes of Health, Bethesda, MD, United States

1397. Knowledge-Based Automatic Slice-Alignment Method of Cardiac Magnetic Resonance Imaging for Right Ventricular Evaluation in Patients with Pulmonary Arterial Hypertension

Rieko Ishimura[1], Kenichi Yokoyama[1], Toshiya Kariyasu[1], Toshiaki Nitatori[1], Shuhei Nitta[2], Taichirou Shiodera[2], Tomoyuki Takeguchi[2], Shigehide Kuhara[3]
[1]Department of Radiology, Faculty of Medicine, Kyorin University, Mitaka-shi, Tokyo, Japan; [2]R&D Center, Toshiba Corporation, Kawasaki-shi, Japan; [3]Toshiba Medical Systems, Otawara-shi, Tochigi, Japan

1398. Preclinical Evaluation of a 3D Technique for Whole-Heart Water-Fat Imaging: Comparison with CT

ISMRM MERIT AWARD magna cum laude

Valentina Taviani[1], Diego Hernando[2], Alejandro Munoz Del Rio[1], Ann Shimakawa[3], Randi Drees[4], Rebecca Johnson[4], Karl K. Vigen[1], Scott B. Reeder[1, 5], Christopher J. Francois[2]

[1]Radiology, University of Wisconsin, Madison, WI, United States; [2]Radiology, University of Wisconsin-Madison, Madison, WI, United States; [3]Global MR Applied Science Laboratory, GE Healthcare, Menlo Park, CA, United States; [4]Department of Surgical Sciences, School of Veterinary Medicine, University of Wisconsin, Madison, WI, United States; [5]Medical Physics, University of Wisconsin, Madison, WI, United States

1399. Assessment of Myocardial Reperfusion Injury with Magnetic Resonance Imaging: Segmental Susceptibility-Weighted Phase, Late Gadolinium Enhancement and Rest Perfusion Imaging

James William Goldfarb[1, 2], Usama Hasan[1], Wenguo Zhao[1], Jing Han[1]

[1]Department of Research and Education, Saint Francis Hospital, Roslyn, NY, United States; [2]Program in Biomedical Engineering, SUNY Stony Brook, Stony Brook, NY, United States

1400. Improvements in Cardiac MRI at 3T Using High Permittivity Materials

ISMRM MERIT AWARD magna cum laude

Wyger M. Brink[1], Andrew Webb[1]

[1]Radiology, Leiden University Medical Center, Leiden, Netherlands, Zuid-Holland, Netherlands

1401. Ungated Cine First-Pass Myocardial Perfusion Imaging for Simultaneous Detection of Wall Motion and Perfusion Abnormalities

ISMRM MERIT AWARD magna cum laude

Behzad Sharif[1], Rohan Dharmakumar[1], Reza Arsanjani[2], Louise EJ Thomson[2], Noel Bairey Merz[2], Daniel S. Berman[2], Debiao Li[1]

[1]Biomedical Imaging Research Institute, Cedars-Sinai Medical Center, Los Angeles, CA, United States; [2]Heart Institute, Cedars-Sinai Medical Center, Los Angeles, CA, United States

1402. Myocardial Perfusion Imaging: Improved Image Reconstruction Using Respiratory Motion Corrected (MOCO) SPIRiT

Hui Xue[1], Yu Ding[2], Christoph Guetter[1], Andrew E. Arai[3], Peter Kellman[3]

[1]Siemens Corporate Research, Princeton, NJ, United States; [2]Dorothy M. Davis Heart and Lung Research Institute, The Ohio State University, Columbus, OH, United States; [3]National Institutes of Health, National Heart, Lung and Blood Institute, Bethesda, MD, United States

1403. Automated Left Ventricular Twist Measurement with Complementary Radial Tags

Zhe Wang[1, 2], Meral L. Reyhan[1, 3], Abbas N. Moghaddam[1, 4], J. Paul Finn[3], Daniel B. Ennis, [25]

[1]Department of Radiological Sciences, University of California, Los Angeles, CA, United States; [2]Department of Bioengineering, University of California, Los Angeles, CA, United States; [3]Biomedical Physics Interdepartmental Program, University of California , Los Angeles, CA, United States; [4]Department of Biomedical Engineering, Amirkabir University of Technology(Tehran Polytechnic), Tehran, Iran; [5]Department of Radiological Sciences, University of California Los Angeles, Los Angeles, CA, United States

1404. Cardiac-Respiratory Self-Gated Cine UTE for Visualization of the Cardiac Valves

Verena Hoerr[1], Nina Nagelmann[1], Arno Nauerth[2], Cornelius Faber[3]

[1]University Hospital Muenster, Muenster, Germany; [2]Bruker BioSpin MRI GmbH, Ettlingen, Germany; [3]University Hospital Münster, Muenster, Germany

1405. Validation of Real Time MR Imaging Using Pressure-Volume Loops

Francisco Contijoch[1], Walter R.T. Witschey[1], Jeremy McGarvey[1], Melissa Levack[1], Victor A. Ferrari[1], Julio Chirinos[1], Norihiro Kondo[1], Satoshi Takebayashi[1], Toru Shimaoka[1], Chikashi Aoki[1], Gerald A. Zsido[1], Joseph Gorman[1], Robert C. Gorman[1], James J. Pilla[1]

[1]University of Pennsylvania, Philadelphia, PA, United States

1406. Combined Free-Breathing 3D LGE and T1 Mapping for Simultaneous Assessment of Scar and Diffused Fibrosis

Sebastian Weingärtner[1, 2], Mehmet Akçakaya[1], Warren J. Manning[1], Reza Nezafat[1]

[1]Department of Medicine, Beth Israel Deaconess Medical Center and Harvard Medical School, Boston, MA, United States; [2]Computer Assisted Clinical Medicine, University Medical Center Mannheim, Heidelberg University, Mannheim, Germany

1407. High Resolution Myocardial T1 Mapping Using MOLLI with Parallel Imaging and Compressed Sensing
Xiao Chen[1], Bhairav B. Mehta[1], Michael Salerno[2, 3], Frederick H. Epstein[1]
[1]Biomedical Engineering, University of Virginia, Charlottesville, VA, United States; [2]Medicine, University of Virginia, Charlottesville, VA, United States; [3]Radiology, University of Virginia, Charlottesville, VA, United States

1408. Real-Time Cardiac Imaging of Transplanted Hearts
Anthony G. Christodoulou[1], Yijen L. Wu[2], Qing Ye[2], T. Kevin Hitchens[2], Chien Ho[2], Zhi-Pei Liang[1]
[1]Department of Electrical and Computer Engineering, University of Illinois at Urbana-Champaign, Urbana, IL, United States; [2]Pittsburgh NMR Center for Biomedical Research, Department of Biological Sciences, Carnegie Mellon University, Pittsburgh, PA, United States

1409. Effect of Contrast Dose, Post-Contrast Acquisition Time, Myocardial Regionality, Cardiac Cycle and Gender on Dynamic-Equilibrium Contrast CMR Measurement of Myocardial Extracellular Volume
Christopher A. Miller[1, 2], Josephine H. Naish[1], Glyn Coutts[3], David Clark[4], Sha Zhou[1], Geoffrey J. M. Parker[1], Matthias Schmitt, [12]
[1]Centre for Imaging Sciences & Biomedical Imaging Institute, University of Manchester, Manchester, United Kingdom; [2]North West Heart Centre and The Transplant Centre, University Hospital of South Manchester, Manchester, United Kingdom; [3]Christie Medical Physics and Engineering, The Christie Hospital, Manchester, United Kingdom; [4]Alliance Medical Cardiac MRI Unit, Manchester, United Kingdom

1410. Spatially Resolved Observation of Cardiovascular Magneto-Dynamics with NMR Field Probes
Simon Gross[1], Benjamin E. Dietrich[1], Christoph Barmet[1, 2], Klaas P. Prüssmann[1]
[1]Institute for Biomedical Engineering, University and ETH Zurich, Zurich, Switzerland; [2]Skope Magnetic Resonance Technologies, Zurich, Switzerland

1411. Three Dimensional Myocardial T1 Mapping During Free-Breathing
Sebastian Weingärtner[1, 2], Mehmet Akçakaya[1], Warren J. Manning[1], Reza Nezafat[1]
[1]Department of Medicine, Beth Israel Deaconess Medical Center and Harvard Medical School, Boston, MA, United States; [2]Computer Assisted Clinical Medicine, University Medical Center Mannheim, Heidelberg University, Mannheim, Germany

1412. Feasibility of Cardiac Fast Spin Echo Imaging at 7.0 T Using a Two-Dimensional 16 Channel Array of Bowtie Transceivers
Katharina Fuchs[1], Fabian Hezel[1], Lukas Winter[1], Celal Oezerdem[1], Andreas Graessl[1], Matthias Alexander Dieringer[1, 2], Oliver Kraus[1], Thoralf Niendorf[1, 3]
[1]Berlin Ultrahigh Field Facility (B.U.F.F.), Max-Delbrueck Center for Molecular Medicine, Berlin, Germany; [2]Working Group on Cardiovascular Magnetic Resonance, Experimental and Clinical Research Center, Berlin, Germany; [3]Experimental and Clinical Research Center, a cooperation of the Charité Medical Faculty and the Max-Delbrueck Center for Molecular Medicine, Berlin, Germany

1413. Referenceless Acquisition of Phase-Sensitive Inversion-Recovery with Decisive Reconstruction (RAPID) for Late Gadolinium Enhancement Imaging
Jinnan Wang[1], Peter Börnert[2], Huijun Chen[3], Gregory J. Wilson[4], Chun Yuan[4], Jeffrey H. Maki[4]
[1]Philips Research North America, Briarcliff Manor, NY, United States; [2]Philips Research Laboratory, Hamburg, N.A., Germany; [3]Tsinghua University, Beijing, China; [4]Radiology, University of Washington, Seattle, WA, United States

1414. Fully Automatic Calibration of Trigger Delay Time for Cardiac Magnetic Resonance Imaging
Yu-Sheng Tseng[1], Teng-Yi Huang[1], Yu-Wei Tang[2], Yi-Ru Lin[3]
[1]EE, NTUST, Taipei, Taiwan; [2]EE, NTU, Taipei, Taiwan; [3]EC, NTUST, Taipei, Taiwan

1415. Composite Histogram Constrained Artifact Suppression (CHiCA) for Dynamic Cardiac Magnetic Resonance Imaging
Thomas Gaass[1], Guillaume Potdevin[2], Grzegorz Bauman[3, 4], Peter Noël[5], Axel Haase[1]
[1]Zentralinstitut für Medizintechnik, Technische Universität München, Garching, Germany; [2]Department of Physics, Technische Universität München, Garching, Germany; [3]Division of Medical Physics in Radiology, German Cancer Research Center, Heidelberg, Germany; [4]Department of Medical Physics, University of Wisconsin, Madison, WI, United States; [5]Department of Diagnostic and Interventional Radiology, Technische Universität München, Munich, Germany

1416. True T1 Mapping with SMART$_1$Map: A Comparison with MOLLI
Glenn S. Slavin[1], Jeffrey A. Stainsby[2]
[1]GE Healthcare, Bethesda, MD, United States; [2]GE Healthcare, Toronto, ON, Canada

1417. Non-ECG Triggered, Self-Navigated 3D Radial Whole Heart MRI with Golden Angle for Multiphase Coronary Imaging.
Simone Coppo[1, 2], Davide Piccini[3, 4], Jerome Chaptinel[1, 2], Gabriele Bonanno[1, 2], Matthias Stuber[1, 2]
[1]Departiment of Radiology, University Hospital (CHUV) and University of Lausanne (UNIL), Lausanne, Switzerland; [2]Center for Biomedical Imaging (CIBM), Lausanne, Switzerland; [3]Advanced Clinical Imaging Technology, Siemens Healthcare IM S AW, Lausanne, Switzerland; [4]University Hospital (CHUV) and University of Lausanne (UNIL) / Center for Biomedical Imaging (CIBM), Lausanne, Switzerland

1418. Relaxometry Using Sequence SimuLation (RUSSL): Application to Myocardial T1-Mapping Using MOLLI
Venkat Ramanan[1], Nilesh R. Ghugre[1], Charles H. Cunningham[1], Jeffrey A. Stainsby[2], Kim A. Connelly[1, 3], Alex Leber[4], Graham A. Wright[1]
[1]Imaging Research, Sunnybrook Research Institute, Toronto, Ontario, Canada; [2]Applied Sciences Lab, GE Healthcare, Toronto, Ontario, Canada; [3]Division of Cardiology, St Michael's Hospital , Toronto, Ontario, Canada; [4]Division of Cardiology, Sunnybrook Health Sciences Centre, Toronto, Ontario, Canada

1419. *in vivo* Cardiac Diffusion MRI: Second Order Motion Compensated, Diffusion-Prepared Balanced Steady State Free Precession (SOMOCO Diffu-Prep BSSFP) with Prospective Navigator-Based Free Breathing
Christopher Nguyen[1, 2], Zhaoyang Fan[1], Behzad Sharif[4], Rohan Dharmakumar[1], James Min[1], Daniel S. Berman[1], Debiao Li[1, 2]
[1]Biomedical Imaging Research Institute, Cedars Sinai Medical Center, Los Angeles, CA, United States; [2]Bioengineering, University of California, Los Angeles, Los Angeles, CA, United States

1420. Indirect Echo Corrected Fast T2 Mapping of the Heart from Highly Undersampled Radial FSE Data Using the CURLIE Reconstruction
Tomoe Barr[1], Chuan Huang[2, 3], Ali Bilgin[4, 5], Aiden Abidov, [36], Maria I. Altbach[3]
[1]Biomedical Engineering, The University of Arizona, Tucson, AZ , United States; [2]Center for Advanced Radiological Sciences, Massachusetts General Hospital, Boston, MA, United States; [3]Medical Imaging, The University of Arizona, Tucson, AZ, United States; [4]Biomedical Engineering, University of Arizona, Tucson, AZ, United States; [5]Electrical and Computer Engineering, The University of Arizona, Tucson, AZ, United States; [6]Medicine, The University of Arizona, Tucson, AZ, United States

1421. MR Compatible Doppler-Ultrasound Device to Trigger the Heart Frequency in Cardiac MRI: Comparison to ECG
Fabian Kording[1], Bjoern Schoennagel[1], Chressen K. Much[1], Friedrich Ueberle[2], Hendrik Kooijman[3], Jin Yamamura[1], Gerhard Adam[1], Ulrike Wedegaertner[2]
[1]Department of Diagnostic and Interventional Radiology, University Medical Center Hamburg-Eppendorf, Hamburg, Germany, Germany; [2]Fakulty of Life Sciences, University of Appljed Sciences Hamburg, Hamburg, Germany, Germany; [3]Philips Medical Systems, Hamburg, Germany, Germany

1422. Comparison of Under-Sampled Cartesian Pulmonary Perfusion MRI Reconstructed with Either View Sharing or HYCR
Scott K. Nagle[1, 2], Laura C. Bell[3], Mark L. Schiebler[1], Christopher J. Francois[4], James H. Holmes[5], Sean B. Fain, [12], Kang Wang[5]
[1]Radiology, University of Wisconsin, Madison, WI, United States; [2]Medical Physics, University of Wisconsin, Madison, WI, United States; [3]Medical Physics, University of Wisconsin-Madison, Madison, WI, United States; [4]Radiology, University of Wisconsin-Madison, Madison, WI, United States; [5]Global Applied Science Laboratory, GE Healthcare, Madison, WI, United States

1423. Simulation of Bolus Dispersion in Quantitative Contrast-Enhanced Myocardial Perfusion MRI: Impact of a Coronary Bifurcation
Regine Schmidt[1], Dirk Graafen[1], Stefan Weber[1], Laura Maria Schreiber[1]
[1]Department of Radiology, Johannes Gutenberg University Medical Center, Mainz, Germany

1424. Cardiac Function Imaging in the Axolotl Using a New Self-Gating Approach
Henrik Lauridsen[1], Asger Andersen[2], Michael Pedersen[1], Steffen Ringgaard[1]
[1]MR Research Centre, Aarhus University, Aarhus N, Denmark; [2]The Department of Cardiological Medicine B, Aarhus University, Aarhus N, Denmark

1425. Feasibility Study of Automatic Motion Probe Setting Method for Cardiovascular Magnetic Resonance Imaging
Shigehide Kuhara[1], Shuhei Nitta[2], Taichiro Shiodera[2], Tomoyuki Takeguchi[2], Kenichi Yokoyama[3], Rieko Ishimura[3], Toshiaki Nitatori[3]
[1]MRI Systems Development Department, Toshiba Medical Systems Corporation, Otawara-shi, Tochigi, Japan; [2]Corporate Research & Development Center, Toshiba Corporation, Kawasaki-shi, Kanagawa, Japan; [3]Department of Radiology, Faculty of Medicine, Kyorin University, Mitaka-shi, Tokyo, Japan

1426. Fat-Saturated T2preparation Module Using Composite RF Pulses for 3 Tesla
Pan-ki Kim[1], David C. Wendell[2], Eun-Ah Park[3], Whal Lee[3], Hyeonjin Kim[1], Wolfgang G. Rehwald[2, 4]
[1]Seoul National University, Seoul, Korea; [2]Duke University, Durham, NC, United States; [3]Seoul National University Hospital, Seoul, Korea; [4]Siemens Healthcare Cardiac MR R&D, Chicago, IL, United States

Traditional Poster
CV Image Processing & Other

Exhibition Hall Monday 10:45-12:45

1427. Fully-Automated Coil Channel Selection in Cardiac MRI
Sebastian Weingärtner[1, 2], Mehmet Akçakaya[1], Warren J. Manning[1], Reza Nezafat[1]
[1]Department of Medicine, Beth Israel Deaconess Medical Center and Harvard Medical School, Boston, MA, United States; [2]Computer Assisted Clinical Medicine, University Medical Center Mannheim, Heidelberg University, Mannheim, Germany

1428. An Automatic Slice-Alignment Method for Both Left and Right Ventricular Analysis in Cardiac Magnetic Resonance Imaging
Shuhei Nitta[1], Taichiro Shiodera[1], Tomoyuki Takeguchi[1], Shigehide Kuhara[2], Kenichi Yokoyama[3], Rieko Ishimura[3], Toshiaki Nitatori[3]
[1]Corporate Research & Development Center, Toshiba Corporation, Kawasaki, Kanagawa, Japan; [2]MRI Systems Division, Toshiba Medical Systems Corporation, Otawara, Tochigi, Japan; [3]Department of Radiology, Faculty of Medicine, Kyorin University, Mitaka, Tokyo, Japan

1429. Simultaneous Left and Right Ventricle Segmentation Using Topology Preserving Level Sets
Cristobal Arrieta[1, 2], Sergio Uribe, [2 3], Daniel Hurtado, [2 4], Marcelo Andia[3], Pablo Irarrázabal[1, 2], Cristian Tejos[1, 2]
[1]Electrical Engineering, Pontificia Universidad Catolica de Chile, Santiago, Chile; [2]Biomedical Imaging Center, Pontificia Universidad Catolica de Chile, Santiago, Chile; [3]Radiology, Pontificia Universidad Catolica de Chile, Santiago, Chile; [4]Structural Engineering, Pontificia Universidad Catolica de Chile, Santiago, Chile

1430. 3D Left-Ventricular Deformation Analysis from 3D CSPAMM with 3D SinMod
Hui Wang[1], Christian T. Stoeck[2], Sebastian Kozerke[2], Amir A. Amini[1]
[1]University of Louisville, Louisville, KY, United States; [2]Institute for Biomedical Engineering, ETH, Zurich, Switzerland

1431. Regional MRI Left Ventricular Ejection Fraction Compared to Wall Motion Scoring and Late Enhancement Scar Imaging
Avan Suinesiaputra[1], Brett R. Cowan[1], Pau Medrano-Gracia[1], Daniel C. Lee[2], Alistair A. Young[1]
[1]Anatomy with Radiology, The University of Auckland, Auckland, New Zealand; [2]Feinberg Cardiovascular Research Institute, Northwestern University, Chicago, IL, United States

1432. Analysis of Right Ventricular Kinetic Energy in an Acute PAH Animal Model Using 4D Flow MRI.
Alejandro Roldán-Alzate[1], Philip C. Kilgas[2], Kevin M. Johnson[2], Oliver Wieben[1, 2], Christopher J. Francois[3]
[1]Radiology, University of Wisconsin, Madison, WI, United States; [2]Medical Physics, University of Wisconsin, Madison, WI, United States; [3]Radiology, University of Wisconsin-Madison, Madison, WI, United States

1433. Robust Estimation of Pulse Wave Transit Time Using Group Delay
Antonella Meloni[1], Heather Zymeski[2], Alessia Pepe[1], Massimo Lombardi[1], John C. Wood[2]
[1]CMR Unit, Fondazione G. Monasterio CNR-Regione Toscana and Institute of Clinical Physiology, Pisa, Italy; [2]Division of Cardiology,, Children's Hospital Los Angeles, Los Angeles, CA, United States

1434. Fully Automatic Visualization of 4D Flow Data
Aurelien F. Stalder[1], Mehmet Akif Gulsun[2], Andreas Greiser[3], Marie-Pierre Jolly[2]
[1]Siemens AG - Healthcare, Erlangen, Germany; [2]Imaging and computer vision, Siemens Corporation - Corporate Technology, Princeton, NJ, United States; [3]Siemens AG, Erlangen, Germany

1435. Computer-Aided Arteriovenous Malformation Nidus Segmentation from 3D Time-Of-Flight MRA Datasets
Nils Daniel Forkert[1], Till Illies[1], Einar Goebell[1], Jens Fiehler[1], Heinz Handels[2]
[1]Department of Diagnostic and Interventional Neuroradiology, University Medical Center Hamburg-Eppendorf, Hamburg, Germany; [2]Institute of Medical Informatics, University of Luebeck, Luebeck, Schleswig-Holstein, Germany

1436. Adjustable Suppression of Water Signal in the Background in Subtractionless First-Pass Peripheral Angiography with Dual-Echo Dixon Imaging
Holger Eggers[1], Tim Leiner[2]
[1]Philips Research Laboratories, Hamburg, Germany; [2]Department of Radiology, University Medical Center Utrecht, Utrecht, Netherlands

1437. A New Framework for Real-Time MR Imaging by Using Time and Gradient Sparsities
Xiaoying Cai[1], Feiyu Chen[2], Enhao Gong[3], Shi Wang[4], Kui Ying[4]
[1]Biomedical Engineering, Tsinghua University, Beijing, China; [2]Department of Biomedical Engineering, Tsinghua University, Beijing, China; [3]Electrical Engineering, Stanford University, Stanford, CA, United States; [4]Department of Engineering Physics, Tsinghua University, Beijing, China

ISMRM MERIT AWARD magna cum laude

1438. Z-Spectrum Fitting for CEST Contrast Computation in *In Vivo* Myocardium Tissue
Anup Singh[1], Mohammad Haris[1], Kejia Cai[1], Feliks Kogan[1], Walter R.T. Witschey[1, 2], Gerald A. Zsido[2], Jeremy McGarvey[2], Ravi Prakash Reddy Nanga[1], Francisco Contijoch[3], James J. Pilla, Joseph H. Gorman[2], Victor A. Ferrari[4], Hari Hariharan[1], Robert C. Gorman[2], Ravinder Reddy[1]
[1]CMROI, Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States; [2]Department of Surgery, University of Pennsylvania, Philadelphia, PA, United States; [3]Bioengineering, University of Pennsylvania, Philadelphia, PA, United States; [4]Department of Medicine, University of Pennsylvania, Philadelphia, PA, United States

1439. Dual Acquisition Cardiac Cine BOLD Imaging with Flow Compensation at 3T: Early Findings
Hsin-Jung Yang[1, 2], Rohan Dharmakumar[1]
[1]Cedars-Sinai Medical Center, Los Angeles, CA, United States; [2]Biomedical Engineering, University of California, Los Angeles, CA, United States

1440. An Automatic Method for Myocardial T2* Curve Fitting in Thalassemia Patients with Severe Iron Overload
Vincenzo Positano[1], Antonella Meloni[1], Maria Filomena Santarelli[1], Luigi Landini[1], Carmelo Fidone[2], Maria Antonietta Romeo[3], Letizia Gulino[1], Elisabetta Chiodi[4], Antonino Vallone[5], Massimo Lombardi[1], Alessia Pepe[1]
[1]CMR Unit, Fondazione G. Monasterio CNR-Regione Toscana and Institute of Clinical Physiology, Pisa, Italy; [2]U.O.S. di Microcitemia, Az. Osp. Civile, O.M.P.A. di Ragusa, Ragusa, Italy; [3]Dipartimento Pediatria, Azienda Policlinico, Catania, Italy; [4]Servizio Radiologia Ospedaliera-Universitaria, Arcispedale "S. Anna" di Ferrara, Ferrara, Italy; [5]Istituto di Radiologia Az. Osp. "Garibaldi", Presidio Ospedaliero Nesima, Catania, Italy

1441. Spectrum-Based Automatic Localization of Left Ventricle from Cardiac Magnetic Resonance Imaging
Liang Zhong[1], Min Wan[1], Jun Mei Zhang[1], Ru San Tan[1]
[1]National Heart Centre Singapore, Singapore, Singapore

1442. Dynamic Contrast-Enhanced MRI Assessment of Vascularity in a Regenerative Tissue Matrix
Patrick Antkowiak[1], Anthony Bruce[1], Nicholas Palacio[1], Heather Ansorge[2], Aaron Barere[2], Shayn Peirce-Cottler[3], Frederick H. Epstein[3]
[1]University of Virginia, Charlottesville, VA, United States; [2]LifeCell Corporation, Branchburg, NJ, United States; [3]Biomedical Engineering, University of Virginia, Charlottesville, VA, United States

1443. T2-Weighted Fourier Velocity Encoding: *in Vivo* Vascular MR Oximetry
Joshua F. P. van Amerom[1, 2], Christopher M. Wernik[3], Venkat Ramanan[4], Graham A. Wright, [34], Christopher K. Macgowan, [23]
[1]Labatt Family Heart Centre, Div. of Cardiology, Dept. of Paediatrics, Hospital for Sick Children, Toronto, ON, Canada; [2]Dept. Of Diagnostic Imaging, Hospital for Sick Children, Toronto, ON, Canada; [3]Dept. of Medical Biophysics, University of Toronto, Toronto, ON, Canada; [4]Imaging Research, Sunnybrook Health Sciences Centre, Toronto, ON, Canada

1444. Contrasted Enhanced Magnetic Resonance Venography with Gadofosveset Trisodium
Larry A. Kramer[1], Allan M. Cohen[1], Jared H. Heimbigner[1], William K. Carson[1], Andrew D. Barreto[2], Staley A. Brod[2], Ponnada A. Narayana[1], Jerry S. Wolinsky[2]
[1]Diagnostic Imaging and Intervention, UTHSC-Houston, Houston, TX, United States; [2]Department of Neurology, UTHSC-Houston, Houston, TX, United States

1445. Dependence of Scar Contrast in LGE-MRI of Left Atrium on Time Post Contrast Injection
Sathya Vijayakumar[1, 2], Nassir F. Marrouche[2], Eugene G. Kholmovski[1, 2]
[1]UCAIR, Dept. of Radiology, University of Utah, Salt Lake City, UT, United States; [2]CARMA, Dept. of Cardiology, University of Utah, Salt Lake City, UT, United States

1446. Differential Play of Macrophages and T-Lymphocytes in Acute Allograft Cardiac Rejection: *in vivo* Cellular MRI Detection with a New Iron-Oxide Particle
Yijen Lin Wu[1], Li Liu[1], Qing Ye[1], Brent D. Barbe[1], T. Kevin Hitchens[1], Chien Ho[1, 2]
[1]Pittsburgh NMR Center for Biomedical Research, Carnegie Mellon University, Pittsburgh, PA, United States; [2]Department of Biological Sciences, Carnegie Mellon University, Pittsburgh, PA, United States

Traditional Poster
Hyperpolarized Gases: Methods, Applications, & Hardware

Exhibition Hall Tuesday 16:00-18:00

1447. Characterization of Dissolved-Phase Xenon-129 Properties in the Human Lung

ISMRM MERIT AWARD magna cum laude

Kun Qing[1], Kai Ruppert[2], Yun Jiang[3], Jaime F. Mata[2], G. Wilson Miller[2], Yun Michael Shim[4], Chengbo Wang[2], Iulian C. Ruset[3, 6], F. William Hersman[5, 6], Talissa A. Altes[2], John P. Mugler, III, [12]
[1]Biomedical Engineering, University of Virginia, Charlottesville, VA, United States; [2]Radiology and Medical Imaging, University of Virginia, Charlottesville, VA, United States; [3]Biomedical Engineering, Case Western Reserve University, Cleveland, OH, United States; [4]Medicine, Pulmonary and Critical Care, University of Virginia, Charlottesville, VA, United States; [5]Xemed LLC, Durham, NH, United States; [6]Physics, University of New Hampshire, Durham, NH, United States

1448. Three-Dimensional PO_2 Mapping of Human Lungs in a Short Breath Hold Using Hyperpolarized Xenon-129
G Wilson Miller[1], John P. Mugler, III[1], Talissa A. Altes[1], Jaime F. Mata[1], Kai Ruppert[1], Craig H. Meyer[2], F. William Hersman[3], Iulian C. Ruset[3]
[1]Radiology & Medical Imaging, University of Virginia, Charlottesville, VA, United States; [2]Biomedical Engineering, University of Virginia, Charlottesville, VA, United States; [3]Xemed LLC, Durham, NH, United States

1449. Selective Excitation of Dissolved ^{129}Xe
General Leung[1], Graham Norquay[1], Rolf F. Schulte[2], Jim M. Wild[1]
[1]Department of Cardiovascular Science, University of Sheffield, Sheffield, South Yorkshire, United Kingdom; [2]GE Global Research, Munich, Germany

1450. Hyperpolarized Xenon-129 3D-Chemical Shift Imaging of the Lung in Subjects with a History of Smoke Exposure
Carolina Fernandes[1], Kai Ruppert[2], Talissa A. Altes[2], John P. Mugler, III[2], Iulian C. Ruset[3], Wilson Miller[2], F. William Hersman[3], Jaime F. Mata[2]
[1]Institute of Biophysics and Biomedical Engineering, FCUL, Lisbon, Portugal; [2]Radiology and Medical Imaging, University of Virginia, Charlottesville, VA, United States; [3]Xemed LLC, Durham, NH, United States

1451. Semi-Automatic Ventilation Defect Analysis Comparing 1-Liter and 300-Ml 3D Radial and Multi-Slice GRE Imaging Using Hyperpolarized 129Xe in Non-Smoking Older Volunteers

Mu He[1, 2], Suryanarayanan S. Kaushik[1, 3], Matthew S. Freeman[4], Rohan S. Virgincar[1, 3], Scott H. Robertson[1], John Davies[5], Jane Stiles[5], William Michael Foster[5], H. Page Mcadams[6], Bastiaan Driehuys, [34]

[1]Center for In Vivo Microscopy, Duke University Medical Center, Durham, NC, United States; [2]Department of Electrical and Computer Engineering, Duke University, Durham, NC, United States; [3]Department of Biomedical Engineering, Duke University, Durham, NC, United States; [4]Center for In Vivo Microscopy, Duke University, Durham, NC, United States; [5]Department of Medicine Pulmonary, Duke University Medical Center, Durham, NC, United States; [6]Department of Radiology, Duke University Medical Center, Durham, NC, United States

1452. Xe-129 MR Gas Transfer Spectroscopy as a Biomarker for Alveolar Septal Thickening: Reproducibility in Normal Subjects and Idiopathic Pulmonary Fibrosis

Maria Liljeroth[1], Suryanarayanan S. Kaushik[2], Zackary I. Cleveland[3], Jane Stiles[4], Lake D. Morrison[4], Michael C. Foster[5], H. Page McAdams[6], Bastiaan Driehuys

[1]Sir Peter Mansfield Magnetic Resonance Center, University of Nottingham, Nottingham, Nottinghamshire, United Kingdom; [2]Biomedical Engineering, Duke University, Durham, NC, United States; [3]Center for In Vivo Microscopy, Duke University, Durham, NC, United States; [4]Pulmonary Medicine, Duke University, Durham, NC, United States; [5]Cdu Duke Hospital Clinic, Duke University, Durham, NC, United States; [6]Chest Radiology, Duke University, Durham, NC, United States

1453. Assessment of Pulmonary Capillary Blood Pulsation in Severe COPD Using Hyperpolarized 129Xe CSSR

Kai Ruppert[1], Talissa A. Altes[1], Jaime F. Mata[1], Iulian C. Ruset[2, 3], F. William Hersman[2, 3], John P. Mugler, III[1]

[1]University of Virginia, Charlottesville, VA, United States; [2]Xemed, LLC, Durham, NH, United States; [3]University of New Hampshire, Durham, NH, United States

1454. Imaging Impaired Gas Uptake in a Rat Model of Pulmonary Fibrosis with 3D Hyperpolarized 129Xe MRI

Zackary I. Cleveland[1], Yi Qi[2], Bastiaan Driehuys[1]

[1]Center for In Vivo Microscopy, Duke University, Durham, NC, United States; [2]Center for In Vivo Microscopy, Duke University Medical Center, Durham, NC, United States

1455. Measuring Septal Wall Thickening in Human Lung Disease Using Xe129 CSSR Spectroscopy

Kai Ruppert[1], Talissa A. Altes[1], Jaime F. Mata[1], Iulian C. Ruset[2, 3], F. William Hersman[2, 3], John P. Mugler, III[1]

[1]University of Virginia, Charlottesville, VA, United States; [2]Xemed, LLC, Durham, NH, United States; [3]University of New Hampshire, Durham, NH, United States

1456. Functional Hyperpolarized Xenon-129 MRI of the *ex vivo* Rodent Lung

David M.L. Lilburn[1], Theodore Hughes-Riley[1], Joseph Six[1], Karl Stupic[1], Dominick Shaw[2], Galina Pavlovskaya[1], Thomas Meersmann[1]

[1]Sir Peter Mansfield Magnetic Resonance Centre, School of Clinical Sciences, University of Nottingham, Nottingham, Nottinghamshire, United Kingdom; [2]Nottingham Respiratory Research Unit, University of Nottingham, Nottingham, Nottinghamshire, United Kingdom

1457. Hyperpolarized ^{129}Xe Lung Morphometry Method for Estimation of Xenon Concentration Gradients in Chronic Obstructive Pulmonary Disease

Alexei V. Ouriadov[1], Adam Farag[1], Miranda Kirby[1, 2], David G. McCormack[3], Grace Parraga[1, 2], Giles E. Santyr[1, 2]

[1]Robarts Research Institute, Western University, London, Ontario, Canada; [2]Department of Medical Biophysics, Western University, London, Ontario, Canada; [3]Department of Medicine, Western University, London, Ontario, Canada

1458. Velocity Mapping of Gasflow in the Upper Airways of a Lung Model for Validation of Computational Fluid Dynamics Simulations

Guilhem Jean Collier[1], Jim M. Wild[1], George Oates[2], Yongmann Chung[2]

[1]Department of Cardiovascular Science, The University of Sheffield, Sheffield, Yorkshire, United Kingdom; [2]Centre for Scientific Computing, University of Warwick, Coventry, United Kingdom

1459. *in-vivo* Measurements of Gas Flow in the Upper Airways with Hyperpolarized Helium-3 and Xenon-129
Guilhem Jean Collier[1], Juan Parra-Robles[1], Jim M. Wild[1]
[1]Department of Cardiovascular Science, The University of Sheffield, Sheffield, Yorkshire, United Kingdom

1460. Asthma Airway Morphology and Hyperpolarized ^{3}He Magnetic Resonance Imaging Ventilation Defects
Sarah Svenningsen[1, 2], Danielle Starr[1], Harvey Coxson[3], Nigel Paterson[4], David G. McCormack[4], Miranda Kirby[1, 2], Grace Parraga[1, 2]
[1]Imaging Research Laboratories, Robarts Research Institute, London, Ontario, Canada; [2]Department of Medical Biophysics, The University of Western Ontario, London, Ontario, Canada; [3]James Hogg Research Centre, University of British Columbia, Vancouver, British Columbia, Canada; [4]Division of Respirology, Department of Medicine, The University of Western Ontario, London, Ontario, Canada

1461. Estimation of Global Gravity-Induced Gradients and Oxygen Uptake from Hyperpolarized ^{3}He p_AO_2 Imaging
Hoora Shaghaghi[1], Hooman Hamedani[1], Stephen J. Kadlececk[1], Kiarash Emami[1], Yi Xin[1], Puttisarn Mongkolwisetwara[1], Masaru Ishii[2], Milton Rossman[3], Rahim Rizi[1]
[1]Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States; [2]Otolarynology, Johns Hopkins Medical Center, Baltimore, MD, United States; [3]Pulmonary, allergy and Critical Care Division, University of Pennsylvania, Philadelphia, PA, United States

1462. Hyperpolarized 3He Magnetic Resonance Imaging ADC Gradients in Healthy Elderly Never-Smokers
Khadija Sheikh[1, 2], Sarah Svenningsen[1, 2], Miranda Kirby[1, 2], David G. McCormack[3], Grace Parraga[1, 2]
[1]Imaging Research Laboratories, Robarts Research Institute, London, Ontario, Canada; [2]Medical Biophysics, Western University, London, Ontario, Canada; [3]Division of Respirology, Western University, London, Ontario, Canada

1463. A Pilot Fractional Ventilation Imaging Study in Healthy Subjects, Asymptomatic Smokers and Obstructive Pulmonary Disease Patients
Kiarash Emami[1], Hooman Hamedani[1], Stephen J. Kadlececk[1], Biao Han[1], Yi Xin[1], Masaru Ishii[2], Milton Rossman[3], Rahim Rizi[1]
[1]Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States; [2]Otolarynology, Johns Hopkins Medical Center, Baltimore, MD, United States; [3]Pulmonary, allergy and Critical Care Division, University of Pennsylvania, Philadelphia, PA, United States

1464. Inter-Lung Differences in ^{3}He Diffusion MRI in Young Adults with Congenital Diaphragmatic Hernia: Analysis Using a Stretched Exponential Model
Juan Parra-Robles[1], Helen Marshall[1], Marjolein Spoel[2], Hanneke IJsselstijn[2], Dick Tibboel[2], Harm Tiddens[3], Jim M. Wild[1]
[1]Unit of Academic Radiology, University of Sheffield, Sheffield, United Kingdom; [2]Intensive Care and Department of Pediatric Surgery, Erasmus MC-Sophia Children's Hospital, Rotterdam, Netherlands; [3]Department of Pediatrics- Respiratory Medicine and Allergology, Erasmus MC-Sophia Children's Hospital, Rotterdam, Netherlands

1465. Helium-3 ADC at Very Short Time Scales Using an SSFP-Based Imaging Pulse Sequence
Karen E. Mooney[1, 2], John P. Mugler, III[3], Talissa A. Altes[3], Gordon D. Cates, Jr.[2, 3], Eduard E. De Lange[3], Jaime F. Mata[3], William A. Tobias[2], G. Wilson Miller[3]
[1]Radiation Oncology, University of Maryland SOM, Baltimore, MD, United States; [2]Physics, University of Virginia, Charlottesville, VA, United States; [3]Radiology, University of Virginia, Charlottesville, VA, United States

1466. A Large-Scale Regional Reproducibility Study of Hyperpolarized ^{3}He Alveolar Oxygen Tension in Human Subjects
Masaru Ishii[1], Hooman Hamedani[2], Stephen J. Kadlececk[2], Kiarash Emami[2], Yi Xin[2], Milton Rossman[3], Rahim Rizi[2]
[1]Otolarynology, Johns Hopkins Medical Center, Baltimore, MD, United States; [2]Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States; [3]Pulmonary, allergy and Critical Care Division, University of Pennsylvania, Philadelphia, PA, United States

1467. Effects of Ventilator Induced Lung Injury on Airspace Distension and Regional Ventilation in Rats Using Hyperpolarized MRI

Yi Xin[1], Maurizio Cereda[2], Jessie Huang[1], Harrilla Profka[1], Biao Han[1], Jennia Rajaei[1], Stephen J. Kadlececk[1], Clifford Deutschman[2], Rahim Rizi[1]

[1]Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States; [2]Department of Anesthesiology and Critical Care, University of Pennsylvania, Philadelphia, PA, United States

1468. A Simultaneous Multi-Breath Scheme for Measurement of ADC, p_AO_2 and Fractional Ventilation Using ^{3}He MRI in Human

Hooman Hamedani[1], Stephen J. Kadlececk[1], Biao Han[1], Kiarash Emami[1], Yi Xin[1], Masaru Ishii[2], Milton Rossman[3], Rahim Rizi[1]

[1]Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States; [2]Otolarynology, Johns Hopkins Medical Center, Baltimore, MD, United States; [3]Pulmonary, allergy and Critical Care Division, University of Pennsylvania, Philadelphia, PA, United States

1469. On the Validity of ^{3}He Diffusion MRI Evidence of Neo-Alveolarization in Lungs: The Effects of Branching Structure

Juan Parra-Robles[1], Jim M. Wild[1]

[1]Unit of Academic Radiology, University of Sheffield, Sheffield, United Kingdom

1470. Reliable Free Breathing 3D Multiple Breath Gas Wash-Out with Hyperpolarised ^{3}He Lung MRI

Felix Horn[1], Martin Deppe[1], Juan Parra-Robles[1], Jim M. Wild[1]

[1]University of Sheffield, Sheffield, South Yorkshire, United Kingdom

1471. Evaluation of Airway Morphology in Chronic Obstructive Pulmonary Disease of Hyperpolarized Helium-3 Magnetic Resonance Imaging and Computed Tomography

Damien Pike[1, 2], Miranda Kirby[1, 2], Andrew Wheatley[1], David G. McCormack[3], Grace Parraga[1, 2]

[1]Imaging Research Laboratories, Robarts Research Institute, London, Ontario, Canada; [2]Department of Medical Biophysics, The University of Western Ontario, London, Ontario, Canada; [3]Division of Respirology, Department of Medicine, The University of Western Ontario, London, Ontario, Canada

1472. Using Second Order Statistic Analysis of Images to Quantify and Optimize Parallel Acquisition Strategies for 3He MRI of Human Lung

Maxim Terekhov[1], Julien Rivoire[1], Ursula Wolf[2], Christian Hoffmann[2], Janet Friedrich[1], Sergej Karpuk[3], Laura Maria Schreiber[1]

[1]Department of Radiology, Section of Medical Physics, Johannes Gutenberg University Medical Center Mainz, Mainz, Germany; [2]Department of Radiology, Johannes Gutenberg University Medical Center Mainz, Mainz, Germany; [3]Institute of Physics, Johannes Gutenberg University, Mainz, Germany

1473. Assessment of Compressed-Sensing Reconstruction Fidelity for Depicting Ventilation Defects in Hyperpolarized He3 MRI Using H1 Image-Masked Segmentation

Kun Qing[1], Nicholas J. Tustison[2], Talissa A. Altes[2], Jaime F. Mata[2], G. Wilson Miller[2], Eduard E. De Lange[2], William A. Tobias[3], Gordon D. Cates Jr.[3], James R. Brookeman[2], John P. Mugler, III, [12]

[1]Biomedical Engineering, University of Virginia, Charlottesville, VA, United States; [2]Radiology and Medical Imaging, University of Virginia, Charlottesville, VA, United States; [3]Physics, University of Virginia, Charlottesville, VA, United States

1474. Quantification of K-Space Filtering to Compare SNR and Improve Parallel MRI Acquisitions with Hyperpolarized Nuclei

Julien Rivoire[1], Maxim Terekhov[1], Ursula Wolf[1], Christian Hoffmann[1], Janet Friedrich[1], Laura Maria Schreiber[1]

[1]Section of Medical Physics, Department of Radiology, Johannes Gutenberg University Medical Center, Mainz, Germany

1475. Hyperpolarized ^{83}Kr Imaging on a Clinical 3 T System

Daniel James Lee[1], Joseph Six[2], Matthew Clemence[3], Paul M. Glover[1], Thomas Meersmann[2], Karl Stupic[2, 4]

[1]SPMMRC, University of Nottingham, Nottingham, Nottinghamshire, United Kingdom; [2]Medical School, University of Nottingham, Nottingham, Nottinghamshire, United Kingdom; [3]Philips Healthcare, Guildford, Surrey, United Kingdom; [4]National Institute of Standards and Technology, Boulder, CO, United States

1476. Low Field Online NMR for Hyperpolarized Rare Gases: Setup and Characterization
Wolfgang Kilian[1], Sergey Korchak[1], Lorenz Mitschang[1], Bastiaan Driehuys[2]
[1]Physikalisch-Technische Bundesanstalt, Berlin, Germany; [2]Center for In Vivo Microscopy, Duke University, Durham, NC, United States

1477. Laser Absorption and Photon Efficiency of a Spin Exchange Optical Pumping 129Xe Polariser
Graham Norquay[1], Steven Parnell[2], Jim M. Wild[1]
[1]University of Sheffield, Sheffield, South Yorkshire, United Kingdom; [2]University of Indiana, Indiana, Bloomington, United States

1478. Adaption of a Partially Heated Pumping Cell Within a Mobile ^{129}Xe Polarizer: First Results and Issues
Wolfgang Kilian[1], Sergey Korchak[1], Lorenz Mitschang[1]
[1]Physikalisch-Technische Bundesanstalt, Berlin, Germany

1479. A Transmit-Only/Receive-Only Radiofrequency Coil Configuration for Hyperpolarized 129Xe Imaging of the Rodent Lung.
Ozkan Doganay[1, 2], Kundan Thind[1, 2], Trevor P. Wade[1], Alexei Ouriadov[1], Giles E. Santyr[1, 2]
[1]Imaging Research Laboratories, Robarts Research, London, Ontario, Canada; [2]Medical Biophysics, Western University, London, Ontario, Canada

Traditional Poster
Advances in Pulmonary Imaging

Exhibition Hall Tuesday 16:00-18:00

1480. MRI Equilibrium Signal Mapping Is a Quantitative and Reproducible Alternative to CT for the Estimation of Lung Density in COPD

ISMRM MERIT AWARD magna cum laude

Weijuan Zhang[1, 2], Penny L. Hubbard[1, 2], Eva Bondesson[3], Lars Wigström[4], Simon S. Young[5], David Singh[6], Josephine H. Naish[1, 2], Geoffrey J. M. Parker[1, 2]
[1]Centre of Imaging Sciences, The University of Manchester, Manchester, United Kingdom; [2]Biomedical Imaging Institute, The University of Manchester, Manchester, United Kingdom; [3]Camurus AB, Lund, Sweden; [4]Respiratory &Inflammation Therapy, Clinical development, AstraZeneca, Mölndal, Sweden; [5]Personalised Healthcare and Biomarkers, AstraZeneca, Alderley Park, United Kingdom; [6]Medicines Evaluation Unit, University Hospital of South Manchester Foundation Trust, Manchester, United Kingdom

1481. Validation of Two-Compartment Inversion Recovery (TCIR) MRI in a Multimodal Animal Study
Thomas Gaass[1], Grzegorz Bauman[2, 3], Julien Dinkel[4, 5], Axel Haase[1], Christian Hintze[6]
[1]Zentralinstitut für Medizintechnik, Technische Universität München, Garching, Germany; [2]Department of Medical Physics, German Cancer Research Center, Heidelberg, Germany; [3]Department of Medical Physics, University of Wisconsin, Madison, WI, United States; [4]Department of Radiology, German Cancer Research Center, Heidelberg, Germany; [5]Massachusetts General Hospital, Boston, MA, United States; [6]Diagnostische Radiologie, Universitätsklinikum Schleswig-Holstein, Kiel, Germany

1482. ^{19}F Gas Flow Measurement of C3F7H During Constant Flow and High Frequency Oscillatory Ventilation
Janet Friedrich[1], Daniel Feldmann[2], Lars Krenkel[2], Claus Wagner[2], Laura Maria Schreiber[1]
[1]Department of Radiology, Johannes Gutenberg University Medical Center, Mainz, Germany; [2]Institute of Aerodynamics and Flow Technology, German Aerospace Center, Göttingen, Germany

1483. ^{19}F Apparent Diffusion Coefficient MRI of Inert Fluorinated Gases in Human Lungs
Iain K. Ball[1], Marcus J. Couch[1, 2], Tao Li[1, 2], Matthew S. Fox[1], Jordan A. Lovis[1, 2], Ralph Hashoian[3], Shalyn L. Littlefield[1], Birubi Biman[4], Mitchell S. Albert[1, 2]
[1]Thunder Bay Regional Research Institute, Thunder Bay, Ontario, Canada; [2]Lakehead University, Thunder Bay, Ontario, Canada; [3]Clinical MR Solutions, Brookfield, WI, United States; [4]Thunder Bay Regional Health Sciences Centre, Thunder Bay, Ontario, Canada

1484. Pulmonary Strain and Compliance Mapping in COPD: Investigating Reproducibility and Correlation with CT and Spirometry

Alexandra R. Morgan[1, 2], Geoff J. M. Parker[1, 2], Penny L. Hubbard[1], Weijuan Zhang[1], David Singh[3], Jørgen Vestbo[3], Simon S. Young[4], Lars Wigström[5], Marietta L.J. Scott[4], Josephine H. Naish[1]

[1]Centre for Imaging Sciences, Biomedical Imaging Institute, University of Manchester, Manchester, United Kingdom; [2]BiOxyDyn Ltd, Manchester, United Kingdom; [3]Airway Pharmacology Group, School of Translational Medicine, University Hospital of South Manchester, Manchester, United Kingdom; [4]AstraZeneca, Alderley Park, Macclesfield, United Kingdom; [5]AstraZeneca, Mölndal, Sweden

1485. 3D Strain Mapping in the Lung

Alexandra R. Morgan[1, 2], Geoff J. M. Parker[1, 2], Marietta L.J. Scott[3], Josephine H. Naish[1]

[1]Centre for Imaging Sciences, Biomedical Imaging Institute, University of Manchester, Manchester, United Kingdom; [2]BiOxyDyn Ltd, Manchester, United Kingdom; [3]AstraZeneca, Alderley Park, Macclesfield, United Kingdom

1486. Diffusion-Weighted MR Imaging Vs. Multi-Detector Row CT: Direct Comparison of Capability for Assessment of Management Needs for Anterior Mediastinal Solitary Tumors

Shinichiro Seki[1], Hisanobu Koyama[1], Yoshiharu Ohno[2, 3], Mizuho Nishio[2, 3], Daisuke Takenaka[4], Takeshi Yoshikawa[2, 3], Sumiaki Matsumoto[2, 3], Kazuro Sugimura[1]

[1]Radiology, Kobe University Graduate School of Medicine, Kobe, Hyogo, Japan; [2]Advanced Biomedical Imaging Research Center, Kobe University Graduate School of Medicine, Kobe, Hyogo, Japan; [3]Division of Functional and Diagnostic Imaging Research, Kobe University Graduate School of Medicine, Kobe, Hyogo, Japan; [4]Diagnostic Radiology, Hyogo Cancer Center, Akashi, Hyogo, Japan

1487. Quantitative Diffusion-Weighted MR Imaging of Lung Neoplasm: A Promising Method for Delineating Active Tumor

John Chetley Ford[1], Kathryn M. Olsen[2], Daryl Turlington[2], Kai Ding[1], Elisabeth Weiss[1], Geoffrey D. Hugo[1]

[1]Radiation Oncology, Virginia Commonwealth University, Richmond, VA, United States; [2]Radiology, Virginia Commonwealth University, Richmond, VA, United States

1488. Implementation of an Active Breathing Coordinator During MRI to Support Radiotherapy Treatment Planning

Evangelia Kaza[1], David John Collins[1], Richard Symonds-Tayler[1], Rafal Panek[1], Wilhelm Horger[2], Martin O. Leach[1]

[1]Cancer Research UK and EPSRC Cancer Imaging Centre, Institute of Cancer Research, Sutton, Surrey, United Kingdom; [2]Healthcare Sector, Siemens AG, Erlangen, Bavaria, Germany

1489. Retrospective Self-Gated 3D UTE Lung Imaging

Kathrin Hemberger[1], Stefan Weick[2], Felix A. Breuer[1], Peter M. Jakob[1, 2], Daniel Haddad[3]

[1]MRB Research Center for Magnetic-Resonance-Bavaria, Wuerzburg, Germany; [2]Departement of Experimental Physics 5, Institute of Physics, Wuerzburg, Germany; [3]MRB Research Center, Wuerzburg, Germany

1490. Lung Function Assessment in a Mouse Model of Emphysema Using Ultrashort Echo-Time and Oxygen-Enhanced MRI

Magdalena Zurek[1], Louise Sladen[2], Frank Risse[1], Sonya Jackson[2], Linda Swedin[2], Gaell Mayer[2], Lars E. Olsson[3], Paul D. Hockings[1]

[1]Personalised Healthcare and Biomarkers, AstraZeneca, R&D, Mölndal, Sweden; [2]Respiratory & Inflammation iMed, AstraZeneca, R&D, Mölndal, Sweden; [3]Lund University, Malmö, Sweden

1491. Evaluation of Free Breathing Ultra-Short TE 3D MRI for Oxygen Enhanced Imaging of the Human Lung

James R. MacFall[1], Ahmed Halaweish[1, 2], William Michael Foster[3], Richard E. Moon[4], Neil R. MacIntyre[3], Brian Soher[5], H. Cecil Charles, [26]

[1]Radiology, Duke University Medical Center, Durham, NC, United States; [2]Duke Image Analysis Laboratory, Duke University Medical Center, Durham, NC, United States; [3]Department of Medicine--Pulmonary, Duke University Medical Center, Durham, NC, United States; [4]Department of Anesthesiology, Duke University Medical Center, Durham, NC, United States; [5]Deparment of Radiology, Duke University Medical Center, Durham, NC, United States; [6]Department of Radology, Duke University Medical Center, Durham, NC, United States

1492. 3D Radial Oxygen Enhanced Imaging in Normal and Asthmatic Human Subjects
Stanley Kruger[1], Kevin M. Johnson, [12], Scott K. Nagle, [12], Robert Cadman[1], Laura C. Bell[3], Nizar Jarjour[4], Sean B. Fain[1, 2]
[1]Medical Physics, University of Wisconsin, Madison, WI, United States; [2]Radiology, University of Wisconsin, Madison, WI, United States; [3]Medical Physics, University of Wisconsin-Madison, Madison, WI, United States; [4]School of Medicine and Public Health, University of Wisconsin, Madison, WI, United States

1493. Ultrashort TE MRI for Free-Breathing Imaging of the Rodent Lung
Eriko Yoshimaru[1], Theodore Trouard[1, 2]
[1]Biomedical Engineering, University of Arizona, Tucson, AZ, United States; [2]Bio5 Institute, University of Arizona, Tucson, AZ, United States

1494. *in vivo* Assessment of Fatty Diabetic Lung by Ultra-Short TE (UTE) MRI in Rats
Masaya Takahashi[1], Koji Sagiyama[1], Priya Ravikumar[2], Cuneyt Yilmaz[2], Yasuo Yamashita[3], Yoshiharu Ohno[4], Connie C.W. Hsia[2]
[1]Advanced Imaging Research Center, University of Texas Southwestern Medical Center, Dallas, TX, United States; [2]Pulmonary and Critical Care Medicine, University of Texas Southwestern Medical Center, Dallas, TX, United States; [3]Division of Radiology, Department of Medical Technology, Kyushu University Hospital, Fukuoka, Japan; [4]Advanced Biomedical Imaging Research Center, Kobe University Graduate School of Medicine, Kobe, Hyogo, Japan

1495. A Comparison of T2*decay in Normal and Abnormal Lungs Using a 3D Ultrashort TE Sequence
Catherine J. Simpkin[1], Sharon L. Giles[1], David John Collins[1, 2], Veronica A. Morgan[1], David M. Higgins[3], Nandita M. deSouza, [12]
[1]MRI Department, Royal Marsden Hospital, Sutton, Surrey, United Kingdom; [2]Clinical Magnetic Resonance, Institute of Cancer Research, Sutton, Surrey, United Kingdom; [3]Clinical Science, Philips Healthcare, Guildford, Surrey, United Kingdom

1496. Prospectively and Retrospectively Gated Lung MR Imaging Sequences Compared for Visualizing Pneumonial Cryptococcosis
Tom Dresselaers[1], Greetje Vande Velde[1], Jennifer Poelmans[1], Arno Nauerth[2], Eric Verbeken[1], Katrien Lagrou[3], Uwe Himmelreich[1]
[1]Department of Imaging & Pathology, KU Leuven, Leuven, Vl.Brabant, Belgium; [2]MR-Technologies, Bruker Biospin MRI GmbH, Ettlingen, Germany; [3]Dept. of Microbiology and Immunology, KU Leuven, Leuven, Vl.Brabant, Belgium

1497. Oxygen-Enhanced T1-Mapping of the Lung: Reproducibility and Impact of Different Gas Delivery Methods
Julius Renne[1], Jan Hinrichs[1], Christian Schönfeld[1], Marcel Gutberlet[1], Peter M. Jakob[2], Frank Wacker[1], Jens Vogel-Claussen[1]
[1]Diagnostic and Interventional Radiology, Hannover Medical School, Hannover, Lower Saxony, Germany; [2]Experimental Physics (Biophysics), University of Würzburg, Würzburg, Germany

1498. Improved SNR in Retrospective Respiratory Self-Gated 3D Human Lung MRI Using Image Registration
Stefan Weick[1, 2], Flavio Carinci, [13], Cord Meyer[1, 2], Felix A. Breuer[4], Frederick Mantel[2], Philip Kleine[2], Peter M. Jakob[1, 4]
[1]Department of Experimental Physics 5, University of Wuerzburg, Wuerzburg, Bavaria, Germany; [2]Department of Radiation Oncology, University Hospital Wuerzburg, Wuerzburg, Bavaria, Germany; [3]MRB Research Center, Wuerzburg, Bavaria, Germany; [4]Research Center Magnetic Resonance Bavaria e. V. (MRB), Wuerzburg, Bavaria, Germany

1499. Clinical Implementation of Fourier Decomposition at 3T
Ravi T. Seethamraju[1], Iga Muradyan[2], Mikayel Dabaghyan[2], Samuel Patz[3], Ritu R. Gill[3]
[1]MR R&D, Siemens Healthcare, Boston, MA, United States; [2]Brigham and Women's Hospital, Boston, MA, United States; [3]Radiology, Brigham and Women's Hospital, Boston, MA, United States

1500. Detection of Pulmonary Proton Density at 6.5mT
Samuel Patz[1, 2], Mikayel Dabaghyan, [13], Matthew Rosen[4, 5], Mirko I. Hrovat[3]
[1]Radiology, Brigham & Women's Hospital, Boston, MA, United States; [2]Harvard Medical School, Boston, MA, United States; [3]Mirtech, Inc., Brockton, MA, United States; [4]Martinos/MGH Biomedical Imaging Center, Charlestown, MA, United States; [5]Physics, Harvard University, Cambridge, MA, United States

1501. Efficacy of 3D Whole-Lung Single Breath-Hold Contrast Enhanced Pulmonary MRA for Detection of Pulmonary Embolism: Comparison to CTA

Harald Kramer[1, 2], Scott K. Nagle[1], Christopher J. Francois[3], Karl K. Vigen[1], Alejandro Munoz Del Rio[1], Scott B. Reeder[1], Mark L. Schiebler[1]

[1]Department of Radiology, University of Wisconsin - Madison, Madison, WI, United States; [2]Institute for Clinical Radiology, Ludwig-Maximilians-University Munich, Munich, Bavaria, Germany; [3]Department of Radiology, University of Wisconsin-Madison, Madison, WI, United States

Traditional Poster
Diabetes, Obesity & Hepatobiliary

Exhibition Hall Tuesday 16:00-18:00

1502. Free Breathing Dynamic Contrast MR Imaging of the Pancreas Using Navigator Technique

Takayuki Masui[1], Motoyuki Katayama[1], Masayoshi Sugimura[1], Yuji Iwadate[2], Kimihiko Sato[1], Kazuma Terauchi[1], Kei Tsukamoto[1], Kenichi Mizuki[1], Mayumi Matsushima[1], Koji Yoneyama[1], Takayuki Suzuki[1], Mitsuharu Miyoshi[2], Naoyuki Takei[2], Hiroyuki Kabasawa[2], Keiko Mabuchi[1]

[1]Radiology, Seirei Hamamatsu General Hospital, Hamamatsu, Shizuoka, Japan; [2]GE Healthcare Japan, Hino, Tokyo, Japan

1503. Diffusion-Weighted Magnetic Resonance Imaging of Healthy Pancreas: The Effect of Age on Apparent Diffusion Coefficient Values

Chao Ma[1], Chunshu Pan[1], He Wang[2], Shiyue Chen[1], Jianping Lu[1]

[1]Radiology, Shanghai Changhai Hospital, Shanghai, China; [2]GE healthcare, Shanghai, China

1504. High Resolution Diffusion Weighted Imaging of Pancreatic Neoplasms Using 2D Ss-RFOV-DWEPI at 3 Tesla

Chao Ma[1], Yan Li[1], He Wang[2], Shiyue Chen[1], Jianping Lu[1]

[1]Radiology, Shanghai Changhai Hospital, Shanghai, China; [2]MR Research Group, Ge healthcare, Shanghai, China

1505. *in vitro* and *in vivo* 19-Fluorine Magnetic Resonance Imaging (MRI) of β-Cells and Pancreatics Using GLUT-2 Specific Contrast Agents

Sayuan Liang[1], Hauke Kolster[1], Karim Louchami[2], Tom Dresselaers[1], Willy Malaisse[2], Sonu Sharma[1], Uwe Himmelreich[3]

[1]Biomedical MRI unit/MoSAIC, Department of Imaging and Pathology, K.U.Leuven, Leuven, Belgium; [2]Laboratory of Experimental Hormonology, Université Libre de Bruxelles, Bruxelles, Belgium; [3]Biomedical MRI unit/MoSAIC, Department of Imaging and Pathology, KU Leuven, Leuven, Belgium

1506. MR Elastography of the Liver in Patients Status Post Fontan Procedure: A Pilot Investigation

Suraj D. Serai[1], Daniel Wallihan[1], Sudhakar K. Ventakesh[2], Richard Leroy Ehman[2], Daniel J. Podberesky[1]

[1]Radiology, CCHMC, Cincinnati, OH, United States; [2]Radiology, Mayo Clinic, Minnesota, MN, United States

1507. Magnetic Resonance Elastography of the Liver: Comparison Between Echo Planar Imaging and Gradient-Echo Sequence

Hiroyuki Morisaka[1], Utaro Motougi[1], Shintaro Ichikawa[1], Katsuhiro Sano[1], Tomoaki Ichikawa[1], Satoshi Ikenaga[1], Hiroshi Kumagai[1], Tsutomu Araki[1]

[1]Radiology, University of Yamanashi, Chuo, Yamanashi, Japan

1508. Quantitative Liver MRI Combining Phase Contrast Imaging, Elastography, and DWI: Assessment of Test-Retest and Post-Prandial Effect. Prospective Study at 3T.

Guido H. Jajamovich[1], Hadrien A. Dyvorne[1], Ersin Bayram[2], Claudia Donnerhack[1], Richard Leroy Ehman[3], Bachir Taouli[1]

[1]Mount Sinai School of Medicine, New York, NY, United States; [2]GE Healthcare, Waukesha, WI, United States; [3]Mayo Clinic, Rochester, MN, United States

1509. Differential Portal Venous Flow Response to Terlipressin in Normal and Cirrhotic Rats – Non-Invasive Assessment Using Phase-Contrast MRI

Manil Chouhan[1], Alan Bainbridge[2], Nathan Davies[3], Rajiv Jalan[3], Rajeshwar Mookerjee[3], Simon Walker-Samuel[4], Mark F. Lythgoe[4], Shonit Punwani[1], Stuart Taylor[1]

[1]UCL Centre for Medical Imaging, University College London, London, United Kingdom; [2]Department of Medical Physics, University College Hospitals NHS Trust, London, United Kingdom; [3]UCL Institute for Liver and Digestive Health, University College London, London, United Kingdom; [4]UCL Centre for Advanced Biomedical Imaging, University College London, London, United Kingdom

1510. Comparison Between Digital Biopsy and MRI Quantification of Hepatic Fat in NAFLD

Samantha Flood[1], Eric Meng[2], Melanie Beaton[3], Lanette J. Friesen-Waldner[4], Congyu Zhang[5], Charles A. McKenzie[1]

[1]Medical Biophysics, The University of Western Ontario, London, Ontario, Canada; [2]Schulich School of Medicine and Dentistry, The University of Western Ontario, London, Ontario, Canada; [3]Department of Medicine, The University of Western Ontario, London, Ontario, Canada; [4]Medical Biophysics, University of Western Ontario, London, Ontario, Canada; [5]Engineering, The University of Toronto, Toronto, Ontario, Canada

1511. Intra- And Interindividual Differences in Fatty Acid Composition at Various Locations of the Body Assessed By^{1}H-MRS

Jürgen Machann[1], Erwin Schleicher[2], Christian Würslin[1], Andreas Fritsche[2], Fritz Schick[1]

[1]Department of Radiology, Section on Experimental Radiology, University Hospital Tübingen, Tübingen, Germany; [2]Department of Endocrinology and Diabetology, Angiology, Nephrology and Clinical Chemistry, University Hospital Tübingen, Tübingen, Germany

1512. NMR, LIBS and FTIR Based Metabolomics of an Antidiabetic Herbal Formulation

Prashant Kumar Rai[1], Rama Jayasundar[1], Gaurav Sharma[1], Ashok Kumar Pathak[2], Somenath Ghatak[1], Geeta Watal[3], A K. Rai[2]

[1]Department of NMR, All India Institute of Medical Sciences, New Delhi, Delhi, India; [2]Department of Physics, University of Allahabad, Allahabad, U P, India; [3]Department of Chemistry, University of Allahabad, Allahabad, U P, India

1513. Non-Negative Principal Component Analysis Based Scaling: Application on NMR Spectroscopic Metabolomics

Lingli Deng[1, 2], Jiyang Dong[1], Zhong Chen[1, 2]

[1]Department of Electronic Science, Xiamen University, Xiamen, Fujian, China; [2]Department of Communication Engineering, Xiamen University, Xiamen, Fujian, China

1514. Serial Proton MRS Measurements of Hepatic Lipid Alterations During Chemotherapy for Colorectal Cancer

Kristen Zakian[1], Jing Qi[2], Yuman Fong[3], Leonard Saltz[4], Michael D'Angelica[3], Nancy Kemeny[4], Mithat Gonen[5], Jinru Shia[6], Amita Shukla-Dave[1], Kinh Gian Do[7], William Jarnagin[3], Lawrence Schwartz[2], Jason A. Koutcher[1]

[1]Medical Physics, Memorial Sloan-Kettering Cancer Center, New York, NY, United States; [2]Columbia University College of Physicians and Surgeons, New York, NY, United States; [3]Surgery, Memorial Sloan-Kettering Cancer Center, New York, NY, United States; [4]Medicine, Memorial Sloan-Kettering Cancer Center, New York, NY, United States; [5]Epidemiology and Biostatistics, Memorial Sloan-Kettering Cancer Center, New York, NY, United States; [6]Pathology, Memorial Sloan-Kettering Cancer Center, New York, NY, United States; [7]Radiology, Memorial Sloan-Kettering Cancer Center, New York, NY, United States

1515. One Year Followup Evaluation of Hepatic Triglycerides in Colorectal Cancer Patients Treated with Adjuvant Chemotherapy Using 1H Magnetic Resonance Spectroscopy

Kristen Zakian[1], Jing Qi[2], Yuman Fong[3], Leonard Saltz[4], Michael D'Angelica[3], Nancy Kemeny[4], Mithat Gonen[5], Jinru Shia[6], Amita Shukla-Dave[1], Kinh Gian Do[7], William Jarnagin[3], Lawrence Schwartz[2], Jason A. Koutcher[1]

[1]Medical Physics, Memorial Sloan-Kettering Cancer Center, New York, NY, United States; [2]Columbia University College of Physicians and Surgeons, New York, NY, United States; [3]Surgery, Memorial Sloan-Kettering Cancer Center, New York, NY, United States; [4]Medicine, Memorial Sloan-Kettering Cancer Center, New York, NY, United States; [5]Epidemiology and Biostatistics, Memorial Sloan-Kettering Cancer Center, New York, NY, United States; [6]Pathology, Memorial Sloan-Kettering Cancer Center, New York, NY, United States; [7]Radiology, Memorial Sloan-Kettering Cancer Center, New York, NY, United States

1516. Effect of Gadolinium-Based Contrast Agent on the Relaxation Properties of Water and Fat in Human Liver as Measured *in Vivo* by ^{1}H MRS.

Gavin Hamilton[1], Michael S. Middleton[1], Guilherme M. Cunha[1], Claude B. Sirlin[1]
[1]Department of Radiology, University of California, San Diego, San Diego, CA, United States

1517. *In Vivo* Liver ^{1}H MRS Measurement of PDFF, and T1 and T2 of Water and Fat, in a Single Breath-Hold with Multiple TRs and TEs.

Gavin Hamilton[1], Michael S. Middleton[1], Claude B. Sirlin[1]
[1]Department of Radiology, University of California, San Diego, San Diego, CA, United States

1518. Proton Echo Planar Spectroscopic Imaging (PEPSI) on Liver with Parallel Imaging

Chun-Tsun Shih[1], Yi-Ru Lin[1], Chih-Ping Liao[1], Bo-Rong Huang[1], Shang-Yueh Tsai[2, 3]
[1]Department of Electronic and Computer Engineering, National Taiwan University of Science and Technology, Taipei, Taiwan; [2]Graduate Institute of Applied Physics, National Chengchi University, Taipei, Taiwan; [3]Research Center for Mind, Brain and Learning, National Chengchi University, Taipei, Taiwan

1519. Examining Saturation Corrections for In-Vivo Liver ^{1}H-MRS Glycogen Measurements in a Clinical 3T Scanner

Ronald Ouwerkerk[1]
[1]Biomedical and Metabolic Imaging Branch, NIH/NIDDK, Bethesda, MD, United States

1520. Detection of Brown Adipose Tissue in an Adult Human Using Fat-Water MRI with Validation by Cold-Activated PET

Aliya Gifford[1, 2], Joel Kullberg[3], Johan Berglund[3], Theodore F. Towse[4, 5], Ronald C. Walker[6, 7], Malcolm J. Avison[5, 8], E. Brian Welch[5, 7]
[1]Vanderbilt University Institute of Imaging Science, Vanderbilt University, Nashville, TN, United States; [2]Chemical and Physical Biology Program, Vanderbilt University, Nashville, TN, United States; [3]Department of Radiology, Uppsala University, Uppsala, Sweden; [4]Department of Physical Medicine and Rehabilitation, Vanderbilt University School of Medicine, Nashville, TN, United States; [5]Vanderbilt University Institute of Imaging Science, Vanderbilt University School of Medicine, Nashville, TN, United States; [6]Department of Medical Imaging, Tennessee Valley VA Healthcare, Nashville, TN, United States; [7]Department of Radiology & Radiological Sciences, Vanderbilt University, Nashville, TN, United States; [8]Department of Pharmacology, Vanderbilt University School of Medicine, Nashville, TN, United States

1521. MRI of Fat Content in the Abdomen and Liver of Obese Mice Following Vertical Sleeve Gastrectomy

Patrick Winter[1], Andriy Myronovych[2], Rohit Kohli[2]
[1]Radiology, Cincinnati Children's Hospital, Cincinnati, OH, United States; [2]Gastroenterology, Hepatology and Nutrition, Cincinnati Children's Hospital, Cincinnati, OH, United States

1522. Whole-Mouse MR Imaging of Fat Fraction at 7 Tesla Using a Fourier-Based Many-Echo Technique

Greg O. Cron[1, 2], Ryan J. Mailloux[3], Mary-Ellen Harper[3], Ian G. Cameron[1, 2], Mark E. Schweitzer[1, 2]
[1]Ottawa Hospital Research Institute, Ottawa, Ontario, Canada; [2]Radiology, University of Ottawa; [3]Biochemistry, Microbiology, and Immunology, University of Ottawa

1523. Innovative Application of MR in the Complementary and Alternative Medical System of Ayurveda

Rama Jayasundar[1], Ankur Poddar[2], Ariachery Ammini[3], Ashok Kumar Mukhopadhyaya[4]
[1]Department of NMR, All India Institute of Medical Sciences, New Delhi, India; [2]Department of Biotechnology, All India Institute of Medical Sciences, New Delhi, India; [3]Department of Endocrinology, All India Institute of Medical Sciences, New Delhi, India; [4]Department of Lab Medicine, All India Institute of Medical Sciences, New Delhi, India

1524. Quantitative Whole-Body Fat-Water MRI with R2* Estimation at 3 Tesla Using a Custom Tabletop for Multi-Station Parallel Imaging with a Single 16-Channel Surface Coil

E. Brian Welch[1, 2], Aliya Gifford, [23], Johan Berglund[4], Joel Kullberg[5], Nils Paaske[6], Anne-Lise Schierup[6], Erik M. Pedersen[7], Malcolm J. Avison, [28]
[1]Department of Radiology and Radiological Sciences, Vanderbilt University, Nashville, TN, United States; [2]Institute of Imaging Science, Vanderbilt University, Nashville, TN, United States; [3]Chemical and Physical Biology Program, Vanderbilt University, Nashville, TN, United States; [4]Philips Healthcare, Stockholm, Sweden; [5]Department of Radiology, Uppsala University, Uppsala, Sweden; [6]X-tend ApS, Hornslet, Denmark; [7]Department of Radiology, Aarhus University Hospital, Aarhus, Denmark; [8]Department of Pharmacology, Vanderbilt University, Nashville, TN, United States

1525. Is There a Predictive Role for MRI Assessed Subcutaneous Adipose Tissue in Identification of Risk Group for Diabetes?
Rama Jayasundar[1], Somenath Ghatak[1], Ankur Poddar[2], Ariachery Ammini[3], Ashok Kumar Mukhopadhyaya[4]
[1]Department of NMR, All India Institute of Medical Sciences, New Delhi, India; [2]Department of Biotechnology, All India Institute of Medical Sciences, New Delhi, India; [3]Department of Endocrinology, All India Institute of Medical Sciences, New Delhi, India; [4]Department of Laboratory Medicine, All India Institute of Medical Sciences, New Delhi, India

1526. Interethnic Differences in Abdominal Fat (Deep, Superficial and Visceral) Accumulation
Suresh Anand Sadananthan[1, 2], Bhanu Prakash K.N.[3], Melvin K-S Leow[1, 4], ChinMeng Khoo[5], Kavita Venkataraman[2], Eric Khoo Yin Hao[5], Lee Yung Seng[1, 6], Peter Gluckman[1], Tai E Shyong[1, 5], Sendhil S. Velan[1, 7]
[1]Singapore Institute for Clinical Sciences, A*STAR, Singapore; [2]Department of Obstetrics & Gynaecology, National University of Singapore, Singapore; [3]Singapore Bioimaging Consortium, A*STAR, Singapore; [4]Department of Endocrinology, Tan Tock Seng Hospital, Singapore; [5]Department of Medicine, National University of Singapore, Singapore; [6]Department ot Pediatrics, National University of Singapore, Singapore; [7]Clinical Imaging Research Centre, A*STAR-NUS, Singapore

1527. An Automatic Segmentation and Quantitation Technique for Abdominal Fat from MR Images of Obese Rats
Bhanu Prakash KN[1], Venkatesh Gopalan[1], Swee Shean Lee[1], Sendhil S. Velan[1]
[1]Laboratory of Molecular Imaging, Singapore Bioimaging Consortium, Singapore, Singapore

1528. Automated Segmentation of Liver Parenchyma and Blood Vessel with *in-vivo* Radial Gradient and Spin-Echo (GRASE) Datasets for Characterization of Diffuse Liver Disease
ISMRM MERIT AWARD magna cum laude
Abhishek Pandey[1, 2], Ali Bilgin[1, 3], Sindhu Cumar[2], Bobby T. Kalb[2], Diego R. Martin[2], Maria I. Altbach[2]
[1]Electrical and Computer Engineering, University of Arizona, Tucson, AZ, United States; [2]Medical Imaging, University of Arizona, Tucson, AZ, United States; [3]Biomedical Engineering, University of Arizona, Tucson, AZ, United States

1529. Timing of the Interstitial Post-Gadolinium Phase for T1 Imaging of Focal Liver Lesions: What Is the Incremental Benefit of 3 and 5 Minute Phases Over 2 Minutes?
Zachary J. Peters[1], Errol Colak[1], Ram Jeyaratnam[1], Paraskevi A. Vlachou[1], Shalini Anthwal[1], Anish Kirpalani[1]
[1]Department of Medical Imaging, University of Toronto, St. Michael's Hospital, Toronto, ON, Canada

1530. Prognosis of Small Hepatocellular Nodules Detected Only Hepatobiliary Phase of Gd-EOB-DTPA Enhanced MR Imaging as Hyperintensity in Cirrhosis or Chronic Hepatitis
Atsushi Higaki[1], Tsutomu Tamada[1], Akira Yamamoto[1], Hiroki Higashi[1], Akihiko Kanki[1], Yasufumi Noda[1], Tomohiro Sato[1], Katsuyoshi Ito[1]
[1]Radiology, Kawasaki Medical School, Kurashiki city, Okayama, Japan

1531. Dynamic Contrast Enhanced MRI Grading of Liver Fibrosis Using the Elimination Rate of Gd-EOB-DTPA
Jonathan P. Dyke[1], Pascal Spincemaille[1], Andrew Talal[2], Rhonda Yantiss[3], Krishna Juluru[1]
[1]Radiology, Weill Cornell Medical College, NY, United States; [2]Medicine, Weill Cornell Medical College, NY, United States; [3]Pathology, Weill Cornell Medical College, NY, United States

1532. Combination of MR Dynamic Contrast-Enhanced Imaging with T2-Corrected Intra-Voxel Incoherent Motion Imaging at 3.0T to Assess Liver Fibrosis
Benjamin Leporq[1], Frank Pilleul[1], Jerome Dumortier[2], Olivier Guillaud[2], Thibaud Lefort[2], Olivier Beuf[1]
[1]CREATIS; CNRS UMR 5220; INSERM U1044; INSA-Lyon; UCBL, Université de Lyon, Villeurbanne, Rhône-Alpes, France; [2]CHU Edouard Herriot; Department of Hepatology, Hospices Civils de Lyon, Lyon, Rhône-Alpes, France

1533. Quantification of IVIM Diffusion Parameters of HCC at 3T: Preliminary Experience.
Suguru Kakite[1], Hadrien A. Dyvorne[1], Karen M. Lee[1], Sasan Roayaie[2], Ashley Knight-Greenfield[1], Ersin Bayram[3], Claudia Donnerhack[1], Bachir Taouli[1]
[1]Department of Radiology, Mount Sinai School of Medicine, New York, NY, United States; [2]Department of Surgery, Mount Sinai Medical Center, New York, NY, United States; [3]GE Healthcare, Milwaukee, WI, United States

1534. A Comparison of the Full and Segmented IVIM Models in the Liver
Alexander D. Cohen[1], Moira F. Schieke[2], Kathleen M. Schmainda[2]
[1]Biophysics, Medical College of Wisconsin, Milwaukee, WI, United States; [2]Radiology, Medical College of Wisconsin, Milwaukee, WI, United States

1535. Incoherent Motion Analysis of Crohn's Ileitis DW-MRI Reveals Group Differences in Both Fast and Slow Diffusion
Moti Freiman[1], Jeannette M. Perez-Rossello[1], Michael J. Callahan[1], Mark E. Bittman[1], Robert V. Mulkern[1], Athos Bousvaros[2], Simon K. Warfield[1]
[1]Radiology, Harvard Medical School/Boston Children's Hospital, Boston, MA, United States; [2]Gastroenterology, Harvard Medical School/Boston Children's Hospital, Boston, MA, United States

1536. Automated Detection of the Optimal Arterial Phase in Dynamic 3D Contrast Enhanced Imaging of the Liver
Pascal Spincemaille[1], Nanda Deepa Thimmappa[1], Bo Xu[1], Martin R. Prince[1], Yi Wang[1]
[1]Radiology, Weill Cornell Medical College, New York, NY, United States

1537. Interobserver Agreement of Semi-Automated, Volumetric Analysis of Multiparametric MRI in Patients with Liver Cancer
Susanne Bonekamp[1], David Bonekamp[1], Vivek Gowdra Halappa[2], Jean Francois Geschwind[2], John Eng[2], Celia Pamela Corona-Villalobos[1], Diane Reyes[2], Timothy M. Pawlik[3], Ihab R. Kamel[2]
[1]Radiology, Johns Hopkins University, Baltimore, MD, United States; [2]Radiology, JHU, Baltimore, MD, United States; [3] Surgery, JHU, Baltimore, MD, United States

1538. Liver Cancer: Evaluation of the Hemodynamic Features and Correlation with Response to Therapy Using Arterial Enhancement Fraction Based on Tri-Phasic MRI
Susanne Bonekamp[1], David Bonekamp[1], Jean Francois Geschwind[2], Celia Pamela Corona-Villalobos[1], Vivek Gowdra Halappa[2], Luciana Athayde[2], Neda Rastegar[2], Ihab R. Kamel[2]
[1]Radiology, Johns Hopkins University, Baltimore, MD, United States; [2]Radiology, JHU, Baltimore, MD, United States

1539. Pre-Treatment Hepatic Arterial Mapping with MRI in Cirrhotic Patients with Hepatocellular Carcinoma (HCC)
Iva Petkovska[1], Manojkumar Saranathan[1], Thomas A. Hope[1], Brian Andrew Hargreaves[1], Umar Tariq[1], Shreyas S. Vasanawala[1]
[1]Radiology, Stanford University, Stanford, CA, United States

Traditional Poster
Genitourinary MRI

Exhibition Hall Tuesday 16:00-18:00

1540. Theoretical Evaluation of Ultrahigh Field Benefits to Non-Contrast Enhanced Renal Perfusion Imaging Using FAIR-EPI
Xiufeng Li[1], Kamil Ugurbil[1], Gregory J. Metzger[1]
[1]Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, MN, United States

1541. High Resolution Renal and Hepatic DCE Perfusion with Continuous Respiratory Monitoring Using IVD-HYCR Sampling-Reconstruction
Mahdi S. Rahimi[1], Kang Wang[2], James H. Holmes[2], Jean H. Brittain[2], Scott B. Reeder[3], Frank R. Korosec[4]
[1]Biomedical Engineering, University of Wisconsin Madison, Madison, WI, United States; [2]Global Applied Science Lab, GE Healthcare, Madison, WI, United States; [3]Radiology, University of Wisconsin Madison, Madison, WI, United States; [4]Medical Physics, University of Wisconsin Madison, Madison, WI, United States

1542. Clinical Feasibility Study for Renal Perfusion Imaging Using Pseudo Continuous Arterial Spin Labeling at 3.0T
Yasuhiro Fujiwara[1], Hirohiko Kimura[2], Nobuyuki Kosaka[2], Tsuyoshi Matsuda[3], Takuya Yachida[4], Toshiki Adachi[4]
[1]University of Fukui Hospital, Fukui, Japan; [2]Radiology, University of Fukui, Fukui, Japan; [3] Applied Science Laboratory Asia Pacific , GE Healthcare Japan Corporation, Tokyo, Japan; [4]Radiological Center, University of Fukui Hospital, Fukui, Japan

1543. Quantitative High Resolution Renal Perfusion Imaging Using 3D Through-Time Radial GRAPPA
Katherine L. Wright[1], Yong Chen[2], Mark A. Griswold, [13], Nicole Seiberlich[1], Vikas Gulani, [12]
[1]Biomedical Engineering, Case Western Reserve University, Cleveland, OH, United States; [2]Radiology, Case Western Reserve University, Cleveland, OH, United States; [3]Radiology, University Hospitals Case Medical Center, Cleveland, OH, United States

1544. Impact of Volume-Of-Interest Limited Registration to DCE-MRI of Human Kidney
Frank G. Zöllner[1], Marcel Reich[1], Lothar R. Schad[1]
[1]Computer Assisted Clinical Medicine, Medical Faculty Mannheim, Heidelberg University, Mannheim, Baden-Württemberg, Germany

1545. Renal Perfusion in Acute Kidney Injury: Comparison of Quantification Approaches
Frank G. Zöllner[1], Fabian Zimmer[1], Sarah Klotz[2], Simone Hoeger[2], Lothar R. Schad[1]
[1]Computer Assisted Clinical Medicine, Medical Faculty Mannheim, Heidelberg University, Mannheim, Baden-Württemberg, Germany; [2]Department of Medicine V, University Medical Centre Mannheim, Heidelberg University, Mannheim, Baden-Württemberg, Germany

1546. Intravoxel Incoherent Motion (IVIM) in Evaluation of Ischemic Acute Kidney Injury Animal Model
Hantao Jin[1], Dongping Chen[2], Shiyuan Liu[1], Weibo Chen[3], Queenie Chan[4]
[1]Dept. of Radiology, ChangZheng Hospital, Shanghai, China; [2]Dept. of Nephrology, ChangZheng Hospital, Shanghai, China; [3]Philips Healthcare, Shanghai, China; [4]Philips Healthcare, Hongkong, China

1547. Prediction and Assessment of Response to Renal Artery Revascularization with Dynamic Contrast-Enhanced MRI: A Pilot Study
Su Wei Lim[1], Constantina Chrysochou[2], David L. Buckley[1], Philip A. Kalra[2], Steven Sourbron[1]
[1]University of Leeds, Leeds, Yorkshire, United Kingdom; [2]Department of Renal Medicine, Salford Royal Hospital, Salford, Greater Manchester, United Kingdom

1548. T2 Mapping and Diffusion Weighted Imaging for Quantification of Acute and Chronic Renal Pathology Following Acute Kidney Injury in Mice – Comparison with Histopathology
Katja Hueper[1], Martin Meier[2], Marcel Gutberlet[1], Song Rong[3], Xia Lu[4], Hermann Haller[3], Frank Wacker[1], Dagmar Hartung[1], Faikah Gueler[3]
[1]Radiology, Hannover Medical School, Hannover, Germany; [2]Institute of Animal Science, Hannover Medical School, Hannover, Germany; [3]Nephrology, Hannover Medical School, Hannover, Germany; [4]Zunyi Medical College, Wuhan, China

1549. Functional Evaluation of Acute Ischemia-Reperfusion Injury Using Diffusion-Weighted Imaging
Bin Chen[1], Jian Dong[2], Wenchao Cai[2], Xiaoying Wang, [12], Jue Zhang, [13], Jing Fang, [13]
[1]Academy for Advanced Interdisciplinary Studies, Peking University, Beijing, China; [2]Dept. of Radiology, Peking University First Hospital, Beijing, China; [3]College of Engineering, Peking University, Beijing, China

1550. Functional Evaluation of Acute Ischemia/reperfusion Injury Using BOLD and Arterial Spin Labeling MRI
Bin Chen[1], Jian Dong[2], Wenchao Cai[2], Xiaoying Wang, [12], Jue Zhang, [13], Jing Fang, [13]
[1]Academy for Advanced Interdisciplinary Studies, Peking University, Beijing, China; [2]Dept. of Radiology, Peking University First Hospital, Beijing, China; [3]College of Engineering, Peking University, Beijing, China

1551. The Influence of Image Registration and Segmentation Error on Functional MR Renography
Christopher C. Conlin[1, 2], Jeff L. Zhang, [23], Marta E. Heilbrun, [23], Henry Rusinek[4], Artem V. Mikheev[4], Vivian S. Lee, [23]
[1]Department of Bioengineering, University of Utah, Salt Lake City, UT, United States; [2]Utah Center for Advanced Imaging Research, Salt Lake City, UT, United States; [3]Department of Radiology, University of Utah, Salt Lake City, UT, United States; [4]Department of Radiology, New York University, New York, United States

1552. Simultaneous Measurement of GFR by DCE-MRI and FITC-Sinistrin Clearance in Rats at 3.0 T
Frank G. Zöllner[1], Daniel Schock-Kusch[2], Sandra Bäcker[2], Sabine Neudecker[2], Norbert Gretz[2], Lothar R. Schad[1]
[1]Computer Assisted Clinical Medicine, Medical Faculty Mannheim, Heidelberg University, Mannheim, Baden-Württemberg, Germany; [2]Medical Research Center, Medical Faculty Mannheim, Heidelberg University, Mannheim, Baden-Württemberg, Germany

1553. The Effect of Iodinated Contrast Media on Glomerular Filtration as Evaluated with Dynamic 3D-MR Renography
Yudong Zhang[1], Jing Wang[2], Xiaoying Wang[3]
[1]Department of Radiology, The First Affiliated Hospital With Nanjing Medical University, Nanjing, Jiangsu, China; [2]Peking University, Beijing, China; [3]Peking University First Hospital, Beijing, China

1554. Feasibility of Kidney DTI Using Parallel Transmission in Normal Volunteers
Jurgen J. Futterer[1, 2], Hersh Chandarana, Henry Rusinek[2], Arthem Mikeev[2], Josef Pfeuffer[3], Eric E. Sigmund[2]
[1] 58957, Radboud Univeristy Nijmegen Medical Centre, Nijmegen, Gld, Netherlands; [2]Dept of Radiology, NYU Langone Medical Center, New York, NY, United States; [3]MR applications development, Siemens Medical system, Erlangen, Germany

1555. Correlation Between Renal Cortical Thickness And Estimated Glomerular Filtration Rate (EGFR): Evaluation By Non-Contrast-Enhanced Steady-State Free Precession (SSFP) MRI With Spatially Selective IR Pulse
Yasufumi Noda[1], Akihiko Kanki[1], Akira Yamamoto[1], Tsutomu Tamada[1], Yasokawa Kazuya[1], Atsushi Higaki[1], Tomohiro Sato[1], Katsuyoshi Ito[1]
[1]Kawasaki Medical School, Kurashiki, Okayama, Japan

1556. Quantitative Assessment of Kidney and Liver Disease in a Rat Model of Autosomal Recessive Polycystic Kidney Disease (ARPKD)
Ying Gao[1, 2], Yong Chen[1], Bernadette O. Erokwu[1], Lan Lu[1], Katherine MacRae Dell[3], Chris A. Flask[1, 2]
[1]Radiology, Case Western Reserve University, Cleveland, OH, United States; [2]Biomedical Engineering, Case Western Reserve University, Cleveland, OH, United States; [3]Pediatrics, Case Western Reserve University, Cleveland, OH, United States

1557. Single Kidney Glomerular Filtration Rate Measurement Using a High Spatiotemporal Resolution View Sharing Technique and 2-Compartment Model
Umit Yoruk[1], Manojkumar Saranathan[2], Brian Andrew Hargreaves[2], Shreyas S. Vasanawala[2]
[1]Electrical Engineering, Stanford University, Palo Alto, CA, United States; [2]Radiology, Stanford University, Stanford, CA, United States

1558. Evaluation of Renal Cortical Thickness by Noncontrast-Enhanced MR Imaging, with Spatially Selective Ir Pulses: Comparison Between Cirrhotic and Noncirrhotic Patients
Akihiko Kanki[1], Katsuyoshi Ito[1], Tsutomu Tamada[1], Yasufumi Noda[1], Atsushi Higaki[1], Tomohiro Sato[1], Kazuya Yasokawa[1], Akira Yamamoto[1]
[1]Radiology, Kawasaki Medical School, Kurashiki, Okayama, Japan

1559. Diffusion-Weighted MR Imaging of Kidney After Injection of Iodinated Contrast Medium: A Time Course Study in Animal Model
Kai Zhao[1], Jia Liu[1], Yudong Zhang[2], Xiaoying Wang[1]
[1]Department of Radiology, Peking University First Hospital, Beijing, China; [2]Department of Radiology, Jiangsu Province Hospital, Nanjing, Jiangsu, China

1560. The Effect of Iodinated Contrast Media on the Renal GFR as Evaluated by ASL MRI
Jing Wang[1], Yudong Zhang[2], Jue Zhang[1], Xiaoying Wang[3], Jing Fang[4]
[1]Academy for Advanced Interdisciplinary Studies, Peking Unversity, Beijing, China; [2]Department of Radiology, The First Affiliated Hospital With Nanjing Medical University, Nanjing, China, Beijing, China; [3]Department of Radiology, Peking University First Hospital, Beijing, China; [4]Peking University, Beijing, China

1561. High Resolution Detection of Kidney Microstructures *in vivo* with a Wireless Amplified NMR Detector and Mn-Enhanced MRI.
Chunqi Qian[1], Der-Yow Chen[1], Nikorn Pothayee[1], Stephen Dodd[1], Joseph Murphy-Boesch[1], Alan P. Koretsky[1]
[1]National Institutes of Health, Bethesda, MD, United States

1562. Glomerular Imaging of Mouse Kidney Using a Dedicated Alderman-Grant Probe
Jorge Chacon Caldera[1], Philipp Krämer[1], Raffi Kalayciyan[1], Lothar R. Schad[1], Sabine Neudecker[2], Stefania Geraci[2], Norbert Gretz[2]
[1]Computer Assisted Clinical Medicine, Medical Faculty Mannheim, Heidelberg University, Mannheim, Germany; [2]Institute for Medical Technology, Heidelberg University, Mannheim, Germany

1563. A High T_1-Relaxivity Nanoparticle for in Vivo MRI Detection of Kidney Glomeruli
Scott Charles Beeman[1], Maria Veronica Clavijo Jordan[1], Edwin J. Baldelomar[1], Kevin M. Bennett[1]
[1]Arizona State University, Tempe, AZ, United States

1564. Counting Glomeruli in Mouse Kidneys Using MRI
Scott Charles Beeman[1], John F. Bertram[2], Jennifer R. Charlton[3], Teresa Wu[1], Min Zhang[1], Kevin M. Bennett[1]
[1]Arizona State University, Tempe, AZ, United States; [2]Monash University, Clayton, Victoria, Australia; [3]University of Virginia, Charlottesville, VA, United States

1565. Counting Glomeruli in a Human Transplant Kidney Using MRI
Scott Charles Beeman[1], John F. Bertram[2], Jennifer R. Charlton[3], Teresa Wu[1], Min Zhang[1], Kevin M. Bennett[1]
[1]Arizona State University, Tempe, AZ, United States; [2]Monash University, Clayton, Victoria, Australia; [3]University of Virginia, Charlottesville, VA, United States

1566. Magnetization Transfer MR Imaging of the Kidney: Quantitative Evaluation at 3.0T in Association with Renal Function
Akira Yamamoto[1], Katsuyoshi Ito[1], Yasufumi Noda[1], Akihiko Kanki[1], Atsushi Higaki[1], Daigo Tanimoto[1], Tsutomu Tamada[1]
[1]Radiology, Kawasaki Medical School, Kurashiki, Okayama, Japan

1567. Changes in Renal Oxygenation and Function Secondary to Cyclosporine A: BOLD MRI
Zaheer Akhtar[1], David J. Niles[2], Omeed Hafez[3], Daniela Cornejo[2], Shannon Raye Reese[3], Nancy Ann Schlei[3], Sean B. Fain[2], Arjang Djamali[3], Elizabeth A. Sadowski[1]
[1]Radiology, University of Wisconsin Madison, Madison, WI, United States; [2]Medical Physics, University of Wisconsin Madison, Madison, WI, United States; [3]Nephrology, University of Wisconsin Madison, Madison, WI, United States

1568. Effect of Water Diffusion on Intra-Renal Oxygenation Quantification
Xiang He[1], Serter Gumus[1], Ayaz Aghayev[1], Kyongtae Ty Bae[1]
[1]Department of Radiology, University of Pittsburgh, Pittsburgh, PA, United States

1569. Prospectively Navigated Multi-Echo GRE Sequence for Improved 2D BOLD Imaging of the Kidneys
Glen Morrell[1], Eun-Kee Jeong[1], Xianfeng Shi[1], Lei Zhang[1], Vivian S. Lee[1]
[1]Utah Center for Advanced Imaging Research, University of Utah, Salt Lake City, UT, United States

1570. MRI Texture Analysis for Preoperative Staging of Renal Cell Cancer
Andrea S. Kierans[1], Henry Rusinek[1], Andrew Lee, William C. Huang[2], Hersh Chandarana[1]
[1]Radiology, NYU Langone Medical Center, NYC, NY, United States; [2]Urology, NYU Langone Medical Center, NYC, NY, United States

1571. Preoperatively Evaluating the Correlation Between Pathological Grades and Blood Oxygenation Level-Dependent MRI in Clear Cell Renal Cell Carcinomas
Jie Chen[1], Jiule Ding[1], Changping Wu[2], Wei Xing[1], Jingting Jiang[2], Tongbing Chen[3], Jun Sun[1], Yongming Dai[4], Ewart Mark Haacke[5], Jiani Hu[5]
[1]Radiology, Affiliated Third Hospital of Suzhou University, Changzhou, Jiangsu, China; [2]Oncology, Affiliated Third Hospital of Suzhou University, Changzhou, Jiangsu, China; [3]Pathology, Affiliated Third Hospital of Suzhou University, Changzhou, Jiangsu, China; [4]Siemens Healthcare China, MR Collaboration NE Asia, Shanghai, China; [5]Radiology, Wayne State University, Detroit, MI, United States

1572. Renal Masses Measuring Under 2 Cm: What Is the Utility of MRI Features in Distinguishing Benign and Malignant Cases?
Mohammed Shaikh[1], Natasha E. Wehrli[1], Jonathan Melamed[2], Samir S. Taneja[3], Andrew B. Rosenkrantz[1]
[1]Radiology, NYU Langone Medical Center, New York, United States; [2]Pathology, NYU Langone Medical Center, New York, United States; [3]Urologic Oncology, NYU Langone Medical Center, New York, United States

1573. Differentiating Lipid Poor Adrenal Adenomas and Malignant Adrenal Neoplasms by Combination of Dynamic Contrast Enhanced T1 Weighted 3-D Gradient Echo Sequences and Single Shot T2WI :Prelimanary Results
Hina Arif-Tiwari[1], David Becker-Weidman[2], Bobby T. Kalb[1], Diego R. Martin[1]
[1]Medical Imaging, University of Arizona, College of Medicine, Tucson, AZ, United States; [2]Radiology, Thomas Jefferson University, Philadelphia, PA, United States

1574. Prevalence of Nephrogenic Systemic Fibrosis (NSF) in Dialysis Patients: Final Results of the Pro-FINEST Study

Sabine Amet[1], Vincent Launay-Vacher[1], Gilbert Deray[2], Aurore Tricotel[3], Camille Francès[4], Jean-Yves Gauvrit[5], Nicolas Grenier[6], Geneviève Reinhardt[7], Maurice Laville[8], Nicolas Janus[1], Laurence Rouillon[1], Gabriel Choukroun[9], Olivier Clément[10]

[1]Service ICAR, Nephrology department, Pitie-Salpetriere Hospital, Paris, France; [2]Nephrology, Pitie-Salpetriere Hospital, Paris, France; [3]Pharmacovigilance, ANSM, Saint-Denis Cedex, France; [4]Dermatology, Tenon Hospital, Paris cedex 20, France; [5]Radiology, Pontchaillou Hospital, Rennes cedex 09, France; [6]Radiology, Pellegrin Hospital, Bordeaux, France; [7]Radiology, Haguenau Hospital, Haguenau, France; [8]Nephrology, Edouard Herriot Hospital, Lyon, France; [9]Nephrology, South Hospital, Amiens, France; [10]Radiology, European G. Pompidou Hospital, Paris cedex 15, France

1575. NSsaFe Study: Observational Study on the Incidence of Nephrogenic Systemic Fibrosis in Renal Impaired Patients Following Gadoterate Meglumine Administration.

Byung Chul Kang[1]

[1]Chung Ang University Hospital, Seoul, Korea

1576. Functional Evaluation of the Congenital Hydronephrosis Using DCE-MR Urography: A Comparison with Technetium-99m-MAG3

Mikiko Miyasaka[1], Shunsuke Nosaka[1], Eriko Otsubo[1], Hiroshi Nagamatsu[1], Katsuhiko Ueoka[2], Yuichi Hasegawa[2], Izumi Kanemitsu[2], Masayuki Kitamura[1], Hidekazu Masaki[1], Masato Uchikoshi[3], Peter Galt[4]

[1]Radiology, National Center for Child Health and Development, Setagaya-ku, Tokyo, Japan; [2]Urology, National Center for Child Health and Development, Setagaya-ku, Tokyo, Japan; [3]Siemens Japan K. K., Shinagawa-ku, Tokyo, Japan; [4]Siemens AG, Erlangen, Germany

1577. Ureteral Peristalsis with 3D Spiral Data Reconstructed at 4 Frames Per Second

Silvina P. Dutruel[1], Nanda Deepa Thimmappa[1], Pascal Spincemaille[1], Bo Xu[1], Yi Wang[1], Martin R. Prince[1]

[1]Radiology, Weill Cornell Medical College, New York, NY, United States

1578. Non-Contrast Enhanced MRA of Uterine Artery Using Time-SLIP: Evaluation of Optimal BBTI

Aki Kido[1], Koji Fujimoto[1], Kayo Kiguchi[1], Fuki Shitano[1], Kyoko Takakura[1], Sayaka Daido[1], Yuki Himoto[1], Ayako Ninomiya[2], Hiroshi Kusahara[2], Kaori Togashi[1]

[1]Department of Diagnostic Imaging and Nuclear Medicine, Kyoto University, Kyoto, Japan; [2]Toshiba Medical Systems Corporation, Otawara, Tochigi, Japan

1579. Dysmenorrhea Associated with Endometriosis: Pre-Post Treatment Evaluation of Oral Contraceptives Using Cine MRI

Masako Kataoka[1], Ken Tamai[2], Toshihiro Higuchi[3], Ayako Suzuki[4], Aki Kido[1], Sayaka Daido[1], Asako Nakai[5], Koji Fujimoto[1], Ikuo Konishi[6], Kaori Togashi[1]

[1]Diagnostic Radiology, Kyoto University, Kyoto, Japan; [2]Radiology, Kyoto-katsura hospital, Kyoto, Japan; [3]Gynecology, Shiga-medical center for adults, Moriyama, Shiga, Japan; [4]Gynecology, Otsu-municipal hospital, Otsu, Shiga, Japan; [5]Radiology, Hikone municipal hospital, Hikone, Shiga, Japan; [6]Gynecology and Obstetrics, Kyoto University, Kyoto, Japan

1580. Value of Magnetic Resonance Imaging in Preoperative Staging of Uterine Cervical Carcinoma: Correlate with FIGO 2009

Gui ping Xu[1], Qiuping Wang[1], Hua Chen[1]

[1]Radiology, the First Affiliated Hospital£¬Medical School of Xi¡¯an Jiaotong University, Xi'an, Shann Xi, China

1581. Placental T2 Relaxation Parameters at Different Gestational Ages in Mouse Pregnancy

Uday Krishnamurthy[1], Yimin Shen[2], Jaladhar Neelavalli[2], Gabor Szalai[3], Bing Wang[3], Tinnakorn Chaiworapongsa[3, 4], Edgar Hernandez-Andrade[3, 4], Nandor Gabor Than[3, 4], Ewart Mark Haacke[2], Roberto Romero[3]

[1]Department of Biomedical Engineering, Wayne State University, Detroit, MI, United States; [2]Department of Radiology, Wayne State University, Detroit, MI, United States; [3]Perinatology Research Branch, NICHD, NIH, DHHS, Wayne State University, Detroit, MI, United States; [4]Department of Obstetrics and Gynecology, Wayne State University, Detroit, MI, United States

Traditional Poster
Body - Other

Exhibition Hall Tuesday 16:00-18:00

1582. Measurement of Tissue Extracellular Volume in Health and Amyloidosis Using Equilibrium Contrast MRI

Steve Bandula[1], Sanjay Banypersad[2], Daniel Sado[2], Stuart Taylor[1], Shonit Punwani[1], James Moon[2]
[1]Centre for Medical Imaging, University College London, London, United Kingdom; [2]The Heart Hospital, University College London Hospital , London, United Kingdom

1583. Elucidating Subcutaneous Depot Formation and Release of the Injectable Anti-Diabetics Taspoglutide in Rats Using *in vivo* MRI

Basil Künnecke[1], Andreas Bruns[1], Olaf Kuhlmann[2]
[1]Behavioural Pharmacology & Preclinical Imaging, F. Hoffmann-La Roche Ltd, Basel, Switzerland; [2]Non-Clinical Safety, F. Hoffmann-La Roche Ltd, Basel, Switzerland

1584. *in vivo* Imaging of Free Radicals in Cardiac Tissues from Diabetic Mice with the Use of MRI

Rheal A. Towner[1], Nataliya Smith[1], Debra Saunders[1], Jorge Carrizales[1], Florea Lupu[2], Robert Silasi-Mansat[2], Kenneth Humphries[3], Shraddha Vadvakar[3], Marilyn I. Ehrenshaft[4], Ronald P. Mason[4]
[1]Advanced Magnetic Resonance Center, Oklahoma Medical Research Foundation, Oklahoma City, OK, United States; [2]Cardiovascular Biology, Oklahoma Medical Research Foundation, Oklahoma City, OK, United States; [3]Free Radical Biology & Medicine, Oklahoma Medical Research Foundation, Oklahoma City, OK, United States; [4]Laboratory of Pharmacology & Chemistry, National Institute of Environmental Health Sciences, Research Triangle Park, NC, United States

1585. Susceptibility Matched Endoluminal Coil for the Acquisition of High SNR Spectra for the Observation of the Rectal Wall

Jean-Marie Verret[1], Frank Pilleul[2], Olivier Beuf[3], Cecile Rabrait[4]
[1]CREATIS, Villeurbanne, France, Metropolitan; [2]Hospices Civils de Lyon, Lyon, France, Metropolitan; [3]CREATIS, Lyon, France, Metropolitan; [4]General Electric Healthcare, Velizy, France, Metropolitan

1586. Database-Guided Detection and Segmentation of Organs in MR FastView Localizers for Automatic Scan Planning

Neil Birkbeck[1], Nathan Lay[1], Jingdan Zhang[1], Artem Gritsenko[1], Jens Guehring[2], S. Kevin Zhou[1]
[1]Imaging & Computer Vision, Siemens Corp., Corporate Technology, Princeton, NJ, United States; [2]Imaging & Therapy Division, Siemens Healthcare, Erlangen, Germany

1587. Audiovisual Biofeedback Improves Image Quality and Reduces Scan Time for Gated 3D MRI

Danny Lee[1], Peter Greer[2], Jameen Arm[3], Paul Keall[1], Taeho Kim[1]
[1]Radiation Physics Laboratory, Sydney Medical School, The University of Sydney, Camperdown, NSW, Australia; [2]The University of Newcastle, Newcastle, NSW, Australia; [3]Calvary Mater Newcastle Hospital, Newcastle, NSW, Australia

1588. MRI-Visible Mesh Implants in Patients, Assessment of Time-Dependent Configuration Changes.

Alexander Ciritsis[1], Nienke Lynn Hansen[1], Alexandra Barabasch[1], Nicolas Kuehnert[2], Jens Otto[3], Joachim Conze[3], Christiane Kuhl[1], Nils Andreas Kraemer[1]
[1]Diagnostic and Interventional Radiology, RWTH University Hospital, Aachen, NRW, Germany; [2]Surgery, RWTH University Hospital , Aachen, NRW, Germany; [3]Surgery, RWTH University Hospital, Aachen, NRW, Germany

1589. Clinical Evaluation of High Permittivity Pads for Improving Abdominal Image Quality at 3T

Gunhild Erstad Aandal[1], Gurpreet S. Sandhu[1], Ronald D. Novak[1], Dean Nakamoto[1], Luis Landeras[1], Mark A. Griswold[1, 2], Paul de Heer[3], Andrew G. Webb[3], Vikas Gulani[1, 4]
[1]Dept. of Radiology, University Hospitals Case Medical Center, Cleveland, OH, United States; [2]Dept. of Biomedical Engineering, Case Western Reserve University, Cleveland, OH, United States; [3]Dept. of Radiology, Leiden University Medical Center, Leiden, ZA, Netherlands; [4]Dept. of Biomedical Engineering , Case Western Reserve University, Cleveland, OH, United States

1590. Visualization of Drug Dissolution Using ^{19}F-MRS and -MRI

Janet Friedrich[1], Julia Schröder[1], Sarah Kindgen[2], Stefan Fischer[1], Mark Schuppert[1], Karsten Gogoll[2], Peter Langguth[2], Laura Maria Schreiber[1]
[1]Department of Radiology, Johannes Gutenberg University Medical Center, Mainz, Germany; [2]Institute of Pharmaceutical Technology and Biopharmacy, Johannes Gutenberg University, Mainz, Germany

1591. 3D SSFP Acquisitions for MR Enterography
James F. Glockner[1], Christine U. Lee[1]
[1]Radiology, Mayo Clinic, Rochester, MN, United States

Traditional Poster
Bone/Tendon/Ligament/Spine

Exhibition Hall Wednesday 13:30-15:30

1592. 31P NMR Relaxation of Cortical Bone Mineral Investigated by Partial Demineralization and Deuterium Exchange
Alan C. Seifert[1], Suzanne L. Wehrli[2], Alexander C. Wright[1], Henry H. Ong[1], Felix W. Wehrli[1]
[1]Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States; [2]NMR Core Facility, Children's Hospital of Philadelphia, Philadelphia, PA, United States

1593. Micro-Mechanical Modeling in the Nonlinear Regime for Assessing Indices of Bone Strength from High-Resolution MR Images
Ning Zhang[1], Jeremy F. Magland[1], Chamith S. Rajapakse[1], Felix Wehrli[1]
[1]Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States

1594. Quantification of Bone Mineral Density in Human Cortical Bone by Solid State 31P MRI at 7 T
Alan C. Seifert[1], Chamith S. Rajapakse[1], Mahdieh Bashoor-Zadeh[1], Cheng Li[1], Yusuf A. Bhagat[1], Alexander C. Wright[1], Babette Zemel[2], Antonios Zavaliangos[3], Felix W. Wehrli[1]
[1]Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States; [2]Division of GI, Hepatology, and Nutrition, Children's Hospital of Philadelphia, Philadelphia, PA, United States; [3]Department of Materials Science and Engineering, Drexel University, Philadelphia, PA, United States

1595. *In Vivo* Cortical Bone MRI with Bound and Pore Water-Discrimination
R. Adam Horch[1, 2], Mary Kate Manhard[1, 2], Daniel F. Gochberg[2, 3], Jeffry S. Nyman[4], Mark D. Does[1, 2]
[1]Biomedical Engineering, Vanderbilt University, Nashville, TN, United States; [2]Vanderbilt University Institute of Imaging Science, Vanderbilt University, Nashville, TN, United States; [3]Radiology & Radiological Sciences, Vanderbilt University, Nashville, TN, United States; [4]Department of Orthopaedics & Rehabilitation, Vanderbilt University, Nashville, TN, United States

1596. Feasibility of Applying MR Elastography to Measure Bone Stiffness in an *ex vivo* Model of Osteoporosis
Jun Chen[1], Hugh McGregor[2], Ephraim I. Ben-Abraham[1], Kevin J. Glaser[1], Qingshan Chen[1], Richard Leroy Ehman[1]
[1]Mayo Clinic, Rochester, MN, United States; [2]University of North Carolina, Chapel Hill. , Chapel Hill, NC, United States

1597. 3D Trabecular Bone Volume Fraction Measurements of the Calcaneus for 80 Healthy Female Volunteers Using a Compact MRI System
Hiroki Kondo[1], Daiki Tamada[1], Yasuhiko Terada[1], Katsumi Kose[1]
[1]Institute of Applied Physics, University of Tsukuba, Tsukuba, Ibaraki, Japan

1598. Quadrant Analysis of Femoral Head Perfusion After Fracture Using Dynamic Contrast Enhanced MRI
Jonathan P. Dyke[1], Lionel E. Lazaro[2], Carolyn Hettrich[3], Craig Klinger[4], Keith Hentel[1], Dean Lorich[2, 4]
[1]Radiology, Weill Cornell Medical College, NY, United States; [2]Orthopaedic Surgery, Weill Cornell Medical College, New York, NY, United States; [3]Orthopaedic Surgery, University of Iowa, Iowa City, IA, United States; [4]Orthopaedic Surgery, Hospital for Special Surgery, New York, NY, United States

1599. Simple Ultrashort Echo Time MRI Measure Associated with Cortical Bone Porosity
Mahdieh Bashoor-Zadeh[1], Cheng Li[1], Wenli Sun[1], Maite Aznarez-Sanado[1], Alexander C. Wright[1], Antonios Zavaliangos[2], Chamith S. Rajapakse[1]
[1]University of Pennsylvania, Philadelphia, PA, United States; [2]Drexel University, Philadelphia, PA, United States

1600. Analysis of 3D IR-UTE for Imaging Femur Head Necrosis: Signal Behavior and Optimized Soft Tissue Suppression in Dependence of Varying Relaxation Times
Kathrin Hemberger[1], Daniel Weber[1], Peter M. Jakob[1, 2], Daniel Haddad[3]
[1]MRB Research Center for Magnetic-Resonance-Bavaria, Würzburg, Bavaria, Germany; [2]Departement of Experimental Physics 5, Institute of Physics, Würzburg, Bavaria, Germany; [3]MRB Research Center, Würzburg, Bavaria, Germany

1601. Potential Diagnostic Role of the MRI-Derived Internal Magnetic Field Gradient in Calcaneus Cancellous Bone for Evaluating Postmenopausal Osteoporosis at 3T

Silvia Capuani[1], Mauro Rebuzzi[2, 3], Felix W. Wehrli[4]

[1]Physics Department Sapienza University of Rome, Sapienza University, Rome, Italy, Italy; [2]Physics Department, CNR IPCF Roma "Sapienza " University of Rome, Rome, Italy, Italy; [3]Radiology Department, IRCCS Santa Lucia Foundation, Rome, Italy, Italy; [4]Department of Radiology, University of Pennsylvania, Perelman School of Medicine, Philadelphia, Pa, United States

1602. Distinguishing Cortical Bone Bound and Pore Water by T2* at Multiple Magnetic Field Strengths

Alan C. Seifert[1], Cheng Li[1], Jeremy F. Magland[1], Felix W. Wehrli[1]

[1]Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States

1603. Validation of Quantitative Bound and Pore Water Imaging in Cortical Bone

Mary Kate Manhard[1, 2], R. Adam Horch[1, 2], Kevin D. Harkins[3], Daniel F. Gochberg, [23], Jeffry S. Nyman[4], Mark D. Does[1, 2]

[1]Biomedical Engineering, Vanderbilt University, Nashville, TN, United States; [2]Vanderbilt University Institute of Imaging Science, Vanderbilt University, Nashville, TN, United States; [3]Radiology & Radiological Sciences, Vanderbilt University, Nashville, TN, United States; [4]Department of Orthopaedics & Rehab, Vanderbilt University, Nashville, TN, United States

1604. Computational Model of Cortical Bone Pore Water Frequency Distribution, T2' and T2*

ISMRM MERIT AWARD magna cum laude

Cheng Li[1], Henry Ong[2], Alexander C. Wright[1], Shing Chun Benny Lam[3], Felix W. Wehrli[1]

[1]Laboratory for Structural NMR Imaging, Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States; [2]Vanderbilt University Institute of Imaging Science, Vanderbilt University, Nashville, TN, United States; [3]Department of Psychiatry, University of Pennsylvania, Philadelphia, PA, United States

1605. Quantitative MR Imaging - T2*-Mapping of the Knee Joint Using a Multi-Echo VTE-Sequence at 3 Tesla: Preliminary Results.

Elisabeth Schönbauer[1], Georg Riegler, Sebastian Apprich[2], Vladimir Juras[3], Xeni Deligianni[4], Oliver Bieri[5], Stefan Zbýň[6], Siegfried Trattnig[7]

[1]High-field MR Center of Exellence , Department of Radiology, Medical University of Vienna/ Vienna General Hospital, Vienna, Austria; [2]High-field MR Center of Exellence, Department of Radiology, Medical University of Vienna/ Vienna General Hospital,, Vienna, Austria; [3]High-field MR Center of Exellence, Department of Radiology, Medical University of Vienna/ Vienna General Hospital, Vienna, Austria; [4]Division of Radiological Physics-Department of Radiology and Nuclear Medicine, University of Basel Hospital,, Basel, Switzerland; [5]Division of Radiological Physics-Department of Radiology and Nuclear Medicine,, University of Basel Hospital, Basel, Switzerland; [6]High-field MR Center of Exellence, Department of Radiology, Medical University of Vienna/ Vienna General Hospital, , Vienna, Austria; [7]High-field MR Center of Exellence, Department of Radiology,, Medical University of Vienna/ Vienna General Hospital, Vienna, Austria

1606. Noninvasive Ultrashort Echo Time Magnetic Resonance Imaging Assessment of Anterior Cruciate Ligament Graft Strain

Sarah L. Pownder[1], Michael O. Schaer[2], Richard Ma, [23], Xiang-Hua Deng[2], Matthew F. Koff[1], Scott A. Rodeo, [23], Hollis G. Potter[1]

[1]MRI Research Laboratory, Hospital for Special Surgery, New York, NY, United States; [2]Laboratory for Soft Tissue Research, Hospital for Special Surgery, New York, NY, United States; [3]Department of Orthopaedic Surgery, Hospital for Special Surgery, New York, NY, United States

1607. High Contrast 3D IDEAL Ultrashort TE (UTE) Imaging

Hbaib Al saleh[1], Kevin M. Johnson[1], Walter F. Block[2, 3], Richard Kijowski[3], Diego Hernando[4]

[1]Medical Physics, University of Wisconsin Madison, Madison, WI, United States; [2]Medical Physics, University of Wisconsin-Madison, Madison, WI, United States; [3]Radiology, University of Wisconsin Madison, Madison, WI, United States; [4]Radiology, University of Wisconsin-Madison, Madison, WI, United States

1608. Determination of the Meniscal Deformation Under Compressive Loading Through MR-Imaging

Maren Freutel[1], Fabio Galbusera[1], Andreas Seitz[1], Axel Bornstedt[2], Volker Rasche[3], Lutz Dürselen[1]

[1]Institute of Orthopaedic Research and Biomechanics, Ulm, BW, Germany; [2]Department of Internal Medicine II, University of Ulm, Ulm, BW, Germany; [3]Department of Internal Medicine II, University Hospital of Ulm, Ulm, BW, Germany

1609. High Resolution 3D Ultrashort Echo Time Imaging of the Achilles Tendon at 7T
Misung Han[1], Peder E.Z. Larson[1], Roland Krug[1]
[1]University of California, San Francisco, San Francisco, CA, United States

1610. Ultrashort Echo Time Imaging (UTE) of the Extensor and Flexor Tendons in Bovine Legs
Dietmar Cordes[1, 2], Anthony C. Lanctot[2], Thomas G. Perkins[3], Mark S. Brown[2], Gary D. Fullerton[2]
[1]Physics, Ryerson University, Toronto, Ontario, Canada; [2]Radiology, University of Colorado, Aurora, CO, United States; [3]Philips Healthcare, Cleveland, OH, United States

1611. High Field Magnetic Resonance Microscopy of Entheses
Paul A. DiCamillo[1], Sheronda Statum[1], Christine B. Chung[1], Graeme M. Bydder[2], Nikolaus M. Szeverenyi[1]
[1]Department of Radiology, University of California, San Diego, CA, United States; [2]Department of Radiology, University of California San Diego, San Diego, CA, United States

1612. Automatic Quantification of 3D Morphology and Appearance of Intervertebral Discs in High Resolution MRI
ISMRM MERIT AWARD summa cum laude
Aleš Neubert[1, 2], Jurgen Fripp[1], Craig Engstrom[3], Duncan Walker[4], Raphael Schwarz[5], Stuart Crozier[6]
[1]The Australian E-Health Research Centre, CSIRO ICT Centre, Brisbane, QLD, Australia; [2]School of ITEE, University of Queensland, Brisbane, QLD, Australia; [3]School of HMS, University of Queensland, Brisbane, QLD, Australia; [4]Wesley Hospital, Brisbane, QLD, Australia; [5]Siemens Healthcare, Erlangen, Germany; [6]School of ITEE, The University of Queensland, Brisbane, QLD, Australia

1613. Chemical Exchange and *in vivo* Intervertebral Disc R1-Rho Dispersion Imaging: A Feasibility Study
ISMRM MERIT AWARD magna cum laude
Qi Liu[1], Zhaoyang Fan[1], Yutaka Natsuaki[2], Ning Jin[3], Wafa Tawackoli[1], Gadi Pelled[1], Dan Gazit[1], Debiao Li[1]
[1]Biomedical Imaging Research Institute, Cedars-Sinai Medical Center, Los Angeles, CA, United States; [2]Siemens Healthcare, Los Angeles, CA, United States; [3]Siemens Medical Solutions, Columbus, OH, United States

1614. On the Reliability of in Vitro Mapping of Ultrashort T_2* of Porcine Intervertebral Discs: A Detailed Analysis of the Signal Decay
Lena Altherr[1], Stefan Kirsch[1], M. L. R. Schwarz[2], Gregor Reisig[2], Dieter Schleich[2], Lothar R. Schad[1]
[1]Computer Assisted Clinical Medicine, Heidelberg University, Mannheim, Germany; [2]Department for experimental orthopaedics and trauma surgery, OUZ Mannheim, University Medical Centre, Heidelberg University, Mannheim, Germany

1615. 3D CUBE Flex MRI Sequence Versus 2D MRI Sequences for the Imaging of the Cervical Spine
Theodore Jerdee[1], Amelie M. Lutz[1], Garry E. Gold[1, 2]
[1]Radiology, Stanford University, Stanford, CA, United States; [2]School of Bioengineering, Stanford University, Stanford, CA, United States

1616. Detection of Intervertebral Disc Lesions with High-Resolution MRI @ 11.7 T
Nikolaus Berger-Roscher[1], Hans-Joachim Wilke[1], Volker Rasche[2, 3]
[1]Institute of Orthopaedic Research and Biomechanics, Ulm University, Ulm, Baden Wuerttemberg, Germany; [2]Experimental Cardiovascular Imaging, Ulm University, Ulm, NA, Germany; [3]Core Facility Small Animal MRI, Ulm University, Ulm, Baden Wuerttemberg, Germany

1617. Cervical Spine DWI Using Reduced-FOV Multi-Shot EPI with 2D Phase Cycling Reconstruction
He Wang[1], Chao Ma[2], Nan-Kuei Chen[3], Jianping Lu[2], Allen Song[4], Guang Cao
[1]MR Research China, GE Healthcare, Shanghai, China; [2]Department of Radiology, Changhai Hospital, Shanghai, China; [3]Duke University, Durhem, NC, United States; [4]Duke University Medical Center, Durhem, NC, United States

1618. Cortical Bone Segmentation for Accurate Canine Body Composition Quantification Using 3 Tesla Fat-Water MRI
Aliya Gifford[1, 2], Joel Kullberg[3], Johan Berglund[3], Filip Malmberg[4], Katie C. Coate[5], Philip E. Williams[5], Alan D. Cherrington[5], Malcolm J. Avison[6, 7], E. Brian Welch[6, 8]
[1]Vanderbilt University Institute of Imaging Science, Vanderbilt University, Nashville, TN, United States; [2]Chemical and Physical Biology Program, Vanderbilt University School of Medicine, Nashville, TN, United States; [3]Department of Radiology, Uppsala University, Uppsala, Sweden; [4]Center for Image Analysis, Uppsala University, Uppsala, Sweden; [5]Department of Molecular Physiology and Biophysics, Vanderbilt University School of Medicine, Nashville, TN, United States; [6]Vanderbilt University Institute of Imaging Science, Vanderbilt University School of Medicine, Nashville, TN, United States; [7]Department of Pharmacology,

Vanderbilt University School of Medicine, Nashville, TN, United States; [8]Department of Radiology & Radiological Sciences, Vanderbilt University School of Medicine, Nashville, TN, United States

Traditional Poster
Muscle

Exhibition Hall Wednesday 13:30-15:30

1619. Changes in Skeletal Muscle Fractional Anisotropy and Apparent Diffusion Coefficient in Juvenile Dermatomyositis

Caleb Robert Dulaney[1], Juebin Huang[2], Manohar Roda[1], Alexander P. Auchus[2], Judy R. James[1]
[1]Radiology, University of Mississippi, Jackson, MS, United States; [2]Neurology, University of Mississippi, Jackson, MS, United States

1620. Mapping Neuromuscular Activation Patterns Using Magnetic Resonance Elastography of Skeletal Muscle

Eric Barnhill[1], Paul Kennedy[1], Edwin van Beek[1], Colin Brown[2], Neil Roberts[1]
[1]Clinical Research Imaging Centre, The University of Edinburgh, Edinburgh, Midlothian, United Kingdom; [2]Research and Development, The Mentholatum Company, East Kilbride, South Lanarkshire, United Kingdom

1621. Quantitative Assessment of Muscle Oxygen Saturation with BOLD MRI: Validated by Near-Infrared Spectroscopy (NIRS)

Jeff L. Zhang[1], Christopher J. Hanrahan[1], Gwenael Layec[2], Jason K. Mendes[1], Corey Hart[2], Russell S. Richardson[2], Vivian S. Lee[1]
[1]Department of Radiology, University of Utah, Salt Lake City, UT, United States; [2]Department of Internal Medicine, Division of Geriatrics, University of Utah, Salt Lake City, UT, United States

1622. Glycogen Concentration and Bioenergetics in Young and Older Women

Anne Tonson[1], Jacob Deblois[1], Jessica Fay[1], Steve Foulis[1], Douglas E. Befroy[2], Jane Kent-Braun[1]
[1]Department of Kinesiology, University of Massachusetts, Amherst, MA, United States; [2]Magnetic Resonance Research Center, Yale University, New Haven, CT, United States

1623. *Oxygen Delivery Does Not Limit Mitochondrial Function in Skeletal Muscle of Healthy and Diabetic Rats in Vivo*

Bart Wessels[1], Klaas Nicolaij[1], Jeanine J. Prompers[1]
[1]Biomedical NMR, University of Technology Eindhoven, Eindhoven, Netherlands

1624. P-31 Chemical Exchange Saturation Transfer (CEST) Between ATP and Phosphor-Creatine (PCr) at 7T

Jimin Ren[1], Baolian Yang[2], Ivan E. Dimitrov[2], A. Dean Sherry[1, 3], Craig R. Malloy[1, 4]
[1]Advanced Imaging Research Center, University of Texas Southwestern Medical Center, Dallas, TX, United States; [2]Philips Medical System, Cleveland, OH, United States; [3]Department of Chemistry, University of Texas at Dallas, Richardson, TX, United States; [4]VA North Texas Health Care System, Dallas, TX, United States

1625. High-Resolution Echo-Planar Spectroscopic Imaging of Human Calf

Jan Weis[1], Morten Bruvold[2], Francisco Ortiz-Nieto[1], Håkan Ahlström[1]
[1]Department of Radiology, Uppsala University Hospital, Uppsala, Sweden; [2]Philips Healthcare, Best, Netherlands

1626. Improving ^{31}P MRS Measurements of Metabolic Kinetics in Skeletal Muscle Using Time Domain Filtering

Sai K. Merugumala[1], James A. Balschi[2], Hui Jun Liao[1], Alexander Lin[1]
[1]Center for Clinical Spectroscopy, Department of Radiology, Brigham and Women's Hospital, Boston, MA, United States; [2]Physiological NMR Core Laboratory, Department of Medicine, Brigham and Women's Hospital, Boston, MA, United States

1627. Increased Glycolysis Flux Helps to Maintain Energy Homeostasis in Muscle of Diabetic Rats with Mitochondrial Dysfunction

Bart Wessels[1], Joep Schmitz[2], Klaas Nicolaij[1], Jeanine J. Prompers[1]
[1]Biomedical NMR, University of Technology Eindhoven, Eindhoven, Netherlands; [2]Computational Biology, University of Technology Eindhoven, Eindhoven, Netherlands

1628. Metabolic Response to Exercise of Gastrocnemius and Soleus Muscle Characterized by Localized Dynamic 31P MRS, Using a Three-Channel RF Coil at 7T

Martin Meyerspeer[1, 2], Georg Bernd Fiedler[1, 3], Albrecht Ingo Schmid[1, 3], Elmar Laistler[1, 3], Ewald Moser[1, 3]
[1]Center for Medical Physics and Biomedical Engineering, Medical University of Vienna, Wien, Austria; [2]MR Centre of Excellence, Medical University of Vienna, Wien, Austria; [3]MR Centre of Excellence, Medical University of Vienna, Wien, Austria

1629. Robust Detection of Lactate by STEAM in Human Skeletal Muscle at 7T

Jimin Ren[1], A. Dean Sherry[1, 2], Craig R. Malloy[1, 3]
[1]Advanced Imaging Research Center, University of Texas Southwestern Medical Center, Dallas, TX, United States; [2]Department of Chemistry, University of Texas at Dallas, Richardson, TX, United States; [3]VA North Texas Health Care System, Dallas, TX, United States

1630. Water Proton Relaxation Times Exhibit Muscle Fibre Orientation Dependence, While Water to Creatine Magnetization Transfer Rates Do Not

Erin L. MacMillan[1], Christine Sandra Bolliger[1], Chris Boesch[1], Roland Kreis[1]
[1]Depts of Clinical Research & Radiology, University of Bern, Bern, Switzerland

1631. Quantitative Muscle MR Imaging Versus Quantitative Ultrasound in Facioscapulohumeral Muscular Dystrophy

Barbara H. Janssen[1], Sigrid Pillen[2], Nicoline B.M. Voet[3], Arend Heerschap[1], Baziel G. van Engelen[2], Nens van Alfen[2]
[1]Radiology, Radboud University Nijmegen Medical Centre, Nijmegen, Gelderland, Netherlands; [2]Neurology, Radboud University Nijmegen Medical Centre, Nijmegen, Gelderland, Netherlands; [3]rehabilitation, Radboud University Nijmegen Medical Centre, Nijmegen, Gelderland, Netherlands

1632. Temporal Diffusion Differences Between Slow-Twitch and Fast-Twitch Skeletal Muscle Following Mild Exercise

Conrad P. Rockel[1], Alireza Akbari[1], Dinesh A. Kumbhare[2, 3], Michael D. Noseworthy, [1 4]
[1]School of Biomedical Engineering, McMaster University, Hamilton, Ontario, Canada; [2]Physical Medicine and Rehabilitation, McMaster University, Hamilton, Ontario, Canada; [3]Department of Medicine, McMaster University, Hamilton, Ontario, Canada; [4]Electrical and Computer Engineering, McMaster University, Hamilton, Ontario, Canada

1633. Reproducibility of Skeletal Muscle MR Measures in Children: A Multi-Center Study of Duchenne Muscular Dystrophy

Sean C. Forbes[1], Glenn Walter[1], William D. Rooney[2], Dah-Jyuu Wang[3], Soren DeVos[1], Jim Pollaro[2], William Triplett[1], Donovan J. Lott[1], Rebecca J. Willcocks[1], Claudia Senesac[1], Mike Daniels[4], Barry Byrne[1], Barry Russman[2], Richard Finkel[3], James Meyer[3], Lee Sweeney[5], Krista Vandenborne[1]
[1]University of Florida, Gainesville, FL, United States; [2]Oregon Health & Science Universtiy, Portland, OR, United States; [3]The Children's Hospital of Philadelphia, Philadelphia, PA, United States; [4]The University of Texas at Austin, Austin, TX, United States; [5]University of Pennsylvania, Philadelphia, PA, United States

1634. Progression of Fatty Infiltration After Muscle Inflammation in FSH Muscular Dystrophy

Barbara H. Janssen[1], Nicoline B.M. Voet[2], Alexander C. Geurts[2], George W. Padberg[3], Baziel G. van Engelen[3], Arend Heerschap[1]
[1]Radiology, Radboud University Nijmegen Medical Centre, Nijmegen, Gelderland, Netherlands; [2]rehabilitation, Radboud University Nijmegen Medical Centre, Nijmegen, Gelderland, Netherlands; [3]Neurology, Radboud University Nijmegen Medical Centre, Nijmegen, Gelderland, Netherlands

1635. In Vitro DTI Assessment of Muscle Architecture in Osteoporotic and Osteoarthritic Subjects: A Preliminary Study.

Giulia Di Pietro[1, 2], Marco Palombo[3, 4], Jacopo Baldi[5], Eleonora Piccirilli[5], Monica Celi[5], Umberto Tarantino[5], Silvia Capuani[6, 7]
[1]IIT@Sapienza, Physics Department, "Sapienza" University, Roma, Rome, Italy; [2]Physics Department, "Sapienza" University, Rome, Italy; [3]Physics Department, "Sapienza" University , Rome, Italy; [4]CNR IPCF UOS Roma, Physics Department, "Sapienza" University, Rome, Italy; [5]Department of Orthopaedics and Traumatology, University of Rome "Tor Vergata",, Roma, Italy; [6]Sapienza University, Rome, Italy; [7]CNR IPCF UOS Roma, Physics Department, "Sapienza" University , Rome, Italy

1636. Differential Diffusion Behaviour in Human Calf Muscles Following Voluntary Vs Electrically-Stimulated Contractions

Conrad P. Rockel[1], Alireza Akbari[1], Dinesh A. Kumbhare[2, 3], Michael D. Noseworthy, [14]

[1]School of Biomedical Engineering, McMaster University, Hamilton, Ontario, Canada; [2]Physical Medicine and Rehabilitation, McMaster University, Hamilton, Ontario, Canada; [3]Department of Medicine, McMaster University, Hamilton, Ontario, Canada; [4]Electrical and Computer Engineering, McMaster University, Hamilton, Ontario, Canada

1637. An MR-Compatible Solution for Simultaneous Electrical Muscle Stimulation and MR Imaging at 3T

Alireza Akbari[1], Conrad P. Rockel[1], Dinesh A. Kumbhare[1, 2], Michael D. Noseworthy[1, 3]

[1]School of Biomedical Engineering, McMaster University, Hamilton, Ontario, Canada; [2]Physical Medicine and Rehabilitation, McMaster University, Hamilton, Ontario, Canada; [3]Electrical and Computer Engineering, McMaster University, Hamilton, Ontario, Canada

1638. Evaluation of MRI as an Outcome Measure for Therapeutic Trials in Muscular Dystrophy Mice

Khan Hekmatyar[1], Steven J. Foltz[2], Marisa J. Fortunato[2], Aaron M. Beedle[2]

[1]BioImaging Research Center/Complex Carbohydrate Research Center, University of Georgia, Athens, GA, United States; [2]Department of Pharmaceutical and Biomedical Sciences, University of Georgia College of Pharmacy, Athens, GA, United States

1639. Non-Invasive MRI Arterial-Venous Difference Measurement of Skeletal Muscle Oxygen Consumption During Isometric Contractions.

Ronald A. Meyer[1, 2], Robert W. Wiseman[1, 2], Jill M. Slade[2], Natalie M. Pizzimenti[1], Johnathan D. Kasper[1]

[1]Physiology, Michigan State University, East Lansing, MI, United States; [2]Radiology, Michigan State University, East Lansing, MI, United States

1640. Consistency of Post-Exercise Skeletal Muscle BOLD Response

Andrew D. Davis[1], Michael D. Noseworthy[2]

[1]Medical Physics and Applied Radiation Sciences, McMaster University, Hamilton, ON, Canada; [2]Electrical and Computer Engineering, School of Biomedical Engineering, McMaster University, Hamilton, ON, Canada

1641. Quantification of Lower Extremity Muscle Fat Infiltration in Pediatric Patients with Spina Bifida Using Water-Fat MRI

Houchun Harry Hu[1], Skorn Ponrartana[1], Thomas G. Perkins[2], Jonathan M. Chia[2], Vicente Gilsanz[1], Tishya A. L. Wren[3]

[1]Radiology, Children's Hospital Los Angeles, Los Angeles, CA, United States; [2]Philips Healthcare, Cleveland, OH, United States; [3]Orthopaedic Surgery, Children's Hospital Los Angeles, Los Angeles, CA, United States

1642. Comparison of the Influence of a Single Exercise Session on Quantitative Muscle Fat Fraction (FF) and Diffusion (Fractional Anisotropy (FA)) Imaging with MRI

Julia Reinhardt[1], Selina Kaspar[1], Monika Gloor[2], Dirk Fischer[3, 4], Christoph Stippich[1], Arne Fischmann[1]

[1]Department of Radiology and Nuclear Medicine, Division of Diagnostic and Interventional Neuroradiolo, University of Basel Hospital, Basel, BS, Switzerland; [2]Department of Radiology and Nuclear Medicine, Division of Radiological Physics, University of Basel Hospital, Basel, BS, Switzerland; [3]Department of Neurology, University of Basel Hospital, Basel, BS, Switzerland; [4]University of Basel Children's Hospital, Basel, BS, Switzerland

1643. Visualization of Hysteresis in Passive Time-Dependent Responses of Skeletal Muscle *in vivo* by Using DTI

Yasuharu Watanabe[1], Keisaku Kimura[2], Masahiro Umeda[1], Yuko Kawai[1], Tomokazu Murase[3], Toshihiro Higuchi[3], Chuzo Tanaka[3], Shoji Naruse[4]

[1]Medical Informatics, Meiji University of Integrative Medicine, Kyoto, Japan; [2]Health Promoting and Preventive Medicine, Meiji University of Integrative Medicine, Kyoto, Japan; [3]Neurosurgery, Meiji University of Integrative Medicine, Kyoto, Japan; [4]Health Care and Checkup, Daini Okamoto General Hospital, Kyoto, Japan

1644. Repeatability of Diffusion Tensor Imaging and Water-Fat MRI in Lower Extremity Muscles in Children

Skorn Ponrartana[1], Houchun Harry Hu[1], Kristine E. Andrade[1], Jonathan M. Chia[2], Thomas G. Perkins[2], Tishya A. L. Wren[3], Vicente Gilsanz[1]

[1]Radiology, Children's Hospital Los Angeles, Los Angeles, CA, United States; [2]Philips Healthcare, Cleveland, OH, United States; [3]Orthopaedic Surgery, Children's Hospital Los Angeles, Los Angeles, CA, United States

1645. T2 Monitoring at 3T for Canine Model of Duchenne Muscular Dystrophy
Donghoon Lee[1], Zejing Wang[2], Joshua Park[1], Stephen Tapscott[2], Martin Kushmerick[1]
[1]University of Washington, Seattle, WA, United States; [2]Fred Hutchinson Cancer Research Center, Seattle, WA, United States

1646. Multi-Parametric MRI at 14T for Muscular Dystrophy Mice Treated with Gene Therapy
Donghoon Lee[1], Joshua Park[1], Jacqueline Wicki[2], Jeffrey Chamberlain[2], Sue Knoblaugh[3], Julie Randolph-Habecker[3]
[1]Radiology, University of Washington, Seattle, WA, United States; [2]Neurology, University of Washington, Seattle, WA, United States; [3]Fred Hutchinson Cancer Research Center, Seattle, WA, United States

1647. Blood Oxygenation Level-Dependent (BOLD) Based Imaging in Skeletal Muscle at 3 and 7T
Theodore F. Towse[1, 2], Amanda K.W. Buck[2, 3], Emily C. Bush[3], Benjamin T. Childs[3], Jared A. Godar[3], Shea A. Sabin[3], Bruce M. Damon[2, 4]
[1]Physical Medicine and Rehabilitation, Vanderbilt University, Nashville, TN, United States; [2]Radiology and Radiological Sciences, Vanderbilt University, Nashville, TN, United States; [3]Institute of Imaging Science, Vanderbilt University, Nashville, TN, United States; [4]Institute of Imaging Science, Nashville, TN, United States

1648. Haemoglobin-Derived Curve Fitting to Post-Exercise Muscle BOLD Data
Andrew D. Davis[1], Michael D. Noseworthy[2]
[1]Medical Physics and Applied Radiation Sciences, McMaster University, Hamilton, ON, Canada; [2]Electrical and Computer Engineering, School of Biomedical Engineering, McMaster University, Hamilton, ON, Canada

Traditional Poster
Cartilage

Exhibition Hall Wednesday 13:30-15:30

1649. Articular Cartilage Grading of the Knee ; Diagnostic Value of Fat Suppressed 3D Volume Isotropic Turbo Spin Echo Acquisition
Daekeon Lim[1], Young Han Lee[1], Sungjun Kim[1], Ho-Taek Song[1], Jin-Suck Suh[1]
[1]Department of Radiology, Research Institute of Radiological Science, Severance hospital, Seoul, Korea

1650. Morphological Assessment of Non-Human Primate Models of Osteoarthritis Using HR-MRI and µCT Arthrography
Olivier Beuf[1], Denis Grenier[2], Fabrice Taborik[3], Anne-Laure Perrier[2], Kevin Tse Ve Koon[2], Laurent Mahieu-Williame[2], Luc Magnier[4], Thomas Chuzel[4], Stéphane Martin[4], Xavier Pesesse[5], Sandra Pietri[6], Hugues Contamin[3], Emmanuel Chereul[4]
[1]Université de Lyon; CREATIS; CNRS UMR 5220; Inserm U1044, Université de Lyon, Villeurbanne, France; [2]Université de Lyon; CREATIS; CNRS UMR 5220; Inserm U1044, INSA-Lyon; Université Lyon 1, Villeurbanne, France; [3]Cynbiose, Marcy l'étoile, France; [4]VOXCAN, Marcy l'Etoile, France; [5]Bone Therapeuthics, Grosselies, Belgium; [6]Service de rhumatologie, Hôpital Erasme, ULB, Bruxelles, Belgium

1651. Two-Component T2* Mapping on Knee Patients: Preliminary Results
Yongxian Qian[1, 2], Ashley A. Williams[3], Constance R. Chu[3], Fernando Emilio Boada[4]
[1]Radiology, University of Pittsburgh, Pittsburgh, PA, United States; [2]Bioengineering, University of Pittsburgh, Pittsburgh, PA, United States; [3]Orthopaedic Surgery, University of PIttsburgh, Pittsburgh, PA, United States; [4]Radiology, New York University, New York, NY, United States

1652. Differences Between X-Ray and MRI-Determined Knee Cartilage Thickness in Weight-Bearing and Non-Weight-Bearing Conditions
Megan Nicole Marsh[1], Richard Souza[1], Brad Wyman[2], Marie-Pierre Hellio le Graverand[2], Thomas M. Link[1], Sharmila Majumdar[1]
[1]Radiology, University of California, San Francisco, San Francisco, CA, United States; [2]Pfizer, inc, Groton, CT, United States

1653. Longitudinal Biochemical Evaluation of the Femoropatellar Joint During the Transeuropean Foot Race by Using Zonal T2* Mapping
Martin Brix[1], Sabine Göd[2], Uwe Schütz[3], Christian Billich[3], Klaus Friedrich[2], Alina Messner[2], Siegfried Trattnig[2]
[1]Department of Orthopaedics, Medical University of Vienna, Vienna, Austria; [2]Department of Radiology, MR Center of Excellence, Medical University of Vienna, Vienna, Austria; [3]Department of Radiology, University Hospital Ulm, Ulm, Baden Württemberg, Germany

1654. Comparison of T1rho/T2 Imaging at 3 Tesla and 7 Tesla in Knee Cartilage of Healthy Volunteers
Cory Wyatt[1], Xiaojuan Li[1], Roland Krug[1], Douglas A.C. Kelley[2], Sharmila Majumdar[1]
[1]Radiology and Biomedical Imaging, University of California San Francisco, San Francisco, CA, United States; [2]GE Healthcare Technologies, San Francisco, CA, United States

1655. Multi-Component T2 Analysis of Cartilage Degradation Model Using McDESPOT at 3.0T
Fang Liu[1], Rajeev Chaudhary[2], Samuel A. Hurley[1], Alexey Samosonov[1], Andrew L. Alexander[1], Sean C. L. Deoni[3], Walter F. Block[1, 2], Richard Kijowski[4]
[1]Department of Medical Physics, University of Wisconsin-Madison, Madison, WI, United States; [2]Department of Biomedical Engineering, University of Wisconsin-Madison, Madison, WI, United States; [3]Division of Engineering, Brown University, Providence, RI, United States; [4]Department of Radiology, University of Wisconsin-Madison, Madison, WI, United States

1656. Visual Assessment of Cartilage Degeneration by 3D Cartilage T2 Map -Comparison with Arthroscopic Findings-
Satoru Tamura[1], Takashi Nishii[1], Hidetoshi Hamada[1], Ken Nakata[1], Tatsuo Mae[1], Hisashi Tanaka[1], Hideki Yoshikawa[1]
[1]Osaka University Graduate School of Medicine, Suita, Osaka, Japan

1657. Evaluation of College Level Athletes Articular Cartilage Using Delayed Gadolinium-Enhanced MRI
Wenbo Wei[1], Guang Jia[1], David Flanigan[2], Robert Siston[3], Ajit Chaudhari[2], Becky Lathrop[3], Michael V. Knopp[1]
[1]Department of Radiology, The Ohio State University, Columbus, OH, United States; [2]Department of Orthopaedics, The Ohio State University, Columbus, OH, United States; [3]Department of Mechanical Engineering, The Ohio State University, Columbus, OH, United States

1658. Parametric T2-Mapping in Young Patients with Patellofemoral Disease
Michael Benson[1, 2], Nicholas Lesmeister[2], Mikko J. Nissi[1, 2], Jutta Maria Ellermann[1], Elizabeth Arendt[2]
[1]Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, MN, United States; [2]Orthopaedic Surgery, University of Minnesota, Minneapolis, MN, United States

1659. Quantitative Change in Cartilage Thickness in the Femoropatellatar Joint After Acute Anterior Cruciate Ligament Tear – Long Term Follow-Up
Sebastian Cotofana[1, 2], Wolfgang Wirth[1, 2], Felix Eckstein[1, 2], Martin Hudelmaier[1, 2], Stefan Lohmander[3], Richard B. Frobell[3]
[1]Institute of Anatomy and Musculoskeletal Research, Paracelsus Medical University, Salzburg, Austria; [2]Chondrometrics GmbH, Ainring, Bavaria, Germany; [3]Dept Orthopaedics, Clinical Sciences Lund, Lund University, Lund, SE, Sweden

1660. Bio-Integration Assessment of Rat Knee Cartilage Repair Using *in vivo* MRI at 7T
Olivier Beuf[1], Jean-Christophe Goebel[2], Emilie Roeder[3], Anne-Laure Perrier[2], Denis Grenier[2], Pierre Gillet[3], Astrid Pinzano[3]
[1]Université de Lyon; CREATIS; CNRS UMR 5220; Inserm U1044, Université de Lyon, Villeurbanne, France; [2]Université de Lyon; CREATIS; CNRS UMR 5220; Inserm U1044, INSA-Lyon; Université Lyon 1, Villeurbanne, France; [3]PPIA, UMR 7561 CNRS – Nancy Université, Vandoeuvre-Lès-Nancy, France

1661. The Effect of Opening Wedge High Tibial Osteotomy on Patellar Cartilage Using DGEMRIC Score as an Indicator of Cartilage Health
Kenard Agbanlog[1], Agnes G. d'Entremont[1], Simon Horlick[2], Mojieb Manzary[2], Trevor Stone[2], Robert G. McCormack[2], David R. Wilson[2]
[1]Mechanical Engineering, University of British Columbia, Vancouver, British Columbia, Canada; [2]Orthopedics, University of British Columbia, Vancouver, British Columbia, Canada

1662. T1, T2 and DGEMRIC Are Not Related to Arthroscopic Grade of Articular Cartilage
Victor Casula[1], Jukka Hirvasniemi[2], Petri Lehenkari[3], Risto Ojala[4], Alaaeldin Kamel[5], Simo Saarakkala[2, 5], Eveliina Lammentausta[5], Miika T. Nieminen[4, 5]
[1]Department of Radiology, , University of Oulu, Oulu, Finland; [2]Department of Medical Technology, University of Oulu, Oulu, Finland; [3]Department of Anatomy, University of Oulu, Oulu, Finland; [4]Department of Radiology, University of Oulu, Oulu, Finland; [5]Department of Diagnostic Radiology, Oulu University Hospital, Oulu, Finland

1663. 7 Tesla Sodium (23Na) Imaging for the Assessment of Patellar Cartilage Damage After Patella-Dislocation: Preliminary Results.
Harald Widhalm[1], Martin Brix[2], Sebastian Apprich[3], Götz Welsch[4], Stefan Zbýn[3], György Vekszler[1], Martina Hamböck[1], Michael Weber[3], Siegfried Trattnig[3]
[1]Department of Traumatology, Medical University of Vienna, Vienna, Austria; [2]Department of Orthopaedics, Medical University of Vienna, Vienna, Austria; [3]Department of Radiology, MR Center of Excellence, Medical University of Vienna, Vienna, Austria; [4]Department of Trauma Surgery, University Hospital Erlangen, Erlangen, Bayern, Germany

Traditional Poster
Technical/Misc.

Exhibition Hall Wednesday 13:30-15:30

1664. Impact of Sampling Pattern on Combined Parallel Imaging Compressed Sensing Volumetric Knee MRI
Umar Tariq[1], Peng Lai[2], Michael Lustig[3], Marcus T. Alley, Mian Zhang[4], Garry E. Gold, Shreyas S. Vasanawala[5]
[1]Department of Radiology, Stanford University, Stanford, CA, United States; [2]GE Healthcare, Menlo Park, CA, United States; [3]University of Calfornia Berkeley, Berkeley, CA, United States; [4]Statistics, Stanford University, Stanford, CA, United States; [5]Radiology, Stanford University, Stanford University, CA, United States

1665. CT Substitutes Derived from SPIRiT and CG-SENSE Reconstructed Images
Adam Johansson[1], Anders Garpebring[1], Tufve Nyholm[1]
[1]Department of Radiation Sciences, Umeå University, Umeå, Sweden

1666. MRI Visualization of Local Drug Delivery
Morgan Giers[1], Qingwei Liu[2], Ken Schmidt[3], Gregory H. Turner[2], Alex McLaren[3], Michael Caplan[4], Ryan Mclemore[3]
[1]School of biological and health Systems Engineering, Arizona State University, Tempe, AZ, United States; [2]Neuroimaging Research, Barrow Neurological Institute, Phoenix, AZ, United States; [3]Orthopaedic Residency, Banner Good Samaritan Medical Center, Phoenix, AZ, United States; [4]Harrington Bioengineering Department, Arizona State University, Tempe, AZ, United States

1667. Breast Cancer: Prognostication Based on Pattern of Bone Metastases as Seen on Axial Skeleton MRI
Christian B. van der Pol[1], Ania Kielar[1], Gina Di Primio[1], Marcos Sampaio[1], Mark Clemons[2], Arash Jaberi[1], Mark E. Schweitzer[1]
[1]Radiology, The Ottawa Hospital, Ottawa, Ontario, Canada; [2]Medicine, The Ottawa Hospital, Ottawa, Ontario, Canada

1668. Novel Analytical Solutions of the Reaction Fields of Arbitrary Orientated Spheroids in a Homogeneous Magnetic Field Expressed in Cartesian Coordinates
ISMRM MERIT AWARD magna cum laude
Markus Kraiger[1], Bernhard Schnizer[2], Rudolf Stollberger[1]
[1]Institute of Medical Engineering, Graz University of Technology, Graz, Styria, Austria; [2]Institute of Theoretical and Computational Physics, Graz University of Technology, Graz, Styria, Austria

1669. Should Magnetic Resonance Imaging for Tumours of the Musculoskeletal System Be Performed in a Sarcoma-Designated Health Care Center?
Krista Anne Goulding[1], Heathcliffe D'Sa[1], Youjin Chang[1], Kara McWatters[2], Mark E. Schweitzer[3], Joel Werier[4]
[1]Division of Orthopaedic Surgery, University of Ottawa, Ottawa, ON, Canada; [2]Division of Orthopaedic Surgery, The Ottawa Hospital, Ottawa, ON, Canada; [3]Department of Radiology, University of Ottawa, Ottawa, ON, Canada; [4]Division of Orthopaedic Surgery, University Ottawa, Ottawa, ON, Canada

1670. Metallic Implant Reconstruction from MAVRIC B_0 Field Maps
Kevin Koch[1], Kevin King[1], Matthew F. Koff[2], Hollis Potter[2]
[1]GE Healthcare, Milwaukee, WI, United States; [2]Department of Radiology and Imaging, Hospital for Special Surgery, New York, United States

1671. Multi Nuclear Volume Coil For1H and 23Na in the Human Knee
Ronald D. Watkins[1], Caroline Jordan[1, 2], Michael Muelly[1], Garry E. Gold[1]
[1]Radiology, Stanford University, Stanford, CA, United States; [2]Bioengineering, Stanford University, Stanford, CA, United States

1672. Quantitative T2* Mapping of *in vivo* Human Meniscus Using 2D Duel Echo Radial Sequence with Minimal Phase Excitation Pulse at 3 T

Ping-Huei Tsai[1, 2], Teng-Yi Huang[3], Hsiao-Wen Chung[4], Fong Y. Tsai[2], Wing P. Chan[1]
[1]Department of Radiology, Wan Fang Hospital, Taipei Medical University, Taipei, Taiwan; [2]Imaging Research Center, Taipei Medical University, Taipei, Taiwan; [3]Department of Electrical Engineering, National Taiwan University of Science and Technology, Taipei, Taiwan; [4]Department of Electrical Engineering, National Taiwan University, Taipei, Taiwan

1673. Evaluating Transverse Relaxation Trends in Cobalt-Chromium Particulate Deposits

Kevin Koch[1], Matthew F. Koff[2], Parina Shah[2], Hollis Potter[2]
[1]GE Healthcare, Milwaukee, WI, United States; [2]Department of Radiology and Imaging, Hospital for Special Surgery, New York, United States

1674. Multiple Parameter Extraction and Skeletal Muscle Characterization from a Standard Multi Spin-Echo Sequence

Noura Azzabou[1, 2], Pierre G. Carlier, [2 3]
[1]NMR Laboratory, Institute of Myolgy, Paris, France; [2]NMR Laboratory, CEA, I²BM, MIRCen, IdM, Paris, France; [3]NMR Laboratory, Institute of Myology, Paris, France

1675. Human Extremity Imaging Using Microstrip Resonators at 7T

Xiaoliang Zhang[1, 2], Chunsheng Wang[1], Bing Wu[1], Yong Pang[1], Roland Krug[1, 2], Peder Larson[1, 2], Thomas M. Link[1], Daniel B. Vigneron[1, 2]
[1]Radiology and Biomedical Imaging, University of California San Francisco, San Francisco, CA, United States; [2]UC Berkeley/UCSF Joint Graduate Group in Bioengineering, San Francisco and Berkeley, CA, United States

1676. Improved Fat Supression in Musculoskeletal Knee Imaging Using 3D Radial VIPR IDEAL

Leah C. Henze Bancroft[1], Larry Hernandez[2], Habib Al Saleh[2], Kevin M. Johnson[2], Richard Kijowski[3], Walter F. Block[4]
[1]Biomedical Engineering, University of Wisconsin - Madison, Madison, WI, United States; [2]Medical Physics, University of Wisconsin - Madison, Madison, WI, United States; [3]Radiology, University of Wisconsin - Madison, Madison, WI, United States; [4]Biomedical Engineering, University of Wisconsin-Madison, Madison, WI, United States

1677. Optimizing MT Point Selections for Knee QMT as a First Step in Evaluating the Tibiofemoral Joint

Nade Sritanyaratana[1], Pouria Mossahebi[1], Alexey A. Samsonov[2], Kevin M. Johnson[3], Walter F. Block[1, 3], Richard Kijowski[2]
[1]Biomedical Engineering, University of Wisconsin-Madison, Madison, WI, United States; [2]Radiology, University of Wisconsin-Madison, Madison, WI, United States; [3]Medical Physics, University of Wisconsin-Madison, Madison, WI, United States

1678. Feasibility of 3Tesla MR-Guided Biopsy of Soft Tissue Tumors: Site Selection by the Use of Dynamic Contrast Enhanced (DCE) MR, Diffusion Weighted Imaging (DWI), and Multivoxel 1H-MR Spectroscopy (1H-MRS)

Iris-Melanie Noebauer-Huhmann[1], Gabriele Amann[2], Martin Krssák[3], Pavol Szomolanyi[4], Joannis Panotopoulos[5], Michael Weber[1], Philipp Funovics[5], Martin Dominkus[5], Christian Czerny[1], Reinhard Windhager[5], Siegfried Trattnig[4]
[1]Department of Radiology, Medical University of Vienna/Vienna General Hospital, Vienna, Austria; [2]Department of Pathology, Medical University of Vienna/Vienna General Hospital, Vienna, Austria; [3]Department of Internal Medicine III, Medical University of Vienna/Vienna General Hospital, Vienna, Austria; [4]High field MR Center of Excellence, Department of Radiology, Medical University of Vienna/Vienna General Hospital, Vienna, Austria; [5]Department of Orthopaedic Surgery, Medical University of Vienna/Vienna General Hospital, Vienna, Austria

1679. Assessment of Osteonecrosis Following Instrumentation for Femoral Neck Fracture Using Contrast Enhanced MAVRIC Sequences

Nadja Alexandra Farshad-Amacker[1], Matthew F. Koff[2], Jonathan P. Dyke[3], Lionel E. Lazaro[4], Dean Lorich[4], Hollis G. Potter[2]
[1]MRI Research Laboratory, Hospital for Special Surgery, New York, NY , United States; [2]MRI Research Laboratory, Hospital for Special Surgery, New York, NY, United States; [3]Department of Radiology, Weill Cornell Medical College, New York, NY, United States; [4]Department of Orthopaedic Surgery, Hospital for Special Surgery, New York, NY, United States

1680. Evaluation of Accelerated T1ρ Acquisition of the Cartilage Using a Combination of Compressed Sensing and Data Driven Parallel Imaging

Julien Rivoire[1], Kevin F. King[2], Xiaojuan Li[1]
[1]Department of Radiology and Biomedical Imaging, University of California at San Francisco, San Francisco, CA, United States; [2]Applied Science Laboratory, General Electric Healthcare, Waukesha, WI, United States

1681. High Precision Strains Measured Under Applied Low Frequency Loading on a 3.0 T Clinical System

Deva Chan[1], Corey P. Neu[1]
[1]Weldon School of Biomedical Engineering, Purdue University, West Lafayette, IN, United States

1682. Whole Body Muscle Classification Using Multiple Prototype Voting

Anette Karlsson[1, 2], Johannes Rosander[3], Joakim Tallberg[2], Thobias Romu[1, 2], Magnus Borga[1, 2], Olof Dahlqvist Leinhard,[2,4]
[1]Department of Biomedical Engineering (IMT), Linköping University, Linköping, Sweden; [2]Center for Medical Image Science and Visualization (CMIV), Linköping University, Linköping, Sweden; [3]Advanced MR Analytics (AMRA) AB, Linköping, Sweden; [4]Department of Medical and Health Sciences (IMH), Linköping University, Linköping, Sweden

1683. Undersampled 3D UTE FID Sequences: Cones Vs. PR

Michael Carl[1], James H. Holmes[2], Graeme C. McKinnon[3]
[1]GE Healthcare, San Diego, CA, United States; [2]GE Healthcare, Madison, WI, United States; [3]GE Healthcare, Waukesha, WI, United States

1684. Intraoral RF Loop Coil in the Occlusal Plane, Orthogonal to B_0, for Dental Imaging

Djaudat Idiyatullin[1], Curtis Andrew Corum[2], Donald Nixdorf[3], Michael Garwood[2]
[1]Radiology, CMRR, University of Minnesota, Minneapolis, MN, United States; [2]Radiology, University of Minnesota, Minneapolis, MN, United States; [3]Neurology, Division of TMD & Orofacial Pain in the Department of Diagnostic & Biologic, University of Minnesota, Minneapolis, MN, United States

1685. Skeletal Age Assessment Using a New Dedicated Hand MRI System for Young Children

Yasuhiko Terada[1], Saki Kono[1], Tomomi Uchiumi[1], Kazunori Ishizawa[1], Shinya Inamura[1], Katsumi Kose[1], Ryo Miyagi[2,3], Eiko Yamabe[2], Yasunari Fujinaga[2], Hiroshi Yoshioka[2]
[1]Institute of Applied Physics, University of Tsukuba, Tsukuba, Ibaraki, Japan; [2]Department of Radiological Sciences, University of California Irvine, Orange, CA, United States; [3]National Health Insurance Nishi-iya Clinic, Tokushima University, Miyoshi-shi, Tokushima, Japan

1686. Forensic Age Estimation of Living Adolescents Using MRI of Wisdom Teeth, Wrist and Clavicles

Eva Scheurer[1, 2], Thomas Widek[1], Pia Baumann[1, 2], Andreas Petrovic[1], Heiko Merkens[1], Sabine Grassegger[1]
[1]Ludwig Boltzmann Institute for Clinical-Forensic Imaging, Graz, Austria; [2]Medical University Graz, Graz, Austria

1687. Pre-Operative Evaluation of Patients Undergoing Knee Articular Cartilage Defect Repair: MRI Thickness Maps Derived from a Validated, Automated Segmentation Platform - Initial Results

Joshua Farber[1, 2], Jose Tamez-Pena[3], Saara Totterman[4], Bruce Holladay[5], Forest Heis[5], John Larkin[5], Michael Greiwe[5]
[1]Radiology, Radiology Ass of N KY, Cincinnati, OH, United States; [2]Imaging, Qmetrics, Rochester, NY, United States; [3]Mathematics and Statistics, Tec de Monterrey, Monterry, NL, Mexico; [4]Qmetrics, Rchester, NY, United States; [5]Orthopedic Surgery, Commonwealth Orthopeadic centers, Edgewood, KY, United States

1688. MR Imaging of Ankle Joints in Mouse Models of Rheumatoid Arthritis

Emily Alexandria Waters[1], Shawn Rose[2], Thomas Meade[1, 3], Harris Perlman[2]
[1]Center for Advanced Molecular Imaging, Northwestern University, Evanston, IL, United States; [2]Department of Medicine, Division of Rheumatology, Northwestern University Feinberg School of Medicine, Chicago, IL, United States; [3]Department of Chemistry, Northwestern University, Evanston, IL, United States

1689. Kinematic MRI of Knee in Wide Bore 3T MR System

Eugene Kim[1], Yeo Ju Kim[1], Jang Gyu Cha[2], Youn Jeong Kim[1], Mi Young Kim[1], Myung Kwan Lim[1]
[1]Radiology, Inha University Hospital, Incheon, Korea; [2]Radiology, Soonchunhyang University Hospital, Bucheon, Gyeonggi-Do, Korea

1690. Comparison of Multi Nuclear Coil Designs for 1H and 23Na in the Human Knee
Michael Muelly[1], Ronald D. Watkins[1], Caroline Jordan[1, 2], Neal K. Bangerter[3], Garry E. Gold[1]
[1]Radiology, Stanford University, Stanford, CA, United States; [2]Bioengineering, Stanford University, Stanford, CA, United States; [3]Electrical and Computer Engineering, Brigham Young University, Provo, UT, United States

Traditional Poster
Preclinical Cancer: Perfusion, Permeability, & Oxygenation

Exhibition Hall Wednesday 16:00-18:00

1691. Improved Accuracy and Precision in Estimation of Intracellular Water Liftime
ISMRM MERIT AWARD magna cum laude
Jin Zhang[1], Melanie Freed[2], Joe Rodriguez[3], Daniel H. Turnbull[3, 4], Sungheon Kim[1]
[1]Radiology, Center for Biomedical Imaging, New York University School of Medicine, New York, United States; [2]Radiology, Center for Biomedical Imaging, New York University School of Medicine, New York, United States; [3]Kimmel Center for Biology and Medicine at the Skirball Institute of Biomolecular Medicine, New York University School of Medicine, New York, United States; [4]Radiology, New York University School of Medicine, New York, United States

1692. Longitudinal Functional Imaging of the HER-2/Neu Transgenic Mouse Model of Human Breast Cancer by DCE-MRI and Diffusion Weighted Imaging
Dario Livio Longo[1, 2], Lorena Consolino[1, 2], Stefania Lanzardo[3], Walter Dastrù[1, 2], Federica Cavallo[4], Silvio Aime[1, 2]
[1]Dept. of Chemistry, University of Turin, Torino, Italy; [2]Molecular Imaging Center, Torino, Italy; [3]Dept. of Clinical and Biological Sciences , University of Turin, Torino, Italy; [4]Dept. of Clinical and Biological Sciences, University of Turin, Torino, Italy

1693. Decrease in Convective Transport Is Associated with Increase in Voxels Explained by Gadolinium Diffusivity in DCE MRI of Untreated Human Gastric Cancer Xenografts
Septian Hartono[1], Tong San Koh[1], Quan Sing Ng[1], Puor Sherng Lee[1], Laurent Martarello[2], The Hung Huynh[1], Choon Hua Thng[1]
[1]National Cancer Centre Singapore, Singapore, NA, Singapore; [2]Roche Translational Medicine Hub, Singapore, NA, Singapore

1694. Gadofluorine M and Magnevist Enhanced Imaging of the Mouse Lymph Nodes
Jonatan A. Snir[1], Christy Willert[2], Gregory A. Dekaban[3, 4], Paula Foster[5]
[1]Department of Medical Biophysics, Robarts Research Institute, London, Ontario, Canada; [2]BioTherapeutics Research Laboratory, Robarts Research Institute, London, Ontario, Canada; [3]BioTherapeutics Research Laboratory, Robarts Research Institute, London, On, Canada; [4]Department of Microbiology and Immunology, Western University, London , Ontario, Canada; [5]Imaging Research Laboratories, Robarts Research Institute, London, Ontario, Canada

1695. T2-Weighted and DCE MRI of Medulloblastoma Mouse Model and Oncolytic Measles Virus
Anna Bratasz[1], Adam Studebaker[2], Corey Raffel[1], Kimerly A. Powell[1]
[1]The Ohio State University, Columbus, OH, United States; [2]The Research Institute at Nationwide Children's Hospital, Columbus, OH, United States

1696. Mouse Models of Human Cancer: Noninvasive Phenotyping with MRI
Sanaz Jansen[1], Yurong Song[1], Lilia Ileva[2], Lucy Lu[1], Terry Van Dyke[1]
[1]Mouse Cancer Genetics Program, National Cancer Institute, Frederick, MD, United States; [2]Small Animal Imaging Program, National Cancer Institute, Frederick, MD, United States

1697. An Image Driven Biophysical Model of Tumor Cell Proliferation
David A. Hormuth, II[1, 2], Nkiruka C. Atuegwu[2], Thomas E. Yankeelov[1, 2]
[1]Biomedical Engineering, Vanderbilt University, Nashville, TN, United States; [2]Institute of Imaging Science, Vanderbilt University, Nashville, TN, United States

1698. Investigating Systemic and Tumour-Specific Fluctuations in Tumour R2* Measurement with Independent Component Analysis and Pulse Oximetry
M. R. Gonçalves[1], Simon Walker-Samuel[1], Sean Peter Johnson[2], Rosamund Barbara Pedley[2], Mark F. Lythgoe[1]
[1]UCL Centre for Advanced Biomedical Imaging, Division of Medicine and Institute of Child Health, London, United Kingdom; [2]UCL Cancer Institute, London, United Kingdom

1699. A Noninvasive Tumor Oxygenation Imaging Strategy Using MR Imaging of Endogenous Blood and Tissue Water

Zhongwei Zhang[1], Rami R. Hallac[1], Peter Peschke[2], Ralph P. Mason[1]
[1]Department of Radiology, The University of Texas Southwestern Medical Center, Dallas, TX, United States; [2]Clinical Cooperation Unit Radiation Oncology, German Cancer Research Center, Heidelberg, Germany

1700. Quantitative Comparison of MOBILE (Mapping of Oxygen by Imaging Lipids Relaxation Enhancement) and EPR Oximetry in Multiple Tumor Models.

Florence Colliez[1], Julie Magat[1], Marie-Aline Neveu[1], Bénédicte F. Jordan[1], Bernard Gallez[1]
[1]Louvain Drug Research Institute, Biomedical Magnetic Resonance Research Group, University of Louvain, Brussels, Belgium

1701. Investigating Tumour Cycling Hypoxia with Resting State MRI: Relationship with Systemic Changes and Influence of Noise

M. R. Gonçalves[1], Simon Walker-Samuel[1], Sean Peter Johnson[2], Rosamund Barbara Pedley[2], Mark F. Lythgoe[1]
[1]UCL Centre for Advanced Biomedical Imaging, Division of Medicine and Institute of Child Health, London, United Kingdom; [2]UCL Cancer Institute, London, United Kingdom

1702. A Novel Technique for Correlating Between *in vivo* and Ex Vivo Whole Body Mammary Glands: Comparison of Apparent Coefficient Values

Xiaobing Fan[1], Kay Macleod[1], Suzanne Conzen[1], Erica Markiewicz[1], Marta Zamora[1], James Vosicky[1], Devkumar Mustafi[1], Gregory S. Karczmar[1]
[1]University of Chicago, Chicago, IL, United States

Traditional Poster
Preclinical Cancer: Response to Therapy

Exhibition Hall Wednesday 16:00-18:00

1703. Brain Metabolism in Rat Model of Human Glioma Initiating Cells

Mor Mishkovsky[1], [2], Cristina Cudalbu[3], Arnaud Comment[4], Denis Marino[5], Ivan Radovanovic[5], Virginie Clément-Schatlo[6], Rolf Gruetter[7], [8]
[1]Laboratory for Functional and Metabolic Imaging , Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland; [2]Department of Radiology, Université de Lausanne , Lausanne, Switzerland; [3]Laboratory for Functional and Metabolic Imaging, Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland; [4]Institute of Physics of Biological Systems, Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland; [5]Department of Clinical Neurosciences, Université de Genève, Genève, Switzerland; [6]Department of Clinical Neurosciences, University Hospital of Geneva, Genève, Switzerland; [7]Laboratory for Functional and Metabolic Imaging , École Polytechnique Fédérale de Lausanne, Lausanne, Switzerland; [8]Department of Radiology, Université de Lausanne et Genève, Lausanne and Geneva, Switzerland, Switzerland

1704. Choline Kinase-α Protein But Not Its Activity Is Necessary in Breast Cancer Cell Proliferation

Noriko Mori[1], Flonné Wildes[1], Kristine Glunde[2], Zaver M. Bhujwalla[2]
[1]JHU ICMIC Program, The Russell H. Morgan Department of Radiology and Radiological Science, The Johns Hopkins University School of Medicine, Baltimore, MD, United States; [2]JHU ICMIC Program, The Russell H. Morgan Department of Radiology and Radiological Science, Johns Hopkins University, Baltimore, MD, United States

1705. DB-1 Human Melanoma Xenograft PH and Energy State Changes During Treatment with Lonidamine Plus Melphalan

Kavindra Nath[1], David S. Nelson[1], Andrew M. Ho[1], Stephen B. Pickup[1], Rong Zhou[1], Dennis B. Leeper[2], Jerry D. Glickson[1]
[1]Radiology, University of Pennsylvania, Philadelphia, PA, United States; [2]Radiation Oncology, Thomas Jefferson University, Philadelphia, PA, United States

1706. *In Vivo* ^{1}H-[^{13}C] Magnetic Resonance Spectroscopy Evidence of Ketone Body Metabolism in the 9L Rat Brain Tumor Model

Henk M. De Feyter[1], Robin A. de Graaf[1], Fahmeed Hyder[1], Kevin L. Behar[2], Douglas L. Rothman[1]
[1]Diagnostic Radiology, Yale University, New Haven, CT, United States; [2]Department of Psychiatry, Yale University, New Haven, CT, United States

1707. Longitudinal Metabolic Imaging of Hepatocellular Carcinoma in Transgenic Mouse Model Involving HBsAg and Aflatoxin B_1 Risk Factors Identifies Altered Carnitine Metabolism

Jadegoud Yaligar[1], Wei W. Teoh[2], Sanjay K. Verma[1], Kanaga Sabapathy[2], Sendhil S. Velan[1]
[1]Laboratory of Molecular Imaging, Singapore Bioimaging Consortium, Singapore, Singapore; [2]Laboratory of Molecular Carcinogenesis, National Cancer Center, Singapore, Singapore

1708. 1H/31P Polarization Transfer at 9.4T to Detect Phosphomono- and -Diesters in Breast Tumor Models

Lu Jiang[1], Jannie P. Wijnen[2], Tiffany Greenwood[1], W.J.M. van der Kemp[2], Dennis W. J. Klomp[2], Kristine Glunde[3]
[1]Division of Cancer Imaging Research, Department of Radoilogy, Johns Hopkins School of Medicine, BALTIMORE, MD, United States; [2]Radiology Department, University Medical Centre Utrecht, Utrecht, Netherlands; [3]Division of Cancer Imaging Research, Department of Radoilogy, Johns Hopkins University, BALTIMORE, MD, United States

1709. MR Microscopy of ECM Alterations in a Mouse Model of Pancreatic Cancer

Palamadai N. Venkatasubramanian[1], George Iordanescu[1], Paul J. Grippo[2], Richard Knop[1], Alice M. Wyrwicz[1]
[1]Center for Basic M.R. Research, NorthShore University HealthSystem, Evanston, IL, United States; [2]Robert H Lurie Cancer Center, Northwestern University Feinberg School of Medicine, Chicago, IL, United States

1710. Water Diffusion Is Disrupted in Low Collagen Containing Hypoxic Regions of Breast Cancer Xenograft

Samata Kakkad[1, 2], Jiangyang Zhang[3], Alireza Akhbardeh[1], Meiyappan Solaiyappan[1], Venu Raman[1], Dieter Leibfritz[2], Kristine Glunde[4], Zaver M. Bhujwalla[4]
[1]JHU ICMIC Program, Division of Cancer Imaging Research, The Johns Hopkins University SOM, Baltimore, MD, United States; [2]Department of Chemistry and Biology, University of Bremen, Bremen, Germany; [3]Russell H. Morgan Department of Radiology and Radiological Science, The Johns Hopkins University SOM, Baltimore, MD, United States; [4]JHU ICMIC Program, Division of Cancer Imaging Research, Johns Hopkins University, Baltimore, MD, United States

1711. Chemical Shift Imaging Application of Tagitinin C Antimetastatic Activity in Xenograft Models of Hepatocellular Carcinoma

Chi-Long Juang[1], Chuan-Yi Lin[1, 2], Sheng-Ching Liu[3], Chi-Yu Yang[4], Hsiao-Chuan Wen[1]
[1]Department of Radiological Technology, Yuanpei University, Hsin Chu, Taiwan; [2]Department of Medical Imaging, Buddhist Tzu Chi General Hospital, New Taipei, Taiwan; [3]Department of Radiology, Hsinchu Mackay Memorial Hospital, Hsin Chu, Taiwan; [4]Division of Animal Medicine, Animal Technology Institute Taiwan, Miaoli, Taiwan

1712. Ferumoxytol-Enhanced MRI of Macrophages in CHL-1melanoma Tumor Model

Hasan Alsaid[1], Tinamarie Skedzielewski[1], Bao Hoang[2], Mary V. Rambo[1], James Tunstead[2], Christopher Hopson[3], Beat M. Jucker[1]
[1]Preclinical & Translational Imaging, LAS, PTS, GlaxoSmithKline, King of Prussia, PA, United States; [2]Molecular Discovery Research, PTS, GlaxoSmithKline, King of Prussia, PA, United States; [3]Oncology R&D, GlaxoSmithKline, Collegeville, PA, United States

1713. Tissue Redox Activity as a Sensing Platform for Imaging of Cancer Based on Nitroxide Redox Cycle

Rumiana Bakalova[1], Zhivko Zhelev[1, 2], Ichio Aoki[1], Daisuke Kokuryo[1], Veselina Gadjeva[2], Tsuneo Saga[1]
[1]Molecular Imaging Center, National Institute of Radiological Sciences, Chiba, Japan; [2]Medical Faculty, Trakia University, Stara Zagora, Bulgaria

1714. Molecular Imaging-Based Pancreatic Cancer Characterization

Marie-France Penet[1], Paul T. Winnard Jr.[1], Flonné Wildes[1], Yelena Mironchik[1], Tariq Shah[1], Anirban Maitra[2], Zaver M. Bhujwalla[3]
[1]JHU ICMIC Program Division of Cancer Imaging Research The Russell H. Morgan Department of Radiology, The Johns Hopkins University School of Medicine, Baltimore, MD, United States; [2]Departments of Pathology and Oncology, The Sol Goldman Pancreatic Cancer Research Center, The Johns Hopkins University School of Medicine, Baltimore, MD, United States; [3]JHU ICMIC Program Division of Cancer Imaging Research The Russell H. Morgan Department of Radiology, Johns Hopkins University, Baltimore, MD, United States

1715. Determination of Hypoxic Tumor Fraction Using MRI and PET in C6 Rat Brain Tumors

Ashley M. Stokes[1, 2], David A. Hormuth, II[1, 3], Thomas E. Yankeelov[1, 2], Christopher C. Quarles[1, 2]
[1]Institute of Imaging Science, Vanderbilt University, Nashville, TN, United States; [2]Radiology and Radiological Sciences, Vanderbilt University, Nashville, TN, United States; [3]Biomedical Engineering, Vanderbilt University, Nashville, TN, United States

Traditional Poster
Preclinical Cancer: Spectroscopy & Molecular
Exhibition Hall Wednesday 16:00-18:00

1716. Intrinsic Susceptibility MRI Investigation of Acquired Resistance to EGFR Therapy in a Xenograft Model of Squamous Cell Carcinoma of the Head and Neck.
Lauren C.J. Baker[1], Carol Box[2], Arti Sikka[1], Gary Box[2], Suzanne A. Eccles[2], Simon P. Robinson[1]
[1]Cancer Research UK and EPSRC Cancer Imaging Centre, Division of Radiotherapy and Imaging, The Institute of Cancer Research, Sutton, Surrey, United Kingdom; [2]Tumour Biology and Metastasis Team, Cancer Research UK Cancer Therapeutics Unit, The Institute of Cancer Research, Sutton, Surrey, United Kingdom

1717. DCE/DSC MRI Studies of Intracranial Mouse Glioma: Enhanced Anti-Vascular/anti-Tumor Efficacy of Cediranib Via Combination with the Autophagy Inhibitor Quinacrine
Merryl R. Lobo[1, 2], Sarah Green[3], Matthias C. Schabel[2], Yancey Gillespie[4], Randall Woltjer[3], Martin Pike, [12]
[1]Department of Biomedical Engineering, Oregon Health and Science University, Portland, OR, United States; [2]Advanced Imaging Research Center, Oregon Health and Science University, Portland, OR, United States; [3]Department of Pathology, Oregon Health and Science University, Portland, OR, United States; [4]Departments of Surgery, Microbiology and Cell, Developmental & Integrative Biology, University of Alabama at Birmingham, Birmingham, AL, United States

1718. Assessment of Chemotherapy in a Mouse Model of Non-Hodgkin's Lymphoma Using Dynamic Contrast-Enhanced (DCE) and Diffusion Weighted (DW) MRI
Ramesh Paudyal[1], Kavindra Nath Pathak[1], Seungcheol Lee[1], Kejia Cai[1], Stephen B. Pickup[1], David Nelson[1], Harish Poptani[1], Jerry D. Glickson[1]
[1]Radiology, University of Pennsylvania, Philadelphia, PA, United States

1719. DCE-MRI Evaluation of Eribulin Mesylate in MX-1 Triple Negative Human Breast Cancer Mouse Xenograft Model
Denise C. Welsh[1], Tyler Teceno[1], Ken Ito[1], Mamuro Yanagimachi[1], Deirdre Scully[2], Jacob Hesterman[2], Yasuhiro Funahashi[1], Paul J. McCracken[1]
[1]Eisai, Andover, MA, United States; [2]InVicro, Boston, MA, United States

1720. Towards MRI Differentiation of Recurring Tumor from Delayed Radiation Necrosis
Carlos J. Perez-Torres[1], John A. Engelbach[1], Jeremy Cates[2], Dinesh K. Thotala[2], Robert E. Drzymala[2], Joseph J.H. Ackerman[3, 4], Joel R. Garbow[1]
[1]Department of Radiology, Washington University in Saint Louis, Saint Louis, MO, United States; [2]Department of Radiation Oncology, Washington University in Saint Louis, Saint Louis, MO, United States; [3]Department of Radiology, Washington University in St. Louis, Saint Louis, MO, United States; [4]Department of Chemistry, Washington University in Saint Louis, Saint Louis, MO, United States

1721. Combined MRI Methods Enable Follow-Up of Bleomycin-Induced Murine Lung Fibrosis
Greetje Vande Velde[1], Tom Dresselaers[1], Ellen De Langhe[2], Jennifer Poelmans[1], Rik Lories[2], Uwe Himmelreich[1]
[1]Biomedical MRI unit/ MoSAIC, KU Leuven, Leuven, Flanders, Belgium; [2]Laboratory of Tissue Homeostasis and Disease, Skeletal Biology and Engineering Research Center, KU Leuven, Leuven, Flanders, Belgium

1722. Imaging the Timing of Cytotoxic and Anti-Angiogenic Therapy
Gregory L. Pishko[1], Morad Nasseri[1], Seymur Gahramanov[1], Leslie L. Muldoon[1], Edward A. Neuwelt[1, 2]
[1]Oregon Health & Science University, Portland, OR, United States; [2]Veterans Affairs Medical Center , Portland, OR, United States

1723. MN58b: An Effective Choline Kinase Inhibitor in the Treatment of Rat Brain Gliomas
Manoj Kumar[1], Sean Arlauckas[1], Sona Saksena[1], Gaurav Verma[1], Ranjit Ittyerah[1], Anatoliy V. Popov[1], Harish Poptani[1], Edward James Delikatny[1]
[1]Radiology, University of Pennsylvania, Philadelphia, PA, United States

1724. Optimization of Combined Anti-VEGF Plus Radiation Therapy in Brain Tumor Xenograft Models
Kimberly Pechman[1, 2], Andrew Lozen[1], Kathleen M. Schmainda, [23]
[1]Neurosurgery, Medical College of Wisconsin, Milwaukee, WI, United States; [2]Translational Brain Tumor Program, Medical College of Wisconsin, Milwaukee, WI, United States; [3]Radiology and Biophysics, Medical College of Wisconsin, Milwaukee, WI, United States

1725. Evaluation of Gallium Maltolate as a Treatment in Brain Tumor Xenograft Model
Kimberly Pechman[1, 2], Andrew Lozen[1], Mona Al-Gizawiy, [23], Christopher R. Chitambar[4], Kathleen M. Schmainda, [25], Andrew S. Nencka
[1]Neurosurgery, Medical College of Wisconsin, Milwaukee, WI, United States; [2]Translational Brain Tumor Program, Medical College of Wisconsin, Milwaukee, WI, United States; [3]Radiology, Medical College of Wisconsin, Milwaukee, WI, United States; [4]Medicine, Medical College of Wisconsin, Milwaukee, WI, United States; [5]Radiology and Biophysics, Medical College of Wisconsin, Milwaukee, WI, United States

1726. Selective Acidification and De-Energization of LNCaP Prostate Cancer Xenografts Using Lonidamine
Kavindra Nath[1], Ting Liu[1], David S. Nelson[1], Hoon Choi[2], I-Wei Chen[2], Dennis B. Leeper[3], Rong Zhou[1], Jerry D. Glickson[1]
[1]Radiology, University of Pennsylvania, Philadelphia, PA, United States; [2]Materials Science and Engineering, University of Pennsylvania, philadelphia, PA, United States; [3]Radiation Oncology, Thomas Jefferson University, Philadelphia, PA, United States

1727. Effects of Hyperglycemia on Lonidamine-Induced Acidification and De-Energization of Human Melanoma Xenografts Treated with Melphalan
Kavindra Nath[1], David S. Nelson[1], Andrew M. Ho[1], Stephen B. Pickup[1], Christina Gustafson[1], Cory Alvey[2], Rong Zhou[1], Dennis B. Leeper[3], Jerry D. Glickson[1]
[1]Radiology, University of Pennsylvania, Philadelphia, PA, United States; [2]Pharmacology, University of Pennsylvania, Philadelphia, PA, United States; [3]Radiation Oncology, Thomas Jefferson University, Philadelphia, PA, United States

Traditional Poster
Cancer of Breast & Body

Exhibition Hall Wednesday 16:00-18:00

1728. Prognostic Value of Pre-Treatment DCE-MRI in Breast Cancer Patients Undergoing Neoadjuvant Chemotherapy: A Comparison with Traditional Clinical Prognostic Parameters
Martin D. Pickles[1], David J. Manton[2], Martin Lowry[1], Lindsay W. Turnbull[1]
[1]Centre for MR Investigations, Hull York Medical School at University of Hull, Hull, East Yorkshire, United Kingdom; [2]Medical Physics, Hull & East Yorkshire Hospitals NHS Trust, Hull, East Yorkshire, United Kingdom

1729. An Evaluation of Global Versus Local In-Plane Rigid Registration in Dynamic Contrast-Enhanced Breast Examinations
Araminta E. W. Ledger[1], Marco Borri[1], Romney Pope[2], Erica Scurr[1], Toni Wallace[1], Cheryl Richardson[2], Marianne Usher[2], Robin Wilson[2], Steven Allen[2], Karen Thomas[3], Nandita M. deSouza[1], Martin O. Leach[1], Maria A. Schmidt[1]
[1]CR-UK and EPSRC Cancer Imaging Centre, The Institute of Cancer Research and Royal Marsden NHS Foundation Trust, Sutton, Surrey, United Kingdom; [2]Department of Radiology, Royal Marsden Hospital, Sutton, Surrey, United Kingdom; [3]Clinical Research and Development, Royal Marsden Hospital, Sutton, Surrey, United Kingdom

1730. A Mechanically Coupled Reaction-Diffusion Model for Predicting the Response of Breast Cancer to Neoadjuvant Chemotherapy
Jared A. Weis[1, 2], Michael I. Miga, [13], Lori R. Arlinghaus[4], Xia Li[4], A. Bapsi Chakravarthy[5, 6], Vandana G. Abramson, [67], Jaime Farley, [67], Thomas E. Yankeelov, [24]
[1]Vanderbilt University Institute of Imaging Science , Vanderbilt University, Nashville, TN, United States; [2]Radiology and Radiological Sciences, Vanderbilt University, Nashville, TN, United States; [3]Biomedical Engineering, Vanderbilt University, Nashville, TN, United States; [4]Vanderbilt University Institute of Imaging Science, Vanderbilt University, Nashville, TN, United States; [5]Radiation Oncology, Vanderbilt University, Nashville, TN, United States; [6]Vanderbilt-Ingram Cancer Center, Vanderbilt University, Nashville, TN, United States; [7]Medical Oncology, Vanderbilt University, Nashville, TN, United States

1731. Computer-Aided Delineation of Targets for Stereotactic Body Radiotherapy Using Dynamic Contrast Enhanced MRI in Patients with Early Stage Breast Cancer: A Feasibility Study
Zheng Chang[1], Janet Horton[1], Fang-Fang Yin[1]
[1]Duke University, Durham, NC, United States

1732. Quantitative Background Parenchymal Enhancement Estimation on Breast DCE-MRI by Measuring Relative Voxel-Wise Enhancement
Shandong Wu[1], Susan P. Weinstein[2], Emily F. Conant[2], Despina Kontos[1]
[1]Radiology, University of Pennsylvania, Philadelphia, PA, United States; [2]Radiology, Hospital of the University of Pennsylvania, Philadelphia, PA, United States

1733. MRI-Based Measurements of Breast Density and Morphologic Features for Prediction of Cancer Risk: A Case-Control Study

Jeon-Hor Chen[1, 2], Ling-Chuan Chang[3], Yi-Ting Wu[3], Christopher Scott[4], V. Shane Pankratz[4], Kathleen Brandt[5], Chin-Yu Chang[3], Peter T. Fwu[1], Xiao-Yong Wang[1], Min-Ying Su[1], Celine M. Vachon[4]

[1]Center for Functional Onco-Imaging,Department of Radiological Sciences, University of California Irvine, Irvine, CA, United States; [2]Department of Radiology, E-Da Hospital and I-Shou University, Kaohsiung, Taiwan; [3]Department of Radiology, China Medical University Hospital, Taichung, Taiwan; [4]Department of Health Sciences Research, Mayo Clinic, Rochester, MN, United States; [5]Department of Radiology, Mayo Clinic, Rochester, MN, United States

1734. Mapping Collagen 1 Fiber Architecture to Diffusion Tensor Imaging in Human Breast Tumor Specimens

Samata Kakkad[1, 2], Alireza Akhbardeh[1], Jiangyang Zhang[3], Meiyappan Solaiyappan[1], Dieter Leibfritz[2], Kristine Glunde[4], Zaver M. Bhujwalla[4]

[1]JHU ICMIC Program, Division of Cancer Imaging Research, The Johns Hopkins University SOM, Baltimore, MD, United States; [2]Department of Chemistry and Biology, University of Bremen, Bremen, Germany; [3]Russell H. Morgan Department of Radiology and Radiological Science, The Johns Hopkins University SOM, Baltimore, MD, United States; [4]JHU ICMIC Program, Division of Cancer Imaging Research, Johns Hopkins University, Baltimore, MD, United States

1735. Associations with Disease Free Survival and Pre Treatment Texture Features Obtained from Dynamic Contrast Enhanced Breast Images

Martin D. Pickles[1], Peter Gibbs[1], Martin Lowry[1], Lindsay W. Turnbull[1]

[1]Centre for MR Investigations, Hull York Medical School at University of Hull, Hull, East Yorkshire, United Kingdom

1736. Noncompressive MR Elastography of Breasts

Jun Chen[1], Kathleen Brandt[1], Karthik Ghosh[1], Roger C. Grimm[1], Kevin J. Glaser[1], Jennifer Kugel[1], Richard Leroy Ehman[1]

[1]Mayo Clinic, Rochester, MN, United States

1737. Dynamic Contrast Enhanced Imaging in Breast Cancer at 3 and 7 Tesla – a Comparison.

Stephan Gruber[1], Matthias Riha[1], Lenka Minarikova[1], Katja Pinker, Marek Chmelik[1], Siegfried Trattnig[1], Thomas Helbich, Wolfgang Bogner[1, 2]

[1]MRCE, Dept. Radiology, Medical University of Vienna, Vienna, Austria; [2]Dept. Radiology, Massachusetts General Hospital, Harvard Medical School, Boston, MA, United States

1738. Sodium MRI of the Breast – Initial Experience at 7T

Olgica Zaric[1], Bernhard Strasser[1], Stefan Zbýn[1], Katja Pinker[1], Stephan Gruber[1], Siegfried Trattnig[1], Wolfgang Bogner[1, 2]

[1]Department of Radiology, Medical University of Vienna, Vienna, Austria; [2]Department of Radiology, Athinoula A. Martinos Center for Biomedical Imaging, Boston, MA, United States

1739. Application of Zoomed EPI and PTX for Breast Diffusion Weighted Imaging.

Christian Geppert[1], Christopher B. Glielmi[2], Ryan Brown[3], Linda Moy[3], Josef Pfeuffer[4], Eric E. Sigmund[3]

[1]Siemens Medical Systems, New York, NY, United States; [2]Siemens Medical Solutions, New York, NY, United States; [3]NYU Langone Medical Center, New York, NY, United States; [4]Siemens Healthcare, Erlangen, By, Germany

1740. Longitudinal Registration of Quantitative PET and MRI Data Acquired During Neoadjuvant Chemotherapy

Nkiruka Atuegwu[1, 2], Lori R. Arlinghaus[1], Xia Li[1], A. Bapsi Chakravarthy[3], Richard G. Abramson[1, 2], Vandana G. Abramson[4], Thomas E. Yankeelov[1, 2]

[1]Institute of Imaging Science, Vanderbilt University, Nashville, TN, United States; [2]Radiology, Vanderbilt University, Nashville, TN, United States; [3]Radiation Oncology, Vanderbilt University, Nashville, TN, United States; [4]Medical Oncology, Vanderbilt University, Nashville, TN, United States

1741. 18-FDG PET/MRI Performs Comparably to 18-FDG PET/CT and Better Than MRI in Metastatic Breast Cancer

Amy Melsaether[1], Akshat C. Pujara, Rajan Rakheja, Mohammed Shaikh, Eric E. Sigmund, Sungheon Kim, Christian Geppert, Linda Moy

[1]Radiology, NYU, New York, NY, United States

1742. B_1 Homogeneity in Breast MRI at 3T with Dual-Source Radiofrequency Transmission: An Intraindividual Comparison with 1.5T

Guillaume Gilbert[1, 2], Isabelle Trop[1], Marko K. Ivancevic[3], Gilles Beaudoin[1]
[1]Department of Radiology, Centre Hospitalier de l'Université de Montréal, Montreal, Quebec, Canada; [2]MR Clinical Science, Philips Healthcare, Montreal, Quebec, Canada; [3]MR Clinical Science, Philips Healthcare, Best, Netherlands

1743. A New Computer-Aided Algorithm for Comparing Apparent Diffusion Coefficient (ADC) Mapping and Dynamic Contrast-Enhanced (DCE) MRI Using Pharmacokinetic Model for Breast Tumor Classification

Yeun-Chung Chang[1], Yan-Hao Huang[2], Chin-Ho Lin[2], Chiun-Sheng Huang[3], Jeon-Hor Chen[4], Ruey-Feng Chang[2]
[1]Department of Medical Imaging, National Taiwan University Hospital and National Taiwan University College of Medicine, Taipei, Taiwan, Taiwan; [2]Department of Computer Science and Information Engineering, National Taiwan University, Taipei, Taiwan, Taiwan; [3]Department of Surgery, National Taiwan University Hospital and National Taiwan University College of Medicine, Taipei, Taiwan, Taiwan; [4]Tu and Yuen Center for Functional Onco-Imaging and Department of Radiological Science, University of California Irvine, Irvine, CA, United States

1744. Template Matching Can Accurately Track Tumor Motion in Cine MRI Images from Lung Cancer Patients

Xiutao Shi[1], Tejan Diwanji[1], Karen E. Mooney[1], Warren D. D'Souza[1], Nilesh Mistry[1]
[1]Department of Radiation Oncology, University of Maryland School of Medicine, Baltimore, MD, United States

1745. Peritoneal Metastases Evaluation: A Comparison Between FDG-PET/CT and MRI with Correlation Between SUV and ADC

Xue Yu[1], Elaine Yuen Phin Lee[1], Vincent Lai[1]
[1]Diagnostic Radiology, University of Hong Kong, Hong Kong, China

1746. A New Adaptive Markov Random Field Model in a Coupled Level Set Framework for Bladder Wall Segmentation in MR Images

Hao Han[1], Lihong Li[2], Chaijie Duan[3], Hao Zhang[1], Zhengrong Liang[1]
[1]Dept. of Radiology, Stony Brook University, Stony Brook, NY, United States; [2]Dept. of Engineering Science & Physics, College of Staten Island of the City University of New York, Staten Island, NY, United States; [3]Dept. of Biomedical Engineering, Tsinghua University, Shenzhen, Guangdong, China

1747. Predicting Lesion Subtype and Response to Chemotherapy in Paediatric Wilms' Tumours Using ADC Histogram Analysis

Patrick W. Hales[1], Øystein E. Olsen[2], Neil J. Sebire[3], Christopher A. Clark[1]
[1]Imaging and Biophysics, University College London, London, United Kingdom; [2]Radiology Department, Great Ormond Street Hospital, London, United Kingdom; [3]Histopathology Department, Great Ormond Street Hospital, London, United Kingdom

1748. Tumor Stiffness Dependency on Tissue Viability as Measured Using MR Elastography (MRE)

Kay Pelletier[1], Jun Chen[1], Kevin J. Glaser[1], Stephen Ansell[1], Richard Leroy Ehman[1], Kiaran P. McGee[1]
[1]Mayo Clinic, Rochester, MN, United States

1749. Assessment of Therapy-Induced Tumour Necrosis with Magnetic Resonance Elastography

Jin Li[1], Yann Jamin[1], Craig Cummings[1], Jessica K.R. Boult[1], John C. Waterton[2], Jose Ulloa[3], Ralph Sinkus[3], Jeffery C. Bamber[1], Simon P. Robinson[1]
[1]Division of Radiotherapy & Imaging, The Institute of Cancer Research and Royal Marsden NHS Trust, Sutton, United Kingdom; [2]Personalised Healthcare and Biomarkers, AstraZeneca, Alderley Park, Macclesfield, Cheshire, United Kingdom; [3]Centre de Recherche Biomedicale Bichat Beaujon, Clichy, France

1750. Application of MOBILE (Mapping of Oxygen by Imaging Lipids Relaxation Enhancement) to Monitor Changes in Tumor Oxygenation Following Administration of the Anti-Vascular Agent CA4.

Florence Colliez[1], Julie Magat[1], Marie-Aline Neveu[1], Bernard Gallez[1], Bénédicte F. Jordan[1]
[1]Louvain Drug Research Institute, Biomedical Magnetic Resonance Research Group, University of Louvain, Brussels, Belgium

1751. Diffusion-Weighted Imaging Detects Early Physiologic Change of Tumor Following Tamoxifen Treatment in an MNU-Induced Breast-Cancer Rat Model

Guihua Zhai[1], Clinton Grubbs[1], Cecil Stockard[1], Heidi Umphrey[1], Timothy Beasley[1], Hyunki Kim[1]
[1]University of Alabama at Birmingham, Birmingham, AL, United States

1752. Model Parameter Correlation for DCE-MRI in Advanced Cervical Cancer

Jesper Folsted Kallehauge[1], Erik M. Pedersen[2], Kari Tanderup[1], Finn Rasmussen[2], Jacob Lindegaard[1], Lars Fokdal[1], Søren Haack[1], Thomas Nielsen[1]

[1]Department of Oncology, Experimental Clinical Oncology, Århus, Denmark; [2]Department of Radiology, Department of Radiology, Århus, Denmark

1753. Evaluation of a Multiparamteric QBOLD Approach in Patients with Brain Tumors

Julien Bouvier[1, 2], Nicolas Coquery[1], Sylvie Grand[1, 3], Irène Troprès[4], David Chechin[2], Jean-François Le Bas[3, 4], Olivier François[5], Alexandre Krainik[1, 3], Emmanuel Luc Barbier[1]

[1]INSERM U836, Grenoble Institute of Neurosciences, Grenoble, France; [2]Philips Healthcare, Suresnes, France; [3]CHU de Grenoble, Clinique Universitaire de Neuroradiologie et d'IRM, Grenoble, France; [4]Plate-forme IRMaGe, UJF – INSERM US17 – CNRS UMS 3552, Grenoble, France; [5]UMR 5525, TIMC-IMAG, Grenoble, France

1754. Accuracy and Precision of DCE-MRI Parameters Estimated by AATH and MTK Models: Evaluations with MMID4 Simulation and Clinical NPC Datasets

Chen-Yi Liu[1], Yen-Peng Liao[2], Yu-Shi Lin[1, 3], Shy-Chyi Chin[4], Ho-Ling Liu[1, 4]

[1]Department of Medical Imaging and Radiological Sciences, Chang Gung University, Taoyuan, Taiwan; [2]Department of Medical Imaging, Taipei Medical University - Shuang Ho Hospital, Taipei, Taiwan; [3]Department of Diagnostic Radiology, Chang Gung Memorial Hospital, Keelung, Taiwan; [4]Department of Medical Imaging and Intervention, Linkou Chang Gung Memorial Hospital, Taoyuan, Taiwan

1755. Reducing Inter-Observer Variability in DCE-MRI Using Semi-Automatic Lesion Segmentation and Histogram Analysis - Comparison to Manual Region of Interest Placement.

Tobias Heye[1], Elmar M. Merkle[2], Caecilia S. Reiner[1], Matthew S. Davenport[3], Jeff J. Horvath[1], Sebastian Feuerlein[4], Steven R. Breault[1], Peter Gall[5], Mustafa R. Bashir[1], Brian M. Dale[6], Attila Kiraly[7], Daniel T. Boll[1]

[1]Department of Radiology, Duke University Medical Center, Durham, NC, United States; [2]Klinik für Radiologie und Nuklearmedizin, Universitätsspital Basel, Basel, Kanton Basel, Switzerland; [3]Department of Radiology, University of Michigan Health System, Ann Arbor, MI, United States; [4]Department of Radiology and Medical Imaging, University of Virginia Health System, Charlottesville, VA, United States; [5]Imaging & Therapy Division, Healthcare Sector, Siemens AG, Erlangen, -, Germany; [6]MR R&D Collaborations, Siemens Healthcare, Morrisville, NC, United States; [7]Corporate Research and Technology, Siemens Corporation, Princeton, NJ, United States

1756. Magnetic Resonance Imaging at 7 T for Correlation of Therapy-Induced Alterations in T_2 Intensity, ADC and Tumor Volume in Ewing's Sarcoma Xenografts

Parastou Foroutan[1], Christopher L. Cubitt[2, 3], Jillaina L. Menth[3], Damon Reed[2, 4], Marilyn M. Bui[2], David L. Morse[1], Douglas G. Letson[4], Daniel Sullivan[2], Robert J. Gillies[1], Gary V. Martinez[1]

[1]Imaging, H. Lee Moffitt Cancer Center, Tampa, FL, United States; [2]Experimental Therapeutics Program, H. Lee Moffitt Cancer Center, Tampa, FL, United States; [3]Translational Research Lab, H. Lee Moffitt Cancer Center, Tampa, FL, United States; [4]Sarcoma Program, H. Lee Moffitt Cancer Center, Tampa, FL, United States

1757. Diffusion Weighted MRI as a Predictive Tool for Effect of Radiotherapy in Locally Advanced Cervical Cancer

Søren Haack[1], Kari Tanderup[2], Lars Fokdal[2], Jesper Folsted Kallehauge[3], Jacob Lindegaard[2], Sune N. Jespersen[4, 5], Erik M. Pedersen[6]

[1]Dept. of Clinical Engineering, Aarhus University Hospital, Aarhus, Denmark; [2]Dept. of Oncology, Aarhus University Hospital, Aarhus, Denmark; [3]Dept. of Medical Physics, Aarhus University Hospital, Aarhus, Denmark; [4]CFIN/MindLab, Aarhus University, Aarhus, Denmark; [5]Dept. of Physics and Astronomy, Aarhus University, Aarhus, Denmark; [6]Dept. of Radiology, Aarhus University, Aarhus, Denmark

1758. Can the Two-Compartment Model for DCE-MRI Fit Contrast Concentration Curves Accurately Over a Heterogeneous Region of Interest?

Xiaobing Fan[1], Aytekin Oto[1], Gregory S. Karczmar[1]

[1]University of Chicago, Chicago, IL, United States

1759. MR Imaging Findings of Ovarian Endometrioid Adenocarcinoma and Sertoliform Endometrioid Adenocarcinoma: Clues for the Differential Diagnosis

Eito Kozawa[1], Masahiro Takahasi[1], Tomomi Kato[2], Masanori Yasuda[3], Keiichi Fugiwara[4], Fumiko Kimura[5]
[1]Imaging Diagnosis, Saitama Medical University, International Medical Center, Hidaka-shi, Saitama, Japan; [2]Pathologic Diagnosis, Saitama Medical University, International Medical Center, Hidaka-shi, Saitama, Japan; [3]Pathologic Diagnosis, Saitama medical University,International Medical Center, Hidaka-shi, Saitama, Japan; [4]Gynecologic Oncology, Saitama Medical University, International Medical Center, Hidaka-shi, Saitama, Japan; [5]Imaging Diagnosis, Saitama Medical University,International Medical Center, Hidaka-shi, Saitma, Japan

1760. Use of Hyperpolarized 13C-MRS to Monitor Tumor Response to Sorafenib Treatment, in Comparison with Diffusion Weighted-MRI.

Lionel Mignion[1], Prasanta Dutta[2], Gary V. Martinez[2], Parastou Foroutan[3], Robert J. Gillies[3], Benedicte Jordan[1]
[1]Louvain Drug Research Institute, Biomedical Magnetic Resonance Research Group, Universite Catholique de Louvain, Brussels, Belgium; [2]Department of Imaging Research, H. Lee Moffitt Cancer Center and Research Institute, Tampa, FL, United States; [3]Department of Imaging Research, H. Lee Moffitt Cancer Center, Tampa, FL, United States

1761. Significant Increases in Contrast Arrival Time Measured with DCE-MRI Are Seen After Treatment with an Anti-VEGF Agent

Matthew R. Orton[1], Matthew Gwilliam[1], Christina Messiou[2], David John Collins[1], Veronica A. Morgan[2], Helen Young[3], Nandita M. De Souza[1], Martin O. Leach[1]
[1]CR-UK and EPSRC Cancer Imaging Centre, Institute of Cancer Research, Sutton, Surrey, United Kingdom; [2]Radiology Department, Royal Marsden NHS Foundation Trust, Sutton, Surrey, United Kingdom; [3]AstraZeneca, Macclesfield, Cheshire, United Kingdom

1762. Longitudinal MR Microscopy at 7T of Human Derived Osteosarcoma Mouse Models – an Early Assessment of Drug Response

Parastou Foroutan[1], Jenny M. Kreahling[2], Damon Reed[2, 3], Mark C. Lloyd[4], Soner Altiok[2, 3], Gary V. Martinez[1], Robert J. Gillies[1]
[1]Imaging, H. Lee Moffitt Cancer Center, Tampa, FL, United States; [2]Experimental Therapeutics Program, H. Lee Moffitt Cancer Center, Tampa, FL, United States; [3]The Sarcoma Program, H. Lee Moffitt Cancer Center, Tampa, FL, United States; [4]Analytic Microscopy, H. Lee Moffitt Cancer Center, Tampa, FL, United States

1763. Prediction of Neoadjuvant Chemotherapy Response of Breast Cancer with Changes of MR Perfusion and Diffusion Characteristics in Early Chemotherapy by Using Neural Network Algorithm

Huiyan Shao[1], Li Guo[2], Xiaoying Wang[2], Rui Li[1], Chun Yuan,[13], Huijun Chen[1]
[1]Tsinghua University, Beijing, China; [2]Peking University First Hospital, Beijing, China; [3]University of Washington, Seattle, WA, United States

1764. Evaluating MRI T1rho Contrast in Hepatic Cell Carcinoma: Initial Study

Jiayu Sun[1], Rui Xia[1], Fabao Gao[1], Jie Zheng[2], Bing Wu[1]
[1]Department of Radiology, West China Hospital,Sichuan University, Chengdu, Sichuan, China; [2]Mallinckrodt Institute of Radiology,Washington University School of Medicine in St. Louis, St.Louis, MO, United States

1765. Non-Invasive Imaging and Quantitative Readout of HCC Progression and Metastatic Development Using MRI

Lingyun Hu[1], Ashley Aronow[2], Lakshmi Raj[2], Erica C. Henning[1]
[1]Global Imaging Group, Novartis Institutes for Biomedical Research (NIBR), Cambridge, MA, United States; [2]Biologics Center, Novartis Institutes for Biomedical Research (NIBR), Cambridge, MA, United States

1766. 14 Tesla MR Imaging of Mice Cholangiocarcinoma Response to Radiofrequency Heating (RFH)-Enhanced Chemotherapy: Towards Intrabiliary RFH-Enhanced Chemotherapy for Pancreatobiliary Cancers

Feng Zhang[1], Thomas Le[1], Xia Wu[1], Tong Zhang[1], Han Wang[1], Stephanie Soriano[1], Donghoon Lee[1], Xiaoming Yang[1]
[1]Radiology, University of Washington, Seattle, WA, United States

1767. Non-Invasive Correlation of 18F-FLT PET and DW-MRI of Human Lung Carcinoma in a Xenograft Mouse Model

Lydia Wachsmuth[1], Sonja Schäfers[2], Thomas Viel[2], Sven Hermann[2], Niclas Kremer[2], Michael Schäfers[2], Klaus Schäfers[2], Andreas H. Jacobs[2], Carsten Müller-Tidow[3], Cornelius Faber[1]
[1]Clinical Radiology, Experimental NMR, University Hospital Münster, Münster, Germany; [2]European Institute for Molecular Imaging, Münster, Germany; [3]Molecular Hematology/Oncology, University Hospital Münster, Münster, Germany

1768. Pharmacological Effects of GSK2656157, a Novel PERK Kinase Inhibitor, on Tumor Growth and Angiogenesis Using DCE-MRI in Pancreatic Tumor Model

Hasan Alsaid[1], Charity Atkins[2], Sarah Lee[3], Tinamarie Skedzielewski[1], Mary V. Rambo[1], Shu-Yun Zhang[2], David J. Figueroa[2], Brandon Whitcher[3], Rakesh Kumar[2], Beat M. Jucker[1]

[1]Preclinical & Translational Imaging, LAS, PTS, GlaxoSmithKline, King of Prussia, PA, United States; [2]Oncology R&D, GlaxoSmithKline, Collegeville, PA, United States; [3]Mango Solutions, London, United Kingdom

Traditional Poster
Prostate

Exhibition Hall Wednesday 16:00-18:00

1769. Prostate Cancer Localization with a Multiparametric MR Approach (PCaMAP): Initial Results of a Multi-Center Study

Marnix C. Maas[1], Mariët J. Koopman[1], Geert J.S. Litjens[1], Alan J. Wright[1], Kirsten M. Selnæs[2], Ingrid Susann Gribbestad[2], Masoom A. Haider[3], Katarzyna J. Macura[4], Daniel J.A. Margolis[5], Berthold Kiefer[6], Jurgen J. Fütterer[1], Tom W.J. Scheenen[1]

[1]Department of Radiology, Radboud University Nijmegen Medical Centre, Nijmegen, Netherlands; [2]Department of Circulation and Medical Imaging, Norwegian University of Science and Technology, Trondheim, Norway; [3]Joint Department of Medical Imaging, Princess Margaret Hospital, University Health Network and Mount Sinai Hospital, Toronto, ON, Canada; [4]Russel H. Morgan Department of Radiology and Radiological Science, Johns Hopkins University, Baltimore, MD, United States; [5]Department of Radiology, UCLA David Geffen School of Medicine, Los Angeles, CA, United States; [6]Siemens AG Healthcare Sector, Erlangen, Germany

1770. Multiparametric MRI and Pharmakokinetic Maps for Prostate Cancer Detection: Value in a Multireader Decision Transperineal Biopsy Study

Tobias Penzkofer[1, 2], Kemal Tuncali[1], Andriy Fedorov[1], Junichi Tokuda[1], Sang-Eun Song[1], Nobuhiko Hata[1], Sandeep Narendra Gupta[3], Robert Mulkern[4], Fiona Fennessy, [15], Clare Tempany[1]

[1]Department of Radiology, Brigham and Women's Hospital, Boston, MA, United States; [2]Diagnostic and Interventional Radiology, RWTH Aachen University Hospital, Aachen, NRW, Germany; [3]GE Global Research, Niskyuna, NY, United States; [4]Department of Radiology, Boston Children's Hospital, Boston, MA, United States; [5]Department of Radiology, Dana Farber Cancer Institute, Boston, MA, United States

1771. Increasing Role of Functional MRI as Decision Making Tool in Management of Prostate Cancer Patients on Active Surveillance

Kiri Sandler[1], Charles Lynne[2], Merce Jorda[3], Alan Pollack[1], Radka Stoyanova[1]

[1]Department of Radiation Oncology, University of Miami, Miami, FL, United States; [2]Department of Urology, University of Miami, Miami, FL, United States; [3]Department of Pathology, University of Miami, Miami, FL, United States

1772. Validation of Effectiveness of Multi-Parametric Endorectal MR Image Features for Prostate Cancer Detection and Correlation with Gleason Score

Yahui Peng[1], Yulei Jiang[1], Tatjana Antic[2], Maryellen L. Giger[1], Scott Eggener[3], Aytekin Oto[1]

[1]Radiology, The University of Chicago, Chicago, IL, United States; [2]Pathology, The University of Chicago, Chicago, IL, United States; [3]Surgery, The University of Chicago, Chicago, IL, United States

1773. Quantitative Evaluation of Treatment Related Changes on Multi-Parametric MRI After Laser Interstitial Thermal Therapy of Prostate Cancer

Satish Viswanath[1], Dan Sperling[2], Herbert Lepor[3], Jurgen J. Futterer[4], Anant Madabhushi[1]

[1]Biomedical Engineering, Case Western Reserve University, Cleveland, OH, United States; [2]Radiology, New Jersey Institute of Radiology, Carlstadt, NJ, United States; [3]Urology, NYU Langone Medical Center and School of Medicine, New York, United States; [4]Radiology, Radboud University Nijmegen Medical Centre, Nijmegen , Netherlands

1774. A Quantitative Framework to Study MRI Related Treatment Changes in the Prostate Post-IMRT

Pallavi Tiwari[1], John Kurhanewicz[2], Anant Madabhushi[1]

[1]Biomedical Engineering, Case Western Reserve University, Cleveland, OH, United States; [2]Radiology and Biomedical Imaging, University of California, San Francisco, San Francisco, CA, United States

1775. MRI Based Artificial Neural Network Model Used in Prostate Cancer Detection

Chengyan Wang[1], Juan Hu[2], He Wang[2], Hui Zhang[1], Rui Wang[2], Wenchao Cai[2], Wei Wang[2], Xiaoying Wang, [12], Jue Zhang[3, 4], Jing Fang, [13]

[1]Academy for Advanced Interdisciplinary Studies, Peking University, Beijing, China; [2]Department of Radiology, Peking University First Hospital, Beijing, China; [3]College of Engineering, Peking University, Beijing, China; [4]Academy for Advanced Interdisciplinary Studies, Peking University , Beijing, China

1776. Optimal Combined Functional MR Parameters to Correctly Identify Tumour in the Prostate.

Sophie F. Riches[1], Geoffrey S. Payne[1], Charlie Jameson[2], Christopher Ogden[3], Mike Partridge[4], Veronica A. Morgan[1], Sharon L. Giles[1], Nandita M. deSouza[1]

[1]CR-UK and EPSRC Cancer Imaging Centre, Institute of Cancer Research and Royal Marsden NHS Foundation Trust, Sutton, Surrey, United Kingdom; [2]Department of Histopathology, University College London Hospitals, London, United Kingdom; [3]Department of Surgery, Royal Marsden NHS Foundation Trust, Sutton, Surrey, United Kingdom; [4]Gray Institute for Radiation Oncology and Biology,Department of Oncology, University of Oxford, Oxford, Oxfordshire, United Kingdom

1777. Prospective Impact of the Additional Use of an Endorectal Coil for 3 T Prostate MRI on Image Quality and Cancer Detection Rate

Josephin Otto[1], Gregor Thörmer[1], Martin Reiss-Zimmermann[1], Nikita Garnov[1], Lars-Christian Horn[2], Thomas Kahn[1], Michael Moche[1], Harald Busse[1]

[1]Diagnostic and Interventional Radiology Department, Leipzig University Hospital, Leipzig, Saxony, Germany; [2]Institute of Pathology, University of Leipzig, Leipzig, Saxony, Germany

1778. Diffusion Weighted MRI of the Prostate: Which Tumours Are We Able to Detect, and How Reliably?

Lauren J. Bains[1], Maria Triantafyllou[1], Johannes M. Froehlich[1], Giuseppe Petralia[1], Daniel Chong[1], Harriet C. Thoeny[1]

[1]Department of Diagnostic, Interventional, and Pediatric Radiology, Inselspital University Hospital Bern, Bern, Switzerland

1779. Reduced FOV Decreases Susceptibility Artifact in Diffusion-Weighted MRI for Prostate Cancer Detection

Natalie Korn[1], John Kurhanewicz[1, 2], Suchandrima Banerjee[3], Emine U. Saritas, Susan Noworolski[1, 2]

[1]Radiology and Biomedical Imaging, University of California, San Francisco, San Francisco, CA, United States; [2]Graduate Group in Bioengineering, University of California, Berkeley, Berkeley, CA, United States; [3]GE Healthcare, San Francisco, CA, United States

1780. Tractography of the Neurovascular Bundles of the Prostate with Zoom DTI Technique: Preliminary Report

Satoru Takahashi[1], Yoshiko Ueno[1], Kazuhiro Kitajima[2], Tomoyuki Okuaki[3], Kazuro Sugimura[2]

[1]Radiology, Kobe University Hospital, Kobe, Hyoto, Japan; [2]Radiology, Kobe University Graduate School of Medicine, Kobe, Hyoto, Japan; [3]Philips Electronics Japan, Minato, Tokyo, Japan

1781. Preliminary Experience of Diffusion Kurtosis Imaging for the Prostatic Gland

Chiharu Tamura[1], Hiroshi Shinmoto[1], Shigeyoshi Soga[1], Teppei Okamura[1], Sadahiro Watanabe[1], Tatsumi Kaji[1], Tomoyuki Okuaki[2], Makoto Obara[2], Yuxi Pang[3], Hiroki Sato[4]

[1]Department of Radiology, National Defense Medical College, Saitama, Japan; [2]Philips Electronics Japan, Tokyo, Japan; [3]Philips Healthcare, Cleveland, OH, United States; [4]Department of Preventive Medicine and Public Health, National Defense Medical College, Saitama, Japan

1782. High B-Value Diffusion Weighted MRI for Prostate Tumor Staging

Harsh K. Agarwal[1, 2], Kinzya Grant[2], Baris I. Turkbey[2], Yuxi Pang[3], Marcelino Bernardo[2, 4], Julien Sénégas[5], Dagane Daar[2, 4], Junaita Weaver[2, 4], Jochen Keupp[5], Maria J. Merino[6], Bradford Wood[7], Peter A. Pinto[8], Peter L. Choyke[2]

[1]Philips Research North America, Briarcliff Manor, NY, United States; [2]Molecular Imaging Program, NCI, National Institute of Health, Bethesda, MD, United States; [3]Philips Healthcare, Cleaveland, OH, United States; [4]SAIC Frederick Inc., Frederick, MD, United States; [5]Philips Research Laboratories, Hamburg, Germany; [6]5Laboratory of Pathology, NCI, National Institute of Health, Bethesda, MD, United States; [7]NIH Center for Interventional Oncology, National Institute of Health, Bethesda, MD, United States; [8]Urologic Oncology Branch, National Institute of Health, Bethesda, MD, United States

1783. Diffusion-Weighted MR Imaging of Prostate with a Fractional Order Calculus Model

ISMRM MERIT AWARD magna cum laude

Guanzhong Liu[1], Karen Xie[2], Yi Sui[1, 3], Winnie Mar[2], Virgilia Macias[4], John Groth[4], Andre A. Kajdacsy-Balla[4], Leslie Deane[5], Xiaohong Joe Zhou[1]

[1]Center for MR Research, University of Illinois Hospital & Health Sciences System, Chicago, IL, United States; [2]Radiology, University of Illinois Hospital & Health Sciences System, Chicago, IL, United States; [3]Bioengineering, University of Illinois at Chicago, Chicago, IL, United States; [4]Pathology, University of Illinois Hospital & Health Sciences System, Chicago, IL, United States; [5]Urology, University of Illinois Hospital & Health Sciences System, Chicago, IL, United States

1784. High-Resolution Variable Density Spiral Diffusion Weighted Sequence for Prostate and Bladder Wall

Hui Zhang[1], Huijun Chen[1], Wenchuan Wu[1], Xiaoying Wang[2], Feiyu Li[2], Chun Yuan[1, 3], Hua Guo[1]

[1]Center for Biomedical Imaging Research & Department of Biomedical Engineering, Tsinghua University, Beijing, China; [2]Departement of Medical Imaging, Peking University First Hospital, Beijing, China; [3]Department of Radiology, University of Washington, Seattle, WA, United States

1785. Spermine and Citrate as Metabolic Biomarkers for Assessing Prostate Cancer Aggressiveness

Guro F. Giskeødegård[1, 2], Helena Bertilsson[3, 4], Kirsten M. Selnæs[1, 2], Alan Wright[5], Tone Frost Bathen[1, 2], Trond Viset[6], Jostein Halgunset[3, 6], Anders Angelsen[4], Ingrid Susann Gribbestad[1, 2], May-Britt Tessem[1, 2]

[1]Department of Circulation and Medical Imaging, Norwegian University of Science and Technology, Trondheim, Norway; [2]St. Olavs Hospital, Trondheim University Hospital, Trondheim, Norway; [3]Department of Laboratory Medicine and Children's and Women's Helath, Norwegian University of Science and Technology, Trondheim, Norway; [4]Department of Urology, St. Olavs Hospital, Trondheim University Hospital, Trondheim, Norway; [5]Department of Radiology, Radboud University Nijmegen Medical Center, Nijmegen, Netherlands; [6]Department of Pathology and Medical Genetics, St. Olavs Hospital, Trondheim University Hospital, Trondheim, Norway

1786. Evaluation of Prostate Cancer Metabolomic Field Effects Using Prostate Needle Biopsies

Emily Decelle[1], Yannick Berker[1], Tilman Schwessinger[1, 2], Shulin Wu[1], W. Scott McDougal[1], Chin-Lee Wu[1], Leo L. Cheng[1]

[1]Massachusetts General Hospital, Boston, MA, United States; [2]Charité Universitätsmedizin, Berlin, Germany

1787. Metabolomic Fields of Human Prostate Cancer

Emily Decelle[1], Johannes Kurth[1, 2], W. Scott McDougal[1], Chin-Lee Wu[1], Leo L. Cheng[1]

[1]Massachusetts General Hospital, Boston, MA, United States; [2]Charité Universitätsmedizin, Berlin, Germany

1788. Spatially Matched *in Vivo* and *ex Vivo* MR Metabolic Profiles of Prostate Cancer – Investigation of a Correlation with Gleason Score

Kirsten M. Selnæs[1, 2], Ingrid Susann Gribbestad[1, 2], Helena Bertilsson[3, 4], Alan Wright[5], Anders Angelsen[4], Arend Heerschap, [15], May-Britt Tessem[1, 2]

[1]Department of Circulation and Medical Imaging, Norwegian University of Science and Technology, Trondheim, Norway; [2]St. Olavs Hospital, Trondheim University Hospital, Trondheim, Norway; [3]Department of Laboratory Medicine and Children's and Women's Helath, Norwegian University of Science and Technology, Trondheim, Norway; [4]Department of Urology, St. Olavs Hospital, Trondheim University Hospital, Trondheim, Norway; [5]Department of Radiology, Radboud University Nijmegen Medical Center, Nijmegen, Netherlands

1789. Uniform and Broadband ^{31}P MRSI Combined with ^{1}H MRSI in the Human Prostate Using a Double Tuned Quadrature Endorectal Coil

ISMRM MERIT AWARD magna cum laude

Mariska P. Luttje[1], Michel Italiaander[1], Catalina S. Arteaga de Castro[1], Wybe J.M. van der Kemp[1], Marco van Vulpen[1], Peter R. Luijten[1], Uulke A. van der Heide[2], Dennis W.J. Klomp[1]

[1]Imaging Division, Univerity Medical Center, Utrecht, Netherlands; [2]Department of Radiotherapy, the Netherlands Cancer Instituut - Antoni van Leeuwenhoek hospital , Amsterdam, Netherlands

1790. Early Experiences in Ultra High Field Prostate MR-Imaging: Prostate Cancer Detection at 7T

Eline K. Vos[1], Marnix C. Maas[1], Miriam W. Lagemaat[1], Stephan Orzada[2], Andreas K. Bitz[2], Tom W.J. Scheenen[1, 2]

[1]Radiology, Radboud University Nijmegen Medical Centre, Nijmegen, Gelderland, Netherlands; [2]Erwin L. Hahn Institute for Magnetic Resonance Imaging, Essen, Germany

1791. Uniform Extended FOV MR Imaging and High B_1 MRSI of the Prostate at 7 Tesla Using Active Decoupling
Catalina S. Arteaga de Castro[1], Ozlem Ipek[1], Alexander Raaijmakers[1], Mariska P. Luttje[1], Marco van Vulpen[1], Peter R. Luijten[1], Uulke A. van der Heide[2], Dennis W. J. Klomp[1]
[1]Imaging Division, University Medical Center Utrecht, Utrecht, Netherlands; [2]Radiotherapy, The Netherlands Cancer Institute, Amsterdam, Netherlands

1792. Effect of Formalin Fixation on Biexponential Modeling of T1 and T2 Decay in Prostate Tissue
Tryggve Holck Storås[1], Andre Bongers[2], Carl Power[2], Roger Bourne[3]
[1]Interventional Centre, Oslo University Hospital, Oslo, Norway; [2]Biomedical Resource Imaging Laboratory, University of New South Wales, Sidney, Australia; [3]Discipline of Medical Radiation Sciences,Faculty of Health Sciences, University of Sydney, Sidney, Australia

1793. Characterising the Contribution of Hypoxia to R2* Differences Between Prostate Tumours and Normal Tissue
Amy Johnson[1], Arash Latifoltojar[1], Valentin Hamy[1], Heather Fitzke[1], Shonit Punwani[1], Karin Shmueli[2]
[1]Centre for Medical Imaging, University College London, London, United Kingdom; [2]Medical Physics and Bioengineering, University College London, London, United Kingdom

1794. Correlative Assessment of BOLD MRI and Gleason Score in Human Prostate Cancer - Preliminary Results
Rami R. Hallac[1], Bishoy A. Gayed[2], Qing Yuan[1], Ramy F. Youssef[2], Yao Ding[1], Franto Francis[3], Claus Roehrborn[2], Ganesh Raj[2], Robert D. Sims[1], Ralph Peter Mason[1]
[1]Radiology, University of Texas Southwestern Medical Center, Dallas, TX, United States; [2]Urology, University of Texas Southwestern Medical Center, Dallas, TX, United States; [3]Pathology, University of Texas Southwestern Medical Center, Dallas, TX, United States

1795. Radiomics Driven Image Analysis and Coregistration Scheme to Identify DCE MRI Markers for Microvascular Density
Asha Singanamalli[1], Rachel Sparks[1], Mirabela Rusu[1], Natalie Shih[2], Amy Ziober[2], John Tomaszewski[3], Mark Rosen[4], Michael Feldman[2], Anant Madabhushi[1]
[1]Department of Biomedical Engineering, Case Western Reserve University, Cleveland, OH, United States; [2]Department of Pathology, University of Pennsylvania, Philadelphia, PA, United States; [3]Department of Pathology & Anatomical Sciences, University of Buffalo, University of Buffalo, Buffalo, United States; [4]Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States

1796. Dynamic Contrast-Enhanced MRI for Detection of Bone Metastases from Prostate Carcinoma: A Study of Kinetic Parameter with Reference Local Voxel Cluster Model
Huarui Du[1], Wenchao Cai[2], Jue Zhang[1, 3], Xiaoying Wang[2], Jing Fang[1, 3]
[1]College of Engineering, Peking University, Beijing, China; [2]Peking University First Hospital, Beijing, China; [3]Academy for Advanced Interdisciplinary Studies, Peking University, Beijing, China

1797. Design of an Endorectal Coil for MR-Guided HIFU Therapy of the Prostate
John M. Pavlina[1], Jens Groebner[2], Tetiana Dadakova[1], Erik Dumont[3], Michael Bock[1]
[1]Madeizin Physik, Universität Klinikum Freiburg, Freiburg, BW, Germany; [2]Madeizin Physik, University Medical Centre Freiburg, Freiburg, BW, Germany; [3]Image Guided Therapy, Pessac, France

1798. Comparison of Single and Multi-Compartment Models of Diffusion in Fixed Prostate Tissue
Eleftheria Panagiotaki[1], Daniel C. Alexander[2], Roger Bourne[3]
[1]Centre for Medical Image Computing, University College London, London, United Kingdom; [2]Centre for Medical Image Computing, Dept Computer Science, University College London, London, United Kingdom; [3] Discipline of Medical Radiation Sciences, Faculty of Health Sciences, University of Sydney, Sydney, Australia

1799. Challenges in Spatial Correlation of Multiparametric MRI Sequences and Pathology Findings in Prostate Cancer Staging
Fiona M. Fennessy[1, 2], Andriy Fedorov[1], Tobias Penzkofer[1, 3], Clare Tempany[1]
[1]Radiology, Brigham and Women's Hospital, Boston, MA, United States; [2]Radiology, Dana Farber Cancer Institute, Boston, MA, United States; [3]Radiology, RWTH Aachen University Hospital, Aachen, Germany

1800. Effect of Prostate Haemorrhage on Post-Biopsy T1, T2 Weighted MRI Signal and DWI Derived ADC Values: A Longitudinal Study
Arash Latifoltojar[1], Rowland Illing[1], Alex Kirkham[1], Shonit Punwani[1]
[1]Centre for Medical Imaging, UCL, London, United Kingdom

1801. Registration of Pre and Post Intensity Modulated Radiation Therapy Prostate MRI for Quantification of MR Imaging Marker Changes and Precise Local Prostate Deformations
Robert Toth[1, 2], John Kurhanewicz[3], Anant Madabhushi[2]
[1]Biomedical Engineering, Rutgers University, Piscataway, NJ, United States; [2]Biomedical Engineering, Case Western Reserve University, Cleveland, OH, United States; [3]Radiology, UCSF, San Francisco, CA, United States

Traditional Poster
Thermotherapy & Thermometry

Exhibition Hall Wednesday 16:00-18:00

1802. MR Sub-Sampling Strategies for Transcranial MRgFUS Applications
ISMRM MERIT AWARD magna cum laude
Henrik Odéen[1, 2], Nick Todd[2], Mahamadou Diakite[1, 2], Allison Payne[2], Dennis L. Parker[2]
[1]Physics and Astronomy, University of Utah, Salt Lake City, UT, United States; [2]Radiology, University of Utah, Salt Lake City, UT, United States

1803. Towards Real-Time SAR Measurement with MR Thermometry
Changqing Ye[1], An Jing[2], Yan Zhuo[1], Rong Xue[1], Jing Chen[1]
[1]State Key Laboratory of Brain and Cognitive Science, Beijing MRI Center for Brain Research, Institute of Biophysics, Chinese Academy of Sciences, Beijing, China; [2]Siemens Mindit Magnetic Resonance Ltd., Shenzhen, Guangzhou, China

1804. Accelerated Real-Time MR Thermometry Using a New Compressed Sensing Framework of Nonlinear Filter and K-T FOCUSS
Feiyu Chen[1], Xiaoying Cai[1], Xinwei Shi[1], Shuo Chen[2], Enhao Gong[3], Kui Ying[2], Shi Wang[2]
[1]Department of Biomedical Engineering, Tsinghua University, Beijing, China; [2]Department of Engineering Physics, Tsinghua University, Beijing, China; [3]Electrical Engineering, Stanford University, Stanford, CA, United States

1805. Direct Reconstruction of Proton Resonance Frequency-Shift Temperature Maps from K-Space Data for Highly Accelerated Thermometry
Pooja Gaur[1], William A. Grissom[2]
[1]Chemical and Physical Biology, Vanderbilt University, Nashville, TN, United States; [2]Biomedical Engineering, Vanderbilt University, Nashville, TN, United States

1806. Accelerated Phase Reconstruction Using Sharable Information from Reference Scan and Its Application for Real-Time MR Thermometry
Feiyu Chen[1], Enhao Gong[2], Shuo Chen[3], Xinwei Shi[1], Feng Huang[4], Shi Wang[3], Kui Ying[3]
[1]Department of Biomedical Engineering, Tsinghua University, Beijing, China; [2]Electrical Engineering, Stanford University, Stanford, CA, United States; [3]Department of Engineering Physics, Tsinghua University, Beijing, China; [4]Philips Healthcare, Gainesville, FL, United States

1807. Extended Kalman Filtering for Continuous Volumetric MR-Temperature Imaging
Baudouin Denis de Senneville[1, 2], Chrit T.W. Moonen[2], Mario Ries[2]
[1]IMB, UMR 5251 CNRS/University Bordeaux 1/INRIA, Talence, Gironde, France; [2]Imaging Division, UMC Utrecht, Utrecht, Netherlands

1808. Real-Time Volumetric MR Thermometry Aided by Motion Tracking Using Tip Tracking Coils
Peng Wang[1], Orhan Unal[1]
[1]Medical Physics, University of Wisconsin - Madison, Madison, WI, United States

1809. Co-Registration of MRI Via a Learning Based Fiducial-Driven Registration (LeFiR) Scheme: Evaluating Laser Irradiation Changes for Glioblastomas and Epilepsy
Tao Wan[1], B.Nicolas Bloch[2], Shabbar Danish[3], Anant Madabhushi[1]
[1]Case Western Reserve University, Cleveland, OH, United States; [2]Boston University School of Medicine, Boston, MA, United States; [3]University of Medicine and Dentistry, New Jersey, New Brunswick, NJ, United States

1810. MR-Guided Thermotherapy of Abdominal Organs Using a Robust PCA-Based Motion Descriptor
Baudouin Denis de Senneville[1, 2], Mario Ries[2], Chrit T.W. Moonen[2]
[1]IMB, UMR 5251 CNRS/University Bordeaux 1/INRIA, Talence, Gironde, France; [2]Imaging Division, UMC Utrecht, Utrecht, Netherlands

ISMRM MERIT AWARD magna cum laude

1811. *in vivo* Evaluation of Hybrid PRF/T1 Approach for Temperature Monitoring During Breast MRgHIFU Treatments
Nick Todd[1], Mahamadou Diakite[2], Allison Payne[2], Dennis L. Parker[1]
[1]Radiology, University of Utah, Salt Lake City, UT, United States; [2]Physics, University of Utah, Salt Lake City, UT, United States

1812. A Hybrid PRF/T1/T2* Sequence for Assessing Tissue Damage
Nick Todd[1], Mahamadou Diakite[2], Allison Payne[2], Dennis L. Parker[1]
[1]Radiology, University of Utah, Salt Lake City, UT, United States; [2]Physics, University of Utah, Salt Lake City, UT, United States

1813. Spectrum-Based and Least-Square PRF Hybrid Method for MR Temperature Mapping
Shuo Chen[1], Xinwei Shi[2], Feiyu Chen[2], Karen Ying[3], Shi Wang[3]
[1]Engineering Physics, Tsinghua University, Beijing, China; [2]Biomedical Engineering, Tsinghua, Beijing, China; [3]Engineering Physics, Tsinghua, Beijing, China

1814. Absolute MR Thermometry for Near-Field Monitoring During MR-HIFU Heating
Mie Kee Lam[1], Martijn de Greef[1], Lambertus W. Bartels
[1]Image Sciences Institute, University Medical Center Utrecht, Utrecht, Netherlands

1815. Using a Simple Thermal Model to Correct Errors in PRFS MR Thermometry Due to Heat-Induced Tissue Susceptibility Changes
Paul Baron[1], Roel Deckers[1], Martijn de Greef[1], Job G. Bouwman[1], Chris J.G. Bakker[1], Lambertus W. Bartels[1]
[1]University Medical Center Utrecht, Utrecht, Netherlands

1816. A New Model for Visualization of Contrast Agent Release from Thermosensitive Liposomes Induced by Laser Based Hyperthermia
Linus Willerding[1], Simone Limmer[1], Martin Hossann[1, 2], Anja Zengerle[1], Maximilian F. Reiser[3], Rolf D. Issels[1, 2], Lars H. Lindner[1, 2], Michael Peller[3]
[1]Department of Internal Medicine III, University Hospital of Munich, Ludwig-Maximilians University, Munich, Germany; [2]CCG Tumor Therapy through Hyperthermia, Helmholtz Zentrum München,, German Research Center for Environmental Health, Munich, Germany; [3]Department of Clinical Radiology, University Hospital of Munich, Ludwig-Maximilians University, Munich, Germany

1817. Reference-Based Realtime Temperature and Damage Estimate Maps for Monitoring Laser Ablation of Hepatic Tumors Under MRI
Anil Shetty[1], Hiroumi Kitajima[2, 3], Tracy E. Powell[2, 3], Michael A. Bowen[2, 3], Sherif G. Nour[2, 3]
[1]Visualase Inc, Houston, TX, United States; [2]Department of Radiology and Imaging Sciences, Emory University Hospital, Atlanta, GA, United States; [3]Interventional MRI Program, Emory University Hospital, Atlanta, GA, United States

1818. MR-Guided Temperature Mapping in Prostate Cancer Patients: Stability and Feasibility
Joyce GR Bomers[1], Eva Rothgang[2, 3], Christiaan G. Overduin[1], Jörg Roland[3], Jelle O. Barentsz[1], Jurgen J. Füttterer[1, 4]
[1]Radiology, Radboud University Nijmegen Medical Centre, Nijmegen, Gelderland, Netherlands; [2]Center for Applied Medical Imaging, Siemens Corporation, Corporate Research, Baltimore, MD, United States; [3]Siemens Healthcare, MR, Erlangen, Bayern, Germany; [4]MIRA Institute for Biomedical Technology and Technical Medicine, University of Twente, Enschede, Overijssel, Netherlands

1819. Impact of 3D Temperature Probe Localization Variability on MR Thermometry Validation for RF Hyperthermia
Matthew Tarasek[1], Lorne Hofstetter[1], Ruben Pellicer[2], Jurriaan Bakker[2], Wouter Numan[2], Gyula Kotek[2], Eric Fiveland[3], Gavin Houston[4], Gerard van Rhoon[2], Maarten Paulides[2], Desmond Yeo[1]
[1]MRI, GE Global Research, Niskayuna, NY, United States; [2]Erasmus Medical Center, Rotterdam, Netherlands; [3]MRI, GE Global Research Center, Niskayuna, NY, United States; [4]GE Healthcare, Rotterdam, Netherlands

1820. Human Brain Cooling During Breath-Holding
Sébastien Murat[1], Jan Weis[1], Francisco Ortiz-Nieto[1], Håkan Ahlström[1]
[1]Department of Radiology, Uppsala University Hospital, Uppsala, Sweden

1821. Automatic 3D Probe Localization and Iceball Segmentation for MRI-Guided Kidney Cryoablation
Xinyang Liu[1], Kemal Tuncali[1], William M. Wells, III[1], Gary P. Zientara[1]
[1]Radiology, Brigham and Women's Hospital and Harvard Medical School, Boston, MA, United States

Traditional Poster
MR-Guided Focused Ultrasound

Exhibition Hall Wednesday 16:00-18:00

1822. Effect of Additional Anatomical Features of the Head from High Resolution 3D UTE Images on Focal Intensity and Location for Transcranial MR-Guided Focused Ultrasound Surgery
Urvi Vyas[1], Ethan M. Johnson[2], Michael Marx[2], John M. Pauly[2], Kim R. Butts Pauly[1]
[1]Radiology, Stanford University, Stanford, CA, United States; [2]Electrical Engineering, Stanford University, Stanford, CA, United States

1823. A Method to Improve Transcostal MR-HIFU Sonication in Presence of Electronic Beam Steering
Delphine Elbes[1, 2], Sébastien Roujol, [23], Mathilde Merle[1, 2], Bruno Quesson[1, 2]
[1]IHU LIRYC/ CRCTB, INSERM U1045, University Bordeaux Segalen, Pessac, France; [2]Laboratoire d'imagerie fonctionnelle et moléculaire, UMR 5231 CNRS/ University Bordeaux Segalen, Bordeaux, France, France; [3]Department of Medicine, Beth Israel Deaconess Medical Center and Harvard Medical School, Boston, MA, United States

1824. Comparison of Two Techniques for Estimation of Thermal Diffusivity with MRgHIFU
Christopher Reed Dillon[1], Allison Payne[2], Robert Roemer[3]
[1]Bioengineering, University of Utah, Salt Lake City, UT, United States; [2]Utah Center for Advanced Imaging Research, University of Utah, Salt Lake City, UT, United States; [3]Mechanical Engineering, University of Utah, Salt Lake City, UT, United States

1825. Real-Time Monitoring of Inertial Cavitation Effect on Diluted Microbubbles by MRI
Shih-Chieh Lin[1], Chun-Wei Chen[1], Chen-Hua Wu[1], Chung-Hsin Wang[1], Shih-Tsung Kang[1], Chih-Kuang Yeh[1], Wen-Shiang Chen[2, 3], Hsu-Hsia Peng[1]
[1]Department of Biomedical Engineering and Environmental Sciences, National Tsing Hua University, Hsinchu, Taiwan, Taiwan; [2]Department of Physical Medicine and Rehabilitation, National Taiwan University Hospital, Taipei, Taiwan, Taiwan; [3]Division of Medical Engineering Research, National Health Research Institutes, Miaoli, Taiwan, Taiwan

1826. Automatic Tumor Delineation by Multiparametric MR Analysis Based on Endogenous Contrast
Stefanie J.C.G. Hectors[1], Igor Jacobs[1], Gustav J. Strijkers[1], Klaas Nicolay[1]
[1]Biomedical NMR, Department of Biomedical Engineering, Eindhoven University of Technology, Eindhoven, Netherlands

1827. Cytoreductive Surgical Treatment of Pleural Mesothelioma: A Comparison Study Betweem Radiofrequency Ablation and MRgFUS Treatments in a Swine Model of Mesothelioma
Marcia Costa[1], Carolina Fernandes[1], Arik Hananel[2], Matt Eames[2], John Angle[3], John P. Mugler, III[3], Talissa A. Altes[3], Jaime F. Mata[3]
[1]Institute of Biophysics and Biomedical Engineering, FCUL, Lisbon, Portugal; [2]Focused Ultrasound Surgery Foundation, Charlottesville, VA, United States; [3]Radiology and Medical Imaging, University of Virginia, Charlottesville, VA, United States

1828. Treatment of *Staphylococcus Aureus* Induced Abscesses Via Magnetic Resonance Guided Focused Ultrasound

ISMRM MERIT AWARD magna cum laude

David Bates[1, 2], Birgit Rieck[1], Laura Curiel[1, 3], Samuel Pichardo[1, 3]
[1]Thunder Bay Regional Research Institute, Thunder Bay, Ontario, Canada; [2]Biology, Lakehead University, Thunder Bay, Ontario, Canada; [3]Department of Electrical and Computer Engineering, Lakehead University, Thunder Bay, Ontario, Canada

1829. Initial Experience with Volumetric MRI-Guided High-Intensity Focused Ultrasound Ablation in Breast Cancer Patients

Laura Merckel[1], Roel Deckers[2], Thijs van Dalen[3], Max Köhler[4], Gerald Schubert[4], Joost van Gorp[5], Paul Vaessen[6], Willem Mali[1], Chrit T.W. Moonen[2], Lambertus W. Bartels[2], Maurice A.A.J. van den Bosch[1]
[1]Radiology, Univeristy Medical Center Utrecht, Utrecht, Netherlands; [2]Images Sciences Institute, Univeristy Medical Center Utrecht, Utrecht, Netherlands; [3]Surgery, Diakonessenhuis, Utrecht, Netherlands; [4]Philips Heathcare, Vantaa, Finland; [5]Pathology, Diakonessenhuis, Utrecht, Netherlands; [6]Anesthesia, University Medical Center Utrecht, Utrecht, Netherlands

1830. Feasibility of MR Thermometry in Pancreas

Roel Deckers[1], Baudouin Denis de Senneville[1, 2], Mario Ries[1], Hanne D. Heerkens[3], Cornelis A.T. van den Berg[3], Marco van Vulpen[3], Chrit T.W. Moonen[1]
[1]Image Sciences Institute, University Medical Center Utrecht, Utrecht, Netherlands; [2]CNRS/Université Bordeaux 1/INRIA, Institut de Mathématiques de Bordeaux UMR 5251, Talence, Gironde, France; [3]Radiotherapy, University Medical Center Utrecht, Utrecht, Netherlands

1831. MR-Based Targeting of Histotripsy Therapy at 7T

Steven P. Allen[1], Timothy L. Hall[1], Charles A. Cain[1], Luis Hernandez-Garcia[1]
[1]Biomedical Engineering, University of Michigan, Ann Arbor, MI, United States

1832. Feasibility of MR Guided HIFU on a 7T Animal MR Scanner, to Evaluate Pathologic Effects of High Intensity Focused Ultrasound in Mice

Martijn Hoogenboom[1], Martijn den Brok[2], Erik Dumont[3], Gosse Adema[2], Arend Heerschap[1], Jurgen J. Futterer[1, 4]
[1]Department of Radiology, Radboud University Nijmegen Medical Centre, Nijmegen, Gelderland, Netherlands; [2]Department of Tumor Immunology, Radboud University Nijmegen Medical Centre, Nijmegen, Gelderland, Netherlands; [3]Image Guided Therapy, Pessac, France; [4]MIRA Institute for Biomedical Technology and Technical Medicine, University of Twente, Enschede, Overijssel, Netherlands

Traditional Poster
Intravascular MR-Guided Interventions

Exhibition Hall Wednesday 16:00-18:00

1833. 3T Intravascular MRI, IVUS and OCT: A Study in Contrast

Shashank Sathyanarayana Hegde[1], Clifford R. Weiss[1], M. Arcan Erturk[2], Paul A. Bottomley[1, 2]
[1]Radiology, Johns Hopkins University, Baltimore, MD, United States; [2]Electrical and Computer Engineering, Johns Hopkins University, Baltimore, MD, United States

1834. Passive Magnetic Resonance Catheter Tracking with Spatial Wavelet and Temporal Constraints

M. Ethan MacDonald[1, 2], R. Marc Lebel, [23], Richard Frayne[1, 2]
[1]Biomedical Engineering, University of Calgary, Calgary, AB, Canada; [2]Radiology and Clinical Neurosciences, University of Calgary, Seaman Family MR Research Centre, Foothills Medical Centre, Calgary, AB, Canada; [3]Applied Science Laboratory, GE Healthcare, Calgary, AB, Canada

1835. Simultaneous Stereoscopic 3D-Visualization of Vascular Structures and a Passive Catheter in Real Time

Alexander Brunner[1], Florian Maier[2], Wolfhard Semmler[1], Michael Bock[3]
[1]Dpt. of Medical Physics in Radiology, German Cancer Research Center (DKFZ), Heidelberg, Germany; [2]Dpt. of Imaging Physics, The University of Texas M. D. Anderson Cancer Center, Houston, TX, United States; [3]Dpt. of Radiology - Medical Physics, University Hospital Freiburg, Freiburg, Germany

1836. Self-Resonant Swiss Roll Structures as Semi-Active Device Visualization Method for Interventional MRI

Mandy Kaiser[1], Markus Detert[2], Urte Kägebein[1], Hans-Peter Schulze[3], Bertram Schmidt[2], Georg Rose[1]
[1]Department of Healthcare Telematics and Medical Engineering, Otto-von-Guericke University, Magdeburg, Sachsen-Anhalt, Germany; [2]Department of Microsystems Technology, Otto-von-Guericke University, Magdeburg, Sachsen-Anhalt, Germany; [3]Department of Theoretical Electrical Engineering, Otto-von-Guericke University, Magdeburg, Sachsen-Anhalt, Germany

1837. Magnetic Resonance Elastography for Measuring the Compliance of Occlusive Vascular Disease
Brian S. Kates[1], Kevan J. T. Anderson[1], Graham A. Wright[1]
[1]Imaging Research, Sunnybrook Research Institute, Toronto, Ontario, Canada

1838. LARFET (Low Amplitude RF at Echo Time) for Catheter Tracking
Murat Tümer[1], Baykal Sarioglu[2], Senol Mutlu[2], Arda Yalcinkaya[2], Cengizhan Ozturk[1]
[1]Institute of Biomedical Enginering, Bogaziçi University, Istanbul, Turkey; [2]Electrical and Electronics Enginering, Bogaziçi University, Istanbul, Turkey

Traditional Poster
MR-Guided Interventions From Head to Toe

Exhibition Hall Wednesday 16:00-18:00

1839. Fast Preoperative Planning Method for MR-Guided Laser Ablation in Brain
Erol Yeniaras[1], David T. A. Fuentes[2], Samuel J. Fahrenholtz[1], Jeffrey S. Weinberg[3], Florian Maier[1], Anil Shetty[4], John D. Hazle[1], R. Jason Stafford[1]
[1]Imaging Physics, MD Anderson Cancer Center, Houston, TX, United States; [2]Imaging Physics, The University of Texas M.D. Anderson Cancer Center, Houston, TX, United States; [3]Neurosurgery, MD Anderson Cancer Center, Houston, TX, United States; [4]Visualase, Inc, Houston, TX, United States

1840. Enlarged Perivascular Spaces: How Prevalence Might Influence Gene Therapy Trial Design
Miles Olsen[1], Barbara Bendlin[2], Sterling Johnson[2], Jason Huston[3], Benjamin Grabow[1], Ethan K. Brodsky[1], Walter F. Block[4]
[1]Medical Physics, University of Wisconsin - Madison, Madison, WI, United States; [2]Neuroscience, University of Wisconsin - Madison, Madison, WI, United States; [3]Neuroradiology, University of Wisconsin - Madison, Madison, WI, United States; [4]Medical Physics, University of Wisconsin-Madison, Madison, WI, United States

1841. Integrating Clinical Neurosurgery Workstations Into a Real-Time System for Conducting MR-Guided Procedures
Ethan K. Brodsky[1, 2], Karl A. Sillay[3], Walter F. Block, [24]
[1]Medical Physics, University of Wisconsin - Madison, Madison, WI, United States; [2]Biomedical Engineering, University of Wisconsin, Madison, WI, United States; [3]Neurosurgery, University of Wisconsin, Madison, WI, United States; [4]Medical Physics, University of Wisconsin-Madison, Madison, WI, United States

1842. Robust Feature Based Pre-Registration of 3D MR Image to 3D B-Mode Ultrasound Image of the Liver
Chi Jun Weon[1], Woo Hyun Nam[1], Jung-Bae Kim[2], Youngkyoo Hwang[2], Won-Chul Bang[2], Jong Beom Ra[1]
[1]Electrical engineering, Korea Advanced Institute of Science and Technology, Daejeon, Korea; [2]Samsung Advanced Institute of Technology, Yongin-si, Gyeonggi-do, Korea

1843. Proof of Concept for Transrectal MRI-Guided Prostate Biopsies Using an Optically Referenced Targeting Device
Harald Busse[1], Gregor Thörmer[1], Josephin Otto[1], Nikita Garnov[1], Tim Riedel[1], Arno Schmitgen[2], Axel Winkel[3], Thomas Kahn[1], Michael Moche[1]
[1]Diagnostic and Interventional Radiology Department, Leipzig University Hospital, Leipzig, Saxony, Germany; [2]Localite Biomedical Visualization Systems, Sankt Augustin, Germany; [3]Invivo Germany, Schwerin, Germany

Traditional Poster
Software & Hardware for MR-Guided Interventions

Exhibition Hall Wednesday 16:00-18:00

1844. A Simple Method to Image Time-Varying Magnetic Fields Inside the Body Using MRI.
Luis Hernandez-Garcia[1], Krishan Prem Kumar[2], Jeremy Gam[3]
[1]FMRI laboratory, University of Michigan, Ann Arbor, MI, United States; [2]FMRI laboratory, university of michigan, Ann Arbor, MI, United States; [3]FMRI Laboratory, university of michigan, Ann Arbor, MI, United States

1845. Multimodality Phantom Targeting Fluoroscopically Occult Lesions in the Fluoro Suite Using 3D MRI/CT Overlay Guidance

Ye Tao[1], Tina Ehtiati[2], Jesse Klostranec[3], Guan Wang[1], AbdEl-Monem M. El-Sharkawy[4], Monica S. Pearl[1], William A. Edelstein[1], Martin G. Radvany[1]

[1]Johns Hopkins School of Medicine, Baltimore, MD, United States; [2]SiemensCorporate Research, Princeton, NJ, United States; [3]University of Toronto School of Medicine, Toronto, Ontario, Canada; [4]Johns Hopkins University, Baltimore, MD, United States

1846. Usefulness of the Wii™ Remote Controller for Image Manipulation of MR-Endoscope System

Akihiro Takahashi[1], Etsuko Kumamoto[2], Yuichiro Matsuoka[3], Kagayaki Kuroda[3, 4]

[1]Graduate School of System Informatics, Kobe University, Kobe, Hyogo, Japan; [2]Information Science and Technology Center, Kobe University, Kobe, Hyogo, Japan; [3]Foundation for Kobe International Medical Alliance, Kobe, Hyogo, Japan; [4]School of Information Science and Technology , Tokai University, Hiratsuka, Kanagawa, Japan

1847. A Comparison of MR-Tracking Methods in the Presence of Severe Metallic Artifacts and Physiological Motion

Wei Wang[1, 2], Zion Tse[3], Ravi T. Seethamraju[4], Charles L. Dumoulin[5], Tina Kapur[1], Akila N. Viswanathan[2], Robert A. Cormack[2], Ehud J. Schmidt[1]

[1]Radiology, Brigham and Women's Hospital, Harvard Medical School, Boston, MA, United States; [2]Radiation Oncology, Brigham and Women's Hospital, Harvard Medical School, Boston, MA, United States; [3]Engineering, University of Georgia, Athens, GA, United States; [4]MR R&D, Siemens Healthcare, Boston, MA, United States; [5]Radiology, Cincinnati Children's Hospital, Cincinnati, OH, United States

1848. Remote Tuning and Matching Adjustment of Intra-Cavitary RF Coil for Integrated MR-Endoscope System

Yuichiro Matsuoka[1, 2], Yoshinori Morita[2], Hiromu Kutsumi[2], Takeshi Azuma[2], Kagayaki Kuroda[1, 3]

[1]Department of Research and Development, Foundation for kobe international medical alliance, Kobe, Hyogo, Japan; [2]Department of Internal Medicine, Kobe University Graduate School of Medicine, Kobe, Hyogo, Japan; [3]School of Information Science and Technology, Tokai University, Hiratsuka, Kanagawa, Japan

1849. Synergy Between K-Space Inverse-Hanning Filtering and CoRASOR Reconstruction for Positive Contrast Visualization of Interventional Devices

Peter R. Seevinck[1], Hendrik de Leeuw[1], Chris J.G. Bakker[1]

[1]Imaging department, Image Sciences Institute, Utrecht, Netherlands

Traditional Poster
Molecular & Cellular Imaging

Exhibition Hall Tuesday 16:00-18:00

1850. *Tumors Established with Glioma Cells Transfected with the Gene mms6 Produce a Strong Increase in Transverse Relaxivity in Vivo*

Brenda Robledo[1], Xiaoyong Zhang[1], Xiaoping P. Hu[1]

[1]Biomedical Engineering, Emory University/Georgia Institute of Technology, Atlanta, GA, United States

1851. Supercharged Green Fluorescent Proteins as Bimodal Reporter Genes for CEST and Optical Imaging

Amnon Bar-Shir[1, 2], Yajie Liang[1, 2], Assaf A. Gilad[1, 2], Jeff W.M. Bulte[1, 2]

[1]Department of Radiology, Johns Hopkins University, Baltimore, MD, United States; [2]Institute for Cell Engineering, Johns Hopkins University, Baltimore, MD, United States

1852. Mammalian Expression of a CEST Reporter Gene Based on Human Protamine-1

Amnon Bar-Shir[1], Guanshu Liu[2], Kannie W.Y. Chan[2], Michael T. McMahon[2], Peter C.M. van Zijl[2], Jeff W.M. Bulte[1, 3], Assaf A. Gilad[1, 4]

[1]Radiology, Johns Hopkins University, Baltimore, MD, United States; [2]Kennedy Krieger Research Institute, Baltimore, MD, United States; [3]Institute for Cell Engineering, Johns Hopkins University School of Medicine,, Baltimore, MD, United States; [4]Institute for Cell Engineering, Johns Hopkins University School of Medicine, Baltimore, MD, United States

1853. Biosynthesis of Chimeric Magnetoferritin, a Novel MRI Reporter Gene
Marina Radoul[1], Batya Cohen[2], Moriel Vandsburger[2], Dorit Granot[2], Eyal Shimoni[3], Alon Harmelin[4], Raz Zarivach[5], Michal Neeman[2]
[1]Radiology, UCSF, San Francisco, CA, United States; [2]Biological Regulation, Weizmann Institute of Science, Rehovot, Israel; [3]Chemical Research Support, Weizmann Institute of Science, Rehovot, Israel; [4]Veterinary Resources, Weizmann Institute of Science, Rehovot, Israel; [5]Life Sciences, Ben-Gurion University of the Negev, Beer-Sheva, Israel

1854. Hypotonic Swelling: A Soft Route for *ex vivo* Cellular Labeling with Paramagnetic Complexes
Enza Di Gregorio[1], Giuseppe Ferrauto[1], Eliana Gianolio[1], Daniela Delli Castelli[1], Silvio Aime[1]
[1]Molecular Biotechnology & Health Sciences, Molecular Imaging Center, Torino, Italy

1855. Gadolinium Oxide Nanoparticles for Positive Contrast MRI of Human Aortic Endothelial Cells at 7 Tesla
Yasir Loai[1], Nurus Sakib[1], Rafal Janik[2], Warren D. Foltz[3], Hai-Ling Margaret Cheng, [14]
[1]The Hospital for Sick Children, Toronto, Ontario, Canada; [2]Sunnybrook Health Sciences Centre, Toronto, Ontario, Canada; [3]University Health Network, Toronto, Ontario, Canada; [4]Medical Biophysics, University of Toronto, Toronto, Ontario, Canada

1856. Pharmacokinetics and Biodistribution of Superparamagnetic Nanoparticles Using PEPR in the Mouse: An *in vivo*, in Vitro and Ex Vivo Validation.
Oliviero Gobbo[1, 2], Friedrich Wetterling[3], Kieran Crosbie-Staunton[2], Peter Vaes[4], Stephanie Teughels[4], Farouk Markos[5], Marek Radomski[1], Adriele Prina-Mello[2], Yuri Volkov[2]
[1]School of Pharmacy and Pharmaceutical Sciences, Trinity College Dublin, Dublin, Ireland; [2]School of Medicine, Trinity College Dublin, Dublin, Ireland; [3]School of Engineering, Trinity College Dublin, Dublin, Ireland; [4]PEPRIC nv, Leuven, Belgium; [5]Physiology, University College Cork, Cork, Ireland

1857. High Contrast, Quantitative Stem Cell Tracking with Magnetic Particle Imaging
Bo Zheng[1], Tandis Vazin[1, 2], Wisely Yang[1], Patrick W. Goodwill[1], Emine U. Saritas[1], Laura R. Croft[1], David V. Schaffer,[12], Steven M. Conolly[3, 4]
[1]Bioengineering, UC Berkeley, Berkeley, CA, United States; [2]Chemical and Biomolecular Engineering, UC Berkeley, Berkeley, CA, United States; [3]Bioengineering, University of California, Berkeley, Berkeley, CA, United States; [4]Electrical Engineering and Computer Sciences, UC Berkeley, Berkeley, CA, United States

1858. *in vivo* Imaging T Cells in the Rheumatoid Arthritis with Nano-Sized Iron Oxide Particles by MRI
Chih-Lung Chen[1], Cheng-Hung Chou[2], Chen-Hsuan Lin[1], Wen-Yuan Hsieh[1], Shian-Jy Wang[1], Chen Chang[2]
[1]Industrial Technology Research Institute, Hsinchu, Taiwan; [2]Institute of Biomedical Sciences, Academia Sinica, Taipei, Taiwan

1859. T Cell Labeling and Tracking by MRI in Mouse Brain During Viral Infection
Tatjana Atanasijevic[1], Jasmin Herz[1], Dorian McGavern[1], Alan P. Koretsky[1]
[1]NINDS, NIH, Bethesda, MD, United States

1860. *in vivo* Tracking of Ferumoxytol Labeled NK Cells Using MRI
Naomi Santa Maria[1], Thomas Ng, Sharon Lin, Sarah McCaig[2], Desiree Crow[2], Jianyi Wang[2], Andrew Raubitschek[2], Russell E. Jacobs
[1]Biology, Caltech, Pasadena, CA, United States; [2]City of Hope, Duarte, CA, United States

1861. Cell Labeling with Gd-Based MRI Agents: Recent Achievements Using Sonoporation in the Presence of Liposomes.
Giuseppe Ferrauto[1], Pierangela Giustetto[1], Daniela Delli Castelli[1], Marta Ruzza[1], Francesca Garello[1], Silvio Aime[1], Enzo Terreno[1]
[1]Molecular Biotechnology & Health Sciences, Molecular Imaging Center, Torino, Italy

1862. Quantification of Cells Labeled by Superparamagnetic Iron Oxide Particles Using R_1, R_2, and R_2* Mappings: A Comparative Study Using Cell Phantoms
Fang-Cheng Yeh[1], Li Liu[2], T Kevin Hitchens[2], Chien Ho[2]
[1]Biomedical Engineering, Carnegie Mellon University, Pittsburgh, PA, United States; [2]Pittsburgh NMR Center for Biomedical Research, Pittsburgh, PA, United States

1863. Accumulation of Micron Sized Iron Oxide Particles (MPIOs) in Endothelin-1 Induced Focal Cortical Ischemia in Rats Is Independent of Cell Migration

Dorit Granot[1], Erik M. Shapiro[2]
[1]Department of Biological Regulation, Weizmann Institute of Science, Rehovot, Israel; [2]Department of Radiology, Michigan State University, East Lansing, MI, United States

1864. Detection and Quantification of Magnetically Labeled Single Cells in Live Animals by MRI

Erik M. Shapiro[1], Ronen Globinsky[2], Xenios Papademetris[2], Margaret F. Bennewitz[3]
[1]Department of Radiology, Michigan State University, East Lansing, MI, United States; [2]Department of Radiology, Yale University School of Medicine, New Haven, CT, United States; [3]Department of Biomedical Engineering, Yale University, New Haven, CT, United States

1865. Improving Fluorine Imaging Through Optimized Acquisitions and Advanced Reconstruction Techniques

Samuel Fielden[1], Alexander Klibanov[1, 2], Frederick H. Epstein[1, 3], Yaqin Xu[1], Brent French[1, 2], Craig Meyer[1, 3]
[1]Biomedical Engineering, University of Virginia, Charlottesville, VA, United States; [2]Medicine, University of Virginia, Charlottesville, VA, United States; [3]Radiology, University of Virginia, Charlottesville, VA, United States

1866. Metabolomics Reveals *in vivo* Significant Impact from Iron Oxide Nanoparticle-Labeled, Grafted Cells on the Host Organism

Verena Hoerr[1], Harry Parkes[2], Kathrin Halama[1], Sonja Mertsch[1], Volker Senner[1], Astrid Jeibmann[1], Cornelius Faber[3]
[1]University Hospital Muenster, Muenster, Germany; [2]Royal Marsden Hospital, Sutton, United Kingdom; [3]University Hospital Münster, Muenster, Germany

1867. Can Chronic Cardiac Allograft Rejection (CCAR) Be Detected Before Irreversible Vascular Changes Occur? Noninvasive Assessment of CCAR by Cellular MR Imaging in a Rat Model

Qing Ye[1], Yijen L. Wu[2], Lesley M. Foley[2], Parker H. Mills[2], T Kevin Hitchens[2], Fang-Cheng Yeh[2, 3], Haosen Zhang[2], Danielle F. Eytan[2], Li Liu[2], Chien Ho[2]
[1]NMR Center for Biomedical Research and Department of Biological Sciences , Carnegie Mellon University , Pittsburgh, PA, United States; [2]NMR Center for Biomedical Research and Department of Biological Sciences, Carnegie Mellon University, Pittsburgh, PA, United States; [3]Department of Biomedical Engineering, Carnegie Mellon University, Pittsburgh, PA, United States

1868. Potential of Newly Developed USPIO P904 in Detecting Lymph Node Metastasis

Yasuo Takehara[1], Naoki Kato[2], Satoshi Yoshise[2], Jean-Sebastien Raynaud[3], Philippe Robert[3], Claire Corot[3], Kazuya Hokamura[4], Harumi Sakahara[5]
[1]Radiology, Hamamatsu University Hospital, Hamamatsu, Shizuoka, Japan; [2]Guerbet Japan, Chiyoda-ku, Tokyo, Japan; [3]Guerbet Research, Roissy CDG, Cedex, France; [4]Pharmacology, Hamamatsu University School of Medicine, Hamamatsu, Shizuoka, Japan; [5]Radiology, Hamamatsu University School of Medicine, Hamamatsu, Shizuoka, Japan

1869. SPIO-Loaded Unilamellar Polyion Complex Vesicles (SPIO-Cy5-PICsomes) as a High Relaxivity Contrast Agent for Tumor Detection

Daisuke Kokuryo[1], Yasutaka Anraku[2], Akihiro Kishimura[2], Sayaka Tanaka[3], Mitsunobu R. Kano[4], Nobuhiro Nishiyama[3], Tsuneo Saga[1], Ichio Aoki[1], Kazunori Kataoka[2, 3]
[1]Molecular Imaging Center, National Institute of Radiological Sciences, Chiba, Japan; [2]Graduate School of Engineering, The University of Tokyo, Tokyo, Japan; [3]Graduate School of Medicine, The University of Tokyo, Tokyo, Japan; [4]Graduate School of Medicine, Dentistry and Pharmaceutical Sciences, Okayama University, Okayama, Japan

1870. Development of a Novel Target Moiety of SPIO Contrast Agent for Effectively Targeting to Pancreatic Cancer Cells *in Vitro* and *in vivo*

YunMing Wang[1], ShouCheng Wu[1], YuJen Chen[1]
[1]Department of Biological Science and Technology, National Chiao Tung University, HsinChu, Taiwan

1871. Quantitative ^{19}F MRI and CT Tracking of the Microencapsulated Stem Cells in Peripheral Arterial Disease Model

Guan Wang[1, 2], Yingli Fu[1], Steven M. Shea[3], Judy Cook[1], Dara L. Kraitchman[1, 4]
[1]Radiology and Radiological Science, Johns Hopkins University, Baltimore, MD, United States; [2]Electrical and Computer Engineering, Johns Hopkins University, Baltimore, MD, United States; [3]Center for Applied Medical Imaging, Siemens Corporation, Corporate Research and Technology, Baltimore, MD, United States; [4]Molecular and Comparative Pathobiology, Johns Hopkins University, Baltimore, MD, United States

1872. Preparation and MR Imaging of Giant Vesicles Containing Superparamagnetic Iron Oxide for Cell-Tracking MRI Probe

Taro Toyota[1, 2], Naoto Ohguri[2], Kouichi Maruyama[3], Masanori Fujinami[2], Tsuneo Saga[3], Ichio Aoki[3]
[1]The University of Tokyo, Meguro, Tokyo, Japan; [2]Chiba University, Inage, Chiba, Japan; [3]National Institute of Radiological Sciences, Inage, Chiba, Japan

1873. *in vivo* Detection of Membrane-Bound Radicals in Mouse Brains with Sepsis Using Molecular MRI and Immuno-Spin-Trapping

Rheal A. Towner[1], Nataliya Smith[1], Philippe Garteiser[1], Debra Saunders[1], Florea Lupu[2], Robert Silasi-Mansat[2], Dario C. Ramirez[3], Sandra E. Gomez-Mejiba[3], Ronald P. Mason[4], Marilyn I. Ehrenshaft[4], Fernando Bozza[5], Marcus Frenandes de Oliveira[6], Hugo C. Castro Faria-Neto[7]
[1]Advanced Magnetic Resonance Center, Oklahoma Medical Research Foundation, Oklahoma City, OK, United States; [2]Cardiovascular Biology, Oklahoma Medical Research Foundation, Oklahoma City, OK, United States; [3]Laboratory of Experimental and Therapeutic Medicine, National University of San Luis, San Luis, Argentina; [4]Laboratory of Pharmacology & Chemistry, National Institute of Environmental Health Sciences, Research Triangle Park, NC, United States; [5]Instituto de Pesquisa Clinica Evandro Chagas, Fundação Oswaldo Cruz, Rio de Janeiro, RJ, Brazil; [6]Instituto de Bioquímica Médica, Universidade Federal do Rio de Janeiro, Rio de Janeiro, RJ, Brazil; [7]Instituto de Pesquisa Clinica Evandro Chagas, Fundação Oswaldo Cruz, Rio de Janeiro, Brazil

1874. Combined Molecular MRI and Immuno-Spin-Trapping for *in vivo* Detection of Membrane-Bound Radicals in Mouse GL261 Gliomas

Rheal A. Towner[1], Nataliya Smith[1], Debra Saunders[1], Patricia Coutinho De Souza[1], Leah Henry[1], Florea Lupu[2], Robert Silasi-Mansat[2], Marilyn I. Ehrenshaft[3], Ronald P. Mason[3], Sandra E. Gomez-Mejiba[4], Dario C. Ramirez[4]
[1]Advanced Magnetic Resonance Center, Oklahoma Medical Research Foundation, Oklahoma City, OK, United States; [2]Cariovascular Biology, Oklahoma Medical Research Foundation, Oklahoma City, OK, United States; [3]Laboratory of Pharmacology & Chemistry, National Institute of Environmental Health Sciences, Research Triangle Park, NC, United States; [4]Laboratory of Experimental Medicine & Therapeutics, National University of San Luis, San Luis, Argentina

1875. Development of Targeted Paramagnetic Nanoparticle for Non-Invasive Tumor Imaging

Meser M. Ali[1], Nadimpalli RS Verma[1], Janic Branislava[1], James R. Ewing[2], Robert A. Knight[2], Ali S. Arbab[1]
[1]Radiology, Henry Ford Hospital, Detroit, MI, United States; [2]Neurology, Henry Ford Hospital, Detroit, MI, United States

1876. Curcumin/Gd Loaded Apoferritin: A Novel "Theranostic" Agent to Prevent Hepatocellular Damage in Models of Hepatic Injuries

Simonetta Geninatti[1], Juan Carlos Cutrin[1], Diana Burgelea[1], Dario Livio Longo[1], Walter Dastru[1], Silvio Aime[1]
[1]Molecular Biotechnology and healt sciences, University of Torino, Torino, TO, Italy

1877. Gd Complexes of DO3A-(Biphenyl-2,2&[prime]-Bisamides) Conjugates as MRI Blood-Pool Contrast Agents

Ki-Hye Jung[1], Hee-Kyung Kim[2], Min-Kyoung Kang[2], Ji-Ae Park[3], Eun-Young Jeon[4], Seung-Tae Woo[5], Joo-Hyun Kim[5], Tae-Jeong Kim[1], Yongmin Chang[2, 6]
[1]Applied Chemistry, Kyungpook National University, Daegu, Korea; [2]Medical & Biological Engineering, Kyungpook National University, Daegu, Korea; [3]Molecular Imaging Research Center, Korea Institute of Radiological & Medical Science, Seoul, Korea; [4]The Advanced Medical Technology Cluster for Diagnosis & Prediction, Kyounpook National University, Daegu, Korea; [5]Bayer Healthcare, Medical care, Seoul, Korea; [6]Diagnostic Radiology and Molecular Medicine, Kyungpook National University, Daegu, Korea

1878. ZnDPA-DOTA Targeted Contrast Agents for MRI Detection of Bacteria in a Mouse Model of Infection

Sona Saksena[1], Adnan Hirad[1, 2], Stephen B. Pickup[1], Harish Poptani[1], Ari D. Goldberg[1], Anatoliy V. Popov[1], Edward James Delikatny[1]
[1]Radiology, University of Pennsylvania, Philadelphia, PA, United States; [2]School of Medicine and Dentistry, University of Rochester, Rochester, NY, United States

1879. DO3A-Benzothiazole Conjugates for Use as Gd-Based Theragnostic Agents

Hee-Kyung Kim[1], Ki-Hye Jung[2], Min-Kyoung Kang[1], Ji-Ae Park[3], Eun-Young Jeon[4], Seung-Tae Woo[5], Joo-Hyun Kim[5], Tae-Jeong Kim[2], Yongmin Chang[1, 6]
[1]Medical & Biological Engineering, Kyungpook National University, Daegu, Korea; [2]Applied Chemistry, Kyungpook National University, Daegu, Korea; [3]Molecular Imaging Research Center, Korea Institute of Radiological & Medical Science, Seoul, Korea; [4]The Advanced Medical Technology Cluster for Diagnosis & Prediction, Kyungpook National University, Daegu, Korea; [5]Bayer Healthcare, Medical Care, Seoul, Korea; [6]Diagnostic Radiology and Molecular Medicine, Kyungpook National University, Daegu, Korea

1880. Tunable Manganese Porphyrin as Gd-Free T1 Contrast Agents for Broad Applications
Hai-Ling Margaret Cheng[1, 2], Weiran Cheng[3, 4], Inga E. Haedicke[3, 4], Joris Tchouala Nofiele[1, 2], Xiao-an Zhang[3, 4]
[1]Medical Biophysics, University of Toronto, Toronto, Ontario, Canada; [2]The Hospital for Sick Children, Toronto, Ontario, Canada; [3]Physical and Environmental Sciences, University of Toronto Scarborough, Toronto, Ontario, Canada; [4]Chemistry, University of Toronto, Toronto, Ontario, Canada

1881. Water-Soluble Gadolinium Nanoparticles Coated with DO3A-Benzothiazole Conjugate: Synthesis and Application as a Potential Theragnostic Agent
Min-Kyoung Kang[1], Hee-Kyung Kim[1], Ki-Hye Jung[2], Ji-Ae Park[3], Seung-Tae Woo[4], Joo-Hyun Kim[4], Eun-Young Jeon[5], Tae-Jeong Kim[2], Yongmin Chang[1, 6]
[1]Medical & Biological Engineering, Kyungpook National University, Daegu, Korea; [2]Applied Chemistry, Kyungpook National University, Daegu, Korea; [3]Molecular Imaging Research Center, Korea Institute of Radiological & Medical Science, Seoul, Korea; [4]Bayer Healthcare, Medical care, Seoul, Korea; [5]The Advanced Medical Technology Cluster for Diagnosis & Prediction, Kyungpook National University, Daegu, Korea; [6]Diagnostic Radiology and Molecular Medicine, Kyungpook National University, Daegu, Korea

1882. A Novel Targeted MRI Contrast for Glioma Using Interleukin-13 Receptor Conjugated Liposome
Xiaoli Liu[1], A.B. Madhankumar[1], Patti A. Miller[2], Becky Webb[1], Kari A. Duck[1], James R. Connor[1], Qing X. Yang, [12]
[1]Department of Neurosurgery, The Pennsylvania State University College of Medicine, Hershey, PA, United States; [2]Department of Radiology, The Pennsylvania State University College of Medicine, Hershey, PA, United States

1883. ^{1}H MRSI Maps of Tumor Hypoxia Using an Extrinsic Hypoxia Probe
Jesús Pacheco-Torres[1, 2], Pilar Lopez-Larrubia[1], Elena Nieto[3], Ramón Alajarín[3], Julio Álvarez-Builla[3], Paloma Ballesteros[2], Sebastián Cerdán[1]
[1]Instituto de Investigaciones Biomédicas - CSIC, Madrid, Spain; [2]Universidad Nacional de Educación a Distancia (UNED), Madrid, Spain; [3]Universidad de Alcalá, Alcalá de Henares, Madrid, Spain

1884. Vascular Permeability Change as an Imaging Biomarker for Disease Progression and Efficacy of Therapeutic Intervention of Rheumatoid Arthritis: DCE-MRI Study
Jang Woo Park[1], Hui-jin Song[1], Hee-Kyung Kim[1], Jeehye Seo[1], Seong-Uk Jin[1], Jong Su Baeck[1], Moon Han[1], Yongmin Chang[2, 3], Young-Hwan Lee[4]*
[1]Medical & Biological Engineering, Kyungpook National University, Daegu, Korea; [2]Diagnostic Radiology, Kyungpook National University, Daegu, Korea; [3]Molecular Medicine, School of Medicine, Kyungpook National University , Daegu, Korea; [4]Radiology, Daegu Catholic University Medical Center, Daegu, Korea

1885. An Activatable Manganese-Based MR Contrast Agent for the Imaging of Redox Environment
Shreya Mukherjee[1], Galen S. Loving[1], Peter Caravan[2]
[1]Department of Radiology, A. A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Charlestown, MA, United States; [2]Department of Radiology, Massachusetts General Hospital, Charlestown, MA, United States

1886. Kinetics and Mechanism of Bioreduction of Nitrimidazoles as Hypoxia Probes
Jesús Pacheco-Torres[1], Paloma Ballesteros[2], Pilar Lopez-Larrubia[1], Sebastián Cerdán[1]
[1]Instituto de Investigaciones Biomédicas - CSIC, Madrid, Spain; [2]Universidad Nacional de Educación a Distancia (UNED), Madrid, Spain

1887. Relaxivity of Amorphous Manganese Oxide at Various Field Strengths
Eveliina Lammentausta[1], Gamzegul M. Behrouz[2], Elli-Noora Salo[3], Ville-Veikko Telkki[2], Susanna Ahola[2], Jessica M. Rosenholm[4], Roberto Blanco Sequeiros[1, 5], Miika T. Nieminen[3, 5]
[1]Department of diagnostic Radiology, Oulu University Hospital, OYS, Oulu, Finland; [2]Department of Physics, University of Oulu, Oulu, Finland; [3]Department of diagnostic Radiology, Oulu University Hospital, OYS, Finland, Finland; [4]Center for Functional Materials, Laboratory of Physical Chemistry, Department of Natural Sciences, Åbo Akademi University, Turku, Finland; [5]Department of Radiology, University of Oulu, Oulu, Finland

1888. Thermally Reversible Nanoparticle Aggregation: Modeling T2 Variation with Temperature
Bashar Issa[1, 2], Ihab M. Obaidat[1], Shahnaz M. Qadri[2], Yousef Haik, [23]
[1]Physics, UAE University, Al-Ain, AD, United Arab Emirates; [2]UNCG, Greensboro, NC, United States; [3]Mechanical Eng., UAE University, Al-Ain, AD, United Arab Emirates

1889. Evaluate Morphological Effect on MR Relaxivity for Bifunctional Au-Fe_3O_4 Heterostructures

Ya-Han Yang[1], Fang-Hsin Lin[1], Yi-Tzu Lu[1], Ruey-An Doong[1], Hsu-Hsia Peng[1]
[1]Department of Biomedical Engineering and Environmental Sciences, National Tsing Hua University, Hsinchu, Taiwan

1890. The Effect of Cryoprotection on the Use of PLGA Encapsulated Iron Oxide Nanoparticles for Magnetic Cell Labeling

Erik M. Shapiro[1], Kevin S. Tang[2]
[1]Department of Radiology, Michigan State University, East Lansing, MI, United States; [2]Department of Biomedical Engineering, Yale University, New Haven, CT, United States

1891. ^{19}F-Lanthanide Complexes: T_1 - And T_2 - Dependent Signal Gain Using Gradient Echoes

Gisela E. Hagberg[1], Aneta Keliris[2], Ilgar Mamedov[3], Matteo Placidi[3], Hellmut Merkle[4], Nikos K. Logothetis[3], Klaus Scheffler[1, 2]
[1]Biomedical Magnetic Resonance, University Hospital Tuebingen, Tuebingen, Germany; [2]High-field Magnetic Resonance, Max Planck Institute for Biological Cybernetics, Tuebingen, Germany; [3]Physiology of Cognitive Processes, Max Planck Institute for Biological Cybernetics, Tuebingen, Germany; [4]LFMI-NINDS, National Institutes of Health, Bethesda, MD, United States

1892. Trimodality Detection of Magnetic Megaparticles for Simultaneous Tracking of a Large Number of Primary Human Cells Assembled in Collagen Matrices

David P. Cormode[1], Willem J M Mulder[2], Erik M. Shapiro[3]
[1]Radiology, University of Pennsylvania, Philadelphia, PA, United States; [2]Translational and Molecular Imaging Institute, Mount Sinai School of Medicine, New York, NY, United States; [3]Radiology, Michigan State University, East Lansing, MI, United States

1893. *in vivo* Biodegradation of PLGA Encapsulated Magnetite Nanoparticles

Erik M. Shapiro[1], Michael K. Nkansah[2]
[1]Department of Radiology, Michigan State University, East Lansing, MI, United States; [2]Department of Biomedical Engineering, Yale University, New Haven, CT, United States

1894. *In Vitro* and *in Vivo* Characterization of (Albumin-Binding) Dendritic MRI Contrast Agents for Dynamic Contrast-Enhanced MRI

Igor Jacobs[1], Siem Wouters[1], Henk Keizer[2], Henk Janssen[2], Eliana Gianolio[3], Silvio Aime[4], Gustav J. Strijkers[1], Klaas Nicolay[1]
[1]Biomedical NMR, Department of Biomedical Engineering, Eindhoven University of Technology, Eindhoven, Netherlands; [2]SyMO-Chem BV, Eindhoven, Netherlands; [3]Dipartimento di Chimica & Centro di Imaging Molecolare, Università degli Studi di Torino, Torino, Italy; [4]Dipartimento di Chimica & Centro di Imaging Molecolare, Università degli Studi di Torino, Torino, N\A, Italy

1895. Au@Gd Core-Shell Nanoparticles as a CT/MR Bimodal Contrast Agent

Min-Kyoung Kang[1], Hee-Kyung Kim[1], Ki-Hye Jung[2], Ji-Ae Park[3], Seung-Tae Woo[4], Joo-Hyun Kim[4], Eun-Young Jeon[5], Tae-Jeong Kim[2], Yongmin Chang[1, 6]
[1]Medical & Biological Engineering, Kyungpook National University, Daegu, Korea; [2]Applied Chemistry, Kyungpook National University, Daegu, Korea; [3]Molecular Imaging Research Center, Korea Institute of Radiological & Medical Science, Seoul, Korea; [4]Bayer Healthcare, Medical care, Seoul, Korea; [5]The Advanced Medical Technology Cluster for Diagnosis & Prediction, Kyungpook National University, Daegu, Korea; [6]Diagnostic Radiology and Molecular Medicine, Kyungpook National University, Daegu, Korea

1896. Characterization of Gd-Based Contrast Agents Encapsulated in Thermosensitive Liposomes as Potential Tool for MRI Assisted Hyperthermia

Michael Peller[1], Martin Hossann[2], Zulfiya Syunyaeva[2], Rolf D. Issels[2], Maximilian F. Reiser[1], Lars H. Lindner[2]
[1]Institute for Clinical Radiology, University Hospital Munich, Ludwig-Maximilians University,, München, Germany; [2]Department of Internal Medicine III, University Hospital Munich, Ludwig-Maximilians University, München, Germany

1897. A Novel Hyaluronan Based Contrast Agent for Non-Invasive Detection of Hyaluronidase by MRI

Marina Radoul[1], Fortune Kohen[2], Hagit Dafni[3], Moriel Vandsburger[2], Sharon G. G. Wolf[4], Michal Neeman[2]
[1]Radiology, UCSF, San Francisco, CA, United States; [2]Biological Regulation, Weizmann Institute of Science, Rehovot, Israel; [3]Veterinary Resources, Weizmann Institute of Science, Rehovot, Israel; [4]Chemical Research Support, Weizmann Institute of Science, Rehovot, Israel

1898. Aminocyclopentane- And Aminocyclophexane-Carboxylic Acid Containing Cyclic RGD-DOTA-Gd Conjugates with High Specific Affinity for &[alpha]$_{\&[nu]}$ &[beta]3 Integrin as MRI Contrast Agents

In Ok Ko[1], Ji-Ae Park[1], Jung Young Kim[1], Wonho Lee[1], Sang Moo Lim[2], Kyeong Min Kim[1]
[1]Molecular Imaging Research Center, Korea Institute of Radiological & Medical Science, Seoul, Korea; [2]Department of Nuclear Medicine, Korea Institute of Radiological & Medical Science, Seoul, Korea

1899. Relaxometric Properties of Gadolinium Chelates of DOTA-Like Ligands with Axially Uneven Distribution of Donor Atoms

Miloslav Polasek[1], Peter Caravan[2]
[1]Radiology, A. A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital/Harvard Medical School, Charlestown, MA, United States; [2]Radiology, Massachusetts General Hospital, Charlestown, MA, United States

1900. A Single Amino Acid Gd-Complex as a Modular Tool for High Relaxivity MR Contrast Agent Development.

Eszter Boros[1], Miloslav Polasek[1], Zhaoda Zhang[1], Peter Caravan[2]
[1]Department of Radiology, Massachusetts General Hospital, Harvard Medical School, The Athinoula A. Martinos Center for Biomedical Imaging, Charlestown, MA, United States; [2]Department of Radiology, Massachusetts General Hospital, Harvard Medical School, Massachusetts General Hospital, Charlestown, MA, United States

1901. Molecular Imaging Beyond Contrast Generation: Utility of BIRDS

Samuel Maritim[1], Daniel Coman[2, 3], Yuegao Huang[2], Majura Hoque[2], Fahmeed Hyder[2, 4]
[1]Diagnostic radiology, Yale University, New Haven, CT, United States; [2]Diagnostic Radiology, Yale University, New Haven, CT, United States; [3]Quantitative Neuroscience with Magnetic Resonance (QNMR), Yale University, New Haven, CT, United States; [4]Biomedical Engineering, Yale University, New Haven, CT, United States

1902. Using Ellipsoidal Microshells to Generate Multispectral Contrast

Gary Zabow[1, 2], Stephen Dodd[1], Alan P. Koretsky[1]
[1]NINDS, National Institutes of Health, Bethesda, MD, United States; [2]Electromagnetics Division, National Institute of Standards & Technology, Boulder, CO, United States

1903. Synthesis of Human Protamine-1 (HPRM1), a Novel CEST Contrast Agent

Nikita Oskolkov[1], Kannie W.Y. Chan[2], Amnon Bar-Shir[2], Peter C.M. van Zijl[1, 3], Jeff W.M. Bulte[2, 4], Assaf A. Gilad[2, 4], Michael T. McMahon[1, 3]
[1]Russell H. Morgan Department of Radiology and Radiological Science, The Johns Hopkins University School of Medicine, Baltimore, MD, United States; [2]Russell H. Morgan Department of Radiology and Radiological Science, Johns Hopkins University, Baltimore, MD, United States; [3]F.M. Kirby Research Center for Functional Brain Imaging, Kennedy Krieger Institute, Baltimore, MD, United States; [4]Cellular Imaging Section and Vascular Biology Program, Institute for Cell Engineering, Baltimore, MD, United States

1904. Tuning Histidine Proton Exchange Rates for CEST Contrast Through Peptide Design

Nikita Oskolkov[1], Xiaolei Song[1], Kannie W.Y. Chan[2], Michael Giano[3], Jeff W.M. Bulte[2, 4], Peter C.M. van Zijl[1, 4], Joel Schneider[3], Michael T. McMahon[1, 4]
[1]Russell H. Morgan Department of Radiology and Radiological Science, The Johns Hopkins University School of Medicine, Baltimore, MD, United States; [2]Russell H. Morgan Department of Radiology and Radiological Science, Johns Hopkins University, Baltimore, MD, United States; [3]National Cancer Institute, National Cancer Institute, Frederick, MD, United States; [4]F.M. Kirby Research Center for Functional Brain Imaging, Kennedy Krieger Institute, Baltimore, MD, United States

1905. Detection of Carboxypeptidase G2 Activity with Chemical Exchange Saturation Transfer Magnetic Resonance.

Yann Jamin[1], Thomas R. Eykyn[1, 2], Evon Poon[3], Caroline J. Springer[3], Simon P. Robinson[1]
[1]Division of Radiotherapy and Imaging, The Institute of Cancer Research, Sutton, Surrey, United Kingdom; [2]Division of Imaging Sciences and Biomedical Engineering, Kings College London, London, United Kingdom; [3]Division of Cancer Therapeutics, The Institute of Cancer Research, Sutton, Surrey, United Kingdom

1906. Evaluation of a TGase-Responsive PARACEST MRI Contrast Agent: The Influence of Conformations and Non-Covalent Adducts

Dina V. Hingorani[1], Edward T. Randtke[1], Marty Pagel[2]
[1]Chemistry and Biochemistry, University of Arizona, Tucson, AZ, United States; [2]Biomedical Engineering, University of Arizona, Tucson, AZ, United States

1907. A Dual Fluorescent/Paramagnetic Chemical Exchange-Based MRI Probe for Cell Death Imaging

ISMRM MERIT AWARD magna cum laude

Jonatan A. Snir[1], Mojmír Suchý[2, 3], Alex X. Li[4], Robert H.E Hudson[5], Stephen H. Pasternak[6, 7], Robert Bartha[8]
[1]Department of Medical Biophysics, Robarts Research Institute, London, Ontario, Canada; [2]Department of Chemistry, Western University, London, Ontario, Canada; [3]Imaging Research Laboratories, Robarts Research Institute, London, On, Canada; [4]Imaging Research Laboratories, Robarts Research Institute, London, Ontario, Canada; [5]Department of Chemistry, Western University, London, On, Canada; [6]Department of Clinical Neurological Sciences, Robarts Research Institute, London, Ontario, Canada; [7]Department of Physiology and Pharmacology, Schulich School of Medicine, Western University, London, Ontario, Canada; [8]Imaging Research Laboratories, Robarts Research Institute, London, Onta, Canada

1908. The Hanes-Woolf Linear QUEST Method Provides the Most Accurate Determination of Fast Chemical Exchange Rates for CEST MRI Contrast Agents

Edward T. Randtke[1], Liu Qi Chen[1], Rene Corrales[1], Marty Pagel[2]
[1]Chemistry and Biochemistry, University of Arizona, Tucson, AZ, United States; [2]Biomedical Engineering, University of Arizona, Tucson, AZ, United States

1909. Using T_2-Exchange from Dy^{3+}DOTA-Based Chelates for Contrast-Enhanced Molecular Imaging with MRI

Todd C. Soesbe[1, 2], S. James Ratnaker[1], Zoltan Kovacs[1], A. Dean Sherry[1, 3]
[1]Advanced Imaging Research Center, UT Southwestern Medical Center, Dallas, TX, United States; [2]Department of Radiology, UT Southwestern Medical Center, Dallas, TX, United States; [3]Department of Chemistry, The University of Texas at Dallas, Richardson, TX, United States

1910. A New Type of Responsive MRI Contrast Agents That Modulate T2ex Relaxation: Detection of Nitric Oxide

Iman Daryaei[1], Marty Pagel[2]
[1]Chemistry and Biochemistry, University of Arizona, Tucson, AZ, United States; [2]Biomedical Engineering, University of Arizona, Tucson, AZ, United States

1911. Natural D-Glucose as a Biodegradable T_2 Contrast Agent for MRI

Nirbhay N. Yadav[1, 2], Jiadi Xu[1, 2], Amnon Bar-Shir[3, 4], Qin Qin[1, 2], Peter C.M. van Zijl[1, 2]
[1]Russell H. Morgan Department of Radiology and Radiological Science, Johns Hopkins University School of Medicine, Baltimore, MD, United States; [2]FM Kirby Research Center, Kennedy Krieger Institute, Baltimore, MD, United States; [3]Russell H. Morgan Department of Radiology and Radiological Science, Johns Hopkins University, Baltimore, MD, United States; [4]The Institute for Cell Engineering, Johns Hopkins University School of Medicine, Baltimore, MD, United States

1912. Radial K-Space Acquisition Improves Robustness of MR-Based Attenuation Maps for MR/PET Quantification in an Animal Imaging Study of the Abdomen

Jason Bini[1, 2], Philip Robson[1], Claudia Calcagno[1], Antoine Millon[1, 3], Mark Lobatto[1, 4], Zahi A. Fayad[1, 5]
[1]Translational and Molecular Imaging Institute, Mount Sinai School of Medicine, New York, United States; [2]Department of Biomedical Engineering, City College of New York, New York, United States; [3]Department of Vascular Surgery, University Hospital of Lyon, Lyon, France; [4]Department of Vascular Medicine, Academic Medical Center, Amsterdam, Netherlands; [5]Department of Radiology, Mount Sinai School of Medicine, New York, United States

1913. *in vivo* Evaluation of 68Ga-Labeled Iron Oxide Nanoparticles as a PET/MR Imaging Probe

Renata Madru[1], Thuy Tran[2], Adnan Bibic[3], Sarah Fredriksson[4], Freddy Ståhlberg[5], Linda Knutsson[5], Sven-Erik Strand[5]
[1]Medical Radiation Physics, Lunds University, Lund, Sweden; [2]Lund University BioImaging Centrum, Lund University, Lund, Skane, Sweden; [3]Lund University BioImaging Centrum, Lund University, Lund, Sweden; [4]Genovis AB, Lund, Sweden; [5]Medical Radiation Physics, Lund University, Lund, Sweden

Traditional Poster
Hyperpolarized Contrast Agents

Exhibition Hall Tuesday 16:00-18:00

1914. Concentric Rings K-Space Trajectory for Hyperpolarized ^{13}C MRSI

Wenwen Jiang[1], Michael Lustig[2], Peder Larson[3]
[1]UC Berkeley | UCSF Graduate Group in Bioengineering, Berkeley, CA, United States; [2]Electrical Engineering, University of California, Berkeley, Berkeley, CA, United States; [3]Radiology and Biomedical Imaging, University of California, San Francisco, San Francisco, CA, United States

1915. Feasibility of Rapid and Direct Detection of DNP Hyperpolarised Betaine Synthesis
Hyla Allouche-Arnon[1], Lanette J. Friesen-Walder[2, 3], Ayelet Gamliel[1], Jacob Sosna[1], J Moshe Gomori[1], Rachel Katz-Brull[1, 4]
[1]Radiology, Hadassah-Hebrew University Medical Center, Jerusalem, Israel; [2]Medical Biophysics, University of Western Ontario, London, Ontario, Canada; [3]Robarts Research Institute, London, Ontario, Canada; [4]BrainWatch Ltd., Tel-Aviv, Israel

1916. Hyperpolarized Singlet State of Nitrous Oxide
Rajat Kumar Ghosh[1], Stephen J. Kadlecek[1], Nicholas N. Kuzma[1], Mehrdad Pourfathi[1], Rahim Rizi[1]
[1]Radiology, University of Pennsylvania, Philadelphia, PA, United States

1917. High Polarization of Nuclear Spins Mediated by Nanoparticles at Millikelvin Temperatures
David G. Gadian[1], David T. Peat[2], Kelvin Goh[2], Anthony J. Horsewill[2], John R. Owers-Bradley[2]
[1]UCL Institute of Child Health, London, United Kingdom; [2]School of Physics & Astronomy, University of Nottingham, Nottingham, United Kingdom

1918. On SNR Performance of Sequence Designs for Dynamic Imaging of Hyperpolarized ^{13}C Compounds
Kilian Weiss[1], Andreas Sigfridsson[1], Sebastian Kozerke[1]
[1]Institute for Biomedical Engineering, University and ETH Zurich, Zurich, Switzerland

1919. Hyperpolarization Quenching in ^{13}C Nuclei Bound to Fast Relaxing Quadrupolar ^{14}N Mediated by Scalar Coupling Relaxation in Amide Groups Exposed to Earth's Magnetic Field
Enrico Chiavazza[1, 2], Eugen Kubala[2, 3], Concetta V. Gringeri[2, 4], Stephan Düwel[2, 5], Markus Durst[2, 5], Rolf F. Schulte[2], Marion I. Menzel[2]
[1]Chemistry, University of Turin, Turin, Italy; [2]GE Global Research, Munich, Germany; [3]Johannes Kepler University, Linz, Austria; [4]Klinik im Klinikum Rechts der Isar, Technische Universität München, Munich, Germany; [5]Institute of Medical Engineering, Technische Universität München, Munich, Germany

1920. Lanthanides as Low Temperature Relaxation Switches
David G. Gadian[1], David T. Peat[2], Angel J. Perez Linde[3], Anthony J. Horsewill[2], Walter Kockenberger[3], John R. Owers-Bradley[2]
[1]UCL Institute of Child Health, London, United Kingdom; [2]School of Physics & Astronomy, University of Nottingham, Nottingham, United Kingdom; [3]Sir Peter Mansfield MR Centre, School of Physics & Astronomy, University of Nottingham, Nottingham, United Kingdom

1921. MRI of ^{1}H Long-Lived States Originated from ParaHydrogen Induced Polarization in Cs-Symmetric Molecules Using a Clinical MRI System
Dirk Graafen[1, 2], María Belén Franzoni[2], Kerstin Münnemann[2], Hans Wolfgang Spiess[2], Laura Maria Schreiber[1]
[1]Department of Radiology, Johannes Gutenberg University Medical Center, Mainz, Germany; [2]Max Planck Institute for Polymer Research, Mainz, Germany

1922. High Speed 3D Overhauser-Enhanced MRI Using Combined B-SSFP and Compressed Sensing
Brandon Dean Armstrong[1, 2], Mathieu Sarracanie[1, 2], Jason P. Stockmann[1, 2], Matthew Rosen[1, 2]
[1]Physics, Harvard University, Cambridge, MA, United States; [2]Martinos Center for Biomedical Imaging, Boston, MA, United States

1923. Nuclear Spin Properties of Hyperpolarized Solid-State MRI Agents.
Maja Cassidy[1], Henry Chan[2], Jingzhe Hu[3], Nicholas Whiting[3], Charles Marcus, [14], Pratip Bhattacharya, [25]
[1]Harvard University, Cambridge, MA, United States; [2]Huntington Medical Research Institutes, Pasadena, CA, United States; [3]The University of Texas MD Anderson Cancer Center, Houston, TX, United States; [4]University of Copenhagen, Copenhagen, Denmark; [5]University of Texas, Houston, TX, United States

1924. Earth's Field MRI Using Continuous SABRE Hyperpolarization
Niels Schwaderlapp[1], Thomas Lickert[1], Sebastien Baer[1], Jürgen Hennig[2], Dominik v. Elverfeldt[1], Jan-Bernd Hövener[1]
[1]Department of Radiology, Medical Physics, University Hospital Freiburg, Freiburg, Germany; [2]Department of Radiology, Medical Physics, University Medical Center Freiburg, Freiburg, Germany

1925. Method and System for Dynamic Nuclear Polarization of Frozen Gases
Nicholas N. Kuzma[1], Mehrdad Pourfathi[1], Hoora Shaghaghi[1], Rajat Kumar Ghosh[1], Stephen J. Kadlecek[1], Rahim Rizi[1]
[1]Radiology, University of Pennsylvania, Philadelphia, PA, United States

1926. On the Accuracy of AUC Ratio Method for Detecting Treatment Changes with Hyperpolarised ^{13}C Dynamic Spectra
Deborah K. Hill[1], Matthew R. Orton[1], Martin O. Leach[1], Yuen-Li Chung[1], Thomas R. Eykyn[1, 2]
[1]CR-UK and EPSRC Cancer Imaging Centre, The Institute of Cancer Research and Royal Marsden NHS Trust, Sutton, Surrey, United Kingdom; [2]Division of Imaging Sciences and Biomedical Engineering, Kings College London, St Thomas Hospital, London, United Kingdom

1927. PHIP-Enhanced Natural Abundance ^{13}C Imaging in a Clinical MRI System Via ^{1}H/^{13}C Polarization Transfer
Dirk Graafen[1, 2], Jan Falk Dechent[1, 2], Michael Ryan Hansen[2], Kerstin Münnemann[2], Hans Wolfgang Spiess[2], Laura Maria Schreiber[1]
[1]Department of Radiology, Johannes Gutenberg University Medical Center, Mainz, Germany; [2]Max Planck Institute for Polymer Research, Mainz, Germany

1928. Radial Golden Angle Fast Spin Echo: A Hyperpolarized ^{13}C Multi Contrast Metod
Christoffer Laustsen[1, 2], Steffen Ringgard[1], Henrik Birn[3], Michael Pedersen[1], Jan Henrik Ardnekjaer-Larsen[4, 5]
[1]MR Research Centre, Institute of Clinical Medicine, Aarhus University, Aarhus, Denmark; [2]Danish Research Centre for Magnetic Resonance, Hvidovre Hospital, Hvidovre, DK, Denmark; [3]Department of Biomedicine, Faculty of Health Sciences, Aarhus University, Aarhus, Denmark; [4]GE healthcare, Broendby, Denmark; [5]Department of Electrical Engineering,, Technical University of Denmark, Kgs. Lyngby, Denmark

1929. Chemical Shift of ^{129}Xe Is Dependent on Red Blood Cell Oxygenation
General Leung[1], Graham Norquay[1], Jan Wolber[2], Jim M. Wild[1]
[1]Department of Cardiovascular Science, University of Sheffield, Sheffield, South Yorkshire, United Kingdom; [2]GE Healthcare, Chalfont St Giles, Buckinghamshire, United Kingdom

1930. Advanced Single-Shot Parallel Imaging Strategies for Hyperpolarized 13C Chemical Shift Imaging
Markus Durst[1, 2], Ulrich Köllisch[1, 2], Francesca Frijia[3], Luca Menichetti[4], Maria Filomena Santarelli[5], Massimo Lombardi[3], Titus Lanz[6], Matthias Müller[6], Jan Henrik Ardenkjaer-Larsen[7], Marion I. Menzel[2], Axel Haase[1], Rolf F. Schulte[2]
[1]Institute of Medical Engineering, Technische Universität München, Garching, Germany; [2]GE Global Research, Garching, Germany; [3]Fondazione CNR-Regione Toscana G.Monasterio, Pisa, Italy; [4]Institute of Clinical Physiology of CNR, Pisa, Italy; [5]CNR Institute of Clinical Physiology, Pisa, Italy; [6]Rapid Biomedical, Rimpar, Germany; [7]GE Healthcare, Brøndby, Denmark

1931. Multiband Excitation Pulses for Treatment Response Studies with Hyperpolarised 13C Fumarate
Markus Durst[1], Stephan Düwel[1], Concetta V. Gringeri[2], Yvonne Kosanke[3], Claudia Gross[3], Rickmer Braren[3], Axel Haase[1], Marion I. Menzel[2], Rolf F. Schulte[2]
[1]Institute of Medical Engineering, Technische Universität München, Garching, Germany; [2]GE Global Research, Garching, Germany; [3]Institute of Radiology, Klinikum rechts der Isar, Technische Universität München, München, Germany

1932. Metabolic Spectroscopy and Imaging of Lung Inflammation Using Hyperpolarized 1-^{13}C Pyruvate
Sarmad Siddiqui[1], Hoora Shaghaghi[1], Stephen J. Kadlececk[1], Harrilla Profka[1], Rahim Rizi[1]
[1]Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States

1933. Towards the Implementation of Hyperpolarized, Functionalized Silicon Nanoparticles as *in vivo* Colorectal Molecular Imaging Agents
Nicholas Whiting[1], Jingzhe Hu[1, 2], Maja Cassidy[3], Marc Ramirez[1], James A. Bankson[1], Niki Millward[1], David Menter[1], Marsha Frazier[1], Charles Marcus, [34], Pratip Bhattacharya[5]
[1]The University of Texas MD Anderson Cancer Center, Houston, TX, United States; [2]Bioengineering Department, Rice University, Houston, TX, United States; [3]Harvard University, Cambridge, MA, United States; [4]University of Copenhagen, Copenhagen, Denmark; [5]University of Texas, Houston, TX, United States

1934. Metabolic Exchange Rate Imaging with Hyperpolarised [1-13C]Pyruvate
Rolf F. Schulte[1], Oleksandr Khegai[1, 2], Eliane Ferral[2], Martin A. Janich[1], Marion I. Menzel[1], Axel Haase[3], Markus Schwaiger[2], Florian Wiesinger[1]
[1]GE Global Research, Munich, Germany; [2]TUM, Munich, Germany; [3]Technische Universität München, Munich, Germany

1935. Multi-Compound Hyperpolarized ^{13}C Perfusion Imaging
Cornelius von Morze[1], Robert A. Bok[2], Galen D. Reed[1], Jan Henrik Ardenkjaer-Larsen[3, 4], John Kurhanewicz[1], Daniel B. Vigneron[1]
[1]Dept. of Radiology and Biomedical Imaging, UC San Francisco, San Francisco, CA, United States; [2]Dept. of Radiology and Biomedical Imaging, University of California San Francisco, San Francisco, CA, United States; [3]GE Healthcare, Frederiksberg, Denmark; [4]Dept. of Electrical Engineering, Technical University of Denmark, Lyngby, Denmark

1936. Hyperpolarized [1-13C]acetylcarnitine as a Tracer for Cardiac Metabolism
Jessica A. M. Bastiaansen[1], Tian Cheng[1, 2], Rolf Gruetter[3, 4], Arnaud Comment[5]
[1]Laboratory of Functional and Metabolic Imaging, EPFL, Lausanne, Switzerland; [2]Institute of Physics of Biological Systems, EPFL, Lausanne, Switzerland; [3]Laboratory of Functional and Metabolic Imaging, École Polytechnique Fédérale de Lausanne, Lausanne, Switzerland; [4]Department of Radiology, University of Lausanne and Geneva, Lausanne and Geneva, Switzerland; [5]Institute of Physics of Biological Systems, Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland

1937. Continuous Proton Hyperpolaritzation Via SABRE and Hollow Fiber Membranes
ISMRM MERIT AWARD magna cum laude
Jan Falk Dechent[1, 2], Louise A. R. Highton[3], Gary G. R. Green[4], Simon B. Duckett[3], Hans Wolfgang Spiess[2], Laura Maria Schreiber[1], Kerstin Münnemann[2]
[1]Radiology / Medical Physics, University Medicine, Mainz, Germany; [2]Max Planck Institute for Polymerresearch, Mainz, Germany; [3]Department of Chemistry, University of York, York, United Kingdom; [4]York Neuroimaging Centre, York, United Kingdom

Traditional Poster
MRS of Neurological Disease

Exhibition Hall Thursday 10:30-12:30

1938. Proton MR Spectroscopy Correlates Diffuse Axonal Injury with Post-Concussive Symptoms in Mild Traumatic Brain Injury
ISMRM MERIT AWARD magna cum laude
Ivan I. Kirov[1], Assaf Tal[1], James S. Babb[1], Joseph Reaume[1], Tamara Bushnik[2], Teresa A. Ashman[2], Steven Flanagan[2], Robert I. Grossman[1], Oded Gonen[1]
[1]Radiology, New York University, New York, NY, United States; [2]Rusk Institute of Rehabilitation Medicine, New York University, New York, NY, United States

1939. 7 T ^{1}H MRS Detects a Human Brain Glutathione (GSH) Response to N-Acetylcysteine, an Antioxidant Precursor, in Patients with Gaucher and Parkinson's Disease
Melissa Terpstra[1], Mary Holmay[1], Lisa Coles[1], Usha Mishra[1], Matthew Ahlskog[1], James Cloyd[1], Paul Tuite[1], Gulin Oz[1]
[1]University of Minnesota, Minneapolis, MN, United States

1940. Volumetric MR Spectroscopic Imaging with Reduced K-Space Acquisitions: Variability and Pathologic Detectability in Mild Traumatic Brain Injuries
Mohammad Sabati[1], Jiping Zhan[1], Varan Govind[1], Kristopher L. Arheart[2], Andrew A. Maudsley[1]
[1]Radiology, University of Miami, Miami, FL, United States; [2]Epidemiology and Public Health, University of Miami, Miami, FL, United States

1941. The Longitudinal Relaxation Time of GABA *in vivo* at 3T
Nicolaas A. J. Puts[1, 2], Peter B. Barker[1, 2], Richard Anthony Edward Edden[1, 2]
[1]The Russell H. Morgan Department of Radiology and Radiological Science, Johns Hopkins University, Baltimore, MD, United States; [2]FM Kirby Centre for functional neuroimaging, Kennedy Krieger Institute, Baltimore, MD, United States

1942. Reduced Basal Ganglia GABA in Attention Deficit Hyperactivity Disorder
Steffen Bollmann[1, 2], Carmen Ghisleni[1, 2], Simon S. Poil[1, 2], Peter Klaver[1, 3], Lars Michels[1, 4], Richard Anthony Edward Edden[5], Ernst Martin[1, 2], Dominique Eich-Höchli[6], Juliane Ball[7], Daniel Brandeis[7, 8], Ruth L. O'Gorman[1, 2]
[1]Center for MR-Research, University Children's Hospital, Zurich, Switzerland; [2]Center for Integrative Human Physiology (ZIHP), University of Zurich, Zurich, Switzerland; [3]Institute of Psychology, University of Zurich, Zurich, Switzerland; [4]Institute of Neuroradiology, University Hospital of Zurich, Zurich, Switzerland; [5]Department of Radiology and Radiological Science, Johns

Hopkins University, Baltimore, MD, United States; [6]Psychiatric University Hospital, University of Zurich, Zurich, Switzerland; [7]Department of Child & Adolescent Psychiatry, University of Zurich, Zurich, Switzerland; [8]Central Institute of Mental Health Mannheim, Medical Faculty Mannheim/ Heidelberg University, Mannheim, Germany

1943. Longitudinal Evaluation of Mild Traumatic Brain Injury: A H-MRS Study

Elijah George[1, 2], Steven Roys[1, 3], Jiachen Zhuo[1], Chandler R. Sours[4], Jacqueline Janowich[1], Teodora Stoica[1], Rao P. Gullapalli[1]

[1]Magnetic Resonance Research Center, University of Maryland School of Medicine, Baltimore, MD, United States; [2]Bioengineering, University of Maryland, College Park, MD, United States; [3]Diagnostic Radiology & Nuclear Medicne, University of Maryland School of Medicine, Baltimore, MD, United States; [4]Program in Neuroscience, University of Maryland School of Medicine, Baltimore, MD, United States

1944. Age-Related Metabolite Alterations in Adolescents with High Functioning Autism, an 1H-MRS Study

Evelien M. Barendse[1], Albert P. Aldenkamp[1], Roy PC Kessels[2], Marc P.H. Hendriks[2], Geert Thoonen[1], Paul A.M. Hofman[3], Walter H. Backes[3], Jacobus F.A. Jansen[3]

[1]Epilepsy Centre Kempenhaeghe, Heeze, NB, Netherlands; [2]Neuropsychology, Radboud University Nijmegen, Nijmegen, Ge, Netherlands; [3]Radiology, Maastricht University Medical Center, Maastricht, Li, Netherlands

1945. Neurochemical Changes in Rat Brain After 5-Fluorouracil Chemotherapy Assessed by ^{1}H MR Spectroscopy at 9.4 T

Ryutaro Nakagami[1, 2], Masayuki Yamaguchi[1], Yoshifumi Abe[3], Tatsuhiro Hisatsune[3], Akira Furukawa[2], Hirofumi Fujii[1]

[1]Division of Functional Imaging, National Cancer Center Hospital East, Kashiwa, Chiba, Japan; [2]Graduate School of Health Sciences, Tokyo Metropolitan University, Arakawa-ku, Tokyo, Japan; [3]Graduate School of Frontier Sciences, University of Tokyo, Kashiwa, Chiba, Japan

1946. Effects of Binge Acute Ethanol Intoxication on Cerebral Neurochemical Profile in Rats: Evidence from *in vivo* Proton Magnetic Resonance Spectroscopy

Do-Wan Lee[1], Jae-Hwa Kim[2], Sang-Young Kim[1], Dai-Jin Kim[2, 3], Jinyoung Jung[1], Bo-Young Choe[1]

[1]Department of Biomedical Engineering, The Catholic University of Korea, College of Medicine, Seoul, Korea; [2]Department of Biomedical Science, The Catholic University of Korea, College of Medicine, Seoul, Korea; [3]Department of Psychiatry, Seoul St. Mary¡¯s Hospital, The Catholic University of Korea, College of Medicine, Seoul, Korea

Traditional Poster
Human MRS: In Vivo & In Vitro

Exhibition Hall Thursday 10:30-12:30

1947. Therapeutic Blood Glucose Control Effects Cerebral Glycolysis Following Traumatic Brain Injury

Stephanie M. Wolahan[1], David McArthur[1], Paul Vespa[1], Neil A. Martin[1], Thomas C. Glenn[1]

[1]Department of Neurosurgery, UCLA, Los Angeles, CA, United States

1948. Cholesterol and Its Esters as Serum Biomarkers in Malignant Obstructive Jaundice: A Single Step 1H NMR Metabonomic Approach

Abhinav A. Sonkar[1], Shatakshi Srivastava[2], Santosh Kumar Singh[1], Hari Om Gupta[1], Devendra Singh[1], Jitendra Kushwaha[1], Abhijit Chandra[3], Raja Roy[2]

[1]SURGERY, KG MEDICAL UNIVERSITY, Lucknow, UTTAR PRADESH, India; [2]CBMR, SGPGI, Lucknow, UTTAR PRADESH, India; [3]GASTROSURGERY, KG MEDICAL UNIVERSITY, Lucknow, UTTAR PRADESH, India

1949. NMR-Based Metabolite Profiling of Fecal Extracts from Colorectal Cancer in China: An Initial Study

Yan Lin[1], ChengKang Liu[1], ZhiWei Shen[1], RenHua Wu[1]

[1]Medical Imaging Department, Second Affiliated Hospital, Shantou University Medical College, Shantou, Guang Dong, China

1950. Fast Determination of Absolute Metabolite Concentrations by Spatially-Encoded 2D NMR: Application to Breast Cancer Cell Extracts

Serge Akoka[1], Adrien Le Guennec[1], Illa Tea[1], Estelle Martineau[1], Benoit Charrier[1], Meerakhan Pathan[1], Patrick Giraudeau[1]

[1]Chemistry, Université de Nantes, Nantes, France

1951. A Multimodal Investigation of Neuronal/Axonal Integrity Using Structural T1-Weighted Imaging, Diffusion Tensor Imaging, and ^{1}H MR Spectroscopy

Soyoung Choi[1], Anand A. Joshi[2], Chitresh Bhushan[2], Vincent J. Schmithorst[3], Stefan Bluml[4], David W. Shattuck[5], Richard M. Leahy[2], Hanna Damasio[1], Ashok Panigrahy[3], Jessica L. Wisnowski[6, 7]

[1]Dana and David Dornsife Cognitive Neuroscience Imaging Institute, University of Southern California, Los Angeles, CA, United States; [2]Signal and Image Processing Institute, University of Southern California, Los Angeles, CA, United States; [3]Radiology, Children's Hospital of Pittsburgh of UPMC, Pittsburgh, PA, United States; [4]Department of Radiology, Children Hospital of Los Angeles, Los Angeles, CA, United States; [5]Laboratory of Neuro Imaging, UCLA School of Medicine, Los Angeles, CA, United States; [6]Brain and Creativity Institute, University of Southern California, Los Angeles, CA, United States; [7]Radiology, Children's Hospital of Pittsburgh of UPMC, Pittsburgh, PA, United States

1952. Assessment of Hippocampal Activation and Resting State Glutamate Concentration by Using Functional MRI and ^{1}H MR Spectroscopic Imaging

Alexander Gussew[1], Gerd Wagner[2], Andreas Deistung[3], Reinhard Rzanny[1], Patrick Hiepe[1], Marianne Cleve[1], Karl-Jürgen Bär[4], Jürgen R. Reichenbach[1]

[1]Medical Physics Group, Department of Diagnostic and Interventional Radiology I, Jena University Hospital, Jena, Thuringia, Germany; [2]Centre for Neuroimaging, Department of Psychiatry and Psychotherapy, Jena University Hospital, Jena, Thuringia, Germany; [3]Medical Physics Group, Department of Diagnostic and Interventional Radiology I, Jena University Hospital - Friedrich Schiller University Jena, Jena, Thuringia, Germany; [4]Pain & Autonomics group, Department of Psychiatry and Psychotherapy, Jena University Hospital, Jena, Thuringia, Germany

1953. GABA Measured by ^{1}H-MRS Is Not Affected by Tiagabine.

C. John Evans[1], Jim F. M. Myers[2], Nicola Kalk[2], Richard Anthony Edward Edden[3], Anne Lingford-Hughes[4]

[1]CUBRIC, School of Psychology, Cardiff University, Cardiff, Wales, United Kingdom; [2]Psychopharmacology Unit,, University of Bristol, Bristol, United Kingdom; [3]Russell H. Morgan Department of Radiology and Radiological Science, Johns Hopkins University, Baltimore, MD, United States; [4]Neuropsychopharmacology Unit, Imperial College London, London, United Kingdom

1954. Metabolic Trends in Thalamic Development from Infancy to Adulthood Measured Using Magnetic Resonance Spectroscopy

Andrew J. Degnan[1, 2], Vince Lee[2], Rafael C. Ceschin[2], Vincent J. Schmithorst[2], Stefan Blüml[3], Ashok Panigrahy[2]

[1]University of Pittsburgh Medical Center, Pittsburgh, PA, United States; [2]Department of Radiology, Children's Hospital of Pittsburgh, Pittsburgh, PA, United States; [3]Department of Radiology, Children's Hospital Los Angeles, Los Angeles, CA, United States

Traditional Poster
MRS & Metabolism

Exhibition Hall Thursday 10:30-12:30

1955. Metabolite Concentration Changes During Motor Activation Using Functional Magnetic Resonance Spectroscopy (FMRS) at 7T

Benoît Michel Schaller[1], Lijing Xin[2], Kieran O'brien[3], Rolf Gruetter[4]

[1]Laboratory of Functional and Metabolic Imaging, Ecole Polytechnique Fédérale de Lausanne, Lausanne, Vaud, Switzerland; [2]Department of Radiology, University of Lausanne, Lausanne, Vaud, Switzerland; [3]Centre d'Imagerie BioMédicale, University of Geneva, Geneva 14, Geneva, Switzerland; [4]Laboratory of Functional and Metabolic Imaging, École Polytechnique Fédérale de Lausanne, Lausanne, Vaud, Switzerland

1956. Increased Brain Lactate Concentrations Without Increased Lactate Oxidation During Hypoglycemia in Type 1 Diabetic Individuals with Hypoglycemia Unawareness

Henk M. De Feyter[1], Graeme F. Mason[2], Gerald I. Shulman[3], Douglas L. Rothman[1], Kitt Falk Petersen[4]

[1]Diagnostic Radiology, Yale University, New Haven, CT, United States; [2]Dept. of Psychiatry, Yale University, New Haven, CT, United States; [3]Howard Hughes Medical Institute, Yale University, New Haven, CT, United States; [4]Internal Medicine, Yale University, New Haven, CT, United States

1957. *In Vivo* Determination of *de Novo* Lipogenesis in Rat Liver Using Localized ^{1}H-[^{13}C] Magnetic Resonance Spectroscopy

Sharon M. Janssens[1], Klaas Nicolay[1], Jeanine J. Prompers[1]

[1]Biomedical NMR, Eindhoven University of Technology, Eindhoven, Netherlands

1958. Can ^{13}C MRS Be Used to Monitor Changes in Hepatic Glycogen Levels Following a Low Dose Oral Glucose Challenge?

S. Bawden[1], Mary C. Stephenson[1], Elisabetta Ciampi[2], J. Lane[2], Luca Marciani[3], P Morris[1], I MacDonald[4], Guru P. Aithal[4], K. Hunter[2], Penelope A. Gowland[1]

[1]SPMMRC, University of Nottingham, Nottingham, Notts, United Kingdom; [2]Unilever Discover, Bedford, Beds, United Kingdom; [3]NDDC Biomedical Research Unit, University of Nottingham, Nottingham, Notts, United Kingdom; [4]Medical School, University of Nottingham, Nottingham, Notts, United Kingdom

1959. Quantification of Fatty Acids in Human Calf Adipose Tissue and Muscle by ^{13}C MRS Using J-Refocused PRESS DEPT and ERETIC

Xing Chen[1], Peter Boesiger[1], Anke Henning[2, 3]

[1]Institute for Biomedical Engineering, Zurich, Switzerland; [2]University and ETH Zurich, Zurich, Switzerland; [3]Max Planck Institute of Biological Cybernetics, Tübingen, Germany

1960. *In Vivo* Magnetic Resonance Spectroscopy of Lipid Handling in Steatotic Rat Liver

Sharon M. Janssens[1], Richard AM Jonkers[1], Mattijs Heemskerk[2], Sjoerd A. van den Berg[2], Ko Willems van Dijk[2], Natal A. van Riel, Klaas Nicolay[1], Jeanine J. Prompers[1]

[1]Biomedical NMR, Eindhoven University of Technology, Eindhoven, Netherlands; [2]Department of Human Genetics, Leiden University Medical Center, Leiden, Netherlands

1961. Human Studies of Functional MRS at 7T with Semi-LASER

Petr Bednarik[1, 2], Ivan Tkac[1], Andrea Grant[1], Uzay E. Emir[1], Dinesh K. Deelchand[1], Silvia Mangia[1]

[1]CMRR - Dept. of Radiology, University of Minnesota, Minneapolis, MN, United States; [2]Molecular and Functional Imaging Laboratory, , CEITEC - Central European Institute of Technology, Masaryk University, , Brno, Czech Republic

1962. Spectroscopic Imaging of Metabolites with 2D Heteronuclear Multiple Quantum Coherence in Mouse

Hirohiko Imai[1], Yuki Takayama[1], Tetsuya Matsuda[1]

[1]Department of Systems Science, Graduate School of Informatics, Kyoto University, Sakyo-ku, Kyoto, Japan

1963. Clinical 3.0 T ^{13}C MRS: Net Hepatic Glycogen Breakdown During 19 Hr Fast

Paul Begovatz[1], Sabine Kahl[1], Bettina Nowotny[1], Juergen Bunke[2], Michael Roden[1, 3], Jong-Hee Hwang[1]

[1]Institute of Clinical Diabetology, German Diabetes Center, Duesseldorf, Germany; [2]Philips Healthcare, Hamburg, Germany; [3]Department of Metabolic Diseases, University Clinics, Heinrich Heine University, Duesseldorf, Germany

1964. Exercise Does Not Modulate Postprandial Lipid Uptake in Liver and Skeletal Muscle of Healthy and Diabetic Rats

Richard AM Jonkers[1], Sharon M. Janssens[1], Klaas Nicolay[1], Luc JC van Loon[2], Jeanine J. Prompers[1]

[1]Biomedical Engineering, Eindhoven University of Technology, Eindhoven, Netherlands; [2]Department of Human Movement Sciences, Maastricht University Medical Centre+, Maastricht, Netherlands

1965. Kinetic Model-Based Analysis of Dynamic 31P MRS Data on ATP Metabolism in Rat Hindlimb Muscle

Jeroen A. Jeneson[1], Ranjan Dash[2], Daniel A. Beard[2], Robert W. Wiseman[3]

[1]Center for Systems Biology of Energy Metabolism and Ageing, University Medical Center Groningen, Groningen, Netherlands; [2]Physiology, Medical College of Wisconsin, Milwaukee, WI, United States; [3]Physiology and Radiology, Michigan State University, East Lansing, MI, United States

1966. Neuronal and Astroglial Metabolism in APP-PS1 Mouse Model of Alzheimer's Disease with Progress of Age

Vivek Tiwari[1], Pandichelvam Veeraiah[1], Anant Bahadur Patel[1]

[1]NMR Microimaging and Spectroscopy, CSIR-Centre for Cellular and Molecular Biology, Hyderabad, A.P., India

1967. Nonlinear Laplacian Eigenmaps Dimension Reduction of *in-vivo* Magnetic Resonance Spectroscopic Imaging Analysis

Guang Yang[1], Felix Raschke[2], Thomas Richard Barrick[2], Franklyn A. Howe[2]

[1]Division of Clinical Sciences, , St. George's University of London, London, United Kingdom; [2]Division of Clinical Sciences,, St. George's University of London, London, United Kingdom

1968. Slow Training Effect on Intracellular Lipid in Skeletal Muscle
Yoshikazu Okamoto[1], Tomonori Isobe[1], Graham J. Kemp[2]
[1]University of Tsukuba Hospital, Tsukuba, Ibaraki, Japan; [2]University of Liverpool, Liverpool, United Kingdom

1969. *in vivo* Investigation of Choline Compounds with 1H and 31P MRS in the Patients with Liver Disorders.
Martin Gajdosik[1], Ladislav Valkovic[1], Marek Chmelik[1], Stefan Traussnigg[2], Michael Trauner[2], Siegfried Trattnig[1], Martin Krssák, [13]
[1]MR Centre of Excellence, Department of Radiology, Medical University of Vienna, Vienna, Austria; [2]Gastroenterology & Hepatology, Department of Internal Medicine III, Medical University of Vienna, Vienna, Austria; [3]Endocrinology & Metabolism, Department of Internal Medicine III, Medical University of Vienna, Vienna, Austria

1970. 31P Magnetic Resonance Spectroscopic Imaging of the Breast; Influence of the Menstrual Cycle
Bertine L. Stehouwer[1], Wybe J.M. van der Kemp[1], Peter R. Luijten[1], Maurice A.A.J. van den Bosch[1], Wouter B. Veldhuis[1], Jannie P. Wijnen[1], Dennis W.J. Klomp[1]
[1]Radiology, University Medical Center Utrecht, Utrecht, Netherlands

1971. Signal-To-Noise Ratio Analysis of 31P MRS in Skeletal Muscle: Influence of Localization Schemes, RF Coils and Field Strength
Georg Bernd Fiedler[1, 2], Albrecht Ingo Schmid[1, 3], Sigrun Goluch[1, 3], Ewald Moser[1, 3], Martin Meyerspeer[1, 3]
[1]Center for Medical Physics and Biomedical Engineering, Medical University of Vienna, Vienna, Austria; [2]MR Centre of Excellence, Medical University of Vienna, Vienna , Austria; [3]MR Centre of Excellence, Medical University of Vienna, Vienna, Austria

1972. Cerebral Metabolic Response to Methylene Blue: A ^{31}P Magnetization Transfer Study at 11.7T
Andrew Bresnen[1], Fang Du[1], Geoffrey Clarke[2], Timothy O. Duong[3]
[1]Research Imaging Institute, University of Texas Health Science Center at San Antonio, San Antonio, TX, United States; [2]Radiological Sciences, University of Texas Health Science Center at San Antonio, San Antonio, TX, United States; [3]UT Health Science Center at San Antonio, San Antonio, TX, United States

Traditional Poster
MRS of Animal Models

Exhibition Hall Thursday 10:30-12:30

ISMRM MERIT AWARD magna cum laude

1973. Effects of Cafeteria Diet and Voluntary Running on Brain Structure and Metabolism in Mice
Markus Sack[1, 2], Johannes Fuss[3], Claudia Falfán-Melgoza[2], Sarah Biedermann, [12], Matthias Auer[4], Jenny Lenz[4], Gabriele Ende[1], Alexander Sartorius, [25], Peter Gass[3], Wolfgang Weber-Fahr, [12]
[1]Neuroimaging, Central Institute of Mental Health, Medical Faculty Mannheim / Heidelberg University, Mannheim, Germany; [2]RG Translational Imaging, Central Institute of Mental Health, Medical Faculty Mannheim / Heidelberg University, Mannheim, Germany; [3]RG Animal Models in Psychiatry, Central Institute of Mental Health, Medical Faculty Mannheim / Heidelberg University, Mannheim, Germany; [4]Endocrinology, Max Planck Institute of Psychiatry, Munich, Germany; [5]Psychiatry and Psychotherapy, Central Institute of Mental Health, Medical Faculty Mannheim / Heidelberg University, Mannheim, Germany

1974. Spectroscopic Imaging of Brain Metabolism in a Mouse Model of Human Glioma-Initiating Cells: A Longitudinal Study at 14.1 T
Mélanie Craveiro[1], Cristina Cudalbu[1], Denis Marino[2], Ivan Radovanovic[2], Virginie Clément-Schatlo[2], Rolf Gruetter[3, 4]
[1]Laboratory for Functional and Metabolic Imaging, Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland; [2]Department of Clinical Neurosciences, University Hospital of Geneva, Geneva, Switzerland; [3]Laboratory for Functional and Metabolic Imaging, École Polytechnique Fédérale de Lausanne, Lausanne, Switzerland; [4]Departments of Radiology, Universities of Lausanne and Geneva, Lausanne and Geneva, Switzerland

1975. In Vivo ^{13}C MRS Investigation of Alterations in Cerebral Oxidative Metabolism in a Chronic Liver Disease Rat Model
Bernard Lanz[1, 2], Cristina Cudalbu[2], Valérie A. McLin[3], Mario Lepore[2], Olivier Braissant[4], Rolf Gruetter[5, 6]
[1]Department of Radiology, University of Lausanne, Lausanne, Switzerland; [2]Laboratory for Functional and Metabolic Imaging (LIFMET), Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland; [3]Département de l'Enfant et de l'Adolescent, Unité de Gastroentérologie, Hépatologie et Nutrition, Hôpitaux Universitaires de Genève (HUG), Geneva, Switzerland; [4]Laboratoire de Chimie Clinique, Département de Pathologie et de Médecine de Laboratoire, Centre Hospitalier Universitaire Vaudois and University of Lausanne, Lausanne, Switzerland; [5]Laboratory for Functional and Metabolic Imaging (LIFMET), École Polytechnique Fédérale de Lausanne, Lausanne, Switzerland; [6]Departments of Radiology, Universities of Lausanne and Geneva, Lausanne and Geneva, Switzerland

1976. Dietary Restriction Recovers Cerebral Activity in Pitx3 Knockout Mouse Model of Parkinson's Disease
Puneet Bagga[1], Anup Nirmal Chugani[1], M Suresh Kumar[1], Anant Bahadur Patel[1]
[1]NMR Microimaging and Spectroscopy, CSIR-Centre for Cellular and Molecular Biology, Hyderabad, Andhra Pradesh, India

1977. Effect of Maternal Exposure to High Fat Feeding on Cardiac Metabolism and Function in Offspring
Petronella A. van Ewijk[1, 2], Sabina Paglialunga[1], Anne Gemmink[3], Jos M.G.M. Slenter[2], Joachim E. Wildberger[2], Jan F. Glatz[4], Joris Hoeks[1], Matthijs K.C. Hesselink[3], Patrick Schrauwen[1], Vera B. Schrauwen-Hinderling, [12], Marianne Eline Kooi[2]
[1]Human Biology, Maastricht University Medical Centre, Maastricht, Limburg, Netherlands; [2]Radiology, Maastricht University Medical Centre, Maastricht, Limburg, Netherlands; [3]Human Movement Sciences, Maastricht University Medical Centre, Maastricht, Limburg, Netherlands; [4]Molecular Genetics, Maastricht University Medical Centre, Maastricht, Limburg, Netherlands

1978. Impaired Pyruvate Carboxylase and Pentose Phosphate Pathway in APP-PS1 Mouse Model of Alzheimer's Disease
Anant Bahadur Patel[1], Vivek Tiwari[1]
[1]NMR Microimaging and Spectroscopy, CSIR-Centre for Cellular and Molecular Biology, Hyderabad, Andhra Pradesh, India

1979. *ex vivo* Quantification of Regional Cerebral Metabolites in Chronic Alcohol Consumption-Induced Rats
Do-Wan Lee[1], Sang-Young Kim[1], Taehyeong Lee[2], Anes Ju[3], Hwi-Yool Kim[2], Dai-Jin Kim[3, 4], Bo-Young Choe[1]
[1]Department of Biomedical Engineering, The Catholic University of Korea, College of Medicine, Seoul, Korea; [2]Department of Veterinary Surgery, Konkuk University of Korea, Seoul, Korea; [3]Department of Biomedical Science, The Catholic University of Korea, College of Medicine, Seoul, Korea; [4]Department of Psychiatry, Seoul St. Mary's Hospital, College of Medicine, The Catholic University of Korea, Seoul, Korea

1980. ^{1}H-[13C]-NMR Study to Evaluate the Efficacy of Levodopa Treatment in MPTP Mouse Model of Parkinson's Disease
Anant Bahadur Patel[1], Anup Nirmal Chugani[1], Rajeeva Voleti[1], Puneet Bagga[1]
[1]NMR Microimaging and Spectroscopy, CSIR-Centre for Cellular and Molecular Biology, Hyderabad, Andhra Pradesh, India

1981. Hippocampal Neurochemical Changes in Neonatal Mouse Model of Phlebotomy-Induced Anemia
Ivan Tkac[1], Diana Wallin[2], Tara Zamora[2], Kathleen Ennis[2], Ariel Stein[2], Michael K. Georgieff[2], Raghavendra Rao[2]
[1]Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, MN, United States; [2]Department of Pediatrics, University of Minnesota, Minneapolis, MN, United States

Traditional Poster
ESR & Multinuclear

Exhibition Hall Thursday 10:30-12:30

1982. Combination of a Sodium Birdcage Coil with a Tunable Patch Antenna for B_0 Shimming and Anatomical Localization at 9.4 T
ISMRM MERIT AWARD summa cum laude
Christian C. Mirkes[1, 2], Jens Hoffmann[1], Gunamony Shajan[1], Rolf Pohmann[1], Klaus Scheffler[1, 2]
[1]High-Field MR Center, Max Planck Institute for Biological Cybernetics, Tübingen, Germany; [2]Department for Biomedical Magnetic Resonance, University of Tübingen, Tübingen, Germany

1983. Adaptive Combination of Multichannel Data for Non-Proton MRI
ISMRM MERIT AWARD summa cum laude
Stefan H. Hoffmann[1], Florian M. Meise, [12], Armin Biller[3], Armin M. Nagel[1]
[1]Dpt. of Medical Physics in Radiology, German Cancer Research Center (DKFZ), Heidelberg, Germany; [2]Siemens AG, Healthcare Sector, Magnetic Resonance, Erlangen, Germany; [3]Dpt. of Neuroradiology,, University Hospital Heidelberg, Heidelberg, Germany

1984. A Measurement Setup for Combined Chlorine (^{35}Cl) and Sodium (^{23}Na) MRI of the Human Brain
ISMRM MERIT AWARD summa cum laude
Armin M. Nagel[1], Titus Lanz[2], Dominik Berthel[2], Frank Resmer[2], Wolfhard Semmler[1], Reiner Umathum[1]
[1]Dpt. of Medical Physics in Radiology, German Cancer Research Center (DKFZ), Heidelberg, Germany; [2]Rapid Biomedical, Rimpar, Germany

1985. *In Vivo* ^{17}O-MRI at 3 Tesla Using a TxRx Surface Coil
Jens Groebner[1], Robert Borowiak[1, 2], Manuela Rösler[3], Reiner Umathum[3], Elmar Fischer[1], John M. Pavlina[1], Michael Bock[1]
[1]Dept. of Radiology / Medical Physics, University Medical Center Freiburg, Freiburg, BW, Germany; [2]Deutsches Konsortium für translationale Krebsforschung (DKTK), German Cancer Research Center (DKFZ), Heidelberg, BW, Germany; [3]Dept. of Medical Physics in Radiology, German Cancer Research Center (DKFZ), Heidelberg, BW, Germany

1986. Redox Map of Mouse Brain by Three-Dimensional EPR Imaging with Six-Membered Nitroxyl Radicals
Miho C. Emoto[1], Hideo Sato-Akaba[2], Hiroshi Hirata[3], Hirotada G. Fujii[1]
[1]Center for Medical Education, Sapporo Medical University, Sapporo, Hokkaido, Japan; [2]Department of Systems Innovation, Osaka Universivy, Toyonaka, Osaka, Japan; [3]Division of Bioengineering and Bioinformatics, Hokkaido University, Sapporo, Hokkaido, Japan

1987. Brain Redox Mapping in Methamphetamine-Treated Mice Using Three-Dimensional EPR Imaging
Hirotada G. Fujii[1], Miho C. Emoto[1], Mayumi Yamato[2], Ken-ichi Yamada[2]
[1]Center for Medical Education, Sapporo Medical University, Sapporo, Hokkiado, Japan; [2]Faculty of Pharmaceutical Sciences, Kyushu University, Fukuoka, Japan

1988. Electron Paramagnetic Resonance Spectrometry and Imaging in Melanomas: A Comparison Between Pigmented and Non-Pigmented Human Malignant Melanomas.
Quentin Godechal[1], Ghanem Ghanem[2], Martin Cook[3], Bernard Gallez[1]
[1]Biomedical Magnetic Resonance, University of Louvain, Brussels, Belgium; [2]Universite libre de Bruxelles, Brussels, Belgium; [3]Department of Histopathology, Royal Surrey County Hospital, Guildford, United Kingdom

1989. Principal Component Analysis Enhanced Dynamic Electron Paramagnetic Resonance Imaging of Cycling Hypoxia *in vivo*
Gage Redler[1], Boris Epel[1], Howard J. Halpern[1]
[1]Radiation and Cellular Oncology, University of Chicago, Chicago, IL, United States

1990. Sodium Triple-Quantum Coherence Characterization of Scaffolds Used in Cartilage Tissue Engineering
Mrignayani Kotecha[1], Allen Ye[1], Richard L. Magin[1]
[1]Bioengieering, University of Illinois at Chicago, Chicago, IL, United States

1991. Does Li Displace Intracellular Na in Brain?: An *In Vivo* ^{23}Na MRI Study
Richard A. Komoroski[1], Diana M. Lindquist[2], John M. Pearce[2]
[1]Center for Imaging Research, University of Cincinnati, Cincinnati, OH, United States; [2]Imaging Research Center, Cincinnati Children's Hospital Medical Center, Cincinnati, OH, United States

1992. Biexponentially Weighted Sodium Imaging with Higher SNR Efficiency
Nadia Benkhedah[1], Peter Bachert[1], Armin M. Nagel[1]
[1]Dpt. Medical Physics in Radiology, German Cancer Research Center (DKFZ), Heidelberg, Germany

1993. Triple-Quantum Filtered Chlorine Magnetic Resonance Imaging of the Human Brain
Alina Gilles[1], Nadia Benkhedah[1], Peter Bachert[1], Wolfhard Semmler[1], Armin M. Nagel[1]
[1]Dpt. of Medical Physics in Radiology, German Cancer Research Center (DKFZ), Heidelberg, Germany

1994. Evaluation of Lactate Detection Using Selective Multiple Quantum Coherence in Phantoms and Brain Tumours
Lisa Maria Harris[1], Nina Tunariu[2], Toni Wallace, Nandita M. deSouza, Martin O. Leach, Geoffrey Payne
[1]Institute of Cancer Research and Royal Marsden Hospital , Sutton, Surrey, United Kingdom; [2]Institute of Cancer Research and Royal Marsden Hospital, Institute of Cancer Research and Royal Marsden Hospital, Sutton, Surrey, United Kingdom

1995. Single Use Flexible Resonant Loops for L-Band Tooth EPR
Selaka Bandara Bulumulla[1], Daniel Lewek[1], Christopher Kapusta[1], David Davenport[1], Joseph Iannotti[1], Dmitriy Tipikin[2], Benjamin Williams[2], Harold Swartz[2]
[1]GE Global Research, Niskayuna, NY, United States; [2]Geisel School of Medicine, Hanover, NH, United States

Traditional Poster
MRS & Relaxation

Exhibition Hall Thursday 10:30-12:30

1996. Measurement of Metabolite ^{1}H Transverse Relaxation Times (T_2) in the Human Visual Cortex Over an Extended Echo-Time Range During Visual Stimulation at 7T

ISMRM MERIT AWARD magna cum laude

Francesca Branzoli[1], Ece Ercan[1], Andrew Webb[1], Itamar Ronen[1]
[1]C.J. Gorter Center for High Field MRI, Department of Radiology, Leiden University Medical Center, Leiden, Netherlands

1997. Measurement of Transverse Relaxation Times in Brain Tumors

ISMRM MERIT AWARD magna cum laude

Akshay Madan[1], Sandeep Ganji[1], Elizabeth A. Maher[2], Changho Choi[3]
[1]Advanced Imaging Research Center, UT Southwestern Medical Center, Dallas, TX, United States; [2]Harold C. Simmons Cancer Center, UT Southwestern Medical Center, Dallas, TX, United States; [3]Advanced Imaging Research Center, University of Texas Southwestern Medical Center, Dallas, TX, United States

1998. 129Xe-RBC T1 Dependence on Blood Oxygen Saturation

Graham Norquay[1], General Leung[1], Jan Wolber[2], Gillian M. Tozer[1], Jim M. Wild[1]
[1]University of Sheffield, Sheffield, South Yorkshire, United Kingdom; [2]GE Healthcare, Amersham, Buckinghamshire, United Kingdom

1999. Measurement of the T_1 Of ^{31}P-Metabolites at 7 Tesla in the Human Heart

Matthew D. Robson[1], Stefan Neubauer[1], Christopher T. Rodgers[1]
[1]OCMR, Oxford University, Oxford, Oxfordshire, United Kingdom

2000. Preliminary 23Na Transverse Relaxation Time Investigation Using a Continuous Distribution Model

Frank Riemer[1], Bhavana S. Solanky[1], Claudia Angela M. Wheeler-Kingshott[1], Xavier Golay[2]
[1]NMR Research Unit, Queen Square MS Centre, Department of Neuroinflammation, UCL Institute of Neurology, London, United Kingdom; [2]Department of Brain Repair & Rehabilitation, University College London, London, United Kingdom

2001. Spin-Lattice and Spin-Spin Relaxation of Water and Lipids in Human Vastus Lateralis M. Measured by 1H-MRS at 3T

Sunil K. Valaparla[1, 2], Geoffrey D. Clarke[2], Timothy O. Duong, [23]
[1]Research Imaging Institute, University of Texas Health Science Center San Antonio, San Antonio, TX, United States; [2]Radiology, University of Texas Health Science Center San Antonio, San Antonio, TX, United States; [3]Research Imaging Institute, UT Health Science Center at San Antonio, San Antonio, TX, United States

Traditional Poster
Methodology of Spectroscopic Localization & Imaging

Exhibition Hall Thursday 10:30-12:30

2002. Simultaneous *In Vivo* ^{1}H and ^{31}P MRS Acquisition in Ischemic Rat Brain at Ultrahigh Field

ISMRM MERIT AWARD magna cum laude

Jennifer M. Taylor[1, 2], Xiao-Hong Zhu[2], Yi Zhang[2], Wei Chen, [12]
[1]Biomedical Engineering, University of Minnesota, Minneapolis, MN, United States; [2]Center for Magnetic Resonance Research, Department of Radiology, University of Minnesota, Minneapolis, MN, United States

2003. *in vivo* Localized Correlated Spectroscopy Using Spectral Spatial Coherence Transfers

ISMRM MERIT AWARD magna cum laude

Galen D. Reed[1], Trey Jalbert[1], Gerd Melkus[1], Simon Hu[1], Peder E.Z. Larson[1], Sarah J. Nelson[1], John Kurhanewicz[1], Daniel B. Vigneron[1]
[1]Radiology and Biomedical Imaging, University of California San Francisco, San Francisco, CA, United States

2004. Accelerated 3D-Localized Echo Planar Correlated Spectroscopic Imaging of Calf Muscle Using Compressed Sensing

Neil E. Wilson[1], Brian L. Burns[2], M. Albert Thomas[1]
[1]University of California, Los Angeles, CA, United States; [2]UCLA, Los Angeles, CA, United States

2005. Separation and Precise Estimation of Glutamate and Glutamine Using Spectroscopic Imaging in Human Brain at 3.0 T

Sandeep Ganji[1], Changho Choi[2]
[1]Advanced Imaging Research Center, UT Southwestern Medical Center, Dallas, TX, United States; [2]Advanced Imaging Research Center, University of Texas Southwestern Medical Center, Dallas, TX, United States

2006. Sensitivity Decomposition of Water and Metabolites with Sensitivity Encoding for Reducing Scan Time

Toru Shirai[1], Satoshi Hirata[1], Yo Taniguchi[1], Yoshihisa Soutome[1], Yoshitaka Bito[2]
[1]Hitachi, Ltd., Central Research Laboratory, Kokubunji, Tokyo, Japan; [2]Hitachi, Ltd., Kokubunji, Tokyo, Japan

2007. Inherent Reduction of Residual Lipid Aliasing in SENSE-Accelerated ^{1}H MRSI at 7T by Spatially Selective SRF Optimization

Thomas Kirchner[1], Lukas Eisenring[1], Klaas P. Pruessmann[1], Anke Henning[1, 2]
[1]Institute for Biomedical Engineering, University and ETH Zurich, Zurich, Switzerland; [2]Max Planck Institute for Biological Cybernetics, Tuebingen, Germany

2008. Proton Observed Phosphor Editing (POPE) Brings Hope for *in vivo* Detection of Phospholipid Metabolites

Dennis W. J. Klomp[1], Robin A. de Graaf, [12], Christine Nabuurs[3], Irene M.L. van Kalleveen[1], Wybe J.M. van der Kemp[1], Peter R. Luijten[1], Hermien E. Kan[4], Andrew Webb[4], Jannie P. Wijnen[1, 4], Vincent Oltman Boer[5]
[1]UMC Utrecht, Utrecht, Netherlands; [2]Yale University, New Haven, CT, United States; [3]Maastricht University, Maastricht, Limburg, Netherlands; [4]Leiden UMC, Leiden, Holland, Netherlands; [5]University Medical Center Utrecht, Utrecht, Netherlands

2009. The Effect of Compressed Sensing Reconstruction on the Spatial Resolution of Magnetic Resonance Spectroscopic Imaging.

Lara Angharod Worthington[1, 2], Martin Wilson, [23], Theodoros N. Arvanitis, [24], Andrew C. Peet, [23], Nigel Paul Davies, [35]
[1]PSIBS, University of Birmingham, Birmingham, West Midlands, United Kingdom; [2]Birmingham Children's Hospital NHS Foundation Trust, Birmingham, West Midlands, United Kingdom; [3]Cancer Sciences, University of Birmingham, Birmingham, West Midlands, United Kingdom; [4]School of Electronic, Electrical & Computer Engineering, University of Birmingham, Birmingham, West Midlands, United Kingdom; [5]Imaging & Medical Physics, University Hospital Birmingham NHS Foundation Trust, Birmingham, West Midlands, United Kingdom

2010. Nonuniformly Undersampled 5D (3 Spatial + 2 Spectral) Echo Planar J-Resolved Spectroscopic Imaging of Brain

Neil E. Wilson[1], Brian L. Burns[2], M. Albert Thomas[1]
[1]University of California, Los Angeles, CA, United States; [2]UCLA, Los Angeles, CA, United States

2011. ^{1}H-MRS in the *in Vivo* Mouse Heart: A Comparison Between PRESS and STEAM

Adrianus J. Bakermans[1], Desiree Abdurrachim[1], Klaas Nicolay[1], Jeanine J. Prompers[1]
[1]Biomedical NMR, Eindhoven University of Technology, Eindhoven, Netherlands

2012. Application of Parallel Imaging and Compressed Sensing to Metabolic Imaging of the Brain Using H-1 MRSI at 7T and Using Hyperpolarized C-13 MRSI at 3T

Maryam Vareth[1, 2], Yan Li[1], Ilwoo Park[1], Sarah Nelson[1, 3]
[1]Surbeck Laboratory of Advanced Imaging, Department of Radiology and Biomedical Imaging, Univ. of California, San Francisco, San Francisco, CA, United States; [2]UCSF/UCBerkeley Joint Graduate Group in Bioengineering, Univ. of California, Berkeley, Berkeley, CA, United States; [3]Department of Bioengineering and Therapeutic Sciences, Univ. of California, San Francisco, San Francisco, CA, United States

2013. 31P-Spectroscopy on Humans at 9.4 T in Combination with a Patch Antenna for Proton Imaging: Initial Results

Morteza Bakhtiary[1], Gunamony Shajan[1], Jens Hoffmann[1], Klaus Scheffler[1, 2], Rolf Pohmann[1]
[1]Max Planck Institute for Biological Cybernetics, Tübingen, BW, Germany; [2]Department for Biomedical Magnetic Resonance, University of Tübingen, Tübingen, BW, Germany

2014. Editing Magnetic Resonance Spectroscopy of Lactate at High Fields: Improved Efficiency by Inclusion of FOCI Pulses and Elimination of Co-Edited Macromolecules

Jannie P. Wijnen[1], Catalina S. Arteaga de Castro[1], Vincent Oltman Boer[2], Anna Andreychenko[1], Peter R. Luijten[1], Bas Neggers[3], Dennis W.J. Klomp[1]

[1]Radiology, University Medical Centre Utrecht, Utrecht, Netherlands; [2]Radiology, University Medical Center Utrecht, Utrecht, Netherlands; [3]Psychiatry, University Medical Centre Utrecht, Utrecht, Netherlands

2015. Magnetic Resonance Spectroscopy Based Temperature Calibration and *in-vivo* Brain Temperature Measurement of Traumatic Brain Injury Rats at 7 Tesla

Sankar Seramani[1], Bhanu Prakash K.N. [1], Sanjay K. Verma[1], Kian Chye Ng[2], Enci Mary Kan[2], Gopalan V. [1], Michael N. [1], Yaligar J[1], Graham S. [3], Jia Lu[2], C. Childs[4], Sendhil S. Velan[1, 5]

[1]Laboratory of Molecular Imaging, Singapore Bioimaging Consortium, Singapore, Singapore; [2]Defence Medical and Environmental Research Institute, DSO National Laboratories, Singapore, Singapore; [3]Department of Psychology, National University of Singapore, Singapore, Singapore; [4]Yong Loo Lin School of Medicine, National University of Singapore, Singapore, Singapore; [5]Clinical Imaging Research Centre, Agency for Science, Technology and Research, Singapore, Singapore

2016. Improved Volume Localization for MRSI at 7T Using RF Shimming and RF Multiplexing

Hoby P. Hetherington[1], Nikolai I. Avdievich[1], Jullie Pan[1]

[1]Neurosurgery, Yale University, New Haven, CT, United States

2017. Accelerated Phosphorus MR Spectroscopic Imaging of Human Brain Using Compressed Sensing

Gokce H. Hatay[1], Cagil Gumus[1], Bahattin Hakyemez[2], Esin Ozturk-Isik[3]

[1]Electrical and Electronics Engineering, Yeditepe University, Istanbul, Turkey; [2]Department of Radiology, Uludag University, Bursa, Turkey; [3]Biomedical Engineering, Yeditepe University, Istanbul, Turkey

2018. 2D-GRAPPA Accelerated FID Based MRSI of the Brain at 7T

Bernhard Strasser[1], Gilbert Hangel[1], Stephan Gruber[1], Siegfried Trattnig[1], Wolfgang Bogner[1, 2]

[1]Department of Radiology, Medical University of Vienna, Vienna, Austria; [2]Department of Radiology, Athinoula A. Martinos Center for Biomedical Imaging, Boston, MA, United States

2019. MRS Sparse-FFT: Reducing Acquisition Time and Artifacts for *in vivo* 2D Correlation Spectroscopy

Lixin Shi[1], Ovidiu C. Andronesi[2], Haitham Hassanieh[1], Badih Ghazi[1], Dina Katabi[1], Elfar Adalsteinsson[1, 3]

[1]Electrical Engineering and Computer Science Department, Massachusetts Institute of Technology, Cambridge, MA, United States; [2]Martinos Center for Biomedical Imaging, Radiology Department, Massachusetts General Hospital, Harvard Medical School, Boston, MA, United States; [3]Harvard-MIT Division of Health Sciences and Technology, Cambridge, MA, United States

2020. Implementation of GOIA-Wurst(16,4) Pulses in the Semi-LASER Sequence for SAR-Reduction in Prostate MRSI

Isabell K. Steinseifer[1], Marnix C. Maas[1], Thiele Kobus[1], Tom W.J. Scheenen[1], Arend Heerschap[1]

[1]Radiology, Radboud University Nijmegen Medical Centre, Nijmegen, Gelderland, Netherlands

2021. Group-Mean Template Modelling of NAA- And NAAG-Edited MR Spectra

Nicolaas A. J. Puts[1, 2], Mona M. Mohamed[1], Peter B. Barker[1, 2], Richard Anthony Edward Edden[1, 2]

[1]The Russell H. Morgan Department of Radiology and Radiological Science, Johns Hopkins University, Baltimore, MD, United States; [2]FM Kirby Centre for functional neuroimaging, Kennedy Krieger Institute, Baltimore, MD, United States

2022. 3D Metabolic Mapping of the Brain at 7T by Pulse-Cascaded Hadamard Encoding with Short Acquisition Delay

Gilbert Hangel[1], Bernhard Strasser[1], Stephan Gruber[1], Marek Chmelik[1], Siegfried Trattnig[1], Wolfgang Bogner[1, 2]

[1]MR Centre of Excellence, Medical University of Vienna, Vienna, Austria; [2]Athinoula A. Martinos Center for Biomedical Imaging, Department of Radiology, Massachusetts General Hospital, Harvard Medical School, Boston, MA, United States

2023. Metabolic Imaging with 3D Echo Planar Spectroscopic Imaging at 7 Tesla

Sankar Seramani[1], Yevgen Marchenko[2], Sanjay K. Verma[2], Bhanu Prakash K.N. [2], Navin Michael[2], Suresh Anand Sadananthan[2], Andrew A. Maudsley[3], Sendhil S. Velan[2, 4]

[1]Laborartory of Molecular Imaging, Singapore Bioimaging Consortium, Singapore , Singapore; [2]Laborartory of Molecular Imaging, Singapore Bioimaging Consortium, Singapore, Singapore; [3]Miller School of Medicine, University of Miami, Miami, FL, United States; [4]Clinical Imaging Research Centre, Agency for Science, Technology and Research, Singapore , Singapore

2024. Automated Spectral Assessment of the BOLD Effect for Neurofeedback at 3 and 7 T.
Yury Koush[1, 2], Mark A. Elliott[3], Frank Scharnowski, [2,4], Klaus Mathiak[5, 6]
[1]Department of Radiology and Medical Informatics - CIBM, University of Geneva , Geneva, Switzerland; [2]Institute of Bioengineering, École Polytechnique Fédérale de Lausanne, Lausanne, Switzerland; [3]Center for Magnetic Resonance and Optical Imaging (CMROI), Department of Radiology,, University of Pennsylvania, Philadelphia, PA, United States; [4]Department of Radiology and Medical Informatics - CIBM, University of Geneva, Geneva, Switzerland; [5]Department of Psychiatry, Psychotherapy and Psychosomatics, RWTH Aachen University, Aachen, Germany; [6]Institute of Neuroscience and Medicine (INM-1), Research Center Jülich, JARA - Translational Brain Medicine, Aachen, Germany

2025. Gradient Induced Sideband Artifacts in Non Water-Suppressed Proton CSI of the Human Brain at 9.4 T
Grzegorz L. Chadzynski[1, 2], Rolf Pohmann[2], Gunamony Shajan[2], Rupert Kolb[3], Uwe Klose[3], Klaus Scheffler[1, 2]
[1]Dept. Biomedical Magnetic Resonance, University Hospital Tuebingen, Tuebingen, Germany; [2]Dept. High-Field Magnetic Resonance, Max Planc Institute for Biological Cybernetics, Tuebingen, Germany; [3]Dept. Neuroradiology, University Hospital Tuebingen, Tuebingen, Germany

2026. MEGA-PRESSing Onward for More Metabolites: Aspartate, Lactate, and PE
James B. Murdoch[1], Andrew J. Wheaton[1], Robert Anderson[1]
[1]Toshiba Medical Research Institute USA, Mayfield Village, OH, United States

2027. Slice Selective Adiabatic Pulse for Human ^{31}P Cardiac Spectroscopy
William T. Clarke[1], Christopher T. Rodgers[1], Stefan Neubauer[1], Matthew D. Robson[1]
[1]OCMR, University of Oxford, Oxford, United Kingdom

2028. Real-Time Single-Voxel Water Proton Spectroscopy and Echo-Planar Imaging Sensitivity to the BOLD Effect at 3 and 7 T.
Yury Koush[1, 2], Mark A. Elliott[3], Frank Scharnowski, [2,4], Klaus Mathiak[5, 6]
[1]Department of Radiology and Medical Informatics - CIBM, University of Geneva , Geneva, Switzerland; [2]Institute of Bioengineering, École Polytechnique Fédérale de Lausanne, Lausanne, Switzerland; [3]Center for Magnetic Resonance and Optical Imaging (CMROI), Department of Radiology,, University of Pennsylvania, Philadelphia, PA, United States; [4]Department of Radiology and Medical Informatics - CIBM, University of Geneva, Geneva, Switzerland; [5]Department of Psychiatry, Psychotherapy and Psychosomatics, RWTH Aachen University, Aachen, Germany; [6]Institute of Neuroscience and Medicine (INM-1), Research Center Jülich, JARA - Translational Brain Medicine, Aachen, Germany

2029. Real-Time Motion Correction and B_0 Shim Update for a Spectral Edited MEGA-LASER Sequence
Ovidiu C. Andronesi[1], Aaron T. Hess[2], Matthew Dylan Tisdall[1], Wolfgang Bogner[1], André J. W. van der Kouwe[1], Bruce R. Rosen[1]
[1]Martinos Center, Radiology, Massachusetts General Hospital, Charlestown, MA, United States; [2]Centre for Clinical Magnetic Resonance, John Radcliffe Hospital, University of Oxford, Oxford, United Kingdom

Traditional Poster
Methodology of Spectroscopic Quantitation

Exhibition Hall Thursday 10:30-12:30

2030. Enhancement of 2-Hydroxyglutarate Detectability by Triple-Refocusing Difference Editing at 3T *in vivo*
Changho Choi[1], Sandeep Ganji[2], Akshay Madan[1], Robert Bachoo[1], Ralph DeBerardinis[1], Elizabeth A. Maher[1]
[1]University of Texas Southwestern Medical Center, Dallas, TX, United States; [2]UT Southwestern Medical Center, Dallas, TX, United States

2031. Accelerating 2D-JPRESS in the Human Brain with Compressed Sensing
Trina Kok[1], Navin Michael[2], Sendhil S. Velan, [13]
[1]A*STAR-NUS Clinical Imaging Research Center, Singapore, Singapore; [2]Singapore Institute for Clinical Sciences, Singapore, Singapore; [3]Singapore Bioimaging Consortium, Singapore, Singapore

2032. Extraction of Glutamate from the GABA Edited Spectra
Jan Willem C. van der Veen[1], Ron de Beer[2], Dirk van Ormondt[2], Jun Shen[1]
[1]Magnetic Resonance Spectroscopy Core, NIH, NIMH, Bethesda, MD, United States; [2]Department of Applied Physics, TU Delft, Delft, Netherlands

2033. Partial Volume Correction Method for Improving Test-Retest Repeatability of *In Vivo* Human Brain ^{1}H MRS and Quantification of Neurochemical Concentrations at 7T

Byeong-Yeul Lee[1], Xiao-Hong Zhu[1], Wei Chen[1], Melissa Terpstra[1]
[1]Center for Magnetic Resonance Research (CMRR), Radiology Department, University of Minnesota, Minneapolis, MN, United States

2034. Investigation of Techniques for Multi Element Coil Combination for 32 Channel 7T MRS

Emma Louise Hall[1], Mary C. Stephenson[1], Darren Price[1], Peter G. Morris[1]
[1]Sir Peter Mansfield Magnetic Resonance Centre, University of Nottingham, Nottingam, Nottinghamshire, United Kingdom

2035. High-Resolution Localized 2D J-Resolved Spectroscopy Via Intermolecular Single-Quantum Coherences

Yuqing Huang[1], Zhiyong Zhang[1], Shuhui Cai[1], Zhong Chen[1]
[1]Department of Electronic Science, Xiamen University, Xiamen, Fujian, China

2036. Removal of Lipid Nuisance Signals in MRSI Using a Spatial-Spectral Lipid Model

Chao Ma[1, 2], Fan Lam[1, 3], Ryan Larsen[3], Bradley P. Sutton, [34], Zhi-Pei Liang, [35]
[1]Department of Electrical and Computer Engineering , University of Illinois at Urbana-Champaign, Urbana, IL, United States; [2]Beckman Institute, University of Illinois at Urbana-Champaign, Urbana, IL, United States; [3]Beckman Institute, University of Illinois at Urbana-Champaign, Urbana, IL, United States; [4]Department of Bioengineering, University of Illinois at Urbana-Champaign, Urbana, IL, United States; [5]Department of Electrical and Computer Engineering, University of Illinois at Urbana-Champaign, Urbana, IL, United States

2037. An Alternate Strategy for the Quantification of the *in Vivo* Glutamate/Glutamine (Glx) Peak at 2.35 Ppm

Ravi Prakash Reddy Nanga[1], Hari Hariharan[1], Ravinder Reddy[1]
[1]Radiology, University of Pennsylvania, Philadelphia, PA, United States

2038. Localization Profile Correction for ERETIC Based in Vivo ^{1}H MRSI Quantification

Niklaus Zoelch[1], Alexander Fuchs[1], Anke Henning[2, 3]
[1]Institue for Biomedical Engineering, UZH and ETH Zurich, Zurich, Switzerland; [2]Institue for Biomedical Engineering, University and ETH Zurich, Zurich, Switzerland; [3]Max Planck Institue for Biological Cybernetics, Tübingen, Germany

2039. *in vivo* Transverse Relaxation Time Measurements from Localized CT-COSY and JPRESS: A Validation Study

Dimitri Martel[1], Tangi Roussel[1], Denis Friboulet[1], Denis Grenier[1], Helene Ratiney[1]
[1]CREATIS ; CNRS UMR5220 ; Inserm U1044 ; INSA-Lyon ; Université Lyon 1, Villeurbanne, France

2040. Clinical MRS Data Processing Using KBDM

Fernando Fernandes Paiva[1], Alberto Tannus[1], Claudio Jose Magon[1]
[1]Institute of Physics of Sao Carlos, University of Sao Paulo, Sao Carlos, SP, Brazil

2041. Gannet: GABA Analysis Toolkit for Edited MRS

Richard Anthony Edward Edden[1, 2], Nicolaas A. J. Puts, [23], Peter B. Barker[1, 2], C. John Evans[4]
[1]Russell H. Morgan Department of Radiology and Radiological Science, Johns Hopkins University, Baltimore, MD, United States; [2]F. M. Kirby Center for Functional Brain Imaging, Kennedy Krieger Institute, Baltimore, MD, United States; [3]Russell H. Morgan Department of Radiology and Radiological Science, The Johns Hopkins University School of Medicine, Baltimore, MD, United States; [4]CUBRIC, School of Psychology, Cardiff University, Cardiff, Wales, United Kingdom

2042. Simultaneous Detection of 17 Brain Metabolites at 3T by JPRESS & ProFit

Alexander Fuchs[1], Peter Boesiger[1], Anke Henning[1, 2]
[1]Institute for Biomedical Engineering, University and ETH Zurich, Zurich, Switzerland; [2]Max Plank Institute for Biological Cybernetics, Tübingen, Germany

2043. Maximum Entropy Reconstruction of Non-Uniformly Under-Sampled Multidimensional Spectroscopic Imaging *in vivo*

Brian L. Burns [1], Neil Wilson[2], M. Albert Thomas, [23]
[1]Department of Biomedical Engineering, UCLA, Los Angeles, CA, United States; [2]Biomedical Physics IDP, UCLA, Los Angeles, CA, United States; [3]Radiology, UCLA, Los Angeles, CA, United States

Traditional Poster
Diffusion Acquisition

Exhibition Hall Monday 16:30-18:30

2044. Fat Suppressive and Susceptibility Tolerant PINS Pulses for Multi-Band Diffusion Weighted EPI
Eric Aboussouan[1], Rafael O'Halloran[1], Anh Tu Van[1], Samantha J. Holdsworth[1], William A. Grissom[2], Roland Bammer[1]
[1]Radiology, Stanford University, Stanford, CA, United States; [2]Biomedical Engineering, Vanderbilt University, Nashville, Tennesse, United States

2045. SAR Efficient Simultaneous Multislice Diffusion Weighted Imaging at 7T Using PINS RF Pulses
Markus Barth[1, 2], Peter J. Koopmans[1, 2], Rasim Boyacioglu[1], Jennifer Bersch[1], David G. Norris[1, 2]
[1]Donders Institute for Brain, Cognition and Behaviour, Radboud University, Nijmegen, Netherlands; [2]Erwin L. Hahn Institute for Magnetic Resonance Imaging, University Duisburg-Essen, Essen, Germany

2046. Compressive Diffusion MRI – Part 2: Performance Evaluation Via Low-Rank Model
Hao Gao[1, 2], Longchuan Li[3], Xiaoping P. Hu[3]
[1]Department of Mathematics and Computer Science, Emory University, Atlanta, GA, United States; [2]Department of Radiology and Imaging Sciences, Emory University, Atlanta, GA, United States; [3]Department of Biomedical Engineering, Emory University and Georgia Institute of Technology, Atlanta, GA, United States

2047. How to Make Sure You Are Using the Correct Gradient Orientations in Your Diffusion MRI Study
ISMRM MERIT AWARD magna cum laude
Ben Jeurissen[1], Alexander Leemans[2], Jan Sijbers[1]
[1]iMinds-Vision Lab, University of Antwerp, Antwerp, Belgium; [2]Image Sciences Institute, University Medical Center Utrecht, Utrecht, Netherlands

2048. Diffusion Signal Decomposition Using Periodical Sampling in Gradient Direction Domain and Fourier Approximation
Farshid Sepehrband[1], Jeiran Choupan[1], Nyoman Dana Kurniawan[1], David C. Reutens[1], Zhengyi Yang[2]
[1]Centre for Advanced Imaging, The University of Queensland, Brisbane, QLD, Australia; [2]school of Information Technology and Electrical Engineering, The University of Queensland, Brisbane, QLD, Australia

2049. Periodic Sampling in the Gradient Direction Domain Facilitates Noise Reduction in Diffusion Weighted Imaging
ISMRM MERIT AWARD magna cum laude
Farshid Sepehrband[1], Jeiran Choupan[1], Viktor Vegh[1], Quang M. Tieng[1], David C. Reutens[1], Zhengyi Yang[2]
[1]Centre for Advanced Imaging, The University of Queensland, Brisbane, Queensland, Australia; [2]School of Information Technology and Electrical Engineering, The University of Queensland, Brisbane, Queensland, Australia

2050. Ordering of Multiple Diffusion Gradient Directions for High Resolution ADC Maps Using Golden Angle
Hyunseok Seo[1], Yeji Han[1], HyunWook Park[1]
[1]Electrical Engineering, KAIST, Daejeon, Korea

2051. Optimized Twice-Refocused Adiabatic Spin Echo Sequence for Diffusion Weighted Imaging of Humans at 7T
Priti Balchandani[1, 2], Deqiang Qiu[2]
[1]Radiology, Mount Sinai School of Medicine, New York, NY, United States; [2]Radiology, Stanford University, Stanford, CA, United States

2052. An *in vivo* Investigation Into the Potential Benefit of High-Field MR for Diffusion Imaging
Joelle E. Sarlls[1], S Lalith Talagala[1]
[1]NINDS/NMR Center, National Institutes of Health, Bethesda, MD, United States

2053. Noise Reduction in Accelerated Diffusion Spectrum Imaging Through Integration of SENSE Reconstruction Into Joint Reconstruction in Combination with Q-Space Compressed Sensing
Vladimir Golkov[1, 2], Tim Sprenger[1, 3], Marion I. Menzel[1], Ek T. Tan[4], Kevin F. King[5], Christopher J. Hardy[4], Luca Marinelli[4], Daniel Cremers[2], Jonathan I. Sperl[1]
[1]GE Global Research, Garching n. Munich, Bavaria, Germany; [2]Department of Computer Science, Technical University Munich, Garching n. Munich, Bavaria, Germany; [3]IMETUM, Technical University Munich, Garching n. Munich, Bavaria, Germany; [4]GE Global Research, Niskayuna, NY, United States; [5]GE Healthcare, Waukesha, WI, United States

2054. Phase Sensitive Reconstruction in Diffusion Spectrum Imaging Enabling Velocity Encoding and Unbiased Noise Distribution

Jonathan I. Sperl[1], Ek T. Tan[2], Tim Sprenger[1, 3], Vladimir Golkov[1, 3], Kevin F. King[4], Christopher J. Hardy[2], Luca Marinelli[2], Marion I. Menzel[1]

[1]GE Global Research, Garching, Germany; [2]GE Global Research, Niskayuna, NY, United States; [3]Technical University Munich, Garching, Germany; [4]GE Healthcare, Waukesha, WI, United States

2055. Full Optimization of Multi-Shell Diffusion Acquisition Schemes for Advanced Microstructural Imaging

Silvia De Santis[1], Yaniv Assaf[2], Derek K. Jones[1]

[1]CUBRIC Cardiff University, Cardiff, United Kingdom; [2]Department of Neurobiology, Tel Aviv University, Tel Aviv, Israel

2056. Diffusion Spectrum Imaging with PROPELLER EPI Acquisition

Ming-Chung Chou[1], Ya-Ling Lin[1], Hsiao-Chien Miao[1], Hing-Chiu Chang[2], Tsyh-Jyi Hsieh[3], Gin-Chung Liu[3]

[1]Department of Medical Imaging and Radiological Sciences, Kaohsiung Medical University, Kaohsiung, Taiwan; [2]Graduate Institute of Biomedical Engineering and Bioinformatics, National Taiwan University, Taipei, Taiwan; [3]Department of Medical Imaging, Kaohsiung Medical University Hospital, Kaohsiung, Taiwan

2057. Accurate Estimation of a Multiple Fascicle Model Is Enabled by Manipulation of Gradient Strength in a Two-Shell HARDI to Achieve Low TE.

Benoit Scherrer[1], Simon K. Warfield[1]

[1]Radiology, Harvard Medical School and Boston Children's Hospital, Boston, MA, United States

2058. Axon Diameter Distribution (ADD) MRI

Raisa Z. Freidlin[1], Evren Ozarslan[2], Sinisa Pajevic[1], Michal E. Komlosh[3], Peter J. Basser[3]

[1]NIH/CIT/DCB, Bethesda, MD, United States; [2]Radiology, BWH, Harvard Medical School, Boston, MA, United States; [3]NIH/NICHD/PPITS, Bethesda, MD, United States

2059. Whole-Body STIR Diffusion-Weighted MRI in One Third of the Time

Alto Stemmer[1], Wilhelm Horger[1], Berthold Kiefer[1]

[1]Healthcare Sector, Siemens AG, Erlangen, Germany

2060. Reduced FOV Diffusion-Weighted 3D-EPI

Mathias Engström[1, 2], Stefan Skare[1, 2]

[1]Department of Clinical Neuroscience, Karolinska Institutet, Stockholm, Sweden; [2]Department of Neuroradiology, Karolinska University Hospital, Stockholm, Sweden

2061. Simultaneous Multislice Readout-Segmented Diffusion-Weighted EPI with Blipped-Controlled Aliasing

Samantha J. Holdsworth[1], Rafael O'Halloran[1], Anh Tu Van[1], Eric Aboussouan[1], William A. Grissom[2], Anuj Sharma[2], Murat Aksoy, Julian R. Maclaren, Stefan Skare[3], Roland Bammer

[1] (Equal contribution): Center for Quantitative Neuroimaging, Department of Radiology, Stanford University, Palo Alto, CA, United States; [2] (Equal contribution): Biomedical Engineering, Vanderbilt University, Nashville, TN, United States; [3]Clinical Neuroscience, Karolinska Institute, Stockholm, Sweden

2062. Diffusion MRI Based on SPatio-temporal ENcoding: Analytical Description and Validation

Eddy Solomon[1], Noam Shemesh[1], Lucio Frydman[1]

[1]Chemical Physics, Weizmann Institute of Science, Rehovot, Israel

2063. Accelerated Multi-Shot Diffusion Imaging

Bruno Madore[1], Jr-Yuan Chiou[1], Renxin Chu[1], Tzu-Cheng Chao[2], Stephan E. Maier[1]

[1]Department of Radiology, Harvard Medical School, Brigham and Women's Hospital, Boston, MA, United States; [2]Department of Computer Science and Information Engineering, National Cheng-Kung University, Tainan, Taiwan

2064. Diffusion Weighted Imaging with Whole Brain Coverage and Sub-Microliter Voxels

Joseph L. Holtrop[1, 2], Bradley P. Sutton[1, 2]

[1]Bioengineering, University of Illinois at Urbana-Champaign, Urbana, IL, United States; [2]Beckman Institute, University of Illinois at Urbana-Champaign, Urbana, IL, United States

2065. Mapping Axon Radius in the Human Corpus Callosum Using Dual Spin-Echo Diffusion MRI
Jonathan D. Clayden[1], Zoltan Nagy[2], Nikolaus Weiskopf[2], Daniel C. Alexander[3], Christopher A. Clark[1]
[1]Institute of Child Health, University College London, London, United Kingdom; [2]Wellcome Trust Centre for Neuroimaging, University College London, London, United Kingdom; [3]Centre for Medical Image Computing, University College London, London, United Kingdom

2066. Optimization of Scan Parameters for Diffusion Kurtosis Imaging at 1.5 T
Suguru Yokosawa[1, 2], Yoshitaka Bito, Yoshihisa Soutome, Kenji Ito[2], Fumio Yamashita[2], Kohsuke Kudo[2], Makoto Sasaki[2]
[1] Central Research Laboratory, Hitachi, Ltd., Kokubungi-shi, Tokyo, Japan; [2]Division of Ultrahigh Field MRI, Institute for Biomedical Science, Iwate Medical University, Yahaba, Iwate, Japan

2067. Clinical Feasibility of High-Resolution Single-Shot Diffusion Tensor Trace -Weighted (SsTW) MRI
Alexandru V. Avram[1], Joelle E. Sarlls[2], Raisa Z. Freidlin[3], Peter J. Basser[1]
[1]Section on Tissue Biophysics and Biomimetics, NICHD, National Institutes of Health, Bethesda, MD, United States; [2]National Institute of Neurological Disorders and Stroke, National Institutes of Health, Bethesda, MD, United States; [3]Division of Computational Bioscience, CIT, National Institutes of Health, Bethesda, MD, United States

2068. Angular Double-PGSE Spectroscopy of the Long Evans Shaker Spinal Cord
Debbie Anaby[1], Ian D. Duncan[2], Chelsey M. Smith[2], Yoram Cohen[1]
[1]Tel Aviv University, Tel Aviv, Israel; [2]Medical Sciences, University of Wisconsin-Madison, Madison, WI, United States

2069. Mapping of Microscopic Diffusion Anisotropy Measures in the Living Human Brain
Marco Lawrenz[1, 2], Jürgen Finsterbusch[1, 2]
[1]Department of Systems Neuroscience, University Medical Center Hamburg-Eppendorf, Hamburg, Germany; [2]NeuroimageNord, Hamburg-Kiel-Lübeck, Germany

2070. Localized Double-Pulsed-Field-Gradient MRS of CNS Metabolites
Noam Shemesh[1], Jean-Nicolas Dumez[1], Lucio Frydman[1]
[1]Department of Chemical Physics, Faculty of Chemistry, Weizmann Institute of Science, Rehovot, Israel

2071. Rotationally Invariant Double Pulsed Field Gradient Diffusion Imaging
Sune Nørhøj Jespersen[1, 2], Henrik Lundell[3], Casper Kaae Sønderby[3], Tim B. Dyrby[3]
[1]CFIN/MINDLab, Aarhus University, Aarhus, Denmark; [2]Department of Physics, Aarhus University, Aarhus, Denmark; [3]Danish Research Centre for Magnetic Resonance, Copenhagen University Hospital Hvidovre, Hvidovre, Denmark

2072. Whole-Brain Assessment of Microscopic Anisotropy Using Multiple Pulse-Field Gradient (MPFG) Diffusion MRI
Alexandru V. Avram[1], Joelle E. Sarlls[2], Peter J. Basser[1]
[1]Section on Tissue Biophysics and Biomimetics, NICHD, National Institutes of Health, Bethesda, MD, United States; [2]National Institute of Neurological Disorders and Stroke, National Institutes of Health, Bethesda, MD, United States

ISMRM MERIT AWARD magna cum laude

2073. Increasing the Sensitivity of Temporal Diffusion Spectroscopy with Circularly Polarized Oscillating Gradient Spin Echo
Henrik Lundell[1], Casper Kaae Sønderby[1], Tim B. Dyrby[1]
[1]DRCMR, Copenhagen University Hospital Hvidovre, Hvidovre, Denmark

2074. Modelling Extra-Axonal Diffusion Spectra for Oscillating Gradient Measurements
Wilfred W. Lam[1], Saad Jbabdi[1], Karla L. Miller[1]
[1]FMRIB Centre, University of Oxford, Oxford, Oxon, United Kingdom

2075. Bipolar Single Spin Echo: Diffusion Encoding with Concomitant Field and Eddy Current Correction
R. Marc Lebel[1, 2], Corey Allan Baron[3], Christian Beaulieu[3], Ek T. Tan[4], Ajit Shankaranarayanan[5]
[1]GE Healthcare, Calgary, Alberta, Canada; [2]Radiology , University of Calgary, Calgary, Alberta, Canada; [3]Biomedical Engineering, University of Alberta, Edmonton, Alberta, Canada; [4]GE Global Research, Niskayuna, NY, United States; [5]GE Healthcare, Menlo Park, CA, United States

2076. Two-Scan Multiple Echo Diffusion Tensor Acquisition Technique on a 3T Clinical Scanner with Application to Skeletal Muscle

Steven Baete[1], Gene Cho[1, 2], Eric E. Sigmund[1]

[1]Center for Biomedical Imaging, Dept. of Radiology, NYU Langone Medical Center, New York, NY, United States; [2]Sackler Institute of Graduate Biomedical Sciences, NYU School of Medicine, New York, NY, United States

Traditional Poster
Diffusion: Noise, Artifacts & Phantoms

Exhibition Hall Monday 16:30-18:30

2077. Low-Rank Basis Smoothing for the Denoising of Diffusion Weighted Images

Stephen F. Cauley[1], Obaidah A. Abuhashem[2], Berkin Bilgic[3], Itthi Chatnuntawech[3], Julien Cohen-Adad[4], Kawin Setsompop[5], Elfar Adalsteinsson[2, 5], Lawrence L. Wald[5, 6]

[1]A.A. Martinos Center for Biomedical Imaging, Dept. of Radiology, Massachusetts General Hospital, Charlestown, MA, United States; [2]Department of Electrical Engineering and Computer Science, MIT, Cambridge, MA, United States; [3]Department of Electrical Engineering and Computer Science, Massachusetts Institute of Technology, Cambridge, MA, United States; [4]Department of Electrical Engineering, Institute of Biomedical Engineering, Ecole Polytechnique de Montreal, Montreal, QC, Canada; [5]A.A. Martinos Center for Biomedical Imaging, Dept. of Radiology, MGH, Charlestown, MA, United States; [6]Harvard-MIT Division of Health Sciences and Technology, MIT, Cambridge, MA, United States

2078. Higher Order Variational Denoising for Diffusion Tensor Imaging

ISMRM MERIT AWARD magna cum laude

Florian Knoll[1], Tuomo Valkonen[2], Kristian Bredies[3], Rudolf Stollberger[1]

[1]Institute of Medical Engineering, Graz University of Technology, Graz, Austria; [2]Department of Applied Mathematics and Theoretical Physics, University of Cambridge, Cambridge, United Kingdom; [3]Department of Mathematics and Scientific Computing, University of Graz, Graz, Austria

2079. A Simple Retrospective Noise Correction for Diffusional Kurtosis Imaging

Russell Glenn[1], Ali Tabesh[1], Jens H. Jensen[1]

[1]Radiology and Radiological Sciences, Medical University of South Carolina, Charleston, SC, United States

2080. Noise Estimation for Averaged DW MR Images

Nikolaos Dikaios[1], Valentin Hamy[2], Shonit Punwani[2], David Atkinson[2]

[1]Centre for Medical Imaging, University College London , London, Greater London, United Kingdom; [2]Centre for Medical Imaging, University College London, London, Greater London, United Kingdom

2081. Estimation of Spatially Variable Rician Noise Map in Diffusion MRI

Jelle Veraart[1], Jeny Rajan[1], Ronald R. Peeters[2], Alexander Leemans[3], Stefan Sunaert[2], Jan Sijbers[1]

[1]Vision Lab, University of Antwerp, Antwerp, Belgium; [2]Dept. Radiology, University Hospitals of Leuven, Leuven, Belgium; [3]Image Sciences Institute, University Medical Center Utrecht, Utrecht, Netherlands

2082. Influence of Image Noise and Microcapillary Perfusion (IVIM) on Diffusional Kurtosis Measurements in the Body

Olaf Dietrich[1], Anno Graser, Martina Karpitschka, Melvin D'Anastasi, Maximilian F. Reiser, [1]

[1]Josef Lissner Laboratory for Biomedical Imaging, Institute for Clinical Radiology, Ludwig-Maximilians-University Hospital Munich, Munich, Germany

2083. On the Phase-Error Propagation in Diffusion-Weighted Steady State Free Precession (DW-SSFP) Imaging

Roland Bammer[1], Rafael O'Halloran[1]

[1]Center for Quantitative Neuroimaging, Department of Radiology, Stanford University, Stanford, CA, United States

2084. Estimation and Compensation of Motion-Induced Phase Error in 3D for Multi-Shot Diffusion Acquisitions

Eric Aboussouan[1], Anh Tu Van[1], Rafael O'Halloran[1], Samantha J. Holdsworth[1], Marcus T. Alley[1], Murat Aksoy[1], Roland Bammer[1]

[1]Radiology, Stanford University, Stanford, CA, United States

2085. Effects of Corrupted Signals on Orientation Distribution Function in Q-Ball Imaging: A Simulation Study
Yen-Wei Cheng[1], Ming-Chung Chou[2], Wen-Yih Isaac Tseng[3], Hsiao-Wen Chung[4]
[1] Department of Electrical Engineering, National Ilan University, IIran, Taiwan; [2]Department of Medical Imaging and Radiological Sciences, Kaohsiung Medical University, Kaohsiung, Taiwan; [3]Center for Optoelectronic Biomedicine, National Taiwan University, Taipei, Taiwan; [4]Department of Electrical Engineering, National Taiwan University, Taipei, Taiwan

2086. Influences of B-Value on the Reproducibility and Accuracy of Diffusion Kurtosis Imaging
Ming-Chung Chou[1], Wan-Hsin Wen[1], Sheng-Fang Huang[1], Cheng-Wen Ko[2], Ping-Hong Lai[3]
[1]Department of Medical Imaging and Radiological Sciences, Kaohsiung Medical University, Kaohsiung, Taiwan; [2]Department of Computer Science and Engineering, National Sun Yat-sen University, Kaohsiung, Taiwan; [3]Department of Radiology, Kaohsiung Veterans General Hospital, Kaohsiung, Taiwan

2087. Variability Analyses of Track Density Imaging
Javier Urriola Yaksic[1], Nyoman Dana Kurniawan[1], Zhengyi Yang[2], David C. Reutens[1]
[1]Centre for Advanced Imaging, The University of Queensland, Brisbane, Queensland, Australia; [2]Information Technology and Electrical Engineering, The University of Queensland, Brisbane, Queensland, Australia

2088. Evaluating Longitudinal Reliability and Cross-Subject Sensitivity of Structural Connectivity Networks Computed Using Probabilistic Fiber Tracking
Alex Smith[1], Madhura Ingalhalikar[1], Ragini Verma[1]
[1]Section for Biomedical Image Analysis, University of Pennsylvania, Philadelphia, PA, United States

2089. Reproducibility of Connectivity Based Parcellation - Primary Visual Cortex
Jérémy Lecoeur[1], Madhura Ingalhalikar[1], Ragini Verma[1]
[1]Section of Biomedical Image Analysis, Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States

2090. Optimisation of *ex Vivo* Diffusion Imaging: The Effects of Tissue Preparation and Imaging Parameters on Data Quality
David Alexander Slater[1], Po-Wah So, Karthik Munikoti Prakash, Istvan Bodi[2], Michel Modo[3], [4], Flavio Dell'Acqua[1], [5]
[1]NATBRAINLAB, Department of Neuroimaging, King's College London, Institute of Psychiatry, London, United Kingdom; [2]Department of Clinical Neuropathology, King's College Hospital, London, United Kingdom; [3]McGowan Institute for Regenerative Medicine, University of Pittsburgh, Pittsburgh, PA, United States; [4]Department of Radiology, University of Pittsburgh, Pittsburgh, PA, United States; [5]NIHR Biomedical Research Centre for Mental Health at South London and Maudsley NHS Foundation Trust, King's College London, Institute of Psychiatry, London, United Kingdom

2091. A High-Speed Diffusion-Weighted MRI Simulator with Bloch-Torrey Equation
Shogo Fujii[1], Etsuji Yamamoto[1], Yo Taniguchi[2], Yoshitaka Bito, [12]
[1]Graduate School of Engineering, Chiba University, Chiba-shi, Japan; [2]Central Research Laboratory, Hitachi, Ltd., Kokubunji-shi, Japan

2092. SNR-Dependent Quality Assessment of Compressed-Sensing-Accelerated Diffusion Spectrum Imaging Using a Fiber Crossing Phantom
Tim Sprenger[1], [2], Brice Fernandez[3], Jonathan I. Sperl[1], Vladimir Golkov[1], [2], Michael Bach[4], Ek T. Tan[5], Kevin F. King[6], Christopher J. Hardy[5], Luca Marinelli[5], Michael Czisch[7], Philipp Sämann[7], Axel Haase[8], Marion I. Menzel[1]
[1]GE Global Research, Garching, Germany; [2]Technical University Munich, Garching, Germany; [3]GE Healthcare, Munich, Germany; [4]German Cancer Research Center, Heidelberg, Germany; [5]GE Global Research, Niskayuna, NY, United States; [6]GE Healthcare, Waukesha, WI, United States; [7]Max Planck Institute for Psychiatry, Munich, Germany; [8]Technische Universität München, Garching, Germany

2093. Avian Egg Latebra as Tissue Water Diffusion Model
Stephan E. Maier[1], Robert V. Mulkern[2]
[1]Department of Radiology, Harvard Medical School, Brigham and Women's Hospital, Boston, MA, United States; [2]Department of Radiology, Harvard Medical School, Children's Hospital, Boston, MA, United States

2094. A Simple and Robust Test Object for Diffusion Kurtosis
Jonathan Phillips[1, 2], Geoffrey David Charles-Edwards[3]
[1]Medical Engineering and Physics, King's College London, 124-126 Denmark Hill, London, United Kingdom; [2]Institute of Life Science 2, Swansea University, Swansea, Wales, United Kingdom; [3]Medical Physics, St. Thomas' Hospital, Westminster Bridge Road, London, United Kingdom

Traditional Poster
Diffusion: Pre-Clinical & Clinical Applications

Exhibition Hall Monday 16:30-18:30

2095. Towards Spinal Cord Microstructure Mapping with the Neurite Orientation Dispersion and Density Imaging
Francesco Grussu[1], Torben Schneider[1], Hugh Kearney[1], Hui Zhang[2], David H. Miller[1], Olga Ciccarelli[3], Daniel C. Alexander[2], Claudia Angela M. Wheeler-Kingshott[1]
[1]NMR Research Unit, Queen Square MS Centre, Department of Neuroinflammation, UCL Institute of Neurology, London, England, United Kingdom; [2]Department of Computer Science and Centre for Medical Image Computing, University College London, London, England, United Kingdom; [3]NMR Research Unit, Queen Square MS Centre, Department of Brain Repair and Rehabilitation, UCL Institute of Neurology, London, England, United Kingdom

2096. Histological Correlation of DKI-White Matter Modeling Metrics in the Cuprizone-Induced Corpus Callosum Demyelination
Maria F. Falangola[1, 2], David Guilfoyle[3], Edward S. Hui[1], Xingju Nie[1], Ali Tabesh[1], Jens H. Jensen[1], Scott Gerum[4], Caixia Hu[4], John LaFrancois[4], Heather Collins[1], Joseph A. Helpern[1, 2]
[1]Radiology and Radiological Science, Center for Biomedical Imaging, Medical University of South Carolina, Charleston, SC, United States; [2]Neurosciences, Medical University of South Carolina, Charleston , SC, United States; [3]Nathan Kline Institute, Orangeburg,, NY, United States; [4]Nathan Kline Institute, Orangeburg, NY, United States

2097. The Water Apparent Diffusion Coefficient, But Not T2, in *ex vivo* Brain Tissue Is Affected by Previous Exposure to Alkaline pH
Lindsey A. Leigland[1], Marcus Cappiello[2], Christopher D. Kroenke[1, 3]
[1]Advanced Imaging Research Center and Department of Behavioral Neuroscience, Oregon Health & Science University, Portland, OR, United States; [2]Department of Physics, Oregon State University, Corvallis, OR, United States; [3]Division of Neuroscience, Oregon National Primate Research Center, Oregon Health & Science University, Beaverton, OR, United States

2098. Potential of Diffusion Tensor Imaging as a Virtual Dissection Tool for Cardiac Muscle Bundles: A Pilot Study
Seongjin Choi[1], Ria Mazumder[2], Petra Schmalbrock[1], Michael V. Knopp[1], Richard D. White[1, 3], Arunark Kolipaka[1, 3]
[1]Radiology, The Ohio State University, Columbus, OH, United States; [2]Electrical and Computer Engineering, The Ohio State University, Columbus, OH, United States; [3]Internal Medicine, The Ohio State University, Columbus, OH, United States

2099. Concurrent Dual-Slice Cardiac DTI of the *in-vivo* Human Heart
Constantin von Deuster[1, 2], Christian T. Stoeck[2], Daniel Giese[1], Jack Harmer[1], Rachel W. Chan[3], David Atkinson[3], Sebastian Kozerke[1, 2]
[1]Division of Imaging Sciences, King's College London, London, United Kingdom; [2]Institute for Biomedical Engineering, ETH Zurich, Zurich, Switzerland; [3]Centre for Medical Imaging, University College London, London, United Kingdom

2100. Diffusion Tensor Imaging of Fresh and Formalin Fixed Porcine Hearts: A Comparison Study of Fiber Tracts
Ria Mazumder[1], Seongjin Choi[2], Bradley Dean Clymer[1], Richard White[2, 3], Arunark Kolipaka[2, 3]
[1]Department of Electrical and Computer Engineering, The Ohio State University, Columbus, OH, United States; [2]Deparment of Radiology, The Ohio State University, Columbus, OH, United States; [3]Deptarment of Internal Medicine, Division of Cardiology, The Ohio State University, Columbus, OH, United States

2101. SPatio-Temporal ENcoded Diffusion-Weighted Breast MRI Studies
Eddy Solomon[1], Noam Nissan[1, 2], Hadassa Degani[3], Lucio Frydman[1]
[1]Chemical Physics, Weizmann Institute of Science, Rehovot, Israel; [2]Biological Regulation, Weizmann Institute of Science, Rehovot, Israel; [3]Biological Regulation, Weizmann Institue of Science, Rehovot, Israel

2102. Diffusion Tensor Imaging of the Normal Human Uterus *in vivo*
Koji Fujimoto[1], Aki Kido[2], Tomohisa Okada[2], Masato Uchikoshi[3], Kaori Togashi[2]
[1]Department of Diagnostic Imaging and Nuclear Medicine, Kyoto University, Kyoto, Japan; [2]Department of Diagnostic Imaging and Nuclear Medicine, Kyoto University Graduate School of Medicine, Kyoto, Japan; [3]Siemens Japan K.K., Tokyo, Japan

2103. Measurement of Apparent Diffusion Coefficients of Hyperpolarized ^{13}C-Metabolites *In-Vivo*
Franz Schilling[1, 2], Jan Henrik Ardenkjær-Larsen[3], Martin A. Janich[2], Marion I. Menzel[2], Lise Vejby Søgaard[3]
[1]Institute of Medical Engineering, Technische Universität München, Garching, Germany; [2]GE Global Research, Garching, Germany; [3]Danish Research Centre for Magnetic Resonance, Copenhagen University Hospital Hvidovre, Hvidovre, Denmark

2104. Diffusion-Weighted MRI for the Early Response Assessment of Neoadjuvant Chemotherapy in Breast Cancer: Does Perfusion Effect Influence ADC Map Accuracy?
David Garbera[1], Jyoti Parikh[2], Geoffrey David Charles-Edwards[3]
[1]Imaging Sciences, King's College London, London, United Kingdom; [2]Radiology, Guy's and St Thomas' NHS Foundation Trust, London, United Kingdom; [3]Medical Physics, Guy's and St Thomas' NHS Foundation Trust, London, United Kingdom

2105. *in vivo* Characterisation of Colorectal Tumour Microstructure with DW-MRI
Eleftheria Panagiotaki[1], Simon Walker-Samuel[2], Bernard M. Siow[1, 2], Peter Johnson[3], Rosamund Barbara Pedley[3], Mark F. Lythgoe[2], Daniel C. Alexander[4]
[1]Centre for Medical Image Computing, University College London, London, United Kingdom; [2]Centre for Advanced Biomedical Imaging, University College London, London, United Kingdom; [3]Cancer Institute, University College London, London, United Kingdom; [4]Centre for Medical Image Computing, Dept Computer Science, University College London, London, United Kingdom

2106. The Clinical Use of Diffusion-Weighted Magnetic Resonance Imaging for Oncological Biomarkers
Karen Bae[1], Daniel Ying[1], David Yerushalmi[1], Alice Kim[1], Jinha Park[1]
[1]Diagnostic Radiology, City of Hope, Duarte, CA, United States

2107. DTI Is More Sensitive to Detect Effects of Hypercapnia on White Matter Development in ELBW Infants Than Conventional MRI
Xiawei Ou[1], Charles M. Glasier[1], Raghu H. Ramakrishnaiah[1], Sarah B. Mulkey[2], Vivien L. Yap[2], Jeffrey R. Kaiser[2]
[1]Radiology, Arkansas Children's Hospital; University of Arkansas for Medical Sciences, Little Rock, AR, United States; [2]Pediatrics, Arkansas Children's Hospital; University of Arkansas for Medical Sciences, Little Rock, AR, United States

2108. A Pilot Study of Motion Corrected DTI in the Fetal Brain
Georgia Lockwood Estrin[1, 2], Zhiqing Wu[2], Serena J. Counsell[3], Mary A. Rutherford[1], Joseph V. Hajnal[2]
[1]Perinatal Imaging, Imperial College London, London, United Kingdom; [2]Centre for the Developing Brain, Kings College London, London, United Kingdom; [3]Centre for the Developing Brain, King's College London, London, United Kingdom

2109. Distinct Cerebral Tissue Alterations in Diabetic and Hereditary Neuropathic Pain as Revealed by Voxel-Based Morphometry and Tract-Based Spatial Statistics
Arzu Ceylan Has[1], Aslihan Taskiran Sag[2], Cagri Mesut Temucin[3], Nese Oztekin[2], Fikri Ak[2], Kader Karli Oguz[4]
[1]National Magnetic Resonance Research Centre (UMRAM), Bilkent University, ANKARA, Turkey; [2]Department of neurology, Ankara Numune Education and Research Hospital, ANKARA, Turkey; [3]Department of Neurology, Faculty of Medicine, and Institute of Neurological Sciences and Psychiatry, Hacettepe University, ANKARA, Turkey; [4]Department of Radiology and National Magnetic Resonance Research Centre (UMRAM), Hacettepe University and Bilkent University, ANKARA, Turkey

2110. Short-Term Plasticity of the Motor System Induced by Piano Learning
ISMRM MERIT AWARD magna cum laude
Ido Tavor[1], Rotem Botvinik[1], Yaniv Assaf[1]
[1]Department of Neurobiology, Tel Aviv University, Tel Aviv, Israel

2111. Laterality of the Corticospinal Tract and Variation with Handedness: The Findings of a DTI Study
Khin Khin Tha[1], Satoshi Terae[2], Hiroyuki Hamaguchi[2], Kinya Ishizaka[2], Makoto Hirotani[2], Kazuyuki Minowa[3], Yuriko Suzuki[4], Hiroki Shirato[1]
[1]Department of Radiobiology and Medical Engineering, Hokkaido University Graduate School of Medicine, Sapporo, Hokkaido, Japan; [2]Hokkaido University Hospital, Sapporo, Hokkaido, Japan; [3]Hokkaido University Graduate School of Dental Medicine, Sapporo, Hokkaido, Japan; [4]Philips electronics Japan, Ltd., Tokyo, Japan

2112. Comparison of Relationships Between Two Different White Matter Tracts and Memory Function with Healthy Individuals by Using Diffusion Tensor Tractography
Tetsuo Sato[1], Nobuyuki Maruyama[2], Toru Hoshida[2], Kotaro Minato[1]
[1]Nara Institute of Science and Technology, Ikoma, Nara, Japan; [2]National Hospital Organization Nara Medical Center, Nara, Japan

2113. Time Dependence of the Diffusional Kurtosis in the Human Calf Muscle
Anja Maria Marschar[1], Tristan Anselm Kuder[1], Bram Stieltjes[2], Frederik B. Laun[1, 2]
[1]Department of Medical Physics in Radiology, German Cancer Research Center (DKFZ), Heidelberg, Germany; [2]Quantitative Imaging Based Disease Characterization, German Cancer Research Center (DKFZ), Heidelberg, Germany

2114. Diffusion Tensor Imaging of the Pediatric Thoracic Spinal Cord Using a Short Echo Time Inner-Field-Of-View Sequence
Devon Middleton[1], Feroze Mohamed[1], Nadia Barakat[2], Scott Faro[1], Pallav Shah[1], MJ Mulcahey[2], Amer Samdani[2], Jürgen Finsterbusch[3]
[1]Radiology, Temple University, Philadelphia, PA, United States; [2]Shriners Hospital for Children, Philadelphia, PA, United States; [3]University Medical Center Hamburg-Eppendorf, Hamburg, Germany

2115. Diffusion Tensor Measurements in Healthy Human Sciatic Nerve
Christopher D.J. Sinclair[1, 2], Laura Mancini[3, 3], John S. Thornton[1, 2]
[1]MRC Centre for Neuromuscular Diseases, UCL Institute of Neurology, London, United Kingdom; [2]Department of Brain Repair and Rehabilitation, UCL Institute of Neurology, London, United Kingdom; [3]Lysholm Department of Neuroradiology, National Hospital for Neurology and Neurosurgery, London, United Kingdom

2116. MesoFT: Mesoscopic Structure and Orientation with Fiber Tracking
Marco Reisert[1], Matthias Weigel[2], Els Fieremans[3], Valerij G. Kiselev[2], Dmitry S. Novikov[4]
[1]Dpt. of Radiology, Medical Physics , University Medical Center Freiburg, Freiburg, BW, Germany; [2]Dpt. of Radiology, Medical Physics, University Medical Center Freiburg, Freiburg, BW, Germany; [3]Center for Biomedical Imaging, Dpt. of Radiology, New York University, New York, NY, United States; [4]Center for Biomedical Imaging, Dpt. of Radiology, New York University School of Medicine, New York, NY, United States

Traditional Poster
Fibre PDF's & Tractography

Exhibition Hall Monday 16:30-18:30

2117. Non-Negative Spherical Deconvolution for Fiber Orientation Distribution Estimation
Jian Cheng[1], Dinggang Shen[2], Pew-Thian Yap[2]
[1]Department of Radiology and Biomedical Research Imaging Center (BRIC) , The University of North Carolina at Chapel Hill, Chapel Hill, NC, United States; [2]Department of Radiology and Biomedical Research Imaging Center (BRIC), The University of North Carolina at Chapel Hill, Chapel Hill, NC, United States

2118. Effect of Order and Sharpening on Orientation Distribution Function for Identifying Fiber Orientations in Higher Order Tensor Model
Getaneh Bayu Tefera[1], Yuxiang Zhou[1], Ponnada A. Narayana[1]
[1]Diagnostic & Interventional Imaging, UT Houston, Houston, TX, United States

2119. Test-Retest Reliability in Fibre Orientation Distribution (FOD) Measurements in HARDI Data
Kai-kai Shen[1], Stephen Rose[1], Jurgen Fripp[1], Katie McMachon[2], Greig de Zubicaray[3], Nicholas Martin[4], Paul Thompson[5], Margret Wright[4], Olivier Salvado[1]
[1]Australian eHealth Research Centre, CSIRO, Herston, Queensland, Australia; [2]Centre for Advanced Imaging, University of Queensland, Brisbane, Queensland, Australia; [3]School of Psychology, University of Queensland, Brisbane, Queensland, Australia; [4]Queensland Institute of Medical Research, Brisbane, Queensland, Australia; [5]Imaging Genetics Center, Laboratory of Neuro Imaging, UCLA, Los Angeles, CA, United States

2120. Multiple Kernel Spherical Deconvolution and Intrinsic FA of Crossing Fiber Populations
Qiuyun Fan[1, 2], Erika Spangler[3], Xin Hong[4], Ha-Kyu Jeong[5], Nicole Davis[2, 6], Laurie E. Cutting[2, 3], Adam W. Anderson[1, 2]
[1]Department of Biomedical Engineering, Vanderbilt University, Nashville, TN, United States; [2]Vanderbilt University Institute of Imaging Science, Nashville, TN, United States; [3]Department of Special Education, Peabody College of Education and Human Development, Nashville, TN, United States; [4]Singapore Bioimaging Consortium, Singapore, Singapore; [5]Philips Healthcare, Korea Basic Science Institute, Cheongwon, Korea; [6]Department of Radiology and Radiological Sciences, Vanderbilt University, Nashville, TN, United States

2121. A Separable Approximation to DSI Deconvolution
Michael Paquette[1], Maxime Descoteaux[2]
[1]SCIL, Universite de Sherbrooke, Sherbrooke, Quebec, Canada; [2]SCIL, Université de Sherbrooke, Sherbrooke, Quebec, Canada

2122. RubiX: Combining Spatial Resolutions for Bayesian Inference of Crossing Fibres in Diffusion MRI
Stamatios N. Sotiropoulos[1], Saad Jbabdi[1], Jesper L. Andersson[1], Mark W. Woolrich[1, 2], Kamil Ugurbil[3], Timothy E.J. Behrens[1]
[1]FMRIB Centre, University of Oxford, Oxford, United Kingdom; [2]Oxford Centre for Human Brain Activity (OHBA), University of Oxford, Oxford, United Kingdom; [3]Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, MN, United States

2123. Improved Angular Resolution with GQI2: A New Diffusion Imaging Q-Space Cartesian Lattice Reconstruction Method
Ian Nimmo-Smith[1], Frank Fang-Cheng Yeh[2], Eleftherios Garyfallidis[3]
[1]MRC Cognition and Brain Sciences Unit, Cambridge, Cambridgeshire, United Kingdom; [2]Biomedical Engineering, Carnegie Mellon University, Pittsburgh, PA, United States; [3]University of Cambridge, Cambridge, Cambridgeshire, United Kingdom

2124. Cortical Fiber Insertions and Automated Layer Classification in Human Motor Cortex from 9.4T Diffusion MRI
Matteo Bastiani[1, 2], Ana-Maria Oros-Peusquens[2], Daniel Brenner[2], Klaus Moellenhoff[2], Arne Seehaus[1, 3], Avdo Celik[2], Jörg Felder[2], Andreas Matusch[2], Ralf Galuske[3], Hansjürgen Bratzke[4], Nadim Jon Shah[2, 5], Rainer Goebel[1], Alard Roebroeck[1]
[1]Department of Cognitive Neuroscience, Maastricht University, Maastricht, Limburg, Netherlands; [2]Institute of Neuroscience and Medicine (INM-4), Research Centre Jülich, Jülich, Nordrhein-Westfalen, Germany; [3]Department of Biology, TU Darmstadt, Darmstadt, Hesse, Germany; [4]Department of Forensic Medicine, Faculty of Medicine, JWG-University, Frankfurt/Main, Hesse, Germany; [5]Faculty of Medicine, JARA, RWTH Aachen University, Aachen, Germany

2125. Imaging the Grid Structure of the Brain with DSI and QBI with the 3T Connectom Instrument: Conditional Validation of *in vivo* MRI Tractography in Humans
Van J. Wedeen[1], Ruopeng Wang[1], Timothy G. Reese[1], Thomas Witzel[1], Julian Cohen-Adad[2], Bruce R. Rosen[1], Lawrence L. Wald[1]
[1]Martinos Center for Biomedical Imaging, Mass General Hospital, Harvard Medical School, Charlestown, MA, United States; [2]Department of Electrical Engineering, Institute of Biomedical Engineering, Ecole Polytechnique de Montreal, Montreal, Quebec, Canada

2126. Which Blind Tract Clustering Method Is Most Robust to False Positives?
Mark Drakesmith[1], John Evans[1], Anthony David[2], Derek Jones[1]
[1]CUBRIC, Cardiff University, Cardiff, Wales, United Kingdom; [2]Institute of Psychiatry, Kings College London, London, United Kingdom

2127. Quantitative Fiber Bundle-Driven Analysis of Diffusion MRI Data
Christian Ros[1, 2], Daniel Guellmar[1], Martin Stenzel[2], Hans-Joachim Mentzel[2], Jürgen R. Reichenbach[1]
[1]Medical Physics Group, Institute of Diagnostic and Interventional Radiology I, Jena University Hospital - Friedrich Schiller University Jena, Jena, TH, Germany; [2]Pediatric Radiology, Institute of Diagnostic and Interventional Radiology I, Jena University Hospital - Friedrich Schiller University Jena, Jena, TH, Germany

2128. Probabilistic Atlas of the Adult Human Brain White Matter
Anna Varentsova[1], Shengwei Zhang[2], Konstantinos Arfanakis[2]
[1]Physics, Illinois Institute of Technology, Chicago, IL, United States; [2]Biomedical Engineering, Illinois Institute of Technology, Chicago, IL, United States

2129. Development of a Comprehensive Digital Human Brain Atlas
Shengwei Zhang[1], Konstantinos Arfanakis[1]
[1]Department of Biomedical Engineering, Illinois Institute of Technology, Chicago, IL, United States

2130. A White Matter Tract Atlas Based on a Diffusion Spectrum Imaging (DSI) Template
Yu-Chun Lo[1], Yu-Jen Chen[1], Yung-Chin Hsu[1], Wen-Yih Isaac Tseng[1, 2]
[1]Center for Optoelectronic Biomedicine, National Taiwan University College of Medicine, Taipei, Taiwan; [2]Department of Medical Imaging, National Taiwan University Hospital, Taipei, Taiwan

2131. 3D Visualisation of Connectomes Using Streamtubes
Kerstin Pannek[1], Roslyn Boyd[1], Stephen Rose[2]
[1]The University of Queensland, Brisbane, Queensland, Australia; [2]The Australian E-Health Research Centre, CSIRO, Brisbane, Australia

2132. Whole-Brain Neighbourhood Tractography
Kiran K. Seunarine[1], Jonathan D. Clayden[2], Christopher A. Clark[2]
[1]Imaging and Biophysics Unit, UCL Institute of Child Health, London, United Kingdom; [2]Imaging and Biophysics Unit, University College London, London, United Kingdom

2133. Functional Connectivity Suggests Mean Pathway Radial Diffusivity as a Robust Metric of Anatomic Connectivity
Mark J. Lowe[1], Ken E. Sakaie[1], Katherine Koenig[1], Lael Stone[2], Robert A. Bermel[3], Micheal D. Phillips[1]
[1]Imaging Institute, Cleveland Clinic, Cleveland, OH, United States; [2]Neurologic Institute, Cleveland Clinic, Cleveland, OH, United States; [3]Neurologic Institute, The Cleveland Clinic, Cleveland, OH, United States

2134. Group-Representative Partitions of Human Brain Structural Networks
Alessandra Griffa[1, 2], Richard Betzel[3], Kim Q. Do[4], Philippe Conus[5], Patric Hagmann, [16], Jean-Philippe Thiran[1, 6]
[1]Signal Processing Laboratory (LTS5), Ecole Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Vaud, Switzerland; [2]Department of Radiology, University Hospital Center (CHUV) and University of Lausanne (UNIL), Lausanne, Vaud, Switzerland; [3]Department of Psychological and Brain Sciences, Indiana University, Bloomington, IN, United States; [4]Center for Psychiatric Neurosciences, Lausanne University Hospital (CHUV) and University of Lausanne, Lausanne, Vaud, Switzerland; [5]Department of Psychiatry, Lausanne University Hospital (CHUV), Lausanne, Vaud, Switzerland; [6]Department of Radiology, Univerity Hospital Center (CHUV) and University of Lausanne (UNIL), Lausanne, Vaud, Switzerland

2135. Evidence for the Improved Biological Interpretability of White Matter Connectivity Derived Following Tractogram Filtering Using SIFT
ISMRM MERIT AWARD summa cum laude
Robert E. Smith[1], Jacques-Donald Tournier[1], Fernando Calamante[1], Alan Connelly[1]
[1]Brain Research Institute, Florey Institute of Neuroscience and Mental Health, Heidelberg, Victoria, Australia

2136. How Well Does the Residual Bootstrap Predict Scan-Rescan Repeatability of Spherical Deconvolution Diffusion MRI?
Jennifer S.W. Campbell[1], Bruce G. Pike[2]
[1]McConnell Brain Imaging Centre, McGill University, Montreal, Quebec, Canada; [2]McConnell Brain Imaging Centre, Montreal Neurological Institute, McGill University, Montreal, Quebec, Canada

2137. Explore the Brain White Matter Networks in Real-Time: Multi-Sticks Fiber Tracking
Maxime Chamberland[1], Maxime Descoteaux[1]
[1]Computer Science, Université de Sherbrooke, Sherbrooke, Québec, Canada

2138. A Diffusion MRI Resource of 80 Age-Varied Subjects with Neuropsychological and Demographic Measures
Ryan P. Cabeen[1], Ksenia Andreyeva[2], Mark E. Bastin[2], David H. Laidlaw[1]
[1]Brown University, Providence, RI, United States; [2]University of Edinburgh, Edinburgh, United Kingdom

2139. Tractography and Connectivity Analysis with the TractoR Software Package
Jonathan D. Clayden[1], Susana Munoz Maniega[2], Amos J. Storkey[3], Martin D. King[1], Mark E. Bastin[4], Christopher A. Clark[1]
[1]Institute of Child Health, University College London, London, United Kingdom; [2]Division of Clinical Neurosciences, University of Edinburgh, Edinburgh, United Kingdom; [3]School of Informatics, University of Edinburgh, Edinburgh, United Kingdom; [4]Centre for Clinical Brain Sciences, University of Edinburgh, Edinburgh, United Kingdom

2140. A Comparison of Two Automated and Probabilistic Tract Segmentation Methods
Jonathan D. Clayden[1], Susana Munoz Maniega[2], Mark E. Bastin[3], Christopher A. Clark[1]
[1]Institute of Child Health, University College London, London, United Kingdom; [2]Division of Clinical Neurosciences, University of Edinburgh, Edinburgh, United Kingdom; [3]Centre for Clinical Brain Sciences, University of Edinburgh, Edinburgh, United Kingdom

2141. Connectivity-Based Segmentation of the Precuneus in Individual Adolescent Rhesus Macaque DTI Data.
Elizabeth Zakszewski[1], Nagesh Adluru[1], Ned Kalin[1], Andrew L. Alexander[1]
[1]University of Wisconsin-Madison, Madison, WI, United States

2142. Correlation of Imaging Connectivity with Electrophysiological Connectivity Using Intracranial Electrodes
Stephen Jones[1], Erik B. Beall[2], Jorge A. Gonzalez-Martinez[1], Blessy Mathew[1], Dileep Nair[1], Imad Najm[1], Michael Phillips[1], Ken E. Sakaie[1], Myron Zhang[1]
[1]Cleveland Clinic Foundation, Cleveland, OH, United States; [2]Cleveland Clinic, Cleveland, OH, United States

2143. Spatial Resolution Requirements for Diffusion Tensor Imaging of Fornix
Ken E. Sakaie[1], Mark J. Lowe[1], Katherine Koenig[1], Robert A. Bermel[2], Lael Stone[2], Michael Phillips[1]
[1]Imaging Institute, The Cleveland Clinic, Cleveland, OH, United States; [2]Mellen Center for Multiple Sclerosis Treatment and Research, The Cleveland Clinic, Cleveland, OH, United States

Traditional Poster
Arterial Spin Labeling

Exhibition Hall Monday 16:30-18:30

2144. Longitudinal Study of Cerebral Blood Flow Measurements in Normals Using Pseudocontinuous and Velocity-Selective Arterial Spin Labeling
Zungho Zun[1], Deqiang Qiu[1], Jarrett Rosenberg[1], Greg Zaharchuk[1]
[1]Radiology, Stanford University, Stanford, CA, United States

2145. Comparing 3D Velocity-Selective Arterial Spin Labeling to 3D Pseudocontinuous Arterial Spin Labeling
Zungho Zun[1], Ajit Shankaranarayanan[2], Greg Zaharchuk[1]
[1]Radiology, Stanford University, Stanford, CA, United States; [2]GE Healthcare, Menlo Park, CA, United States

2146. Turbo-QUASAR: A Signal-To-Noise Optimal Arterial Spin Labeling and Sampling Strategy
ISMRM MERIT AWARD magna cum laude
Esben Thade Petersen[1, 2], Jill Britt De Vis[1], Cornelis A.T. van den Berg[2], Jeroen Hendrikse[1]
[1]Department of Radiology, UMC Utrecht, Utrecht, Netherlands; [2]Department of Radiotherapy, UMC Utrecht, Utrecht, Netherlands

2147. Thin Slab Pseudo-Continuous Arterial Spin Labeling
Weiying Dai[1], David C. Alsop[1]
[1]Radiology, Beth Israel Deaconess Medical Center & Harvard Medical School, Boston, MA, United States

2148. Suppression of Free Fluid Perfusion Artefacts in Velocity Selective ASL Using a BIR-4 T_2-FLAIR Preparation
ISMRM MERIT AWARD magna cum laude
James A. Meakin[1, 2], Natalie L. Voets[1], Thomas W. Okell[1], Peter Jezzard[1]
[1]FMRIB Centre, University of Oxford, Oxford, United Kingdom; [2]Department of Oncology, University of Oxford, Oxford, United Kingdom

2149. Pulmonary Blood Flow Measurement Using Velocity-Selective Arterial Spin Labeling at 3.0T
Jia Guo[1], Eric C. Wong[1]
[1]University of California San Diego, La Jolla, CA, United States

2150. ASL-Based Time-Resolved MRA Acquiring Labeled and Control Images in a Single Look-Locker-Like Acquisition
Yuriko Suzuki[1], Noriyuki Fujima[2], Hiroyuki Sugimori[2], Tetsuo Ogino[1], Marc Van Cauteren[3]
[1]Philips Electronics Japan, Minato-ku, Tokyo, Japan; [2]Hokkaido University Hospital, Sapporo, Hokkaido, Japan; [3]Philips Healthcare Asia Pacific, Minato-ku, Tokyo, Japan

2151. Theoretical and Practical Investigation of Acoustic Noise Level Reduction in Pseudo-Continuous Arterial Spin Labeling
Magdalena Sokolska[1], Aaron Oliver-Taylor[1], Xavier Golay[2], David Thomas[1]
[1]Department of Brain Repair & Rehabilitation, UCL Institute of Neurology, London, UK, United Kingdom; [2]Department of Brain Repair & Rehabilitation, University College London, London, UK, United Kingdom

2152. Silent Pseudo-Continuous Arterial Spin Labeling
Michael Helle[1], Tim Nielsen[1]
[1]Philips Research Laboratories, Hamburg, Germany

2153. Active Head Coil Detuning: A Method to Reduce SAR in CASL at 7T
Randall B. Stafford[1, 2], Se-Hong Oh[1, 2], Myung-Kyun Woo[3], Tiejun Zhao[4], Kyoung-Nam Kim[3], Young-Bo Kim[3], Zang-Hee Cho[3], John A. Detre[1, 2], Jongho Lee[1, 2]
[1]Radiology, University of Pennsylvania, Philadelphia, PA, United States; [2]Center for Functional Neuroimaging, University of Pennsylvania, Philadelphia, PA, United States; [3]Neuroscience Research Institute, Gachon University, Incheon, Korea; [4]Siemens Healthcare USA, University of Pittsburgh, Pittsburgh, PA, United States

2154. Vascular Territory Segmentation Using Mutual Clustering in Image and Label Space
Youngkyoo Jung[1, 2], Megan E. Johnston[2], Christopher T. Whitlow[1, 3], Joseph A. Maldjian[1]
[1]Radiology, Wake Forest School of Medicine, Winston-Salem, NC, United States; [2]Biomedical Engineering, Wake Forest School of Medicine, Winston-Salem, NC, United States; [3]Translational Science Institute, Wake Forest School of Medicine, Winston-Salem, NC, United States

2155. Analysis of Localization Error of Decoded Vascular Sources in Random Vessel Encoded Arterial Spin Labeling
Yi Dang[1], Jia Guo[2], Jue Zhang[1, 3], Eric C. Wong[4]
[1]Academy for Advanced Interdisciplinary Studies, Peking University, Beijing, China; [2]Department of Bioengineering, University of California San Diego, San Diego, CA, United States; [3]College of Engineering, Peking University, Beijing, China; [4]Department of Radiology and Psychiatry, University of California San Diego, San Diego, CA, United States

2156. Investigation of the Theoretical Signal Model Used in Random Vessel Encoded Arterial Spin Labeling
Yi Dang[1], Jia Guo[2], Jue Zhang[1, 3], Eric C. Wong[4]
[1]Academy for Advanced Interdisciplinary Studies, Peking University, Beijing, China; [2]Department of Bioengineering, University of California San Diego, San Diego, CA, United States; [3]College of Engineering, Peking University, Beijing, China; [4]Department of Radiology and Psychiatry, University of California San Diego, San Diego, CA, United States

2157. Accelerated 3DPCASL Using Compressed Sensing
ISMRM MERIT AWARD magna cum laude
Li Zhao[1], Samuel W. Fielden[1], Xiao Chen[1], John P. Mugler, III[2], Josef Pfeuffer[3], Manal Nicolas-Jilwan[2], Max Wintermark[2], Craig H. Meyer[1]
[1]Biomedical Engineering, University of Virginia, Charlottesville, VA, United States; [2]Radiology, University of Virginia, Charlottesville, VA, United States; [3]Siemens, Erlangen, Germany

2158. Accelerating Arterial Spin Labeled Perfusion Imaging Using Compressed Sensing
Yihang Zhou[1, 2], Jie Zheng[3], Dong Liang[4], Leslie Ying[1, 2]
[1]Electrical Engineering, University at Buffalo, Buffalo, NY, United States; [2]Department of Biomedical Engineering, University at Buffalo, Buffalo, NY, United States; [3]Department of Radiology, Washington University, St. Louis, MO, United States; [4]Paul C. Lauterbur Research Centre for Biomedical Imaging, Shenzhen, China

2159. Pulsed Arterial Spin Labeling with Multi-Band Excitation
Tae Kim[1], Wanyong Shin[2], Erik B. Beall[2], Mark J. Lowe[2], Tiejun Zhao[3], Kyongtae Ty Bae[1]
[1]Radiology, University of Pittsburgh, Pittsburgh, PA, United States; [2]Imaging Institute, Cleveland Clinic, Cleveland, OH, United States; [3]Siemens Medical Solution USA, INC., Siemens MediCare Healthcare USA, Pittsburgh, PA, United States

2160. Interleaved Multi-Slab 3D Gradient and Spin Echo for Arterial Spin Labeling
Hiroshi Toyoda[1, 2], Guoxiang Liu[2], Yusuke Morito[2], Yasuyoshi Watanabe[3]
[1]RIKEN Center for Molecular Imaging Science , Kobe, Japan; [2]National Institute of Information and Communications Technology, Kobe, Japan; [3]RIKEN Center for Molecular Imaging Science, Kobe, Japan

2161. Dual Slice Perfusion Measured with PASL-SIR
Erin K. Englund[1], Michael C. Langham[1], Cheng Li[1], Felix W. Wehrli[1]
[1]Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States

2162. Comparison of Water Excitation Versus Fat Saturation in Perfusion MRI - Effects on Lipid Signal, SNR and CBF
Karthik Prabhakaran[1], Ryan D. Hopson[1], Mark A. Elliott[1], Kosha Ruparel[1], Raquel E. Gur[1], Ruben C. Gur[1], John A. Detre[1]
[1]University of Pennsylvania, Philadelphia, PA, United States

2163. Comparison of Cerebral Blood Flow and Arterial Transit Time Estimation Methods Using Monte-Carlo Simulation
Megan E. Johnston[1], Joseph A. Maldjian[2], Youngkyoo Jung[1, 2]
[1]Biomedical Engineering, Wake Forest University School of Medicine, Winston-Salem, NC, United States; [2]Radiology, Wake Forest University School of Medicine, Winston-Salem, NC, United States

2164. Optimal PLD Design and Maximum Likelihood CBF Estimation for Dynamic PCASL with Rician Noise
Li Zhao[1], Craig H. Meyer[1, 2]
[1]Biomedical Engineering, University of Virginia, Charlottesville, VA, United States; [2]Radiology, University of Virginia, Charlottesville, VA, United States

2165. Alpha-Corrected Pseudo-Continuous Arterial Spin Labeling for Robust Quantification of Cerebral Blood Flow
David D. Shin[1], Ho-Ling Liu[2], Thomas T. Liu[1]
[1]Center for Functional MRI, University of California, San Diego, La Jolla, CA, United States; [2]Chang Gung University, Taoyuan, Taiwan

2166. Robust T2 Measurements for Multi-TI Arterial Spin Labeling
Johanna Kramme[1], Matthias Günther[1, 2]
[1]Fraunhofer MEVIS, Bremen, Germany, Germany; [2]Faculty of Physics and Electronics, University of Bremen, Bremen, Germany, Germany

2167. Sensitivity to Bolus Dispersion in Continuous and Pulsed Multi-TI ASL Techniques
Roman Fleysher[1], Mark E. Wagshul[1], Michael L. Lipton[1], Craig A. Branch[1]
[1]Gruss Magnetic Resonance Research Center, Department of Radiology, Albert Einstein College of Medicine, Bronx, NY, United States

2168. Transient Effects in Arterial CBV Quantification
Kathrin Lorenz[1], Toralf Mildner[1], André Pampel[1], Harald E. Möller[1]
[1]Nuclear Magnetic Resonance Unit, Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Saxony, Germany

2169. Delay and Dispersion in the Microvascular Network Due to Laminar Flow with Account for Vessel Bifurcations
Elias Kellner[1], Roman Fleysher[2], Matthias Günther[3], Marco Reisert[1], Peter Gall[1], Valerij G. Kiselev[1]
[1]Department of Radiology, University Hospital Freiburg, Freiburg, Germany; [2]Gruss Magnetic Research Center, Department of Radiology, Albert Einstein College of Medicine , Bronx, NY, United States; [3]Institute for Medical Image Computing, Fraunhofer MEVIS, 28359, Germany

2170. A Two-Stage General Kinetic Model for Improved Estimation of Brain Tumour Perfusion Using Arterial Spin Labeling

Patrick W. Hales[1], Kim P. Phipps[2], Ramneek Kaur[1], Tina Banks[3], Christopher A. Clark[1]
[1]Imaging and Biophysics, University College London, London, United Kingdom; [2]Neuro-oncology Department, Great Ormond Street Hospital, London, United Kingdom; [3]Radiology Department, Great Ormond Street Hospital, London, United Kingdom

2171. Correlation Between PCASL and DSC Perfusion MRI with and Without Contrast Agent Leakage Correction in Brain Tumors

Feng-Xian Yan[1], Alex M. Wong[2], Ho-Ling Liu[1, 2]
[1]Department of Medical Imaging and Radiological Sciences, Chang Gung University, Taoyuan, Taiwan; [2]Department of Medical Imaging and Intervention, Chang Gung Memorial Hospital, Taoyuan, Taiwan

2172. Cerebral Blood Flow Quantification from QUASAR ASL by Stable Spline

Marco Castellaro[1], Amit Mehndiratta[2], Denis Peruzzo[1], Gianluigi Pillonetto[1], Esben Thade Petersen[3], Xavier Golay[4], Michael A. Chappell[2], Alessandra Bertoldo[1]
[1]Department of Information Engineering, University of Padova, Padova, PD, Italy; [2]Institute of Biomedical Engineering, University of Oxford, Oxford, United Kingdom; [3]Departments of Radiology and Radiotherapy, University Medical Center Utrecht, Utrecht, Netherlands; [4]University College London, London, United Kingdom

2173. A Novel Efficient Denoising Method for ASL Data: Assessment Using Voxel-Wise Network Analysis

Xiaoyun Liang[1], Alan Connelly[1, 2], Fernando Calamante[1, 2]
[1]Brain Research Institute, Florey Institute of Neuroscience and Mental Health, Heidelberg, VIC, Australia; [2]Department of Medicine, Austin Health and Northern Health, University of Melbourne, Melbourne, VIC, Australia

2174. Arterial Spin Labeling (ASL) Denoising with Markov Random Field (MRF) Optimization

Yongsheng Zhang[1], Ze Wang[1]
[1]Department of Psychiatry, University of Pennsylvania, Philadelphia, PA, United States

2175. Performance of Capnia-Derived Regressors and Physiological Noise Correction for ASL Measurement of Cerebral Vasoreactivity to Circulating Gases

Marjorie Villien[1, 2], Alexandre Krainik[3], Julien Bouvier[1], Matthias J.P. van Osch[4], Laurent Lamalle[5], Irène Troprès[5], Jan M. Warnking[1]
[1]Grenoble Institut of Neurosciences, INSERM, Grenoble, France; [2]Athinoula A. Martinos center for biomedical imaging, Massachusetts General Hospital, Charlestown, MA, United States; [3]Clinique universitaire de neuroradiologie et d'IRM, CHU Grenoble, Grenoble, France; [4]Leiden University Medical Center, Leiden, Netherlands; [5]SFR1, Université Joseph Fourier, Grenoble, France

2176. ASL Inversion Efficiency for Three Methods and Two Magnetic Fields

Clément S. Debacker[1, 2], Jan M. Warnking[1, 3], Jérôme Voiron[3], Emmanuel Luc Barbier, [3 4]
[1]Team 5: Functional NeuroImaging and Brain Perfusion, Grenoble-Institute of Neuroscience, La Tronche, France; [2]MRI, Bruker BioSpin, Ettlingen, Germany; [3]U836, INSERM, La Tronche, France; [4]Team 5: Functional NeuroImaging and Brain Perfusion, Grenoble Institute of Neurosciences, La Tronche, France

2177. Perfusion Quantification Using Pseudo-Continuous Arterial Spin Labelling: The Impact of Labelling Efficiency Estimation

Magdalena Sokolska[1], Xavier Golay[2], David Thomas[1]
[1]Department of Brain Repair & Rehabilitation, UCL Institute of Neurology, London, UK, United Kingdom; [2]Department of Brain Repair & Rehabilitation, University College London, London, UK, United Kingdom

2178. Quantitative Estimation of Cerebral Oxygenation in Micro-Vessels

Harshan Ravi[1, 2], Jinsoo Uh[3], Peiying Liu[1], Lisa C. Krishnamurthy[1, 2], Hanzhang Lu[1]
[1]Advanced Imaging Research Center, University of Texas Southwestern Medical Center, Dallas, TX, United States; [2]Department of Bioengineering, University of Texas at Arlington, Arlington, TX, United States; [3]Department of Radiological Sciences, St. Jude Children's Research Hospital, Memphis, TN, United States

2179. Comparison of 3D Pseudo-CASL and $H_2^{15}O$ PET for Quantification of Cerebral Blood Flow
Joost P. A. Kuijer[1], Larissa W. van Golen[2], Marc C. Huisman[3], Richard G. IJzerman[2], Frederik Barkhof[3], Michaela Diamant[2], Adriaan A. Lammertsma[3]
[1]Physics and Medical Technology, NCA, VU University Medical Center, Amsterdam, NL, Netherlands; [2]Diabetes Center, Internal Medicine, VU University Medical Center, Amsterdam, NL, Netherlands; [3]Radiology and Nuclear Medicine, NCA, VU University Medical Center, Amsterdam, NL, Netherlands

2180. Automated Group Analysis Tools for CBF Measures Using CBFBIRN Database and Analysis Pipeline
David D. Shin[1], Burak I. Ozyurt[2], Thomas T. Liu[1]
[1]Center for Functional MRI, University of California, San Diego, La Jolla, CA, United States; [2]Dept. of Psychiatry, University of California, San Diego, La Jolla, CA, United States

2181. Quantitative Cerebral and Retinal Blood Flow Using Continuous Arterial Spin Labeling MRI and Fluorescent Microsphere
Yen-Yu Ian Shih[1, 2], Bryan H. De La Garza[2], Shiliang Huang[2], Guang Li[2], Lin Wang[3], Timothy O. Duong[4]
[1]Experimental Neuroimaging Laboratory, Department of Neurology and Biomedical Research Imaging Center, University of North Carolina, Chapel Hill, NC, United States; [2]Research Imaging Center, University of Texas Health Science Center at San Antonio, San Antonio, TX, United States; [3]Devers Eye Institute, Legacy Research Institute, Portland, OR, United States; [4]Research Imaging Center, UT Health Science Center at San Antonio, San Antonio, TX, United States

2182. Measuring Tissue Perfusion in the Human Brainstem Using Multi-Inversion Time Pulsed Arterial Spin Labelling
Esther A H Warnert[1], Ashley D. Harris[1], Kevin Murphy[1], Michael A. Chappell[2], Judith E. Hall[3], Richard G. Wise[1]
[1]Cardiff University Brain Research Imaging Centre, Cardiff, South Glamorgan, United Kingdom; [2]University of Oxford, Headington, Oxford, United Kingdom; [3]Department of Anaesthetics, Intensive Care and Pain Medicine, School of Medicine, Cardiff, South Glamorgan, United Kingdom

2183. Effect of Deep Isoflurane Anesthesia on Cerebral Blood Flow Autoregulation in Non-Human Primates
Chun-Xia Li[1], Sudeep Patel[1], Danny J.J. Wang[2], Xiaodong Zhang[1]
[1]Yerkes Imaging Center, Yerkes National Primate Research Center, Emory University, Atlanta, GA, United States; [2]Ahmanson-Lovelace Brain Mapping Center, Department of Neurology, UCLA, Los Angeles, CA, United States

2184. Reinvestigation of Perfusion Measurement in Cerebral White Matter Using Pseudocontinuous Arterial Spin Labeling MRI
Wen-Chau Wu[1, 2], Shu-Chi Lin[2], Kuan-Lin Chen[2]
[1]Graduate Institute of Oncology, National Taiwan University, Taipei, Taiwan; [2]Medical Imaging, National Taiwan University Hospital, Taipei, Taiwan

2185. Assessment of Microcirculation in Murine Myocardium: A Retrospective Method for Quantification of Perfusion and Regional Blood Volume
Fabian Tobias Gutjahr[1], Thomas Kampf[4], Xavier Helluy[1], Christian Herbert Ziener[2], Peter M. Jakob[1, 3], Wolfgang Rudolf Bauer[4]
[1]Experimental Physics 5, University of Wuerzburg, Wuerzburg, Bavaria, Germany; [2]German Cancer Research Center, Heidelberg, Baden Wuerttemberg, Germany; [3]Magnetic Resonance Bavaria, Wuerzburg, Bavaria, Germany; [4]Medizinische Klinik und Polyklinik I, Universitaetsklinikum Wuerzburg, Wuerzburg, Bavaria, Germany

2186. Simultaneous Quantification of Perfusion, Venous Oxygen Saturation, and Skeletal Muscle T_2* in Response to Cuff-Induced Ischemia in the Leg
Erin K. Englund[1], Michael C. Langham[1], Cheng Li[1], Emile R. Mohler[2], Thomas F. Floyd[3], Felix W. Wehrli[1]
[1]Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States; [2]Department of Cardiology, University of Pennsylvania, Philadelphia, PA, United States; [3]Department of Anesthesiology, Stony Brook University, Stony Brook, NY, United States

2187. ASL in Low-Intensity Exercise at 7T - Initial Experiences
Kiril Schewzow[1, 2], Georg Bernd Fiedler[1, 2], Martin Meyerspeer[1, 2], Ewald Moser[1, 2], Albrecht Ingo Schmid[1, 2]
[1]Medical Physics and Biomedical Engeneering, Medical University of Vienna, Vienna, Wien, Austria; [2]MR Centre of Excellence, Medical University of Vienna, Vienna, Wien, Austria

2188. Multi-Slice Look-Locker FAIR for Hepatic Arterial Spin Labelling
Rajiv Ramasawmy[1, 2], Adrienne E. Campbell-Washburn[1], Sean Peter Johnson[2], Jack Wells[1], Rosamund Barbara Pedley[2], Simon Walker-Samuel[1], Mark F. Lythgoe †[1]
[1]Centre for Advanced Biomedical Imaging, University College London, London, Greater London, United Kingdom; [2]Cancer Institute, University College London, London, Greater London, United Kingdom

2189. Renal Perfusion Imaging with Two-Dimensional Navigator Gated Arterial Spin Labeling
Huan Tan[1], Ioannis Koktzoglou[2, 3], Pottumarthi Vara Prasad[2, 3]
[1]NorthShore University HealthSystem, Evanston , IL, United States; [2]NorthShore University HealthSystem, Evanston, IL, United States; [3]The University of Chicago Pritzker School of Medicine, Chicago, IL, United States

2190. Measurement of Bulk Liver Perfusion: Initial Assessment of Agreement Between ASL and Phase-Contrast MRI at 9.4T
Manil Chouhan[1, 2], Rajiv Ramasawmy[2, 3], Adrienne E. Campbell-Washburn[2], Alan Bainbridge[4], Jack Wells[2], Nathan Davies[5], Rosamund Barbara Pedley[3], Raj Mookerjee[5], Shonit Punwani[1], Stuart Taylor[1], Simon Walker-Samuel[2], Mark F. Lythgoe[2]
[1]Centre for Medical Imaging, University College London, London, Greater London, United Kingdom; [2]Centre for Advanced Biomedical Imaging, University College London, London, Greater London, United Kingdom; [3]Cancer Institute, University College London, London, Greater London, United Kingdom; [4]Department of Medical Physics and Bioengineering, University College London, London, Greater London, United Kingdom; [5]Institute for Liver and Digestive Health, University College London, London, United Kingdom

2191. Cerebral Blood Flow of Mouse Increases Upon Insulin-Induced Hypoglycemia Using the Continuous Arterial Spin Labeling Technique
Hongxia Lei[1, 2], Rolf Gruetter[3, 4]
[1]University of Geneva, Geneva, Switzerland; [2]EPFL, Lausanne, Vaud, Switzerland; [3]École Polytechnique Fédérale de Lausanne, Geneva, Switzerland; [4]University of Lausanne, Lausanne, Vaud, Switzerland

2192. Arterial Transit Delay Effects on Perfusion Measurement in an Elderly Cohort
Weiying Dai[1], Ajit Shankaranarayanan[2], David C. Alsop[1]
[1]Radiology, Beth Israel Deaconess Medical Center and Harvard Medical School, Boston, MA, United States; [2]Global Applied Science Laboratory, GE Healthcare, Menlo Park, CA, United States

2193. Resting State Functional Connectivity of the Subthalamic Nucleus in Parkinson's Disease Assessed Using Arterial Spin Labeling
Maria A. Fernandez-Seara[1], Elisa Mengual[2], Marta Vidorreta[1], Francis Loayza[1], Jaione Irigoyen[1], Maria Pastor[1]
[1]Neuroscience, CIMA - University of Navarra, Pamplona, Navarra, Spain; [2]Anatomy, Medical School - University of Navarra, Pamplona, Navarra, Spain

Traditional Poster
Perfusion & Permeability

Exhibition Hall Monday 16:30-18:30

2194. 3D Spoiled Gradient-Recalled Echo Sequence with Compressed Sensing for DCE-MRI: Improved Temporal Resolution and Image Contrast
Bin Chen[1], Kai Zhao[2], Bo Li[3], Wenchao Cai[2], Xiaoying Wang, [12], Jue Zhang, [13], Jing Fang, [13]
[1]Academy for Advanced Interdisciplinary Studies, Peking University, Beijing, China; [2]Dept. of Radiology, Peking University First Hospital, Beijing, China; [3]College of Engineering, Peking University, Beijing, China

2195. Analysis of the Spin and Gradient Echo (SAGE) Sequence for DSC-MRI in Rat Brain Tumors
Ashley M. Stokes[1, 2], Christopher C. Quarles[1, 2]
[1]Institute of Imaging Science, Vanderbilt University, Nashville, TN, United States; [2]Radiology and Radiological Sciences, Vanderbilt University, Nashville, TN, United States

2196. A Single-Shot Multiple Spin- And Gradient-Echo Acquisition for Perfusion Imaging Using SENSE Acceleration and Partial K-Space Sampling

Jack T. Skinner[1, 2], Ryan K. Robison[2, 3], Christopher C. Quarles[1, 2]
[1]Radiology and Radiological Sciences, Vanderbilt University, Nashville, TN, United States; [2]Institute of Imaging Science, Vanderbilt University, Nashville, TN, United States; [3]Philips Healthcare, Highland Heights, OH, United States

2197. On the Importance of T1 Estimation for SAGE Perfusion MRI Data

Alexander Brost[1], Heiko Schmiedeskamp[1], Matus Straka[1], Jalal Andre[2], Roland Bammer[1]
[1]Center for Quantitative Neuroimaging, Stanford University, Stanford, CA, United States; [2]Department of Radiology, University of Washington, Seattle, WA, United States

2198. Calibration of Dynamic Susceptibility Contrast MRI Using T1-Based Steady-State CBV (Bookend Technique) and Vascular Space Occupancy (VASO): Comparison with Pseudo-Continuous Arterial Spin Labeling

Emelie Lindgren[1], Ronnie Wirestam[1], Karin Markenroth Bloch[1, 2], André Ahlgren[1], Matthias J.P. van Osch[3], Danielle van Westen[4], Yulia Surova[5, 6], Freddy Ståhlberg[1, 7], Linda Knutsson[1]
[1]Department of Medical Radiation Physics, Lund University, Lund, Sweden; [2]Clinical science, Philips, Lund, Sweden; [3]C.J.Gorter Center for high field MRI, Department of Radiology, LUMC, Leiden, Netherlands; [4]Center for Medical Imaging and Physiology, Skane University Hospital Lund, Lund, Sweden; [5]Department of Clinical Sciences, Lund University, Lund, Sweden; [6]Department of Neurology, Skåne University Hospital, Lund, Sweden; [7]Lund University Bioimaging Centrum, Lund University, Lund, Sweden

2199. Improved T_1 Mapping and DCE-MRI Quantification for Prostate at 3T by Incorporating B_1 Inhomogeneity Correction

Ming-Ching Chang[1], Sandeep Narendra Gupta[1], Laura I. Sacolick[2], Clare Tempany-Afdhal[3], Fiona Fennessy[3], Ehud J. Schmidt[3]
[1]GE Global Research Center, Niskayuna, NY, United States; [2]GE Global Research Center, Munich, Germany; [3]Radiology, Brigham and Women's Hospital, Boston, MA, United States

2200. Accuracy of Quantitative 3D DCE-MRI Using Variable Flip Angle T1 Mapping, B_1 Correction, and the Bookend Method

Brandon Zanette[1], Greg O. Cron[2, 3], Thanh B. Nguyen[2, 3], Mark E. Schweitzer[2, 3], Ian G. Cameron[2, 3]
[1]Carleton University, Ottawa, Ontario, Canada; [2]Ottawa Hospital Research Institute, Ottawa, Ontario, Canada; [3]Radiology, University of Ottawa, Ottawa, Ontario, Canada

2201. Monitoring of T2 with Application of Diffusion Gradients to Remove Microcirculation Contributions to Signal for Optimisation of Diffusion Protocols and Generation of Flow-Free T2 Maps

Neil P. Jerome[1], James A. d'Arcy[1], Matthew R. Orton[1], Thorsten Feiweier[2], Dow-Mu Koh[3], Martin O. Leach[1], David John Collins[1]
[1]Radiotherapy & Imaging, The Institute of Cancer Research, Sutton, Surrey, United Kingdom; [2]Imaging & Therapy Division, Siemens AG, Healthcare Sector, Erlangen, Germany; [3]Department of Radiology, Royal Marsden Hospital, Sutton, Surrey, United Kingdom

2202. The Influence of Vascular Morphology on DSC-MRI Derived Blood Volume Measurements in Brain Tumors

Natenael B. Semmineh[1], Junzhong Xu[2], Christopher C. Quarles[2]
[1]Institute of Imaging Science, Vanderbilt University, Nashville , TN, United States; [2]Institute of Imaging Science, Vanderbilt University, Nashville, TN, United States

2203. Optimizing Repeatability of Independent Component Analysis Applied to Dynamic Susceptibility Contrast MRI in 68 Brain Tumor Patients with Five Repeated Scans.

Peter S. LaViolette[1], Mitchell Daun[2], Alexander D. Cohen[3], Jennifer Connelley[2], Kathleen M. Schmainda[1]
[1]Radiology, Medical College of Wisconsin, Milwaukee, WI, United States; [2]Neurology, Medical College of Wisconsin, Milwaukee, WI, United States; [3]Biophysics, Medical College of Wisconsin, Milwaukee, WI, United States

2204. Network Analysis Based on Analytic Solution to Permutation Tests on Support Vector Machines

Madhura Ingalhalikar[1], Bilwaj Gaonkar[1], Alex R. Smith[1], Robert T. Schultz[2], Ragini Verma[1]
[1]Section of Biomedical Image Analysis, Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States; [2]Center for Autism Research, Childrens Hospital of Philadelphia, Philadelphia, PA, United States

2205. PCA of Combined DCE-MRI Data from a Large Cohort Can Be Used to Assess Treatment Effects with Similar Sensitivity to Pharmacokinetic Model Fitting
Matt Nathan Gwilliam[1], David John Collins[1], Martin O. Leach[1], Helen Young[2], Matthew R. Orton[1]
[1]CRUK and EPSRC Imaging Centre, Institute of Cancer Research, Sutton, London, United Kingdom; [2]Astrazeneca, Macclesfield, Cheshire, United Kingdom

2206. Time-Consistent Non-Rigid Motion Compensation for 3D DCE-MRI of the Entire Liver
Marijn van Stralen[1], Hanke J. Schalkx[2], Harriët W. Mulder[1], Kenneth Coenegrachts[3], Maarten S. van Leeuwen[2], Wouter B. Veldhuis[2], Josien P.W. Pluim[1]
[1]Image Sciences Institute, UMC Utrecht, Utrecht, Netherlands; [2]Radiology, UMC Utrecht, Utrecht, Netherlands; [3]Radiology, AZ St.‐Jan Brugge‐Oostende AV, Brugge, West-Vlaanderen, Belgium

2207. Segmentation of Normal Liver Volume Using Dynamic Contrast Enhanced Gd-EOB-DTPA Time Intensity Curves
Jonathan P. Dyke[1], Pascal Spincemaille[1], Martin R. Prince[1], Krishna Juluru[1]
[1]Radiology, Weill Cornell Medical College, NY, United States

2208. Signal Intensity and Texture Feature Analysis in Contrast-Enhanced Liver MRI for Chronic Liver Disease Diagnosis
Jihun Oh[1], Diego Martin[2], Xiaoping P. Hu[3]
[1]School of Electrical and Computer Engineering, Georgia Institute of Technology, Atlanta, GA, United States; [2]Department of Medical Imaging, University of Arizona, Tucson, AZ, United States; [3]Department of Biomedical Engineering, Georgia Institute of Technology and Emory University, Atlanta, GA, United States

2209. Logan Plot Estimates of Tracer Distribution Volume from Dynamic Contrast Enhanced MRI Data and Tumor Cellularity in a Rat Model of Cerebral Glioma at 7T
Madhava P. Aryal[1, 2], Tavarekere N. Nagaraja[2], Kelly A. Keenan[2], Hassan Bagher-Ebadian[2], Swayamprava Panda[2], Stephen Brown[2], James R. Ewing, [12]
[1]Physics, Oakland University, Rochester, MI, United States; [2]Henry Ford Hospital, Detroit, MI, United States

2210. A Threshold Method to Exclude Unreliable Tracer Kinetic Model Parameters Measured from DCE MRI in Breast Cancer
Dennis Lai Hong Cheong[1], Bo Zhang[1], Soo Chin Lee[2], Thian C. Ng[1, 3]
[1]Clinical Imaging Research Center, SBIC/A*STAR & National University of Singapore, Singapore, Singapore; [2]Department of Haematology-Oncology, National University Health System, Singapore, Singapore; [3]Department of Diagnostic Radiology, National University of Singapore, Singapore, Singapore

2211. Dynamic Contrast Enhanced – Magnetic Resonance Imaging (DCE-MRI): Insights About Arterial Input Function Definition, Model Selection and the Quantitative Signal Difference Method
Georges Hankov[1], Jill Fredrickson[1], Gregory Ferl[1], David Clayton[1], Alexandre Coimbra[2], Alexandre de Crespigny[2]
[1]Genentech Inc., South San Francisco, CA, United States; [2]Genentech Inc, South San Francisco, CA, United States

2212. Arterial Input Function Reconstruction for DCE-MRI of the Liver Using Pre-Bolus Acquisition with Low Dose Gadolinium Contrast
Guido H. Jajamovich[1], Claudia Calcagno[1], Hadrien A. Dyvorne[1], Henry Rusinek[2], Shimon Aronhime[1], Bachir Taouli[1]
[1]Mount Sinai School of Medicine, New York, NY, United States; [2]NYU School of Medicine, New York, NY, United States

2213. Bolus Tracking Perfusion Imaging in Humans Using Quantitative Arterial Input Function
Elias Kellner[1], Irina Mader[2], Marco Reisert[1], Valerij G. Kiselev[1]
[1]Department of Radiology, University Hospital Freiburg, Freiburg, Germany; [2]Section of Neuroradiology, University Hospital Freiburg, Freiburg, Germany

2214. AIF Induced Limits of Parameter Uncertainty in Pharmakokinetic Models of Pre-Clinical DCE-MRI
Tammo Rukat[1, 2], Simon Walker-Samuel[3], Stefan A. Reinsberg[1]
[1]Department of Physics and Astronomy, University of British Columbia, Vancouver, BC, Canada; [2]Institut für Physik, Humboldt Universität zu Berlin, Berlin, Germany; [3]Centre for Advanced Biomedical Imaging, University College London, London, United Kingdom

2215. Fast NSR: An Optimized Non-Linear Stochastic Deconvolution for Large Data Sets and Clinical Analyses
Denis Peruzzo[1], Danilo Benozzo[1], Gianluigi Pillonetto[1], Alessandra Bertoldo[1]
[1]Department of Information Engineering, University of Padova, Padova, PD, Italy

2216. DSC-MRI Derived T2* Leakage Effect Depends on Structural Features of Extravascular Space
Natenael B. Semmineh[1], Junzhong Xu[1], Jerry Boxerman[2], Gary W. Delaney[3], Christopher C. Quarles[1]
[1]Institute of Imaging Science, Vanderbilt University, Nashville , TN, United States; [2]Alpert Medical School of Brown University, Providence, RI, United States; [3]CSIRO Mathematical and Information Sciences, Clayton South, Vic, Australia

2217. Tumour Leakage Characterized Using a Novel Dynamic Susceptibility Contrast MRI Model Correlates with Tumour Interstitial Space
Keiko Miyazaki[1], David John Collins[1], James A. d'Arcy[1], Dow-Mu Koh[2], Anwar R. Padhani[3], Martin O. Leach[1], Matthew R. Orton[1]
[1]CR-UK and EPSRC Cancer Imaging Centre, The Institute of Cancer Research, Sutton, Surrey, United Kingdom; [2]Department of Diagnostic Radiology, The Royal Marsden NHS Foundation Trust, Sutton, Surrey, United Kingdom; [3]Paul Strickland Scanner Centre, Mount Vernon Hospital, Northwood, Middlesex, United Kingdom

2218. Optimal Sampling Settings for Reliable Blood Brain Barrier Permeability Quantification Using DCE-MRI, a Monte Carlo Approach
Cecile RLPN Jeukens[1], Harm J. van de Haar[1], Jacobus F.A. Jansen[1], Paul A.M. Hofman[1], C. Eleana Zhang[2], Julie Staals[2], Saartje Burgmans[3], Frans RJ Verhey[3], Robert J. van Oostenbrugge[2], Walter H. Backes[1]
[1]Radiology, Maastricht University Medical Centre, Maastricht, Limburg, Netherlands; [2]Neurology, Maastricht University Medical Centre, Maastricht, Limburg, Netherlands; [3]Alzheimer Centre Maastricht, Maastricht University Medical Centre, Maastricht, Limburg, Netherlands

2219. Assessment of Vessel Permeability by Combining DCE and ASL MRI
ISMRM MERIT AWARD magna cum laude
Ting-Ting Chang[1], Alex M. Wong[2], Feng-Xian Yan[1], Yu-Shi Lin[1], Ho-Ling Liu[1, 2]
[1]Department of Medical Imaging and Radiological Sciences, Chang Gung University, Kwei-Shan, Tao-Yuan, Taiwan; [2]Department of Medical Imaging and Intervention, Chang Gung Memorial Hospital, Kwei-Shan, Tao-Yuan, Taiwan

2220. Dynamic Contrast-Enhanced MRI of Mouse Cirrhotic Liver: A Pilot Study
Septian Hartono[1, 2], Tong San Koh[1], Lei Zhou[3], Quan Sing Ng[1], Puor Sherng Lee[1], Kai-Hsiang Chuang[4], Yock Young Dan[3], Laurent Martarello[5], Choon Hua Thng[1]
[1]National Cancer Centre Singapore, Singapore, NA, Singapore; [2]Nanyang Technological University, Singapore, NA, Singapore; [3]National University Health System, Singapore, NA, Singapore; [4]Singapore Bioimaging Consortium, Singapore, NA, Singapore; [5]Roche Translational Medicine Hub, Singapore, NA, Singapore

2221. Entropy Analysis of Peak Enhancement Ratio from DCE-MRI as a Potential Marker to Assess Brain Tumor Response to Radiotherapy
Chih-Feng Chen[1], Ho-Ling Liu[2, 3], Yu-Jie Huang[4], Yuan-Hsiung Tsai[1], Hsu-Huei Weng[1]
[1]Department of Radiology, Chang Gung Memorial Hospital, Chiayi branch, and Chang Gung University of Science and Technology, Chiayi, Taiwan; [2]Department of Medical Imaging and Radiological Sciences, Chang Gung University, Taoyuan, Taiwan; [3]Healthy Aging Research Center, Chang Gung University, Taoyuan, Taiwan; [4]Kaohsiung Chang Gung Memorial Hospital and Chang Gung University College of Medicine, Kaohsiung, Taiwan

2222. Imaging the Fragile Brain: Using BOLD Signal Fluctuations to Study Perfusion in Normal Subjects and Patients with Cerebrovascular Disease
ISMRM MERIT AWARD magna cum laude
Thomas Christen[1], Deqiang Qiu[1], Wendy W. Ni[1], Michael E. Moseley[1], Greg Zaharchuk[1]
[1]Radiology, Stanford University, Stanford, CA, United States

2223. Correlation Between Hemodynamic Variation and Resting-State fMRI in Patients with Carotid Artery Stenosis
Feng-Xian Yan[1], Tsong-Hai Lee[2], Pin-Hsun Huang[1], Kuo-Lun Huang[2], Ho-Fai Wong[3], Ho-Ling Liu[1, 3]
[1]Department of Medical Imaging and Radiological Sciences, Chang Gung University, Taoyuan, Taiwan; [2]Department of Neurology and Stroke Center, Chang Gung Memorial Hospital, and Chang Gung University College of Medicine, Taoyuan, Taiwan; [3]Department of Medical Imaging and Intervention, Chang Gung Memorial Hospital, Taoyuan, Taiwan

2224. The Comparison Study of ASL and DCE MRI for Renal Glomerular Filtration Rate (GFR) Mapping
Jing Wang[1], Yudong Zhang[2], Jue Zhang[1], Xiaoying Wang[3], Jing Fang[4]
[1]Academy for Advanced Interdisciplinary Studies, Peking Unversity, Beijing, China; [2]Department of Radiology, The First Affiliated Hospital With Nanjing Medical University, Nanjing, China, Beijing, China; [3]Department of Radiology, Peking University First Hospital, Beijing, China; [4]Peking University, Beijing, China

2225. Direct CBF Comparison Between MRI ASL and DSC and Perfusion CT-Scan in Treated Tumor Patients
Marjorie Villien[1, 2], Do Kien N Guyen[1], Julien Bouvier[1], Cedric Mendoza[3], Sylvie Grand[3], Louise Fanchon[1], Emmanuel Luc Barbier[4], Irène Troprès[5], Jean-François Le Bas[3], Alexandre Krainik[3], Jan M. Warnking[1]
[1]Grenoble Institut of Neurosciences, INSERM, Grenoble, France; [2]Massachusetts General Hospital, Harvard, Charlestown, MA, United States; [3]Clinique universitaire de neuroradiologie et d'IRM, CHU Grenoble, Grenoble, France; [4]Grenoble Institut of Neurosciences, INSERM U836, Grenoble, France; [5]SFR1, Université Joseph Fourier, Grenoble, France

2226. Comparison of Quantitative Cerebral Blood Flow Measured with Bolus Tracking Perfusion MRI and $H_2{}^{15}O$ PET in the Porcine Model
Elias Kellner[1], Irina Mader[2], Michal Mix[3], Marco Reisert[1], Katharina Förster[4], Thao Nguyen-Thanh[2], Daniel Nico Splitthoff[4], Peter Gall[1], Valerij G. Kiselev[1]
[1]Department of Radiology, University Hospital Freiburg, Freiburg, Germany; [2]Section of Neuroradiology, University Hospital Freiburg, Freiburg, Germany; [3]3Department of Nuclear Medicine, University Hospital Freiburg, Freiburg, Germany; [4]4Department of Cardiovascular Surgery, University Hospital Freiburg, Freiburg, Germany

Traditional Poster
Functional Connectivity: Acquisitions & Artifacts

Exhibition Hall Thursday 10:30-12:30

2227. Evaluation of Dual-Echo Pseudo-Continuous ASL for Resting-State BOLD Functional Connectivity Measurement
Tim X. Liu[1], Sungho Tak[1], Danny J.J. Wang[2], Lirong Yan[2], J. Jean Chen[1]
[1]Rotman Research Institute, Baycrest, University of Toronto, Toronto, ON, Canada; [2]Neurology, University of California, Los Angeles, CA, United States

2228. The Application of Accelerated Functional Connectivity Magnetic Resonance Imaging to Study the Higher Frequency Band Resting State Functional Connectivity (R-fcMRI) and the Improvement for the Individual R-fcMRI Repeatability
Guangyu Chen[1], Andrew S. Nencka[1], Guangyu Chen[1], Shi-Jiang Li[1, 2]
[1]Biophysics, Medical College of Wisconsin, Milwaukee, WI, United States; [2]Psychiatry and Behavioral Medicine, Medical College of Wisconsin, Milwaukee, WI, United States

2229. Artificial Correlations Induced by SENSE and GRAPPA Corrupt fcMRI Conclusions
Iain P. Bruce[1], Daniel B. Rowe[1, 2]
[1]Department of Mathematics, Statistics, and Computer Science, Marquette University, Milwaukee, WI, United States; [2]Department of Biophysics, Medical College of Wisconsin, Milwaukee, WI, United States

2230. Minimizing Spurious Functional Connectivity Findings from Resting State fMRI
Prantik Kundu[1], Noah Brenowitz[1], Souheil J. Inati[2], Ziad S. Saad[3], Petra Vertes[4], Yulia Worbe[4], Valerie Voon[4], Ed Bullmore[4], Peter A. Bandettini[5]
[1]Section on Functional Imaging Mehthods, NIMH, Bethesda, MD, United States; [2]Functional MRI Core Facility, NIMH, Bethesda, MD, United States; [3]Scientific and Statistical Computing Core, NIMH, Bethesda, MD, United States; [4]Dept. of Psychiatry, University of Cambridge, Cambridge, Cambridgeshire, United Kingdom; [5]Functional MRI Core Facility, National Institute of Mental Health, Bethesda, MD, United States

2231. Venous Suppression in Resting State FMRI: Implications for Correlation Analysis
Andrew T. Curtis[1], R. Matthew Hutchison[1], Ravi S. Menon[1]
[1]Medical Biophysics, University of Western Ontario, London, Ontario, Canada

2232. Temporal Processing of fMRI Data Induces Functional Correlations and Potentially Alters Functional Activations
M. Muge Karaman[1], Andrew S. Nencka[2], Daniel B. Rowe[1, 2]
[1]Department of Mathematics, Statistics, and Computer Science, Marquette University, Milwaukee, WI, United States; [2]Department of Biophysics, Medical College of Wisconsin, Milwaukee, WI, United States

2233. Resting-State Functional Connectivity Mapping Using Cerebral Blood Flow: Comparison with Simultaneously Acquired BOLD in High-Susceptibility Regions
Sungho Tak[1], Danny J.J. Wang[2], Lirong Yan[2], J. Jean Chen
[1]Rotman Research Institute at Baycrest Centre, University of Toronto, Toronto, ON, Canada; [2]Neurology, University of California, Los Angeles (UCLA), Los Angeles, CA, United States

2234. Resting-State Functional Connectivity Mapping in Humans Using Spin-Echo EPI BOLD
Yasha Khatamian[1], J. Jean Chen[2]
[1]Rotman Research Institute, Toronto, ON, Canada; [2]University of Toronto, Toronto, ON, Canada

2235. Quantitative Measurement of Signal Fluctuations in ASL from Resting State Functional Networks
Weiying Dai[1], Ajit Shankaranarayanan[2], Gottfried Schlaug[3], David C. Alsop[1]
[1]Radiology, Beth Israel Deaconess Medical Center & Harvard Medical School, Boston, MA, United States; [2]Global Applied Science Laboratory, GE Healthcare, Menlo Park, CA, United States; [3]Neurology, Beth Israel Deaconess Medical Center & Harvard Medical School, Boston, MA, United States

2236. Resting State Neural Network Demonstrated with Cerebral Blood Volume Based fMRI Using the USPIO Agent Ferumoxytol in Humans
ISMRM MERIT AWARD magna cum laude
Deqiang Qiu[1], Greg Zaharchuk[1], Thomas Christen[1], Wendy W. Ni[1], Gary H. Glover[1], Michael E. Moseley[1]
[1]Radiology, Stanford University, Stanford, CA, United States

2237. Resting State Functional Connectivity in the Human Spinal Cord at 7 Tesla
Robert L. Barry[1, 2], Seth A. Smith[1, 2], John C. Gore,[23]
[1]Vanderbilt University Institute of Imaging Science, Nashville, TN, United States; [2]Department of Radiology and Radiological Sciences, Vanderbilt University Medical Center, Nashville, TN, United States; [3]Vanderbilt University, Nashville, TN, United States

2238. Frequency Characteristics of Large Scale Resting State Networks Using 7T Spin Echo EPI
Erik van Oort[1, 2], Peter J. Koopmans[3], Rasim Boyacioglu[4], Markus Barth[4], Christian F. Beckmann[1, 2], David Norris[5]
[1]Statistical Imaging Neuroscience, MIRA Institute for Biomedical Technology and Technical Medicine, University of Twente, Nijmegen, Gelderland, Netherlands; [2]Statistical Imaging Neuroscience, Radboud University Nijmegen, Donders Center for Cognitive Neuroimaging, Nijmegen, Nederland, Netherlands; [3]MR Techniques in Brain Function, Radboud University Nijmegen, Donders Center for Cognitive Neuroimaging, Nijmegen, Nederland, Netherlands; [4]MR Techniques in Brain Function, Radboud University, Nijmegen, Nederland, Netherlands; [5]MR Techniques in Brain Function, Radboud University Nijmegen, Donders Center for Cognitive Neuroimaging, Nijmegen, Gelderland, Netherlands

2239. Resting State fMRI Using Multi Echo EPI (ME-EPI): A Study of Echo Time Dependence of Sensitivity
Deqiang Qiu[1], Thomas Christen[1], Jae Mo Park[1], Michael E. Moseley[1], Greg Zaharchuk[1]
[1]Radiology, Stanford University, Stanford, CA, United States

2240. Stability of Resting-State Brain Activity Fluctuations Across Time: Evidence from fMRI and MEG
Om Bhatt[1], Jed Meltzer[1], Bernhard Ross[1], J. Jean Chen[1]
[1]Rotman Research Institute, Baycrest, University of Toronto, Toronto, ON, Canada

2241. Simultaneous fMRI and EEG Study of Never Resting Brain: Spatial and Temporal Similarity of EEG Microstates Cortical Representation and BOLD Resting State Networks
Han Yuan[1], Lei Ding[2, 3], Min Zhu[2], Jerzy Bodurka[1, 4]
[1]Laureate Institute for Brain Research, Tulsa, OK, United States; [2]School of Electrical and Computer Engineering, University of Oklahoma, Norman, OK, United States; [3]Bioengineering Center, University of Oklahoma, Norman, OK, United States; [4]College of Engineering, University of Oklahoma, Norman, OK, United States

2242. EEG Correlates of Time-Varying BOLD Functional Connectivity
ISMRM MERIT AWARD magna cum laude
Catie Chang[1], Zhongming Liu[2], Michael C. Chen[3], Xiao Liu[2], Jeff H. Duyn[1]
[1]Advanced MRI Section, LFMI, NINDS, National Institutes of Health, Bethesda, MD, United States; [2]Advanced MRI Section, LFMI, NINDS, NIH, Bethesda, MD, United States; [3]Dept. of Psychology, Stanford University, Stanford, CA, United States

2243. The Electrical Basis of Dynamic Functional Connectivity Measured with Sliding Window Correlation.
Mac Merritt[1], Garth Thompson[1], Wen-Ju Pan[1], Matthew E. Magnuson[1], Shella Keilholz[1]
[1]BMED, Georgia Institute of Technology and Emory University, Atlanta, GA, United States

2244. Global Reductions in Resting-State BOLD Connectivity Reflect Widespread Decreases in MEG Connectivity
Omer Tal[1], Chi Wah Wong[1], Valur Olafsson[1], Mithun Diwakar[2], Roland Lee[2], Ming-Xiong Huang[2], Thomas T. Liu, [12]
[1]Center for Functional MRI, University of California, San Diego, La Jolla, CA, United States; [2]Radiology, University of California, San Diego, La Jolla, CA, United States

2245. Inter-Subject Variability in the Amplitude of the Resting-State fMRI Global Signal Reflects Differences in EEG Vigilance
Chi Wah Wong[1], Valur Olafsson[1], Omer Tal[1], Thomas Liu[1]
[1]Center for Functional MRI, University of California San Diego, La Jolla, CA, United States

Traditional Poster
Functional Connectivity Analysis

Exhibition Hall Thursday 10:30-12:30

2246. Connectivity-Based Neurofeedback: Dynamic Causal Modeling for Real-Time FMRI.
Yury Koush[1, 2], Maria Joao Rosa[3], Fabien Robineau[4, 5], Klaartje Heinen[6], Nikolaus Weiskopf[7], Patrik Vuilleumier[4, 5], Dimitri Van de Ville, [28], Frank Scharnowski[1, 2]
[1]Department of Radiology and Medical Informatics, CIBM, University of Geneva , Geneva, Switzerland; [2]Institute of Bioengineering, École Polytechnique Fédérale de Lausanne, Lausanne, Switzerland; [3]Computer Science Department, University College London, London, United Kingdom; [4]Department of Neuroscience, CMU, University of Geneva, Geneva, Switzerland; [5]Geneva Neuroscience Center, Geneva, Switzerland; [6]Institute of Cognitive Neuroscience, University College London, London, United Kingdom; [7]Wellcome Trust Centre for Neuroimaging, Institute of Neurology,, University College London, London, United Kingdom; [8]Department of Radiology and Medical Informatics, CIBM, University of Geneva, Geneva, Switzerland

2247. Quality Assessment and Consistency of Serial Multi-Center Resting-State fMRI in Alzheimers Disease
David Clayton[1], Farshid Faraji[1], Douglas Arnold[2], Alex De Crespigny[3], Alexandre Coimbra[3]
[1]Genentech, Inc., South San Francisco, CA, United States; [2]NeuroRX Research, Montreal, Quebec, Canada; [3]Genentech Inc, South San Francisco, CA, United States

2248. A Case for Correcting Attenuation of Correlation in Resting State FMRI
Jacco A. De Zwart[1], Peter van Gelderen[1], Jeff H. Duyn[1]
[1]Advanced MRI, LFMI, NINDS, National Institutes of Health, Bethesda, MD, United States

2249. Power-Law Functional Organizations of the Brain in Wake, Anesthesia, and Vegetative State
Xiaolin Liu[1], B. Douglas Ward[1], Shi-Jiang Li[1], Anthony G. Hudetz[2]
[1]Biophysics, Medical College of Wisconsin, Milwaukee, WI, United States; [2]Anesthesiology, Medical College of Wisconsin, Milwaukee, WI, United States

2250. Wavelet-Based Clustering and Dynamic Analysis of Resting State Data in the Rat
Shella Keilholz[1], Alessio Medda[2], Lukas Hoffmann[3], Matthew E. Magnuson[1], Garth Thompson[1], Wen-Ju Pan[1]
[1]Biomedical Engineering, Emory/Georgia Tech, Atlanta, GA, United States; [2]Georgia Tech Research Institute, Atlanta, GA, United States; [3]Neuroscience Program, Emory University, Atlanta, GA, United States

2251. Resting-State fMRI Signal Anti-Correlation Exists in Absence of Global Signal Regression
Xiao Liu[1], Jeff H. Duyn[1]
[1]Advanced MRI section, LFMI, NINDS, National Institutes of Health, Bethesda, MD, United States

2252. Spontaneous Low-Frequency Functional Connectivity and Temporal Dynamics: Working Memory Vs. Rest
Jingyuan Chen[1], Catie Chang[2], Gary H. Glover[1, 3]
[1]Electrical Engineering, Stanford University, Palo Alto, CA, United States; [2]National Institutes of Health, Bethesda, MD, United States; [3]Radiology Department, Stanford University, Palo Alto, CA, United States

2253. Network Diffusion Models for Functional Brain Connectivity Networks
Farras Abdelnour[1], Henning Voss[1], Ashish Raj[1]
[1]Radiology, Weill Cornell Medical College, New York, NY, United States

2254. Resting-State Functional Connectivity of Specialized Occipitotemporal Cortical Regions
Kaundinya Gopinath[1], Simon Lacey[2], Shaheen Ahmed[1], Randall Stilla[2], K. Sathian[2]
[1]Department of Radiology & Imaging Sciences, Emory University, Atlanta, GA, United States; [2]Department of Neurology, Emory University, Atlanta, GA, United States

2255. Quantification of Reproducible Spatiotemporal Dynamic Patterns Using Bootstrapping from Randomized Phase Data in the Rodent Model
Matthew E. Magnuson[1], Garth Thompson[1], Wen-Ju Pan[1], Shella Keilholz[1]
[1]Biomedical Engineering, Georgia Institute of Technology / Emory University, Atlanta, GA, United States

2256. Effective Brain Connectivity Among Resting-State Networks : A Frequency Dependent Granger Causality Analysis
I-Jung Chen[1], Yen-Hsiang Cheng[2], Tzu-Cheng Chao[1, 2], Ping-Hong Lai[3, 4], Fu-Nien Wang[5], Ming-Long Wu[1, 2]
[1]Department of Computer Science and Information Engineering, National Cheng Kung University, Tainan, Taiwan; [2]Institute of Medical Informatics, National Cheng Kung University, Tainan, Taiwan; [3]Department of Radiology, Kaohsiung Veterans General Hospital, Kaohsiung, Taiwan; [4]School of Medicine, National Yang-Ming University, Taipei, Taiwan; [5]Department of Biomedical Engineering and Environmental Sciences, National Tsing Hua University, Hsinchu, Taiwan

2257. Functional Parcellation of Cerebellum Based on Resting-State fMRI and Singular Value Decomposition
Chia-Wei Li[1], Jyh-Horng Chen[1, 2]
[1]Department of Electrical Engineering, National Taiwan University, Taipei, Taiwan, Taiwan; [2]Neurobiology and Cognitive Science Center, National Taiwan University, Taipei, Taiwan, Taiwan

2258. Graph Analysis of Resting-State ASL Data Reveals Nonlinear Correlations Among CBF and Network Metrics
Xiaoyun Liang[1], Alan Connelly[1, 2], Fernando Calamante[1, 2]
[1]Brain Research Institute, Florey Institute of Neuroscience and Mental Health, Heidelberg, VIC, Australia; [2]Department of Medicine, Austin Health and Northern Health, University of Melbourne, Melbourne, VIC, Australia

2259. Mapping Brain Entropy Using Resting State fMRI: Part I
Ze Wang[1, 2], Anish Mitra[3], Marcus Raichle[3], Anna Rose Childress[1], John A. Detre, [2,4]
[1]Dept. of Psychiatry, University of Pennsylvania, Philadelphia, PA, United States; [2]Dept. of Radiology, University of Pennsylvania, Philadelphia, PA, United States; [3]Neurology, Washington University in St Louis, St. Louis, MO, United States; [4]Dept. of Neurology, University of Pennsylvania, Philadelphia, PA, United States

2260. Correction of Long-Term Physiological Noise Effects Increases the Reproducibility of Resting-State Networks
Jaemin Shin[1, 2], Zhi Yang[3, 4], Audrey Duarte[5], Xiaoping P. Hu[1]
[1]Department of Biomedical Engineering, Georgia Tech and Emory University, Atlanta, GA, United States; [2]Center for Advanced Brain Imaging, Georgia Tech and Georgia State University, Atlanta, GA, United States; [3]Institute of Psychology, Chinese Academy of Sciences, Beijing, China; [4]National Institute of Mental Health, Bethesda, MD, United States; [5]School of Psychology, Georgia Tech, Atlanta, GA, United States

2261. Reliability of Intrinsic Networks Over 128 Weeks

Ann S. Choe[1, 2], Suresh E. Joel[3, 4], Craig K. Jones[3, 4], John Muschelli[5], Visar Belegu[1, 2], John W. McDonald[1, 2], Brian S. Caffo[5], Peter C.M. van Zijl[3, 4], James J. Pekar[3, 4]

[1]Neurology, Johns Hopkins University School of Medicine, Baltimore, MD, United States; [2]International Center for Spinal Cord Injury, Hugo Moser Research Institute, Kennedy Krieger Institute, Baltimore, MD, United States; [3]Russell H. Morgan Department of Radiology and Radiological Science, Johns Hopkins University School of Medicine, Baltimore, MD, United States; [4]FM Kirby Research Center for Functional Brain Imaging, Kennedy Krieger Institute, Baltimore, MD, United States; [5]Department of Biostatistics, Bloomberg School of Public Health, Johns Hopkins University, Baltimore, MD, United States

Traditional Poster
Functional Connectivity: Biomarkers

Exhibition Hall Thursday 10:30-12:30

2262. Some Brains Are More Strongly Functionally Connected Than Others: A Resting-State fMRI Study of Inter and Intra Network Coherence

Izabela Przezdzik[1], Andrew P. Bagshaw[1], Stephen D. Mayhew[1]

[1]BUIC, School of Psychology, University of Birmingham, Birmingham, United Kingdom

2263. Within Hemisphere Connectivity Differentiates Humans from Nonhuman Primates: A Resting-State fMRI Study

Hsiao-Ying Wey[1, 2], Kimberly A. Phillips, [13], Angela R. Laird[1], Peter Kochunov[1, 4], Michael D. Davis[1], David C. Glahn, [15], John Blangero[6], Timothy O. Duong[7], Peter T. Fox[1]

[1]Research Imaging Institute, University of Texas Health Science Center at San Antonio, San Antonio, TX, United States; [2]Athinoula A. Martinos Center, Department of Radiology, Massachusetts General Hospital, Harvard Medical School, Charlestown, MA, United States; [3]Department of Psychology, Trinity University, San Antonio, TX, United States; [4]Maryland Psychiatric Research Center, University of Maryland, Baltimore, MD, United States; [5]Department of Psychiatry, Yale University, Hartford, CT, United States; [6]Department of Genetics, Texas Biomedical Research Institute, San Antonio, TX, United States; [7]Research Imaging Institute, UT Health Science Center at San Antonio, San Antonio, TX, United States

2264. Magnetic Resonance Imaging the Genetic Influence on Intrinsic Resting-State Connectivity in Brown Norway and Dahl Salt-Sensitive Rat Brains

Zhixin Li[1], B. Douglas Ward[2], Melinda R. Dwinell[3], Christopher P. Pawela[1]

[1]Department of Plastic Surgery, Medical College of Wisconsin, Milwaukee, WI, United States; [2]Department of Biophysics, Medical College of Wisconsin, Milwaukee, WI, United States; [3]Human and Molecular Genetics Center, Medical College of Wisconsin, Milwaukee, WI, United States

2265. Mapping the Mouse Brain Functional Connectivity Networks: Strain Specific Patterns

Laura-Adela Harsan[1], Anna Mechling[1], Neele Hübner[1], Hsu-Lei Lee[1], Jürgen Hennig[2], Dominik von Elverfeldt[1]

[1]Medical Physics, University Medical Center, Freiburg, BW, Germany; [2]Medical Physics, University Medical Center Freiburg, Freiburg, BW, Germany

2266. Spontaneous BOLD Signal Fluctuations in the Young and Elderly Brain: a Non-Contrast Biomarker of Cerebral Vasomotor Reactivity?

Hesamoddin Jahanian[1], Wendy W. Ni[1], Thomas Christen[1], Manjula K. Tamura[2], Michael E. Moseley[1], Greg Zaharchuk[1]

[1]Department of Radiology, Stanford University, Stanford, CA, United States; [2]Division of Nephrology, Stanford University, Stanford, CA, United States

2267. ASL Based Functional Connectivity in Schizophrenia Relates to Disease Severity

Nadja Razavi[1], Andrea Federspiel[1], Thomas Dierks[1], Martinus Hauf[2], Kay Jann[1]

[1]Dept. of Psychiatric Neurophysiology, University Hospital of Psychiatry / University of Bern, Bern, Switzerland; [2]Institut of Diagnostic and Interventional Neuroradiology, University of Bern / Inselspital, Bern, Switzerland

2268. Identifying Group Differences in Functional Subnetworks: A Novel Whole-Brain Method Applied to Dyslexia

Emily S. Finn[1], Xilin Shen[2], John M. Holahan[3], Xenophon Papademetris[2, 4], Dustin Scheinost[4], Cheryl Lacadie[2], Sally E. Shaywitz[3], Bennett A. Shaywitz[3], Robert Todd Constable[2, 4]

[1]Interdepartmental Neuroscience Program, Yale University, New Haven, CT, United States; [2]Diagnostic Radiology, Yale University, New Haven, CT, United States; [3]Yale Center for Dyslexia and Creativity, Yale University, New Haven, CT, United States; [4]Biomedical Engineering, Yale University, New Haven, CT, United States

2269. Resting State fMRI Revealed Differences in Connectivity to Visual Cortex in Premature Infants with Hypercapnic Ventilation
Xiawei Ou[1], George Andrew James[2], Zhaohua Ding[3], Charles M. Glasier[1], Raghu H. Ramakrishnaiah[1], Jeffrey R. Kaiser[4]
[1]Radiology, Arkansas Children's Hospital; University of Arkansas for Medical Sciences, Little Rock, AR, United States; [2]Brain Imaging Research Center, University of Arkansas for Medical Sciences, Little Rock, AR, United States; [3]Vanderbilt University Institute of Imaging Science, Nashville, TN, United States; [4]Pediatrics, Arkansas Children's Hospital; University of Arkansas for Medical Sciences, Little Rock, AR, United States

2270. Reproducible Differentiation of Individual Subjects with Minimal Acquisition Time Via Resting State FMRI
Raag D. Airan[1], Joshua Vogelstein[2, 3], Brian S. Caffo[4], James J. Pekar[1, 5], Haris I. Sair[1]
[1]Radiology and Radiological Science, Johns Hopkins Medical Institutions, Baltimore, MD, United States; [2]Statistical Sciences, Duke University, Durham, NC, United States; [3]Applied Mathematics and Statistics, Johns Hopkins University, Baltimore, MD, United States; [4]Biostatistics, Johns Hopkins University, Baltimore, MD, United States; [5]F.M. Kirby Research Center for Functional Brain Imaging, Kennedy Krieger Institute, Baltimore, MD, United States

2271. Resting-State fMRI Activity in the Basal Ganglia Predicts Unsupervised Learning Performance in a Virtual Reality Environment
Valur Olafsson[1], Chi Wah Wong[1], Markus Plank[2], Joe Snider[2], Eric Halgren[3], Howard Poizner[2], Thomas Liu[1]
[1]Center for Functional MRI, UCSD, La Jolla, CA, United States; [2]Institute for Neural Computation, UCSD, La Jolla, CA, United States; [3]Multimodal Imaging Laboratory, UCSD, La Jolla, CA, United States

2272. Functional Connectivity and Temporal Patterns of Brain Networks Involved in Alternative Finger Tapping
Huijin Song[1], Jeehye Seo[1], Seonguk Jin[1], Moon Han[1], Moonjung Hwang[2], Yongmin Chang[1, 3], Kyung Jin Suh[4]
[1]Medical & Biological Engineering, Kyungpook National University, Daegu, Korea; [2]GE healthcare, Seoul, Korea; [3]Molecular medicine, Kyungpook National University, Daegu, Korea; [4]Radiology, School of Medicine, Dongguk University, Gyungju, Korea

2273. Increased Functional Connectivity Between Occipitotemporal Cortex and Frontoparietal Attention Network During Visual Processing
Kaundinya Gopinath[1], Simon Lacey[2], Shaheen Ahmed[1], Randall Stilla[2], K. Sathian[2]
[1]Department of Radiology & Imaging Sciences, Emory University, Atlanta, GA, United States; [2]Department of Neurology, Emory University, Atlanta, GA, United States

2274. Diurnal Variations of Regional Homogeneity in Healthy Human Brain Evaluated Using Resting-State FMRI
Chunxiang Jiang[1], Yanjun Diao[1], Xiaojing Long[1], Weiqi Liao[1], Lijuan Zhang[1]
[1]Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences, Shenzhen, Guangdong, China

Traditional Poster
fMRI Acquisition: Methods & Protocols

Exhibition Hall Thursday 10:30-12:30

2275. MEG & fMRI: Which One Best Spatially Localizes Brain Activity?
Tynan Stevens[1, 2], Steven Beyea, [12], Ryan D'Arcy[3], Tim Bardouille[2], David Clarke[1, 4]
[1]Dalhousie University, Halifax, Nova Scotia, Canada; [2]NRC, Halifax, Nova Scotia, Canada; [3]Frasier Health Authority, Surrey, British Columbia, Canada; [4]Neurosurgery, Capital District Health, Halifax, Nova Scotia, Canada

2276. Activation Extent and Tissue Specificity of High-TSNR BOLD at 7T
Javier Gonzalez-Castillo[1], Daniel A. Handwerker[1], Colin Hoy[1], Peter A. Bandettini[1]
[1]Section on Functional Imaging Methods, National Institute of Mental Health, Bethesda, MD, United States

2277. Combined T2*-Weighted Acquisitions of the Human Brain and the Cervical Spinal Cord with a Dynamic Update of the Linear Shims
Jürgen Finsterbusch[1, 2], Christian Sprenger[1, 2], Christian Büchel[1, 2]
[1]Department of Systems Neuroscience, University Medical Center Hamburg-Eppendorf, Hamburg, Germany; [2]Neuroimage Nord, Hamburg-Kiel-Lübeck, Germany

2278. Development of BOLD-Sensitive Protocols for Imaging the Human Spinal Cord at 7 Tesla
Robert L. Barry[1, 2], John C. Gore, [23], Seth A. Smith[1, 2]
[1]Vanderbilt University Institute of Imaging Science, Nashville, TN, United States; [2]Department of Radiology and Radiological Sciences, Vanderbilt University Medical Center, Nashville, TN, United States; [3]Vanderbilt University, Nashville, TN, United States

2279. Short Echo-Time 3D-TSE with and Without VASO Preparation for Functional MRI
Paul Summers[1], Armando Bauleo[1], Fabiola Cretti[2], Fausta Lui[1], Carlo Adolfo Porro[1]
[1]University of Modena and Reggio Emilia, Modena, MO, Italy; [2]Ospedali Riuniti di Bergamo, Bergamo, BG, Italy

2280. High Resolution Frequency-Modulated BSSFP FMRI
Albert Kir[1, 2], Alan B. McMillan[3], Rao P. Gullapalli[1, 2], Joel M. Morris[4]
[1]Magnetic Resonance Research Center, University of Maryland, School of Medicine, Baltimore, MD, United States; [2]Diagnostic Radiology and Nuclear Medicine, University of Maryland, School of Medicine, Baltimore, MD, United States; [3]Radiology, University of Wisconsin Madison, School of Medicine and Public Health, Madison, WI, United States; [4]Communication and Signal Processing Laboratory, University of Maryland, Baltimore County, Baltimore, MD, United States

2281. Artifact-Suppressed Alternating SSFP fMRI in Human Subjects Using a Breath Hold Paradigm
Tiffany Jou[1], Steve Patterson[2], John M. Pauly[1], Chris Bowen[2]
[1]Electrical Engineering, Stanford University, Stanford, CA, United States; [2]Institute for Biodiagnostics (Atlantic), National Research Council Canada, Halifax, Nova Scotia, Canada

2282. 2D Parallel Imaging with RASER for True Whole Brain fMRI at 7 T
Ute Goerke[1], Craig Moodie[2], Krista Wisner[2], Angus MacDonald III[2]
[1]CMRR, University of Minnesota, Minneapolis, MN, United States; [2]Psychology, University of Minnesota, Minneapolis, MN, United States

2283. Vessel Size Imaging in the Brainstem
Michael Germuska[1], Daniel P. Bulte[2]
[1]Nuffield Department of Clinical Neurosciences, University of Oxford , Oxford, Oxfordshire, United Kingdom; [2]Nuffield Department of Clinical Neurosciences, University of Oxford, Oxford, Oxfordshire, United Kingdom

2284. BOLD Mapping of Finger Movement Compares with the Underlying Electrophysiology; a Combined 7T fMRI and ECoG Study
Jeroen Cornelis Willem Siero[1, 2], Dora Hermes[1, 3], Hans Hoogduin[2], Peter R. Luijten[2], Nick F. Ramsey[1], Natalia Petridou[1, 2]
[1]Rudolf Magnus Institute, University Medical Center Utrecht, Utrecht, Netherlands; [2]Radiology, University Medical Center Utrecht, Utrecht, Netherlands; [3]Stanford University, Stanford, CA, United States

Traditional Poster
fMRI: Analysis of Activation

Exhibition Hall Thursday 10:30-12:30

2285. Incorporation of Gray Matter T_1 and T_2^* Improves Brain Activation Statistics in FMRI
ISMRM MERIT AWARD magna cum laude
M. Muge Karaman[1], Iain P. Bruce[1], Daniel B. Rowe[1, 2]
[1]Department of Mathematics, Statistics, and Computer Science, Marquette University, Milwaukee, WI, United States; [2]Department of Biophysics, Medical College of Wisconsin, Milwaukee, WI, United States

2286. Is Quantitative fMRI Really Better Than Plain BOLD in Predicting Cognitive Function?
ISMRM MERIT AWARD magna cum laude
Peiying Liu[1], Chandramallika Basak[2], Hanzhang Lu[1]
[1]Advanced Imaging Research Center, University of Texas Southwestern Medical Center, Dallas, TX, United States; [2]Center for Vital Longevity, University of Texas at Dallas, Dallas, TX, United States

2287. Default Mode Network and Working Memory Network During an fMRI Working Memory Task: Differences and Correlations with Behavioral Performance

Marta Re[1, 2], Tommaso Piccoli[3, 4], Giancarlo Valente[3], Vincent Van De Ven[3], Alexander Sack[3], Francesco Di Salle[3, 5]
[1]IRCCS Istituto Scientifico "Eugenio Medea", Bosisio Parini, Lecco, Italy; [2]Dipartimento di Bioingegneria, Politecnico di Milano, Milano, MI, Italy; [3]Department of Cognitive Neuroscience, University of Maastricht, Maastricht, Limburg, Netherlands; [4]Dipartimento di Biomedicina e Neuroscienze Cliniche, Università degli Studi di Palermo, Palermo, PA, Italy; [5]Dipartimento di Medicina e Chirurgia, Università di Salerno, Baronissi, SA, Italy

2288. Spatial Heterogeneity Analysis of Brain Activation in Epilepsy

Lalit Gupta[1], René M.H. Besseling[2, 3], Geke M. Overvliet[2, 4], Paul A.M. Hofman[2, 4], Anton de Louw[2], Maarten Vaessen[2, 3], Albert P. Aldenkamp[2, 4], Shrutin Ulman[1], Jacobus F.A. Jansen[3, 4], Walter H. Backes[3, 4]
[1]Philips Electronics India Ltd., India; [2]Epilepsy center Kempenhaeghe, Heeze, Netherlands; [3]Research School for Mental Health & Neuroscience, Maastricht University, Netherlands; [4]Maastricht University Medical Center, Maastricht University, Netherlands

2289. Visual Image Reconstruction of Brain Activities and Retinotopic Mapping: An Optimization Method

Yu-Sheng Tseng[1], Yao-Wen Chang[1], Teng-Yi Huang[1]
[1]National Taiwan University of Science and Technology, Taipei, Taiwan

2290. Single Trial Characterization of the BOLD Response at 3T Using Structured Sparse Functionals with Paradigm Free Mapping

Cesar Caballero Gaudes[1, 2], Fikret Isik Karahanoglu[3], François Lazeyras[2], Dimitri Van de Ville, [2,3]
[1]Basque Center on Cognition, Brain and Language, Donostia-San Sebastian, Guipuzcoa, Spain; [2]Department of Radiology and Medical Informatics, University of Geneva, Geneva, Switzerland; [3]Medical Image Processing Lab, Ecole Polytechnique Federale de Lausanne, Lausanne, Vaud, Switzerland

2291. Searchlight Goes GPU - Fast Multi-Voxel Pattern Analysis of fMRI Data

Anders Eklund[1], Malin Björnsdotter[2, 3], Johannes Stelzer[4], Stephen LaConte[1, 5]
[1]Virginia Tech Carilion Research Institute, Roanoke, VA, United States; [2]University of Gothenburg, Göteborg, Sweden; [3]Nanyang Technological University, Singapore, Singapore; [4]Max-Planck-Institute for Human Cognitive and Brain Sciences, Leipzig, Germany; [5]School of Biomedical Engineering & Sciences, Virginia Tech-Wake Forest University, Blacksburg, VA, United States

2292. Enhanced Phase Regression with Savitzky-Golay Filtering for High-Resolution BOLD FMRI

Robert L. Barry[1, 2], John C. Gore, [2,3]
[1]Vanderbilt University Institute of Imaging Science, Nashville, TN, United States; [2]Department of Radiology and Radiological Sciences, Vanderbilt University Medical Center, Nashville, TN, United States; [3]Vanderbilt University, Nashville, TN, United States

2293. Reliability of fMRI: Are Group Means Really Representative?

Tynan Stevens[1], Steven Beyea[2], Ryan D'Arcy[3], David Clarke[1]
[1]Dalhousie University, Halifax, Nova Scotia, Canada; [2]NRC, Halifax, Nova Scotia, Canada; [3]Frasier Health Authority, Surrey, British Columbia, Canada

2294. Data Downsampling for Time-Efficient and Robust Estimation of ICA Model Order Using Bootstrap Stability Analysis of Principal Components

Waqas Majeed[1], Feng Wang[2, 3], Robert M. Friedman[4], Chaohui Tang[2, 3], Malcolm J. Avison[2, 3]
[1]Department of Electrical Engineering, Lahore University of Management Sciences, School of Science and Engineering, Lahore, Punjab, Pakistan; [2]Vanderbilt University Institute of Imaging Science (VUIIS), Vanderbilt University, Nashville, TN, United States; [3]Department of Radiology, Vanderbilt University, Nashville, TN, United States; [4]Department of Psychology, Vanderbilt University, Nashville, TN, United States

2295. AutoROI: Fast and Automatic Generation of ROIs for Real-Time fMRI Paradigms

Paul Wighton[1], André J. W. van der Kouwe[1]
[1]Department of Radiology, MGH, Martinos Center for Biomedical Imaging, Charlestown, MA, United States

2296. A Retrospective Evaluation of Clinical Functional MRI Quality and Analysis Methods
Victoria L. Morgan[1, 2], Megan Strother[2], Reid C. Thompson[3]
[1]Vanderbilt University Institute of Imaging Science, Vanderbilt University, Nashville, TN, United States; [2]Radiology and Radiological Sciences, Vanderbilt University, Nashville, TN, United States; [3]Neurosurgery, Vanderbilt University, Nashville, TN, United States

2297. A Novel Approach to the Quantitative Estimation of the Oxygen Metabolism Response to a Neural Stimulus That Accounts for Uncertainty Due to Unmeasured Physiological Parameters
Aaron Benjamin Simon[1], Valerie E M Griffeth[1], Richard B. Buxton[2]
[1]Bioengineering, University of California San Diego, La Jolla, CA, United States; [2]Radiology, University of California San Diego, La Jolla, CA, United States

Traditional Poster
Animal fMRI Studies

Exhibition Hall Thursday 10:30-12:30

2298. Comparison of Six Different Anesthesia Protocols for phMRI
Jaakko Paasonen[1], Joanna K. Huttunen[1], Olli Gröhn[1]
[1]Department of Neurobiology, A. I. Virtanen Institute for Molecular Sciences, University of Eastern Finland, Kuopio, Finland

2299. Isoflurane Supplement Prevents Epileptic Activity in fMRI Studies Under Medetomidine Anesthesia
Xiaopeng Zong[1], Mitsuhiro Fukuda[1], Alberto Vazquez[1], Seong-Gi Kim[1]
[1]Department of Radiology, University of Pittsburgh, Pittsburgh, PA, United States

2300. Effect of Four Commonly Used Anesthetics on Stimulation-Induced and Resting State fMRI Signal in Mice
Aileen Schröter[1], Felix Schlegel[1], Aline Seuwen[1], Joanes Grandjean[1], Markus Rudin[1, 2]
[1]Institute for Biomedical Engineering, ETH and University Zürich, Zürich, Switzerland; [2]Institute of Pharmacology and Toxicology, University Zürich, Zürich, Switzerland

2301. Subcortical and Cortical Distribution of BOLD Signal from Somatosensory Stimulation in Anaesthetised Rats
Diana Cash[1], Tobias C. Wood[1], Camilla Simmons[1], Aisling L. Dixon[1], Steve C.R. Williams[1], Michel B. Mesquita[1]
[1]Neuroimaging, King's College, Institute of Psychiatry, London, United Kingdom

2302. Spontaneous fMRI-BOLD Power Spatial Distribution: Comparison Between Awake State and Under Isoflurane Anesthesia in the Rat
Wen-Ju Pan[1], Matthew E. Magnuson[1], Garth Thompson[1], Shella Keilholz[1]
[1]Biomedical Engineering, Emory University/ Georgia Institute of Technology, Atlanta, GA, United States

2303. Two Anesthetics, Two Completely Different Connectivity Results
Erik B. Beall[1], John T. Gale[2], Ken E. Sakaie[1], Mark J. Lowe[1]
[1]Imaging Institute, Cleveland Clinic, Cleveland, OH, United States; [2]Lerner Research Institute, Cleveland Clinic, Cleveland, OH, United States

2304. Effects of Different Anesthesia on the Resting-State Networks in Rodents
Johnny Ng[1], Jessica Roman[1], Edmund Wong[1], David Carpenter[1], Cheuk Tang[1, 2]
[1]Dept. of Radiology, Mount Sinai School of Medicine, New York, NY, United States; [2]Dept. of Psychiatry, Mount Sinai School of Medicine, New York, NY, United States

2305. Sub-Anesthetic Ketamine Modulates Intrinsic BOLD Connectivity in the Hippocampal-Prefrontal System in the Rat: Dose-Dependence and PK/PD Relationships
Natalia Gass[1], Alexander Sartorius[1], Adam James Schwarz[2, 3], Esther Schenker[4], Celine Risterucci[5], Michael Spedding[4], Lei Zheng[1], Andreas Meyer-Lindenberg[1], Wolfgang Weber-Fahr[1]
[1]Central Institute of Mental Health, Mannheim, Germany; [2]Eli Lilly and Company, Indianapolis, IN, United States; [3]Indiana University, Bloomington, IN, United States; [4]Institut de Recherches Servier, Croissy-sur-Seine, France; [5]F. Hoffmann-La Roche, Basel, Switzerland

2306. Functional Connectivity in the Mouse Brain Detected Under Different Dosages of Medetomdine
Fatima Nasrallah[1], Hui Chien Tay[1], Krzysztof Pyka[1], Kai-Hsiang Chuang[1]
[1]Magnetic Resonance Imaging Group, A*Star Biomedical Research Institutes, Singapore, Singapore

2307. BOLD fMRI Response of the Rat Brain to Hyperosmotic Saline Infusion
Bianca Gonzales Cerqueira[1], Glenn M. Toney[2], Timothy O. Duong[3]
[1]Research Imaging Institute, Univ. of TX Health Science Center, San Antonio, TX, United States; [2]Physiology, Univ. of TX Health Science Center, San Antonio, TX, United States; [3]Research Imaging Institute, UT Health Science Center at San Antonio, San Antonio, TX, United States

2308. Differential BOLD and Blood Flow Response During and Immediately After Transient Carotid Occlusion
Guang Li[1], Jeffrey W. Kiel[2], Damon P. Cardenas[3], De La Garza H. Bryan[4], Timothy O. Duong[4]
[1]Department of Radiology, UT Health Science Center at San Antonio, San Antonio, TX, United States; [2]Department of Ophthalmology, UT Health Science Center at San Antonio, San Antonio, TX, United States; [3]Department of Biomedical Engineering, UT Health Science Center at San Antonio, San Antonio, TX, United States; [4]Research Imaging Institute, UT Health Science Center at San Antonio, San Antonio, TX, United States

2309. Effect of Occlusion Durations on Postocclusion Reactive Hyperemia in Rat Retina
Guang Li[1], Jeffrey W. Kiel[2], Damon P. Cardenas[3], De La Garza H. Bryan[4], Timothy O. Duong[4]
[1]Department of Radiology, UT Health Science Center at San Antonio, San Antonio, TX, United States; [2]Department of Ophthalmology, UT Health Science Center at San Antonio, San Antonio, TX, United States; [3]Department of Biomedical Engineering, UT Health Science Center at San Antonio, San Antonio, TX, United States; [4]Research Imaging Institute, UT Health Science Center at San Antonio, San Antonio, TX, United States

2310. Effect of Metabolic Rate on Postocclusion Reactive Hyperemia in Rat Retina
Guang Li[1], Jeffrey W. Kiel[2], Damon P. Cardenas[3], De La Garza H. Bryan[4], Timothy O. Duong[4]
[1]Department of Radiology, UT Health Science Center at San Antonio, San Antonio, TX, United States; [2]Department of Ophthalmology, UT Health Science Center at San Antonio, San Antonio, TX, United States; [3]Department of Biomedical Engineering, UT Health Science Center at San Antonio, San Antonio, TX, United States; [4]Research Imaging Institute, UT Health Science Center at San Antonio, San Antonio, TX, United States

2311. A Protocol for Longitudinal BOLD-FMRI Imaging Deep Brain Stimulation Response in the Rat Brain
Tzu-Hao Chao[1], Jyh-Horng Chen[2], Chen-Tung Yen[1]
[1]Institute of Zoology, National Taiwan University, Taipei, Taiwan; [2]Interdisciplinary MRI/MRS Lab, Dept. of Electrical Engineering, National Taiwan University, Taipei, Taiwan

2312. Deep Brain Stimulation fMRI in Mice
Yu-Chieh Jill Kao[1], Hsin-Yi Lai[1], John Robert Younce[1], Yen-Yu Ian Shih[1]
[1]Experimental Neuroimaging Laboraory, Department of Neurology and Biomedical Research Imaging Center, University of North Carolina, Chapel Hill, Chapel Hill, NC, United States, Chapel Hill, NC, United States

2313. Brain Parenchymal fMRI Signals During Cortical Spreading Depression
Joonas Arttu Autio[1, 2], Artem Shatillo[1], Rashid Giniatullin[1], Olli Gröhn[1]
[1]Neurobiology, University of Eastern Finland, Kuopio, Finland; [2]Radiology, University of Oulu, Oulu, Finland

2314. White-Matter Diffusion fMRI in the Healthy Mouse Optic Nerve
William M. Spees[1, 2], Tsen-Hsuan Lin[3], Sheng-Kwei Song[1, 2]
[1]Department of Radiology, Washington University, St. Louis, MO, United States; [2]Hope Center for Neurological Disorders, Washington University, St. Louis, MO, United States; [3]Department of Physics, Washington University, St. Louis, MO, United States

2315. C7 Nerve Root Sensory Mapping: A 9.4T Bold Functional MRI Investigation
Jacques Machol IV[1], Rupeng Li[2], Patrick Hettinger[3], Nicholas Flugstad[3], Ji-Geng Yan[3], Hani Matloub[3], James S. Hyde[2]
[1]Plastic Surgery , Medical College of Wisconsin, Milwaukee, WI, United States; [2]Biophysics, Medical College of Wisconsin, Milwaukee, WI, United States; [3]Plastic Surgery, Medical College of Wisconsin, Milwaukee, WI, United States

2316. Decreased Functional Connectivity in ApoE4 and ApoE-Knockout Mice Revealed by Resting-State fMRI at Ultra-High Field

Valerio Zerbi[1], Maarten Van Beek[1], Diane Jansen[1], Christian F. Beckmann[2, 3], Amanda J. Kiliaan[1], Arend Heerschap[4]
[1]Anatomy, Radboud University Nijmegen Medical Centre, Nijmegen, The Netherlands, Netherlands; [2]Donders Centre for Cognitive Neuroimaging, Radboud University Nijmegen Medical Centre, Nijmegen, The Netherlands, Netherlands; [3]MIRA Institute for Biomedical Technology and Technical Medicine, University of Twente, Enschede, Netherlands, Netherlands; [4]Radiology, Radboud University Nijmegen Medical Centre, Nijmegen, The Netherlands, Netherlands

2317. Neuroimaging Measure as an Endophenotype for Genetic Effects on Electrical Stimulation in Brown Norway and Dahl Salt-Sensitive Rat Strains

Zhixin Li[1], B. Douglas Ward[2], Melinda R. Dwinell[3], Christopher P. Pawela[1, 2]
[1]Department of Plastic Surgery, Medical College of Wisconsin, Milwaukee, WI, United States; [2]Department of Biophysics, Medical College of Wisconsin, Milwaukee, WI, United States; [3]Human and Molecular Genetics Center, Medical College of Wisconsin, Milwaukee, WI, United States

2318. Differentiating BOLD and Non-BOLD Signals in 11.7 Tesla Rat Resting State fMRI

Prantik Kundu[1, 2], Mathieu David Santin[3], Alexandra Petiet[3], Peter A. Bandettini[4], Ed Bullmore[2], Stéphane Lehéricy[3]
[1]Section on Functional Imaging Mehthods, NIMH, Bethesda, MD, United States; [2]Dept. of Psychiatry, University of Cambridge, Cambridge, Cambridgeshire, United Kingdom; [3]UPMC/INSERM UMR_975 CNRS 7225, CENIR,ICM,CRICM, Paris, France; [4]Section on Functional Imaging Mehthods, National Institute of Mental Health, Bethesda, MD, United States

2319. Asymmetrical Gustatory Cortex But Symmetrical Gustatory Representation in the Left and Right Hemispheres of the Rodent Brain

Ikuhiro Kida[1], Yoko Hoshi[2], Masahito Nemoto[2], Yoshinobu Iguchi[2], Yoshichika Yoshioka[3]
[1]Center for Information and Neural Networks, National Institute of Information and Communications Technology, Suita, Osaka, Japan; [2]Integrated Neuroscience Research Project, Tokyo Metropolitan Institute of Medical Science, Setagaya-ku, Tokyo, Japan; [3]Immunology Frontier Research Center, Osaka University, Suita, Osaka, Japan

2320. Magnetic Resonance Characteristics of Sucrose-Infiltrated *ex-vivo* Brain Tissue Preparations

Roger J. Mullins[1, 2], Da Shi[1, 3], Jiachen Zhuo[1], Su Xu[1], Rao P. Gullapalli[1]
[1]Diagnostic Radiology and Nuclear Medicine, Core for Translational Research in Imaging @ University of Maryland, Baltimore, MD, United States; [2]Program in Neuroscience, University of Maryland, Baltimore, MD, United States; [3]Department of Biochemistry and Molecular Biology, University of Maryland, Baltimore, MD, United States

2321. Investigation of Optogenetically Induced Oxytocin Release Within Central Amygdala on BOLD Signals in Rat Brain at 9.4T

ISMRM MERIT AWARD magna cum laude

Philipp Lebhardt[1, 2], Wolfgang Kelsch[3], Apar Jain[4], Miriam Kernert[4], Valery Grinevich[4], Gabriele Ende[5], Andreas Meyer-Lindenberg[2], Alexander Sartorius[1, 2], Wolfgang Weber-Fahr[1, 5]
[1]RG Translational Imaging, Central Institute of Mental Health, Medical Faculty Mannheim / Heidelberg University, Mannheim, Germany; [2]Psychiatry and Psychotherapy, Central Institute of Mental Health, Medical Faculty Mannheim / Heidelberg University, Mannheim, Germany; [3]RG Developmental Biology, Central Institute of Mental Health, Medical Faculty Mannheim / Heidelberg University, Mannheim, Germany; [4]Laboratory of Neuropeptides, German Cancer Research Center DKFZ, CellNetwort Cluster of Excellence, University of Heidelberg, Heidelberg, Germany; [5]NeuroImaging, Central Institute of Mental Health, Medical Faculty Mannheim / Heidelberg University, Mannheim, Germany

2322. Exploring the Mouse Brain Functional Networks After Demyelination: A rs-fMRI Study

Neele Saskia Hübner[1, 2], Anna Mechling[1], Hsu-Lei Lee[1], Jürgen Hennig[1], Dominik von Elverfeldt[1], Laura-Adela Harsan[1]
[1]Department of Radiology - Medical Physics, University Medical Center Freiburg, Freiburg, Germany; [2]Faculty of Biology, University of Freiburg, Freiburg, Germany

2323. Methylene Blue Potentiates Stimulus-Evoked fMRI Responses and Oxygen Consumption During Hypoxia

Shiliang Huang[1], Fang Du[2], Yen-Yu Ian Shih[2, 3], Qiang Shen[2], Francisco Gonzalez-Lima[4], Timothy O. Duong[2]
[1]University of Texas Health Science Center at San Antonio, San Antonio, TX, United States; [2]UT Health Science Center at San Antonio, San Antonio, TX, United States; [3]University of North Carolina at Chapel Hill, Chapel Hill, NC, United States; [4]The University of Texas at Austin, Austin, TX, United States

2324. phMRI Effects of the M4 Muscarinic Receptor Acetylcholine Positive Allosteric Modulator VU0152100 on Dopaminergic Activity

Nellie E. Byun[1, 2], Robert L. Barry, [23], Michael D. Grannan[4], Stephen M. Damon[5], Nathaniel D. Kelm, [26], Matthew J. Mulder[1], Amanda W. Huang[1], Thomas M. Bridges[1, 4], Malcolm J. Avison, [23], Craig W. Lindsley[1, 7], Jeff Conn[1, 4], John C. Gore[2, 3], Carrie K. Jones[1, 4]

[1]Center for Neuroscience Drug Discovery, Vanderbilt University, Nashville, TN, United States; [2]Institute of Imaging Science, Vanderbilt University, Nashville, TN, United States; [3]Radiology & Radiological Sciences, Vanderbilt University, Nashville, TN, United States; [4]Pharmacology, Vanderbilt University, Nashville, TN, United States; [5]Neurology, Vanderbilt University, Nashville, TN, United States; [6]Biomedical Engineering, Vanderbilt University, Nashville, TN, United States; [7]Chemistry, Vanderbilt University, Nashville, TN, United States

2325. Investigation of BOLD Response in Somatosensory Pathway of Awake Marmosets Using High Resolution fMRI

Cecil Chern-Chyi Yen[1], Daniel Papoti[1], Afonso C. Silva[1]

[1]CMU/LFMI/NINDS, National Institutes of Health, Bethesda, MD, United States

2326. Brain Sparing in Fetal Mice: Using BOLD MRI to Study Blood Redistribution During Hypoxia

Lindsay S. Cahill[1], Yu-Qing Zhou[1], Mike Seed, Christopher K. Macgowan, [2], John G. Sled[1, 2]

[1]Mouse Imaging Centre, Hospital for Sick Children, Toronto, Ontario, Canada; [2]Department of Medical Biophysics, University of Toronto, Toronto, Ontario, Canada

Traditional Poster
Human fMRI Studies

Exhibition Hall Thursday 10:30-12:30

2327. Contribution of Language Processing Areas to Verb Generation and Picture Naming: fMRI Evidence

Lei Zhang[1], Min LI[1], Zhen Jin[1]

[1]Medical Imaging Center, 306 Hospital Beijing, Beijing, China

2328. Different fMRI Representations and Brain Connections for Food Odor Stimuli Depending on the BMI of Infant Volunteers

Benito de Celis Alonso[1], Silvia Hidalgo Tobón[2], Pilar Dies Suarez[2], Samuel Flores Huerta[2], Jenny Vilichis[2], Manuel Obregon Espejel[2], Porfirio Ibañez Fernández[2], Eduardo Castro Sierra[2]

[1]Faculty of Medicine, BUAP, Puebla, Mexico; [2]Hospital Infantil de México, Mexico City, México FD, Mexico

2329. Complex and Widespread Network Modulations During Simple Tasks: Trial-By-Trial Spatio-Temporal Dynamics of Brain Function Revealed by Model-Free Analysis

Stephen D. Mayhew[1], Andrew P. Bagshaw[1]

[1]BUIC, School of Psychology, University of Birmingham, Birmingham, United Kingdom

2330. Evaluation of the Validity of Task Switching Paradigm as a Cognitive Stress Test

Mitsunobu Kunimi[1], Sachiko Kiyama[2], Toshiharu Nakai[2]

[1]National Center for Geriatrics and Gerontology, Obu, Aichi , Japan; [2]National Center for Geriatrics and Gerontology, Obu, Aichi, Japan

2331. Decoding Subjectively Correct "Yes/No" Thoughts in the Human Brain

Zhi Yang[1, 2], Javier Gonzalez-Castillo[2], Zirui Huang[1], Rui Dai[1], Georg Northoff[3], Peter A. Bandettini[2]

[1]Institute of Psychology, Chinese Academy of Sciences, Beijing, China; [2]National Institute of Mental Health, Bethesda, MD, United States; [3]University of Otawa, Otawa, ON, Canada

2332. Applying MRI for Investigating Brain Plasticity Resulting from Attention Training on Healthy Highly Educated Subjects

Bob Hou[1], A Smith[2], J. Wiener[2], J. Chong[2], Julie Brefczynski-Lewis[1], D Kerr[2], D. G. McLaren[3], Marc W. Haut[2]

[1]Radiology, WVU, Morgantown, WV, United States; [2]Behavioral Medicine & Psychiatry, WVU, Morgantown, WV, United States; [3]MGH, Harvard University, Cambridge, MA, United States

2333. Age-Related Effects in Brain Activation with Working Memory Tasks: An fMRI Study
Jeehye Seo[1], Seong-Uk Jin[1], Hee-Kyung Kim[1], Jang Woo Park[1], Moon Han[1], Jong Su Baeck[1], Yongmin Chang[1, 2], Kyung Jin Suh[3]
[1]Medical & Biological Engineering, Kyungpook National University, Daegu, Korea; [2]Radiology and Molecular Medicine, Kyungpook National University, Daegu, Korea; [3]Radiology, College of Medicine, Dongguk University, Gyeong Ju, Gyeongsangbuk-do, Korea

2334. Detection of Difference in Neural Activity During Visuomotor Finger-Tapping Task by the Elderly: An fMRI Study
Sachiko Kiyama[1], Mitsunobu Kunimi[1], Tetsuya Iidaka[2], Toshiharu Nakai[1]
[1]National Center for Geriatrics and Gerontology, Ohbu, Aichi, Japan; [2]Nagoya University, Nagoya, Aichi, Japan

2335. Differential fMRI Responses to Visual Food Cues Between Lean and Obese Subjects
Claudia Huerta[1], Pooja Sarkar[1], Timothy O. Duong[2]
[1]UTHSCSA, San Antonio, TX, United States; [2]UT Health Science Center at San Antonio, San Antonio, TX, United States

2336. fMRI of Glucose Ingestion
Claudia Huerta[1], John Li[1], Timothy O. Duong[2]
[1]UTHSCSA, San Antonio, TX, United States; [2]UT Health Science Center at San Antonio, San Antonio, TX, United States

2337. A Combined Study of Functional Magnetic Resonance Imaging and Diffusion Tensor Imaging Revealed Neuronal Tract Associated with Autistic Tendency
Tetsuya Iidaka[1], Makoto Miyakoshi[2], Tokiko Harada[3], Toshiharu Nakai[4]
[1]Department of Psychiatry, Nagoya University, Graduate School of Medicine, Nagoya, Aichi, Japan; [2]Swartz Center for Computational Neuroscience, Institute for Neural Computation, UC San Diego, La Jolla, CA, United States; [3]NIPS, Okazaki, Aichi, Japan; [4]Neuroimaging & Informatics, NCGG, Ohbu, Aichi, Japan

2338. Brain Activation Study by Passive Intra-Articular Movement of Radiolunate and Sacroiliac Joints Using fMRI.
Chuzo Tanaka[1], SETSUO Hakata[2], Tomokazu Murase[3], Masahiro Umeda[4], Yasuharu Watanabe[4], Yuko Kawai[5], Yoshiaki Someya[6], Shoji Naruse[7], Toshihiro Higuchi[8]
[1]Meiji University of Integrative Medicine, Kyoto, Japan; [2]Japanese Medical Society of Arthrokinematic Approa, Fujiyoshida, Yamanashi, Japan; [3]Dept. of Neurosurgery, Meiji University of Integrative Medicine, Nantan-shi, kyoto, Japan; [4]Dept. of Medical Informatics, Meiji University of Integrative Medicine, Nantan, Kyoto, Japan; [5]Dept. of Medical Informatics, Dept. of Medical Informatics, Nantan, Kyoto, Japan; [6]MR center of COE, Keio University, Yokohama, Kanagawa, Japan; [7]2nd Okamoto General Hospital, Kyoto, Japan; [8]Dept. of Neurosurgery, Meiji University of Integrative Medicine, Nantan, Kyoto, Japan

2339. Negative BOLD in Somatosensory Cortex During Simple Finger Tapping
Robert Trampel[1], Andreas Schäfer[1], Laurentius Huber[1], Robin Martin Heidemann[2], Gabriele Lohmann[1], Robert Turner[1]
[1]Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany; [2]Siemens AG Healthcare Sector, Erlangen, Germany

2340. Simultaneous CBF and BOLD Mapping of High Frequency Acupuncture Induced Brain Activity
Yue Zhang[1], Christopher B. Glielmi[2], Yin Jiang[3], Jing Wang[1], Xiaoying Wang[4], Jing Fang[1], Cailian Cui[3], Jisheng Han[3], Xiaoping P. Hu[2], Jue Zhang[1]
[1]College of Engineering, Peking University, BeiJing, China; [2]Department of Biomedical Engineering, Georgia Institute of Technology / Emory University, Atlanta, GA, United States; [3]Neuroscience Research Institute, Peking University, Beijing, China; [4]Department of Radiology, Peking University First Hospital, Beijing, China

2341. Decreased Cerebral Blood Volume and Flow in Areas with Negative BOLD Indicates the Mechanism for Negative BOLD May Be Stimulus- And Area-Specific
Jozien Goense[1], Yvette Bohraus[1], Nikos K. Logothetis[1, 2]
[1]Dept. Physiology of Cognitive Processes, Max-Planck Institute for Biological Cybernetics, Tuebingen, Germany; [2]Division of Imaging Science and Biomedical Engineering, University of Manchester, Manchester, United Kingdom

2342. Trial-By-Trial Global Modulation of BOLD Responses to Simple, Sensory Stimuli: Implications for Functional Brain Imaging and Understanding Positive and Negative BOLD Response Coupling

Stephen D. Mayhew[1], Karen J. Mullinger[2], Camillo Porcaro[3, 4], Richard W. Bowtell[2], Andrew P. Bagshaw[1], Susan T. Francis[2]

[1]BUIC, School of Psychology, University of Birmingham, Birmingham, United Kingdom; [2]SPMMRC, School of Physics and Astronomy, University of Nottingham, Nottingham, United Kingdom; [3]Institute of Neuroscience, Newcastle University, Newcastle upon Tyne, United Kingdom; [4]LETs-ISTC-CNR, Fatebenefratelli Hospital-Isola Tiberina, Rome, Italy

2343. Deconvolution Analyses with Tent Functions Reveal Delayed and Long-Sustained Increases of BOLD Signals with Acupuncture Stimulation

Tomokazu Murase[1], Masahiro Umeda[2], Yuko Kawai[2], Yasuharu Watanabe[2], Shoji Naruse[3], Chuzo Tanaka[1], Toshihiro Highchi[1]

[1]Department of Neruosurgery, Meiji University of Integrative Medicine., Nantan, Kyoto, Japan; [2]Department of Medical Informatics, Meiji University of Integrative Medicine., Nantan, Kyoto, Japan; [3]Daini Okamoto General Hospital, Uji, Kyoto, Japan

2344. Cortical Activation Induced by Electrical Stimulation in Patients with Multiple Sclerosis and Foot Drop

Bader Aldebasi[1], Xia Lin[2], Paul M. Glover[3], Richard W. Bowtell[3], Cris Constantinescu[4], Susan T. Francis[5]

[1]SPMMRC, School of Physics & Astronomy,, Nottingham, Nottinghamshire, United Kingdom; [2]Division of Rehabilitation and ageing, Nottingham, Nottinghamshire, United Kingdom; [3]SPMMRC, School of Physics & Astronomy, Nottingham, Nottinghamshire, United Kingdom; [4]Division of clinical Neurology, Nottingham, Nottinghamshire, United Kingdom; [5]SPMMRC, School of Physics & Astronomy, Nottingham,, Nottinghamshire, United Kingdom

2345. Working Memory Impairment in Occupational Lead Exposure Subjects Associated with Altered Frontoparietal Memory Network

Jeehye Seo[1], Seong-Uk Jin[1], Hee-Kyung Kim[1], Jang Woo Park[1], Moon Han[1], Jong Su Baeck[1], Yongmin Chang[1, 2], Young-Hwan Lee[3]

[1]Medical & Biological Engineering, Kyungpook National University, Daegu, Korea; [2]Radiology and Molecular Medicine, Kyungpook National University, Daegu, Korea; [3]Radiology, Daegu Catholic University Medical Center, Daegu, Korea

2346. Proximal and Distal Effects of Subconcussive Head Impacts on fMRI Activity in Asymptomatic High School Football Players

Meghan Robinson[1, 2], Evan Breedlove[3], Victoria N. Poole[2, 4], Larry Leverenz[5], Eric Nauman[3, 4], Thomas Talavage,[2 6]

[1]Translational Research Center for TBI and Stress Disorders (TRACTS), VA Boston Healthcare System, Boston, MA, United States; [2]Weldon School of Biomedical Engineering, Purdue University, West Lafayette, IN, United States; [3]Mechanical Engineering, Purdue University, West Lafayette, IN, United States; [4]Basic Medical Sciences, Purdue University, West Lafayette, IN, United States; [5]Health and Kinesiology, Purdue University, West Lafayette, IN, United States; [6]Electrical Engineering, Purdue University, West Lafayette, IN, United States

2347. Cross-Field Analysis of the Accuracy of Hypercapnia Calibrated BOLD

Nicholas P. Blockley[1], Valerie E M Griffeth[2], Peter Jezzard[1], Daniel P. Bulte[1]

[1]FMRIB, University of Oxford, Oxford, United Kingdom; [2]Center for Functional MRI, University of California San Diego, La Jolla, CA, United States

2348. Acetazolamide Improves Tissue Oxygenation During Hypoxia in the Human Brain

Kang Wang[1], Zachary M. Smith[1], David J. Dubowitz[1]

[1]University of California San Diego, La Jolla, CA, United States

2349. Reliable Quantification of Cerebrovascular Reactivity Despite Poorly Performed Breath-Holds

Kevin Murphy[1], Molly G. Bright[1]

[1]CUBRIC, School of Psychology, Cardiff University, Cardiff, Wales, United Kingdom

2350. A Search for an Optimal Neuronal Marker for Spinal Cord FMRI

Kenneth A. Weber II[1, 2], Yufen Chen[1], Xue Wang[1], Todd B. Parrish[1]

[1]Department of Radiology, Northwestern University, Chicago, IL, United States; [2]Interdepartmental Neuroscience Program, Northwestern University, Chicago, IL, United States

Traditional Poster
Pulse Sequences & Applications

Exhibition Hall Tuesday 13:30-15:30

2351. Quantitative Comparison of Susceptibility-Weighted Methods in Deep Grey Matter in Multiple Sclerosis
Luca Y. Li[1], Cheryl R. McCreary[1, 2], Fiona Costello,[3], Richard Frayne,[3]
[1]Seaman Family MR Research Centre, Foothills Medical Centre, Alberta Health Services, Calgary, Alberta, Canada; [2]Departments of Radiology and Clinical Neurosciences, University of Calgary, Calgary, Alberta, Canada; [3]Hotchkiss Brain Institute, Calgary, Alberta, Canada

2352. MR-Based Oxygen Extraction Fraction OEF Using Spatial ICA of Breath-Hold PARSE Acquisitions.
Charles G. Cantrell[1], Rajiv G. Menon[1], Parmede Vakil[1], Sumeeth Vijay Jonathan[1], Timothy J. Carroll[1]
[1]Northwestern University, Chicago, IL, United States

2353. High Resolution Volumetric T1 Mapping Using a Novel MP3RAGE Method
Wei-Feng Hung[1], Po-Tsun Chen[1], Tzu-Chao Chuang[1], Hing-Chiu Chang[2], Ming-Ting Wu[3, 4]
[1]Department of Electrical Engineering, National Sun Yat-Sen University, Kaohsiung, Taiwan; [2]Brain Imaging and Analysis Center, Duke University, Durham, NC, United States; [3]Department of Radiology, Kaohsiung Veteran General Hospital, Kaohsiung, Taiwan; [4]School of Medicine, National Yang-Ming University, Taipei, Taiwan

2354. Remember PSIF? a 2-Second Imaging Method for T2 Contrast at 7T
Yiu-Cho Chung[1], Yanjie Zhu[1], Xin Liu[1], Chao Zou[1]
[1]Paul C. Lauterbur Research Center for Biomedical Imaging, Shenzhen Key Laboratory for MRI, Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences, Shenzhen, Guangdong, China

2355. Rapid Whole-Brain Myelin Water Mapping Using Multi-Component Gradient Echo Sampling of Spin Echoes (McGESSE)
Yann Gagnon[1, 2], Neil Gelman[1, 2], Rob Nicolson[3], Jean Théberge[1, 2]
[1]Medical Biophysics, University of Western Ontario, London, Ontario, Canada; [2]Imaging, Lawson Health Research Institute, London, Ontario, Canada; [3]Psychiatry, University of Western Ontario, London, Ontario, Canada

2356. Simultaneous Acquisition of Interslice Blood Flow, Magnetization Transfer Ratio Asymmetry, and MTR
Sung-Hong Park[1, 2], Jeffrey William Barker[1, 3], Kyongtae Ty Bae[1]
[1]Radiology, University of Pittsburgh, Pittsburgh, PA, United States; [2]Bio and Brain Engineering, Korea Advanced Institute of Science and Technology, Daejeon, Korea; [3]Bioengineering, University of Pittsburgh, Pittsburgh, PA, United States

2357. Magnetization Transfer Prepared Gradient Echo CEST MRI at 7 Tesla
Zhuozhi Dai[1], Jim Ji[2], Gang Xiao[3], Gen Yan[1], Zhiwei Shen[4], Guishan Zhang[1], Lvhao Wang[1], Phillip Zhe Sun[5], Renhua Wu[1]
[1]Medical Imaging, Medical College of Shantou University, shantou, guangdong, China; [2]Department of Electrical and Computer Engineering, Texas A&M University, College Station, TX, United States; [3]Hanshan Normal University, Chaozhou, Guangdong, China; [4]the provincial key laboratory of medical molecular imaging, Shantou, Guangdong, China; [5]Athinoula A. Martinos Center for Biomedical Imaging, Department of Radiology, MGH and Harvard Medical School, Charlestown, MA, United States

2358. A Novel Method for Magnetization Transfer Ratio Imaging Without Requiring Separate Saturation Pulse
Jeffrey William Barker[1, 2], Kyongtae Ty Bae[1], Sung-Hong Park,[13]
[1]Radiology, University of Pittsburgh, Pittsburgh, PA, United States; [2]Bioengineering, University of Pittsburgh, Pittsburgh, PA, United States; [3]Bio and Brain Engineering, Korean Advanced Institute of Science and Technology, Daejeon, Yuseong-gu, Korea

2359. Prospective Acquisition: A Novel Application for Superluminal Photons in MRI
H. Morgan[1], T. Traveler[1], D. R. Who[1], E. Brown[1]
[1]Radiology, General Hospital, Memphis, TN, United States

2360. Centric Reordered 2D BSSFP Imaging Using Variable Flip Angles for Fourier Decomposed MRI in the Lung
Dominique M.R. Corteville[1], Åsmund Kjørstad[1], Frank G. Zöllner[1], Lothar R. Schad[1]
[1]Computer Assisted Clinical Medicine, Heidelberg University, Mannheim, Baden Württemberg, Germany

2361. High Speed 3D B-SSFP at 6.5 mT
Mathieu Sarracanie[1, 2], Brandon Dean Armstrong[1, 2], Matthew S. Rosen[1, 2]
[1]Department of Physics, Harvard University, Cambridge, MA, United States; [2]MGH/Martinos Center for Biomedical Imaging, Boston, MA, United States

2362. Strategies for Improved 3D Small-Tip Fast Recovery (STFR) Imaging
ISMRM MERIT AWARD magna cum laude
Hao Sun[1], Jeffrey A. Fessler[2], Douglas C. Noll[3], Jon-Fredrik Nielsen[3]
[1]Electrical Engineering and Computer Science, The University of Michigan-Ann Arbor, Ann Arbor, MI, United States; [2]Electrical Engineering and Computer Science, University of Michigan, Ann Arbor, MI, United States; [3]Biomedical Engineering, The University of Michigan-Ann Arbor, Ann Arbor, MI, United States

2363. Rapid High Resolution 3D Volume Imaging of the Human Brain Using Spin Echo EPI, Parallel Imaging, Reduced-FOV Methods, and Oversampling Reduction at 7T
ISMRM MERIT AWARD magna cum laude
Christopher Joseph Wargo[1], John C. Gore[1]
[1]Department of Radiology and Radiological Sciences, Vanderbilt University, Nashville, TN, United States

2364. Diagonal Multi-Slab Inner Volume 3D GRASE Imaging for High Resolution T2 Weighted fMRI
An T. Vu[1], David A. Feinberg[2, 3], Noam Harel[1], Kamil Ugurbil[1], Essa S. Yacoub[1]
[1]Radiology, Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, MN, United States; [2]Advanced MRI Technologies, Sebastopol, CA, United States; [3]Helen Willis Neuroscience, University of California, Berkeley, Berkeley, CA, United States

2365. Simultaneous Multi-Volume GRASE Imaging
Liyong Chen[1, 2], David A. Feinberg, [23]
[1]Advanced MRI Technologies, LLC, Sebastopol, CA, United States; [2]Helen Wills Neuroscience Institute, University of California, Berkeley, CA, United States; [3]Advanced MRI Technologies, Sebastopol, CA, United States

2366. 3D Adiabatic FSE with GRASE Acquisition at 4T
Naoharu Kobayashi[1], Michael Garwood
[1]Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, MN, United States

2367. 3D Center-Out EPI with Cylindrical Encoding
Manoj Shrestha[1], Toralf Mildner[1], Christian Labadie[1], Harald E. Möller[1]
[1]Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Saxony, Germany

2368. Radial Single-Slab 3D Turbo Spin Echo (SPACE)
John P. Mugler, III[1], Simon Bauer[2], Dominik Paul[2], Alto Stemmer[2], Berthold Kiefer[2]
[1]Radiology & Medical Imaging, University of Virginia, Charlottesville, VA, United States; [2]Siemens Healthcare, Erlangen, Germany

2369. *in-vivo* Brain 3D RSI (Rosette Spectroscopic Imaging) with Spherical/ellipsoidal Encoding. Comparison to 3D RSI with Cylindrical Encoding and to Ellipsoidal CSI.
Claudiu Schirda[1], Tiejun Zhao[2], Ovidiu C. Andronesi[3], Fernando Emilio Boada[1]
[1]Radiology, University of Pittsburgh School of Medicine, Pittsburgh, PA, United States; [2]Siemens Medical Solutions, Pittsburgh, PA, United States; [3]Radiology, Massachusetts General Hospital, Boston, MA, United States

2370. High Resolution Radial 3D Ultra-Short Echo Time Imaging *in vivo*
Karl-Heinz Herrmann[1], Martin Krämer[1], Martin Stenzel[2], Hans-Joachim Mentzel[2], Jürgen R. Reichenbach[1]
[1]Medical Physics Group, Institute of Diagnostic and Interventional Radiology I, Jena University Hospital - Friedrich Schiller University Jena, Jena, Germany; [2]Pediatric Radiology, Institute of Diagnostic and Interventional Radiology I, Jena University Hospital - Friedrich Schiller University Jena, Jena, Germany

2371. Evidence of Tissue Conductivity as a Source of Signal Inhomogeneities in Ultrashort Echo Time (UTE) Imaging
Ferdinand Schweser[1, 2], Li Huang, [13], Karl-Heinz Herrmann[1], Martin Krämer[1], Andreas Deistung[1], Jürgen R. Reichenbach[1]
[1]Medical Physics Group, Institute of Diagnostic and Interventional Radiology I, Jena University Hospital - Friedrich Schiller University Jena, Jena, Germany; [2]School of Medicine, Friedrich Schiller University Jena, Jena, Germany; [3]Abbe School of Photonics, Faculty for Physics and Astronomy, Friedrich Schiller University Jena, Jena, Germany

2372. High-Resolution 3D-FMRI at 9.4 Tesla with Intrinsically Minimised Geometric Distortions
Rüdiger Stirnberg[1], Daniel Pflugfelder[1], Tony Stöcker[1], Nadim Jon Shah[1, 2]
[1]Institute of Neuroscience and Medicine - 4, Research Centre Juelich GmbH, Jülich, Germany; [2]Department of Neurology, Faculty of Medicine, JARA, RWTH Aachen University, Aachen, Germany

2373. MRiLab: Performing Fast 3D Parallel MRI Numerical Simulation on a Simple PC
Fang Liu[1], Richard Kijowski[2], Walter F. Block[1, 3]
[1]Department of Medical Physics, University of Wisconsin-Madison, Madison, WI, United States; [2]Department of Radiology, University of Wisconsin-Madison, Madison, WI, United States; [3]Department of Biomedical Engineering, University of Wisconsin-Madison, Madison, WI, United States

2374. Combination of Multiplexed EPI with EPIK (EPI with Keyhole) for Reduced Image Distortions at 3T
Seong Dae Yun[1], Nadim Jon Shah[1, 2]
[1]Institute of Neuroscience and Medicine - 4, Forschungszentrum Jülich, Jülich, Germany; [2]JARA - Faculty of Medicine, RWTH Aachen University, Aachen, Germany

2375. A New K-Space Trajectory for Compressed Sensing MRI
Ya Li[1], Ran Yang[1]
[1]School of Information Science and Technology, Sun Yat-Sen University, Guang Zhou, Guang Dong, China

2376. An Efficient Scheme of Trajectory Optimization for Both Parallel Imaging and Compressed Sensing
ISMRM MERIT AWARD magna cum laude
Enhao Gong[1], Feng Huang[2], Kui Ying[3], Xuening Liu[4], George Randy Duensing[5]
[1]Electrical Engineering, Stanford University, Stanford, CA, United States; [2]Philips Healthcare, Shanghai, China; [3]Department of Engineering Physics, Tsinghua University, Beijing, China; [4]Department of Automation, Tsinghua University, Beijing, China; [5]Philips Healthcare, Gainesville, FL, United States

2377. Simultaneous T2 Prep and Motion Tracking Using Volume Projections
Liheng Guo[1], Di Xu[1], Daniel A. Herzka[1]
[1]Biomedical Engineering, Johns Hopkins University, Baltimore, MD, United States

2378. Can Flow Be Measured with a Flow-Compensated Sequence?
Bo Xu[1], Pascal Spincemaille[2], Tian Liu[2], Yi Wang[1]
[1]Biomedical Engineering, Cornell University, Ithaca, NY, United States; [2]Weill Cornell Medical College, New York, United States

2379. PatLoc Single Shot Imaging
Sebastian Littin[1], Jakob Assländer[1], Andrew Dewdney[2], Anna M. Welz[1], Hans Weber[1], Gerrit Schultz[1], Jürgen Hennig[1], Maxim Zaitsev[1]
[1]Radiology, Medical Physics, University Medical Center Freiburg, Freiburg, Germany; [2]Healthcare Sector, Siemens AG, Erlangen, Germany

2380. MR Pulse Sequence Design with Artificial Neural Networks
Nahal Geshnizjani[1], Kenneth A. Loparo[2], Dan Ma[3], Mark A. Griswold[4, 5]
[1]Dept. of Electrical Engineering and Computer Science, Case Western Reserve University , Cleveland, OH, United States; [2]Dept. of Electrical Engineering and Computer Science, Case Western Reserve University, Cleveland, OH, United States; [3]Dept. of Biomedical Engineering, Case Western Reserve University, Cleveland, OH, United States; [4]Dept. of Biomedical Engineering, Case Western Reserve University, Cleveland, OH, United States; [5]Dept. of Radiology, University Hospitals of Cleveland and Case Western Reserve University, Cleveland, OH, United States

2381. Real-Time, Self-Gated Spiral Flow Imaging Using Sliding-Window Phase Matching Reconstruction
Wei Feng[1], Yang Xuan[1], Jiani Hu[1], Ewart Mark Haacke[1, 2]
[1]Radiology, Wayne State University, Detroit, MI, United States; [2]Biomedical Engineering, Wayne State University, Detroit, MI, United States

2382. Gradient-Modulated SWIFT
Jinjin Zhang[1, 2], Djaudat Idiyatullin[1], Curtis Andrew Corum[1], Naoharu Kobayashi[1], Michael Garwood[1]
[1]Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, MN, United States; [2]Department of Physics, University of Minnesota, Minneapolis, MN, United States

2383. Dual-Echo Magnetic Resonance Spectroscopy Imaging: Application to Traumatic Brain Injury
Elijah George[1, 2], Steven Roys[1, 3], Jiachen Zhuo[1], Chandler Sours[4], Rao P. Gullapalli[1]
[1]Magnetic Resonance Research Center, University of Maryland School of Medicine, Baltimore, MD, United States; [2]Bioengineering, University of Maryland, College Park, MD, United States; [3]Diagnostic Radiology & Nuclear Medicne, University of Maryland, Baltimore, MD, United States; [4]Program in Neuroscience, University of Maryland School of Medicine, Baltimore, MD, United States

2384. 3D Curved Slice Imaging
Hans Weber[1], Sebastian Littin[1], Gigi Galiana[2], Feng Jia[1], Anna M. Welz[1], Robert Todd Constable[2, 3], Jürgen Hennig[1], Maxim Zaitsev[1]
[1]Department of Radiology, Medical Physics, University Medical Center Freiburg, Freiburg, Germany; [2]Diagnostic Radiology, Yale University, New Haven, CT, United States; [3]Biomedical Engineering, Yale University, New Haven, CT, United States

2385. Potential Impact of Time-Varying Gradient Delays in the EPI Train on Nyquist Ghost Correction
Silke Hey[1], Jos Koonen[1], Zhaolin Chen[1], Johan van den Brink[1]
[1]Philips Healthcare, Best, Netherlands

2386. Flip Angle ModulatioN Scheme (FANS) to Achieve an Arbitrary Signal Modulation in SPGR
Yongchuan Lai[1]
[1]GE Healthcare, Beijing, China

2387. High-Order B_0 Shimming with Compensating RF Pulses Enables Efficient and Uniform Flip Angles
Vincent Oltman Boer[1], Irene M.L. van Kalleveen[2], Peter R. Luijten[2], Robin A. de Graaf[3], Dennis W.J. Klomp[2]
[1]Radiology, University Medical Center Utrecht, Utrecht, NL, Utrecht, Netherlands; [2]Radiology, UMC Utrecht, Utrecht, NL, Utrecht, Netherlands; [3]Department of Diagnostic Radiology, Yale University, New Haven, CT, United States

2388. Turbo Spin Echo O-Space: Avoiding Artifacts and Enhancing Contrast
Gigi Galiana[1], Dana Peters[1], Leo K. Tam[1], Robert Todd Constable[1]
[1]Diagnostic Radiology, Yale University, New Haven, CT, United States

2389. Ultra-High-Resolution Imaging of the Human Brain at 9.4 T Using K-Space Weighted Acquisition
ISMRM MERIT AWARD magna cum laude
Juliane Budde[1], Gunamony Shajan[1], Klaus Scheffler[1, 2], Rolf Pohmann[1]
[1]Max Planck Institute for Biological Cybernetics, Tuebingen, Germany; [2]Department for Biomedical Magnetic Resonance, University of Tübingen, Tuebingen, Germany

2390. Real-Time SPatiotemporal ENcoding Imaging of Renal Kinetics in Perfused Mice
Eddy Solomon[1], Avigdor Leftin[1], Peter Bendel[2], Lucio Frydman[1]
[1]Chemical Physics, Weizmann Institute of Science, Rehovot, Israel; [2]Chemical Research Support, Weizmann Institute of Science, Rehovot, Israel

2391. Black Blood MRI of the Carotid Arteries with Local Excitation Coils at 7 Tesla
ISMRM MERIT AWARD magna cum laude
Tijl A. van der Velden[1], Wouter Koning[1], Maarten J. Versluis[2], Dennis W.J. Klomp[1], Peter R. Luijten[1], Jaco J.M. Zwanenburg[1]
[1]Radiology, University Medical Center Utrecht, Utrecht, Netherlands; [2]Radiology, Leiden University Medical Center, Leiden, Zuid-Holland, Netherlands

2392. Enhancement of the Myelin Rich Regions in MR Images in the Mouse Brain *in vivo* Using IR-UTE with a Cryo-Coil at 9.4 T.
Weronika Piedzia[1], Krzysztof Jasinski[1], Katarzyna Kalita[1], Boguslaw Tomanek[1, 2], Wladyslaw Piotr Weglarz[1]
[1]Department of MRI, Institute of Nuclear Physics PAN, Krakow, Malopolskie, Poland; [2]Department of Clinical Neurosciences and Radiology, University of Calgary, Calgary, Alberta, Canada

2393. *In Vivo* Optimisation of GABA Measurements in the Hippocampus Using MEGA-PRESS at 3T
Bhavana S. Solanky[1], Niamh Cawley[2], Anna Graca[1], Richard Anthony Edward Edden[3, 4], Olga Ciccarelli[2], Claudia Angela M. Wheeler-Kingshott[1]
[1]NMR Research Unit, Queen Square MS Centre, Department of Neuroinflammation, UCL Institute of Neurology, London, United Kingdom; [2]Department of Brain Repair and Rehabilitation, UCL Institute of Neurology, London, United Kingdom; [3]Russell H Morgan Department of Radiology and Radiological Science, Johns Hopkins University, Baltimore, MD, United States; [4]F.M. Kirby Research Center for Functional Brain Imaging, Kennedy Krieger Institute, Baltimore, MD, United States

2394. Signal Behavior of FLASE and TSE for Measuring Trabecular Bone - Theory and Experiments
Jakob Kreutner[1], Peter M. Jakob[1, 2], Daniel Haddad[3]
[1]Research Center Magnetic-Resonance-Bavaria, Würzburg, Bavaria, Germany; [2]Experimental Physics 5, University of Würzburg, Würzburg, Bavaria, Germany; [3]MRB Research Center, Würzburg, Bavaria, Germany

2395. Imaging the Mandibular Nerve at High Isotropic Resolution Using a Turbo Spin Echo with Local Look
Jakob Kreutner[1], Andreas J. Hopfgartner[2], Julian Boldt[3], Kurt Rottner[3], Ernst J. Richter[3], Peter M. Jakob[1], Daniel Haddad[4]
[1]Research Center Magnetic-Resonance-Bavaria, Würzburg, Bavaria, Germany; [2]Experimental Physics 5, University of Würzburg, Würzburg, Bavaria, Germany; [3]Prosthodontics, Dental School, University of Würzburg, Würzburg, Bavaria, Germany; [4]MRB Research Center, Würzburg, Bavaria, Germany

Traditional Poster
RF Pulse Design

Exhibition Hall Tuesday 13:30-15:30

2396. A Simultaneous Multi-Slice Fast-K_z RF Pulse for Reduced B_1+ Inhomogeneity
ISMRM MERIT AWARD magna cum laude
Robert James Anderson[1], Benedikt A. Poser[1], William A. Grissom[2], Victor Andrew Stenger[1]
[1]Dept. of Medicine, University of Hawaii, Honolulu, HI, United States; [2]Dept. of Biomedical Engineering, Vanderbilt Universiy, Nashville, TN, United States

2397. Multidimensional Pulses Based on Spatiotemporal Encoding Concepts
Jean-Nicolas Dumez[1], Lucio Frydman[1]
[1]Department of Chemical Physics, Weizmann Institute of Science, Rehovot, Israel

2398. Complex Multiband Spectral-Spatial RF Pulse Design for Hyperpolarized C-13 Applications
Adam B. Kerr[1], Peder E.Z. Larson[2], Daniel B. Vigneron[2], John M. Pauly[1]
[1]Electrical Engineering, Stanford University, Stanford, CA, United States; [2]Radiology, UCSF, San Francisco, CA, United States

2399. B_1^+-Selective RF Pulses and Their Design Using a Rotated Shinnar-Le Roux Algorithm
William A. Grissom[1], Mark D. Does[1]
[1]Biomedical Engineering, Vanderbilt University, Nashville, TN, United States

2400. A Spectral Spatial Fat Suppressing Pulse for Simultaneous Multi-Slice Excitation
Robert James Anderson[1], Benedikt A. Poser[1], Victor Andrew Stenger[1]
[1]Dept. of Medicine, University of Hawaii, Honolulu, HI, United States

Traditional Poster
Fat & Water: Methods & Evaluations

Exhibition Hall Tuesday 13:30-15:30

2401. Fat Suppression Using the Gradient Reversal Technique for Continuously-Moving-Table Whole-Body MRI: A Comparative Study

Yeji Han[1], Yoojin Lee[1], Dong Chan Kim[1], Joonsoo Kim[1], HyunWook Park[1]
[1]Department of Electrical Engineering, Korea Advanced Institute of Science and Technology, Daejeon, Korea

2402. Utilization of a BSSFP Signal Model for Improved Fat/Water Decomposition in BSSFP Breast Imaging

ISMRM MERIT AWARD magna cum laude

Leah C. Henze Bancroft[1], Diego Hernando[2], Kevin M. Johnson[3], Frederick Kelcz[4], Roberta Strigel[4], Walter F. Block, [35]
[1]Biomedical Engineering, University of Wisconsin - Madison, Madison, WI, United States; [2]Radiology, University of Wisconsin-Madison, Madison, WI, United States; [3]Medical Physics, University of Wisconsin - Madison, Madison, WI, United States; [4]Radiology, University of Wisconsin - Madison, Madison, WI, United States; [5]Biomedical Engineering, University of Wisconsin-Madison, Madison, WI, United States

2403. Balanced SSFP-Like Imaging with Simultaneous Water-Fat Separation and Band Reduction Using Small-Tip Fast Recovery

ISMRM MERIT AWARD magna cum laude

Feng Zhao[1], Hao Sun[2], Jon-Fredrik Nielsen[1], Jeffrey A. Fessler[3], Douglas C. Noll[1]
[1]Biomedical Engineering, The University of Michigan, Ann Arbor, MI, United States; [2]EECS, The University of Michigan, Ann Arbor, MI, United States; [3]EECS, University of Michigan, Ann Arbor, MI, United States

2404. Better Fat Saturation Employing DRFS

Xiaocheng Wei[1], Yongchuan Lai[1], Weiwei Zhang[1]
[1]GE Healthcare, Beijing, China

2405. Respiratory Self-Gating for Free-Breathing Quantitative Fat/Water Imaging in the Abdomen

Tianjing Zhang[1, 2], Ning Jin, [13], Weiguo Li, [14], Xiaoming Yin[4], Andrew C. Larson[1, 2]
[1]Radiology Department, Northwestern University, Chicago, IL, United States; [2]Biomedical Engineering Department, Northwestern University, Evanston, IL, United States; [3]Siemens Healthcare, Columbus, OH, United States; [4]University of Illinois at Chicago, Chicago, IL, United States

2406. Improved Single-Pass Dual Echo Dixon Imaging with Ramp Sampling and Flexible Echo Times

Ken-Pin Hwang[1, 2], Olen Rambow[2], Ersin Bayram[3], John D. Hazle[2], John E. Madewell[4], Zachary W. Slavens[5], Anthony T. Vu[5], Jingfei Ma[2]
[1]Global Applied Science Laboratory, General Electric Healthcare, Houston, TX, United States; [2]Department of Imaging Physics, University of Texas MD Anderson Cancer Center, Houston, TX, United States; [3]Global Applied Science Laboratory, GE Healthcare, Houston, TX, United States; [4]Department of Radiology, University of Texas MD Anderson Cancer Center, Houston, TX, United States; [5]MR Engineering, General Electric Healthcare, Waukesha, WI, United States

2407. Spectral-Spatial Selectivity Using Spatiotemporal Encoding

ISMRM MERIT AWARD magna cum laude

Jean-Nicolas Dumez[1], Rita Schmidt[1], Lucio Frydman[1]
[1]Department of Chemical Physics, Weizmann Institute of Science, Rehovot, Israel

2408. A Systematic Evaluation of an Auto Regressive Moving Average (ARMA) Model for Fat-Water Quantification and Simultaneous T_2^* Mapping

Axel J. Krafft[1], Brian Allen Taylor[1], Hannah Lin[1, 2], Ralf B. Loeffler[1], Claudia M. Hillenbrand[1]
[1]Radiological Sciences, St. Jude Children's Research Hospital, Memphis, TN, United States; [2]Rhodes College, Memphis, TN, United States

2409. Single-Point Fat-Water Separation Using a Fuzzy C-Means Algorithm

Junmin Liu[1], David W. Holdsworth[1, 2], Maria Drangova[1, 2]
[1]Imaging Research Laboratories, Robarts Research Institute, Schulich School of Medicine & Dentistry, University of Western Ontario, London, Ontario, Canada; [2]Department of Medical Biophysics, Shulich School of Medicine & Dentistry, University of Western Ontario, London, Ontario, Canada

2410. A Geometric Interpretation of Water-Fat Identification in Two-Point Dixon Imaging Without Phase Correction
Olen Rambow[1], John D. Hazle[1], John Clark[2], Jingfei Ma[1]
[1]Imaging Physics Department, University of Texas MD Anderson Cancer Center, Houston, TX, United States; [2]Department of Electrical Engineering, Rice University, Houston, TX, United States

2411. Water/Fat Decomposition Using Globally Optimal Non-Iterative Graph Surface Estimation
Chen Cui[1], Xiaodong Wu[1], Milan Sonka[1], Mathews Jacob[1]
[1]Electrical and Computer Engineering, The University of Iowa, Iowa city, IA, United States

2412. Noniterative Closed Form Solution to Multipeak Proton-Density Fat Fraction Estimation
Takeshi Yokoo[1, 2], Qing Yuan[1], Ivan E. Dimitrov[2, 3]
[1]Radiology, UT Southwestern Medical Center, Dallas, TX, United States; [2]Advanced Imaging Research Center, UT Southwestern Medical Center, Dallas, TX, United States; [3]Phillips Medical Systems, Highland Heights, OH, United States

2413. Optimization of Fat-Water Separation Algorithm Selection and Options Using Image-Based Metrics with Validation by ISMRM Fat-Water Challenge Datasets
David S. Smith[1], Johan Berglund[2], Joel Kullberg[3], Håkan Ahlström[3], Malcolm J. Avison[4], E. Brian Welch[5]
[1]Institute of Imaging Science, Vanderbilt University, Nashville, TN, United States; [2]Philips Healthcare, Stockholm, Sweden; [3]Department of Radiology, Uppsala University, Uppsala, Sweden; [4]Department of Pharmacology, Vanderbilt University, Nashville, TN, United States; [5]Department of Radiology and Radiological Sciences, Vanderbilt University, Nashville, TN, United States

2414. A Novel Tiered, Multi-Threaded Region Growing Algorithm for Improved Phase Correction for Two-Point Dixon Imaging
Jingfei Ma[1], John D. Hazle[1]
[1]Imaging Physics, MD Anderson Cancer Center, Houston, TX, United States

2415. Water-Fat Identification for Analytical Multipoint Dixon's Method
Dinghui Wang[1], James G. Pipe[1]
[1]Neuroimaging Research, Barrow Neurological Institute, Phoenix, AZ, United States

2416. Effects of Denoising in the Estimation of T2* from Images Acquired Through Dixon Imaging
Rodrigo Moreno[1], Thobias Romu[2], Olof Dahlqvist Leinhard[1], Magnus Borga[2], Ebo de Muinck[1]
[1]Department of Medical and Health Sciences, Linköping University, Linköping, Östergötland, Sweden; [2]Department of Biomedical Engineering, Linköping University, Linköping, Östergötland, Sweden

2417. Comparison of Accuracy and Precision of Image-Based Fat Quantification with Different Flip Angle Approaches in Skeletal Muscle
Pernilla Peterson[1], Sven Månsson[1]
[1]Medical Radiation Physics, Malmö, Lund University, Malmö, Sweden

2418. Validation of a Convex Relaxation Approach for Field Map Estimation
Abraam S. Soliman[1, 2], Jing Yuan[2], Terry M. Peters[1, 2], Charles A. McKenzie[1, 3]
[1]Biomedical Engineering, University of Western Ontario, London, Ontario, Canada; [2]Imaging Research Laboratories, Robarts Research Institute, London, Ontario, Canada; [3]Medical Biophysics, University of Western Ontario, London, Ontario, Canada

2419. Comparison of Hepatic Fat Measurements Using Dual-Echo MDIXON Imaging and ^{1}H MRS with Fat Phantom Validation
Paul Begovatz[1], Peter Nowotny[1], Tomas Jelenik[1], Bettina Nowotny[1], Birgit Klüppelholz[2], Guido Giani[2], Juergen Bunke[3], Michael Roden[1, 4], Jong-Hee Hwang[1]
[1]Institute of Clinical Diabetology, German Diabetes Center, Duesseldorf, Germany; [2]Institute for Biometry and Epidemiology, German Diabetes Center, Duesseldorf, Germany; [3]Philips Healthcare, Hamburg, Germany; [4]Department of Metabolic Diseases, University Clinics, Heinrich Heine University, Duesseldorf, Germany

2420. IDEAL Fat-Water Separation for the Detection and Characterization of Subcutaneous Hemorrhage
Andreas Petrovic[1], Clemens Diwoky[2], Eva Hassler[1], Kathrin Ogris[1], Eva Scheurer[1]
[1]Ludwig Boltzmann Institute for Clinical-Forensic Imaging, Graz, Austria; [2]Institute for Medical Engineering, Graz University of Technology, Graz, Austria

Traditional Poster
MR Elastography

Exhibition Hall Tuesday 13:30-15:30

2421. *in vivo* Quantification of Local Transient Softening in the Juvenile Rat Brain After Cannabinoïd Treatment: First Indications for Neuronal Remodeling?
Simon Chatelin[1], Marie Humbert-Claude[2], Philippe Garteiser[1], Valérie Vilgrain[1, 3], Bernard E. Van Beers[1, 3], Zsolt Lenkei[2], Ralph Sinkus[1]
[1]U773-CRB3, INSERM, Université Paris Diderot, Sorbonne Paris Cité, Paris, France; [2]Laboratoire de Neurobiologie, ESPCI-CNRS UMR 7637, ESPCI-ParisTech, Paris, France; [3]Department of Radiology, University Hospitals Paris Nord Val de Seine, Beaujon, Clichy, France

2422. Measuring the Characteristic Topography of Brain Stiffness with Magnetic Resonance Elastography
Matthew C. Murphy[1], John Huston[1], Clifford R. Jack[1], Kevin J. Glaser[1], Matthew L. Senjem[1], Jun Chen[1], Armando Manduca[2], Joel P. Felmlee[1], Richard Leroy Ehman[1]
[1]Department of Radiology, Mayo Clinic, Rochester, MN, United States; [2]Department of Physiology and Biomedical Engineering, Mayo Clinic, Rochester, MN, United States

2423. Mechanical Properties of the Frontal Lobe Gray and White Matter Measured Using MR Elastography with Soft Prior Regularization
Matthew D.J. McGarry[1], Curtis Jonhson[2, 3], Elijah Van Houten[4], Bradley P. Sutton, [35], John G. Georgiadis[2, 3], John Weaver[1, 6], Keith D. Paulsen[1, 7]
[1]Thayer School of Engineering, Dartmouth College, Hanover, NH, United States; [2]Department of Mechanical Science and Engineering, University of Illinois at Urbana Champaign, Urbana, IL, United States; [3]Beckman institute for Advanced Science and Technology, University of Illinois at Urbana Champaign, Urbana, IL, United States; [4]Department of Mechanical Engineering, University de Sherbrooke, Sherbrooke, Quebec, Canada; [5]Department of Bioengineering, University of Illinois at Urbana Champaign, Urbana, IL, United States; [6]Department of Radiology, Dartmouth-Hitchcock Medical Center, Lebanon, NH, United States; [7]Norris Cotton Cancer Center, Dartmouth-Hitchcock Medical Center, Lebanon, NH, United States

2424. *in vivo* Waveguide Elastography of the Corona Radiata
Anthony J. Romano[1], Michael Scheel[2], Sebastian Hirsch[3], Juergen Braun[4], Ingolf Sack[2]
[1]Physical Acoustics, Naval Research Laboratory, Washington, DC, United States; [2]Department of Radiology, Charite-Universitatsmedizin, Berlin, Germany; [3]Department of Radiology, Charité - Universitätsmedizin Berlin, Berlin, Germany; [4]Institute of Medical Informatics, Charite - University Medicine Berlin, Berlin, Germany

ISMRM MERIT AWARD magna cum laude

2425. MR Elastography Reveals the Local Properties of White Matter Structures
Curtis L. Johnson[1, 2], Matthew D.J. McGarry[3], John B. Weaver[3, 4], Keith D. Paulsen[3, 4], Huan Wang, [25], William C. Olivero, [25], Bradley P. Sutton, [26], John G. Georgiadis[1, 2]
[1]Mechanical Science and Engineering, University of Illinois at Urbana-Champaign, Urbana, IL, United States; [2]Beckman Institute for Advanced Science and Technology, University of Illinois at Urbana-Champaign, Urbana, IL, United States; [3]Thayer School of Engineering, Dartmouth College, Hanover, NH, United States; [4]Dartmouth-Hitchcock Medical Center, Lebanon, NH, United States; [5]Surgery, University of Illinois Medical School, Urbana, IL, United States; [6]Bioengineering, University of Illinois at Urbana-Champaign, Urbana, IL, United States

2426. Magnetic Resonance Elastography of the Upper Airways with Guided Pressure Waves
Pascal Hagot[1], Emeline Lamain[2], Tom Doel[3], Xavier Maître[1], Redouane Fodil[4], Luc Darrasse[1]
[1]IR4M(UMR8081), Univ Paris-Sud, CNRS, Orsay, France; [2]Service de Neuroradiologie, Univ Paris-Sud, Hôpital Bicêtre, Le Kremlin-Bicêtre, France; [3]Oxford University Computing Laboratory, Univ of Oxford, Oxford, United Kingdom, United Kingdom; [4]IRMB, Univ Paris XII, INSERM (U955), Creteil, France

2427. Automated Analysis of Hepatic MR Elastography Images with Motion Artifacts and Signal Inhomogeneities
Bogdan Dzyubak[1], Armando Manduca[2], Kevin J. Glaser[2], Meng Yin[2], Richard Leroy Ehman[2]
[1]Mayo Graduate School, Mayo Clinic, Rochester, MN, United States; [2]Radiology, Mayo Clinic, Rochester, MN, United States

2428. Multifrequency MRE of Human Liver Specimen: Sensitivity of Viscoelastic Powerlaw Constants to the Collagen Matrix in Hepatic Fibrosis

Ingolf Sack[1], Rolf Reiter[1], Korinna Joehrens[2], Andreas Fehlner[3], Sebastian Hirsch[1], Jing Guo[4], Rajan Somasundaram[5], Daniel Seehofer[6], Carsten Kamphues[6], Abbas Samani[7], Juergen Braun[8]
[1]Department of Radiology, Charité - Universitätsmedizin Berlin, Berlin, Germany; [2]Department of Pathology, Charité - Universitätsmedizin Berlin, Berlin, Germany; [3]Department of Radiology, Charité University Medicine, Berlin, Germany; [4]Department of Radiology, Charite - University Medicine Berlin, Berlin, Germany; [5]Interdisciplinary Rescue Center, Charité - Universitätsmedizin Berlin, Berlin, Germany; [6]Department of Transplantation Surgery, Charité - Universitätsmedizin Berlin, Berlin, Germany; [7]Department of Electrical & Computer Engineering, University of Western Ontario, London, Ontario, Canada; [8]Institute of Medical Informatics, Charite - University Medicine Berlin, Berlin, Germany

2429. MR Elastography of *ex Vivo* Prostate Cancer at Multiple Frequencies at 7T

Ramin S. Sahebjavaher[1], Guy Nir[1], Mohammad Honarvar[1], Andrew Yung[1], Piotr Kozlowski[1], Louis O. Gagnon[1], Edward C. Jones[1], Garteiser Philippe[2], Ralph Sinkus[2], Silvia Chang[1], Larry Goldenberg[1], Septimiu E. Salcudean[1]
[1]University of British Columbia, Vancouver, BC, Canada; [2]Institut National de la Santé et de la Recherche Médicale (INSERM), Paris, Île-de-France, France

2430. 3D Multifrequency Abdominal MR Elastography Using a Piezoelectric Driver, Single-Shot Wave-Field Acquisition, and Multifrequency Dual Parameter Inversion

Jing Guo[1], Sebastian Hirsch[2], Rolf Reiter[1], Thomas Kroencke[1], Patrick Asbach[3], Juergen Braun[4], Ingolf Sack[1]
[1]Department of Radiology, Charite - University Medicine Berlin, Berlin, Germany; [2]Department of Radiology, Charité - Universitätsmedizin Berlin, Berlin, Germany; [3]MVZ CBF Radiologie, Charite - University Medicine Berlin, Berlin, Germany; [4]Department of Medical Informatics, Charite - University Medicine Berlin, Berlin, Germany

2431. Waveguide Magnetic Resonance Elastography of the Heart

Anthony J. Romano[1], Ria Mazumder[2], Seongjin Choi[3], Bradley Dean Clymer[4], Richard White[5], Arunark Kolipaka[5]
[1]Physical Acoustics, Naval Research Laboratory, Washington, DC, United States; [2]Electrical and Computer Engineering, Ohio State University, Columbus, OH, United States; [3]Radiology, The Ohio State University, Columbus, OH, United States; [4]Electrical and Computer Engineering, The Ohio State University, Columbus, OH, United States; [5]Radiology and Internal Medicine, Ohio State University Wexner Medical Center, Columbus, OH, United States

2432. MR Elastography as a Method to Determine the Mechanical Properties of Fresh and Formalin Fixed Porcine Hearts

Ria Mazumder[1], Bradley Dean Clymer[1], Richard White[2, 3], Arunark Kolipaka[2, 3]
[1]Department of Electrical and Computer Engineering, The Ohio State University, Columbus, OH, United States; [2]Deparment of Radiology, The Ohio State University, Columbus, OH, United States; [3]Deptarment of Internal Medicine, Division of Cardiology, The Ohio State University, Columbus, OH, United States

2433. Quantification of Aortic Stiffness Using MR Elastography and Its Comparison to Pulse Wave Velocity: Early Validation

Aniurdh Damughatla[1], Brian Raterman[2], Orlando P. Simonetti[2, 3], Travis Sharkey-Toppen[4], Ning Jin[5], Richard White[2], Arunark Kolipaka[2, 3]
[1]Biomedical Engineering, The Ohio State University, Columbus, OH, United States; [2]Radiology, The Ohio State University, Columbus, OH, United States; [3]Internal Medicine, Division of Cardiovascular Medicine , The Ohio State University, Columbus, OH, United States; [4]Davis Heart & Lung Institute, The Ohio State University, Columbus, OH, United States; [5]Siemens Medical Solutions, The Ohio State University, Columbus, OH, United States

2434. Motion Correction in MR-Elastography

Marion Tardieu[1], Marie Poirier-Quinot[1], Emeline Lamain[1], Ralph Sinkus[2], Luc Darrasse[1], Xavier Maître[1]
[1]IR4M (UMR8081), CNRS, Univ Paris-Sud, Orsay, France; [2]Centre de Recherches Biomédicales Bichat-Beaujon (UMR773), CRB3, Inserm, Paris, France

2435. Noise Robust Inverse Laplacian Operator Based Reconstruction of Global Elastic Parameters in Magnetic Resonance Elastography.

Sebastian Papazoglou[1, 2], Heiko Tzschaetzsch[1], Juergen Braun[3], Ingolf Sack[1]
[1]Radiology, Charité University Medicine, Berlin, Germany; [2]NeuroCure Clinical Research Center, Charité University Medicine, Berlin, Germany; [3]Medical Informatics, Charite - University Medicine Berlin, Berlin, Germany

2436. MR Elastography Using Switching-Gradient-Induced Vibration of the Patient Table - Assessment of Reproducibility -

Mikio Suga[1, 2], Takayuki Obata[2], Hajime Ikeda[1], Atsuhisa Koyama[1], Tetsuya Wakayama[3], Riwa Kishimoto[2]
[1]Graduate School of Engineering, Chiba University, Chiba, Japan; [2]National Institute of Radiological Sciences, Chiba, Japan; [3]GE Healthcare Japan, Hino, Tokyo, Japan

2437. Simple MR Elastography: A Gradient-Echo Type Multiecho MR Sequence

Tomokazu Numano[1, 2], Junichi Hata[3], Kazuyuki Mizuhara[4], Kouichi Takamoto[5], Toshikatsu Washio[2], Hisao Nishijo[6], Kazuo Yagi[1], Kazuhiro Homma[2]
[1]Radiological Science, Tokyo Metropolitan University, Arakawa-ku, Tokyo, Japan; [2]Institute for Human Science and Biomedical Engineering, National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Ibaraki, Japan; [3]The University of Tokyo Hospital, Bunkyo-ku, Tokyo, Japan; [4]Mechanical Engineering, Tokyo Denki University, Adachi-ku, Tokyo, Japan; [5]Department of Judo Neurophysiotherapy, University of Toyama, Toyama, Japan; [6]System Emotional Science (Physiology), University of Toyama, Toyama, Japan

2438. Diffusion Tensor Imaging Enhanced Anisotropic MRE of the Brain

Guangqiang Geng[1], Michael Green[1], Caroline Rae[1, 2], Ralph Sinkus[3], Roland G. Henry[4], Lynne E. Bilston[1, 5]
[1]Neuroscience Research Australia, Sydney, NSW, Australia; [2]UNSW, Sydney, NSW, Australia; [3]Centre de Recherches Biomédicales Bichat-Beaujon, Paris, France; [4]Departments of Radiology and Biomedical Imaging, Neurology, and Bioengineering Graduate Group, University of California, San Francisco, CA, United States; [5]Prince of Wales Clinical School, UNSW, Sydney, NSW, Australia

2439. High Resolution 3D Multifrequency MR Elastography at 7T

Juergen Braun[1], Ralf Lützkendorf[2], Jing Guo[3], Sebastian Hirsch[4], Andreas Fehlner[5], Ingolf Sack[5], Johannes Bernarding[6]
[1]Department of Medical Informatics, Charite - University Medicine Berlin, Berlin, Germany; [2]Department for Biometry and Medical Informatics, Otto-von-Guericke University Magdeburg, Magdeburg, Germany; [3]Department of Radiology, Charite - University Medicine Berlin, Berlin, Germany; [4]Department of Radiology, Charité - Universitätsmedizin Berlin, Berlin, Germany; [5]Department of Radiology, Charité University Medicine, Berlin, Germany; [6]Department for Biometry and Medical Informatics, Otto von Guericke University, Magdeburg, Germany

2440. Magnetic Resonance Elastography for the Measurement of the Bulk Modulus in Compressible Materials.

Sebastian Hirsch[1], Frauke Beyer[1], Sebastian Papazoglou[1], Jing Guo[2], Juergen Braun[3], Ingolf Sack[1]
[1]Department of Radiology, Charité - Universitätsmedizin Berlin, Berlin, Germany; [2]Department of Radiology, Charite - University Medicine Berlin, Berlin, Germany; [3]Institute of Medical Informatics, Charite - University Medicine Berlin, Berlin, Germany

2441. Evaluation of Commonly Available Materials for MR Elastography Phantoms

Loribeth Q. Evertz[1], Jun Chen[1], Jennifer L. Kugel[1], Richard Leroy Ehman[1]
[1]Mayo Clinic, Rochester, MN, United States

2442. Fast, Whole-Brain MR Elastography Using a 3D Multislab Acquisition

Curtis L. Johnson[1, 2], Joseph L. Holtrop, [23], Matthew D.J. McGarry[4], John B. Weaver[4, 5], Keith D. Paulsen[4, 5], Bradley P. Sutton, [23], John G. Georgiadis[1, 2]
[1]Mechanical Science and Engineering, University of Illinois at Urbana-Champaign, Urbana, IL, United States; [2]Beckman Institute for Advanced Science and Technology, University of Illinois at Urbana-Champaign, Urbana, IL, United States; [3]Bioengineering, University of Illinois at Urbana-Champaign, Urbana, IL, United States; [4]Thayer School of Engineering, Dartmouth College, Hanover, NH, United States; [5]Dartmouth-Hitchcock Medical Center, Lebanon, NH, United States

2443. Title: a Novel Method for Dynamic Mechanical Analysis of Soft Viscoelastic Materials and Comparison to Magnetic Resonance Elastography.

Phillip J. Rossman[1], Jun Chen[1]
[1]Mayo Clinic, Rochester, MN, United States

2444. Introduction of Sample Interval Modulation for the Simultaneous Acquisition of 3D Displacement Data in MR Elastography

Dieter Klatt[1], Temel Kaya Yasar[2], Thomas J. Royston[1], Richard L. Magin[1]
[1]Department of Bioengineering, The University of Illinois at Chicago, Chicago, IL, United States; [2]Department of Mechanical & Industrial Engineering, The University of Illinois at Chicago, Chicago, IL, United States

2445. Highly Accelerated MR Elastography
John C. Bosshard[1], Steven M. Wright[1]
[1]Electrical & Computer Engineering, Texas A&M University, College Station, TX, United States

2446. Matching Motion Sensitivity with TE and TR in Elastography for Faster Scans
Roger C. Grimm[1], Jun Chen[1], Scott A. Kruse[1], Richard Leroy Ehman[1]
[1]Mayo Clinic, Rochester, MN, United States

2447. Sub-Voxel Micro-Architecture Assessment by Scattering of Mechanical Shear Waves
Simon Auguste Lambert[1], Simon Chatelin[1], Peter Nasholm[2], Lauriane Juge[1], Philippe Garteiser[1], Leon Ter Beek[3], Valérie Vilgrain[1], Bernard E. Van Beers[1], Lynne E. Bilston[4], Bojan Guzina[5], Sverre Holm[2], Ralph Sinkus[1]
[1]CRB3- INSERM U773, Univ Paris Diderot, Sorbonne Paris Cité, Clichy, Paris, France; [2]Informatics Department, University of Oslo, Oslo, Norway; [3]Philips Healthcare, Best, Netherlands; [4]Neuroscience Research Australia, University of New South Wales, Randwick, NSW, Australia; [5]Civil Engineering, University of Minnesota, Minneapolis, Mn, United States

Traditional Poster
Relaxometry

Exhibition Hall Tuesday 13:30-15:30

2448. Combined Extended Two Point Dixon/Look Locker Technique for Mapping of Lipid Spin-Lattice (T1) Relaxation Time
Jihyun Annie Park[1], Andrew Yung[2], Stefan A. Reinsberg[1], Piotr Kozlowski[2]
[1]Physics and Astronomy, University of British Columbia, Vancouver, BC, Canada; [2]UBC MRI Research Center, Vancouver, BC, Canada

2449. Single Breath-Hold 3D Radial Imaging for R_2* and Fat Fraction Quantification in the Liver
ISMRM MERIT AWARD magna cum laude
Valentina Taviani[1], Kevin M. Johnson[1], Diego Hernando[2], Scott B. Reeder[1, 3]
[1]Radiology, University of Wisconsin, Madison, WI, United States; [2]Radiology, University of Wisconsin-Madison, Madison, WI, United States; [3]Medical Physics, University of Wisconsin, Madison, WI, United States

2450. Mono-Exponential T_2-Analysis of a Two-Pool System – Does Echo-Spacing Matter?
Hendrikus Joseph Alphons Crooijmans[1], Oliver Bieri[1]
[1]Radiological Physics, University of Basel Hospital, Basel, Switzerland

2451. Complete T1, T2* and Proton-Density Maps of Bone and Soft Tissues from UTE and Standard FLASH
Jean-David Jutras[1], Keith Wachowicz[1, 2], B. Gino Fallone[1, 2], Nicola DeZanche[1, 2]
[1]Dept. of Oncology, University of Alberta, Edmonton, Alberta, Canada; [2]Dept. of Medical Physics, Cross Cancer Institute, Edmonton, Alberta, Canada

2452. A Flip-Angle-Optimized 3D FLASH Sequence for Fast Dynamic T1 Mapping
Maximilian Freiermuth[1], Linus Willerding[2], Maximilian F. Reiser[1], Michael Peller[1], Olaf Dietrich[1]
[1]Josef Lissner Laboratory for Biomedical Imaging, Institute for Clinical Radiology, Ludwig-Maximilians-University Hospital Munich, Munich, Germany; [2]Department of Internal Medicine III, Ludwig-Maximilians-University Hospital Munich, Munich, Germany

2453. A New Model-Based Technique for Accurate Reconstruction of T_2 Relaxation Maps from Fast Spin-Echo Data
Noam Ben-Eliezer[1], Daniel K. Sodickson[1], Kai Tobias Block[2]
[1]Bernard and Irene Schwartz Center for Biomedical Imaging, Department of Radiology, New York University School of Medicine, New York, NY, United States; [2]Bernard and Irene Schwartz Center for Biomedical Imaging, Department of Radiology, NYU Langone Medical Center, New York, NY, United States

2454. A Model-Based Reconstruction Technique for Inversion Recovery Prepared Radially Acquired Data
Johannes Tran-Gia[1], Dietbert Hahn[1], Herbert Köstler[1]
[1]Institute of Radiology, University of Würzburg, Würzburg, Germany

2455. Accelerated 3D UTE Relaxometry for Quantification of Iron-Oxide Labeled Cells
Bo Zhao[1, 2], T Kevin Hitchens[3, 4], Anthony G. Christodoulou[1, 5], Fan Lam[1, 5], Yijen Wu[3, 4], Chien Ho[3, 4], Zhi-Pei Liang[1, 5]

[1]Department of Eletrical and Computer Engineering, University of Illinois at Urbana-Champaign, Urbana, IL, United States; [2]Beckman Institute, University of Illinois at Urbana-Champaign, Urbana, IL, United States; [3]Pittsburgh NMR Center for Biomedical Research, Carnegie Mellon University, Pittsburgh, PA, United States; [4]Department of Biological Sciences, Carnegie Mellon University, Pittsburgh, PA, United States; [5]Beckman Institute , University of Illinois at Urbana-Champaign, Urbana, IL, United States

2456. Bayesian Estimation of Multicomponent T2 Distributions with Stimulated Echo Compensation
Kelvin J. Layton[1, 2], Mark Morelande[1], David Wright[3], Peter M. Farrell[1], Bill Moran[1], Leigh A. Johnston[1, 3]
[1]Electrical and Electronic Engineering, The University of Melbourne, Parkville, Victoria, Australia; [2]National ICT Australia, Parkville, Victoria, Australia; [3]Florey Neuroscience Institutes, Parkville, Victoria, Australia

2457. Accelerating T2 Mapping Via Under-Sampled Low-Dimensional-Structure Self-Learning and Thresholding (LOST) Reconstruction
Tri Minh Ngo[1], Haiyan Ding[2], Mehmet Akçakaya[3], Elliot R. McVeigh[1], Daniel A. Herzka[4]
[1]Biomedical Engineering, Johns Hopkins School of Medicine, Baltimore, MD, United States; [2]Biomedical Engineering, Tsinghua University, Beijing, China; [3]Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA, United States; [4]Biomedical Engineering, Johns Hopkins University, Baltimore, MD, United States

2458. Accelerating Parameter Mapping with a Locally Low Rank Constraint
Tao Zhang[1], John M. Pauly[1], Ives R. Levesque[2]
[1]Electrical Engineering, Stanford University, Stanford, CA, United States; [2]Radiology, Stanford University, Stanford, CA, United States

2459. Model-Based MR Parameter Mapping with Sparsity Constraint
Bo Zhao[1, 2], Fan Lam[1, 2], Wenmiao Lu[3], Zhi-Pei Liang[1, 3]
[1]Department of Eletrical and Computer Engineering, University of Illinois at Urbana-Champaign, Urbana, IL, United States; [2]Beckman Institute , University of Illinois at Urbana-Champaign, Urbana, IL, United States; [3]Beckman Institute, University of Illinois at Urbana-Champaign, Urbana, IL, United States

2460. A Novel Algorithm for Improved Pixel-By-Pixel T2* Mapping
Yanqiu Feng[1], Peter David Gatehouse[2, 3], David N. Firmin[2, 3], Dudley J. Pennell[2, 3], Wufan Chen[1], Taigang He[2, 3]
[1]School of Biomedical Engineering, Southern Medical University, Guangzhou, China; [2]Cardiovascular Biomedical Research Unit, Royal Brompton Hospital, London, United Kingdom; [3]National Heart and Lung Institute, Imperial College, London, United Kingdom

2461. Fast, Artifact-Free T_2 Mapping with Fast Spin Echo Using the Extended Phase Graph and Joint Parameter Reconstruction
Christopher L. Lankford[1, 2], Mark D. Does[1, 2]
[1]Biomedical Engineering, Vanderbilt University, Nashville, TN, United States; [2]Vanderbilt University Institute of Imaging Science, Nashville, TN, United States

2462. An Indirect Echo Compensated Reconstruction Algorithm for T2 Mapping of the Liver from Highly Undersampled Radial FSE Data
Chuan Huang[1, 2], Abhishek Pandey[3], Tomoe Barr[4], Ali Bilgin[3, 4], Maria I. Altbach[1]
[1]Department of Medical Imaging, University of Arizona, Tucson, AZ, United States; [2]Center for Advanced Radiological Sciences, Department of Radiology, Massachusetts General Hospital, Boston, MA, United States; [3]Electrical and Computer Engineering, University of Arizona, Tucson, AZ, United States; [4]Biomedical Engineering, University of Arizona, Tucson, AZ, United States

2463. Correction of B_1 and Estimation of Oversampling Effect to Enable Accurate T1 Mapping Using 3D Variable Flip Angle Technique
Kosuke Morita[1, 2], Tomoyuki Okuaki[3], Masanori Komi[1], Akiko Kuraoka[4], Daisuke Utsunomiya[2], Mika Kitajima[2], Masahiro Hashida[1], Yasuyuki Yamashita[2]
[1]Radiology, Kumamoto University Hospital, Kumamoto, Japan; [2]Diagnostic Radiology, Faculty of Life Sciences, Kumamoto University Hospital, Kumamoto, Japan; [3]Philips Electronics Japan, 13-37, Kohnan 2-chome, tokyo, Japan; [4]Radiology, Kumamoto University Hospital , Kumamoto, Japan

2464. Relaxation Parameter Mapping Adapted for 7T and Validation Against Optimized Single Voxel MRS
Michael Wyss[1], Thomas Kirchner[1], Alex Ringenbach[2], Klaas P. Prüssmann[1], Anke Henning[1, 3]
[1]Institute for Biomedical Engineering, University and ETH Zürich, Zürich, Switzerland; [2]Institute for Medical and Analytical Technologies, University of Applied Sciences of Northwestern Switzerland, Muttenz, Switzerland; [3]Max Planck Institute for Biological Cybernetics, Tübingen, Germany

2465. High Resolution Quantitative Imaging of Rodent Brains at 7T
Tobias C. Wood[1], Samuel A. Hurley[2], Anthony Vernon[3], Steven C.R. Williams[1]
[1]Neuroimaging, King's College London, Institute of Psychiatry, London, United Kingdom; [2]Medical Physics, University of Wisconsin-Madison, Madison, WI, United States; [3]Psychosis Studies, King's College London, Institute of Psychiatry, London, United Kingdom

2466. Value of Independent Flip Angle Mapping for Transverse Relaxometry with Stimulated Echo Compensation
Dylan Breitkreutz[1, 2], Kelly C. McPhee[1], R. Marc Lebel[2], Alan H. Wilman[1, 2]
[1]Department of Physics, University of Alberta, Edmonton, Alberta, Canada; [2]Department of Biomedical Engineering, University of Alberta, Edmonton, Alberta, Canada

2467. Effects of Flip Angle Profile in T2 Quantification Using 3D Dual Echo Steady-State (DESS)
Pei-Hsin Wu[1], Cheng-Wen Ko[2], Ming-Long Wu[3], Hsiao-Wen Chung, [14]
[1]Department of Electrical Engineering, National Taiwan University, Taipei, Taiwan; [2]Department of Computer Science and Engineering, National Sun Yat-Sen University, Kaohsiung, Taiwan; [3]Department of Computer Science and Information Engineering, National Cheng Kung University, Tainan, Taiwan; [4]Institute of Biomedical Electronics and Bioinformatics, National Taiwan University, Taipei, Taiwan

2468. Challenges in Ultrashort Echo Time Relaxometry of the Human Brain
Ece Ercan[1], Peter Börnert[2], Maarten J. Versluis[1], Tom Geraedts[3], Andrew Webb[1], Itamar Ronen[1]
[1]C.J. Gorter Center for High Field MRI, Department of Radiology, Leiden University Medical Center, Leiden, Netherlands; [2]Philips Research Laboratory, Hamburg, Germany; [3]Philips Healthcare, Best, Netherlands

2469. Investigation of Temperature Dependence of Tissue Relaxation Parameters for Post-Mortem Imaging
Julia Kruisz[1], Andreas Petrovic[2], Rudolf Stollberger[1], Eva Scheurer[2]
[1]Institute for Medical Engineering, University of Technology Graz, Graz, Austria; [2]Ludwig Boltzmann Institute for Clinical-Forensic Imaging, Graz, Austria

2470. Field Dependence of Relaxivity of Gd Chelates as a Function of Macromolecular Content
Henry H. Ong[1, 2], Hua Li[1, 3], John C . Gore, [2]
[1]Vanderbilt University Institute of Imaging Science, Nashville, TN, United States; [2]Department of Radiology and Radiologic Sciences, Vanderbilt University, Nashville, TN, United States; [3]Department of Physics and Astronomy, Vanderbilt University, Nashville, TN, United States

2471. Effect of Molecular Oxygen on Relaxation Times at Clinical Field Strengths
Harald Kramer[1, 2], Amanda R. Corcos[3], Diego Hernando[4], John F. Berry[3], Mark L. Schiebler[1], Scott B. Reeder[1]
[1]Department of Radiology, University of Wisconsin - Madison, Madison, WI, United States; [2]Institute for Clinical Radiology, Ludwig-Maximilians-University Munich, Munich, Bavaria, Germany; [3]Department of Chemistry, University of Wisconsin - Madison, Madison, WI, United States; [4]Department of Radiology, University of Wisconsin-Madison, Madison, WI, United States

ISMRM MERIT AWARD
magna cum laude

2472. *In Vivo* Estimation of the Transverse Relaxation Time Dependence of Blood on Oxygenation at 7 Tesla
Dimo Ivanov[1, 2], Andreas Schäfer[2], Andreas Deistung[3], Markus N. Streicher[2], Stefan Kabisch[2], Ilona Henseler[2], Elisabeth Roggenhofer[2], Thies H. Jochimsen[4], Ferdinand Schweser[5], Jürgen R. Reichenbach[5], Kamil Uludag[1], Robert Turner[2]
[1]Maastricht Brain Imaging Centre, Faculty of Psychology and Neuroscience, Maastricht University, Maastricht, Netherlands; [2]Max Planck Institute for Human Cognitive & Brain Sciences, Leipzig, Germany; [3]Jena University Hospital - Friedrich Schiller University Jena, Jena, Germany; [4]Department of Nuclear Medicine, University of Leipzig, Leipzig, Germany; [5]Medical Physics Group, Jena University Hospital - Friedrich Schiller University, Jena, Germany

2473. *Ex Vivo* Mapping of Sodium T_1 and T_2* Relaxation Times in Human Lumbar Intervertebral Discs at 7 Tesla
Stefan Zbýn[1], Sebastian Apprich[1], Vladimir Juras[1], Pavol Szomolanyi[1], Sonja M. Walzer[2], Xeni Deligianni[3], Hannes Traxler[4], Oliver Bieri[3], Siegfried Trattnig[1]
[1]MR Center of Excellence, Department of Radiology, Medical University of Vienna, Vienna, Austria; [2]Department of Orthopaedic Surgery, Medical University of Vienna, Vienna, Austria; [3]Division of Radiological Physics, Department of Radiology, University of Basel Hospital, Basel, Switzerland; [4]Center for Anatomy and Cell Biology, Department of Applied Anatomy, Medical University of Vienna, Vienna, Austria

2474. Can Modified Look Locker Imaging (MOLLI) Provide Accurate T1 Values?
ISMRM MERIT AWARD magna cum laude
Mitchell Anthony Cooper[1, 2], Thanh Nguyen[2], Pascal Spincemaille[2], Martin R. Prince[2], Jonathan W. Weinsaft[3], Yi Wang, [1,2]
[1]Biomedical Engineering, Cornell University, Ithaca, NY, United States; [2]Radiology, Weill Cornell Medical College, New York, United States; [3]Cardiology, Weill Cornell Medical College, New York, United States

2475. Experimental Analysis of Three Spoiling Mechanisms Used in Variable-Flip-Angle T1 Mapping
Martin Ott[1], Thomas Benkert[1], Martin Blaimer[1], Peter M. Jakob[1, 2], Felix A. Breuer[1]
[1]MRB Forschungszentrum für Magnet-Resonanz-Bayern e.V., Würzburg, Germany; [2] Department of Experimental Physics 5, Institute of Physics, Würzburg, Germany

2476. Highly Reproducible i*n vivo* T1 Maps in Brain at 3T
Sofia Chavez[1, 2], Stephen Kish[1, 2], Tina McCluskey[1], Nancy Lobaugh[1, 3]
[1]Research Imaging Centre, Centre for Addiction and Mental Health, Toronto, ON, Canada; [2]Psychiatry, University of Toronto, Toronto, ON, Canada; [3]Neurology, University of Toronto, Toronto, ON, Canada

2477. *ex-vivo* MRI of the Brain: Effects of Long-Term Formalin Exposure on T1 Relaxation Times
Mekala R. Raman[1], Yunhong Shu[1], John D. Port[1], Jan-Mendelt Tillema[1], Istvan Pirko[1], Clifford R. Jack[1], Kejal Kantarci[1]
[1]Mayo Clinic, Rochester, MN, United States

2478. Optimizing the Accuracy of T1 Mapping Accounting for RF Non-Linearities and Spoiling Characteristics in FLASH Imaging
Antoine Lutti[1], Nikolaus Weiskopf[1]
[1]Wellcome Trust Centre for Neuroimaging, Institute of Neurology, University College London, London, United Kingdom

2479. T_1 Mapping: Should We Agree to Disagree?
Mathieu Boudreau[1], Nikola Stikov[1], Bruce G. Pike[1]
[1]Montreal Neurological Institute, McGill University, Montreal, Quebec, Canada

Traditional Poster
Susceptibility

Exhibition Hall Tuesday 13:30-15:30

2480. Susceptibility-Weighted Imaging Using Susceptibility Map Estimated by L1 Norm Regularization
Ryota Sato[1], Toru Shirai[1], Yo Taniguchi[1], Yoshihisa Soutome[1], Yoshitaka Bito[1]
[1]Central Research Laboratory, Hitachi, Ltd., Kokubunji, Tokyo, Japan

2481. Comparisons of Quantitative Susceptibility Mapping (QSM) by Using Restricted Oversampled Spatial Unit Dipole Field
Mai Murashima[1], Tomohiro Ueno[1], Naozo Sugimoto[1]
[1]Human Health Science, Graduate School of Medicine, Kyoto University, Kyoto, Japan

2482. Differentiation of Fe^{2+} and Fe^{3+} with Iron-Sensitive MRI
Olaf Dietrich[1], Johannes Levin[2], Armin Giese[3], Annika Plate[2], Kai Bötzel[2], Maximilian F. Reiser, [1], Birgit Ertl-Wagner
[1]Josef Lissner Laboratory for Biomedical Imaging, Institute for Clinical Radiology, Ludwig-Maximilians-University Hospital Munich, Munich, Germany; [2]Department of Neurology, Ludwig-Maximilians-University Hospital Munich, Munich, Germany; [3]Center for Neuropathology and Prion Research, Ludwig-Maximilians-University Hospital Munich, Munich, Germany

2483. Susceptibility Mapping of the Sinuses in the Brain by Preserving Phase Information in the Skull Using Short Echo Times

Sagar Buch[1], Saifeng Liu[1], Yu-Chung Norman Cheng[2], Ewart Mark Haacke[1, 2]
[1]McMaster University, Hamilton, Ontario, Canada; [2]Academic Radiology, Wayne State University, Detroit, MI, United States

2484. Atlas-Based Segmentation of Quantitative Susceptibility Maps: Determining Iron Content in Deep Gray Matter Structures

Issel Anne L. Lim[1, 2], Andreia V. Faria[1], Xu Li[1, 2], Johnny T.C. Hsu[1], Raag D. Airan[1], Susumu Mori[1, 2], Peter C.M. van Zijl[1, 2]
[1]Radiology, Johns Hopkins University, Baltimore, MD, United States; [2]F.M. Kirby Research Center for Functional Brain Imaging, Kennedy Krieger Institute, Baltimore, MD, United States

2485. MR-Visible Surgical Meshes: Optimization and Phantom Studies

Florian Lippus[1], Kerstin Brocker[2], Jens Groebner[1], Peter Hallscheidt[3], Michael Bock[1]
[1]Dept. of Diagnostic Radiology / Medical Physics, University Medical Centre Freiburg, Freiburg, BW, Germany; [2]Dept. of Gynaecology, Heidelberg University Hospital, Heidelberg, BW, Germany; [3]Diagnostic and Interventional Radiology, Heidelberg University Hospital, Heidelberg, BW, Germany

2486. Quantitative Characterization of Spatial Variations of Intrinsic Susceptibility by T_{1P} Dispersion

John T. Spear[1, 2], Zhongliang Zu[2, 3], John C. Gore, [3]
[1]Department of Physics and Astronomy, Vanderbilt University, Nashville, TN, United States; [2]Vanderbilt University Institute of Imaging Science, Nashville, TN, United States; [3]Department of Radiology, Vanderbilt University, Nashville, TN, United States

2487. Investigating Anisotropic Magnetic Susceptibility Effects in Model Systems

Matthew Cronin[1], Samuel J. Wharton[1], Richard W. Bowtell[2]
[1]Sir Peter Mansfield Magnetic Resonance Centre, The University of Nottingham, Nottingham, Notts, United Kingdom; [2]Sir Peter Mansfield Magnetic Resonance Centre, University of Nottingham, Nottingham, Notts, United Kingdom

2488. Longitudinal Investigation of Diffuse Hemorrhagic Lesions Using Using Quantitative Susceptibility Mapping (QSM)

Andreas Petrovic[1], Ferdinand Schweser[2], Andreas Deistung[3], Eva Scheurer[1], Jürgen R. Reichenbach[2]
[1]Ludwig Boltzmann Institute for Clinical-Forensic Imaging, Graz, Austria; [2]Medical Physics Group, Institute of Diagnostic and Interventional Radiology I, Jena University Hospital – Friedrich Schiller University Jena, Jena, Germany; [3]Medical Physics Group, Institute of Diagnostic and Interventional Radiology I, Jena University Hospital - Friedrich Schiller University Jena, Jena, Germany

2489. Origin of B_0 Orientation Dependent R2* (=1/T2*) in White Matter: Magic Angle Effect Vs. Magnetic Susceptibility

Se-Hong Oh[1], Jongho Lee[1]
[1]Department of Radiology, Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA, United States

2490. Frequency Difference Mapping at 7 T Using Two- And Three-Echo Approaches

ISMRM MERIT AWARD magna cum laude

Samuel J. Wharton[1], Richard W. Bowtell[1]
[1]Sir Peter Mansfield Magnetic Resonance Centre, School of Physics and Astronomy, University of Nottingham, Nottingham, United Kingdom

2491. Improved Characterisation of White Matter Lesions in Multiple Sclerosis Patients Using Quantitative Susceptibility Mapping

Matthew Cronin[1], Samuel J. Wharton[1], Richard W. Bowtell[2], Penelope A. Gowland[2]
[1]Sir Peter Mansfield Magnetic Resonance Centre, The University of Nottingham, Nottingham, Notts, United Kingdom; [2]Sir Peter Mansfield Magnetic Resonance Centre, University of Nottingham, Nottingham, Notts, United Kingdom

2492. Evaluation of Multiparametric QBOLD in White Matter: A Simulation Study

Julien Bouvier[1, 2], Sebastien Castellani[1], Clément S. Debacker[1, 3], Nicolas Pannetier[4], Irène Troprès, [15], Alexandre Krainik[1], Emmanuel Luc Barbier[1]
[1]INSERM U836, Grenoble Institute of Neurosciences, Grenoble, France; [2]Philips Healthcare, Suresnes, France; [3]Bruker Biospin MRI, Ettlingen, Germany; [4]University of California San Francisco, San Francisco, CA, United States; [5]Plate-forme IRMaGe, UJF – INSERM US17 – CNRS UMS 3552, Grenoble, France

2493. Relevance of Morphological Binary Information for L2 and L1 Total Variation Methods in Quantitative Susceptibility Mapping and Reconstruction Quality Assessment Without Presence of the Ground Truth
Diana Khabipova[1], Yves Wiaux[2, 3], Rolf Gruetter[4, 5], José P. Marques[1, 5]
[1]LIFMET, EPFL, Lausanne, Switzerland; [2]Electrical Engineering, EPFL, Lausanne, Switzerland; [3]Radiology, UniGe, Geneva, Switzerland; [4]LIFMET, École Polytechnique Fédérale de Lausanne, Lausanne, Switzerland; [5]Radiology, UNIL, Lausanne, Switzerland

2494. Quality-Based UnwRap of SUbdivided Large Arrays (URSULA) at 9.4T
Johannes Lindemeyer[1], Ana-Maria Oros-Peusquens[1], Kaveh Vahedipour[1], Nadim Jon Shah[1, 2]
[1]Institute of Neuroscience and Medicine 4, Forschungszentrum Jülich, Jülich, Germany; [2]Department of Neurology, Faculty of Medicine, JARA, RWTH Aachen University, Aachen, Germany

2495. Laplacian Filtering: A Simple and Robust Technique for Reducing Artifacts in Susceptibility Weighted Imaging (SWI)
Ferdinand Schweser[1, 2], Andreas Deistung[1], Martin Stenzel[3], Hans-Joachim Mentzel[3], Jürgen R. Reichenbach[1]
[1]Medical Physics Group, Institute of Diagnostic and Interventional Radiology I, Jena University Hospital - Friedrich Schiller University Jena, Jena, Germany; [2]School of Medicine, Jena University Hospital - Friedrich Schiller University Jena, Jena, Germany; [3]Section Pediatric Radiology, Jena University Hospital - Friedrich Schiller University Jena, Jena, Germany

2496. Background Field Removal Based on Local Complex Phase Unwrapping and Spherical Mean Value Property
Saifeng Liu[1], Sagar Buch[1], Ewart Mark Haacke[1, 2]
[1]School of Biomedical Engineering, McMaster University, Hamilton, Ontario, Canada; [2]Department of Radiology, Wayne State University, Detroit, MI, United States

2497. Quantitative Susceptibility Mapping: A Potential Biomaker for Characterizing Cerebral Cavernous Malformation
Huan Tan[1], Ying Wu[2, 3], Ryan Hutten[2], Liu Tian[4], Yi Wang[4], Pottumarthi Vara Prasad[2, 3], Issam Awad[3], Robert R. Edelman[2, 5]
[1]NorthShore University HealthSystem, Evanston , IL, United States; [2]NorthShore University HealthSystem, Evanston, IL, United States; [3]The University of Chicago Pritzker School of Medicine, Chicago, IL, United States; [4]Weill Cornell Medical College, New York, NY, United States; [5]Northwestern University Feinberg School of Medicine, Chicago, IL, United States

2498. Feasibility of *in-vivo* Quantitative Susceptibility Mapping (QSM) in the Kidneys
Huan Tan[1], Jon Thacker[2], Tian Liu[3], Yi Wang[3], Pottumarthi Vara Prasad[4, 5]
[1]NorthShore University HealthSystem, Evanston , IL, United States; [2]Northwestern University, Evanston, IL, United States; [3]Weill Cornell Medical College, New York, NY, United States; [4]NorthShore University HealthSystem, Evanston, IL, United States; [5]The University of Chicago Pritzker School of Medicine, Chicago, IL, United States

2499. Fast Susceptibility Weighted Imaging (SWI) Using PROPELLER-EPI
Martin Krämer[1], Andreas Deistung[1], Ferdinand Schweser[1], Jürgen R. Reichenbach[1]
[1]Medical Physics Group, Institute of Diagnostic and Interventional Radiology I, Jena University Hospital - Friedrich Schiller University Jena, Jena, Germany

2500. Expansion of the GESFIDE Sequence for Simultaneous SWI, T1W Imaging and MR Angiography
Wei Feng[1], Yang Xuan[1], Ewart Mark Haacke[1]
[1]Radiology, Wayne State University, Detroit, MI, United States

2501. Microhemorrhage Detection with Segmented EPI SWI: Comparison to 3D GRE SWI in a Series of TBI Patients
Wen-Tung Wang[1], Ningzhi Li[2], Dzung Pham[2], John Anthony Butman[1, 2]
[1]Radiology and Imaging Sciences, Clinical Center of the National Institutes of Health, Bethesda, MD, United States; [2]Center for Neuroscience and Regenerative Medicine, Bethesda, MD, United States

2502. Correlation of R2 and R2* with Quantitative Susceptibility Maps in Healthy Elderly Controls
Jeam Haroldo Oliveira Barbosa[1], Saifeng Liu[2], Jin Tang[3], Manju Liu[4], Weili Zheng[4], Ewart Mark Haacke[2, 4], Carlos Ernersto Garrido Salmon[1]
[1]Department of Phisics, University of Sao Paulo, Ribeirao Preto, Sao Paulo, Brazil; [2]School of Biomedical Engineering, McMaster University, Hamilton, Ontario, Canada; [3]MRI Institute for Biomedical Research, Detroit, MI, United States; [4]Wayne State University, Detroit, MI, United States

2503. R2' Mapping of the Human Kidney Using Navigator Gated, Asymmetric Spin Echo, Multi-Shot EPI
ISMRM MERIT AWARD magna cum laude
Jon Thacker[1], Huan Tan[2], Shivraman Giri[3], Pottumarthi Vara Prasad[2]
[1]Biomedical Engineering, Northwestern, Evanston, IL, United States; [2]Northshore University Health System, Evanston, IL, United States; [3]Siemens Healthcare, Chicago, Il, United States

2504. Clinical Comparison Between PADRE and SWI for Susceptibility Weighted MRI
Karin Markenroth Bloch[1, 2], Stefanie Eriksson[3], Roger Siemund[4, 5], Håkan Sjunnesson[4, 5], Emelie Lindgren[2], Danielle van Westen[4, 5]
[1]Clinical science, Philips, Lund, Sweden; [2]Dept. of Medical Radiation Physics, Lund University, Lund, Sweden; [3]Dept. of Chemistry, Lund University, Lund, Sweden; [4]Center for Medical Imaging and Physiology, Skane University Hospital Lund, Lund, Sweden; [5]Dept. of Diagnostic Radiology, Lund University, Lund, Sweden

Traditional Poster
Contrast Mechanism: From Exotic to Clinical Applications

Exhibition Hall Tuesday 13:30-15:30

2505. Quantitative Water Content Assessment Using a Single-Scan Multi-Parameter Mapping Technique and Spectral Processing of a Multiple Gradient Echo Acquisition
Ken-Pin Hwang[1], Marcel Warntjes[2], R. Jason Stafford[3], Wolfgang Stefan[3], Edward F. Jackson[3], John E. Madewell[4], John D. Hazle[3], Zachary W. Slavens[5], Tzehping L. Chi[4]
[1]Global Applied Science Laboratory, General Electric Healthcare, Houston, TX, United States; [2]Center for Medical Imaging Science and Visualisation, Linköping University, Linköping, Sweden; [3]Department of Imaging Physics, University of Texas MD Anderson Cancer Center, Houston, TX, United States; [4]Department of Radiology, University of Texas MD Anderson Cancer Center, Houston, TX, United States; [5]MR Engineering, General Electric Healthcare, Waukesha, WI, United States

2506. Specific Inhomogeneous MT Contrast in White Matter. Application to Spinal Cord Imaging.
Olivier M. Girard[1], Virginie Callot[2], Alexandre Vignaud[3], Gopal Varma[4], Patrick J. Cozzone[5], David C. Alsop[4], Guillaume Duhamel[2]
[1]CRMBM UMR 7339, CNRS / Aix-Marseille Université, Marseille, France; [2]CRMBM UMR 7339, Aix-Marseille University, Marseille, France; [3]Siemens Healthcare, Saint-Denis, France; [4]Beth Israel Deaconess Medical Center and Harvard Medical School, Boston,, MA, United States; [5]CRMBM UMR 7339, Aix-Marseille Université, Marseille, France

2507. Simultaneous Fat Saturation and Magnetization Transfer Preparation with 2D Small-Tip Fast Recovery Imaging
Feng Zhao[1], Scott D. Swanson[2], Jon-Fredrik Nielsen[1], Jeffrey A. Fessler[3], Douglas C. Noll[1]
[1]Biomedical Engineering, The University of Michigan, Ann Arbor, MI, United States; [2]Radiology, The University of Michigan, Ann Arbor, MI, United States; [3]EECS, University of Michigan, Ann Arbor, MI, United States

2508. Tissue Border Enhancement by Inversion Recovery Acquisition
Mauro Costagli[1], Douglas A.C. Kelley[2], Riccardo Stara[3], Gianluigi Tiberi[1], Mirco Cosottini[1, 3], Michela Tosetti[1, 4]
[1]IMAGO7, Calambrone, Pisa, Italy; [2]GE Healthcare Technologies, San Francisco, CA, United States; [3]University of Pisa, Pisa, Italy; [4]IRCCS Stella Maris, Pisa, Italy

2509. Short Echo Times and Multiple Echoes to Image, Quantitate and Classify Fast-Relaxing Anatomy
Ethan M. Johnson[1], Jinyi Qi[2], Urvi Vyas[1], Kim R. Butts Pauly[1], John M. Pauly[1]
[1]Stanford University, Stanford, CA, United States; [2]UC Davis, Davis, CA, United States

2510. Inversion Recovery Prepared PSIF for FLAIR at 7T
Yiu-Cho Chung[1], Yanjie Zhu[1], Xin Liu[1], Chao Zou[1]
[1]Paul C. Lauterbur Research Center for Biomedical Imaging, Shenzhen Key Laboratory for MRI, Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences, Shenzhen, Guangdong, China

2511. T1rho and T2rho Mapping with Gradient Offset Independent Adiabatic Pulse Trains
Ovidiu C. Andronesi[1], Himanshu Bhat[2], Shreya Mukherjee[1], Peter Caravan[1], Bruce R. Rosen[1]
[1]Martinos Center, Radiology, Massachusetts General Hospital, Charlestown, MA, United States; [2]Siemens Medical Solutions, Charlestown, MA, United States

2512. A T2-Diffusion-Prepared Cube Sequence for Brain Lesion Detection at 7T
Eric K. Gibbons[1], Manoj Saranathan[2], Brian K. Rutt[2], John M. Pauly[3], Adam B. Kerr[3]
[1]Department of Bioengineering, Stanford University, Stanford, CA, United States; [2]Department of Radiology, Stanford University, Stanford, CA, United States; [3]Department of Electrical Engineering, Stanford University, Stanford, CA, United States

2513. Quantitative Proton Density Mapping in Pathological Tissue: Comparison of Two Receiver Profile Correction Methods
Steffen Volz[1], Ulrike Nöth[1], Alina Jurcoane[2], Ulf Ziemann[3], Elke Hattingen[2], Ralf Deichmann[1]
[1]Brain Imaging Center, University Frankfurt, Frankfurt, Germany; [2]Department of Neuroradiology, University Frankfurt, Frankfurt, Germany; [3]Department of Neurology, University Frankfurt, Frankfurt, Germany

2514. Robust Susceptibility Weighted Imaging Using Single-Slab 3D GRASE with Removal of Background Phase Variation
Hahnsung Kim[1], Dong-Hyun Kim[1], Jaeseok Park[2]
[1]Yonsei University, Seoul, Korea; [2]Korea University, Seoul, Korea

2515. Phase and Diffusion Tensor Imaging at Ultra-High Magnetic Field: Differences and Similarities
Yohan van de Looij[1, 2], Rajika Maddage[2], Nicolas Kunz[1, 2], Petra Susan Hüppi[1], Rolf Gruetter[3, 4], Stéphane V. Sizonenko[1]
[1]Division of Child Growth & Development, University of Geneva, Geneva, Switzerland; [2]Laboratory for Functional and Metabolic Imaging, Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland; [3]Laboratory for Functional and Metabolic Imaging, École Polytechnique Fédérale de Lausanne, Lausanne, Switzerland; [4]Department of Radiology, University of Geneva and Lausanne, Geneva and Lausanne, Switzerland

2516. Collagen Composition and Content-Dependent Contrast in Porcine Annulus Fibrosus Using Double-Quantum Filtering Combined with Magnetization-Transfer and UTE MRI
Uzi Eliav[1], Michal E. Komlosh[2], Peter J. Basser[2], Gil Navon[1]
[1]School of Chemistry, Tel Aviv University, Tel Aviv, Israel; [2]STBB/PPITS/NICHD/NIH, NIH, Bethesda, MD, United States

2517. ^{31}P and 1H NMR Investigation of Liquid Crystal Phase Temperature Dependence in Rehydrated Myelin
Henry H. Ong[1], Michael J. Wilhelm[2], Suzanne L. Wehrli[3], Edward James Delikatny[4], Felix W. Wehrli[1]
[1]Laboratory for Structural NMR Imaging, Department of Radiology, Perelman School of Medicine at the University of Pennsylvania, Philadelphia, PA, United States; [2]Department of Chemistry, Temple University, Philadelphia, PA, United States; [3]NMR Core Facility, Children's Hospital of Philadelphia, Philadelphia, PA, United States; [4]Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States

2518. Bz-SNR-Enhanced Echo-Shifted Incoherent Steady State Imaging for Electrical Conductivity Mapping
Hyunyeol Lee[1], Woo Chul Jeong[2], Hyung Joong Kim[2], Eung Je Woo[2], Jaeseok Park[1]
[1]Brain and Cognitive Engineering, Korea University, Seoul, Korea; [2]Biomedical Engineering, Kyung Hee University, Yongin, Gyeonggi, Korea

2519. Tissue Thermal Property Tomography
Leeor Alon[1, 2], Christopher Collins[1, 2], Giuseppe Carluccio[1], Dmitry S. Novikov[1], Yudong Zhu[1, 2], Daniel Sodickson[1, 2]
[1]Department of Radiology, Bernard and Irene Schwartz Center for Biomedical Imaging, New York University, New York, NY, United States; [2]Sackler Institute of Graduate Biomedical Sciences, New York University, New York, NY, United States

2520. Neuronal Current MRI in the Octopus Visual System
Xia Jiang[1], Hanbing Lu[2], Shuichi Shigeno[3], Li-Hai Tan[4], Yihong Yang[5], Clifton W. Ragsdale[3], Jia-Hong Gao[1]
[1]Brain Research Imaging Center and Department of Radiology, University of Chicago, Chicago, IL, United States; [2]Neuroimaging Research Branch, National Institute on Drug Abuse, National Institutes of Health, Baltimore, MD, United States; [3]Department of Neurobiology, University of Chicago, Chicago, IL, United States; [4]State Key Lab for Brain Research, University of Hong Kong, Hong Kong, China; [5]Neuroimaging Research Branch, National Institute on Drug Abuse, National Institutes of Health, Baltimore,, MD, United States

2521. Imaging Chick Embryos with SPIO Nanoparticles Using SWIFT
Luning Wang[1], Yangqing Lu[2], Khan Hekmatyar[3], Steve Stice[2], Qun Zhao[1]
[1]Department of Physics and Astronomy, University of Georgia, Athens, GA, United States; [2]Department of Animal and Dairy Science, University of Georgia, Athens, GA, United States; [3]BioImaging Research Center (BIRC), University of Georgia, Athens, GA, United States

2522. Optimal Partial Fourier Reconstructions in Electron Paramagnetic Resonance Imaging
Alan B. McMillan[1], Hyungseok Jang[1], Sankaran Subramanian[2], Murali C. Krishna[2]
[1]Radiology, University of Wisconsin, Madison, WI, United States; [2]Radiation Biology Branch, Center for Cancer Research, NCI, National Institutes of Health, Bethesda, MD, United States

2523. Characterization of EPR Spin-Echo Data for Accelerated Oximetry
Frank Golub[1], Lee C. Potter[1], Rizwan Ahmad[1]
[1]The Ohio State University, Columbus, OH, United States

2524. A Method to Improve Temporal Resolution in EPR Imaging of Tissue Oxygenation
Hyungseok Jang[1], Sankaran Subramanian[2], Nallathamby Devashayam[2], Murali C. Krishna[2], Alan B. McMillan[1]
[1]Radiology, University of Wisconsin, Madison, WI, United States; [2]Radiation Biology Branch, Center for Cancer Research, NCI, National Institutes of Health, Bethesda, MD, United States

2525. Influence of Free Radicals Signal from Dental Resins on the Radio-Induced Signal in Teeth in Nuclear Retrospective Dosimetry : Kinetic Analysis Using EPR
Celine M. Desmet[1], Philippe Leveque[1], Gaetane Leloup[2], Bernard Gallez[3]
[1]Biomedical Magnetic Resonance, Universite catholique de Louvain, Brussels, Belgium; [2]CRIBIO, Universite catholique de Louvain, Brussels, Belgium; [3]Biomedical Magnetic Resonance, University of Louvain, Brussels, Belgium

Traditional Poster
CEST, MT, APT

Exhibition Hall Tuesday 13:30-15:30

2526. Amide Proton Transfer (APT) Imaging for Grading of Glioma
Ge Zhang[1], Xianlong Wang[1], Shilong Lu[1], Jinyuan Zhou[2], Zhibo Wen[1]
[1]Department of Radiology, Zhujiang Hospital, Southern Medical University, Guangzhou, Guangdong, China; [2]Department of Radiology and Radiological Science, Johns Hopkins University School of Medicine, Baltimore, MD, United States

2527. APT and NOE Imaging Contrasts of Glioma with Different RF Saturation Powers
Jinyuan Zhou[1, 2], Xiaohua Hong[1]
[1]Department of Radiology, Johns Hopkins University, Baltimore, MD, United States; [2]F.M. Kirby Research Center for Functional Brain Imaging, Kennedy Krieger Institute, Baltimore, MD, United States

2528. *in vivo* Saturation Transfer Imaging of Nuclear Overhauser Effect from Aromatic and Aliphatic Protons: Implication to APT Quantification
Tao Jin[1], Seong-Gi Kim[1, 2]
[1]Department of Radiology, University of Pittsburgh, Pittsburgh, PA, United States; [2]Department of Neurobiology, University of Pittsburgh, Pittsburgh, PA, United States

2529. Amide Proton Chemical Exchange Saturation Transfer at 9.4 T with Optimized RF Transmit Field Through B_1 Shimming

Christian C. Mirkes[1, 2], Jens Hoffmann[1], Gunamony Shajan[1], Rolf Pohmann[1], Klaus Scheffler[1, 2]
[1]High-Field MR Center, Max Planck Institute for Biological Cybernetics, Tübingen, Germany; [2]Department for Biomedical Magnetic Resonance, University of Tübingen, Tübingen, Germany

2530. Contamination of Neurometabolite Amine-Water Proton Exchange to Amide Proton Transfer MRI

Xiaopeng Zong[1], Ping Wang[1], Seong-Gi Kim[1], Tao Jin[1]
[1]Department of Radiology, University of Pittsburgh, Pittsburgh, PA, United States

2531. Effect of Saturation Pulse Duration and Strength on Parallel Transmission Based Amide Proton Transfer MRI of the Prostate

Guang Jia[1], Saba N. Elias[1], Ronney Abaza[2], Debra L. Zynger[3], Zarine K. Shah[1], Lai Wei[4], Robert R. Bahnson[2], Michael V. Knopp[1]
[1]Department of Radiology, The Ohio State University, Columbus, OH, United States; [2]Department of Urology, The Ohio State University, Columbus, OH, United States; [3]Department of Pathology, The Ohio State University, Columbus, OH, United States; [4]Center for Biostatistics, The Ohio State University, Columbus, OH, United States

2532. Prospectively Motion Compensated Amide Proton Transfer MRI for Body Oncology

Jochen Keupp[1], Guang Jia[2], Ivan E. Dimitrov[3], Silke Hey[4], Michael V. Knopp[2]
[1]Philips Research, Hamburg, Germany; [2]Department of Radiology, The Ohio State University, Columbus, OH, United States; [3]Philips Healthcare, Cleveland, OH, United States; [4]Philips Healthcare, Best, Netherlands

2533. Amide Proton Transfer MR Imaging in Peritoneal Metastasis Evaluation

Xue Yu[1], Elaine Yuen Phin Lee[1], Queenie Chan[2], Mina Kim[1]
[1]Diagnostic Radiology, The University of Hong Kong, Hong Kong, China; [2]Philips Healthcare, Hong Kong, China

2534. Isolating Chemical Exchange Contrast from Amide and Amine Protons in the Presence of Asymmetric Macromolecular Magnetization Transfer with Off-Resonance Spin Locking at 3T in the Human Brain

Rachel Scheidegger[1, 2], David C. Alsop[1, 3]
[1]Radiology, Beth Israel Deaconess Medical Center, Boston, MA, United States; [2]Health Sciences and Technology, Harvard-MIT, Cambridge, MA, United States; [3]Radiology, Harvard Medical School, Boston, MA, United States

2535. Specific Inhomogeneous MT Contrast in Mouse Brain White Matter

Guillaume Duhamel[1], Olivier M. Girard[1], Gopal Varma[2], Patrick J. Cozzone[1], Virginie Callot[1], David C. Alsop[2]
[1]CRMBM / CNRS 7339, Aix-Marseille University, Marseille, France; [2]Department of Radiology, Beth Israel Deaconess Medical Center and Harvard Medical School, Boston, MA, United States

2536. Quantitative Evaluation of the Exchange Time and T_2 Associated with an Inhomogeneous Component Using Inhomogeneous Magnetization Transfer Imaging

Gopal Varma[1], Fotini Kourtelidis[1], David C. Alsop[1]
[1]Radiology, Division of MR Research, Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA, United States

2537. Assessment of Interslice MT Signal Characteristics of BSSFP for MTR Imaging of the Human Brain

Jeffrey William Barker[1, 2], Kyongtae Ty Bae[1], Sung-Hong Park, [13]
[1]Radiology, University of Pittsburgh, Pittsburgh, PA, United States; [2]Bioengineering, University of Pittsburgh, Pittsburgh, PA, United States; [3]Bio and Brain Engineering, Korean Advanced Institute of Science and Technology, Daejeon, Yuseong-gu, Korea

2538. Contributors to Contrast Between Glioma and Brain Tissue in Chemical Exchange Saturation Transfer Sensitive Imaging at 3 Tesla

Rachel Scheidegger[1, 2], Eric T. Wong[3, 4], David C. Alsop[1, 5]
[1]Radiology, Beth Israel Deaconess Medical Center, Boston, MA, United States; [2]Health Sciences and Technology, Harvard-MIT, Cambridge, MA, United States; [3]Brain Tumor Center & Neuro-Oncology Unit, Beth Israel Deaconess Medical Center, Boston, MA, United States; [4]Neurology, Harvard Medical School, Boston, MA, United States; [5]Radiology, Harvard Medical School, Boston, MA, United States

2539. Quantitative Magnetization Transfer Imaging at 7 Tesla: Application in Multiple Sclerosis Patients and Validation in Postmortem Brain

Richard D. Dortch[1, 2], Adrienne N. Dula[1, 2], Francesca Bagnato[1, 2], David R. Pennell[1, 2], Siddharama Pawate[3], Simon Hametner[4], Hans Lassmann[4], John C. Gore[1, 2], Seth A. Smith[1, 2]

[1]Radiology and Radiological Sciences, Vanderbilt University, Nashville, TN, United States; [2]Vanderbilt University Institute of Imaging Science, Vanderbilt University, Nashville, TN, United States; [3]Neurology, Vanderbilt University, Nashville, TN, United States; [4]Center for Brain Research, Medical University, Vienna, Austria

2540. Sulcal and Gyral Crown Cortical Grey Matter Involvement in Multiple Sclerosis: A Magnetisation Transfer Ratio Study

Rebecca S. Samson[1], Nils Muhlert[2], Varun Sethi[2], Claudia Angela M. Wheeler-Kingshott[2], Maria A. Ron[2], David H. Miller[2], Declan T. Chard[2]

[1]NMR Research Unit, Queen Square MS Centre, Department of Neuroinflammation, UCL Institute of Neurology, London, England, United Kingdom; [2]NMR Research Unit, Queen Square MS Centre, Department of Neuroinflammation, UCL Institute of Neurology, London, United Kingdom

2541. CEST Effect at 2ppm (CEST@2ppm): A Potential Biomarker for Grading Brain Tumor Malignancy

Kejia Cai[1], Mohammad Haris[1], Anup Singh[1], Ravi Prakash Reddy Nanga[1], Ranjit Ittyerah[1], Damodar Reddy[1], Harish Poptani[1], Hari Hariharan[1], Ravinder Reddy[1]

[1]University of Pennsylvania, Philadelphia, PA, United States

2542. The CEST Effect of Guanidine and Hydroxyl Protons Can Be Used as a Positive Contrast in Ischemia

Tao Jin[1], Seong-Gi Kim[1]

[1]Department of Radiology, University of Pittsburgh, Pittsburgh, PA, United States

2543. Feasibility of *in vivo* CEST Imaging of Creatine (CrCEST) at 3T

Catherine DeBrosse[1], Feliks Kogan[1], Mohammad Haris[1], Anup Singh[1], Kejia Cai[1], Ravi Prakash Reddy Nanga[1], Hari Hariharan[1], Ravinder Reddy[1]

[1]Center for Magnetic Resonance and Optical Imaging, Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States

2544. Imaging of Endogenous CEST Agents in the Human Brain Using Frequency Labeled Exchange (FLEX) Transfer

ISMRM MERIT AWARD magna cum laude

Nirbhay N. Yadav[1, 2], Craig K. Jones[1, 2], Jun Hua[1, 2], Jiadi Xu[1, 2], Peter C.M. van Zijl[1, 2]

[1]Russell H. Morgan Department of Radiology and Radiological Science, Johns Hopkins University School of Medicine, Baltimore, MD, United States; [2]FM Kirby Research Center, Kennedy Krieger Institute, Baltimore, MD, United States

2545. A Multi-Echo Length and Offset VARied Saturation (Me-LOVARS) CEST Method

Xiaolei Song[1, 2], Jiadi Xu[1, 2], Shuli Xia[3], Nirbhay N. Yadav[1, 2], Bachchu Lal[3], Jeff W.M. Bulte[, 2,4], John Laterra[3], Peter C.M. van Zijl[1, 2], Michael T. McMahon[1, 2]

[1]Division of MR Research, The Russell H. Morgan Department of Radiology and Radiological Science, The Johns Hopkins University, Baltimore, MD, United States; [2]F.M. Kirby Research Center for Functional Brain Imaging, Kennedy Krieger Institute, Baltimore, MD, United States; [3]Department of Neuro-Oncology, Kennedy Krieger Institute, Baltimore, MD, United States; [4]Division of MR Research, The Russell H. Morgan Department of Radiology and Radiological Science, Johns Hopkins University, Baltimore, MD, United States

2546. An Analytical Approach Towards Pulsed-SL/CEST Quantification

Volkert Brar Roeloffs[1], Moritz Zaiss[1], Peter Bachert[1]

[1]Medical Physics in Radiology, German Cancer Research Center, Heidelberg, Baden-Wuerttemberg, Germany

2547. The Non-Linearity of CEST and MT Signal Combination

Sheng-Min Huang[1], Chih-Kuang Yeh[1], Fu-Nien Wang[1]

[1]Department of Biomedical Engineering & Environmental Sciences, National Tsing Hua University, Hsinchu, Taiwan

2548. MTR_{Rex} – a New Spillover and MT Correction Method for Quantitative Pulsed Steady-State CEST

Moritz Zaiss[1], Steffen Goerke[1], Peter Bachert[1]

[1]Dept. of Medical Physics in Radiology, German Cancer Research Center (DKFZ), Heidelberg, BW, Germany

2549. Simplified RF Spillover-Corrected Omega Plot for Simultaneous Determination of Labile Proton Ratio and Exchange Rate
Phillip Zhe Sun[1], Gang Xiao[2], Renhua Wu[3]
[1]Radiology, Martinos Center for Biomedical Imaging, Charlestown, MA, United States; [2]Department of Math and Information Technology, Hanshan Normal University, Chaozhou, Guangdong, China; [3]Department of Medical Imaging, Medical College of Shantou University, Chaozhou, Guangdong, China

2550. Off-Resonance Irradiation Power to Optimize the CEST Sensitivity Versus the Exchange Rate-Specificity
Tao Jin[1], Seong-Gi Kim[1]
[1]Department of Radiology, University of Pittsburgh, Pittsburgh, PA, United States

2551. A New Method for Quantifying Chemical Exchange Rates from CEST MRI Using the Solutions to the Time-Dependent Bloch Equations with and Without Spin Locking
Kenya Murase[1], Junpei Ueda[1], Koji Itagaki[1], Shigeyoshi Saito[1], Atsuomi Kimura[1]
[1]Medical Physics and Engineering, Osaka University, Suita, Osaka, Japan

2552. Optimization of Spin-Lock Parameters for Chemical Exchange Imaging Contrast Enhancement by Maximizing Asymmetric Magnetization Transfer Ratio: A Theoretical Study
Jing Yuan[1], Qinwei Zhang[1], Anil T. Ahuja[1], Yi-Xiang Wang[1]
[1]Department of Imaging and Interventional Radiology, Chinese University of Hong Kong, Shatin, NT, Hong Kong

2553. Differentiation and Quantification of Exchanging Protons in Different Pool Resonating at the Same Frequency in CEST
Olivier E. Mougin[1], Penelope A. Gowland[2]
[1]SPMMRC, School of Physics and Astronomy, University of Nottingham, Nottingham, Select, United Kingdom; [2]SPMMRC, University of Nottingham, Nottingham, Nottinghamshire, United Kingdom

2554. Contribution of Tissue Perfusion to the CEST Effect from Creatine in Skeletal Muscle
Feliks Kogan[1], Randall B. Stafford[2], Mohammad Haris[1], Erin K. Englund[2], Anup Singh[1], Kejia Cai[1], Catherine DeBrosse[1], Ravi Prakash Reddy Nanga[1], Hari Hariharan[1], John A. Detre[3], Ravinder Reddy[1]
[1]Center for Magnetic Resonance and Optical Imaging (CMROI), University of Pennsylvania, Philadelphia, PA, United States; [2]Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States; [3]Center for Functional Neuroimaging, University of Pennsylvania, Philadelphia, PA, United States

2555. Variable Delay Pulse Train for Fast CEST and NOE-CEST MRI
Jiadi Xu[1], Nirbhay N. Yadav[1], Amnon Bar-Shir[2], Craig Jones[1, 2], Kannie W.Y. Chan[1], Jingyang Zhang[2], Piotr Walczak[2], Michael T. McMahon[1], Peter C.M. van Zijl[1]
[1]F. M. Kirby Center, Kennedy Krieger Institute, Baltimore, MD, United States; [2]Russell H. Morgan Department of Radiology and Radiological Science, Johns Hopkins University, Baltimore, MD, United States

Traditional Poster
Artifacts & Correction

Exhibition Hall Wednesday 10:00-12:00

2556. Accelerating a Spectrally-Resolved Fully Phase-Encoded (SR-FPE) Method for Metal Artifact Reduction
ISMRM MERIT AWARD magna cum laude
Nathan S. Artz[1], Alexey A. Samsonov[1], Diego Hernando[2], Valentina Taviani[1], Matthew R. Smith[1], Jean H. Brittain[3], Scott B. Reeder[1, 4]
[1]Radiology, University of Wisconsin, Madison, WI, United States; [2]Radiology, University of Wisconsin-Madison, Madison, WI, United States; [3]Global Applied Science Laboratory, GE Healthcare, Madison, WI, United States; [4]Medical Physics, University of Wisconsin, Madison, WI, United States

2557. MR Measurement of Alloy Magnetic Susceptibility: Towards Developing Tissue-Susceptibility Matched Metals
Garrett W. Astary[1], Marcus K. Peprah[2], Charles R. Fisher[3], Paul R. Carney[4], Malisa Sarntinoranont[5], Mark W. Meisel[2], Michele V. Manuel[3], Thomas H. Mareci[1]
[1]Biochemistry and Molecular Biology, University of Florida, Gainesville, FL, United States; [2]Physics, University of Florida, Gainesville, FL, United States; [3]Materials Science and Engineering, University of Florida, Gainesville, FL, United States; [4]Biomedical Engineering, University of Florida, Gainesville, FL, United States; [5]Mechanical and Aerospace Engineering, University of Florida, Gainesville, FL, United States

2558. Highly Accelerated SEMAC Metal Implant Imaging Using Joint Compressed Sensing and Parallel Imaging
Mathias Nittka[1], Ricardo Otazo[2], Leon D. Rybak[2], Kai Tobias Block[3], Christian Geppert[4], Daniel K. Sodickson[2], Michael P. Recht[2]
[1]Siemens AG, Erlangen, Germany; [2]Department of Radiology, New York University School of Medicine, New York, United States; [3]Department of Radiology, NYU Langone Medical Center, New York, United States; [4]Siemens Medical Systems, New York, United States

2559. Development of Cerebral Aneurysm Coils with Equivalent Volume Magnetic Susceptibility to Body Tissue That Generate Small Susceptibility Artifacts in MRI
Ryusuke Nakai[1, 2], Takashi Azuma[3], Tomonobu Kodama[1], Hiroshi Tanemura[4], Kenichi Hamada[5], Hidenori Suzuki[4], Waro Taki[4], Hiroo Iwata[1]
[1]Institute for Frontier Medical Sciences, Kyoto University, Kyoto, Japan; [2]Kokoro Research Center, Kyoto University, Kyoto, Japan; [3]National Institute of Information and Communications Technology, Suita, Osaka, Japan; [4]Department of Neurosurgery, Mie University Graduate School of Medicine, Tsu, Mie, Japan; [5]Institute of Health Biosciences, The University of Tokushima Graduate School, Tokushima, Japan

2560. Assessing Measurement Accuracy Near Orthopaedic Materials in Magnetic Resonance Imaging
Matthew F. Koff[1], Parina Shah[1], Kevin M. Koch[2], Hollis G. Potter[1]
[1]Department of Radiology and Imaging, Hospital for Special Surgery, New York, NY, United States; [2]Applied Science Laboratory, General Electric Healthcare, Waukesha, WI, United States

2561. A Fast and Robust Method for Off-Resonance Detection in Metal Implant Imaging
Theresa Bachschmidt[1, 2], Mathias Nittka[1], Peter M. Jakob[2]
[1]Siemens Healthcare Sector, Erlangen, Germany; [2]EP5, University of Wuerzburg, Wuerzburg, Germany

2562. On the Relation of the Ripple Artifact in Multi-Spectral Imaging and Susceptibility Induced Field Gradients
Chiel J. den Harder[1], Ulrike A. Blume[2], Gert van IJperen[1], Clemens Bos[3]
[1]MRI Technology Development, Philips, Best, Noord Brabant, Netherlands; [2]Imaging Systems, Philips, Hamburg, Germany; [3]Image Sciences Institute, University Medical Center Utrecht, Utrecht, Netherlands

2563. Correcting bSSFP Distortion Near Metals with Geometric Solution Phase
Michael Nicholas Hoff[1], Qing-San Xiang[1, 2]
[1]Physics, University of British Columbia, Vancouver, BC, Canada; [2]Radiology, University of British Columbia, Vancouver, BC, Canada

2564. Recovering BSSFP Signal Loss Near Metals with Shimming
Michael Nicholas Hoff[1], Qing-San Xiang[1, 2]
[1]Physics, University of British Columbia, Vancouver, BC, Canada; [2]Radiology, University of British Columbia, Vancouver, BC, Canada

2565. Restoration of Large Slice Profile Distortions Near Metallic Implants by Frequency Mapping
Viktor P. Morin[1], Gunilla M. Müller[2], Sven Månsson[3]
[1]Electrical measurements, Lund University, Lund, Sweden; [2]Radiology, Lund University, Malmö, Sweden; [3]Medical Radiation Physics, Lund University, Malmö, Sweden

2566. Order of Magnitude Speed-Up in 2pt Dixon Water/Fat Separation Processing
Dong Zhou[1], Alexey Dimov[1], Tian Liu[1], Pascal Spincemaille[1], Martin R. Prince[1], Yi Wang[1]
[1]Weill Cornell Medical College, New York, NY - New York, United States

Traditional Poster
Artifacts & Correction: Off-Resonance & Eddy Currents

Exhibition Hall Wednesday 10:00-12:00

2567. Shim Cycling Technique to Eliminate the Banding Artifacts in 3D BSSFP Inner Ear Images
Seong-Eun Kim[1], John A. Roberts[1], Richard Wiggins[1], Bradley D. Bolster[2], Dennis L. Parker[1]
[1]UCAIR, Department of Radiology, University of Utah, Salt Lake City, UT, United States; [2]Siemens Healthcare, Salt Lake City, UT, United States

2568. Rapid Volume Shimming with Gradient Reversed EPI
Kevin Koch[1], Eric Printz[1], Dan Xu[1]
[1]GE Healthcare, Milwaukee, WI, United States

2569. Snapshot Field Monitoring Enables Correction of Slow Field Perturbations in High-Resolution Brain MRI
Signe Johanna Vannesjo[1], Bertram J. Wilm[1], Yolanda Duerst[1], Benjamin E. Dietrich[1], David Otto Brunner[1], Christoph Barmet[1, 2], Thomas Schmid[1], Klaas P. Pruessmann[1]
[1]Institute for Biomedical Engineering, University and ETH Zurich, Zurich, Switzerland; [2]Skope Magnetic Resonance Technologies, Zurich, Switzerland

2570. Magnetic Susceptibility and Field Map Estimation in fMRI Time Series Using a High Resolution Static Field Map
Hiroyuki Takeda[1], Boklye Kim[2]
[1]Radiology, University of Michigan, Ann Arbor, MI, United States; [2]Radiology, University of Michigan, ann arbor, MI, United States

2571. Autocalibrated PROPELLER-EPI: Intrinsic Geometric Distortion Correction Without Additional Reference Data
Martin Krämer[1], Jürgen R. Reichenbach[1]
[1]Medical Physics Group, Institute of Diagnostic and Interventional Radiology I, Jena University Hospital - Friedrich Schiller University Jena, Jena, Germany

2572. Phase Encoding Correction for 3D FSE Microscopy
Jonathan Bishop[1], R Mark Henkelman[1, 2], Brian J. Nieman[1, 2]
[1]Hospital for Sick Children, Toronto, ON, Canada; [2]Medical Biophysics, University of Toronto, Toronto, ON, Canada

2573. Field Probe Based Shot-To-Shot B_0 Correction for Multi-Shot Breast-DWI at 7T
Tijl A. van der Velden[1], Vincent Oltman Boer[1], Peter R. Luijten[1], Dennis W.J. Klomp[1]
[1]Radiology, University Medical Center Utrecht, Utrecht, Netherlands

2574. Dynamic Slice-Dependent Shim and Center Frequency Update in 3 T Breast DWI
Seung-Kyun Lee[1], Ek T. Tan[1], Ambey Govenkar[2], Ileana Hancu[1]
[1]GE Global Research, Niskayuna, NY, United States; [2]Extenprise, Pune, India

2575. Dynamically Unwarped Diffusion Imaging Removes Direction-Dependent Eddy Current Effects and Unveils Hidden Fiber Structures
Erik B. Beall[1], Myung-Ho In[2], Oliver Speck[2], Ken E. Sakaie[1], Mark J. Lowe[1]
[1]Imaging Institute, Cleveland Clinic, Cleveland, OH, United States; [2]Biomedical Magnetic Resonance, Otto-von-Guericke University, Magdeburg, Germany

2576. Characterization and Correction of Eddy-Current Artifacts in Unipolar and Bipolar Diffusion Sequences Using a Field-Monitoring Approach: Application to Renal Diffusion Tensor Imaging (DTI)
Rachel Wai-chung Chan[1], Sebastian Kozerke[2, 3], Daniel Giese[3], Jack Harmer[3], Christian T. Stoeck[2], Constantin von Deuster[2, 3], Andrew Peter Aitken[3], David Atkinson[1]
[1]Centre for Medical Imaging, University College London, London, United Kingdom; [2]Institute for Biomedical Engineering, University and ETH Zurich, Zurich, Switzerland; [3]Division of Imaging Sciences, King's College London, London, United Kingdom

Traditional Poster
Artifacts & Correction: Motion

Exhibition Hall Wednesday 10:00-12:00

2577. Automatic Rigid-Body Motion Correction Via Phase Retrieval and Sparsity Constraints
Joseph Y. Cheng[1], Shreyas S. Vasanawala[2], Michael Lustig[3], John M. Pauly[4]
[1]Electrical Engineering, Stanford University, Stanford, CA, United States; [2]Radiology, Stanford University, Stanford, CA, United States; [3]Electrical Engineering and Computer Sciences, University of California, Berkeley, CA, United States; [4]Electrical Engineergin, Stanford University, Stanford, CA, United States

2578. Prospective Real Time Rigid Body Motion Correction at 7 Tesla Using Inductively Coupled Wireless NMR Markers.
Saikat Sengupta[1], Sasidhar Tadanki, John C . Gore[1], E. Brian Welch[1]
[1]Radiology and Radiological Sciences, Vanderbilt University, Nashville, TN, United States

2579. In-Plane Motion Correction for Diffusion-Weighted 3D Multi-Slab EPI
Mathias Engström[1, 2], Stefan Skare[1, 2]
[1]Department of Clinical Neuroscience, Karolinska Institutet, Stockholm, Sweden; [2]Department of Neuroradiology, Karolinska University Hospital, Stockholm, Sweden

2580. Correction of Motion-Induced Phase Variance in Single-Voxel ^{1}H Spectroscopy
Brian Robert Keating[1], Thomas Ernst[2]
[1]Department of Medicine, Unversity of Hawaii, Honolulu, HI, United States; [2]Department of Medicine, University of Hawaii at Manoa, Honolulu, HI, United States

2581. Automatic ROI Specification and Reference Frame Selection for Motion Correction in Cardiac Imaging
Jieying Luo[1], R. Reeve Ingle[1], Dwight G. Nishimura[1]
[1]Electrical Engineering, Stanford University, Stanford, CA, United States

2582. Optimized Reconstruction for PROPELLER MRI
James G. Pipe[1], Nicholas Ryan Zwart[1], Michael Schar[2], Wende N. Gibbs[3], John P. Karis[3]
[1]Neuroimaging Research, Barrow Neurological Institute, Phoenix, AZ, United States; [2]Philips Healthcare, Phoenix, AZ, United States; [3]Neuroradiology, Barrow Neurological Institute, Phoenix, AZ, United States

2583. A Novel Swallow Detection Device for Carotid Artery Imaging
Jason K. Mendes[1], Dennis L. Parker[1], Robb Merrill[1], J. Rock Hadley[1]
[1]Radiology, University of Utah, Salt Lake City, UT, United States

2584. Robust Low-Rank Matrix Completion for Sparse Motion Correction in Auto Calibration PI
Zhongyuan Bi[1], Martin Uecker[2], Dengrong Jiang[3], Michael Lustig[2], Kui Ying[3]
[1]Biomedical Engineering, Tsinghua University, Beijing, China; [2]Electrical Engineering and Computer Science, University of California Berkeley, Berkeley, CA, United States; [3]Engineering Physics, Tsinghua University, Beijing, China

2585. Comparison of DTI Data in 5-Year Old Children Acquired Using Standard and Navigated DTI Sequences
A. Alhamud[1], B. Laughton[2], Khader M. Hasan[3], André J. W. van der Kouwe[4], Ernesta M. Meintjes[1]
[1]Human Biology, MRC/UCT Medical Imaging Research Unit, University of Cape Town, Cape Town, Western Cape, South Africa; [2]Paediatrics and Child Health, Stellenbosch University and Tygerberg Hospital, Cape Town, Western Cape, South Africa; [3]University of Texas Health Science Center at Houston, Houston, TX, United States; [4]Department of Radiology, Massachusetts General Hospital, Charlestown, MA, United States

2586. Improved Motion Correction in PROPELLER by Using Grouped Blades as Reference
Zhe Liu[1], Zhe Zhang[1], Sheng Fang[2], Juan Wei[3], Chun Yuan[1, 4], Hua Guo[1]
[1]Center for Biomedical Imaging Research, Department of Biomedical Engineering, School of Medicine, Tsinghua University, Beijing, China; [2]Institute of nuclear and new energy technology, Tsinghua University, Beijing, China; [3]Philips Research Asia Shanghai, Beijing, China; [4]Department of Radiology, University of Washington, Seattle, WA, United States

2587. Motion Detection for Diffusion Weighted MRI Using EPI Phase Correction Lines
Onur Afacan[1], Ali Gholipour[1], Benoit Scherrer[1], Simon K. Warfield[1]
[1]Computational Radiology Laboratory, Department of Radiology, Boston Children's Hospital and Harvard Medical School, Boston, MA, United States

2588. Correction of Bulk Motion and Assessment of Non-Rigid Deformations in Follow-Up Examinations of the Pelvis
Julien Senegas[1], Christian Buerger[1], Torbjoern Vik[1], Peter Mazurkewitz[1], Peter Koken[1]
[1]Philips Research Laboratories, Hamburg, Germany

2589. Motion Detection and Dual Retrospective Correction for MR Spectroscopy in the Human Spinal Cord
Andreas Hock[1], Spyros S. Kollias[2], Peter Boesiger[3], Anke Henning[3, 4]
[1]Institute for Biomedical Engineering , University and ETH Zurich , Zurich, Switzerland; [2]Institute of Neuroradiology, University Hospital of Zurich, Zurich, Switzerland; [3]Institute for Biomedical Engineering, University and ETH Zurich, Zurich, Switzerland; [4]Max Planck Institute for Biological Cybernetics, Max Plank Institute , Tuebingen, Germany

2590. Free-Stop Scanning for 3D TSE
Guobin Li[1], Maxim Zaitsev[1], Esther Meyer[2], Dominik Paul[2], Jürgen Hennig[1]
[1]University Medical Center Freiburg, Freiburg, Germany; [2]Siemens Healthcare, Erlangen, Germany

2591. Real-Time Motion Extraction from 2D Image-Based Navigators in Under 20 Milliseconds: An Integrated 2D Navigator Image Processing During MR Data Acquisition
Keigo Kawaji[1, 2], Pascal Spincemaille[3], Thanh D. Nguyen[3], Mitchell A. Cooper[1, 3], Martin R. Prince[3], Yi Wang[1, 3]
[1]Department of Biomedical Engineering, Cornell University, New York, NY, United States; [2]Department of Medicine, Beth Israel Deaconess Med. Ctr. and Harvard Medical School, Boston, MA, United States; [3]Department of Radiology, Weill Cornell Medical College, New York, NY, United States

Traditional Poster
B_1 Mapping

Exhibition Hall Wednesday 10:00-12:00

2592. Ventricular B_1 Enhancement - Truth or Fiction?
ISMRM MERIT AWARD magna cum laude
Wyger M. Brink[1], Peter Börnert[1, 2], Kay Nehrke[2], Andrew Webb[1]
[1]Radiology, Leiden University Medical Center, Leiden, Netherlands, Zuid-Holland, Netherlands; [2]Philips Research Laboratories, Hamburg, Germany

2593. Fast Prediction of RF Fields in the Human Brain
Jay Moore[1, 2], William A. Grissom[1, 3], John C. Gore[1, 2]
[1]Vanderbilt University Institute of Imaging Science, Vanderbilt University, Nashville, TN, United States; [2]Department of Radiology and Radiological Sciences, Vanderbilt University, Nashville, TN, United States; [3]Department of Biomedical Engineering, Vanderbilt University, Nashville, TN, United States

2594. Interferometric Bloch-Siegert B_1+ Mapping at 7T
Patrik Wyss[1], Shaihan J. Malik[2], Vincent Oltman Boer[3], Johanna J. Bluemink[3], Alexander Raaijmakers[3], Mustafa Cavusoglu[4], Peter R. Luijten[3], Johannes J. Hoogduin[3], Giel Mens[5], Anke Henning, [16]
[1]Institute for Biomedical Engineering, UZH and ETH Zurich, Zurich, Switzerland; [2]Imaging Sciences and Biomedical Engineering, Kings College London, London, United Kingdom; [3]University Medical Center Utrecht, Utrecht, Netherlands; [4]Institute for Biomedical Engineering, University and ETH Zurich, Zurich, Switzerland; [5]Philips Healthcare, Best, Netherlands; [6]Max Planck Institute for Biological Cybernetics, Tübingen, Germany

2595. SNR Analysis of Adiabatic Bloch-Sigert B_1^+ Mapping
Mohammad Mehdi Khalighi[1], Jason H. Su[2, 3], Brian K. Rutt[3]
[1]Applied Science Lab, GE Healthcare, Menlo Park, CA, United States; [2]Department of Electrical Engineering, Stanford University, Stanford, CA, United States; [3]Department of Radiology, Stanford University, Stanford, CA, United States

2596. B_0-Independent Quantitative Measurement of Low B_1 Field for Human Cardiac MRI at 7T
Yuehui Tao[1], Aaron T. Hess[1], Graeme A. Keith[1], Christopher T. Rodgers[1], Matthew D. Robson[1]
[1]University of Oxford, Oxford, United Kingdom

2597. Simultaneous T1 and B_1 Mapping Using Variable Flip Angle Imaging on Fatty Tissue
KyungHyun Sung[1], Manoj Saranathan[2], Bruce L. Daniel[2], Brian Andrew Hargreaves[2]
[1]Radiological Sciences, UCLA, Los Angeles, CA, United States; [2]Radiology, Stanford University, Stanford, CA, United States

2598. Rapid B_1 Mapping Method for Multi-Channel RF Transmit Coil Using Phase-Difference
Kosuke Ito[1], Masahiro Takizawa[1], Tetsuhiko Takahashi[1]
[1]MRI system division, Hitachi Medical corporation, Kashiwa, Chiba, Japan

2599. Rapid B_1 Mapping Method Eliminating T_1 Effect by Using Multi Td Sequence
Kosuke Ito[1], Masahiro Takizawa[1], Tetsuhiko Takahashi[1]
[1]MRI system division, Hitachi Medical corporation, Kashiwa, Chiba, Japan

2600. A 3D Calibration Protocol for 9.4T Human MRI
Daniel Brenner[1], Kaveh Vahedipour[1], Tony Stöcker[1], Jörg Felder[1], Frank Geschewski[1], Nadim Jon Shah[1, 2]
[1]INM-4, Forschungszentrum Juelich, Juelich, Germany; [2]JARA - Faculty of Medicine, RWTH Aachen University, Aachen, Germany

Traditional Poster
Compressed Sensing

Exhibition Hall Wednesday 10:00-12:00

2601. Improved L1-SPIRiT Using Tensor-Based Sparsity Basis
Zhen Feng[1], Feng Liu[2], Stuart Crozier[2], He Guo[1]
[1]Dalian University of Technology, Dalian, Liaoning, China; [2]The University of Queensland, Brisbane, Queensland, Australia

2602. Automatic L_1-SPIRiT Regularization Parameter Selection Using Monte-Carlo SURE
ISMRM MERIT AWARD magna cum laude
Daniel S. Weller[1], Sathish Ramani[1], Jon-Fredrik Nielsen[2], Jeffrey A. Fessler[1]
[1]EECS, University of Michigan, Ann Arbor, MI, United States; [2]BME, University of Michigan, Ann Arbor, MI, United States

2603. Scalable and Accurate Variance Estimation (SAVE) for Joint Bayesian Compressed Sensing
Stephen F. Cauley[1], Yuanzhe Xi[2], Berkin Bilgic[3], Kawin Setsompop[4, 5], Jianlin Xia[2], Elfar Adalsteinsson, [4,6], V. Ragu Balakrishnan[7], Lawrence L. Wald[4, 8]
[1]A.A. Martinos Center for Biomedical Imaging, Dept. of Radiology, Massachusetts General Hospital, Charlestown, MA, United States; [2]Department of Mathematics, Purdue University, West Lafayette, IN, United States; [3]Department of Electrical Engineering and Computer Science, Massachusetts Institute of Technology, Cambridge, MA, United States; [4]A.A. Martinos Center for Biomedical Imaging, Dept. of Radiology, MGH, Charlestown, MA, United States; [5]Harvard Medical School, Boston, MA, United States; [6]Department of Electrical Engineering and Computer Science, MIT, Cambridge, MA, United States; [7]School of Electrical and Computer Engineering, Purdue University, West Lafayette, IN, United States; [8]Harvard-MIT Division of Health Sciences and Technology, Cambridge, MA, United States

2604. An Efficient Compressed Sensing Reconstruction Robust to Phase Variation on MR Images
Satoshi Ito[1], Kazuki Nakamura[1], Yoshifumi Yamada[1]
[1]Research Division of Intelligence and Information Sciences, Utsunomiya University, Utsunomiya, Tochigi, Japan

2605. Compressive Diffusion MRI – Part 3: Prior-Image Constrained Low-Rank Model (PCLR)
Hao Gao[1, 2], Longchuan Li[3], Xiaoping P. Hu[3]
[1]Department of Mathematics and Computer Science, Emory University, Atlanta, GA, United States; [2]Department of Radiology and Imaging Sciences, Emory University, Atlanta, GA, United States; [3]Department of Biomedical Engineering, Emory University and Georgia Institute of Technology, Atlanta, GA, United States

2606. Self-Updating NonLocal Total Variation for Highly Undersampled Variable Density Spiral Reconstruction
Sheng Fang[1], Wenchuan Wu[2], Kui Ying[3], Hua Guo[2]
[1]Institute of nulcear and new energy technology, Tsinghua University, Beijing, China; [2]Center for Biomedical Imaging Research, Department of Biomedical Engineering, School of Medicine, Tsinghua University, Beijing, China; [3]Department of engineering physics, Tsinghua University, Beijing, China

2607. Fast Reconstruction of 3D LGE Images of the Left Atrium in a Compressed Sensing Framework Using Split Bregman
Srikant Kamesh Iyer[1, 2], Tolga Tasdizen[3], Nathan Burgon[4], Ganesh Adluru[2], Edward V.R. DiBella[2]
[1]Electrical and Computer Engineering, University of Utah, Salt Lake City, UT, United States; [2]UCAIR/Radiology, University of Utah, Salt Lake City, UT, United States; [3]SCI, University of Utah, Salt Lake City, Salt Lake City, UT, United States; [4]CARMA, Department of Internal Medicine, University of Utah, Salt Lake City, Salt Lake City, UT, United States

2608. Fast Non-Convex Statistical Compressed Sensing MRI Reconstruction Based on Approximated Lp(0<p<1))-Qusi-Norm with Fewer Measurements Than Using L1-Norm

Il Yong Chun[1], Thomas Talavage[1, 2]
[1]School of Electrical and Computer Engineering, Purdue University, West Lafayette, IN, United States; [2]Weldon School of Biomedical Engineering, Purdue University, West Lafayette, IN, United States

2609. Empirical Investigation of the Gardner Transform as a Sparsifying Transform for the Analysis of a New Class of Signals Using Compressed Sensing

Jordan Woehr[1], Michael Smith[1, 2]
[1]Electrical and Computer Engineering, University of Calgary, Calgary, Alberta, Canada; [2]Radiology, University of Calgary, Calgary, Alberta, Canada

ISMRM MERIT AWARD magna cum laude

2610. PROMISE: Parallel Reconstruction with Optimized Acquisition for Multi-Contrast Imaging in the Context of Compressed Sensing

Enhao Gong[1], Feng Huang[2], Kui Ying[3], Wenchuan Wu[4], Shi Wang[3], Chun Yuan[4, 5], George Randy Duensing[6]
[1]Electrical Engineering, Stanford University, Stanford, CA, United States; [2]Philips Healthcare, Shanghai, China; [3]Department of Engineering Physics, Tsinghua University, Beijing, China; [4]Center for Biomedical Imaging Research, Department of Biomedical Engineering, Tsinghua University, Beijing, China; [5]Department of Radiology, University of Washington, Seattle, WA, United States; [6]Philips Healthcare, Gainesville, FL, United States

2611. Pseudo-Random Center Placement O-Space Imaging: Optimizing Incoherence for Compressed Sensing

Leo K. Tam[1], Gigi Galiana[2], Jason P. Stockmann[3], Andrew Dewdney[3], Terence W. Nixon[2], Dana C. Peters[2], Robert Todd Constable[2, 5]
[1]Biomedical Engineering, Yale University, New Haven, CT, United States; [2]Diagnostic Radiology, Yale University, New Haven, CT, United States; [3]Martinos Center, Massachusetts General Hospital, Boston, MA, United States; [4]Siemens AG Healthcare, Erlangen, Bavaria, Germany; [5]Neurosurgery, Yale University, New Haven, CT, United States

2612. Ultra-Fast Variable Density Spiral Imaging Technique Using Multiscale CORNOL Reconstruction

Sheng Fang[1], Wenchuan Wu[2], Kui Ying[3], Hua Guo[2]
[1]Institute of nulcear and new energy technology, Tsinghua University, Beijing, China; [2]Center for Biomedical Imaging Research, Department of Biomedical Engineering, School of Medicine, Tsinghua University, Beijing, China; [3]Department of engineering physics, Tsinghua University, Beijing, China

2613. Accelerated CEST MRI Using Compressive Sensing and Multishot Spiral Acquisitions

Sampada Bhave[1], Jinsuh Kim[1], Casey P. Johnson[1], Mathews Jacob[1]
[1]University of Iowa, Iowa City, IA, United States

2614. Evaluation of Systematic and Statistical Reconstruction Errors in Compressed Sensing Reconstructions

Daniel Stäb[1], Tobias Wech[1], Dietbert Hahn[1], Herbert Köstler[1]
[1]Institute of Radiology, University of Würzburg, Würzburg, Bavaria, Germany

2615. Quantitative Evaluation of 3D Variational Regularized Reconstruction of Undersampled Diffusion Tensor Imaging

Florian Knoll[1], Rafael O'Halloran[2], Kristian Bredies[3], Rudolf Stollberger[1], Roland Bammer[2]
[1]Institute of Medical Engineering, Graz University of Technology, Graz, Austria; [2]Radiology, Stanford University, Palo Alto, CA, United States; [3]Department of Mathematics and Scientific Computing, University of Graz, Graz, Styria, Austria

2616. Investigating the Quantitative Fidelity of Prospectively Undersampled Chemical Shift Imaging with Compressed Sensing and Parallel Imaging Reconstruction

Kieren Grant Hollingsworth[1], David M. Higgins[2]
[1]Institute of Cellular Medicine, Newcastle University, Newcastle upon Tyne, Tyne and Wear, United Kingdom; [2]Philips Healthcare, Guildford, Surrey, United Kingdom

2617. Residual Reordering for Motion Compensated Compressed Sensing Cardiac Perfusion MR Imaging

Huisu Yoon[1], Ganesh Adluru[2], Edward V.R. DiBella[2], Jong Chul Ye[1]
[1]Department of Bio and Brain Engineering, KAIST, Daejeon, Korea; [2]Utah Center for Advanced Imaging Research, Department of Radiology, University of Utah, Salt Lake City, UT, United States

2618. Accelerated High-Resolution MR Angiography of Fingers with Compressed Sensing
Wingchi Edmund Kwok[1, 2], Yue Hu[3], Zhigang You[1], Mathews Jacob[4]
[1]Department of Imaging Sciences, University of Rochester, Rochester, NY, United States; [2]Rochester Center for Brain Imaging, University of Rochester, Rochester, NY, United States; [3]Department of Electrical and Computer Engineering, University of Rochester, Rochester, NY, United States; [4]Department of Electrical and Computer Engineering, University of Iowa, Iowa City, IA, United States

2619. Lower Extremities Perfusion Imaging with Low-Rank Matrix Completion Reconstruction
Jieying Luo[1], Taehoon Shin[1], Tao Zhang[1], Bob S. Hu[2], Dwight G. Nishimura[1]
[1]Electrical Engineering, Stanford University, Stanford, CA, United States; [2]Palo Alto Medical Foundation, Palo Alto, CA, United States

2620. Accelerated fMRI Using Low-Rank Model and Sparsity Constraints
Fan Lam[1, 2], Bo Zhao[1, 2], Yinan Liu[3], Zhi-Pei Liang[1, 2], Michael Weiner, [3,4], Norbert Schuff[3, 4]
[1]Electrical and Computer Engineering, University of Illinois at Urbana-Champaign, Urbana, IL, United States; [2]Beckman Institute, University of Illinois at Urbana-Champaign, Urbana, IL, United States; [3]Center for Imaging of Neurodegenerative Diseases, Department of Veteran Affairs Medical Center, San Francisco, CA, United States; [4]Department of Radiology and Biomedical Imaging, University of California, San Francisco, CA, United States

2621. Bayesian Compressive Sensing of Multishell HARDI for CSA-ODF Reconstruction
Julio Duarte-Carvajalino[1], Christophe Lenglet[1], Junqian Xu[2], Essa S. Yacoub[1], Kamil Ugurbil[1], Steen Moeller[1], Lawrence Carin[3], Guillermo Sapiro[3]
[1]Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, MN, United States; [2]Mount Sinai School of Medicine, New York, NY, United States; [3]Dept. of Electrical and Computer Engineering, Duke University, Durham, NC, United States

2622. Accelerated Myocardial Perfusion MRI Using Motion Compensated Compressed Sensing (MC-CS)
Sajan Goud Lingala[1], Edward V.R. DiBella[2], Mathews Jacob[1]
[1]The University of Iowa, Iowa city, IA, United States; [2]University of Utah, Salt lake city, UT, United States

2623. Model-Based Reconstruction for Physiological Noise Correction in Functional MRI
Matthew J. Muckley[1, 2], Scott J. Peltier[1, 2], Douglas C. Noll[1, 2], Jeffrey A. Fessler[3]
[1]Biomedical Engineering, University of Michigan, Ann Arbor, MI, United States; [2]Functional MRI Laboratory, University of Michigan, Ann Arbor, MI, United States; [3]Electrical Engineering and Computer Science, University of Michigan, Ann Arbor, MI, United States

2624. Fast 3D DCE-MRI with Sparsity and Low-Rank Enhanced SPIRiT (SLR-SPIRiT)
Tao Zhang[1], Marcus T. Alley[2], Michael Lustig[3], Xiaodong Li[4], John Pauly[1], Shreyas S. Vasanawala[2]
[1]Electrical Engineering, Stanford University, Stanford, CA, United States; [2]Radiology, Stanford University, Stanford, CA, United States; [3]Electrical Engineering and Computer Sciences, UC Berkeley, Berkeley, CA, United States; [4]Mathematics, Stanford University, Stanford, CA, United States

2625. Application of Compressed Sensing to Minimize Pulsation Artifacts and Distortions in High Resolution Time-Of-Flight Imaging at 7 Tesla MRI
Anders Garpebring[1], Maarten J. Versluis[2, 3], Matthias J.P. van Osch[2, 3]
[1]Radiation Sciences, Umeå University, Umeå, Sweden, Sweden; [2]Radiology, Leiden University Medical Center, Leiden, Zuid-Holland, Netherlands; [3]CJ Gorter Center for high field MRI, Leiden University Medical Center, Leiden, Zuid-Holland, Netherlands

2626. Improved Compressed Sensing Using Parallel Imaging: TGRAPPA-PRISM for Cardiac Cine MRI
Da Wang[1], Stanislas Rapacchi, Hao Gao[2], Peng Hu[3]
[1]Biomedical Physics/Radiological Sci, UCLA, Los Angeles, CA, United States; [2]Emory University, Atlanta, GA, United States; [3]University of California Los Angeles, Los Angeles, CA, United States

2627. Sparsity-Enforced Kalman Filter Technique for Dynamic Cardiac Imaging
MingJian Hong[1], Feng Liu[2], XiaoHong Zhang[1], YongXin Ge[1]
[1]School of Software Engineering, ChongQing University, ChongQing, China; [2]School of Information Technology & Electrical Engineering, The University of Queensland, Brisbane, Queensland, Australia

2628. Wavelet Based Multiscale Selection CS Reconstruction for Multi-Contrast MR Images
Sehoon Lim[1], Dosik Hwang[2]
[1]SRI International Sarnoff, Princeton, NJ, United States; [2]School of Electrical and Electronic Engineering, Yonsei University, Seoul, Korea

Traditional Poster
Image Reconstruction: Non-Cartesian & Parallel Imaging

Exhibition Hall Wednesday 10:00-12:00

2629. Phase Contrast (PC) MR Image Reconstruction Using Complex Expectation Maximization (EM)
Joonsung Choi[1], Yeji Han[1], HyunWook Park[1]
[1]Department of Electrical Engineering, Korean Advanced Institute of Science and Technology (KAIST), Daejeon, Korea

2630. nuFFTW: A Parallel Auto-Tuning Library for Performance Optimization of the NuFFT
Mark Murphy[1], Michal Zarrouk[2], Kurt Keutzer[2], Michael Lustig[2]
[1]Google, Mountain View, CA, United States; [2]EECS, UC Berkeley, Berkeley, CA, United States

2631. 3D Through-Time Radial GRAPPA with In-Plane and Through-Plane Acceleration
Jesse I. Hamilton[1], Katherine L. Wright[1], Kestutis Barkauskas[1], Vikas Gulani[2], Nicole Seiberlich[1]
[1]Biomedical Engineering, Case Western Reserve University, Cleveland, OH, United States; [2]Radiology, Case Western Reserve University, Cleveland, OH, United States

2632. Exploring the Bandwidth Limits of ZTE Imaging
Markus Weiger[1], David Otto Brunner[1], Martin Tabbert[2], Matteo Pavan[1], Thomas Schmid[1], Klaas P. Pruessmann[1]
[1]Institute for Biomedical Engineering, University and ETH Zurich, Zurich, Switzerland; [2]Bruker BioSpin MRI GmbH, Ettlingen, Germany

2633. Voxel Function and Signal-To-Noise Ratio (SNR): What Are the Optimal Reconstruction Method and Sampling Strategy in SENSE Imaging?
Marcel Gutberlet[1], Mario Zeller[2], Frank Wacker[1], Herbert Köstler[2]
[1]Institute of Radiology, Medical School Hannover, Hannover, Lower Saxony, Germany; [2]Institute of Radiology, University of Würzburg, Würzburg, Bavaria, Germany

2634. Non-Iterative Bayesian Reconstruction Algorithm for Undersampled MRI Data
Gengsheng Lawrence Zeng[1], Edward V.R. DiBella[1]
[1]Radiology, University of Utah, Salt Lake City, UT, United States

2635. Symmetric Vs. Asymmetric Undersampling in 3D Cones Imaging
Michael Carl[1], James H. Holmes[2], Graeme C. McKinnon[3]
[1]GE Healthcare, San Diego, CA, United States; [2]GE Healthcare, Madison, WI, United States; [3]GE Healthcare, Waukesha, WI, United States

2636. Accelerated 3D Radial Imaging with 3D Variational Regularization
ISMRM MERIT AWARD magna cum laude
Florian Knoll[1], Kai Tobias Block[2], Kristian Bredies[3], Clemens Diwoky[1], Leon Axel[4], Daniel K. Sodickson[4], Rudolf Stollberger[1]
[1]Institute of Medical Engineering, Graz University of Technology, Graz, Styria, Austria; [2]Center for Biomedical Imaging, NYU Langone Medical Center, New York, NY, United States; [3]Department of Mathematics and Scientific Computing, University of Graz, Graz, Styria, Austria; [4]Center for Biomedical Imaging, New York University School of Medicine, New York, NY, United States

2637. Multi-Contrast JSENSE
Xiaodong Ma[1], Feng Huang[2], Chun Yuan[1, 3], George Randy Duensing[4], Hua Guo[1]
[1]Center for Biomedical Imaging Research, Department of Biomedical Engineering, School of Medicine, Tsinghua University, Beijing, China; [2]Philips Healthcare, Beijing, China; [3]Department of Radiology, University of Washington, Seattle, WA, United States; [4]Philips Healthcare, Gainesville, FL, United States

2638. Augmented JSENSE: Faster Convergence and Less Sensitive to Regularization Parameter
Meng Liu[1], Yunmei Chen[1], Yuyuan Ouyang[1], Xiaojing Ye[2], Xiaodong Ma[3], Feng Huang[4]
[1]Department of Mathematics, University of Florida, Gainesville, FL, United States; [2]School of Mathematics, Georgia Institute of Technology, Atlanta, GA, United States; [3]Center for Biomedical Imaging Research, Department of Biomedical Engineering, Tsinghua University, Beijing, China; [4]Philips Healthcare, Shanghai, China

2639. Parallel Imaging by Multi-Band Spatiotemporal Encoding and a Combined Super-Resolved / SENSE Reconstruction
Rita Schmidt[1], Bikash Baishya[1], Noam Ben-Eliezer[2], Amir Seginer[1], Lucio Frydman[1]
[1]Chemical Physics, Weizmann Institute of Science, Rehovot, Israel; [2]Center for Biomedical Imaging, New York University, New York, NY, United States

2640. GPU-Enabled Individualized Acceleration Apportionment for SENSE and CAIPIRINHA
Eric A. Borisch[1], Paul T. Weavers[1], Stephen J. Riederer[1]
[1]Mayo Clinic, Rochester, MN, United States

2641. A Dictionary-Based Graph Cut Algorithm for MRI Reconstruction
Jiexun Xu[1], Nicolas Pannetier[2], Ashish Raj[3]
[1]Department of Computer Science, Cornell University, Ithaca, NY, United States; [2]Department of Radiology and Department of Veterans Affairs Medical Center, University of California at San Francisco, San Francisco, CA, United States; [3]Department of Radiology, Weill Medical College of Cornell University, New York, NY, United States

2642. Improved Balance of Artifact/noise Level and Fine Structure Preservation in Highly Accelerated PPI
Dengrong Jiang[1], Kui Ying[1], Feng Huang[2]
[1]Engineering Physics, Tsinghua University, Beijing, China; [2]Philips Healthcare, Beijing, China

2643. Efficient Non-Cartesian SPIRiT Without Explicit Consecutive Regridding and Gridding
Claudio Santelli[1, 2], Tobias Schaeffter[1], Sebastian Kozerke, [12]
[1]Imaging Sciences and Biomedical Engineering, King's College London, London, United Kingdom; [2]Institute for Biomedical Engineering, University and ETH Zurich, Zurich, Switzerland

2644. Improved Compressed Sensing and Parallel MRI Through the Generalized Series Modeling
Xi Peng[1, 2], Leslie Ying[3], Xin Liu[1, 4], Dong Liang[1, 2]
[1]Paul C. Lauterbur Research Centre for Biomedical Imaging, Shenzhen Institutes of Advanced Technology, Shenzhen, Guangdong, China; [2]Key Laboratory of Health Informatics, Chinese Academy of Sciences, Shenzhen, Guangdong, China; [3]Department of Biomedical Engineering, Department of Electrical Engineering, The State University of New York at Buffalo, Buffalo, NY, United States; [4]Key Laboratory of Health Informatics , Chinese Academy of Sciences, Shenzhen, Guangdong, China

2645. Memory-Saving Iterative Reconstruction on Overlapping Blocks of K-Space
Martin Uecker[1], Michael Lustig[1]
[1]Electrical Engineering and Computer Sciences, University of California, Berkeley, Berkeley, CA, United States

2646. Sequential-Segment Multi-Shot Auto-Calibration for GRAPPA EPI: Maximizing Temporal SNR and Reducing Motion Sensitivity
Jonathan R. Polimeni[1], Himanshu Bhat[2], Thomas Benner[3], Thorsten Feiweier[4], Souheil J. Inati[5], Thomas Witzel[1], Keith A. Heberlein[6], Lawrence L. Wald[1, 7]
[1]A.A. Martinos Center for Biomedical Imaging, Department of Radiology, Harvard Medical School, Massachusetts General Hospital, Charlestown, MA, United States; [2]Siemens Medical Solutions, Charlestown, MA, United States; [3]Siemens AG, Healthcare Sector, Erlangen, Bavaria, Germany; [4]Siemens AG, Erlangen, Bavaria, Germany; [5]National Institute of Mental Health, Bethesda, MD, United States; [6]Siemens Healthcare USA, Charlestown, MA, United States; [7]Harvard-MIT Division of Health Sciences and Technology , MIT, Cambridge, MA, United States

2647. A G-Factor Metric for K-T SENSE and K-T PCA
Christian Binter[1], Rebecca Ramb[2], Bernd Jung[3], Sebastian Kozerke[1, 4]
[1]Institute for Biomedical Engineering, University and ETH Zurich, Zurich, Switzerland; [2]Dept. of Radiology, Medical Physics , University Medical Center , Freiburg, Germany; [3]Dept. of Radiology, Medical Physics , University Medical Center, Freiburg, Germany; [4]Imaging Sciences and Biomedical Engineering, King's College London, London, United Kingdom

2648. Dynamic Parallel-Imaging Reconstruction with Image-Block Dictionaries
Eric Y. Pierre[1], Nicole Seiberlich[1], Vidya Nadig[2], Mark A. Griswold[3]
[1]Biomedical Engineering, Case Western Reserve University, Cleveland, OH, United States; [2]Heart and Vascular Center, MetroHealth Campus of Case Western Reserve University, Cleveland, OH, United States; [3]Radiology, Case Western Reserve University, Cleveland, OH, United States

2649. Optimal Reconstruction Method of SENSE Imaging Depending on the Desired Voxel Function
Marcel Gutberlet[1], Frank Wacker[1], Herbert Köstler[2]
[1]Institut of Radiology, Medical School Hannover, Hannover, Lower Saxony, Germany; [2]Institute of Radiology, University of Würzburg, Würzburg, Bavaria, Germany

2650. Multi-Scale Subband Weighted Partially Parallel Imaging
Suhyung Park[1], Jaeseok Park[1]
[1]Department of Brain and Cognitive Engineering, Korea University, Seoul, Korea

2651. Quantitative G-Factor Calculation in K-T-GRAPPA Reconstructions
Rebecca Ramb[1], Christian Binter[2], Felix A. Breuer[3], Gerrit Schultz[1], Maxim Zaitsev[1], Sebastian Kozerke[2, 4], Bernd Jung[1]
[1]Dept. of Radiology, Medical Physics, University Medical Center, Freiburg, Germany; [2]Institute for Biomedical Engineering, University and ETH Zurich, Zurich, Switzerland; [3]MRB Research Center, Würzburg, Germany; [4]Imaging Sciences and Biomedical Engineering, King's College London, London, United Kingdom

2652. Elora: Enforcing Low Rank for Parallel MR Reconstruction
Jun Liu[1], Axel Loewe[1], Michael O. Zenge[2], Alban Lefebvre[1], Edgar Mueller[2], Mariappan S. Nadar[1]
[1]Imaging and Computer Vision, Siemens Corporation, Corporate Technology, Princeton, NJ, United States; [2]MR Application & Workflow Development, Siemens AG, Healthcare Sector, Erlangen, Bavaria, Germany

2653. A Random Projection Approach to Highly Efficient GRAPPA Reconstruction
Jingyuan Lyu[1], Yuchou Chang[2], Leslie Ying[1]
[1]Department of Biomedical Engineering, Department of Electrical Engineering, The State University of New York at Buffalo, Buffalo, NY, United States; [2]Department of Electrical Engineering and Computer Science, University of Wisconsin-Milwaukee, Milwaukee, WI, United States

2654. An Efficient Variable Splitting Based Algorithm for Regularized SENSE Reconstruction with Support Constraint
Mai T. Le[1], Sathish Ramani[1], Jeffrey A. Fessler[1]
[1]EECS, University of Michigan, Ann Arbor, MI, United States

2655. Edge-Preserving Non-Iterative MAP SENSE MRI Reconstruction
Il Yong Chun[1], Thomas Talavage[1, 2]
[1]School of Electrical and Computer Engineering, Purdue University, West Lafayette, IN, United States; [2]Weldon School of Biomedical Engineering, Purdue University, West Lafayette, IN, United States

2656. Sparse Tikhonov-Regularized SENSE MRI Reconstruction
Il Yong Chun[1], Thomas Talavage[1, 2]
[1]School of Electrical and Computer Engineering, Purdue University, West Lafayette, IN, United States; [2]Weldon School of Biomedical Engineering, Purdue University, West Lafayette, IN, United States

2657. ESPIRIT-Based Coil Compression for Cartesian Sampling
Dara Bahri[1], Martin Uecker[1], Michael Lustig[1]
[1]Electrical Engineering and Computer Sciences, University of California, Berkeley, Berkeley, CA, United States

2658. Improved Temporal SNR of Accelerated EPI Using a FLASH Based GRAPPA Reference Scan
S. Lalith Talagala[1], Joelle E. Sarlls[1], Souheil J. Inati[2]
[1]NMRF/NINDS, National Institutes of Health, Bethesda, MD, United States; [2]FMRIF/NIMH, National Institues of Health, Bethesda, MD, United States

2659. Simultaneous Channel Compression and Noise Suppression in Parallel MRI
Yuchou Chang[1], Dong Liang[2], Leslie Ying[3]
[1]Electrical Engineering, University of Wisconsin - Milwaukee, Milwaukee, WI, United States; [2]Paul C. Lauterbur Research Centre for Biomedical Imaging, Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences, Shenzhen, Guangdong, China; [3]Department of Biomedical Engineering, Department of Electrical Engineering, State University of New York at Buffalo, Buffalo, NY, United States

2660. Comparison of an Iterative GRAPPA Method to Compressed Sensing
Lawrence Dougherty[1], Walter R.T. Witschey[2], Robert M, King[1], Gamaliel Isaac[1]
[1]Radiology, University of Pennsylvania, Philadelphia, PA, United States; [2]Surgery, University of Pennsylvania, Philadelphia, PA, United States

2661. Dynamic Multiband Calibration for Improved Signal Fidelity
Steen Moeller[1], Edward J. Auerbach[1], Junqian Xu[1], Christophe Lenglet[1], kamil Ugurbil[1], Essa S. Yacoub[1]
[1]Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, MN, United States

Traditional Poster
Image Reconstruction & Analysis

Exhibition Hall Wednesday 10:00-12:00

2662. Discrete Tomography in MRI: A Proof of Concept
Hilde Segers[1], Willem Jan Palenstijn[1], Kees Joost Batenburg, [12], Jan Sijbers[1]
[1]Vision Lab - dept. Physics, Universiteit Antwerpen, Antwerpen, Belgium; [2]Center for Mathematics and Informatics, Amsterdam, Noord-Holland, Netherlands

2663. Single Shot Multi-Dimensional Imaging Using Magnetic Field Monitoring and Including Maxwell Terms
Frederik Testud[1], Daniel Gallichan[2], Kelvin J. Layton[3], Anna M. Welz[1], Christoph Barmet[4], Chris A. Cocosco[1], Jürgen Hennig[1], Klaas P. Pruessmann[4], Maxim Zaitsev[1]
[1]Medical Physics, University Medical Center Freiburg, Freiburg, Germany; [2]Centre d'Imagerie BioMédicale, Ecole Polytéchnique Fédérale de Lausanne, Lausanne, Switzerland; [3]Electrical & Electronic Engineering, University of Melbourne, Parkville, Victoria, Australia; [4]Institute for Biomedical Engineering, University and ETH Zürich, Zürich, Switzerland

2664. Flexible Spatial Encoding Strategies Using Rotating Multipolar Fields for Unconventional MRI Applications
Jason P. Stockmann[1, 2], Clarissa Zimmerman[3], Matthew S. Rosen, [12], Lawrence L. Wald[1]
[1]Athinoula A. Martinos Center for Biomedical Imaging, Department of Radiology, Massachusetts General Hospital, Charlestown, MA, United States; [2]Department of Physics, Harvard University, Cambridge, MA, United States; [3]Electrical Engineering, Massachusetts Institute of Technology, Cambridge, MA, United States

2665. Quantitative Evaluation of Non-Linear Reconstruction Methods in MRI
Matthias Schloegl[1], Florian Knoll[1], Katharina Gruber[1], Franz Ebner[2], Rudolf Stollberger[1]
[1]Institute for medical Engineering, TU Graz, Graz, Austria; [2]Universitätsklinik für Radiologie, Medizinische Universität Graz, Graz, Austria

2666. Automatic Model Recovery for MRSI Reconstruction
Jeffrey Adam Kasten[1, 2], François Lazeyras[2], Dimitri Van de Ville[1, 2]
[1]Institute of Bioengineering, Ecole Polytechnique Fédérale de Lausanne, Lausanne, VD, Switzerland; [2]Department of Radiology and Medical Informatics, Université de Genève, Geneva, GE, Switzerland

2667. Fast Diffusion-Guided QSM Using Graphical Processing Units
Owen L. Kaluza[1], Amanda C. L. Ng[2, 3], David K. Wright[4, 5], Leigh A. Johnston, [56], John Grundy[7], David G. Barnes[2]
[1]Monash e-Research Centre, Monash University, Clayton, Victoria, Australia; [2]Monash Biomedical Imaging, Monash University, Clayton, Victoria, Australia; [3]Department of Electrical & Electronic Engineering, The University of Melbourne, Parkville, Victoria, Australia; [4]Centre for Neuroscience, The University of Melbourne, Parkville, Victoria, Australia; [5]Florey Institute of Neuroscience and Mental Health, Parkville, Victoria, Australia; [6]NeuroEngineering Laboratory, Dept. Electrical & Electronic Engineering, The University of Melbourne, Parkville, Victoria, Australia; [7]Centre for Complex Software Systems and Services, Swinburne University of Technology, Hawthorn, Victoria, Australia

2668. Predicting Image Quality of Under-Sampled Data Reconstruction in the Presence of Noise
Patrick Virtue[1], Martin Uecker[1], Michael Elad[2], Michael Lustig[1]
[1]Electrical Engineering and Computer Sciences, University of California, Berkeley, Berkeley, CA, United States; [2]Computer Science, Technion - Israel Institute of Technology, Haifa, Israel

2669. An Estimation Method for Improved Reconstruction of MR Signal Parameters in Unilateral Scanner
Elad Bergman[1], Arie Yeredor[1], Uri Nevo[1]
[1]Tel-Aviv University, Tel Aviv, Israel

2670. Optimization and Acceleration of Multi-Band EPI Reconstruction Using the Reduced Reference K-Space Window
Wanyong Shin[1], Erik B. Beall[1], Mark J. Lowe[1]
[1]Radiology Dept., Cleveland Clinic, Cleveland, OH, United States

2671. Optimized Dynamic Contrast-Enhanced Imaging by View-Sharing PROPELLER
Tzu-Chao Chuang[1], Hing-Chiu Chang[2], Hsuan-Hung Huang[1], Ming-Ting Wu[3, 4]
[1]Electrical Engineering, National Sun Yat-Sen University, Kaohsiung, Taiwan, Taiwan; [2]Brain Imaging and Analysis Center, Duke University, Durham, NC, United States; [3]School of Medicine, National Yang-Ming University, Taipei, Taiwan, Taiwan; [4]Radiology, Kaohsiung Veteran General Hospital, Kaohsiung, Taiwan, Taiwan

2672. A Solution to the Phase Problem in Adaptive Coil Combination
Souheil J. Inati[1], Michael Schacht Hansen[2], Peter Kellman[2]
[1]National Institute of Mental Health, National Institutes of Health, Bethesda, MD, United States; [2]National Heart Lung and Blood Institute, National Institutes of Health, Bethesda, MD, United States

2673. Efficient Algorithm of B_0 Drift Correction in Time Series of Phase Images
Andrzej Jesmanowicz[1]
[1]Biophysics, Medical College of Wisconsin, Milwaukee, WI, United States

2674. An Eigen-Vector Approach for Coil Sensitivity Estimation in the 3D Scenario
Qiu Wang[1], Jun Liu[1], Michael O. Zenge[2], Nirmal Janardhanan[1], Edgar Mueller[2], Mariappan S. Nadar[1]
[1]Imaging and Computer Vision, Siemens Corporation, Corporate Technology, Princeton, NJ, United States; [2]MR Application & Workflow Development, Siemens AG, Healthcare Sector, Erlangen, Bavaria, Germany

2675. Reduction of Remained Artifacts in Alias-Free Reconstruction of MR Images
Satoshi Ito[1], Yoshifumi Yamada[1]
[1]Research Division of Intelligence and Information Sciences, Utsunomiya University, Utsunomiya, Tochigi, Japan

2676. A Generalized Series Approach to Sparsely-Sampled fMRI
Hien Nguyen[1], Gary H. Glover[1]
[1]Department of Radiology, Stanford University, Palo Alto, CA, United States

2677. High Resolution T2-Weighted Imaging with Whole Brain Coverage at 7 Tesla Using Multiband Slice Accelerated Spin Echo
Dingxin Wang[1, 2], Joseph Vu[2], Essa S. Yacoub[2], Kamil Ugurbil[2], Vibhas Deshpande[3]
[1]Siemens Medical Solution USA, Inc., Minneapolis, MN, United States; [2]Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, MN, United States; [3]Siemens Medical Solutions USA, Inc., Austin, TX, United States

2678. Evaluation of Multi-Band EPI in Resting State and Task fMRI Studies
Wanyong Shin[1], Erik B. Beall[1], Mark J. Lowe[1]
[1]Radiology Dept., Cleveland Clinic, Cleveland, OH, United States

2679. Multiplexed EPI at 9.4T with PSF-Based Distortion Correction
Seong Dae Yun[1], Nadim Jon Shah[1, 2]
[1]Institute of Neuroscience and Medicine - 4, Forschungszentrum Jülich, Jülich, Germany; [2]JARA - Faculty of Medicine, RWTH Aachen University, Aachen, Germany

2680. Fully-Refocused Multi-Slice Ultrafast 3D MRI by Spatiotemporal Encoding
Rita Schmidt[1], Lucio Frydman[1]
[1]Chemical Physics, Weizmann Institute of Science, Rehovot, Israel

2681. Comprehensive Theoretical and Experimental Analysis of the Parametric Framework and SNR of Super-Resolved Spatiotemporally-Encoded (SPEN) MRI
Noam Ben-Eliezer[1], Lucio Frydman[2], Daniel K. Sodickson[1]
[1]Bernard and Irene Schwartz Center for Biomedical Imaging, Department of Radiology, New York University School of Medicine, New York, NY, United States; [2]Department of Chemical Physics, Weizmann Institute of Science, Rehovot, Israel

2682. *in vivo* Single-Scan 3D Spectroscopic Imaging by Spatiotemporal Encoding
Rita Schmidt[1], Lucio Frydman[1]
[1]Chemical Physics, Weizmann Institute of Science, Rehovot, Israel

2683. Prospective Compressed Sensing Accelerated Spectroscopic Imaging for Use in Geometrically Accurate *in vivo* Imaging
Joost van Gorp[1], Job G. Bouwman[1], Chris J.G. Bakker[1], Peter R. Seevinck
[1]Image Sciences Institute, UMC Utrecht, Utrecht, Netherlands

2684. A Novel Golden-Angle Radial FLASH Motion-Estimation Sequence for Simultaneous Thoracic PET-MR
Chuan Huang[1], Joyita Dutta[1], Yoann Petibon[1], Timothy G. Reese[2], Quanzheng Li[1], Ciprian Catana[2], Georges El Fakhri[1]
[1]Center for Advanced Radiological Sciences, Department of Radiology, Massachusetts General Hospital, Boston, MA, United States; [2]AA Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Charlestown, MA, United States

2685. Preliminary Study of Resuability of Optimized Trajectory for SENSE
Dan Zhu[1], Zhengwei Zhou[2], Feng Huang[3], Kui Ying[4]
[1]Department of Biomedical Engineering, Tsinghua, Beijign, China; [2]Department of Biomedical Engineering, Tsinghua, Beijing, China; [3]Philips Healthcare, Beijing, China; [4]Department of Engineering Physics, Tsinghua, Beijing, China

2686. Interpolated Parallel Imaging Compressed Sensing
Yong Pang[1], Xiaoliang Zhang[1, 2]
[1]Radiology & Biomedical Imaging, University of California San Francisco, San Francisco, CA, United States; [2]UC Berkeley/UCSF Joint Graduate Group in Bioengineering, Berkeley & San Francisco, CA, United States

Traditional Poster
Advances in Image Analysis

Exhibition Hall Wednesday 10:00-12:00

2687. Cuvature-Based Biomarkers for Dyslexia: T1-Image Based Surface Analysis Shows Statistically Separable Dyslexic Features
Rudolph Pienaar[1, 2], Kiho Im[3, 4], Mathieu Dehaes[3, 4], Sara Smith[5], Barbara Peysakhovic[5], Bryce Becker[5], Nora M. Raschle[5], Patricia Ellen Grant,[2, 6], Nadine Gaab,[4, 5]
[1]Radiology, Children's Hospital Boston, Boston, MA, United States; [2]Radiology, Harvard Medical School, Boston, MA, United States; [3]Newborn Medicine, Children's Hospital Boston, Boston, MA, United States; [4]Pediatrics, Harvard Medical School, Boston, MA, United States; [5]Developmental Medicine, Children's Hospital Boston, Boston, MA, United States; [6]Radiology, Boston Children's Hospital, Boston, MA, United States

2688. Detection of Mild Traumatic Brain Injury Utilizing Multifeature Analysis of MRI
Yongxia Zhou[1], Yao Wang[2], Damon Kenul[3], Yuanyi Xue[2], Yulin Ge[3], Joseph Reaume[3], Robert I. Grossman[4], Yvonne W. Lui[3]
[1]Radiology/Center for Biomedical Imaging, New York University Langone Medical Center, New York, NY, United States; [2]Electrical & Computer Engineering, Polytechnic Institute of New York University, Brooklyn, NY, United States; [3]Radiology/Center for Biomedical Engineering, New York University Langone Medical Center, New York, NY, United States; [4]Radiology/Center for Biomedical Engineering, New York University, New York, NY, United States

2689. Surface and Voxel-Based Analysis of Multi-Modal Quantitative MRI for Pre-Surgical Evaluation of Epilepsy Patients
Ali R. Khan[1], Maged Goubran[1], Sandrine de Ribaupierre[2], Terry Peters[1]
[1]Robarts Research Institute, London, ON, Canada; [2]Clinical Neurological Sciences, Western University, London, ON, Canada

2690. Support Vector Machines Detect Huntington's Gene Effects in Mouse Brain Images with >98% Accuracy
Stephen J. Sawiak[1, 2], A Jennifer Morton[3], T. Adrian Carpenter[1]
[1]Wolfson Brain Imaging Centre, University of Cambridge, Cambridge, England, United Kingdom; [2]Behavioural and Cognitive Neuroscience Institute, University of Cambridge, Cambridge, England, United Kingdom; [3]Department of Pharmacology, University of Cambridge, Cambridge, England, United Kingdom

2691. Software Tools for Anatomical ROI-Based Connectivity Analysis
David W. Shattuck[1], Anand A. Joshi[2], Justin P. Haldar[2], Chitresh Bhushan[2], Soyoung Choi[3], Andrew C. Krause[1], Jessica L. Wisnowski[4, 5], Arthur W. Toga[1], Richard M. Leahy[2]
[1]Laboratory of Neuro Imaging, University of California, Los Angeles, Los Angeles, CA, United States; [2]Signal and Image Processing Institute, University of Southern California, Los Angeles, CA, United States; [3]Dana and David Dornsife Cognitive Neuroscience Imaging Institute, University of Southern California, Los Angeles, CA, United States; [4]Brain and Creativity Institute, University of Southern California, Los Angeles, CA, United States; [5]Radiology, Children's Hospital of Pittsburgh of UPMC, Pittsburgh, PA, United States

2692. Separation of Signal and Noise in Dynamic MRI Data Using the Kolmogorov-Smirnov Test
David S. Smith[1], Stephanie Barnes[1], Thomas E. Yankeelov[1]
[1]Vanderbilt University, Nashville, TN, United States

2693. Are Two Samples of Parametric Maps Statistically Different? Indexed Distribution Analysis (IDA) Can Provide Better Inferences Than Conventional and Histogram Analysis Methods
Chris J. Rose[1], James P. O'Connor[1, 2], Tim F. Cootes[1], Chris J. Taylor[1], Gordon C. Jayson[3], Geoff J. M. Parker[1], John C. Waterton[1, 4]
[1]Center for Imaging Sciences, Manchester Academic Health Science Center, The University of Manchester, Manchester, Greater Manchester, United Kingdom; [2]Department of Radiology, The Christie, Manchester, Greater Manchester, United Kingdom; [3]Department of Medical Oncology, The Christie, Manchester, Greater Manchester, United Kingdom; [4]AstraZeneca, Alderley Park, Cheshire, United Kingdom

2694. Nonlinear Normalization of Magnetization Transfer Ratio Images for Multi-Centre Clinical Trials
Robert Allan Brown[1], Sridar Narayanan[1], Douglas L. Arnold[1]
[1]Montreal Neurological Institute, McGill University, Montreal, QC, Canada

2695. Non-Uniformity Normalization Using 3D Canny Edges and Legendre Polynomial Approximation of the Bias Field: Validation on 7T T1W Brain Images
Artem V. Mikheev[1], Henry Rusinek[1], Graham Wiggins[1]
[1]Radiology, NYU Langone Medical Center, New York, NY, United States

2696. MRI TGV Based Super-Resolution
Adrian Martin[1, 2], Antonio Marquina[3], Juan Antonio Hernandez-Tamames[1, 2], Pablo Garcia-Polo[1, 2], Emanuele Schiavi, [24]
[1]Electronics, Rey Juan Carlos University, Mostoles, Madrid, Spain; [2]Alzheimer's Project, Queen Sofia Foundation - CIBERNED, Madrid, Spain; [3]Applied Mathematics, Valencia University, Burjassot, Comunidad Valenciana, Spain; [4]Applied Mathematics, Rey Juan Carlos University, Mostoles, Madrid, Spain

2697. Z Spectral Analysis for the Quantification of Multiple Slow-Exchanging Metabolites
Kejia Cai[1], Anup Singh[1], Mohammad Haris[1], Ravi Prakash Reddy Nanga[1], Ranjit Ittyerah[1], Damodar Reddy[1], Harish Poptani[1], Hari Hariharan[1], Ravinder Reddy[1]
[1]University of Pennsylvania, Philadelphia, PA, United States

2698. Quantification of Inhomogeneous Iron Oxide Uptake in a Model of AIA in Rat.
Lindsey Alexandra Crowe[1], Azza Gramoun[1], Wolfgang Wirth[2], Frank Tobalem[3], Kerstin Grosdemange[4], Jatuporn Salaklang[5], Anthony Redgem[5], Alke Petri-Fink[6], Felix Eckstein[2], Heinrich Hofmann[7], Jean-Paul Vallée[1]
[1]Radiology / Faculty of Medicine, Geneva University Hospital, Geneva, Switzerland; [2]Institute of Anatomy and Musculoskeletal Research, Paracelsus Medical University, Salzburg, Austria; [3]Radiology, Centre Hospitalier Universitaire Vaudois, Lausanne, Switzerland; [4]Faculty of Medicine, University of Geneva, Geneva, Switzerland; [5]Adolphe Merkle Institute, Université de Fribourg, Fribourg, Switzerland; [6]Adolphe Merkle Institute and Chemistry Departement, Université de Fribourg, Fribourg, Switzerland; [7]Institute of Materials, Powder Technology Laboratory, EPFL, Lausanne, Switzerland

2699. Comparison of Locus Coeruleus Volume Between Gradient Echo and Turbo Spin Echo Sequences Using a Landmark-Based Segmentation Scheme
Jason Langley[1], Daniel Huddleston[2], Sinyeob Ahn[1], Xiangchuan Chen[1], Christopher Barnum[3], Xiaoping P. Hu[1]
[1]Biomedical Engineering, Emory University & Georgia Institute of Technology, Atlanta, GA, United States; [2]Neurology, Emory University, Atlanta, GA, United States; [3]Physiology, Emory University, Atlanta, GA, United States

2700. Automatic Skeletal Muscle Segmentation Through Random Walks with Shape Prior Information
Pierre-Yves Baudin[1, 2], Noura Azzabou[3, 4], Pierre G. Carlier[3, 4], Nikos Paragios[1, 5]
[1]Center for Visual Computing, Ecole Centrale Paris, Châtenay-Malabry, IDF, France; [2]SIEMENS Healthcare, Saint-Denis, IDF, France; [3]Institute of Myology, Paris, IDF, France; [4]I2BM, MIRCen, IdM NMR Laboratory, CEA, Orsay, IDF, France; [5]Equipe Galen, INRIA Saclay, Palaiseau, IDF, France

2701. Automated Technique for the Segmentation of Deep and Superficial Subcutaneous Adipose Tissues: Association with Insulin Sensitivity in Normal and Overweight Chinese Men
Suresh Anand Sadananthan[1, 2], Bhanu Prakash K.N.[3], Melvin K-S Leow[1, 4], ChinMeng Khoo[5], Kavita Venkataraman[2], Eric Khoo Yin Hao[5], Lee Yung Seng[1, 6], Peter Gluckman[1], Tai E Shyong[1, 5], Sendhil S. Velan[1, 7]
[1]Singapore Institute for Clinical Sciences, A*STAR, Singapore; [2]Department of Obstetrics & Gynaecology, National University of Singapore, Singapore; [3]Singapore Bioimaging Consortium, A*STAR, Singapore; [4]Department of Endocrinology, Tan Tock Seng Hospital, Singapore; [5]Department of Medicine, National University of Singapore, Singapore; [6]Department of Pediatrics, National University of Singapore, Singapore; [7]Clinical Imaging Research Centre, A*STAR-NUS, Singapore

2702. Optimizing Correction of Geometric Distortion in MR Images
Radu Mutihac[1, 2], Allen Braun[3], Thomas J. Balkin[2]
[1]Department of Physics, University of Bucharest, Bucharest, Bucharest-Magurele, Romania; [2]Psychiatry & Neuroscience, Department of Behavioral Biology, Walter Reed Army Institute of Research, Silver Spring, MD, United States; [3]Language Section, NIDCD / National Institutes of Health, Bethesda, MD, United States

2703. A Novel Non-Rigid Registration Approach for Accurate Quantification of Dynamic Contrast Enhanced MR Imaging (DCE-MRI) in Ovary Employing Residual Complexity Framework
Anahita Fathi Kazerooni[1, 2], Leila Torbati[3], Mahrooz Malek[3], Hamidreza Saligheh Rad[1, 2]
[1]Quantitative MR Imaging and Spectroscopy Group, Research Center for Cellular and Molecular Imaging, Tehran University of Medical Sciences, Tehran, Iran; [2]Medical Physics and Biomedical Engineering, Tehran University of Medical Sciences, Tehran, Iran; [3]Imaging Center, Imam Khomeini Hospital, Tehran University of Medical Sciences, Tehran, Iran

2704. Hepatic Perfusion Modeling Using DCE-MRI with Sequential Breath Holds
Eric M. Bultman[1], Ethan K. Brodsky[2], Debra E. Horng[3], Pablo Irarrázabal[4], William R. Schelman[5], Walter F. Block[1, 3], Scott B. Reeder[1, 6]
[1]Biomedical Engineering, University of Wisconsin-Madison, Madison, WI, United States; [2]Medical Physics, University of Wisconsin - Madison, Madison, WI, United States; [3]Medical Physics, University of Wisconsin-Madison, Madison, WI, United States; [4]Electrical Engineering, Pontificia Universidad Catolica de Chile, Santiago, Chile; [5]Medicine, University of Wisconsin-Madison, Madison, WI, United States; [6]Radiology, University of Wisconsin-Madison, Madison, WI, United States

2705. Motion Correction in Small Bowel DCE-MRI Using Robust Data Decomposition Registration
Valentin Hamy[1], Shonit Punwani[1], Jesica Makanyanga[1], Stuart Taylor[1], David Atkinson[1]
[1]Centre for Medical Imaging, University College London, London, United Kingdom

2706. rBET: Making BET Work for Rodent Brains
Tobias C. Wood[1], David J. Lythgoe[1], Steven C.R. Williams[1]
[1]Neuroimaging, King's College London, Institute of Psychiatry, London, United Kingdom

Traditional Poster
Gradients & Shimming

Exhibition Hall Wednesday 13:30-15:30

2707. The Effect of Magnet Flanges on Eddy Current Predictions
Dominic Michael Graziani[1], Jean-Baptiste Mathieu[1], Seung-Kyun Lee[1]
[1]GE Global Research, Niskayuna, NY, United States

2708. Preliminary Evaluation of a High Performance Gradient Coil for 3T Head Specialty Scanner
Jean-Baptiste Mathieu[1], Seung-Kyun Lee[1], Eric G. Budesheim[1], Yihe Hua[2], Jian Lin[2], Christopher Immer[1], Silke M. Lechner-Greite[3], Joseph Piel[1], John F. Schenck[1], Matthew A. Bernstein[4], John Huston[4], Thomas K. Foo[1]
[1]Diagnostics and Biomedical Technologies, GE Global Research, Niskayuna, NY, United States; [2]Diagnostics and Biomedical Technologies, GE Global Research, China Technology Center, Pudong, Shanghai, China; [3]Diagnostics and Biomedical Technologies, GE Global Research, Garching, Bavaria, Germany; [4]Radiology Department, Mayo Clinic, Rochester, MN, United States

2709. Sinusoidal PatLoc Imaging Using Matrix Gradient Coils
Sebastian Littin[1], Feng Jia[1], Maxim Zaitsev[1]
[1]Radiology, Medical Physics, University Medical Center Freiburg, Freiburg, Germany

2710. Design of a Low Joule Heating Gradient Coil Conductors
Yukinobu Imamura[1], Mitushi Abe[1], Akira Kurome[2]
[1]Hitachi Research Laboratory, Hitachi,Ltd., Hitachi-shi, Ibaraki-ken, Japan; [2]Hitachi Medical Corp., Kashiwa, Chiba, Japan

2711. AC Resistance Predictions Vs Experimentally Measured Values for a High Performance Head Gradient Coil
Silke M. Lechner-Greite[1], Jean-Baptiste Mathieu[2], Seung-Kyun Lee[3], Bruce C. Amm[4], Thomas K. Foo[3], John F. Schenck[3], Matthew A. Bernstein[5], John Huston[5]
[1]Diagnostics and Biomedical Technologies Europe, GE Global Research Europe, Garching n. Munich, Germany; [2]Electromagnetics and Superconductivity Laboratory, GE Global Research, Niskayuna, NY, United States; [3]Magnetic Resonance Imaging Laboratory, GE Global Research, Niskayuna, NY, United States; [4]Biomedical and Electronic Systems Laboratory, GE Global Research, Niskayuna, NY, United States; [5]Dept of Radiology, Mayo Clinic, Rochester, MN, United States

2712. Development of Gradient Coil Probes for Vertical Wide Bore Superconducting Magnets with Solenoid RF Coils and Optimized Planar Gradient Coils
Masabumi Horiga[1], Kazunori Ishizawa[1], Katsumi Kose[1]
[1]Institute of Applied Physics, University of Tsukuba, Tsukuba, Ibaraki, Japan

2713. Implementation of High-Performance Non-Linear O-Space Gradient Coil for Accelerated Neuroimaging
Leo K. Tam[1], Gigi Galiana[2], Andrew Dewdney[3], William F.B. Punchard[4], Kai-ming Lo[4], Terence W. Nixon[2], John Keiley[4], Dana C. Peters[2], Robert Todd Constable[2]
[1]Biomedical Engineering, Yale University, New Haven, CT, United States; [2]Diagnostic Radiology, Yale University, New Haven, CT, United States; [3]Siemens AG Healthcare, Erlangen, Bavaria, Germany; [4]Resonance Research, Inc., Billerica, MA, United States

2714. Evaluation of an Independent Linear Model for MRI Acoustic Noise and Implications for Acoustic Noise Reduction
Ziyue Wu[1], Yoon-Chul Kim[2], Michael C.K. Khoo[1], Krishna S. Nayak[2]
[1]Department of Biomedical Engineering, University of Southern California, Los Angeles, CA, United States; [2]Deptartment of Electrical Engineering, University of Southern California, Los Angeles, CA, United States

2715. Concurrent Magnetic Field Monitoring of EPI Time Series: Characterizing Encoding Field and Image Fluctuations Using Principal Component Analysis
Saskia Klein[1], Lars Kasper[1], Johanna Vannesjo[1], Maximilian Häberlin[1], Simon Gross[1], Benjamin Dietrich[1], Klaas P. Prüssmann[1]
[1]Institute for Biomedical Engineering, ETH Zurich, Zurich, Switzerland

2716. Analysis of Measurement Precision in Continuous Magnetic Field Monitoring
Benjamin E. Dietrich[1], David Otto Brunner[1], Bertram J. Wilm[1], Christoph Barmet[1, 2], Klaas P. Pruessmann[1]
[1]Institute for Biomedical Engineering, University and ETH Zurich, Zurich, Switzerland; [2]Skope Magnetic Resonance Technologies, Zurich, Switzerland

2717. Matrix Shimming for Whole Body Gradient Coils
Derek A. Seeber[1], Kevin Koch[2], Bernardo Ortega[3]
[1]Engineering, GE Healthcare, Florence, SC, United States; [2]ASL, GE Healthcare, Waukesha, WI, United States; [3]Engineering, GE Healthcare, Apodaca, NL, Mexico

2718. Reliable in Vivo Shimming for Solving Shim Degeneracy and Incorporating System Constaints at High B_0 Fields
Iulius Dragonu[1], Nicoleta Baxan[1, 2], Markus Wick[2], Jeff Snyder[3], Franek Hennel[2], Jürgen Hennig[1], Dominik von Elverfeldt[1], Maxim Zaitsev[1]
[1]Dept. Radiology - Medical Physics, University Medical Center Freiburg, Freiburg, Germany; [2]Bruker BioSpin MRI GmbH, Ettlingen, Germany; [3]Dept. of Neurology, University Medical Center Freiburg, Freiburg, Germany

2719. Active Magnetic Shielded Cancelling Coils for Direct Detection of MR Signals with an Atomic Magnetometer in Ultra-Low Field MRI
Takenori Oida[1], Masahiro Tsuchida[1], Tetsuo Kobayashi[1]
[1]Department of Electrical Engineering, Graduate School of Engineering, Kyoto University, Kyoto, Japan

Traditional Poster
Arrays & Array Technology

Exhibition Hall Wednesday 13:30-15:30

2720. Models of Parasitic Mutual Capacitance in Array Coils: Effects on Mutual Reactance, Resistance and Noise Correlation
Adam Maunder[1], Mojgan Daneshmand[1], Pedram Mousavi[1], B. Gino Fallone[2], Nicola De Zanche[2]
[1]Electrical and Computer Engineering, University of Alberta, Edmonton, Alberta, Canada; [2]Oncology, University of Alberta, Edmonton, Alberta, Canada

2721. Accurate Phased Array Modeling in the Presence of Coupling
Pei-Shan Wei[1], Scott B. King, [12], Michael J. Smith[2], Jarod Matwiy[2], Christopher P. Bidinosti[3]
[1]Departmentof Physics and Astronomy, University of Manitoba, Winnipeg, Manitoba, Canada; [2]National Research Council of Canada, Winnipeg, Manitoba, Canada; [3]Department of Physics, University of Winnipeg, Winnipeg, Manitoba, Canada

2722. An Automated Framework to Decouple PTx Arrays with Many Channels
Zohaib Mahmood[1], Bastien Guérin[2], Elfar Adalsteinsson[1, 3], Lawrence L. Wald, [23], Luca Daniel[1]
[1]Dept of Electrical Engineering & Computer Science, Massachusetts Institute of Technology, Cambridge, MA, United States; [2]Martinos Center for Biomedical Imaging, Dept. of Radiology, Massachusetts General Hospital, Charlestown , MA, United States; [3]Harvard-MIT Division of Health Sciences Technology, Cambridge, MA, United States

2723. Noise Figure and Gain Comparison of GaAs and SiGe Semiconductors at High B_0 Field Strength
Russell Lagore[1], Al-Karim A. Damji[1], Alan H. Wilman[1], Nicola De Zanche[2]
[1]Biomedical Engineering, University of Alberta, Edmonton, Alberta, Canada; [2]Department of Oncology, University of Alberta, Edmonton, Alberta, Canada

2724. 16-Channel Tx Array and 32-Channel Rx Array for Brain MRI at 7T

ISMRM MERIT AWARD magna cum laude

Wei Zhao[1], Boris Keil[1], Jonnathan R. Polimeni[1], James N. Blau[1], Azma Mareyam[1], Thomas Witzel[1], Elfar Adalsteinsson[2], Lawrence L. Wald[1, 3]

[1]A.A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Harvard Medical School, Charlestown, MA, United States; [2]Electrical Engineering and Computer Science, MIT, Cambridge, MA, United States; [3]Division of Health Sciences and Technology, Harvard-MIT, Cambridge, MA, United States

2725. Potential and Probability of Inner Ear Magnetic Resonance Imaging at 7 T

Kyoung-Nam Kim[1], Gyu Cheol Han[2], Phil Heo[1], Hongbae Jeong[1], Suk-Min Hong[1], Joshua Haekyun Park[1], Myung-Kyun Woo[1], Young-Bo Kim[1], Zang-Hee Cho[1]

[1]Neuroscience Research Institute, Gachon University, Incheon, Korea; [2]Department of Otolaryngology-HNS, Gachon University, Incheon, Korea

2726. Hybrid RF Coils for Inner Ear Imaging at 7 T MR

Kyoung-Nam Kim[1], Phil Heo[1], Gyu Cheol Han[2], Hongbae Jeong[1], Suk-Min Hong[1], Myung-Kyun Woo[1], Myung-Kyun Woo[1], Joshua Haekyun Park[1], Young-Bo Kim[1], Zang-Hee Cho[1]

[1]Neuroscience Research Institute, Gachon University, Incheon, Korea; [2]Department of Otolaryngology-HNS, Gachon University, Incheon, Korea

2727. Switchable Bilateral/Unilateral 7T Breast Coil Using Forced Current Excitation

Jiaming Cui[1], Ivan E. Dimitrov[2, 3], Sergey Cheshkov[2, 4], Mary P. McDougall,[15], Craig R. Malloy[2, 4], Steven M. Wright[1, 5]

[1]Electrical and Computer Engineering, Texas A&M University, College Station, TX, United States; [2]Advanced Imaging Research Center, University of Texas Southwestern Medical Center, Dallas, TX, United States; [3]Philips Medical systems, Cleveland, OH, United States; [4]Department of Radiology, University of Texas Southwestern Medical Center, Dallas, TX, United States; [5]Biomedical Engineering, Texas A&M University, College Station, TX, United States

2728. 16-Channel Receive Array Insert for Breast Imaging at 7T

ISMRM MERIT AWARD magna cum laude

Samantha By[1], Joseph Rispoli[1], Jiaming Cui[2], Sergey Cheshkov[3, 4], Ivan E. Dimitrov[3, 5], Craig R. Malloy[3, 4], Steve Wright[1, 2], Mary P. McDougall[1, 2]

[1]Biomedical Engineering, Texas A&M University, College Station, TX, United States; [2]Electrical and Computer Engineering, Texas A&M University, College Station, TX, United States; [3]Advanced Imaging Research Center, University of Texas Southwestern Medical Center, Dallas, TX, United States; [4]Radiology, University of Texas Southwestern Medical Center, Dallas, TX, United States; [5]Philips Medical Systems, Cleveland, OH, United States

2729. Uniform Bilateral Breast MRI at 7T with Dual Transmit and 30-Channel Receive

ISMRM MERIT AWARD magna cum laude

Michel Italiaander[1], Ingmar Voogt[1], Irene van Kalleveen[1], Bertine L. Stehouwer[1], Tijl van der Velde[1], Peter R. Luijten[1], Vincent Oltman Boer[2], Dennis W.J. Klomp[1]

[1]UMC Utrecht, Utrecht, Netherlands; [2]University Medical Center Utrecht, Utrecht, Netherlands

2730. Design of a Receiver Array for MRI-Guided Transrectal Prostate Biopsy

Francesca Galassi[1], John McGinley[1], Mihailo Ristic[1], Nandita M. deSouza[2], Djordje Brujic[1]

[1]Imperial College, London, UK, United Kingdom; [2]Institute of Cancer Research, The Royal Marsden Hospital, London, UK, United Kingdom

2731. Analysis of Geometrical Arrangement for a 64-Channel Cardiac Phased-Array Coil for 3T

Mark Schuppert[1], Boris Keil[2], Bastien Guérin[2], Stefan Fischer[3], Laura Maria Schreiber[3], Lawrence L. Wald[2, 4]

[1]Section of Medical Physics, Department of Diagnostic and Interventional Radiology, Johannes Gutenberg University Medical Center , Mainz, Germany; [2]Department of Radiology, A.A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Charlestown, MA, United States; [3]Section of Medical Physics, Department of Diagnostic and Interventional Radiology, Johannes Gutenberg University Medical Center, Mainz, Germany; [4]Harvard-MIT Division of Health Sciences and Technology, Cambridge, MA, United States

2732. Wireless Phased Array Endorectal Coil for Prostate Imaging

Haoqin Zhu[1], Mehran Fallah-Rad[1], Labros Petropoulos[1]

[1]R&D, IMRIS Inc, Winnipeg, MB, Canada

2733. SENSE Induced Correlations Are Used to Optimize RF Coil Design for Specific FcMRI Studies
Iain P. Bruce[1], L. Tugan Muftuler[2, 3], Daniel B. Rowe[1, 2]
[1]Department of Mathematics, Statistics, and Computer Science, Marquette University, Milwaukee, WI, United States; [2]Department of Biophysics, Medical College of Wisconsin, Milwaukee, WI, United States; [3]Department of Neurosurgery, Medical College of Wisonsin, Milwaukee, WI, United States

2734. A Flexible 4 Ch. Transmit / 16ch. Receive Auditory Cortex Array for HiRes fMRI at 7 Tesla
Gregor Adriany[1], Scott Schillak[2], Matt Waks[2], Brandon Tramm[2], Alard Roebroeck[3], Elia Formisano[3], Federico DeMartino[3], Essa S. Yacoub[1], University of Minnesota University of Minnesota Vaughan[1, 2]
[1]Center for MR Research, University of Minnesota, Minneapolis, MN, United States; [2]Life Services LLC, Minneapolis, MN, United States; [3]Maastricht University, Maastricht, Netherlands

2735. A 3T Transmit and 16 Channel Receive Array Coil for Hand/Wrist Imaging
Shinya Handa[1], Matthew Finnerty[1], Craig I. Lawrie[1], Tsinghua Zheng[1], Xiaoyu Yang[1], Joseph Herczak[1], Hiroyuki Fujita[1, 2], John A. Carrino[3], Filippo Del Grande[3], Guarav K. Thawait[3], Sahar J. Farahani[3]
[1]Quality Electrodynamics, Mayfield Village, OH, United States; [2]Department of Physics, Case Western Reserve University, Cleveland, OH, United States; [3]Russell H. Morgan Department of Radiology and Radiological Science, The Johns Hopkins University, Baltimore, MD, United States

2736. A Semi-Optimized Phased Array Coil Design for High-Resolution MRI of Cervical Spinal Cord
Nabraj Sapkota[1, 2], Josh Kaggie[1, 2], J. Rock Hadley[2], Eun-Kee Jeong[2, 3]
[1]Dept. of Physics and Astronomy, University of Utah, Salt Lake City, UT, United States; [2]Utah Center for Advanced Imaging Research, University of Utah, Salt Lake City, UT, United States; [3]Dept. of Radiology, University of Utah, Salt Lake City, UT, United States

2737. Mixing Loops and Electric Dipole Antennas for Increased Sensitivity at 7 Tesla
Graham C. Wiggins[1], Bei Zhang[1], Martijn A. Cloos[2], Riccardo Lattanzi[1], Gang Chen[1], Karthik Lakshmanan[1], Gillian Haemer[1], Daniel Sodickson[1]
[1]Center for Biomedical Imaging, NYU Medical Center, New York, NY, United States; [2]Center for Biomedical Imaging, New York University School of Medicine, New York, NY, United States

2738. Multi-Turn Transmit Coil to Increase B_1 Efficiency in Current Source Amplification
Natalia Gudino[1], Mark A. Griswold[1, 2]
[1]Department of Biomedical Engineering, Case Western Reserve University, Cleveland, OH, United States; [2]Department of Radiology, Case Western Reserve University, Cleveland, OH, United States

2739. Reducing SAR and Imaging Time at 7T Using RF Multiplexing and Transceiver Arrays at 7T
Hoby P. Hetherington[1], Nikolai I. Avdievich[1], Jullie Pan[1]
[1]Neurosurgery, Yale University, New Haven, CT, United States

2740. The Ultimate Local SAR in MRI
Yigitcan Eryaman[1, 2], Bastien Guérin[3], Elfar Adalsteinsson[4, 5], Lawrence L. Wald[2, 5]
[1]Research Laboratory of Electronics, Massachusetts Institute of Technology, Cambridge, MA, United States; [2]Martinos Center for Biomedical Imaging, Dept. of Radiology, MGH, Charlestown, MA, United States; [3]Martinos Center for Biomedical Imaging, Dept. of Radiology, Massachusetts General Hospital, Charlestown, MA, United States; [4]Dept. of Electrical Engineering and Computer Science, Massachusetts Institute of Technology, Cambridge, MA, United States; [5]Harvard-MIT Health Sciences and Technology, Cambridge, MA, United States

2741. Performance Comparison of Parallel Transmit Arrays for Body Imaging at 3 T Under Local SAR Constraint
Bastien Guérin[1], Matthias Gebhardt[2], Peter Serano[1], Elfar Adalsteinsson[3], Michael Hamm[2], Josef Pfeuffer[2], Juergen Nistler[2], Lawrence L. Wald[1]
[1]Radiology, Massachusetts General Hospital, Charlestown, MA, United States; [2]Siemens Healthcare, Erlangen, Germany; [3]Electrical Engineering, Massachusetts Institute of Technology, Cambridge, MA, United States

2742. Closed-Loop Control for Transmit Array Matching
Giorgos Katsikatsos[1], Klaas P. Pruessmann[1]
[1]Institute for Biomedical Engineering, Zurich, ZH, Switzerland

2743. Computerised Tuning of an 8-Channel Cardiac TEM Array at 7T: An Integrated System Using Piezoelectric Actuators and Power Monitors

Graeme A. Keith[1], Christopher T. Rodgers[1], Aaron T. Hess[1], Carl J. Snyder[2], University of Minnesota University of Minnesota Vaughan[2], Matthew D. Robson[1]
[1]Oxford Centre for Clinical Magnetic Resonance Research, University of Oxford, Oxford, Oxfordshire, United Kingdom; [2]Center for Magnetic Resonance Research, Minneapolis, MN, United States

2744. An Easily Integrated Multichannel Modulator for All Field Strengths

Neal Hollingsworth[1], Katherine Moody[2], Jon-Fredrik Nielsen[3], Douglas C. Noll[3], William A. Grissom[4], Steven Wright[1]
[1]Electrical Engineering, Texas A&M University, College Station, TX, United States; [2]Biomedical Engineering, Texas A&M University, College Station, TX, United States; [3]Biomedical Engineering, University of Michigan, Ann Arbor, MI, United States; [4]Biomedical Engineering, Vanderbilt University, Nashville, TN, United States

2745. Coil Tuning with Piezoelectric Actuators Using the MRI Signal as the Optimization Parameter

Aaron T. Hess[1], Carl J. Snyder[2], Graeme A. Keith[3], Christopher T. Rodgers[3], Stefan Neubauer[3], University of Minnesota University of Minnesota Vaughan[4], Matthew D. Robson[3]
[1]University of Oxford, Oxford, Oxon, United Kingdom; [2]University of Minnesota - Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, MN, United States; [3]University of Oxford Centre for Clinical Magnetic Resonance Research, Oxford, Oxon, United Kingdom; [4]University of Minnesota - Center for Magnetic Resonance Research, Minneapolis, MN, United States

2746. Searching for the Optimal Body Coil Design for 3T MRI

Jinfeng Tian[1], Lance DelaBarre[1], John Strupp[1], Jay Zhang[2], Josef Pfeuffer[3], Michael Hamm[3], Juergen Nistler[3], Kamil Ugurbil[1], University of Minnesota University of Minnesota Vaughan[1]
[1]Center for Magnetic Resonance, University of Minnesota, Minneapolis, MN, United States; [2]Cardiology, University of Minnesota, Minneapolis, MN, United States; [3]Siemens Healthcare, Erlangen, Germany

2747. Design, Evaluation and Application of a Six-Channel Transceiver Array Tailored for *In Vivo* Human Eye Imaging at 7.0 T

Andreas Graessl[1], Michael Schwerter[1], Maximilian Muhle[1], Jan Rieger[1, 2], Celal Oezerdem[1], Abdullah Ok[1], Davide Santoro[1], Darius Lysiak[1, 2], Oliver Stachs[3], Soenke Langner[4], Paul-Christian Krueger[4], Thoralf Niendorf[1, 5]
[1]Berlin Ultrahigh Field Facility (B.U.F.F.), Max-Delbrueck-Center for Molecular Medicine, Berlin, Germany; [2]MRI.TOOLS GmbH, Berlin, Germany; [3]Department of Ophthalmology, University of Rostock, Rostock, Germany; [4]Institute for Diagnostic Radiology and Neuroradiology, University of Greifswald, Greifswald, Germany; [5]Experimental and Clinical Research Center, Berlin, Germany

2748. Improved 2D RF Shimming with a Local Detunable 8-Element Transmit/Receive Coil Array Using DREAM and SENSE at 3T

Christoph Leussler[1], Peter Vernickel[1], Christian Findeklee[1], Daniel Wirtz[1], Peter Börnert[2], Kay Nehrke[1]
[1]Philips Technologie GmbH, Hamburg, Germany; [2]Philips Research Laboratory, Hamburg, Germany

2749. An 8 Channel Transmit Recieve Helmet Coil with Dodecahedral Symetry

Gillian Haemer[1], Martijn A. Cloos[2], Graham Wiggins[1]
[1]The Bernard and Irene Schwartz Center for Biomedical Imaging, NYU Medical Center, New York, NY, United States; [2]The Bernard and Irene Schwartz Center for Biomedical Imaging, New York University School of Medicine, New York, NY, United States

2750. Simulation Study of a 4-Channel Ladder-Shaped Body Coil at 3T

Yoshihisa Soutome[1], Yosuke Otake[1], Masayoshi Dohata[1], Hisaaki Ochi[1], Yoshitaka Bito[1]
[1]Central Research Laboratory, Hitachi Ltd., Kukubunji, Tokyo, Japan

2751. RF Body Coil Symmetry as a Function of Cable Routing

Ed B. Boskamp[1], Masahiro Fujimoto[1], Michael Edwards[1]
[1]GE Healthcare, Waukesha, WI, United States

2752. Design Guidelines for Utilizing Co-Planar Shielded Loops at 7T

Joseph Vincent Rispoli[1], Samantha By[1], Mary P. McDougall[1, 2]
[1]Biomedical Engineering, Texas A&M University, College Station, TX, United States; [2]Electrical & Computer Engineering, Texas A&M University, College Station, TX, United States

2753. Simple and Accurate Determination and Visualization of True Quadrature Settngs on Commercial Multiple Channel Transmitters Using Anti-Quad
Steven M. Wright[1], Ivan E. Dimitrov[2, 3], Sergey Cheshkov[2], Mary P. McDougall[4], Craig R. Malloy[2]
[1]Electrical and Computer Engineering, Texas A&M University, College Station, TX, United States; [2]Advanced Imaging Research Center, University of Texas Southwestern Medical Center, Dallas, TX, United States; [3]Philips Medical Systems, Cleveland, OH, United States; [4]Biomedical Engineering, Texas A&M University, College Station, TX, United States

2754. Improving B_1 Excitation in Head Apex by Combining Birdcage Coil with Crossed Dipole Elements
Karthik Lakshmanan[1], Martijn A. Cloos[2], Graham C. Wiggins[1], Ryan Brown[1]
[1]NYU, Newyork, United States; [2]New York University School of Medicine, Newyork, United States

2755. Baluns for UHF Transmit Arrays
Debra S. Rivera[1, 2], Turner Robert[2]
[1]Univercity Medical Center, Utrecht, Netherlands; [2]Neurophysics, Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Saxony, Germany

2756. Effect of Number of RF Transmit Channels for RF Shimming in Partial Region
Yukio Kaneko[1], Yoshihisa Soutome[1], Hideta Habara[1], Yoshitaka Bito[2]
[1]Hitachi Ltd., Central Research Laboratory, Kokubunji, Tokyo, Japan; [2]Hitachi Ltd., Hitachi, Ltd., Kokubunji, Tokyo, Japan

2757. Transmit Array with Novel Shield and Fabrication Technique for Reducing Losses at UHF
Debra S. Rivera[1, 2], Thomas Siegert, Carsten Koegler[2, 3], Andreas Schaefer[2], Markus Nikola Streicher, Robert Turner[2]
[1]Univercity Medical Center, Utrecht, Netherlands; [2]Neurophysics, Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Saxony, Germany; [3]RAPID Biomedical, Rimpar, Germany

2758. Comparison of 3 RF Head Arrays for 7T MRI
Jinfeng Tian[1], Devashish Shrivastava[1], Gregor Adriany[1], John Strupp[1], Scott Schillak[2], Jay Zhang[3], Kamil Ugurbil[1], University of Minnesota University of Minnesota Vaughan[1]
[1]Center for Magnetic Resonance, University of Minnesota, Minneapolis, MN, United States; [2]Virtumed, LLC, Minneapolis, MN, United States; [3]Cardiology, University of Minnesota, Minneapolis, MN, United States

2759. 7 Tesla Body Imaging with TIAMO on Single-Channel Tx Systems
Stephan Orzada[1, 2], Stefan Maderwald[1], Sören Johst[1, 2], Andreas K. Bitz[1, 2], Klaus Solbach[3], Mark E. Ladd[1, 2]
[1]Erwin L. Hahn Institute for MRI, Essen, NRW, Germany; [2]Department of Diagnostic and Interventional Radiology and Neuroradiology, University Hospital Essen, Essen, NRW, Germany; [3]High Frequency Engineering, Department of Electrical Engineering, University of Duisburg-Essen, Duisburg, NRW, Germany

Traditional Poster
Specialized Systems & Devices

Exhibition Hall Wednesday 13:30-15:30

2760. A Dedicated 1.5T NICU MR System
Wolfgang Loew[1], Jean A. Tkach[1], Ronald G. Pratt[1], Barret R. Daniels[1], Randy O. Giaquinto[1], Stephanie L. Merhar[1], Beth M. Kline-Fath[1], Kim M. Cecil[1], Charles L. Dumoulin[2]
[1]Imaging Research Center, Cincinnati Children's Hospital Medical Center, Cincinnati, OH, United States; [2]Imaging Research Center, Cincinnati Children's Hospital, Cincinnati, OH, United States

2761. Development of a Portable Wrist MRI for Skeletal Age Assessment
Yasuhiko Terada[1], Kazunori Ishizawa[1], Shinya Inamura[1], Katsumi Kose[1]
[1]Institute of Applied Physics, University of Tsukuba, Tsukuba, Ibaraki, Japan

2762. A Portable Low-Field System for Localized NMR Measurements
Mikayel Dabaghyan[1], Eric Frederick[2], Iga Muradyan[3, 4], Alan Hrovat[1], Michael Hrovat[1], Samuel Patz[3, 4], Mirko I. Hrovat[1]
[1]Mirtech Inc., Brockton, MA, United States; [2]Physics, University of Massachusetts, Lowel, Lowell, MA, United States; [3]Radiology, Brigham and Women's Hospital, Boston, MA, United States; [4]Harvard Medical School, Boston, MA, United States

2763. Reducing the Gradient Artefact in Simultaneous EEG-fMRI by Adjusting the EEG Cap Lead Configuration
Karen J. Mullinger[1], Muhammad E.H. Chowdhury[2], Richard W. Bowtell[2]
[1]SPMMRC, School of Physics and Astronomy , University of Nottingham, Nottingham, United Kingdom; [2]SPMMRC, School of Physics and Astronomy, University of Nottingham, Nottingham, United Kingdom

2764. A Compact Setup to Improve the Quality of EEG Data Recorded During fMRI
Sara Assecondi[1, 2], Paolo Ferrari[1], Jorge Jovicich[1]
[1]Functional Neuroimaging Laboratory, Center for Mind/Brain Sciences (CIMeC), University of Trento, Trento, Italy; [2]School of Psychology, University of Birmingham, Birmingham, United Kingdom

2765. Cost Efficient Small Animal Monitoring and Trigger Device for Clinical Scanners
Karl-Heinz Herrmann[1], Norman Pfeiffer[1, 2], Ines Krumbein[1], Lutz Herrmann[2], Jürgen R. Reichenbach[1]
[1]Medical Physics Group, Institute of Diagnostic and Interventional Radiology I, Jena University Hospital - Friedrich Schiller University Jena, Jena, Germany; [2]Ernst-Abbe-Fachhochschule Jena, Jena, Germany

2766. RF-Selective-Excitation for State Estimation of an MRI-Powered Motor
Christos Bergeles[1], Panagiotis Vartholomeos[1], Lei Qin[2], Pierre E. Dupont[1]
[1]Boston Childrens Hospital, Harvard Medical School, Boston, MA, United States; [2]Dana-Farber Cancer Research, Harvard Medical School, Boston, MA, United States

2767. *in-vivo* High Resolution Rat Brain Using a Temperature-Stable High-Temperature Superconducting Cryostat at 3 Tesla
In-Tsang Lin[1], Hong-Chang Yang[2], Jyh-Horng Chen
[1]Interdisciplinary MRI/MRS Lab, Department of Electrical Engineering, National Taiwan University, Taipei, Taiwan; [2]Department of Physics, National Taiwan University, Taipei, Taiwan

2768. Phantoms for Ultra-Low Field MRI
John Arthur Benson Mates[1], Michael A. Boss[1], Hsiao Mei Cho[1], Gene C. Hilton[1], Kent D. Irwin[1]
[1]National Institute of Standards and Technology, Boulder, CO, United States

Traditional Poster
Magnets

Exhibition Hall Wednesday 13:30-15:30

2769. An Actively Shielded 3T MgB2 MRI Magnet Design
Michael A. Martens[1], Tanvir Baig[1], Mihai Cara[1], Robert W. Brown[1], David Doll[2], Michael Tomsic[2]
[1]Case Western Reserve University, Cleveland, OH, United States; [2]Hyper Tech, Columbus, OH, United States

2770. A Novel Magnet Main Coil Design with Shimming Capability
Zhenyu Zhang[1], Weijun Shen[1]
[1]GE Healthcare, Florence, SC, United States

2771. Measurements of the Magnetic Field Distribution in the High T_c Superconducting Bulk Magnet During the Magnetization Process
Daiki Tamada[1, 2], Takashi Nakamura[1, 2], Katsumi Kose[1, 2]
[1]Institute of Applied Physics, University of Tsukuba, Tsukuba, Ibaraki, Japan; [2]RIKEN, Wako, Saitama, Japan

Traditional Poster
Novel RF Coils

Exhibition Hall Wednesday 13:30-15:30

2772. Parallel Imaging and Acceleration in the Johnson Noise Dominated Regime
Cristen D. LaPierre[1, 2], Mathieu Sarracanie[1, 2], Lawrence L. Wald[1, 3], Matthew S. Rosen[1, 2]
[1]Department of Radiology, Mass General Hosptial, A.A. Martinos Center for Biomedical Imaging, Charlestown, MA, United States; [2]Department of Physics, Harvard University, Cambridge, MA, United States; [3]Harvard-MIT Division of Health Sciences and Technology, Cambridge, MA, United States

2773. Detunable RF Coil for Arterial Spin Labeling at 7T
Myung-Kyun Woo[1], Randall B. Stafford[2], Suk-Min Hong[1], Se-Hong Oh[2], Young-Bo Kim[1], Jongho Lee[2], Zang-Hee Cho[1]
[1]Neuroscience Research Institute, Incheon, Korea; [2]Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States

2774. A Novel Four-Channel Phased Array Coil with a Special Shield for Cardiac Functional Imaging
Dasong Zhu[1], Yuki Mori[1], Yoshichika Yoshioka[1]
[1]Biofunctional Imaging Lab, Immunology Frontier Research Center, Osaka University, Suita, Osaka, Japan

2775. Soft Surface - EBG Structure to Improve the |H|/|E| Field Ratio of Stripline Coil for 7 Tesla MRI
Gameel Saleh[1], Klaus Solbach[1], Daniel Erni[2], Andreas Rennings[3]
[1]High Frequency Technique (HFT), University of Duisburg-Essen, 47048, Duisburg, Germany; [2]General and Theoretical Electrical Engineering (ATE), University of Duisburg-Essen, , and CENIDE - Center for Nanointegration Duisburg-Essen, 47048, Duisburg, Germany; [3]General and Theoretical Electrical Engineering (ATE), University of Duisburg-Essen,, and CENIDE - Center for Nanointegration Duisburg-Essen, 47048, Duisburg, Germany

2776. Whole-Brain and Local Receive Arrays for Imaging Non-Human Primates
Kyle M. Gilbert[1], Matthew R. DiPrimio[1], Sarah Hughes[1], Kathryn Y. Manning[1], Ravi S. Menon[1]
[1]Robarts Research Institute, The University of Western Ontario, London, Ontario, Canada

2777. Design of a Four-Channel Array Coil for Dual High-Resolution Rat Knee MR Imaging
Anne-Laure Perrier[1], Jean-Christophe Goebel[1], Astrid Pinzano[2], Emilie Roeder[2], Pierre Gillet[2], Denis Grenier[1], Olivier Beuf[3]
[1]Creatis, Villeurbanne, France; [2]PPIA, Vandoeuvre-les-Nancy, France; [3]CREATIS, Villeurbanne, France

2778. A Whole-Brain 8-Channel Receive-Only Embedded Array for MRI and fMRI of Conscious Awake Marmosets at 7T.
Daniel Papoti[1], Cecil Chern-Chyi Yen[1], Julie Mackel[1], Hellmut Merkle[1], Afonso C. Silva[1]
[1]NINDS, NIH, Bethesda, MD, United States

2779. A PIN-Diode-Controlled Double-Tuned Birdcage Coil for 1H-Imaging and 31P-Spectroscopy on Mice
Maximilian N. Voelker[1], Alexander M. Koenig[1], Steve Braun[1], Andreas H. Mahnken[1], Johannes T. Heverhagen[2]
[1]Diagnostic Radiology, Philipps University, Marburg, Hessen, Germany; [2]University Institute of Diagnostic, Interventional and Pediatric Radiology, Inselspital, Bern University Hospital, Bern, Switzerland

2780. Dedicated 8-Channel Transceive Array for Rat Head MRI at 9.4T
Yu Li[1], Ewald Weber[1], Ivan Hughes[1], Stuart Crozier, Peter Ullmann[2], Johannes Schneider[2], Sven Junge[2]
[1]School of ITEE, The University of Queensland, Brisbane, Select, Australia; [2]Bruker BioSpin MRI GmbH Ettlingen Germany, Ettlingen, Germany

2781. Simultaneous Dual-Nuclear ^{31}P/^{1}H MRS at a Clinical MRI System with Time-Sharing Second RF Channel
Eun-Kee Jeong[1, 2], Nabraj Sapkota[3], Joshua Kaggie[3], Xian-Feng Shi[4]
[1]Radiology, University of Utah, Salt Lake City, UT, United States; [2]Utah Center for Advanced Imaging Research, University of Utah, Salt Lake City, UT, United States; [3]Dept. of Physics, University of Utah, Salt Lake City, UT, United States; [4]Dept. of Psychiatry, University of Utah, Salt Lake City, UT, United States

2782. A Form-Fitted 3 Channel ^{31}P, Two Channel ^{1}H Transceive Coil for Calf Muscle Studies at 7 T
Elmar Laistler[1, 2], Sigrun Goluch[1, 2], Andre Kuehne[1, 2], Martin Meyerspeer[1, 2], Albrecht Ingo Schmid[1, 2], Jürgen Sieg[1, 2], Tim Herrmann[3], Johannes Mallow[3], Johannes Bernarding[3], Ewald Moser[1, 2]
[1]Center for Medical Physics and Biomedical Engineering, Medical University of Vienna, Vienna, Austria; [2]MR Centre of Excellence, Medical University of Vienna, Vienna, Austria; [3]Institut für Biometrie und Medizinische Informatik, Otto von Guericke University, Magdeburg, Germany

2783. Dual-Tuned Strip-Line Loop Array H1 / Birdcage Na23 RF Coil for 3T MRI
Seunghoon Ha[1], Harry Friel[2], Marijn Kruiskamp[3], Orhan Nalcioglu[1, 4]
[1]Tu & Yuen Center for Functional Onco-Imaging, University of California Irvine, Irvine, CA, United States; [2]Philips Healthcare, Highland Heights, OH, United States; [3]Philips Healthcare, Best, Netherlands; [4]Department of Cogno-Mechatronics Engineering, Pusan National University, Pusan, Korea

2784. A Novel Double Tuned 4T ^{1}H/^{17}O Head Volume Coil
Jing-Huei Lee[1], Mathew Norris[1], Elizabeth M. Fugate[1], Nikolai I. Avdievich[2], Hoby P. Hetherington[2]
[1]University of Cincinnati, Cincinnati, OH, United States; [2]Yale University, New Haven, CT, United States

2785. A Dual-Tune Sodium/Proton Tx/Rx 14-Channel Sodium and 2-Channel Proton Array Breast Coil at 7T
Xiaoyu Yang[1], Shinya Handa[1], Tsinghua Zheng[1], Craig I. Lawrie[1], Matthew Finnerty[1], Joseph Herczak[1], Hiroyuki Fujita[1, 2], Wolfgang Bogner[3, 4], Olgica Zaric[3], Stefan Zbýn[3], Siegfried Trattnig[3]
[1]Quality Electrodynamics, Mayfield Village, OH, United States; [2]Physics, Case Western Reserve University, Cleveland, OH, United States; [3]Department of Radiology, Medical University Vienna, Vienna, Austria; [4]Department of Radiology, Harvard Medical School, Boston, ma, United States

2786. Comparison of Decoupling Schemes for a Three Channel ^{31}P Array for the Human Calf Muscle at 7 T Using 3D Electromagnetic Simulation
Sigrun Goluch[1, 2], André Kühne[1, 2], Ewald Moser[1, 2], Elmar Laistler[1, 2]
[1]Center of Medical Physics and Biomedical Engineering, Medical University of Vienna, Vienna, Austria; [2]MR Centre of Excellence, Medical University of Vienna, Vienna, Austria

2787. A Four-Channel 1H/31P Dual-Tuned Transceiver Array for 7 Tesla Cardiac Spectroscopy
Hai Lu[1], Xiaotong Sun[1], Yu Shao[1], Nouha Salibi[2], Bernd Stoeckel[2], Thomas Stewart Denney Jr.[1], Ronald J. Beyers[1], Shumin Wang[1]
[1]Auburn University, Auburn, AL, United States; [2]Siemens, Malvern, PA, United States

2788. Development and Performance Evalution of a Dual Tuned ^{23}Na/^{1}H Knee Coil
Gunthard Lykowsky[1], Flavio Carinci[1], Peter M. Jakob[1, 2], Daniel Haddad[1]
[1]MRB Research Center, Würzburg, Bavaria, Germany; [2]Department of Physics 5, University of Würzburg, Würzburg, Bavaria, Germany

2789. Technology Development for Sub-0.3 Mm Voxel Functional Imaging of the Murine Forepaw Barrel Subfield at 400MHz (9.4T)
Phillip D. Bishop[1], Jason W. Sidabras[1], Andrzej Jesmanowicz[1], Rupeng Li[1], James S. Hyde[1]
[1]Biophysics, Medical College of Wisconsin, Milwaukee, WI, United States

2790. RF Coil and Positioning Setup for IMCL Spectroscopy on the Mouse Calf
Dominik Berthel[1], Michael Neumaier[2], Titus Lanz[1], Thomas Kaulisch[2], Detlef Stiller[2]
[1]Rapid Biomedical GmbH, Rimpar, Germany; [2]In-Vivo Imaging Unit, Boehringer Ingelheim Pharma GmbH & Co. KG, Biberach, Germany

2791. RF Coil Configuration Study for 7T High Resolution Na23 and H1 Animal MRI
Seunghoon Ha[1], Se-Ho Lee[2], Mark Jason Hamamura[1], Keum-Shik Hong[2], Orhan Nalcioglu[1, 2]
[1]Tu & Yuen Center for Functional Onco-Imaging, University of California Irvine, Irvine, CA, United States; [2]Department of Cogno-Mechatronics Engineering, Pusan National University, Busan, Korea

2792. Circularly Polarized Coil for Traveling Wave MRI
Norman B. Konyer[1, 2], Alexey A. Tonyushkin[3, 4], Andrew J.M. Kiruluta[3, 4], Michael D. Noseworthy[1, 2]
[1]Imaging Research Centre, St. Joseph's Healthcare, Hamilton, Ontario, Canada; [2]Electrical and Computer Engineering Dept., McMaster University, Hamilton, Ontario, Canada; [3]Radiology Dept., Massachusetts General Hospital, Harvard Medical School, Boston, MA, United States; [4]Physics Dept., Harvard University, Cambridge, MA, United States

2793. A Bi-Planar Surface Coil for Parietal Lobe Imaging
Daniel Hernandez[1], Marlon Perez[2], Soo Yeol Lee[2]
[1]Bio-medical Engineering , Kyung Hee University, Yongin-si, Gyeonggi-do, Korea; [2]Bio-medical Engineering, Kyung Hee University, Yongin-si, Gyeonggi-do, Korea

2794. Flexible Magnetic Flux Guides for Magnetic Resonance Imaging
Patrick Bollgrün[1], Dario Mager[1], Michael Bock[2], Jan G. Korvink[1, 3]
[1]Department of Microsystems Engineering, University of Freiburg - IMTEK, Freiburg, Germany; [2]Department of Radiology, University Hospital Freiburg, Freiburg, Germany; [3]Freiburg Institute for Advanced Studies - FRIAS, University of Freiburg, Freiburg, Germany

2795. High Temperature Superconductivity Coil Design for Low Field MRI
Daniel Gogola[1], Ladislav Valkovic[1], Tomáš Dermek[1], Martin Škrátek[2], Vladimír Juráš[1], Ivan Frollo[1]
[1]Department of Imaging Methods, Institute of Measurement Science, Bratislava, Slovakia; [2]Department of Magnetometry, Institute of Measurement Science, Bratislava, Slovakia

2796. First *in vivo* Imaging of the Mouse Brain at 4.7 T Using a Subcentimeter HTS Surface Coil
Simon Auguste Lambert[1], Marie Poirier-Quinot[1], Ludovic De Rochefort[2], Jean-christophe Ginefri[2], Luc Darrasse[1]
[1]UMR 8081, IR4M, Univ Paris Sud, CNRS,, Orsay, Paris, France; [2]UMR 8081, IR4M, Univ Paris-Sud, Orsay, Paris, France

Traditional Poster
High-Dielectric Materials in RF Imaging

Exhibition Hall Wednesday 13:30-15:30

2797. Potential for a Single High-Dielectric Head Coil Former to Reduce SAR and Improve SNR in Brain for a Wide Variety of Coils at 7T
Christopher Michael Collins[1], Qing X. Yang[2]
[1]Radiology, New York University Medical Center, New York, United States; [2]Radiology, The Pennsylvania State University, Hershey, PA, United States

2798. Quasi-Static Traveling Wave Imaging on a Clinical 3T MRI System
Alexey A. Tonyushkin[1, 2], Norman B. Konyer[3, 4], Michael D. Noseworthy[3, 4], Andrew J.M. Kiruluta[1, 2]
[1]Radiology Dept., Massachusetts General Hospital, Harvard Medical School, Boston, MA, United States; [2]Physics Dept., Harvard University, Cambridge, MA, United States; [3]Imaging Research Centre, St. Joseph's Healthcare, Hamilton, Ontario, Canada; [4]Electrical and Computer Engineering Dept., McMaster University, Hamilton, Ontario, Canada

2799. Performance Evaluation of Parallel Travelling Wave MRI Using Microstrip Transceiver Arrays
Hong Shang[1], Wei Bian[1], Daniel B. Vigneron[1, 2], Xiaoliang Zhang[1, 2]
[1]UCSF/UC Berkeley Joint Graduate Group in Bioengineering, San Francisco & Berkeley, CA, United States; [2]Radiology&Biomedical Imaging, University of California San Francisco, San Francisco, CA, United States

2800. Transmit Strategies for Body Imaging at 3T - Comparing Multitransmit and Dielectric Shimming
Wyger M. Brink[1], Andrew Webb[1]
[1]Radiology, Leiden University Medical Center, Leiden, Netherlands, Zuid-Holland, Netherlands

2801. High Permittivity Solid Ceramic Resonators for High Field Human MRI
Sebastian A. Aussenhofer[1], Andrew Webb[1]
[1]Department of Radiology Leiden University Medical Center, CJ Gorter Center for High Field MRI, Leiden, South Holland, Netherlands

2802. Dramatic Improvement of Parallel Imaging with High Dielectric Material – Demonstration with Electromagnetic Field Calculations at 123 MHz
Zhipeng Cao[1], Wei Luo[2], Christopher T. Sica[2], Sukhoon Oh[3], Sebastian Rupprecht[2], Giuseppe Carluccio[3], Christopher Michael Collins[3], Qing X. Yang[2]
[1]Radiology, Pennsylvania State University, Hershey, PA, United States; [2]Radiology, The Pennsylvania State University, Hershey, PA, United States; [3]Radiology, New York University, New York City, NY, United States

Traditional Poster
RF Simulations

Exhibition Hall Wednesday 13:30-15:30

2803. Novel RF Resonator Using Microstrip at 3T
Hyeokwoo Son[1], Ahryum Kim[2], Jinyoung Choi[3], Youngki Cho[3], Hyoungsuk Yoo[2]
[1]School of Electronics Engineering , Kyungpook National University, Daegu, Korea; [2]School of Electrical Engineering, University of Ulsan, Ulsan, Korea; [3]School of Electronics Engineering, Kyungpook National University, Daegu, Korea

2804. Precomputed Green's Functions for Fast Electromagnetic Simulation with Realistic Human Body Models
Jorge Fernandez Villena[1], Amit Hochman[2], Luis Miguel Silveira[1], Elfar Adalsteinsson[2, 3], Lawrence L. Wald, [3,4], Jacob K. White[2], Luca Daniel[2]
[1]INESC ID Instituto de Engenharia de Sistemas e Computadores Investigação e Desenvolvimento, Lisbon, Portugal; [2]Research Laboratory of Electronics, Massachusetts Institute of Technology, Cambridge, MA, United States; [3]Harvard-MIT Division of Health Sciences Technology, Cambridge, MA, United States; [4]Department of Radiology, Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Charlestown, MA, United States

2805. Accurate Simulation of Signal and Noise in MRI Based on Electromagnetic Field Calculation and Bloch Simulation
Zhipeng Cao[1], Christopher T. Sica[2], Wei Luo[2], Sukhoon Oh[3], Christopher Michael Collins[3]
[1]Radiology, Pennsylvania State University, Hershey, PA, United States; [2]Radiology, The Pennsylvania State University, Hershey, PA, United States; [3]Radiology, New York University, New York City, NY, United States

2806. Efficient and Accurate Bloch-Based Simulation of Intra-Voxel Dephasing Using Multiple Isochomats and Magnetization Spatial Gradients
Zhipeng Cao[1], Christopher T. Sica[2], Giuseppe Carluccio[3], Christopher Michael Collins[3]
[1]Radiology, Pennsylvania State University, Hershey, PA, United States; [2]Radiology, The Pennsylvania State University, Hershey, PA, United States; [3]Radiology, New York University, New York City, NY, United States

2807. A New Accurate FEM Based Optimization Method for Birdcage Coil Design at High Field Strength
Necip Gurler[1], Fatih Suleyman Hafalir[1], Omer Faruk Oran[1], Yusuf Ziya Ider[1]
[1]Electrical and Electronics Engineering, Bilkent University, Ankara, Turkey

Traditional Poster
PET/MRI Systems Engineering

Exhibition Hall Wednesday 13:30-15:30

2808. An Optimum RF Shield for Simultaneous MRI-PET System
Changheun Oh[1], Yeji Han[1], HyunWook Park[1]
[1]Electrical engineering, Korea Advanced Institute of Science and Technology, Daejeon, Korea

2809. Computer Simulation and Experiments of RF Coil for Simulataneous MRI-PET System
Changheun Oh[1], Yeji Han, HyunWook Park[1]
[1]Electrical engineering, Korea Advanced Institute of Science and Technology, Daejeon, Korea

2810. Feasibility of PET Attenuation Characterization of MR Hardware Using 3D Data from a LINAC as Radiation Source
Stephan Biber[1], Ralf Ladebeck[1], David Faul[2], Yvonne Candidus[1]
[1]Siemens Healthcare Magnetic Resonance Imaging, Erlangen, -, Germany; [2]Siemens Healthcare Molecular Imaging, Knoxville, TN, United States

2811. MR-Based Attenuation Mapping of the Pelvis Using 3D UTE DIXON at 3T
Christian Stehning[1], Michael Helle[2], Stefanie Remmele[3], Melanie Kotys-Traughber[4]
[1]Philips Research Europe, Hamburg, Germany; [2]Philips Research Laboratories, Hamburg, Germany; [3]Hochschule Landshut (FH), Landshut, Germany; [4]Philips Healthcare, Cleveland, OH, United States

2812. Hardware Attenuation Correction in PET/MR Hybrid Imaging: Evaluation of µ-Maps for Local RF Coils
Daniel H. Paulus[1], Harald Braun[1], Harald H. Quick[1]
[1]Institute of Medical Physics, Friedrich-Alexander-University Erlangen-Nuremberg, Erlangen, Germany

2813. Towards Simultaneous PET/MR Breast Imaging: Systematic Evaluation and Integration of an RF Breast Coil
Bassim Aklan[1], Daniel H. Paulus[1], David Fual[2], Christian Geppert[3], Eric E. Sigmund[4], Amy Melsaether[5], Evelyn Wenkel[6], Harald Braun[1], Susanne Ziegler[1], Harald H. Quick[1]
[1]Institute of Medical Physics, University of Erlangen-Nuernberg, Erlangen, Germany; [2]Siemens Medical Solutions, New York, , NY, United States; [3]Siemens Medical Systems, New York,, NY, United States; [4]Department of Radiology for Biomedical Imaging NY Langone Medical Center, New York,, NY, United States; [5]Breast Imaging Section, Department of Radiology Medical Center, New York,, NY, United States; [6]Institute of Radiology, University Hospital Erlangen, Erlangen, Germany

2814. MR-Based Attenuation Correction of Local Radiofrequency Surface Coils in PET/MR Hybrid Imaging
Daniel H. Paulus[1], Harald Braun[1], Bassim Aklan[1], Harald H. Quick[1]
[1]Institute of Medical Physics, Friedrich-Alexander-University Erlangen-Nuremberg, Erlangen, Bavaria, Germany

2815. MR Based Attenuation Correction Including Cortical Bone for PET/MR Hybrid Imaging
Bharath K. Navalpakkam[1], Harald Braun[2], Joachim Hornegger[1], Torsten Kuwert[3], Harald H. Quick[2]
[1]Pattern Recognition Lab, Friedrich-Alexander-University Erlangen-Nürnberg, Erlangen, Bavaria, Germany; [2]Institute of Medical Physics, Friedrich-Alexander-University Erlangen-Nürnberg, Erlangen, Bavaria, Germany; [3]Clinic of Nuclear Medicine, Friedrich-Alexander-University Erlangen-Nürnberg, Erlangen, Bavaria, Germany

2816. MR-Compatibility of a SiPM-Based PET Detector Module Using HDMI for Analog Readout and Power Supply
Jonathan D. Thiessen[1], Eric Berg[2], Chen-Yi Liu, [13], Daryl Bishop[4], Piotr Kozlowski[5], [6], Fabrice Retière[4], Vesna Sossi[6], Greg Stortz[6], Christopher J. Thompson[7], Xuezhu Zhang[1], Andrew L. Goertzen[1], [3]
[1]Radiology, University of Manitoba, Winnipeg, Manitoba, Canada; [2]Biomedical Engineering, University of California, Davis, Davis, CA, United States; [3]Physics & Astronomy, University of Manitoba, Winnipeg, Manitoba, Canada; [4]Detector Development Group, TRIUMF, Vancouver, British Columbia, Canada; [5]Radiology, University of British Columbia, Vancouver, British Columbmia, Canada; [6]Physics & Astronomy, University of British Columbia, Vancouver, British Columbia, Canada; [7]McConnell Brain Imaging Centre, Montreal Neurological Institute, Montreal, Quebec, Canada

2817. Three Approaches to Phantom Fluid Selection for Simultaneous PET/MR Hybrid Imaging
Susanne Ziegler[1], Harald Braun[1], Philipp Ritt[2], [3], Carsten Hocke[2], Torsten Kuwert[2], Harald H. Quick[1]
[1]Institute of Medical Physics, University of Erlangen-Nuremberg, Erlangen, Germany; [2]Clinic for Nuclear Medicine, University Hospital Erlangen, Erlangen, Germany; [3]Pattern Recognition Lab, University of Erlangen-Nuremberg, Erlangen, Germany

2818. Simultaneous PET/MR with Continuous Table Motion: The Effect of Table Motion Speed on Image Quality
Harald Braun[1], Susanne Ziegler[1], Harald H. Quick[1]
[1]Institute of Medical Physics, University of Erlangen-Nürnberg, Erlangen, Germany

Traditional Poster
Safety (Non-Contrast Agent)

Exhibition Hall Wednesday 13:30-15:30

2819. The New EU Proposal Vs. 2004/40/EC - An MR Exposure Data Comparison
Jens Groebner[1], [2], Michael Bock[1]
[1]Dept. of Radiology / Medical Physics, University Medical Center Freiburg, Freiburg, BW, Germany; [2]Dept. of Medical Physics in Radiology, German Cancer Research Center (DKFZ), Heidelberg, BW, Germany

2820. Effect of 9.4 Tesla Sodium MR Neuroimaging on Vital Signs and Cognitive Performance in Healthy and For-Cause Volunteers
Ian C. Atkinson[1], Wesley McClain[1], Neil Pliskin[2], Keith R. Thulborn[1]
[1]Center for MR Research, University of Illinois at Chicago, Chicago, IL, United States; [2]Psychiatry, University of Illinois at Chicago, Chicago, IL, United States

2821. A Portable MR Exposure Monitoring System for B_0 and DB/dt Up to 7T.
Jens Groebner[1, 2], Reiner Umathum[2], Michael Bock[1]
[1]Dept. of Radiology / Medical Physics, University Medical Center Freiburg, Freiburg, BW, Germany; [2]Dept. of Medical Physics in Radiology, German Cancer Research Center (DKFZ), Heidelberg, BW, Germany

2822. Gradient Induced Heating on Thin Conducting Surfaces: Simulation and Experiment
Chad Tyler Harris[1], William B. Handler[1], Blaine A. Chronik[1, 2]
[1]Physics and Astronomy, Western University, London, Ontario, Canada; [2]Imaging Research Laboratories, Robarts Research Institute, London, Ontario, Canada

2823. A Whole-Body RF Dosimeter for Independent SAR Measurement in MR Scanners
Di Qian[1, 2], AbdEl-Monem M. El-Sharkawy[3], Paul A. Bottomley, [23], William A. Edelstein[1]
[1]Radiology, Johns Hopkins School of Medicine, Baltimore, MD, United States; [2]Electrical and Computer Engineering, Johns Hopkins University, Baltimore, MD, United States; [3]Radiology, Johns Hopkins University, Baltimore, MD, United States

2824. Influence of a Receive Coil on SAR and Temperature Increase at 3T: Simulations & Experimental Measurements
Sukhoon Oh[1], Yeun-chul Ryu[2], Christopher Michael Collins[1]
[1]Center for Biomedical Imaging, School of Medicine, New York University, New York, United States; [2]Center for NMR Research, Radiology, College of Medicine, The Pennsylvania State University, Hershey, PA, United States

2825. SAR Safety Issues in Case of Partial Coil Loading
Peter Vernickel[1], Christoph Leussler[1], Daniel Wirtz[1], Ingmar Graesslin[1]
[1]Philips Research Laboratories, Hamburg, Germany

2826. RF-Heating Testing in 64 MHz RF-Laboratory System and 1.5 Tesla MRI – a Comparative Evaluation
Wolfgang Görtz[1], Nicolas Fülle[1], Gerrit Schönwald[1], Susanne Matthey[1], Gregor Schaefers[1]
[1]MR:comp GmbH, Germany, Gelsenkirchen, NRW, Germany

2827. Uncertainties of Local SAR Determination in Parallel Transmission MRI
Frank Seifert[1], Bernd Ittermann[1]
[1]Physikalisch-Technische Bundesanstalt (PTB), Berlin, Germany

2828. Radiofrequency Heating During Head Imaging in a 3T Transmit Body Coil
Devashish Shrivastava[1], Lynn Utecht[1], Jinfeng Tian[1], Rachana Visaria[2], John Hughes[1], University of Minnesota University of Minnesota Vaughan[1]
[1]University of Minnesota, Minneapolis, MN, United States; [2]MR Safe Devices, Burnsville, MN, United States

2829. Using MR Thermometry for SAR Verification in Local PTX Applications
Klaus M. Huber[1], Joerg Roland[2], Johanna Schoepfer[1], Stephan Biber[2], Sebastian Martius[1]
[1]Corporate Technology, Siemens, Erlangen, Germany; [2]Healthcare, Siemens, Erlangen, Germany

2830. Effects of Tuning Condition, Head Size and Position on the SAR of a 9.4T Dual Row Array
Mikhail Kozlov[1], Gunamony Shajan[2], Robert Turner[1]
[1]Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Saxony, Germany; [2]Max Planck Institute for Biological Cybernetics, Tuebingen, Germany

2831. A Fast Sampled Projection Method for Assessing Coil Configuration Impact on SAR
Amit Hochman[1], Jorge Fernandez Villena[2], Luis Miguel Silveira[2], Elfar Adalsteinsson[1, 3], Lawrence L. Wald[3, 4], Jacob K. White[1], Luca Daniel[1]
[1]Research Laboratory of Electronics, Massachusetts Institute of Technology, Cambridge, MA, United States; [2]INESC ID Instituto de Engenharia de Sistemas e Computadores Investigação e Desenvolvimento, Lisbon, Portugal; [3]Harvard-MIT Division of Health Sciences Technology, Cambridge, MA, United States; [4]Department of Radiology, Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Charlestown, MA, United States

2832. EM and Thermal Validation of a Numerical Elliptical Birdcage at 3T
Mélina Bouldi[1], Jan M. Warnking[1, 2]
[1]Grenoble Institut des Neurosciences - UJF, Grenoble, Rhône-Alpes, France; [2]Inserm U836, Grenoble, Rhône-Alpes, France

2833. Statistical Local SAR Analysis by Latin Hypercube Sampling for 11.7 Tesla Brain MRI
Yu Shao[1], Peng Zeng[2], Joseph Murphy-Boesch[3], Jeff H. Duyn[3], Alan P. Koretsky[3], Shumin Wang[1]
[1]Electrical and Computer Engineering, Auburn University, Auburn, AL, United States; [2]Mathematics and Statistics, Auburn University, Auburn, AL, United States; [3]LFMI/NINDS/NIH, Bethesda, MD, United States

2834. Prediction of RF Burning: Mapping of High-SAR Areas Using a Low-RF Power Scan
Toru Yamamoto[1], Minghui Tang[2]
[1]Faculty of Health Sciences, Hokkaido University, Sapporo, Hokkaido, Japan; [2]Graduate School of Health Sciences, Hokkaido Univrsity, Sapporo, Hokkaido, Japan

2835. Local SAR Prediction Errors with Variation of Electrical Properties in the Head at 7T
Muhammad Hassan Chishti[1], Zhangwei Wang[2], Desmond Yeo[1]
[1]GE Global Research Center, Niskayuna, NY, United States; [2]GE Healthcare, Waukesha, WI, United States

2836. Vascular Flow Effects on RF Heating of Passive Implants: The Use of a Flow Modified ASTM F2182 Phantom in a Siemens Tim Trio 3T Scanner
Alan Leewood[1], David Gross[1], Jeff Crompton[2], Sergei Yushanov[2], Orlando P. Simonetti[3], Yu Ding[3]
[1]MED Institute, Inc., West Lafayette, IN, United States; [2]AltaSim Technologies, LLC, Columbus, OH, United States; [3]The Ohio State University, Columbus, OH, United States

2837. A New Design of an Implanted Medical Lead to Reduce RF Heating in MRI
Rupam Kumar Das[1], Hyoungsuk Yoo[2]
[1]Department of Biomedical Engineering, School of Electrical Engineering , University of Ulsan, Ulsan, Korea; [2]Department of Biomedical Engineering, School of Electrical Engineering, University of Ulsan, Ulsan, Korea

2838. Local SAR Investigations in the Presence of Conductive Media
Craig I. Lawrie[1], Xiaoyu Yang[1], Tsinghua Zheng[1], Matthew Finnerty[2], Shinya Handa[2], Hiroyuki Fujita[2, 3]
[1]Quality Electrodynamics, LLC, Mayfield Village, OH, United States; [2]Quality Electrodynamics, Mayfield Village, OH, United States; [3]Department of Physics, Case Western Reserve University, Cleveland, OH, United States

2839. Detailing RF Heating Induced by Coronary Stents at 7.0T Using Numerical EMF Simulations and Heating Experiments
Lukas Winter[1], Davide Santoro[1], Alexander Müller[1], Wolfgang Renz[1, 2], Celal Özerdem[1], Andreas Graessl[1], Valeriy Tkachenko[3], Jeanette Schulz-Menger[3, 4], Thoralf Niendorf[1, 3]
[1]Berlin Ultrahigh Field Faciltiy (B.U.F.F.), Max-Delbrück Center for Molecular Medicine, Berlin, Germany; [2]Siemens Healthcare, Erlangen, Germany; [3]Experimental and Clinical Research Center (ECRC), a joint cooperation between Charité Medical Faculty and Max-Delbrück Center for Molecular Medicine, Berlin, Germany; [4]Department of Cardiology and Nephrology, HELIOS Klinikum Berlin-Buch, Berlin, Germany

2840. Contrast in Visualized Currents Using Reverse Polarization and Pre-Spoiling Twister Gradients
Christopher W. Ellenor[1], Pascal P. Stang[1], John M. Pauly[1], Greig C. Scott[1]
[1]Electrical Engineering, Stanford University, Stanford, CA, United States

2841. Ink-Net: Safe 256 Channel EEG at 7T
Daniel G. Wakeman[1], Boris Keil[1], Bill McSwain[2], Maria Ida Iacono[1], Catherine Poulsen[2], Giorgio Bonmassar[1]
[1]A.A. Martinos Center for Biomedical Imaging, Harvard Medical School, Radiology, Massachusetts General Hospital, Charlestown, MA, United States; [2]Electrical Geodesics, Inc., Eugene, OR, United States

2842. Recent Developments in Tattoo Removal Methods and Potential Implications for MRI Patient Safety
Michael C. Steckner[1], Emanuel Kanal[2]
[1]TMRU, Mayfield Village, OH, United States; [2]Department of Radiology, University of Pittsburgh Medical Center, Pittsburgh, PA, United States

Electronic Poster
Parkinson's Neurodegenerative

Exhibition Hall Monday 10:45-11:45

Computer 1 **2843. Study of Articulatory Movement from the Single Slice Dynamic Imaging of the Vocal Tract in Parkinsonism**

S. Senthil Kumaran[1], Sunita Gudwani[1], Mohit Saxena[2], Madhuri Behari[2]
[1]Department of NMR, All India Institute of Medical Sciences, New Delhi, Delhi, India; [2]Department of Neurology, All India Institute of Medical Sciences, New Delhi, Delhi, India

Computer 2 **2844. Short Term Visual Memory Dysfunction in Parkinsonism**

Mohit Saxena[1], S. Senthil Kumaran[2], Madhuri Behari[1], Vinay Goyal[1]
[1]Department of Neurology, All India Institute of Medical Sciences, New Delhi, Delhi, India; [2]Department of NMR, All India Institute of Medical Sciences, New Delhi, Delhi, India

Computer 3 **2845. Differential Diffusivity in Parkinsonism**

Mohit Saxena[1], S. Senthil Kumaran[2], Madhuri Behari[1], Vinay Goyal[1]
[1]Department of Neurology, All India Institute of Medical Sciences, New Delhi, Delhi, India; [2]Department of NMR, All India Institute of Medical Sciences, New Delhi, Delhi, India

Computer 4 **2846. Preservation of Deep Gray Nuclear Tissue Contrast and Utility of Thalamus as an Internal Standard in Inversion Recovery MR Images at High and Low RF Power in Parkinson's Patients Treated with Deep Brain Neurostimulators**

Subhendra Sarkar[1], Ron Alterman[2], Rafael Rojas[1], Douglas Teich[1], Jeremy Stormann[1], Ines Cabral-Goncalves[1], David Hackney[1], Efstathios Papavassiliou[2]
[1]Radiology, Beth Israel Deaconess Medical Center, Harvard Medical School, BOSTON, MA, United States; [2]Surgery, Beth Israel Deaconess Medical Center, Harvard Medical School, BOSTON, MA, United States

Computer 5 **2847. Functional Connectivity in Patients with Progressive Sopranuclear Palsy Is Modulated by Cerebellar Intermittent Theta Burst Stimulation**

Chiara Mastropasqua[1, 2], Marco Bozzali[3], Viviana Ponzo[4], Mara Cercignani, [15], Carlo Caltagirone[6, 7], Livia Brusa[8], Giacomo Koch[4, 9]
[1]Neuroimaging Laboratory, IRCCS Santa Lucia, Rome, Italy; [2]Department of Neuroscience, Trieste University, Trieste, Italy; [3]Neuroimaging Laboratory, Santa Lucia Foundation, Rome, Italy; [4]Department of Clinical and Behavioural Neurology, IRCCS Santa Lucia, Rome, Italy; [5]Clinical Imaging Sciences Centre, Brighton & Sussex Medical School, Falmer, United Kingdom; [6]Department of Clinical and Behavioural Neurology, IRCCS Santa Lucia Foundation, Rome, Italy; [7]Dep. of Neuroscience, University of Rome Tor Vergata, Rome, Italy; [8]Dep. of Neurology, S. Eugenio Hospital, Rome, Italy; [9]Stroke Unit, Department of Neuroscience, University of Rome Tor Vergata, Rome, Italy

Computer 6 **2848. Magnetisation Transfer Contrast to Enhance Detection of Neuromelanin Loss at 3T in Parkinson's Disease.**

Stefan T. Schwarz[1], Nin Bajaj[2], Paul S. Morgan[3], Scott Reid[4], Penelope A. Gowland[5], Dorothee P. Auer[1]
[1]Division of Radiological and Imaging Sciences, University of Nottingham, Nottingham, Nottinghamshire, United Kingdom; [2]Department of Neurology, Nottingham University Hospitals NHS Trust, Nottingham, Nottinghamshire, United Kingdom; [3]Medical Physics, Nottingham University Hospitals NHS Trust, Nottingham, Nottinghamshire, United Kingdom; [4]Clinical Science Development Group, GE Healthcare, Diagnostic Imaging, Hatfield, Hertfordshire, United Kingdom; [5]School of Physics & Astronomy, University of Nottingham, Nottingham, Nottinghamshire, United Kingdom

Computer 7 **2849. Detecting Alterations in Substantia Nigra in Parkinson's Disease**

Xiangchuan Chen[1], Daniel Huddleston[2, 3], Jason Langley[1], Xiaoping P. Hu[1]
[1]Biomedical Imaging Technology Center, Emory University, Atlanta, GA, United States; [2]Kaiser Permanente Center for Health Research Southeast, Atlanta, GA, United States; [3]Department of Neurology, Emory University, Atlanta, GA, United States

Computer 8 **2850. Frontal Lobe Dysfunction Correlates with Microstructural Alteration of Cerebral White Matter in Multiple System Atrophy.**

Takaaki Hattori[1], Kinya Ishikawa[2], Kiyobumi Ota[2], Shigeki Aoki[3], Naoko Mitani[4], Hidehiro Mizusawa[2]
[1]NINDS, National Institute of Health , Chevy chase, MD, United States; [2]Department of Neurology and Neurological Science, Tokyo Medical and Dental University, Binkyo-ku, Tokyo, Japan; [3]Radiology, Juntedo University, Bunkyo-ku, Tokyo, Japan; [4]Otolaryngology, Kanto Central Hospital, Setagaya-ku, Tokyo, Japan

Computer 9 **2851. Comparison of Brain Metabolite Changes in Manganese-Exposed Welders and Smelters**

Zaiyang Long[1, 2], Yue-Ming Jiang[3], Xiang-Rong Li[4], Jun Xu[1, 2], Li-Ling Long[4], Wei Zheng[1], James B. Murdoch[5], Ulrike Dydak[1, 2]

[1]School of Health Sciences, Purdue University, West Lafayette, IN, United States; [2]Department of Radiology and Imaging Sciences, Indiana University School of Medicine, Indianapolis, IN, United States; [3]Dept. of Occupational Health and Toxicology, Guangxi Medical University, Nanning, Guangxi, China; [4]Department of Radiology, the First Affiliated Hospital of Guangxi Medical University, Nanning, Guangxi, China; [5]Toshiba Medical Research Institute USA, Mayfair village, OH, United States

Computer 10 **2852. Hemispheric Asymmetry of Hippocampus Perfusion and Its Response to Physostigmine Challenge in a Nationally Representative Sample of Gulf War Veterans**

Xiufeng Li[1, 2], Jeffrey S. Spence[3, 4], David M. Buhner[4], Robert W. Haley[4], Richard W. Briggs, [45]

[1]Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, MN, United States; [2]Radiology, UT Southwestern Medical Center, Dallas, TX , United States; [3]Clinical Sciences, UT Southwestern Medical Center, Dallas, TX, United States; [4]Internal Medicine, UT Southwestern Medical Center, Dallas, TX, United States; [5]Radiology, UT Southwestern Medical Center, Dallas, TX, United States

Computer 11 **2853. An Investigation of Functional Connectivity in the Inhibitory Control Network in Prodromal Huntington's Disease**

Katherine A. Koenig[1], Stephen M. Rao[2], Mark J. Lowe[1], Jian Lin[1], Deborah L. Harrington[3], Dawei Liu[4], Ken E. Sakaie[1], Jane S. Paulsen[5]

[1]Imaging Sciences, Cleveland Clinic, Cleveland, OH, United States; [2]Neurological Institute, Cleveland Clinic, Cleveland, OH, United States; [3]Research, Neurology, and Radiology Services, Veterans Affairs San Diego Healthcare System, San Diego, CA, United States; [4]Department of Biostatistics, The University of Iowa Carver College of Medicine, Iowa City, IA, United States; [5]Department of Psychiatry, The University of Iowa Carver College of Medicine, Iowa City, IA, United States

Computer 12 **2854. Quantitative Susceptibility Mapping (QSM) in Wilson&[prime]s Disease**

Andreas Schäfer[1], Dominik Fritzsch[2], Peter Günther[3], Robert Trampel[1], Robert Turner[1], Karl-Titus Hoffmann[2]

[1]Max-Planck-Institute for Human Cognitive and Brain Sciences, Leipzig, Germany; [2]Department of Neuroradiology, University of Leipzig, Leipzig, Germany; [3]Department of Neurology, University of Leipzig, Leipzig, Germany

Computer 13 **2855. ^{1}H MRS Reveals Decreased Motor Cortex Glutathione in Patients with ALS**

Nora Weiduschat[1], Xiangling Mao[1], Jonathan Hupf[2], Nicole Armstrong[2], Hiroshi Mitsumoto[2], Dikoma C. Shungu[1]

[1]Radiology, Weill Cornell Medical College, New York, NY, United States; [2]Neurology, Columbia University College of Physicians and Surgeons, New York, NY, United States

Computer 14 **2856. Quantitative Susceptibility Mapping (QSM) of the Motor Cortex as a Potential Biomarker in Amyotrophic Lateral Sclerosis (ALS)**

Tian Liu[1, 2], Andrew D. Schweitzer[1], Karen S. Zheng[1], Stephen Seedial[1], Alexander Shtilbans[3], Dale J. Lange[3], Yi Wang[1], Apostolos John Tsirouis[1]

[1]Radiology, Weill Cornell Medical College, New York, United States; [2]MedImageMetric LLC, New York, United States; [3]Hospital for Special Surgery, New York, United States

Computer 15 **2857. Assessing Regional Gray and White Matter Changes to Understand the CNS Related Symptoms of Myotonic Distrophy Type-1**

Marco Bozzali[1], Laura Serra[2], Barbara Spanò[2], Mario Torso[2], L Lispi[3], A Rosini[3], S. Costanzi-Porrino[3], M. Giacanelli[3], Carlo Caltagirone[4], A Petrucci[3]

[1]Neuroimaging Laboratory, Santa Lucia Foundation, Rome, Italy; [2]Neuroimaging Laboratory, IRCCS Santa Lucia Foundation, Rome, Italy; [3]Neurology and neurophysiopathology Unit, "San Camillo Forlanini" Hospital, Rome, Italy; [4]Neurological and behavioural Laboratory, IRCCS Santa Lucia Foundation, Rome, Italy

Computer 16 **2858. 7T MRS Classification of Clinically Similar Ataxias (SCA1, SCA2, SCA3 and SCA6)**

ISMRM MERIT AWARD magna cum laude

Uzay E. Emir[1], Diane Hutter[1], Khalaf O. Bushara[1], Christopher M. Gomez[2], Lynn E. Eberly[1], Gulin Oz[1]

[1]University of Minnesota, Minneapolis, MN, United States; [2]University of Chicago, Chicago, IL, United States

Computer 17 **2859. White Matter Abnormalities in Perinatally HIV-Infected Youths: A Diffusion Tensor Imaging Study**

Manoj K. Sarma[1], Margaret Keller[2], Linda Chang[3], Rajakumar Nagarajan[1], Judy Hayes[2], Karin Nielsen-Saines[4], David E. Michalik[5], Jaime Deville[4], Joseph A. Church[6], M. Albert Thomas[1]

[1]Radiological Sciences, University of California Los Angeles, Los Angeles, CA, United States; [2]Department of Pediatrics, Harbor-UCLA Medical Center, Torrance, CA, United States; [3]Department of Medicine, University of Hawaii at Manoa, Honolulu, HI, United States; [4]Department of Pediatrics, University of California Los Angeles, Los Angeles, CA, United States; [5]Department of Infectious disease-Pediatrics, Miller's Children's Hospital of Long Beach, Long Beach, CA, United States; [6]Department of Pediatrics, Children's Hospital Los Angeles, Los Angeles, CA, United States

Computer 18 **2860. Whole-Brain MR Spectroscopic Imaging in Adults Perinatally-Infected with HIV**

Varan Govind[1], Anai Cuadra[2], Elizabeth Willen[2], Catherine Longa[2], Kristopher Arheart[3], M. Judy D. Post[1], Monica Molina[2], Carmen Velazquez[2], Andrew A. Maudsley[1], Sulaiman Sheriff[1]

[1]Radiology, University of Miami, Miami, FL, United States; [2]Pediatrics, University of Miami, Miami, FL, United States; [3]Epidemiology , University of Miami, Miami, FL, United States

Computer 19 **2861. Dynamic Contrast Enhancement in a Mouse Model of Neuropsychiatric Systemic Lupus Erythematosus**

Mark E. Wagshul[1], Jing Wen[2], Roman Fleysher[3], Ariel Stock[2], Craig A. Branch[4], Chaim Putterman[5]

[1]Radiology, Gruss MRRC, Albert Einstein College of Medicine, Bronx, NY, United States; [2]Microbiology & Immunology, Albert Einstein College of Medicine, Bronx, NY, United States; [3]Radiology, Albert Einstein College of Medicine , Bronx, NY, United States; [4]Radiology, Albert Einstein College of Medicine, Bronx, NY, United States; [5]Medicine and Microbiology & Immunology, Albert Einstein College of Medicine, Bronx, NY, United States

Computer 20 **2862. Assessment of Antiretroviral Therapy Effects in Early HIV Infection by Diffusion Tensor Imaging**

Christina Louise Sammet[1], Jordan S. Muraskin[2], Riti J. Mahadevia[1], Ying Wu[3], Hongyan Du[3], Leon Epstein[1], Babafemi Taiwo[1], Ann B. Ragin[1]

[1]Northwestern University, Chicago, IL, United States; [2]Columbia University, New York, NY, United States; [3]NorthShore University Hospital, Evanston, IL, United States

Computer 21 **2863. Comprehensive Autoregional DTI and MTR of Asymptomatic HIV Brain**

Ying Wu[1, 2], Ryan Hutten[1], Yi Gao[3], Hongyan Du[3], Nadia Abbasi[1], Robert R. Edelman[1, 4], Ann B. Ragin[4]

[1]Department of Radiology, NorthShore University HealthSystem, Evanston, IL, United States; [2]Department of Radiology, The University of Chicago Pritzker School of Medicine, Chicago, IL, United States; [3]Center for Clinical and Research Informatics (CCRI), NorthShore University HealthSystem, Evanston, IL, United States; [4]Department of Radiology, Northwestern University Feinberg School of Medicine, Chicago, IL, United States

Computer 22 **2864. Evidence for Structural Differences in Normal Appearing Brain Tissue of Those Carrying Different Alleles of APOE**

Nicholas G. Dowell[1], Simon L. Evans[2], Torsten Ruest[2], Paul S. Tofts[1], Sarah L. King[2], Naji Tabet[3], Jenny M. Rusted[2]

[1]CISC, Brighton and Sussex Medical School, Brighton, East Sussex, United Kingdom; [2]School of Psychology, University of Sussex, Brighton, United Kingdom; [3]Brighton and Sussex Medical School, University of Brighton, Brighton, United Kingdom

Computer 23 **2865. CSF Biomarkers Associate with GM Volume and Brain Microstructural Changes Mainly from Default Mode Network in Alzheimer's Disease**

Xiaozhen Li[1], Tie-Qiang Li[2], Niels Andreasen[3], Maria Kristoffersen Wiberg[4], Eric Westman[1], Lars-Olof Wahlund[1]

[1]NVS Department, Karolinska Institutet, Stockholm, Sweden; [2]Department of Medical Physics, Karolinska Institutet, Stockholm, Sweden; [3]Alzheimer Disease Research Center, Karolinska Institutet, Stockholm, Sweden; [4]Department of Clinical Science, Intervention, and Technology, Karolinska Institutet, Stockholm, Sweden

Computer 24 **2866. A Preliminary Diffusional Kurtosis Imaging Study of Parkinson Disease: Comparison with Conventional Diffusion Tensor Imaging**

Koji Kamagata[1], Masaaki Hori[1], Keigo Shimoji[1], Michimasa Suzuki[1], Atsushi Nakanishi[1], Hiroyuki Tomiyama[2], Yumiko Motoi[2], Issei Fukunaga[3], Humitaka Kumagai[1], Nobutaka Hattori[2], Shigeki Aoki[1]

[1]Department of Radiology, Juntendo university, Tokyo, Japan; [2]Department of Neurology, Juntendo university, Tokyo, Japan; [3]Department of Radiology, Juntendo University, Tokyo, Japan

Electronic Poster
Advanced Imaging of Dementia

Exhibition Hall Monday 11:45-12:45

Computer 1 **2867. Test-Retest Reliability of Brain Volume Measurements**

Julian R. Maclaren[1], Zhaoying Han[1], Sjoerd B. Vos[1, 2], Christoph Seeger[1, 3], Alexander Brost[1], Nancy J. Fischbein[1], Roland Bammer[1]

[1]Center for Quantitative Neuroimaging, Dept. of Radiology, Stanford University, Stanford, CA, United States; [2]Image Sciences Institute, University Medical Center Utrecht, Utrecht, Netherlands; [3]Pattern Recognition Lab, Friedrich-Alexander-University Erlangen-Nuremberg, Erlangen, Germany

Computer 2 **2868. Evolution of Hemispheric Asymmetry During Healthy Aging Revealed by Multivariate Analysis**

Xiaojing Long[1], Chunxiang Jiang[1], Weiqi Liao[1], Lijuan Zhang[1]

[1]Paul C. Lauterbur Research Center for Biomedical Imaging, Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences, Shenzhen, Guangdong, China

Computer 3 **2869. Comprehensive Autoregional and Autotract Based MTR Analysis of Alzheimer's Disease**

Ryan Hutten[1], Nadia Abbasi[1], Michael Mercury[2], Victoria Braund[2], Zoran Grujic[3], Ying Wu[1, 4]

[1]Department of Radiology, NorthShore University Health System, Evanston, IL, United States; [2]Department of Psychiatry, NorthShore University Health System, Glenview, IL, United States; [3]Department of Internal Medicine, University of Chicago Pritzker School of Medicine, Chicago, IL, United States; [4]Department of Radiology, The University of Chicago Pritzker School of Medicine, Chicago, IL, United States

Computer 4 **2870. Mapping the Alzheimer's Structural Connectome: Findings from the Alzheimer Disease Neuroimaging Initiative**

Jeffrey William Prescott[1], Arnaud Guidon[2], Chunlei Liu[2], Allen Song[2], Murali Doraiswamy[3], Jeffrey Petrella[1], for the Alzheimer's Disease Neuroimaging Initiative[1]

[1]Radiology, Duke University, Durham, NC, United States; [2]Brain Imaging Analysis Center, Duke University, Durham, NC, United States; [3]Psychiatry & Behavioral Sciences, Duke University, Durham, NC, United States

Computer 5 **2871. Relationship Between Cardiovascular Health, Cerebral Physiology and Cognition in Healthy Aging**

Claudine Joëlle Gauthier[1], Muriel Lefort[2], Saïd Mekary[3], Laurence Desjardins-Crépeau[3], Cécile Madjar[3], Louis Bherer[4], Frédérique Frouin[2], Richard D. Hoge[5]

[1]Neurophysics, Max Planck Institute for Cognitive and Brain Sciences, Leipzig, Saxony, Germany; [2]Inserm 678, UPMC, CHU Pitié Salpêtrière, Paris, Ile-de-France, France; [3]CRIUGM, Montreal, Quebec, Canada; [4]Concordia University, Montreal, Quebec, Canada; [5]Physiology, CRIUGM/Université de Montréal, Montreal, Quebec, Canada

Computer 6 **2872. Age-Dependence of Hemodynamic Response Characteristics in Human FMRI**

Claudine Joëlle Gauthier[1, 2], Cécile Madjar[3, 4], Laurence Desjardins-Crépeau[3, 5], Pierre Bellec[3, 6], Louis Bherer,[37], Richard D. Hoge[2]

[1]Neurophysics, Max Planck Institute for Cognitive and Brain Sciences, Leipzig, Saxony, Germany; [2]Physiology, CRIUGM/Université de Montréal, Montreal, Quebec, Canada; [3]CRIUGM, Montreal, Quebec, Canada; [4]Montreal Neurological Institute, Montreal, Quebec, Canada; [5]Psychology, UQAM, Montreal, Quebec, Canada; [6]Computer Science and Operations Research, Université de Montréal, Montreal, Quebec, Canada; [7]Concordia University, Montreal, Quebec, Canada

Computer 7 **2873. Reproducibility of Brain Morphometry Results Derived at 3T: A Multi-Center European Study Comparing the Longitudinal and Cross-Sectional Freesurfer Segmentation Analyses**

Jorge Jovicich[1], Moira Marizzoni[2], Roser Sala-Llonch[3], Nuria Bargalló[3], David Bartrés-Faz[3], Jennifer Arnold[4], Jens Benninghoff[4], Jens Wiltfang[4], Luca Roccatagliata[5], Flavio Nobili[5], Christian Zeeh[6], Peter Schonknecht[6], Giada Zoccatelli[7], Franco Alessandrini[7], Alberto Beltramello[7], Hélène Gros-Dagnac[8], Pierre Payoux[8], Valérie Chanoine[9, 10], Jean-Philippe Ranjeva[9, 10], Mira Didic[9, 10], Melanie Leroy[11], Regis Bordet[11], Giovanni Frisoni[2]

[1]University of Trento, Center for Mind/Brain Sciences, Mattarello, Trento, Italy; [2]IRCCS San Giovanni di Dio Fatebenefratelli, LENITEM Lab of Epidem., Neuroim. & Telem, Brescia, Lombardia, Italy; [3]Dept. Psychiatry and Clinical Psychobiology, Faculty of Medicine University of Barcelona, Barcelona, Spain; [4]Department of Psychiatry and nuclear medicine, Universitaet Duisburg-Essen, Essen, Germany; [5]Dept of Neuroscience, Ophthalmology and Genetics, University of Genoa, Genoa, Lombardia, Italy; [6]Dept of Psychiatry and Dept of Neuroradiology, University of Leipzig, Leipzig, Germany; [7]Dept of Neuroradiology, Verona General Hospital, Verona, Italy; [8]U825 - Plateau Technique IRM, INSERM / Université Paul Sabatier, Toulouse, France; [9]Hôpital La Timone CIC – UPCET, Marseille, France; [10]Centre de Resonance Magnetique Biologique et Medicale , Aix Marseille Université , Marseille, France; [11]Universitè Lille UL2, Lille, France

Computer 8 **2874. Tissue Cell Fraction (TCF) from Quantitative Sodium MR Imaging Does Not Change with Age in Cognitively Normal Subjects**

Keith R. Thulborn[1], Saad Jamil[1], Aiming Lu[1], Ian C. Atkinson[1]
[1]Ctr Magnetic Resonance Research, University of Illinois, Chicago, IL, United States

Computer 9 **2875. T1rho Measurement in Rat Brain Tissue Changes Associated with Aging and Chronic Hypertension**

Feng Zhao[1], Li-Hong Zhang[2], Jing Yuan[1], Queenie Chan[3], David Yew[2], Yi-Xiang Wang[1]
[1]Department of Imaging and Interventional Radiology, The Chinese University of Hong Kong, Shatin, N.T., Hong Kong; [2]Brain Research Centre, School of Biomedical Sciences, Faculty of Medicine, The Chinese University of Hong Kong, Shatin, N.T., Hong Kong; [3]Philips Healthcare, Hong Kong, Hong Kong

Computer 10 **2876. Voxel-Based Analysis of Cerebral Perfusion Changes in Alzheimer Disease and Mild Cognitive Impairment Measured with a Novel 3D Arterial Spin Labeling Technique**

Yong Zhang[1], He Wang[1], Guang Cao[1], Qing Mao[1], Bei Ding[2], Hua-Wei Ling[2]
[1]GE Healthcare, Shanghai, China; [2]Ruijin Hospital, Shanghai, China

Computer 11 **2877. An Integrated Resting-State fMRI and DTI Based Connectivity Analysis to Understand Brain Alteration Affected by Alzheimer's Disease and Amnestic Mild Cognitive Impairment**

Shantanu Majumdar[1], David C. Zhu[1, 2]
[1]Department of Radiology, Michigan State University, East Lansing, MI, United States; [2]Department of Psychology, Michigan State University, East Lansing, MI, United States

Computer 12 **2878. Regional Brain Stiffness Changes Across the Alzheimer's Disease Spectrum**

Matthew C. Murphy[1], John Huston[1], Clifford R. Jack[1], Kevin J. Glaser[1], David T. Jones[2], Matthew L. Senjem[1], Armando Manduca[3], Joel P. Felmlee[1], Richard Leroy Ehman[1]
[1]Department of Radiology, Mayo Clinic, Rochester, MN, United States; [2]Department of Neurology, Mayo Clinic, Rochester, MN, United States; [3]Department of Physiology and Biomedical Engineering, Mayo Clinic, Rochester, MN, United States

Computer 13 **2879. *ex-vivo* MRI Detects T2 Alterations Associated with Alzheimer's Disease, Comorbid Neuropathology, and Antemortem Cognition**

Robert Dawe[1], David A. Bennett[1], Julie Schneider[1], Sue Leurgans[1], Konstantinos Arfanakis, [12]
[1]Rush University Medical Center, Chicago, IL, United States; [2]Illinois Institute of Technology, Chicago, IL, United States

Computer 14 **2880. Sensitivity of Brain Volumetry: A FreeSurfer-Based Segmentation Study of Brain Data Acquired with the ADNI Protocol Vs. GE BRAVO**

Zhaoying Han[1], Julian R. Maclaren[1], Alexander Brost[1], Sjoerd B. Vos[1, 2], Christoph Seeger[1, 3], Nancy J. Fischbein[1], Roland Bammer[1]
[1]Center for Quantitative Neuroimaging, Department of Radiology, Stanford University, Palo Alto, CA, United States; [2] Image Sciences Institute, University Medical Center Utrecht, Utrecht, Netherlands; [3]Pattern Recognition Lab, Friedrich-Alexander-University Erlangen-Nuremberg, Erlangen, Germany

Computer 15 **2881. Age-Related Changes in Regional Brain T1 and T2 Relaxation Times in the Healthy Mouse at 17.6 T**

Firat Kara[1], Fu Chen[1], Itamar Ronen[2], Huub J. M. de Groot[1], Jorg Matysik[1, 3], A Alia[1, 2]
[1]Leiden Institute of Chemistry, Leiden University, Leiden, Netherlands; [2]Department of Radiology, Leiden University Medical Center, Leiden, Netherlands; [3]Institut fuer Analytische Chemie, Universitaet Leipzig, Leipzig, Germany

Computer 16 **2882. 2D L-COSY MR Spectroscopy Detects Changes in Brain Glucose Level in a Mouse Model of Alzheimer's Disease**

A Alia[1, 2], Firat Kara[1], Niels Braakman[1], Mark A. van Buchem[2], Reinhard Schliebs[3]
[1]Leiden Institute of Chemistry, Leiden University, Leiden, Netherlands; [2]Department of Radiology, Leiden University Medical Center, Leiden, Netherlands; [3]University of Leipzig, Leipzig, Germany

Computer 17 **2883.** **Comparing Differences in Alzheimer's Disease Classification Between Structural and Resting-State Functional MRI Biomarkers**
Guangyu Chen[1], Chunming Xie[1], Guangyu Chen[1], Wenjun Li[1], B. Douglas Ward[1], Jennifer L. Jones[2], Malgorzata Franczak[2], Piero G. Antuono[2], Shi-Jiang Li[1]
[1]Department of Biophysics, Medical College of Wisconsin, Milwaukee, WI, United States; [2]Department of Neurology, Medical College of Wisconsin, Milwaukee, WI, United States

Computer 18 **2884.** **Quantitative Susceptibility Mapping (QSM) in Alzheimer&[prime]s Disease - A Postmortem Study**
Andreas Schäfer[1], Solveig Tiepolt[2], Elisabeth Roggenhofer[1], Robert Trampel[1], Carsten Stueber[1], Vilia Zeisig[2], Udo Grossmann[2], Thies H. Jochimsen[2], Osama Sabri[2], Robert Turner[1], Henryk Barthel[2]
[1]Max-Planck-Institute for Human Cognitive and Brain Sciences, Leipzig, Germany; [2]Department of Nuclear Medicine, University of Leipzig, Leipzig, Germany

Computer 19 **2885.** **Gender-Specific Anatomical Alterations of Hemispheric Asymmetry During Healthy Aging of Human Brain**
Xiaojing Long[1], Chunxiang Jiang[1], Weiqi Liao[1], Lijuan Zhang[1]
[1]Paul C. Lauterbur Research Center for Biomedical Imaging, Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences, Shenzhen, Guangdong, China

Computer 20 **2886.** **Comparison of Neuroimaging Biomarkers in Alzheimer's Disease**
Pablo Garcia-Polo[1, 2], Daniel Garcia-Frank[3], Alicia Quiros[4], Zhongmin Lin[5], Litao Yan[5], Gopal Avinash[5], Roberto Garcia-Alvarez[6], Juan Álvarez-Linera[7], Juan Antonio Hernandez-Tamames[1, 2]
[1]DTE, Universidad Rey Juan Carlos, Móstoles, Madrid, Spain; [2]CIBERNED, Alzheimer's Project Queen Sofia Foundation, Madrid, Spain; [3]IDIPAZ, FIBHULP, Madrid, Spain; [4]Universidad Rey Juan Carlos, Fuenlabrada, Madrid, Spain; [5]GE Healthcare, Waukesha, WI, United States; [6]GE Healthcare, Madrid, Spain; [7]Hospital Ruber Internacional, Madrid, Spain

Computer 21 **2887.** **Neural Correlates of Constructional Apraxia in Patients with Alzheimer's Disease.**
Laura Serra[1], Lucia Fadda[2], Roberta Perri[2], Barbara Spanò[1], Mario Torso[1], Diana Castelli[3], Camillo Marra[3], Carlo Caltagirone[2], Marco Bozzali[4]
[1]Neuroimaging Laboratory, IRCCS Santa Lucia Foundation, Rome, Italy; [2]Neurological and behavioural laboratory, IRCCS Santa Lucia Foundation, Rome, Italy; [3]Institute of Neurology, Università Cattolica, Roma, Italy; [4]Neuroimaging Laboratory, Santa Lucia Foundation, Rome, Italy

Computer 22 **2888.** **Impact of Short-Term Administration of Oral Minocycline, a Repurposed Anti-Neuroinflammatory Agent, on MR and Neuropsychological Biomarkers of MCI and AD**
Thao T. Tran[1], Cherise Charleswell[1], Nick O'Dell[1], June Liu[1], Michael Miller[2], Michael Lindsey[3], Brian D. Ross[1]
[1]Clinical MR, HMRI, Pasadena, CA, United States; [2]Webster's Community Pharmacy, Altadena, CA, United States; [3]Huntington Memorial Hospital, Pasadena, CA, United States

Computer 23 **2889.** **Iron-Related Microstructural Alterations in Deep Gray Matter: Correlations from Diffusional Kurtosis Imaging and Quantitative Susceptibility Mapping**
Nan-Jie Gong[1], Chun-Sing Wong[1], Chun-Chung Chan[2], Lam-Ming Leung[2], Queenie Chan[3]
[1]Diagnostic Radiology, Li Ka Shing Faculty of Medicine, The University of Hong Kong, Hong Kong, China; [2]United Christian Hospital, Hong Kong, China; [3]Philips Healthcare, Hong Kong, China

Computer 24 **2890.** **Investigation of Functional Connectivity Changes in Alzheimer Disease Using Degree Centrality**
Yong Zhang[1], He Wang[1], Guang Cao[1], Lin Zhang[2], Gui-Xiang Zhang[2]
[1]GE Healthcare, Shanghai, China; [2]Shanghai First People's Hospital, Shanghai, China

Electronic Poster
Advanced Neuroimaging: Traumatic Brain Injury & Other Clinical Applications

Exhibition Hall Monday 10:45-11:45

Computer 25 **2891.** **Assessment of Brain Apparent Magnetic Susceptibility of Patients with Mild Traumatic Brain Injury**
Wei Liu[1, 2], Binquan Wang[1, 2], Tian Liu[3], Ping-Hong Yeh[1, 2], John Graner[2, 4], John M. Ollinger[2, 4], Hai Pan[1, 2], Jamie Harper[2, 4], Terrence R. Oakes[2, 4], Yi Wang[3], Gerard Riedy[2, 4]
[1]Henry M. Jackson Foundation for the Advancement of Military Medicine, Bethesda, MD, United States; [2]National Capital Neuroimaging Consortium, Bethesda, MD, United States; [3]Biomedical Engineering, Cornell University, New York, United States; [4]National Intrepid Center of Excellence, Bethesda, MD, United States

Computer 26 **2892.** **[1]H MRS Suggests Chronic and Acute Injury in High School Football Players**

ISMRM MERIT AWARD magna cum laude

Victoria N. Poole[1], Larry Leverenz[2], Eric Nauman, [13], Thomas Talavage, [14], Ulrike Dydak[5, 6]
[1]School of Biomedical Engineering, Purdue University, West Lafayette, IN, United States; [2]Department of Health and Kinesiology, Purdue University, West Lafayette, IN, United States; [3]School of Mechanical Engineering, Purdue University, West Lafayette, IN, United States; [4]School of Electrical Engineering, Purdue University, West Lafayette, IN, United States; [5]School of Health Sciences, Purdue University, West Lafayette, IN, United States; [6]Department of Radiology, Indiana University School of Medicine, Indianapolis, IN, United States

Computer 27 **2893.** **1H Metabolite Level Changes in Certain Brain Structures During Mild Traumatic Brain Injury**

Michal Bittsansky[1], Stefan Sivak[1], Jan Grossmann[1], Veronika Ilovska[1], Petra Hnilicova[1], Egon Kurca[1], Dusan Dobrota[1]
[1]Jessenius Faculty of Medicine, Comenius University, Martin, Slovakia, Slovakia

Computer 28 **2894.** **DTI Abnormalities Following Blast-Related TBI Across 4 Independent Cohorts: Regional Specificity for the Middle Cerebellar Peduncle**

Christine MacDonald[1], Ann Johnson[1], Octavian Adam[2], Dennis Rivet[2], James Sorrell[1], Brian Sammons[1], Dana Cooper[1], Linda Wierzechowski[3], Yolanda Barnes[3], John Ritter[4], Todd May[5], Maria Barefield[2], Josh Duckworth[2], Don Labarge[2], Dean Asher[2], Benjamin Drinkwine[2], Joshua S. Shimony[6], Matthew Parsons[6], Abraham Snyder[6], Michael Russell[7], John Witherow[3], Raymond Fang[3], Stephen Flaherty[3], David L. Brody[8]
[1]Neurology, Washington University, Saint Louis, MO, United States; [2]NATO Role 3 Kandahar Air Field, Kandahar, Afghanistan; [3]Landstuhl Regional Medical Center, Landstuhl, Germany; [4]Bastion Hospital, Helmond Province, Afghanistan; [5]Camp Leatherneck, Helmond Province, Afghanistan; [6]Radiology, Washington University, Saint Louis, MO, United States; [7]US Army, San Antonio, TX, United States; [8]Neurology, Washington University in St. Louis, Saint Louis, MO, United States

Computer 29 **2895.** **Long-Term Impact of Major Trauma on Brain Network Function in Traumatic Survivors**

Mingying Du[1], Wei Liao[2], Su Lui[1], Xiaoqi Huang[1], Qiyong Gong[1]
[1]Huaxi MR Research Center (HMRRC), Department of Radiology, West China Hospital of Sichuan University, Chengdu, Sichuan, China; [2]Central for Cognition and Brain Disorders, Hangzhou Normal University, Hangzhou, Zhejiang, China

Computer 30 **2896.** **Global Diffusion Kurtosis Parameter Changes in Mild Traumatic Brain Injury Patients with Persistent Symptoms at Six Months**

Jiachen Zhuo[1], Teodora Stoica[1], Steven Roys[1], Chandler Sours[1, 2], Kathirkamanthan Shanmuganathan[1], Rao P. Gullapalli[1]
[1]Diagnostic Radiology and Nuclear Medicine, University of Maryland School of Medicine, Baltimore, MD, United States; [2]Program in Neuroscience, University of Maryland School of Medicine, Baltimore, MD, United States

Computer 31 **2897.** **Improving the Reliability of Between Group Analyses in DTI-FA Analyses by Detecting and Removing Anatomical Anomalies**

Ramtilak Gattu[1], Zhifeng Kou[2], Robert Welch[3], Valerie Mika[4], Hardik Doshi[4], Ewart Mark Haacke[2], Randall Benson[5]
[1]Radiology, Wayne State University, Detroit, MI, United States; [2]Biomedical Engineering, Radiology, Wayne State University, Detroit, MI, United States; [3]Emergency Medicine, Wayne State University School of Medicine, Detroit, MI, United States; [4]Biomedical Engineering, Wayne State University, Detroit, MI, United States; [5]Center for Neurological Studies, Novi, MI, United States

Computer 32 **2898.** **Serial Atlas-Based DTI Study of Mild Traumatic Brain Injury in Adults**

Khader M. Hasan[1], Terrell D. Staewen[1], Elisabeth A. Wilde[2], Emmy R. Miller[3], Melisa Frisby[2], James J. McCarthy[4], Jill V. Hunter[5], Harvey S. Levin[2], Claudia S. Peterson[3], Ponnada A. Narayana[1]
[1]Diagnostic and Interventional Imaging, University of Texas Health Science Center at Houston, Houston, TX, United States; [2]Physical Medicine and Rehabilitation, Baylor College of Medicine, Houston, TX, United States; [3]Neurosurgery, Baylor College of Medicine, Houston, TX, United States; [4]Emergency Medicine, University of Texas Health Science Center at Houston, Houston, TX, United States; [5]Pediatric Radiology, Texas Children's Hospital, Houston, TX, United States

Computer 33 **2899.** **Identification of Mild Traumatic Brain Injuries by Comparison of Free-Water Corrected Z-Distributions**

Ofer Pasternak[1], Sylvain Bouix[1], Yogesh Rathi[1], Craig A. Branch[2], Carl-Fredrik Westin[1], Martha E. Shenton[1, 3], Michael L. Lipton[4]
[1]Harvard Medical School, Boston, MA, United States; [2]The Gruss Magnetic Resonance Research Center, Albert Einstein College of Medicine, Bronx, NY, United States; [3]VA Boston Healthcare System, Brockton, MA, United States; [4] The Gruss Magnetic Resonance Research Center, Albert Einstein College of Medicine, Bronx, NY, United States

Computer 34 **2900. Functional and Structural Correlation of Hemispheric Language Lateralization Assessed by Functional MRI, Diffusion Tensor Imaging and Voxel Based Morphometry**
Chandrasekharan Kesavadas[1], Jija S. James, Bejoy Thomas, T. R. Kapilamoorthy, Sankara Sarma
[1]Radiology, SCTIMST, Trivandrum, Kerala, India

Computer 35 **2901. Preliminary Cognitive Functional Imaging Study of Patients with Early Diabetes**
Wei Tian[1], Xiang Liu[1], Jianhui Zhong[1], Sven Ekholm[1]
[1]Imaging Sciences, University of Rochester Medical Center, Rochester, NY, United States

Computer 36 **2902. Myelin Water Fraction Measurement Using Free Induction Decay and Refocused Gradient Echoes**
Wendy W. Ni[1, 2], Thomas Christen[1], Greg Zaharchuk[1]
[1]Department of Radiology, Stanford University, Stanford, CA, United States; [2]Department of Electrical Engineering, Stanford University, Stanford, CA, United States

Computer 37 **2903. *Subcortical Brain Segmentation of Two-Dimensional T1w Data Sets with FIRST</I>*chael Amann[1], Michaela Andelova[2], Nicole Mueller-Lenke, [3], Julia Reinhardt, Stefano Magon[2, 4], Stefan Traud[4], Katrin Weier[2], Ludwig Kappos[2], Ernst-Wilhelm Radue[4], Christoph Stippich, Till Sprenger[2]**
[1]Neurology/Neuroradiology, UniversitÃ¤tsspital Basel, Basel, BS, Switzerland; [2]Neurology, UniversitÃ¤tsspital Basel, Basel, BS, Switzerland; [3]Medical Image Analysis Centre , Basel, BS, Switzerland; [4]Medical Image Analysis Centre, Basel, BS, Switzerland

Computer 38 **2904. Exploring Anterioposterior Differences of Hippocampus Perfusion Response to Physostigmine Using ASL**
Xiufeng Li[1, 2], Jeffrey S. Spence[3, 4], David M. Buhner[4], Robert W. Haley[4], Richard W. Briggs[2, 4]
[1]Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, MN, United States; [2]Radiology, UT Southwestern Medical Center, Dallas, TX, United States; [3]Clinical Sciences, UT Southwestern Medical Center, Dallas, TX, United States; [4]Internal Medicine, UT Southwestern Medical Center, Dallas, TX, United States

Computer 39 **2905. Subcortical Versus Cortical Effects of Anesthesia on Blood Oxygenation: *in vivo* Evidence from UHF MRI**
Luisa Ciobanu[1], Lynn Uhrig[2], Boucif Djemai[1], Denis Le Bihan[1], Béchir Jarraya[2, 3]
[1]Neurospin, CEA, Gif sur Yvette, France; [2]Equipe Avenir INSERM Bettencourt Schueller, Neurospin, CEA, Gif sur Yvette, France; [3]Unité de Neurochirurgie Fonctionnelle, Henri-Mondor Hospital, Créteil, France

Computer 40 **2906. *in-vivo* 19F Imaging of Sevoflurane in the Human Brain at Clinical-Relevant Concentrations**
Maolin Qiu[1], Ramachandran Ramani[2], Robert Todd Constable[3]
[1]Diagnostic Radiology, Yale University School of Medicine, New Haven, CT, United States; [2]Anesthesiology, Yale University School of Medicine, New Haven, CT, United States; [3]Diagnostic Radiology, Yale University, New Haven, CT, United States

Computer 41 **2907. Reliablity of MRSI Brain Temperature Mapping at 1.5T and 3T**
Michael J. Thrippleton[1], Jehill Parikh[1], Bridget Harris[2], Scott I. Semple[3], Peter J. Andrews[2], Joanna M. Wardlaw[1], Ian Marshall[1]
[1]Brain Research Imaging Centre, University of Edinburgh, Edinburgh, Lothian, United Kingdom; [2]Department of Anaesthesia, Critical Care and Pain Management, University of Edinburgh, Edinburgh, Lothian, United Kingdom; [3]Centre for Cardiovascular Sciences, University of Edinburgh, Edinburgh, Lothian, United Kingdom

Computer 42 **2908. MR Microscopy of Diseased Human Skin Using Phased-Array of Microcoils at 9.4 T: First Results**
Katharina Göbel[1], Oliver G. Gruschke[2], Jochen Leupold[1], Johannes S. Kern[3], Cristina Has[3], Jan G. Korvink[2, 4], Leena Bruckner-Tudermann[3, 4], Jürgen Hennig[1], Dominik von Elverfeldt[1], Nicoleta Baxan[1, 5]
[1]Dept. of Radiology, Medical Physics, University Medical Center Freiburg, Freiburg, Germany; [2]Lab. of Simulation, University of Freiburg - IMTEK, Freiburg, Germany; [3]Dept. of Dermatology, University Medical Center Freiburg, Freiburg, Germany; [4]Freiburg Institute for Advanced Studies, University of Freiburg, Freiburg, Germany; [5]Bruker BioSpin MRI GmbH, Ettlingen, Germany

Computer 43 **2909. MR Imaging of Peripheral Nerves with Short and Ultrashort Echo Pulse Sequences**
Graeme M. Bydder[1], Richard M. Znamirowski[2], Michael Carl[3], Nikolaus M. Szeverenyi[2]
[1]Radiology, University of California San Diego, San Diego, CA, United States; [2]Radiology, University of California, San Diego, San Diego, CA, United States; [3]GE Healthcare, San Diego, CA, United States

Computer 44 **2910. Cine 2D Phase-Contrast MRI Free of Blood Flow Artifacts to Study Cervical Cerebrospinal Fluid Flow.**
Malek I. Makki[1], Cyrile Cappel[2], Bader Chaarani[2], Catherine Gondry-Jouet[3], Olivier Baledent[4]
[1]MRI Research, University Children Hospital, Zurich, Switzerland; [2]BioFlowImage, University Hospital Picardie Jules Verne, Amiens, France; [3]Radiology, University Hospital Picardie Jules Verne, Amiens, France; [4]BioFlowImage, University Hospital Picardie Jules Verne , Amiens, France

Computer 45 **2911. Effect of APOE4 on Partial Volume-Corrected Diffusion Anisotropy in Patients with AD and MCI&[reg]&[Prime]**
Kyung Mi Lee[1], Min-Ji Kim[2], Chang Woo Ryu[2], Ji Seon Park[1], Hak Young Rhee[3], Eui Jong Kim[1], Geon-Ho Jahng[2]
[1]Radiology, Kyung Hee University Hospital, Kyung Hee University, Seoul, Korea; [2]Radiology, Kyung Hee University Hospital at Gangdong, Kyung Hee University, Seoul, Korea; [3]Neurology, Kyung Hee University Hospital at Gangdong, Kyung Hee University, Seoul, Korea

Computer 46 **2912. Microstructural Differences in the Aging White Matter of APOE Allele &[epsilon]4 Carriers: A Diffusional Kurtosis Imaging and Diffusion Tensor Imaging Study**
Jean-Philippe Coutu[1, 2], H. Diana Rosas, [13], David H. Salat, [14]
[1]MGH/MIT/HMS Athinoula A. Martinos Center for Biomedical Imaging, Charlestown, MA, United States; [2]Health Sciences and Technology, MIT/Harvard, Cambridge, MA, United States; [3]Neurology, MGH, Harvard Medical School, Boston, MA, United States; [4]Radiology, MGH, Harvard Medical School, Boston, MA, United States

Computer 47 **2913. Across-Session Reproducibility of DTI Derived Metrics Measured at 3T: PharmaCog Consortium**
Jorge Jovicich[1], Moira Marizzoni[2], Roser Sala-Llonch[3], Nuria Bargalló[3], David Bartrés-Faz[3], Jennifer Arnold[4], Jens Benninghoff[4], Jens Wiltfang[4], Luca Roccatagliata[5], Flavio Nobili[5], Christian Zeeh[6], Peter Schonknecht[6], Giada Zoccatelli[7], Franco Alessandrini[7], Alberto Beltramello[7], Hélène Gros-Dagnac[8], Pierre Payoux[8], Valérie Chanoine[9], Jean-Philippe Ranjeva[9], Mira Didic[9], Melanie Leroy[10], Regis Bordet[10], Giovanni Frisoni[2]
[1]University of Trento, Center for Mind/Brain Sciences, Mattarello, Trento, Italy; [2]IRCCS San Giovanni di Dio Fatebenefratelli, LENITEM Lab of Epidem., Neuroim. & Telem, Brescia, Lombardia, Italy; [3]Dept. Psychiatry and Clinical Psychobiology, Faculty of Medicine University of Barcelona, Barcelona, Spain; [4]Department of Psychiatry and nuclear medicine, Universitaet Duisburg-Essen, Essen, Germany; [5]Dept of Neuroscience, Ophthalmology and Genetics, University of Genoa, Genoa, Lombardia, Italy; [6]Dept of Psychiatry and Dept of Neuroradiology, University of Leipzig, Leipzig, Germany; [7]Dept of Neuroradiology, Verona General Hospital, Verona, Italy; [8]U825 - Plateau Technique IRM, INSERM / Université Paul Sabatier, Toulouse, France; [9]Hôpital La Timone CIC – UPCET, Marseille, France; [10]Universitè Lille UL2, Lille, France

Computer 48 **2914. Investigation of the Precision of a Commercial Brain Volume Quantification Software**
Yong Zhou[1]
[1]Radiology Services, Spectrum Health, Grand Rapids, MI, United States

Electronic Poster
Animal Models & Clinical Studies of Stroke

Exhibition Hall Monday 11:45-12:45

Computer 25 **2915. High-Intensity Focused Ultrasound (HIFU) for Dissolution of Clots in a Rabbit Model of Embolic Stroke**
Alison Burgess[1], Yuexi Huang[1], David Goertz[1, 2], Kullervo Hynynen[1, 2]
[1]Physical Sciences, Sunnybrook Research Institute, Toronto, Ontario, Canada; [2]Medical Biophysics, University of Toronto, Toronto, Ontario, Canada

Computer 26 **2916. Investigation of the Cytoarchitectural Changes in Ischemic Infarction Using Cerebral Microenviroment Modeling (CMM)**
Edward S. Hui[1, 2], Jens H. Jensen[1, 2], Xingju Nie[1, 2], Ali Tabesh[1, 2], Maria F. Falangola[1, 2], Joseph A. Helpern[1, 2], DeAnna L. Adkins[3]
[1]Center for Biomedical Imaging, Medical University of South Carolina, Charleston, SC, United States; [2]Dept of Radiology and Radiological Science, Medical University of South Carolina, Charleston, SC, United States; [3]Dept of Neuroscience, Medical University of South Carolina, Charleston, SC, United States

Computer 27 **2917. Pulsed Arterial Spin Labeling for CBF MRI in Non-Human Primate Model of Stroke**
Kai-Hsiang Chuang[1], Elaine Manigbas[2], Douglas Collins[2], Flordeliza de Villa[2], Rosario Perez[2], Lynn Collura[2]
[1]Magnetic Resonance Imaging Group, Singapore Bioimaging Consortium, A*STAR, Singapore, Singapore; [2]Maccine Pte Ltd, Singapore, Singapore

Computer 28 **2918. Imaging of Tissue pH Response to Oxygen Therapy in a Rodent Model of Acute Stroke**
Phillip Zhe Sun[1], Yu Wang[1], Jie Lu[2], Xunming Ji[2], Eng H. Lo[3]
[1]Radiology, Martinos Center for Biomedical Imaging, Charlestown, MA, United States; [2]Radiology, Xuanwu Hospital, Beijing, China; [3]Radiology and Neurology, Martinos Center for Biomedical Imaging, Charlestown, MA, United States

Computer 29 **2919. Assessment of Pharmacologically Induced Hypothermia Treatment in a Rodent Model of Focal Cerebral Ischemia by Using Diffusion Tensor Imaging**
Silun Wang[1], Xiaohuan Gu[2], Ko-Eun Choi[2], Yumei Yan[1], Ling Wei[2], Shan-Ping Yu[2], Xiaodong Zhang[1]
[1]Yerkes Imaging Center, Yerkes National Primate Research Center, Emory University, Atlanta, GA, United States; [2]Department of Anesthesiology and Department of Neurology, Emory University School of Medicine, Atlanta, GA, United States

Computer 30 **2920. Diffusion Tensor Imaging of Acute Axonal Degeneration Following Neonatal Cerebral Hypoxia-Ischemia in Rats**
Ursula I. Tuor[1], [2], Melissa Morgunov[1], Manasi Sule[1], Min Qiao[1], Tadeusz Foniok[2], Adam Kirton[3]
[1]Physiology and Pharmacology and Clinical Neurosciences, University of Calgary, Calgary, Alberta, Canada; [2]Experimental Imaging Centre, University of Calgary, Calgary, Alberta, Canada; [3]Pediatrics and Clinical Neurosciences, University of Calgary, Calgary, Alberta, Canada

Computer 31 **2921. Incorporating ADC Temporal Profiles to Predict Ischemic Tissue Fate in Acute Stroke**
Qiang Shen[1], Virendra Desai[1], Timothy O. Duong[2]
[1]Research Imaging Institute, University of Texas Health Science Center at San Antonio, San Antonio, TX, United States; [2]Research Imaging Institute, UT Health Science Center at San Antonio, San Antonio, TX, United States

Computer 32 **2922. Effects of Occlusion Duration on Infarct Volume and Tissue Fate in Ischemic Stroke**
Qiang Shen[1], Fang Du[1], Shiliang Huang[1], Yash Vardhan Tiwari[1], Timothy O. Duong[2]
[1]Research Imaging Institute, University of Texas Health Science Center at San Antonio, San Antonio, TX, United States; [2]Research Imaging Institute, UT Health Science Center at San Antonio, San Antonio, TX, United States

Computer 33 **2923. Preclinical Study of Stroke Using T2relaxometry and Diffusion Weighted Imaging**
Dushyant Kumar[1], [2], Peter Ludewig[3], Ashish Raj[4], Tim Magnus[3], Jens Fiehler[1], Christoph Heesen[5], Susanne Siemonsen[1], [2], Jan Sedlacik[1]
[1]Neuroradiology, University Medical Center, Hamburg, Germany; [2]Multiple Sclerosis Imaging Center, University Medical Center, Hamburg, Germany; [3]Neurology, University Medical Center, Hamburg, Germany; [4]Radiology, Weill Cornell Medical College, Newyork, NY, United States; [5]Institute for Neuroimmunology and Clinical MS Research, University Medical Center, Hamburg, Germany

Computer 34 **2924. Evolution of Diffusion Tensor Parameters of Ischemic Penumbra and Infarct Core in a Rat MCA Occlusion Model**
Duen-Pang Kuo[1], [2], Hsiao-Wen Chung, Chen Chang[3], Huan-Chu Lo[2], Cheng-Yu Chen[4]
[1]Electrical Engineering, National Taiwan University, Taipei, Taiwan; [2]Department of Radiology, Taoyuan Armed Forces General Hospital, Taoyuan, Taiwan; [3]Academia Sinica, Taipei, Taiwan; [4]Department of Radiology, Tri-Service General Hospital, Taipei, Taiwan

Computer 35 **2925. Combination of SWI, DWI and 3D &[Delta]R2-Based Micro-MRA for Predicting Stroke Evolution in Rat with Middle Cerebral Artery Occlusion**
Ping-Huei Tsai[1], [2], Yi-Hua Hsu[3], Yu-Yin Tung[3], Chien-Hsiang Huang[3], Chiao-Chi Chen[3], Wing P. Chan[2], Fong Y. Tsai[1]
[1]Imaging Research Center, Taipei Medical University, Taipei, Taiwan; [2]Department of Radiology, Wan Fang Hospital, Taipei Medical University, Taipei, Taiwan; [3]Institute of Biomedical Sciences, Academic Sinica, Taipei, Taiwan

Computer 36 **2926. Blood Volume in Response to Hypercapnia: MRI Study Using Spontaneously Breathing Mice**
Ji-Yeon Suh[1], Woo Hyun Shim[1], Christian Thomas Farrar[1], Jeong Kon Kim[2], Young Ro Kim[1]
[1]Athinoula A, Martinos Center for Biomedical Imaging, Massachusettes General Hospital, Charlestown, MA, United States; [2]Department of medical imaging, Asan Medical Center, University of Ulsan, Seoul, Korea

Computer 37 **2927. Differences in Iron Particle Enhanced MRI of Brain and Spinal Cord Lesions in MOG-Induced Eae Mice**
Xiaowei Zhang[1], Bill Siders[2], Xiaoyou Ying[2], Russell E. Jacobs[1]
[1]Biological Imaging Center, California Institute of Technology, Pasadena, CA, United States; [2]R&D Hub, Sanofi Boston, Boston, MA, United States

Computer 38 **2928. A Digital White Matter Atlas of the Rhesus Macaque Brain**
Elizabeth Zakszewski[1], Nagesh Adluru[1], Ned Kalin[1], Andrew L. Alexander[1]
[1]University of Wisconsin-Madison, Madison, WI, United States

Computer 39 **2929. In Ovo MRI and MRS of the Turkey Embryo**
Jürgen Baudewig[1], Kristin Kötz[1], Denis Schewe[2], Susann Boretius[1]
[1]Klinik für Diagnostische Radiologie, Sektion Biomedzinische Bildgebung, Christian-Albrechts-Universität, Kiel, Germany; [2]Klinik für Allgemeine Pädiatrie, Christian-Albrechts-Universität, Kiel, Germany

Computer 40 **2930. Characterization of a Novel MRI-Detectable Nanoantioxidant**
Taeko Inoue[1], Tabassum Majid[2], Daniela Marcano[3], Errol L. Samuel[3], Helen Zheng[3], James Tour[3], Robia G. Pautler, [2]
[1]Department of Molecular Physiology & Biophysics, Baylor College of Medicine, Houston, TX, United States; [2]Interdepartmental Program for Translational Biology & Molecular Medicine, Baylor College of Medicine, Houston, TX, United States; [3]Department of Chemistry, Rice University, Houston, TX, United States

Computer 41 **2931. Histological Correlation with Diffusion MRI to Monitor Transient and Permanent Cell Permeabilization in the Brain**
Faisal Mahmood[1], Rasmus H. Hansen[2], Birgit Agerholm-Larsen[3], Hanne Gissel[4], Per Ibsen[5], Julie Gehl[1]
[1]Department of Oncology, Copenhagen University Hospital, Herlev, Denmark; [2]Herlev Hospital, Herlev, Denmark; [3]Glostrup Hospital, Glostrup, Denmark; [4]Aarhus University, Aarhus, Denmark; [5]Hvidovre Hospital, Hvidovre, Denmark

Computer 42 **2932. Neurotoxicity Biomarker Development Using T_2 Mapping in Kainic Acid Excitotoxicity Rat Model**
Serguei Liachenko[1], Jaivijay Ramu[1], Merle G. Paule[1], Larry Schmued[1], Joseph Hanig[2]
[1]Division of Neurotoxicology, NCTR / FDA, Jefferson, AR, United States; [2]CDER/FDA, White Oak, MD, United States

Computer 43 **2933. Behavior of the Statistical Distribution and Diffusion Kurtosis Models in Human Ischemic Stroke**
Chu-Yu Lee[1, 2], Kevin M. Bennett[3], Josef P. Debbins[1, 2]
[1]Neuroimaging Research, Barrow Neurological Institute, Phoenix, AZ, United States; [2]Electrical Engineering, Arizona State University, Tempe, AZ, United States; [3]School of Biological and Health Systems Engineering, Arizona State University, Tempe, AZ, United States

Computer 44 **2934. Myelin Plasticity Does Not Significantly Influence Diffusion Remodelling of the Uninjured Motor Network After Stroke**
Ying-Chia Lin[1], Alessandro Daducci[2], Djalel Eddine Meskaldji[2], Gloria Menegaz[3], Jean-Philippe Thiran[2, 4], Reto Meuli[4], Gunnar Krueger[5, 6], Cristina Granziera, [6 7]
[1]Computer Science,, University of Verona, Verona, Italy; [2]Signal Processing Lab 5 (LTS5), École Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland; [3]Computer Science, University of Verona, Verona, Italy; [4]Radiology, CHUV, Lausanne, Switzerland; [5]Advanced Clinical Imaging Technology, Siemens Healthcare IM S AW, Lausanne, Switzerland; [6]CIBM-AIT, Ecole Polytechnique Federal de Lausanne (EPFL), Lausanne, Switzerland; [7]Neurology, CHUV, Lausanne, Switzerland

Computer 45 **2935. Diffusion Kurtosis Image of the Cerebral Infarction: Time Course of the Axial and Radial Kurtosis**
Toshiaki Taoka[1], Masayuki Fujioka[2], Masahiko Sakamoto[1], Toshiaki Akashi[1], Toshiteru Miyasaka[1], Tomoko Ochi[1], Saeka Hori[1], Takeshi Wada[1], Masato Uchikoshi[3], Kimihiko Kichikawa[1]
[1]Radiology, Nara Medical University, Kashihara, Nara, Japan; [2]Emergency and Critical Care Medicine, Nara Medical University, Kashihara, Nara, Japan; [3]Siemens Japan KK, Shinagawa, Tokyo, Japan

Computer 46 **2936. Perfusion and Structural Characteristics in the Grey & White Matter of Young and Elderly Adults with White Matter Disease: A Pseudo-Continuous ASL and VBM Study**
David E. Crane[1], Sandra E. Black[1, 2], Anoop Ganda[1], Deanna S. Reynolds[3], Bradley J. MacIntosh[1, 4]
[1]Heart and Stroke Foundation Centre for Stroke Recovery, Sunnybrook Research Institute, Toronto, ON, Canada; [2]Department of Medicine, Division of Neurology, University of Toronto, Toronto, ON, Canada; [3]Medical Imaging, Sunnybrook Health Sciences Centre, Toronto, ON, Canada; [4]Medical Biophysics, University of Toronto, Toronto, ON, Canada

Computer 47 **2937.** **Intracellular Contributions to MR Diffusion Contrast in Stroke: Intraneuronal Viscosity and Neurite Beading**
William M. Spees[1, 2], Dmitriy A. Yablonskiy[1, 3], G. Larry Bretthorst[1], Alexander L. Sukstankii[1], Jeffrey J. Neil,[14], Joseph J.H. Ackerman,[15]
[1]Department of Radiology, Washington University, St. Louis, MO, United States; [2]Hope Center for Neurological Disorders, Washington University, St. Louis, MO, United States; [3]Department of Physics, Washington University, St. Louis, MO, United States; [4]Department of Pediatric Neurology, Washington University, St. Louis, MO, United States; [5]Department of Chemistry, Washington University in St. Louis, St. Louis, MO, United States

Computer 48 **2938.** **Automatic Segmentation of Diffusion MRI from the Genes Associated with Stroke Risk and Outcomes Study**
Steven Mocking[1], Natalia S. Rost[2], Kaitlin M. Fitzpatrick[2], Allison Kanakis[2], Lisa Cloonan[2], Jonathan Rosand[2], Karen L. Furie[3], Ona Wu[1]
[1]Athinoula A. Martinos Center for Biomedical Imaging, Charlestown, MA, United States; [2]Department of Neurology, Massachusetts General Hospital, Boston, MA, United States; [3]Department of Neurology, Brown University, Providence, RI, United States

Electronic Poster
Normal Developing Brain

Exhibition Hall Monday 10:45-11:45

Computer 49 **2939.** **A Quantitative Diffusion Tensor Magnetic Resonance Histology Atlas of Rat Brain Development**
Evan Calabrese[1], Alexandra Badea[2], G. Allan Johnson[1, 2]
[1]Biomedical Engineering, Duke University, Durham, NC, United States; [2]Radiology, Duke University, Durham, NC, United States

Computer 50 **2940.** ***in vivo* Diffusion Tensor Imaging of the Neonatal Rat Brain Development**
Markus Breu[1, 2], Dominik Maria Reisinger[1, 2], Dan Wu[3], Yajing Zhang[3], Ali Fatemi[1, 2], Jiangyang Zhang[4]
[1]Hugo W. Moser Research Institute, Kennedy Krieger Institute, Baltimore, MD, United States; [2]Department of Neurology, Johns Hopkins University School of Medicine, Baltimore, MD, United States; [3]Department of Biomedical Engineering, Johns Hopkins University School of Medicine, Baltimore, MD, United States; [4]Radiology, Johns Hopkins University School of Medicine, Baltimore, MD, United States

Computer 51 **2941.** **Development of Cerebellar Connectivity in Human Fetal Brains Revealed by High Angular Resolution Diffusion Tractography**
Emi Takahashi[1], Emiko Hayashi[1], Rebecca D. Folkerth[2], Jeremy D. Schmahmann[3], Patricia Ellen Grant[4]
[1]Boston Children's Hospital, Harvard Medical School, Boston, MA, United States; [2]Brigham and Women's Hospital, Boston, MA, United States; [3]Massachusetts General Hospital, Boston, MA, United States; [4]Boston Children's Hospital, Boston, MA, United States

Computer 52 **2942.** **Regression Into Early Adulthood: A Data-Driven Perspective of NIH Longitudinal Pediatric DTI Study**
Yasheng Chen[1], Hongtu Zhu[2], Hongyu An[2], Dinggang Shen[2], Weili Lin[2]
[1]University of North Carolina, Chapel Hill, NC, United States; [2]UNC-CH, Chapel Hill, NC, United States

Computer 53 **2943.** **Diffusion Changes in Early Brain Development Beyond Diffusion Tensor Imaging**
Yasheng Chen[1], Hongtu Zhu[2], Hongyu An[2], Dinggang Shen[2], John Gilmore[2], Weili Lin[2]
[1]University of North Carolina, Chapel Hill, NC, United States; [2]UNC-CH, Chapel Hill, NC, United States

Computer 54 **2944.** **DTI Correlates of Brain Network Topology in a Pediatric Population**
Vincent J. Schmithorst[1], Ashok Panigrahy[1], Jessica L. Wisnowski[1]
[1]Radiology, Children's Hospital of Pittsburgh of UPMC, Pittsburgh, PA, United States

Computer 55 **2945.** **Small-World Brain Networks in Resting State in Typically Developing Children and Adolescents**
Minjie Wu[1], Alexander Kmicikewycz[1], Donatello Arienzo[1], Lisa Lu[1, 2], Shaolin Yang[1], Mani Pavuluri[1]
[1]Psychiatry, University of Illinois at Chicago, Chicago, IL, United States; [2]Psychology, Roosevelt University , Chicago, IL, United States

Computer 56 **2946. Unilateral Hearing Loss in Children Affects Development of the Default Mode Network**
Vincent J. Schmithorst[1, 2], Scott Holland[2], Elena Plante[3]
[1]Radiology, Children's Hospital of Pittsburgh of UPMC, Pittsburgh, PA, United States; [2]Radiology, Children's Hospital Medical Center, Cincinnati, OH, United States; [3]Speech, Language, and Hearing Sciences, University of Arizona - Tucson, Tucson, AZ, United States

Computer 57 **2947. Altered Metabolism in the Developing Auditory Cortex of Chicks Exposed to Chronic High Decibel Noise: A Proton NMR-Based Metabonomic Study**
Vivek Kumar[1], Pawan Kumar[2], Uma Sharma[2], T C. Nag[1], Naranamangalam R. Jagannathan[2], Shashi Wadhwa[1]
[1]Department of Anatomy, All India Institute of Medical Sciences, New Delhi, Delhi, India; [2]Department of NMR & MRI Facility, All India Institute of Medical Sciences, New Delhi, Delhi, India

Computer 58 **2948. A Quantitative Analysis of the Very Preterm Brain at 30 and 40 Weeks Gestational Age; Correlation of Multi-Component T2 Relaxation and Diffusion Tensor Anisotropy.**
Andrew Melbourne[1], Giles Kendall[2], Alan Bainbridge[3], Manuel Jorge Cardoso[1], Nicola Robertson[2], Neil Marlow[2], Sebastien Ourselin[1]
[1]Centre for Medical Image Computing, University College London, London, United Kingdom; [2]Institute for Womens Health, University College London, London, United Kingdom; [3]University College London Hospitals NHS Foundation Trust, London, United Kingdom

Computer 59 **2949. Generating a Human Neonatal Brain Atlas for Superior Normalization Accuracy**
ISMRM MERIT AWARD magna cum laude
Yajing Zhang[1], Linda Chang[2], Thomas Ernst[2], Jon Skranes[3], Steven Buchthal[2], Daniel Alicata[2], Heather Johansen[2], Antonette Hernandez[2], Robyn Yamakawa[2], Lillian Fujimoto[4], Michael Miller[1], Susumu Mori[5], Kenichi Oishi[5]
[1]Department of Biomedical Engineering, Johns Hopkins University, Baltimore, MD, United States; [2]University of Hawaii at Manoa, Honolulu, HI, United States; [3]Department of Laboratory Medicine, Children's & Women's Health, Norwegian Univ. of Science and Technology, Trondheim, Norway; [4]Straub Mililani Clinic, Mililani, HI, United States; [5]Department of Radiology, School of Medicine, Johns Hopkins University, Baltimore, MD, United States

Computer 60 **2950. Quantitative Correlations Between Gray Matter Volume and White Matter Tracts in Frontal and Occipital Regions in Preschool Children: Assessment Combined 3D T1WI and DTI**
Xue Luo[1, 2], Jie Gao[1], Xianjun Li,[23], Mingxi Wan[4], Jian Yang,[23]
[1]Department of Radiology, The First Affiliated Hospital of Medical College, Xi¡¯an Jiaotong University, Xi'an, Shannxi, China; [2]School of Life Science and Technology, Xi'an Jiaotong University, Xi'an, Shannxi, China; [3]Department of Radiology, The First Affiliated Hospital of Medical College, Xi¡¯an Jiaotong University, Xi'an, Shannxi , China; [4]School of Life Science and Technology, Xi'an, Shannxi, China

Computer 61 **2951. Quantitative Assessments of Growth Trajectories of Cortical Thickness During the First 18 Mons of Life**
Weili Lin[1], Li Wang[1], Gang Li[1], Feng Shi[1], Jingxin Nie[1], Dinggang Shen[1]
[1]Biomedical Research Imaging Center, University of North Carolina at Chapel Hill, Chapel Hill, NC, United States

Computer 62 **2952. Coordinated Anatomical Growth of Motor, Sensory, and Visual Networks in Early Infancy**
Weili Lin[1], Wei Gao[1], Feng Shi[1], Li Wang[1], Gang Li[1], Jingxin Nie[1], Hongtu Zhu[1], Dinggang Shen[1]
[1]Biomedical Research Imaging Center, University of North Carolina at Chapel Hill, Chapel Hill, NC, United States

Computer 63 **2953. Developmental Trajectories of Global OEF, CBF, CMRO2 Using Susceptibility-Based Oximetry, Phase Contrast MRI and ASL**
Mayank A. Jog[1], Emily Kilroy[2], Varsha Jain[3], Felix Wehrli[3], Danny J.J. Wang[2]
[1]Biomedical Engineering, University of California Los Angeles, Los Angeles, CA, United States; [2]Neurology, University of California Los Angeles, Los Angeles, CA, United States; [3]Radiology, University of Pennsylvania Medical Center, Philadelphia, PA, United States

Computer 64 **2954. Using MRI to Quantify Forebrain Development of a Common Neurobehavioral Animal Model, the Zebrafish (Danio Rerio), Reared in Different Conditions**
Thomas Neuberger[1, 2], Cairsty Grassie[3], Victoria Braithwaite[3]
[1]The Huck Institutes of the Life Sciences, Pennsylvania State University, University Park, PA, United States; [2]Department of Bioengineering, Pennsylvania State Univesity, University Park, PA, United States; [3]The Center for Brain, Behavior, & Cognition, Department of Ecosystem Science & Management, Pennsylvania State University, University Park, PA, United States

Computer 65 **2955. Non-Linear Modeling of T1, T2 and MWF Developmental Trajectories**
Douglas C. Dean III[1], Jonathan O'Muircheartaigh, [12], Lindsay Walker[1], Holly Dirks[1], Nicole Waskiewicz[1], Katie Lehman[1], Beth A. Jerskey[1, 3], Sean C. L. Deoni[1]
[1]Advanced Baby Imaging Lab, School of Engineering, Brown University, Providence, RI, United States; [2]Dept. of Neuroimaging Sciences, King's College London, Institute of Psychiatry, London, United Kingdom; [3]Dept. Oof Psychiatry & Human Behavior, Brown University, Providence , RI, United States

Computer 66 **2956. Asymmetry of White Matter Pathways in the Human Brain: Fetal, Neonatal, and Toddler Stages**
Jae W. Song[1], Paul D. Michell[1], James Kolasinski[2], Rebecca D. Folkerth[3], Patricia Ellen Grant[4], Albert M. Galaburda[5], Emi Takahashi[1]
[1]Boston Children's Hospital, Harvard Medical School, Boston, MA, United States; [2]Massachusetts General Hospital, Boston, MA, United States; [3]Brigham and Women's Hospital, Boston, MA, United States; [4]Boston Children's Hospital, Boston, MA, United States; [5]Beth Israel Deaconess Medical Center, Boston, MA, United States

Electronic Poster
Advanced Fetal & Pediatric CNS Imaging

Exhibition Hall Monday 11:45-12:45

Computer 49 **2957. Coupling DTI and Histological Analysis to Examine the Multiple Layers of the Human Fetal Brain Cerebral Wall**
Hao Huang[1], Tina Jeon[1], Linda J. Richards[2]
[1]Advanced Imaging Research Center, University of Texas Southwestern Medical Center, Dallas, TX, United States; [2]The Queesland Brain Institute, The University of Queesland, Brisbane, Queesland, Australia

Computer 50 **2958. Exploring the Human Fetal Brain Network with Diffusion MRI and Graph Theory**
Virendra Mishra[1], Ni Shu[2], Lina Chalak[3], Nancy K. Rollins[4], Cathy Halovanic[5], Yong He[2], Hao Huang[1]
[1]Advanced Imaging Research Center, University of Texas Southwestern Medical Center, Dallas, TX, United States; [2]State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China; [3]Department of Pediatrics, University of Texas Southwestern Medical Center, Dallas, TX, United States; [4]Department of Radiology, University of Texas Southwestern Medical Center, Dallas, TX, United States; [5]Children's Medical Center of Dallas, Dallas, TX, United States

Computer 51 **2959. Reliable Measurement Techniques for Motion Corrected Fetal Brain Volume**
Devasuda Anblagan[1, 2], Kaiming Yin[1], Rebecca Reynolds[3], Fiona Denison[2], Mark E. Bastin[4], Colin Studholme[5], Jane Norman[2], Scott I. Semple[1], Neil Roberts[1]
[1]Clinical Research Imaging Centre, University of Edinburgh, Edinburgh, United Kingdom; [2]MRC Centre for Reproductive Health, Queen's Medical Research Institute, University of Edinburgh, Edinburgh, United Kingdom; [3]Centre for Cardiovascular Sciences, Queen's Medical Research Institute,, University of Edinburgh, Edinburgh, United Kingdom; [4]Centre for Clinical Brain Sciences, University of Edinburgh, Edinburgh, United Kingdom; [5]Department of Pediatrics Neonatology, University of Washington, Seattle, WA, United States

Computer 52 **2960. Altered Brain Morphology in Boys with Duchenne Muscular Dystrophy Compared to Healthy Age Matched Controls**
Nathalie Doorenweerd[1, 2], Chiara S.M. Straathof[2], Eve M. Dumas[2], Beatrijs H.A. Wokke[2], Erik H. Niks[2], Janneke C. van den Bergen[2], Debby G.M. Schrans[3], Jos G.M. Hendriksen[3], Andrew G. Webb[1], Mark A. van Buchem[1], Jan J.G.M. Verschuuren[2], Hermien E. Kan[1]
[1]Radiology, Leiden University Medical Center, Leiden, Zuid-Holland, Netherlands; [2]Neurology, Leiden University Medical Center, Leiden, Zuid-Holland, Netherlands; [3]Department of Neurological Learning Disabilities , Kempenhaeghe Epilepsy Centre , Heeze, Brabant, Netherlands

Computer 53 **2961. Effects of Propofol on Cerebral Perfusion of White Matter Versus Gray Matter in Pediatric Brain.**
Reem S. Awwad[1], Wilburn E. Reddick[1], Bryan Winter[2], Yimei Li[2], John O. Glass[1], Roland N. Kaddoum[3], Zoltan Patay[1], Amar Gajjar[4], Julie H. Harreld[1]
[1]Radiological Sciences, St. Jude Children's Research Hospital, Memphis, TN, United States; [2]Biostatistics, St. Jude Children's Research Hospital, Memphis, TN, United States; [3]Anesthesiology, St. Jude Children's Research Hospital, Memphis, TN, United States; [4]Oncology, St. Jude Children's Research Hospital, Memphis, TN, United States

Computer 54 **2962. The Increased Detectivity of Punctate White Matter Lesions in Neonatal Brains by Using Three-Dimensional High Spatial Resolution T1 Weighted Images**

Qinli Sun[1], Yumiao Zhang[1], Jie Gao[1], Jianghong Han[1], Bolang Yu[1], Jian Yang[1]
[1]Department of Radiology, The First Affiliated Hospital of Medical College, Xi'an Jiaotong University, Xi'an, Shannxi Province, China

Computer 55 **2963. Functional Connectivity Among Resting State Networks Increases After Constraint-Induced Movement Therapy in Children with Brain Injury**

Maria A. Rocca[1], Sandra Strazzer[2], Anna Turconi[2], Paola Valsasina[1], Martina Absinta[1], Elena Beretta[2], Monica Cazzagon[3], Andrea Falini[4], Massimo Filippi[1]
[1]Neuroimaging Research Unit, Institute of Experimental Neurology, San Raffaele Scientific Institute, Vita-Salute San Raffaele University, Milan, MI, Italy; [2]Department of Neurology, IRCCS Eugenio Medea, La Nostra Famiglia, Bosisio Parini, LC, Italy; [3]Department of Neurology, IRCCS Eugenio Medea, La Nostra Famiglia, Pasian di Prato, UD, Italy; [4]Department of Neuroradiology, San Raffaele Scientific Institute, Vita-Salute San Raffaele University, Milan, MI, Italy

Computer 56 **2964. Extreme Prematurity and Intrauterine Growth Restriction Effects in Brain Network Topology at School Age**

Elda Fischi-Gomez[1, 2], Djalel Eddine Meskaldji[1], Lana Vasung[2], François Lazeyras[3, 4], Jean-Philippe Thiran[1, 5], Petra Susan Hüppi
[1]École Polytechnique Fédérale de Lausanne (EPFL), Signal Processing Laboratory 5(LTS5), Lausanne, (VD), Switzerland; [2]Division of Development and Growth. Department of Pediatrics. University of Geneva, Geneva, (GE), Switzerland; [3]Center for Biomedical Imaging (CIBM), Lausanne and Geneva, Geneva, (GE), Switzerland; [4]Department of Radiology, University of Geneva and University Hospital of Geneva, Geneva, (GE), Switzerland; [5]Department of Radiology of the University Hospital Center (CHUV) and University of Lausanne (UNIL), Lausanne, (VD), Switzerland

Computer 57 **2965. Metabolic and Structural Correlates of Different Patterns of White Matter Injury in Preterm Infants**

Ashok Panigrahy[1, 2], Jessica L. Wisnowski[1, 3], Rafael C. Ceschin[4], Stefan Bluml[2]
[1]Pediatric Radiology, Childrens Hospital of Pittsburgh, Pittsburgh, PA, United States; [2]Childrens Hospital Los Angeles, Los Angeles, CA, United States; [3]Brain and Creativity Institute, University of Southern California, Los Angeles, CA, United States; [4]Children's Hospital of Pittsburgh, Pittsburgh, PA, United States

Computer 58 **2966. Lactate-Edited MRS in Neonatal Hypoxic Ischemic Encephalopathy**

Ruth L. O'Gorman[1], Carola Sabandal[1], Vera Bernet[1], Cornelia Hagmann[2], Martin A. Janich[3], Ralph Noeske[4]
[1]University Children's Hospital, Zurich, CH, Switzerland; [2]University Hospital, Zurich, CH, Switzerland; [3]Diagnostics & Biomedical Tech Laboratory, GE Global Research, München, Germany; [4]Applied Science Laboratory, GE Healthcare, Berlin, Germany

Computer 59 **2967. Non-Invasive Assessment of Cerebral Metabolic Rate of Oxygen in Neonates.**

Jill Britt De Vis[1], Esben Thade Petersen[1], Manon J.N.L. Benders[2], Petra M.A. Lemmers[2], Thomas Alderliesten[2], Frank van Bel[2], Jeroen Hendrikse[1]
[1]Radiology, University Medical Center Utrecht, Utrecht, Netherlands; [2]Neonatology, Wilhelmina Children's Hospital, Utrecht, Netherlands

Computer 60 **2968. Assessment of Structural Connectivity in Congenital Hemiplegia: The Connectome in Unilateral Cerebral Palsy**

Kerstin Pannek[1], Simon Scheck[2], Roslyn Boyd[2], Stephen Rose[3]
[1]The University of Queensland, Brisbane, Queensland, Australia; [2]The University of Queensland, Brisbane, Australia; [3]The Australian E-Health Research Centre, CSIRO, Brisbane, Australia

Computer 61 **2969. Potential of Resting State Connectivity and Passive fMRI to Detect Precursors of Learning Disabilities in Infants: Preliminary Results with Infants at Familial Risk for Developmental Dyslexia**

Mathieu Dehaes[1, 2], Nora M. Raschle[1, 3], Danielle D. Sliva[2], Jennifer Zuk[3], Marie Drottar[2], Michelle Chang[3], Barbara Peysakhovich[3], Bryce Becker[3], Sara Smith[3], Rudolph Pienaar[1, 2], Nadine Gaab[1, 3], Patricia Ellen Grant, [24]
[1]Pediatrics, Harvard Medical School, Boston, MA, United States; [2]Newborn Medicine, Boston Children's Hospital, Boston, MA, United States; [3]Developmental Medicine, Boston Children's Hospital, Boston, MA, United States; [4]Pediatrics, Boston Children's Hospital, Boston, MA, United States

Computer 62 **2970. Functional MRI Revealed the Decrease of Working-Memory Capacity and the Impaired Function of Working-Memory Circuits in 22q11.2 Deletion Syndrome**

Ling Zou[1, 2], Waverly Harrel[3], Zoe A. Englander[4], Micah Johnson[5], Allen W. Song[5], Vandana Shashi[3]
[1]CMRRC,Radiology Department, West China Hospital, Chengdu, Sichuan, China; [2]Duke-UNC Brain Imaging and Analysis Center (BIAC) , Duke University Medical Center, Durham, NC , United States; [3]Department of Pediatrics, Duke University Medical Center, Durham, NC, United States; [4]Duke-UNC Brain Imaging and Analysis Center (BIAC), Duke University, Durham, NC, United States; [5]Duke-UNC Brain Imaging and Analysis Center (BIAC), Duke University Medical Center, Durham, NC, United States

Computer 63 **2971. Automatic Detection of Primary Motor Cortex and Corticospinal Tract Using Diffusion MRI Tractography:**

Jeong-Won Jeong[1, 2], Eishi Asano[1, 2], Diane C. Chugani,[23], Harry T. Chugani,[24]
[1]Pediatrics and Neurology, Wayne State University, Detroit, MI, United States; [2]PET center, Children's Hospital of Michigan, Detroit, MI, United States; [3]Pediatrics and Radiology, Wayne State University, Detroit, MI, United States; [4]Pediatrics, Neurology, and Radiology, Wayne State University, Detroit, MI, United States

Computer 64 **2972. Longitudinal Hippocampal Shape Changes Between Term-Equivalent and 7 Years in Very Preterm and Full-Term Children**

ISMRM MERIT AWARD magna cum laude

Deanne K. Thompson[1], Christopher Adamson[1], Cristina G. Omizzolo[1], Lex W. Doyle[2], Gary F. Egan[3], Terrie E. Inder[4], Peter J. Anderson[1]
[1]Murdoch Childrens Research Institute, Parkville, Victoria, Australia; [2]Royal Women's Hospital, Parkville, Victoria, Australia; [3]Monash University, Clayton, Victoria, Australia; [4]St Louis Children's Hospital, St Louis, MO, United States

Computer 65 **2973. Localization of Function-Specific Segments of the Primary Motor Pathway in Children with Sturge-Weber Syndrome: A Multimodal Imaging Analysis**

Jeong-Won Jeong[1], Harry T. Chugani[2], Csaba Juhasz[1]
[1]Pediatrics and Neurology, Wayne State University, Detroit, MI, United States; [2]Pediatrics, Neurology, and Radiology, Wayne State University, Detroit, MI, United States

Computer 66 **2974. Reduced Field-Of-View DWI of the Fetal Brain with Adaptive Averaging**

Suchandrima Banerjee[1], Orit A. Glenn[2], Emine U. Saritas[3], Xin Mu[2], Duan Xu[2], Pauline W. Worters[1], Ajit Shankaranarayanan[1]
[1]Applied Science Lab, GE Healthcare, Menlo Park, CA, United States; [2]University of California San Francisco, San Francisco, CA, United States; [3]Bioengineering, University of California Berkeley, Berkeley, CA, United States

Computer 67 **2975. White Matter Variations Associated with Severity of Punctate White Matter Lesions: Assessment by Diffusion Tensor Imaging Based on Tract-Based Spatial Statistics (TBSS)**

Jie Gao[1], Xianjun Li[1, 2], Yumiao Zhang[1], Jianghong Han[1], Xue Luo[1, 2], Gang Niu[1], Bolang Yu[1], Ed X. Wu[3], Jian Yang[1, 2]
[1]Department of Radiology, The First Affiliated Hospital of Medical College, Xi'an Jiaotong University, Xi'an, Shannxi, China; [2]Biomedical Engineering, School of Life Science and Technology, Xi'an, Shannxi, China; [3]Laboratory of Biomedical Imaging and Signal Processing, Hong Kong, Hong Kong SAR, China

Computer 68 **2976. ASL Labeling Efficiency in Healthy Children**

Dustin Kenneth Ragan[1], Jose A. Pineda[1]
[1]Department of Pediatrics, Washington University School of Medicine, St. Louis, MO, United States

Computer 69 **2977. Cerebral Perfusion Levels Reflect White Matter Injury in Preterm Infants**

Ruth L. O'Gorman[1], Hans Ulrich Bucher[2], Brigitte Koller[2], Hadwig Speckbacher[1], David C. Alsop[3, 4], Ajit Shankaranarayanan[5], Jean-Claude Fauchere[2], Cornelia Hagmann[2]
[1]University Children's Hospital, Zurich, CH, Switzerland; [2]University Hospital, Zurich, CH, Switzerland; [3]Beth Israel Deaconess Medical Center, Boston, MA, United States; [4]Harvard Medical School, Boston, MA, United States; [5]Global Applied Science Laboratory, GE Healthcare, Menlo Park, CA, United States

Computer 70 **2978. Arterial Spin Labeled Perfusion MRI in Children with Chronic Kidney Disease**

Hua-Shan Liu[1], Abbas Jawad[1], Nina Laney[1], Robert Schultz[1], Christos Davatzikos[1], Divya Moodalbail[1], Susan Furth[1], John A. Detre[1]
[1]University of Pennsylvania, Philadelphia, PA, United States

Computer 71 **2979. Evaluation of Multi-Component Diffusion Coeffcients in Pediatric Gliomas**
He Wang[1], Guang Cao, Yuhua Li[2], Xiujie Duan[2]
[1]MR Research China, GE Healthcare, Shanghai, China; [2]Radiology, Xinhua Hospital, Shanghai Jiaotong University, Shanghai, China

Computer 72 **2980. Comparison of Three Non-Gaussian Diffusion Models for Differentiation of Pediatric Brain Tumors**
ISMRM MERIT AWARD magna cum laude
Yi Sui[1, 2], Guanzhong Liu[1], He Wang[3], Frederick C. Damen[1, 4], Yuhua Li[5], Xiaohong Joe Zhou[1, 6]
[1]Center for MR Research, University of Illinois Hospital & Health Sciences System, Chicago, IL, United States; [2]Department of Bioengineering, University of Illinois at Chicago, Chicago, IL, United States; [3]Applied Science Lab, GE Healthcare, Shanghai, China; [4]Department of Radiology, University of Illinois Hospital & Health Sciences System, Chicago, IL, United States; [5]Department of Radiology, Xinhua Hospital, Shanghai, China; [6]Departments of Radiology, Neurosurgery and Bioengineering, University of Illinois Hospital & Health Sciences System, Chicago, IL, United States

Electronic Poster
Neurovascular Diseases

Exhibition Hall Monday 10:45-11:45

Computer 73 **2981. *ex vivo* MRI of Carotid Plaque Excised by Endoarterectomy: Correlation Between T1 and Histologically Assessed Age and Degree of Hemorrhage in Lipid Rich Necrotic Core**
Naoaki Yamada[1], Yoshiaki Morita[1], Koji Iihara[2], Hatsue Ishibashi-Ueda[3], Masahiro Higashi[1], Hiroaki Naito
[1]Radiology, National Cerebral and Cardiovascular Center, Suita, Osaka, Japan; [2]Nuerosurgery, National Cerebral and Cardiovascular Center, Suita, Osaka, Japan; [3]Pathology, National Cerebral and Cardiovascular Center, Suita, Osaka, Japan

Computer 74 **2982. Ultrahigh-Resolution 0.11x0.11mm MR Imaging of the Intracranial Atherosclerotic Vessel Wall at 7.0 Tesla**
Anja G. van der Kolk[1], Jaco J.M. Zwanenburg[1], Wim G.M. Spliet[2], Fredy Visser[1, 3], Peter R. Luijten[1], Jeroen Hendrikse[1]
[1]Department of Radiology, University Medical Center Utrecht, Utrecht, Netherlands; [2]Department of Pathology, University Medical Center Utrecht, Utrecht, Netherlands; [3]Philips Healthcare, Best, Netherlands

Computer 75 **2983. Penumbra-Imaging in Patients with Acute Stroke Using Susceptibility Weighted MR-Imaging**
Alexander Radbruch[1, 2], Johanna Mucke[1], Markus Graf[2], Ralf Floca[2], Matthias Roethke[2], Heinz-Peter Schlemmer[2], Sabine Heiland[1], Martin Bendszus[1], Stefan Rohde[1]
[1]Department of Neuroradiology, Heidelberg University Medical Center, Heidelberg, Germany; [2]Department of Radiology, German Cancer Research Center (DKFZ), Heidelberg, Germany

Computer 76 **2984. Dual Feature Based Receiver Operating Characteristic Analysis for Assessment of Acute Ischemic Stroke**
Venkata Veerendranadh Chebrolu[1], Suresh E. Joel[1], Dattesh D. Shanbhag[2], Ananda Narasimha Murthy[2], Vivek Vaidya[2], Patrice Hervo[3], Marc-Antoine Labeyrie[4], Catherine Oppenheim[4, 5], Rakesh Mullick[2]
[1]Medical Image Analysis Lab, GE Global Research, Bangalore , Karnataka, India; [2]Medical Image Analysis Lab, GE Global Research, Bangalore, Karnataka, India; [3]GE Healthcare, Buc, France; [4]Departments of Radiology and Neurology, Centre Hospitalier, Sainte-Anne, Paris, France; [5]Université Paris Descartes , Paris, France

Computer 77 **2985. T1rho in Acute Cerebral Infarctions**
Toshiaki Akashi[1], Toshiaki Taoka[1], Saeka Hori[1], Tomoko Ochi[1], Toshiteru Miyasaka[1], Masahiko Sakamoto[1], Megumi Takewa[2], Tomoyuki Okuaki[3], Kimihiko Kichikawa[1]
[1]Radiology, Nara Medical University, Kashihara, Nara, Japan; [2]Radiology, Heisei Memorial Hospital, Kashihara, Nara, Japan; [3]Philips Electronics Japan, Minato-Ku, Tokyo, Japan

Computer 78 **2986. Studying Brain Motor, Language and Auditory Functions and Associated Functional Connectivity on AVM Patients by fMRI and Resting State fMRI**
Bob L. Hou[1], Majid Haghighat Ahoar[1], Sanjay Bhatia[2], Rachel Lagos[1], Jeff S. Carpenter[1]
[1]Radiology, WVU, Morgantown, WV, United States; [2]Surgery, WVU, Morgantown, WV, United States

Computer 79 **2987. *in vivo* and ex *vivo* Multimodal Characterisation of Human Carotid Artery Atherosclerosis Plaques.**
Mohamed Tachrount[1], Fiona Kennedy[1], David A. Doig[1], Matthew Adams[1], Tarek A. Yousry[1], Xavier Golay[2], David L. Thomas[1], Rolf H. Jager[1]
[1]Department od brain repair and rehabilitation, UCL Institute of Neurology, London, United Kingdom; [2]Department od brain repair and rehabilitation, University College London, London, United Kingdom

Computer 80 **2988. Preoperative Evaluation of the Origins of the Perforating Arteries Using 7T MRI in Patients with Unruptured Aneurysms**

Takahiro Koji[1], Yoshitaka Kubo[1], Toshiyuki Murakami[1], Takamasa Nanba[1], Makoto Sasaki[2], Akira Ogawa[1], Kuniaki Ogasawara[1]

[1]Department of Neurosurgery, Iwate Medical University, Morioka, Iwate, Japan; [2]Division of Ultrahigh Field MRI, Institute for Biomedical Sciences, Iwate Medical University, Morioka, Iwate, Japan

Computer 81 **2989. The Value of Vessel-Encoded Pseudocontinuous Arterial Spin Labelling (VEPCASL) in Perfusion Assessment of Brain Arteriovenous Malformations: Comparison with Dynamic Susceptibility Contrast (DSC)-MRI**

Meritxell Garcia[1, 2], Monika Gloor[3], Michael A. Chappell[4, 5], Peter Jezzard[6], James V. Byrne[2], Oliver Bieri[3], Thomas W. Okell[6]

[1]Division of Diagnostic & Interventional Neuroradiology, Department of Radiology, Clinic of Radiology & Nuclear Medicine, University of Basel Hospital, Basel, Switzerland; [2]Nuffield Department of Surgical Sciences and Department of Neuroradiology, University of Oxford, Oxford, United Kingdom; [3]Division of Radiological Physics, Department of Medical Radiology, University of Basel Hospital, Basel, Switzerland; [4]Institute of Biomedical Engineering, Department of Engineering, University of Oxford, Oxford, United Kingdom; [5]Centre for Functional Magnetic Resonance Imaging of the Brain, University of Oxford, Oxford, United Kingdom; [6]Centre for Functional Magnetic Resonance Imaging of the Brain, University of Oxford, Oxford, United Kingdom

Computer 82 **2990. Brain Plasticity Changes in Motor Region and Dynamic Changes in White Matter After Stroke Induced by a Neural Activity-Triggered Rehabilitation Device**

ISMRM MERIT AWARD magna cum laude

Jie Song[1], Leo Walton[2], Brittany Young[2], Veena A. Nair[3], Svyat Vergun[4], HuiChun Chen[5], Dorothy Farrar-Edwards[5], Mitch E. Tyler[1], Justin Sattin[6], Justin C. Williams[1], Vivek Prabhakaran[3]

[1]Biomedical Engineering, UW-Madison, Madison, WI, United States; [2]Neuroscience Training Program, UW-Madison, Madison, WI, United States; [3]Radiology, UW-Madison, Madison, WI, United States; [4]Medical Physics, UW-Madison, Madison, WI, United States; [5]Kinesiology, UW-Madison, Madison, WI, United States; [6]Neurology, UW-Madison, UW-Madison, WI, United States

Computer 83 **2991. Measurement of Hemodynamic Parameters in Carotid Occlusive Disease Using Partial Volume Corrected PCASL fMRI**

Iris Asllani[1], Shazia Dharssi[1], Marykay Pavol[1], Ronald L. Lazar[1], Randolph S. Marshall[1]

[1]Columbia University, New York, NY, United States

Computer 84 **2992. Cerebral Hemodynamics Evaluation by ACZ Challenge DSC-MRI with VOF Rescaling Scheme**

Shogo Oda[1], Keiichi Kikuchi[2], Kohsuke Kudo[3], Yoshiyasu Hiratsuka[2], Hitoshi Miki[1], Teruhito Mochizuki[2], Hideaki Watanabe[4], Yoshiaki Kumon[4]

[1]Radiology, Ehime Prefectual Central Hospital, Matsuyama, Ehime, Japan; [2]Radiology, Ehime University School of Medicine, Toon City, Ehime, Japan; [3]Advanced Medical Science Center, Iwate Medical University, Morioka, Iwate, Japan; [4]Neurosurgery, Ehime University School of Medicine, Toon City, Ehime, Japan

Computer 85 **2993. High Resolution 3D Intracranial ASL Angiography Using Automatically Tuned Compressed Sensing**

Huimin Wu[1], Walter F. Block[1, 2], Patrick Turski[3], Charles A. Mistretta[1], Kevin M. Johnson[1]

[1]Medical Physics, University of Wisconsin-Madison, Madison, WI, United States; [2]Biomedical Engineering, University of Wisconsin-Madison, Madison, WI, United States; [3]Radiology, University of Wisconsin-Madison, Madison, WI, United States

Computer 86 **2994. Quantification of Macro- And Micro-Vascular Hemodynamics in Cerebral Arteriovenous Malformations During Staged Embolization**

Can Wu[1], Timothy J. Carroll[1], Parmede Vakil[1], Sameer A. Ansari[2], Bernard R. Bendok[2], Hunt Batjer[3], Michael Markl[1]

[1]Departments of Biomedical Engineering and Radiology, Northwestern University, Chicago, IL, United States; [2]Departments of Radiology and Neurological Surgery, Northwestern University, Chicago, IL, United States; [3]Department of Neurological Surgery, UT Southwestern, Dallas, TX, United States

Computer 87 **2995. MRI/A in the Evaluation of Changes Over Time in Untreated Aneuryms**

David A. Saloner[1], Alastair Martin[2], Daniel Hurwit[2], Sahand Sohrabi[2], Andrew Lee[2], Vitaliy L. Rayz[2], William Young[3], Wade Smith[4], Randall Higashida[2], Michael Lawton[5], Charles McCulloch[6]

[1]Radiology and Biomedical Imaging, VAMC/UCSF, San Francisco, CA, United States; [2]Radiology and Biomedical Imaging, UCSF, San Francisco, CA, United States; [3]Anesthesiology, UCSF, San Francisco, CA, United States; [4]Neurology, UCSF, San Francisco, CA, United States; [5]Neurological Surgery, UCSF, San Francisco, CA, United States; [6]Epidemiology and Biostatistics, UCSF, San Francisco, CA, United States

Computer 88 **2996. A Parse-MRI Based Technique to Measure Cerebral Oxygen Extraction Fraction (OEF)**
Rajiv G. Menon[1], Edward G. Walsh[2], Donald B. Twieg[3], Timothy J. Carroll[1, 4]
[1]Radiology Department, Feinberg School of Medicine, Northwestern University, Chicago, IL, United States; [2]Neuroscience, Brown University, Providence, RI, United States; [3]Biomedical Engineering, University of Alabama at Birmingham, Birmingham, AL, United States; [4]Biomedical Engineering, Northwestern University, Chicago, IL, United States

Computer 89 **2997. Mild Hypercapnia Causes a Measurable Change in Cerebral Oxygen Extraction Fraction (OEF)**
Rajiv G. Menon[1], Charles G. Cantrell[1], Edward G. Walsh[2], Donald B. Twieg[3], Timothy J. Carroll[1]
[1]Radiology Department, Feinberg School of Medicine, Northwestern University, Chicago, IL, United States; [2]Neuroscience, Brown University, Providence, RI, United States; [3]Biomedical Engineering, University of Alabama at Birmingham, Birmingham, AL, United States

Computer 90 **2998. Noncontrast Enhanced MRA with Compressed Sensing and Parallel Imaging for Evaluation of Branches of the Aortic Arch**
Takayuki Masui[1], Motoyuki Katayama[1], Koji Yoneyama[1], Masayoshi Sugimura[1], Naoyuki Takei[2], Kimihiko Sato[1], Kei Tsukamoto[1], Kenichi Mizuki[1], Hiroyuki Kabasawa[2]
[1]Radiology, Seirei Hamamatsu General Hospital, Hamamatsu, Shizuoka, Japan; [2]GE Healthcare Japan, Hino, Tokyo, Japan

Computer 91 **2999. Diffusion Tensor and Volumetric Magnetic Resonance Imaging Using an MR Compatible Rehabilitation Hand Device Suggests Training-Induced Neuroplasticity in Chronic Stroke**
Asimina Lazaridou[1, 2], Loukas Astrakas[1, 3], Dionyssios Mintzopoulos[1, 3], Azadeh Khanicheh[4], Aneesh Singhal[5], Michael Moskowitz[2], Bruce Rosen[6], Aria A. Tzika[1, 3]
[1]NMR Surgical Laboratory, Massachusetts General Hospital and Shriners Burn Institute, Harvard Medical School, Boston, MA, United States; [2]Radiology, Athinoula A. Martinos Center for Biomedical Imaging , Boston, MA, United States; [3]Radiology, Athinoula A. Martinos Center for Biomedical Imaging, , Boston, MA, United States; [4]Mechanical Engineering, Northeastern University, Boston, MA, United States; [5]Department of Neurology, Stroke Research Center, Massachusetts General Hospital, Harvard Medical School, Boston, MA, United States; [6]Radiology, Athinoula A. Martinos Center for Biomedical Imaging, Boston, MA, United States

Computer 92 **3000. Segmentation-Based Quantification of Brain SWI for Predicting the Stroke Evolution**
Ping-Huei Tsai[1, 2], Chia-Yuen Chen[2], Chin-I Chen[3], Fong Y. Tsai[1], Hsiao-Wen Chung[4], Wing P. Chan[2]
[1]Imaging Research Center, Taipei Medical University, Taipei, Taiwan; [2]Department of Radiology, Wan Fang Hospital, Taipei Medical University, Taipei, Taiwan; [3]Department of Neurology, Wan Fang Hospital, Taipei Medical University, Taipei, Taiwan; [4]Department of Electrical Engineering, National Taiwan University, Taipei, Taiwan

Computer 93 **3001. Comprehensive Assessment of Cerebral Hemodynamic Parameters (Y, CVR, CBF, OEF and CMRO2) and Perfusion Territories for Patients with Cerebrovascular Disease.**
Jill Britt De Vis[1], Jeroen Hendrikse[1], Esben Thade Petersen[1]
[1]Radiology, University Medical Center Utrecht, Utrecht, Netherlands

Computer 94 **3002. Magnetic Resonance PWI-Derived Collateral Flow Index Is a Predictor of MCA-M1 Recanalization After Iv Thrombolysis : New Insight Using the Bayesian Method**
Francois Nicoli[1], Timothe Boutelier[2], Fabrice Pautot[2], Nadine Girard[3]
[1]Medical Affairs, Olea Medical, La Ciotat, Bouches du Rhone, France; [2]Research & Innovation, Olea Medical, La Ciotat, Bouches du Rhone, France; [3]Neuroradiology, La Timone University Hospital, Marseille, Bouches du Rhone, France

Computer 95 **3003. Quantitative Evaluation of Mismatch in Recanalized Acute Stroke Patients: Comparison Between Arterial Spin Labeling and Dynamic Susceptibility Contrast Perfusion**
Kambiz Nael[1], Arash Meshksar[1], Benjamin Ellingson[2], Pablo J. Villablanca[2], Noriko Salamon[2]
[1]Medical Imaging, University of Arizona, Tucson, AZ, United States; [2]Radiological Sciences, UCLA, Los Angeles, CA, United States

Computer 96 **3004. Correlation of MR Image Features and Hemorrhagic Transformation in Acute Cerebral Infarction: A Multi-Modal Study**
Jun Liu[1], Liang Xu[1], Chunming Liu[1], Zhengchao Dong[2, 3]
[1]Union Medical Center , Tianjin, China; [2]Columbia University, New York, NY, United States; [3]New York State of Psychiatric Institute, New York, NY, United States

Electronic Poster
High Resolution Brain Anatomy & Morphology

Exhibition Hall Monday 11:45-12:45

Computer 73 **3005.** ***in vivo*** **Identification of Human Optic Radiation and Stria of Gennari Using High-Resolution Phase Difference Enhanced Imaging at 3 Tesla**

Li Yang[1], Guangbin Wang[1], Lili Li[1], Queenie Chan[2], Weibo Chen[3]
[1]Shandong Medical Imaging Research Institute, Jinan, Shandong, China; [2]Philips Healthcare, Hongkong, China; [3]Philips Healthcare, Shanghai, China

Computer 74 **3006.** **A Computer-Aided Detection of Cerebral Microbleeds on Minimum Intensity Projection MR Images of SWI**

Wei Bian[1, 2], Christopher P. Hess[2], Susan M. Chang[3], Sarah J. Nelson[1, 2], Janine M. Lupo[2]
[1]Graduate Program in Bioengineering, University of California San Francisco & Berkeley, San Francisco, CA, United States; [2]Radiology and Biomedical Imaging, University of California San Francisco, San Francisco, CA, United States; [3]Neurological Surgery, University of California San Francisco, San Francisco, CA, United States

Computer 75 **3007.** **Atypical Sulcal Patterns in Pre-Readers and Beginning Readers with a Familial Risk for Developmental Dyslexia**

Kiho Im[1], Nora M. Raschle[1], Jennifer Zuk[1], Jennifer Minas[2], Ola Ozranov-Palchik[1], Nadine Gaab[1], Patricia Ellen Grant[3]
[1]Boston Children's Hospital, Harvard Medical School, Boston, MA, United States; [2]Massachusetts Institute of Technology, Cambridge, MA, United States; [3]Boston Children's Hospital, Boston, MA, United States

Computer 76 **3008.** **Dependence of R1 on Tissue Microstructure: A Group Study of 100 Subjects**

Martina F. Callaghan[1], Antoine Lutti[1], Siawoosh Mohammadi[1], Nikolaus Weiskopf[1]
[1]Wellcome Trust Centre for Neuroimaging, UCL Institute of Neurology, London, United Kingdom

Computer 77 **3009.** **High Quality Whole Brain MP2RAGE at 7T: Utilization of Thin Dielectric Pads**

Kieran O'Brien[1], Tobias Kober[2], Jose Marques[3], François Lazeyras[1], Rolf Gruetter, [1,4], Gunnar Krueger[2]
[1]CIBM, University of Geneva, Geneva, Switzerland; [2]Advanced Clinical Imaging Technology, Siemens Healthcare IM S AW, Lausanne, Switzerland; [3]CIBM-AIT, Ecole Polytechnique Fédérale de Lausanne & Univertisy of Lausanne, Lausanne, Switzerland; [4]CIBM-AIT, Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland

Computer 78 **3010.** **High-Resolution MRI of Persistent Metopic Suture**

Martin Krämer[1], Karl-Heinz Herrmann[1], Martin Stenzel[2], Hans-Joachim Mentzel[2], Jürgen R. Reichenbach[1]
[1]Medical Physics Group, Institute of Diagnostic and Interventional Radiology I, Jena University Hospital - Friedrich Schiller University Jena, Jena, Germany; [2]Pediatric Radiology, Institute of Diagnostic and Interventional Radiology I, Jena University Hospital - Friedrich Schiller University Jena, Jena, Germany

Computer 79 **3011.** **Longitudinal VBM of Regional Progression in Human Prion Disease**

Enrico De Vita[1, 2], Harpreet Hyare[3, 4], Gerard R. Ridgway[5], Marie-Claire Porter[3, 4], Andrew Thompson[3, 4], Chris Carswell[3, 4], Ana Lukic[3, 4], Rolf H. Jager[1, 2], Diana Caine[3, 4], Peter Rudge[3, 4], Tarek A. Yousry[1, 2], John Collinge[3, 4], Simon Mead[3, 4], John Thornton[1, 2]
[1]Lysholm Department of Neuroradiology, National Hospital for Neurology and Neurosurgery, UCLH NHS Foundation Trust, London, United Kingdom; [2]Academic Neuroradiological Unit, Department of Brain Repair and Rehabilitation, UCL Institute of Neurology, London, United Kingdom; [3]MRC Prion Unit, Department of Neurodegenerative Diseases, UCL Institute of Neurology, London, United Kingdom; [4]National Prion Clinic, National Hospital for Neurology and Neurosurgery, UCLH NHS Foundation Trust, London, United Kingdom; [5]Wellcome Department of Cognitive Neurology, UCL Institute of Neurology, London, United Kingdom

Computer 80 **3012.** ***in vivo*** **7T Imaging of Nigrosome Loss in Parkinson's Disease**

ISMRM MERIT AWARD magna cum laude

Anna I. Blazejewska[1], Stefan T. Schwarz[2], Alain Pitiot[3], Mary C. Stephenson[1], James Lowe[4], Nin Bajaj[5], Richard W. Bowtell[1], Dorothee P. Auer[2], Penelope A. Gowland[1]
[1]SPMMRC, University of Nottingham, Nottingham, Notts, United Kingdom; [2]Division of Radiological and Imaging Sciences, University of Nottingham, Nottingham, Notts, United Kingdom; [3]School of Psychology, University of Nottingham, Nottingham, Notts, United Kingdom; [4]Division of Pathology, Nottingham University Hospitals NHS Trust, Nottingham, Notts, United Kingdom; [5]Division of Neurology, Nottingham University Hospitals NHS Trust, Nottingham, Notts, United Kingdom

Computer 81 **3013. An Image Searching Engine to Utilize Past Clinical Data for the Future Diagnosis**
Andreia V. Faria[1], Shoko Yoshida[1], Kenichi Oishi[1], Kanako Sato[1], Argye Hillis[2], MIchael I. Miller[3], Susumu Mori[1]
[1]Radiology, Johns Hopkins University, Baltimore, MD, United States; [2]Neurology, Johns Hopkins Hospital, Baltimore, MD, United States; [3]Biomedical Engineering, Johns Hopkins University, Baltimore, MD, United States

Computer 82 **3014. Improved Longitudinal Gray Matter Atrophy Assessment Via a Combination of SIENA and a 4-Dimensional Hidden Markov Random Field Model**
Michael G. Dwyer[1], Niels P. Bergsland[1], Robert Zivadinov[1]
[1]Buffalo Neuroimaging Analysis Center, University at Buffalo, Buffalo, NY, United States

Computer 83 **3015. A Robust Brain Segmentation of Multispectral MRI Using a Supervised Hybrid Classifier**
Jyh-Wen Chai[1, 2], Clayton Chi-Chang Chen, Hsian-Min Chen[3], Yi-Ying Wu[1], Pei-Hua Lo[1], Chu-Jing Song[1], Yi-Hsin Tsai[2], San-Kan Lee, Yen-Chien Ouyang[4], Chein-I Chang[5]
[1]Department of Radiology, Taichung Veterans General Hospital, Taichung, Taiwan, Taiwan; [2]College of Medicine, China Medical University, Taichung, Taiwan, Taiwan; [3]Department of Biomedical Engineering, HungKuang University, Taichung, Taiwan, Taiwan; [4]Department of Electrical Engineering, National Chung Hsin University, Taichung, Taiwan, Taiwan; [5]Department of Computer Science and Electrical Engineering, University of Maryland, Baltimore, Baltimore, MD, United States

Computer 84 **3016. High Resolution Imaging of the Hippocampus with Spatially Selective Excitation and a Reduced FOV Readout at 7T**
Ronald Mooiweer[1], Alessandro Sbrizzi[1], Fredy Visser[1, 2], Cornelis A.T. van den Berg[1], Peter R. Luijten[1], Hans Hoogduin[1]
[1]UMC Utrecht, Utrecht, Netherlands; [2]Philips Healthcare, Best, Noord-Brabant, Netherlands

Computer 85 **3017. Aging of the Central Nervous System: A Voxel-Based Quantification (VBQ) Study of 100 Volunteers**
Martina F. Callaghan[1], Patrick Freund[1, 2], Bogdan Draganski[3], Marinella Cappelletti[1], Thomas Fitzgerald[1], Peter Smittenaar[1], Antoine Lutti[1], Nikolaus Weiskopf[1]
[1]Wellcome Trust Centre for Neuroimaging, UCL Institute of Neurology, London, United Kingdom; [2]Spinal Cord Injury Center Balgrist, University Hospital Zurich, Zurich, Switzerland; [3]LREN, Department des Neurosciences Cliniques, CHUV, Universite de Lausanne, Lausanne, Switzerland

Computer 86 **3018. Optimally-Discriminative Voxel-Based Morphometry Significantly Increases the Ability to Detect Group Differences in Schizophrenia, Mild Cognitive Impairment, and Alzheimer's Disease**
Tianhao Zhang[1], Christos Davatzikos[1]
[1]Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States

Computer 87 **3019. Associating Neuropsychological Deficits with Decreased Gray and White Matter Density in Alcohol Dependents: A Voxel Based Morphometric Analysis Using DARTEL**
Deepika Bagga[1], Namita Singh[1], Shilpi Modi[1], Prabhjot Kaur[1], Debajyoti Bhattacharya[2], Mohan Lal Garg[3], subash khushu[1]
[1]NMR Research Centre, INMAS, New Delhi, India; [2]Department of psychiatry, Base Hospital, New Delhi, India; [3]Department of Biophysics, Panjab University, chandigarh, India

Computer 88 **3020. Regional Brain Volume Change Following Traumatic Brain Injury**
Binquan Wang[1, 2], Ping-Hong Yeh[1, 2], Wei Liu[1, 2], John Graner[3], Hai Pan[1, 2], Jamie Harper[2, 3], John M. Ollinger[3], Terrence R. Oakes, [23], Gerard Riedy, [23]
[1]Henry M. Jackson Foundation for the Advancement of Military Medicine, Bethesda, MD, United States; [2]National Capital Neuroimaging Consortium, Rockville, MD, United States; [3]National Intrepid Center of Excellence (NICoE), Bethesda, MD, United States

Computer 89 **3021. Practical Quantitative Zoomed DTI of Medial Temporal Lobe Structures Using a 2-Channel Parallel Transmit Coil.**
Timothy M. Shepherd[1], Christopher B. Glielmi[2], Christian Geppert[3], Josef Pfeuffer[4]
[1]Radiology, NYU Langone Medical Center, New York, NY, United States; [2]Siemens Medical Solutions, New York, NY, United States; [3]Siemens Medical Systems, New York, NY, United States; [4]Siemens Healthcare, Erlangen, Germany

Computer 90 **3022.** **Diffusion Imaging of Post-Mortem Human Brains: DW-SSFP at 7T Provides Improved Crossing Fibre Estimates**
Sean Foxley[1], Saad Jbabdi[1], Wilfred Lam[1], Karla Miller[1]
[1]FMRIB Centre, University of Oxford, Oxford, Oxfordshire, United Kingdom

Computer 91 **3023.** ***in vivo* Ultra-High Resolution Diffusion Tensor Imaging of the Medial Temporal Lobe in Patients with Epilepsy**
Mansi B. Parekh[1], Robert Fisher[2], Kevin Graber[2], Ryan Purcell, Rishi Raman, Leandro Bouzon, Scott Atlas[1], Samantha J. Holdsworth[1], Stefan Skare[1], Rolland Bammer[1], Michael Zeineh[1]
[1]Radiology, Stanford University, Stanford, CA, United States; [2]Neurology & Neurological Sciences, Stanford University, Stanford, CA, United States

Computer 92 **3024.** **Structural Contrast Enhancements by Novel Way to Combine T1- And T2-Weighted MR Images**
Masaya Misaki[1], Jonathan Savitz[1, 2], Vadim Zotev[1], Raquel Phillips[1], Han Yuan[1], Kymberly D. Young[1], Wayne C. Drevets[1], Jerzy Bodurka[1, 3]
[1]Laureate Institute for Brain Research, Tulsa, OK, United States; [2]Tulsa School of Community Medicine, University of Tulsa, Tulsa, OK, United States; [3]College of Engineering, University of Oklahoma, Tulsa, OK, United States

Computer 93 **3025.** **Multispectral Fusion-Based Detection of Virchow-Robin Spaces**
Vikas Kotari[1], Vasiliki N. Ikonomidou[2]
[1]Electrical Engineering, George Mason University, Fairfax, VA, United States; [2]Bioengineering, George Mason University, Fairfax, VA, United States

Computer 94 **3026.** **Confounds in Image Registration**
Sune Darkner[1], Matthew George Liptrot[1], Jon Sporring[1]
[1]Department of Computer Science, University of Copenhagen, Copenhagen, Denmark

Computer 95 **3027.** **MRI Texture Spectral Similarity Detects White Matter Microstructure as Compared with Diffusion Tensor Imaging**
Yunyan Zhang[1], Lenora Brown[1], Luanne M. Metz[1]
[1]University of Calgary, Calgary, AB, Canada

Computer 96 **3028.** **Voxel Misassignments and Their Consequences in DTI Skeleton-Based Group Analyses**
Michael Bach[1, 2], Bram Stieltjes[1], Frederik B. Laun, [12], Alexander Leemans[3], Klaus Hermann Fritzsche, [14]
[1]Quantitative Imaging-based Disease Characterization, German Cancer Research Center (DKFZ), Heidelberg, Germany; [2]Dpt. of Medical Physics in Radiology, German Cancer Research Center (DKFZ), Heidelberg, Germany; [3]Image Sciences Institute, University Medical Center Utrecht, Utrecht, Netherlands; [4]Medical Imaging and Biological Informatics, German Cancer Research Center (DKFZ), Heidelberg, Germany

Electronic Poster
Arterial Spin Labeling

Exhibition Hall Monday 14:15-15:15

Computer 1 **3029.** **Pseudo-Continuous Arterial Spin Labeling Based Dynamic Angiographic Imaging with Decreased Number of Acquisitions**
Onur Ozyurt[1], Alp Dincer[2], Ali Avci[3], Cengizhan Ozturk[1]
[1]Biomedical Engineering Institute, Kandilli, Istanbul, Turkey; [2]Acibadem University, Kozyatagi, Istanbul, Turkey; [3]Siemens Turkey, Kartal, Istanbul, Turkey

Computer 2 **3030.** **Prospective Motion Correction of 3D GRASE PASL Acquisitions with Volume Navigators**
André J. W. van der Kouwe[1, 2], Matthew Dylan Tisdall[1, 2], Himanshu Bhat[3], Borjan Gagoski, [24], Keith A. Heberlein[5]
[1]A. A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Charlestown, MA, United States; [2]Radiology, Harvard Medical School, Boston, MA, United States; [3]Siemens Medical Solutions, Charlestown, MA, United States; [4]Center for Fetal-Neonatal Neuroimaging and Developmental Science, Boston Children's Hospital, Boston, MA, United States; [5]Siemens Healthcare USA, Charlestown, MA, United States

Computer 3 **3031. Pseudocontinuous Arterial Spin Labeling with Prospective Motion Correction (PCASL-PROMO)**
Zungho Zun[1], Ajit Shankaranarayanan[2], Greg Zaharchuk[1]
[1]Radiology, Stanford University, Stanford, CA, United States; [2]GE Healthcare, Menlo Park, CA, United States

Computer 4 **3032. Pulsatile Motion Artifact Correction in Multishot Spiral PCASL**
Li Zhao[1], Samuel W. Fielden[1], Craig H. Meyer[1, 2]
[1]Biomedical Engineering, University of Virginia, Charlottesville, VA, United States; [2]Radiology, University of Virginia, Charlottesville, VA, United States

Computer 5 **3033. Improving ASL Using 3D bSSFP with Background Suppression and Two-Dimensional GRAPPA**
Hua-Shan Liu[1], Daeun Kim[1], Randall B. Stafford[1], Se-Hong Oh[1], Sung-Hong Park[2], Danny J.J. Wang[3], Ze Wang[1], Misung Han[4], John A. Detre[1], Jongho Lee[1]
[1]University of Pennsylvania, Philadelphia, PA, United States; [2]Korean Advanced Institute for Science and Technology, Daejun, Korea; [3]University of California, Los Angeles, LA, United States; [4]University of California, San Francisco, San Francisco, CA, United States

Computer 6 **3034. Benefits of Spiral Imaging for Arterial Spin Labeling as Compared to EPI**
Britta Lehmann[1], Tiejun Zhao[2], Josef Pfeuffer[1]
[1]Siemens Healthcare, MR Application Development, Erlangen, BY, Germany; [2]Siemens Healthcare, Pittsburg, PA, United States

Computer 7 **3035. Feasibilty of Dual-Echo PCASL and PASL BOLD-RCBF fMRI in Olfactory Experiments**
Ana Beatriz Solana[1], Elena Molina[2], Pablo García-Polo[2], Juan Antonio Hernández-Tamames[2, 3], Susana Borromeo[2], Fernando Zelaya[4], Francisco del Pozo[1]
[1]Universidad Politécnica de Madrid, Pozuelo de Alarcón, Madrid, Spain; [2]Universidad Rey Juan Carlos, Móstoles, Madrid, Spain; [3]Fundación CIEN-Fundación Reina Sofía. Madrid, Madrid, Spain; [4]King's College London, London, United Kingdom

Computer 8 **3036. Reproducibility of Total Cerebral Blood Flow and Determination of Tagging Efficiency in PCASL Using Gated and Non-Gated PCMRA**
Yuxiang Zhou[1, 2], Lingyun Chen[2], Xiaojun Sun[3], Vipulkumar Patel[3], Jerry S. Wolinsky[4], Ponnada A. Narayana[3]
[1]Department of Diagnostic and Interventional Imaging , University of Texas Medical School at Houston, Houston, TX, United States; [2]Department of Diagnostic & Molucular Imaging, Beaumont Health System, Royal Oak, MI, United States; [3]Department of Diagnostic and Interventional Imaging, University of Texas Medical School at Houston, Houston, TX, United States; [4]Department of Neurology, University of Texas Medical School at Houston, Houston, TX, United States

Computer 9 **3037. Robust Perfusion Maps in Arterial Spin Labeling by Means of M-Estimators**
Camille Maumet[1], Pierre Maurel[1], Jean-Christophe Ferré[1, 2], Christian Barillot[1]
[1]Inria, IRISA, RENNES, Brittany, France; [2]Department of Neuroradiology, CHU Rennes, Rennes, Brittany, France

Computer 10 **3038. Simultaneous Imaging of Cerebral Perfusion and Glucose Metabolism by PET/MRI**
Udunna Anazodo[1, 2], R. Stodika[1, 2], John Butler[1], Jonathan Mandel[3], Terry Thompson[1, 2], F.S Prato[1, 2], Danny J.J. Wang[4], Keith, S St. Lawrence[1, 2]
[1]Lawson Health Research Institute, London, Ontario, Canada; [2]Medical Biophysics, Western University, London, Ontario, Canada; [3]Radiology Department, St Joseph's Health Care, London, Ontario, Canada; [4]Department of Neurology, UCLA, Ahmanson-Lovelace Brain Mapping Center, Los Angeles, CA, United States

Computer 11 **3039. Calibration of Cerebral Blood Oxygenation and Perfusion MR Imaging in Mice by Invasive Micro Probe Measurements.**
Jan Sedlacik[1], Matthias Reitz[2], Div S. Bolar[3], Elfar Adalsteinsson[4], Nils Ole Schmidt[2], Jens Fiehler[1]
[1]Neuroradiology, University Medical Center Hamburg-Eppendorf, Hamburg, Germany; [2]Neurosurgery, University Medical Center Hamburg-Eppendorf, Hamburg, Germany; [3]Radiology, A. A. Martinos Center , Charlestown, MA, United States; [4]Electrical Engineering and Computer Science, Massachusetts Institute of Technology, Cambridge, MA, United States

Computer 12 **3040. Accuracy of Vessel-Encoded Pseudo-Continuous Arterial Spin Labeling in Identification of Feeding Arteries in Patients with Intracranial Arteriovenous Malformation**

Songlin Yu[1], Rui Wang[2], Rong Wang[1], Shuo Wang[1], Yuqiang Yao[3], Dong Zhang[1], Yuanli Zhao[1], Zhentao Zuo[2], Rong Xue[2], Danny J.J. Wang[4], Jizong Zhao[1]

[1]Tiantan hospital, Beijing, China; [2]Institute of Biophysics, Chinese Academy of Sciences, Beijing, China; [3]Beijing Jishuitan Hospital, Beijing, China; [4]University of California Los Angeles, Los Angeles, CA, United States

Computer 13 **3041. Selective ASL with 2D RF Pulses**

Britta Lehmann[1], Dieter Ritter[1], Josef Pfeuffer[1]

[1]Siemens Healthcare, MR Application Development, Erlangen, BY, Germany

Computer 14 **3042. Full Brain and Territorial Arterial Spin Labeling with External RF Shimmed Labeling Coil at 7 Tesla**

Wouter Koning[1], Esben Thade Petersen[1], Jaco J.M. Zwanenburg[1], Peter R. Luijten[1], Dennis W.J. Klomp[1]

[1]University Medical Center, Utrecht, Netherlands

Computer 15 **3043. Pulsed Continuous 3DASL Cerebral Perfusion Imaging Using Multiple Post Label Delay(PDL) Acq. in the Clinical Utility of Arterial Transit Time(ATT) Mapping: Comparative Study with PET-OEF in Patients with Chronic Occlusive Vascular Disease**

Hirohiko Kimura[1], Tetsuya tsujikawa[1], Tsuyoshi Matsuda[2], Yasuhiro Fujiwara[3], Kennichi Kikuta[4], Hidehiko Okazawa[5]

[1]Radiology, University of Fukui, Fukui, Japan; [2]Applied Science Laboratory Asia Pacific, GE Healthcare Japan, HIno, Japan; [3]Radiology center, University of Fukui Hospital, Fukui, Japan; [4]Neurosurgery, University of Fukui, Fukui, Japan; [5]Biomedical Imaging Center, University of Fukui, Fukui, Japan

Computer 16 **3044. Examining the Relationship Between Cerebral Blood Flood and Grey Matter Structure in Typically Developing Children**

Jeffrey T. Duda[1], Emily Kilroy[2], James C. Gee[1], Danny J.J. Wang[2], Brian B. Avants[1]

[1]Radiology, University of Pennsylvania, Philadelphia, PA, United States; [2]Neurology, University of California Los Angeles, Los Angeles, CA, United States

Computer 17 **3045. Effect of NMDA-Receptor Inhibition on Relative Cerebral Blood Flow to the Hippocampus and Medial Prefrontal Cortex: A Placebo Controlled Repeated Measures Study of Ketamine in Healthy Young Men**

Najmeh Khalili Mahani[1], Marieke Niesters[1], Matthias J.P. van Osch[2], Albert Dahan[1]

[1]Anesthesiology, Leiden University Medical Center, Leiden, Netherlands; [2]Radiology, Leiden University Medical Center, Leiden, Netherlands

Computer 18 **3046. Correlation Between Cerebral Blood Flow and Anisotropy in White Matter**

Andrea Federspiel[1], Sebastian Walther[1], Ariane Orosz[1], Roland Wiest[2], Stéphanie Giezendanner[1], Jennifer Andreotti[1], Simon Schwab[1], Thomas Dierks[1], Kay Jann[1]

[1]Dept. of Psychiatric Neurophysiology, University Hospital of Psychiatry / University of Bern, Bern, Switzerland; [2]Institute of Diagnostic and Interventional Neuroradiology, University of Bern, Bern, Switzerland

Computer 19 **3047. Simultaneous Measurement of Perfusion and BOLD Changes in Calf Muscle During Exercise**

Jason K. Mendes[1], Christopher J. Hanrahan[1], Gwenael Layec[2], Corey Hart[2], Russell S. Richardson[2], Vivian S. Lee[3]

[1]Radiology, University of Utah, Salt Lake City, UT, United States; [2]Internal Medicine, University of Utah, Salt Lake City, UT, United States; [3]School of Medicine, University of Utah, Salt Lake City, UT, United States

Computer 20 **3048. Measurement of Reduced Lymphatic Flow Velocity Under Conditions of Obstructed Lymphatic Flow Using Spin Labeling Approach**

Swati Rane[1], Paula Donahue[2, 3], Theodore F. Towse[1], Sheila Ridner[4], John C. Gore[1, 5], Michael A. Chappell[6, 7], Manus J. Donahue[1, 8]

[1]VUIIS, Radiology and Radiological Sciences, Vanderbilt University, Nashville, TN, United States; [2]Vanderbilt Dayani Center for Health and Wellness , Vanderbilt University Med. Center, Nashville, TN, United States; [3]Vanderbilt Physical Medicine and Rehabilitation, Vanderbilt University Med. Center, Nashville, TN, United States; [4]School Of Nursing, Vanderbilt University, Nashville, TN, United States; [5]Biomedical Engineering, Vanderbilt University, Nashville, TN, United States; [6]Institute of Biomedical Engineering, University of Oxford, Oxford, OX, United Kingdom; [7]John Radcliffe Hospital, Oxford Centre for Functional MRI of the Brain, Oxford, OX, United Kingdom; [8]Psychiatry, Vanderbilt University, Nashville, TN, United States

Computer 21 **3049. Perfusion Imaging of Renal Tumors at 3 Tesla Using Pulsed Continuous Arterial Spin Labeling**
Ananth J. Madhuranthakam[1], Ivan E. Dimitrov[2], David C. Alsop[3], Ivan Pedrosa[1]
[1]Radiology and Advanced Imaging Research Center, UT Southwestern Medical Center, Dallas, TX, United States; [2]Philips Healthcare, Cleveland, OH, United States; [3]Radiology, Beth Israel Deaconess Medical Center and Harvard Medical School, Boston, MA, United States

Computer 22 **3050. Measurement of Renal Perfusion Using 3D Pseudo-Continuous Arterial Spin Labeling**
Kaining Shi[1], Haiyi Wang[2], Yehuan tang[2]
[1]Applied Science Lab (China), GE HealthCare, Beijing, China; [2]the Department of Radiology, People¡¯s Liberation Army General Hospital, Beijing, China

Computer 23 **3051. A Double-Excitation Approach Is the Optimal Strategy for Whole-Brain ASL/BOLD Acquisitions**
Vincent J. Schmithorst[1, 2], Luis Hernandez-Garcia[3], Jennifer Vannest[2], Akila Rajagopal[2], Gregory Lee[2], Scott Holland[2]
[1]Radiology, Children's Hospital of Pittsburgh of UPMC, Pittsburgh, PA, United States; [2]Radiology, Children's Hospital Medical Center, Cincinnati, OH, United States; [3]Functional MRI Laboratory, University of Michigan, Ann Arbor, MI, United States

Computer 24 **3052. Comparison of Multi-Parametric ASL and CT Perfusion in Moyamoya Diseases**
Rui Wang[1], Songlin Yu[2], Jeffry R. Alger[3], Bo Wang[1], Jizong Zhao[2], Zhentao Zuo[1], Rong Xue[1], Danny J.J. Wang[3]
[1]State Key Laboratory of Brain and Cognitive Science, Beijing MRI Center for Brain Research, Institute of Biophysics, Chinese Academy of Sciences, Beijing, China; [2]Department of Neurosurgery, Beijing Tiantan Hospital, Capital Medical University, Beijing, China; [3]Department of Neurology, University of California Los Angeles, Los Angeles, CA, United States

Electronic Poster
Perfusion & Permeability Measured with Contrast Agents

Exhibition Hall Monday 15:15-16:15

Computer 1 **3053. The Influences of Vertebral Level and Age on Perfusion Parameters of Thoracic-Lumbar Vertebral Marrow in Adults Using T1-Weighted Dynamic Contrast Enhancement MRI**
Qinxiang Li[1], He Wang[2], Yunfei Zha[3]
[1]REN MIN HOSPITAL OF WUHAN UNIVERSITY, WUHAN, HUBEI , China; [2]MR Research China, GE Healthcare, Shanghai, China; [3]REN MIN HOSPITAL OF WUHAN UNIVERSITY, WUHAN, HUBEI, China

Computer 2 **3054. Differences in Two-Compartment Model Parameters of Gluteal and Deep Pelvic Muscles**
Milica Medved[1], Aytekin Oto[1], Xiaobing Fan[1], Federico D. Pineda[1], Russell Z. Szmulewitz[2], Gregory S. Karczmar[1]
[1]Radiology, University of Chicago, Chicago, IL, United States; [2]Medicine, University of Chicago, Chicago, IL, United States

Computer 3 **3055. Simultaneous Quantification of Permeability and Perfusion in Multiple Sclerosis Lesions**
Katherine C. Gao[1], Govind Nair[1], Colin D. Shea[1], Pietro Maggi[1, 2], Souheil J. Inati[3], Luca Massacesi[2], Daniel S. Reich[1]
[1]National Institute of Neurological Disorders and Stroke, Bethesda, MD, United States; [2]Department of Neurological and Psychiatric Sciences, University of Florence, Florence, Italy; [3]Natiional Institute of Mental Health, Bethesda, MD, United States

Computer 4 **3056. Cerebral Blood Flow Measurement Obtained by PET/MR Dual-Modality Imaging System**
Parinaz Massoumzadeh[1], Yi Su[1], Joshua S. Shimony[1], Andrei Vlassenko[1], Jonathan McConathy[1], Tammie Benzinger[1]
[1]Mallinckrodt Institute of Radiology, Washington University in St. Louis, St. Louis, MO, United States

Computer 5 **3057. Time to Peak Based Differentiation of Functional Placental Compartments in the Mouse Model**
Fabian Kording[1], Wedegaertner Ulrike[1], Nils Daniel Forkert[2], Jan Sedlacik[1], Gerhard Adam[1], Chressen K. Much[1]
[1]Department of Diagnostic and Interventional Radiology, University Medical Center Hamburg-Eppendorf, Hamburg, Germany, Germany; [2]Department of Computational Neuroscience, University Medical Center Hamburg-Eppendorf, Hamburg, Germany, Germany

Computer 6 **3058. Measurement of Rat Brain Tumor Kinetics Using an Intravascular Mr Contrast Agent and DCE-T1 Nested Model Selection**

Wilson B. Chwang[1], Rajan Jain[1, 2], Siamak P. Nejad-Davarani[3, 4], A.S.M. Iskander[1], Ashley VanSlooten[5], Lonni Schultz[5], James R. Ewing[3, 6], Ali S. Arbab[1, 7], Hassan Bagher-Ebadian[3, 6]

[1]Department of Radiology, Henry Ford Hospital, Detroit, MI, United States; [2]Department of Neurosurgery, Henry Ford Hospital, Detroit, MI, United States; [3]Department of Neurology, Henry Ford Hospital, Detroit, MI, United States; [4]Department of Biomedical Engineering, University of Michigan, Ann Artbor, MI, United States; [5]Department of Public Health Sciences, Henry Ford Hospital, Detroit, MI, United States; [6]Department of Physics, Oakland University, Rochester Hills, MI, United States; [7]Department of Radiology, Wayne State University, Detroit, MI, United States

Computer 7 **3059. Reducing the Scan Time in Quantitative Dynamic Contrast Enhanced MRI of the Breast Using the Extended Graphical Model**

Huijun Chen[1], Matthew L. Olson[2], Savannah C. Partridge[3], William Kerwin[3]

[1]Tsinghua University, Beijing, China; [2]University Of Washington, Seattle, WA, United States; [3]University of Washington, Seattle, WA, United States

Computer 8 **3060. Improving the Consistency in Permeability Measurement with DCE-MRI for Longitudinal Follow-Up of Brain Metastatic Tumors**

Yi-Ying Wu[1], Chen-Hao Wu[1, 2], Chih-Ming Chiang[1], Clayton Chi-Chang Chen[1, 3], Jyh-Wen Chai[1, 4]

[1]Department of Radiology, Taichung Veterans General Hospital, Taichung City, Taiwan (R.O.C), Taiwan; [2]Institute of Biomedical Engineering, National Taiwan University, Taipei City, Taiwan(R.O.C.), Taiwan; [3]Department of Biomedical Engineering, Hung Kuang University, Taichung City, Taiwan (R.O.C.), Taiwan; [4]College of Medicine, China Medical University, Taichung City, Taiwan (R.O.C), Taiwan

Computer 9 **3061. Repeatability of Cerebral Perfusion Measurements Using Susceptibility Contrast MRI**

Kourosh Jafari-Khouzani[1], Kyrre E. Emblem[1, 2], Jayashree Kalpathy-Cramer[1], Atle Bjørnerud[2, 3], Mark Vangel[1], Elizabeth R. Gerstner[4], Kathleen M. Schmainda[5], Tracy T. Batchelor[4], Bruce Rosen[1], Steven M. Stufflebeam[1]

[1]Athinoula A. Martinos Center for Biomedical Imaging, Department of Radiology, Massachusetts General Hospital, Harvard Medical School, Boston, MA, United States; [2]The Intervention Centre, Rikshospitalet, Oslo University Hospital, Oslo, Norway; [3]Dept of Physics, University of Oslo, Oslo, Norway; [4]Massachusetts General Hospital Cancer Center, Harvard Medical School, Boston, MA, United States; [5]Department of Biophysics, Medical College of Wisconsin, Milwaukee, WI, United States

Computer 10 **3062. Variability of CBF Calibration Using Venous Output Function in DSC-MRI of Rat Brains**

I Chi Liu[1, 2], Tsong-Hai Lee[3], Ching-Chung Liang[4], Ho-Ling Liu[1, 5]

[1]Department of Medical Imaging and Radiological Sciences, Chang Gung University, Taoyuan, Taiwan; [2]Department of Medical Physics, Koo Foundation Sun Yat-Sen Cancer Center, Taipei City, Taiwan; [3]Department of Neurology and Stroke Center, Chang Gung Memorial Hospital and Chang Gung University College of Medicine, Taoyuan, Taiwan; [4]Department of Obstetrics and Gynecology, Chang Gung Memorial Hospital, and Chang Gung University College of Medicine, Taoyuan, Taiwan; [5]Department of Medical Imaging and Intervention, Chang Gung Memorial Hospital, Taoyuan, Taiwan

Computer 11 **3063. A Physiological Model for Injected Contrast Agent Concentration Incorporating Recirculation, Extravasation and Excretion**

Dennis Lai Hong Cheong[1], Thian C. Ng[1, 2]

[1]Clinical Imaging Research Center, SBIC/A*STAR & National University of Singapore, Singapore, Singapore; [2]Department of Diagnostic Radiology, National University of Singapore, Singapore, Singapore

Computer 12 **3064. Automatic AIF Estimation in Multi-Echo DSC-MRI of Pediatric Patients - Avoiding the Noise Floor**

Allen T. Newton[1, 2], Jack T. Skinner[1], Christopher C. Quarles[1]

[1]Radiology and Radiological Sciences, Vanderbilt University Institute of Imaging Science, Nashville, TN, United States; [2]Radiology and Radiological Sciences, Monroe Carell Jr. Children's Hopsital at Vanderbilt, Nashville, TN, United States

Computer 13 **3065. Alternative Sequence for Arterial Input Function Measurements for Bolus Tracking Perfusion Imaging in the Brain**

Elias Kellner[1], Irina Mader[2], Marco Reisert[1], Valerij G. Kiselev[1]

[1]Department of Radiology, University Hospital Freiburg, Freiburg, Germany; [2]Section of Neuroradiology, University Hospital Freiburg, Freiburg, Germany

Computer 14 **3066.** **High Relaxivity Contrast Reagents Allow Detection of Erythrocyte Transcytolemmal Water Exchange**
Gregory J. Wilson[1], Charles S. Springer, Jr.[2], Mark Woods[2,3], Sarah Bastawrous,[14], Puneet Bhargava,[14], Jeffrey H. Maki[1]
[1]Radiology, University of Washington, Seattle, WA, United States; [2]Advanced Imaging Research Center, Oregon Health and Science University, Portland, OR, United States; [3]Chemistry, Portland State University, Portland, OR, United States; [4]Radiology, Puget Sound VAHCS, Seattle, WA, United States

Computer 15 **3067.** **Does DCE-MRI Have a Metabolic Dimension?**
Martin M. Pike[1], Mohan L. Jayatilake[1], Xiaoyan Wang[2], Merryl R. Lobo[1], Xin Li[1], Matthias C. Schabel[1], William D. Rooney[1], Dale J. Christensen[3], Jerry D. Glickson[4], Rosalie C. Sears[2], Wei Huang[1], Charles S. Springer, Jr.[1]
[1]Advanced Imaging Research Center, Oregon Health & Science University, Portland, OR, United States; [2]Molecular and Medical Genetics, Oregon Health & Science University, Portland, OR, United States; [3]Oncotide Pharmaceuticals, Research Triangle Park, NC, United States; [4]Radiology, University of Pennsylvania, Philadelphia, PA, United States

Computer 16 **3068.** **Quantifying Cerebral Haemodynamics Beyond CBF Using Control Point Interpolation Deconvolution for DSC MRI Perfusion Analysis**
Amit Mehndiratta[1], Bradley J. MacIntosh[2], David E. Crane[2], Stephen J. Payne[1], Michael A. Chappell[1]
[1]Institute of Biomedical Engineering, University of Oxford, Oxford, Oxfordshire, United Kingdom; [2]Medical Physics, University of Toronto, Toronto, ON, Canada

Computer 17 **3069.** **DSC-MRI Simulations: What Is the Correct Model for the *in vivo* Tissue Residue Function?**
Amit Mehndiratta[1], Fernando Calamante[2], Bradley J. MacIntosh[3], David E. Crane[3], Stephen J. Payne[1], Michael A. Chappell[1]
[1]Institute of Biomedical Engineering, University of Oxford, Oxford, Oxfordshire, United Kingdom; [2]Melbourne Brain Centre - Austin campus, Brain Research Institute, Heidelberg, Victoria, Australia; [3]Medical Physics, University of Toronto, Toronto, ON, Canada

Computer 18 **3070.** **CBF Quantification in the Face of Dispersion and Separation of Its Effects from Normal Cerebral Haemodynamics: A Comparison of Deconvolution Methods in DSC-MRI**
Amit Mehndiratta[1], Fernando Calamante[2], Bradley J. MacIntosh[3], David E. Crane[3], Stephen J. Payne[1], Michael A. Chappell[1]
[1]Institute of Biomedical Engineering, University of Oxford, Oxford, Oxfordshire, United Kingdom; [2]Melbourne Brain Centre - Austin campus, Brain Research Institute, Heidelberg, Victoria, Australia; [3]Medical Physics, University of Toronto, Toronto, ON, Canada

Computer 19 **3071.** **Analyzing Error Propagation in Semi-Quantitative DCE MRI Parameters in Brain Tumors: A Comparison Study to Monte Carlo Simulation Predictions**
Ka-Loh Li[1], Xiaoping Zhu[1], Alan Jackson[1]
[1]The Wolfson Molecular Imaging Centre, The University of Manchester, Manchester, United Kingdom

Computer 20 **3072.** **Susceptibility Induced Signal Quenching in DCE-MRI Is Tissue Dep**
ISMRM MERIT AWARD summa cum laude
Xin Li[1], Seymur Gahramanov[2], Charles S. Springer, Jr.[1], William D. Roo Neuwelt[2]
[1]Advanced Imaging Research Center, Oregon Health & Science University, Portland, OR, United States; [2]Department of Neurology, Oregon Health & Science University, Portland, OR, United States

Computer 21 **3073.** **Random Matrix Theory-Based Noise Reduction for Dynamic Imaging: Application to DCE-MRI**
Jeiran Jahani[1], Glyn Johnson[2], Valerij G. Kiselev[3], Dmitry S. Novikov[4]
[1]New York University School of Medicine, New York City, NY, United States; [2]University of East Anglia, East Anglia, United Kingdom; [3]University Medical Center Freiburg, Freiburg, Germany; [4]Radiology, New York Univeristy School of Medicine, New York City, NY, United States

Computer 22 **3074.** **Determination of Local Tissue Enhancement from Radially Reconstructed Images**
Jennifer Moroz[1], Piotr Kozlowski[2,3], Stefan A. Reinsberg[1]
[1]Physics and Astronomy, UBC, Vancouver, BC, Canada; [2]Radiology, UBC, Vancouver, BC, Canada; [3]MRI Research Centre, UBC, Vancouver, BC, Canada

Computer 23 **3075. Spatial Information Based DCE-MRI Data Reconstruction and Analysis Using PCA**
Dattesh D. Shanbhag[1], Suresh E. Joel[1], Ming-Ching Chang[2], Kumar T. Rajamani[1], Sandeep Narendra Gupta[2], Rakesh Mullick[1]
[1]GE Global Research, Bangalore, Karanataka, India; [2]GE Global Research, Niskayuna, NY, United States

Computer 24 **3076. Magnetic Susceptibility Alterations in Mouse Brains with Prenatal Alcohol Exposure: A Preliminary Study**
ISMRM MERIT AWARD magna cum laude
Wei Cao[1], Wei Li[1], Shonagh K. O'Leary-Moore[2], Kathleen K. Sulik[2], G. Allan Johnson[3], Chunlei Liu[1, 4]
[1]Brain Imaging and Analysis Center, Duke University, Durham, NC, United States; [2]Bowles Center for Alcohol Studies,University of North Carolina, Chapel Hill, NC, United States; [3]Center for In Vivo Microscopy, Duke University, Durham, NC, United States; [4]Department of Radiology, Duke University, Durham, NC, United States

Electronic Poster
Diffusion Applications

Exhibition Hall Monday 14:15-15:15

Computer 25 **3077. Progressive Myocardial Sheet Dysfunction from 3 to 16 Months in Duchene Muscular Dystrophy Mice (mdx) Defined by Diffusion Tensor MRI (DTI)**
Ya-Jian Cheng[1], Junjie Chen[2], Shelton D. Caruthers[2], Samuel A. Wickline[2]
[1]Biomedical Eng., Washington University In Saint Louis, Saint Louis, MO, United States; [2]Washington University In Saint Louis, St Louis, MO, United States

Computer 26 **3078. Comparison of *in vivo* and Ex Vivo DTI Cortical Connectivity Measurements in the Squirrel Monkey Brain**
Yurui Gao[1, 2], Ann S. Choe[1, 2], Xia Li[1], Iwona Stepniewska[3], Adam W. Anderson[1, 2]
[1]Institute of Imaging Science, Vanderbilt University, Nashville, TN, United States; [2]Department of Biomedical Engineering, Vanderbilt University, Nashville, TN, United States; [3]Department of Psychological Sciences, Vanderbilt University, Nashville, TN, United States

Computer 27 **3079. Preliminary Results on Image Artifacts in Lipid Diffusion Imaging**
Jutta Janke[1], Andreas Wetscherek[1], Bram Stieltjes[2], Frederik B. Laun[1, 2]
[1]Dpt. Medical Physics in Radiology, German Cancer Research Center (DKFZ), Heidelberg, Baden-Württemberg, Germany; [2]Quantitative Imaging-Based Disease Characterization, German Cancer Research Center (DKFZ), Heidelberg, Baden-Württemberg, Germany

Computer 28 **3080. Diffusion Tensor Imaging of the Mouse Brain with a Cryogenic Coil at Ultrahigh-Field: Fast Imaging Allows for Cohort Studies**
Hans-Peter Mueller[1], Ina Vernikouskaya[2], Albert Ludolph[1], Jan Kassubek[1], Volker Rasche, [23]
[1]Department of Neurology, Ulm University, Ulm, Baden Wuerttemberg, Germany; [2]Core Facility Small Animal MRI, Ulm University, Ulm, Baden Wuerttemberg, Germany; [3]Experimental Cardiovascular Imaging, Ulm University, Ulm, NA, Germany

Computer 29 **3081. High Spatial Resolution Diffusion Tensor and Kurtosis Analysis of Formalin Fixed Whole Prostate Tissue**
Roger Bourne[1], Dominic Pang[1], Andre Bongers[2], Carl Power[2], Paul Sved[1], Geoffrey Watson[3]
[1]University of Sydney, Sydney, NSW, Australia; [2]University of New South Wales, Sydney, NSW, Australia; [3]Royal Prince Alfred Hospital, Sydney, NSW, Australia

Computer 30 **3082. *Manganese Alters Water Movement in Ocular Lens Detected by DTI in vivo</i>*nnifer Mei[1], Hsiao-Fang Liang[2], Shu-Wei Sun[2]**
[1]University of California, Loma Linda, CA, United States; [2]Loma Linda University, Loma Linda, CA, United States

Computer 31 **3083. On the Application of Anomalous Diffusion Metrics in Animal Stroke Models**
Farida Grinberg[1], Ezequiel Farrher[1], Luisa Ciobanu[2], Nadim Jon Shah[1, 3]
[1]Institute of Neuroscience and Medicine 4 - Medical Imaging Physics, Forschungszentrum Juelich, Juelich, Germany; [2]Neurospin, CEA, Gif-sur-Yvette, France; [3]Department of Neurology, Faculty of Medicine, JARA, RWTH Aachen University, Aachen, Germany

Computer 32 **3084. Preliminary Evidence of Abnormalities in the Prefrontal Cortex of 10 Weeks Old Ts65Dn Mouse Model of Down Syndrome Using DKI-Cerebral Microenvironment Modeling.**
Xingju Nie[1], Edward S. Hui[1], Jens H. Jensen[1], Joseph A. Helpern[1, 2], Ann-Charlotte E. Granholm-Bentley[2], Heather A. Boger[2], Maria F. Falangola[1, 2]
[1]Radiology and Radiological Science, Center for Biomedical Imaging, Medical University of South Carolina, Charleston, SC, United States; [2]Neurosciences, Medical University of South Carolina, Charleston, SC, United States

Computer 33 **3085. Design of a Noninvasive System to Characterize Collagen-Sponge Remodeling Using MRI**
Mohammed Salman Shazeeb[1, 2], Stuart Howes[2], Sivakumar Kandasamy[2], Christopher H. Sotak, [12], George Pins[2]
[1]Radiology, University of Massachusetts Medical School, Worcester, MA, United States; [2]Biomedical Engineering, Worcester Polytechnic Institute, Worcester, MA, United States

Computer 34 **3086. Does Skeletal Muscle Contain Fast and Slow Diffusion Components in High B-Value Diffusion Weighted Imaging (DWI)?**
Yoshikazu Okamoto[1], Tomonori Isobe[1], Yuji Hirano[1]
[1]University of Tsukuba Hospital, Tsukuba, Ibaraki, Japan

Computer 35 **3087. Accurate Monitoring of the Treatment Response in Whole-Body Bone Marrow Metastatic Cancers Based on ADC Histogram Analysis Employing an Automatic Multiparametric (T1/ADC) Registration/Segmentation Approach**
Faezeh Sanaei Nezhad[1], Anahita Fathi Kazerooni[2, 3], Anwar R. Padhani[4], Hamid Soltanian Zadeh[1], Hamidreza Saligheh Rad[2, 3]
[1]School of Electrical and Computer Engineering (ECE), College of Engineering, University of Tehran, Tehran, Iran; [2]Medical Physics and Biomedical Engineering, Tehran University of Medical Sciences, Tehran, Iran; [3]Quantitative MR Imaging and Spectroscopy Group, Research Center for Cellular and Molecular Imaging, Tehran University of Medical Sciences, Tehran, Iran; [4]Paul Strickland Scanner Centre, Mount Vernon Cancer Centre, London, United Kingdom

Computer 36 **3088. Distinct Effects of the Nuclear Volume Fraction and Cell Diameter on Diffusion Contrast in Tumors**
Nathan White[1], Anders M. Dale[2]
[1]University of California, San Diego, La Jolla, CA, United States; [2]Radiology and Neurosciences, University of California, San Diego, La Jolla, CA, United States

Computer 37 **3089. Characterization of Diffusion Signal Decay in the Spinal Cord Based on Angular Dispersion of Axons**
Novena Rangwala[1], David Hackney[1], David C. Alsop[1]
[1]Department of Radiology, Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA, United States

Computer 38 **3090. Comparison of Conventional Histology and Diffusion Weighted Microimaging for Estimation of Epithelial, Stromal, and Acinar Volumes in Prostate Tissue**
Michael Zhao[1], Esther Myint[2], Geoffrey Watson[3], Roger Bourne[1]
[1]University of Sydney, Sydney, NSW, Australia; [2]Laverty Pathology, Sydney, NSW, Australia; [3]Royal Prince Alfred Hospital, Sydney, NSW, Australia

Computer 39 **3091. Diagnostic Accuracy of Periodically Rotated Overlapping Parallel Lines with Enhanced Reconstruction (PROPELLER) Diffusion-Weighted MRI in Cholesteatomas**
Yu-Chun Lin[1], Jiun-jie Wang[2], Che-Ming Wu[3], Shu-Hang Ng[1]
[1]Department of Medical Imaging and Intervention, Chang Gung Memorial Hospital, Linkou, 333, Taiwan; [2]Department of Medical Imaging and Radiological Sciences, Chang Gung University, Taoyuan, 333, Taiwan; [3]Department of Otolaryngology, Chang Gung Memorial Hospital, Linkou, Taiwan, Taiwan

Computer 40 **3092. Diffusion Weighted Magnetic Resonance Imaging of the Breast: Technical Considerations and Clinical Applications**
Habib Rahbar[1, 2], Matthew L. Olson[1, 2], Constance D. Lehman[1, 2], Savannah C. Partridge[1, 2]
[1]Radiology, University of Washington, Seattle, WA, United States; [2]Radiology, Seattle Cancer Care Alliance, Seattle, WA, United States

Computer 41 **3093.** ***in vivo*** **Measurement of Axonal Diameter and Density of Human Corpus Callosum Using Bi-Gaussian Model Q-Planar MRI**

Jun-Cheng Weng[1, 2], Sih-Yu Lin[1], Wen-Yih Isaac Tseng[3, 4]

[1]School of Medical Imaging and Radiological Sciences, Chung Shan Medical University, Taichung, Taiwan; [2]Department of Medical Imaging, Chung Shan Medical University Hospital, Taichung, Taiwan; [3]Center for Optoelectronic Biomedicine, National Taiwan University College of Medicine, Taipei, Taiwan; [4]Department of Medical Imaging, National Taiwan University Hospital, Taipei, Taiwan

Computer 42 **3094.** **Comparison of the ADC Measurement in Liver DWI with Multi-Breath-Hold, Free Breathing, Respiratory Triggered and Navigator Triggered Techniques**

Zaiyi Liu[1], Changhong Liang[1], Xin Chen[1]

[1]Dept. of radiology, Guangdong General Hospital, Guangzhou, Guangdong, China

Computer 43 **3095.** **Hormonal Contraceptives Dependency of Quantitative Diffusion Kurtosis Parameters in the Limbic System: A Voxel Based Approach**

Timo De Bondt[1], Wim Van Hecke[2], Jelle Veraart[3], Alexander Leemans[4], Jan Sijbers[3], Stefan Sunaert[5], Yves Jacquemyn[6], Paul M. Parizel[1, 7]

[1]Radiology, Antwerp University Hospital, Antwerp, Belgium; [2]icoMetrix, Leuven, Belgium; [3]Physics, University of Antwerp, Antwerp, Belgium; [4]Image Sciences Institute, University Medical Center Utrecht, Utrecht, Netherlands; [5]Radiology, University Hospitals of the Catholic University Leuven, Leuven, Belgium; [6]Gynaecology and Obstaetrics, Antwerp University Hospital, Antwerp, Belgium; [7]Radiology, University of Antwerp, Antwerp, Belgium

Computer 44 **3096.** **Semiautomatic Segmentation and Quantification of Volume, T2 Relaxation Time and Mean Diffusivity of the Human Brain CSF Compartments Across the Lifespan**

Khader M. Hasan[1], Ponnada A. Narayana[1]

[1]Diagnostic and Interventional Imaging, University of Texas Health Science Center at Houston, Houston, TX, United States

Computer 45 **3097.** **Cerebrospinal Fluid Flow Detection on Diffusion-Weighted Reversed Fast Imaging with Steady-State Precession**

Tetsu Niwa[1], Koki Kusagiri[2], Noriko Aida[2], Taro Takahara[3], Tomoaki Nagaoka[4], Yutaka Imai[1]

[1]Radiology, Tokai University School of Medicine, Isehara, Kanagawa, Japan; [2]Radiology, Kanagawa Children's Medical Center, Yokohama, Kanagawa, Japan; [3]Biomedical Engineering, Tokai University School of Engineering, Isehara, Kanagawa, Japan; [4]Electromagnetic Compatibility Laboratory, Applied Electromagnetic Research Institute, National Institute of Information and Communications Technology, Koganei, Tokyo, Japan

Computer 46 **3098.** ***in-vivo*** **Diffusion Tensor Imaging of the Systemic Right Ventricle at 3T**

Jack Harmer[1], Nicolas Toussaint[1], Kuberan Pushparajah[1], Christian T. Stoeck[2], Rachel W. Chan[3], Reza Razavi[1], David Atkinson[3], Sebastian Kozerke, [12]

[1]Division of Imaging Sciences and Biomedical Engineering, Kings College London, London, United Kingdom; [2]Institute for Biomedical Engineering, University and ETH Zurich, Zurich, Switzerland; [3]Centre for Medical Imaging, University College London, London, United Kingdom

Computer 47 **3099.** **Diffusion Behaviour of Water and Fat in Bone Marrow**

Valentina Di Marco[1], Marco Palombo[1, 2], Silvia Capuani[1, 2]

[1]Physics Department, Sapienza University, Rome, Italy; [2]CNR IPCF UOS Roma, Physics Department, Sapienza University, Rome, Italy

Computer 48 **3100.** **Quantitative and Qualitative Analysis of Diffusion Tensor Imaging of the Median Nerve Region at the Carpal Tunnel in Various Clinical Settings**

Eiko Yamabe[1], Ryo Miyagi[2], Toshinori Sakai[3], Toshiyasu Nakamura[4], Hiroshi Yoshioka[1]

[1]Department of Radiological Sciences, University of California Irvine, Orange, CA, United States; [2]Department of Orthopaedic Surgery, Miyoshi City National Insurance Nishi-Iya Clinic, Tokushima, Japan; [3]Department of Orthopedics, Institute of Health Biosciences, The University of Tokushima Graduate School, Tokushima, Japan; [4]Department of Orthopaedic Surgery, Keio University School of Medicine, Tokyo, Japan

Electronic Poster
Diffusion to Measure Perfusion

Exhibition Hall Monday 15:15-16:15

Computer 25 **3101.** **Perfusion Measurement of Brain Tumors:Comparison Between IVIM and DSC**

Qunfeng Tang[1], Hongwei Chen[1], Hui Liu[2]
[1]Radiology, Wuxi People Hospital, Nanjing Medical University, Wuxi, Jiangsu, China; [2]MR Collaboration NE Asia, Siemens Healthcare, Shanghai, China

Computer 26 **3102.** **Imaging Parameters of High Grade Gliomas in Relation to the MGMT Promoter Methylation Status: Diffusion Tensor Imaging, Perfusion Imaging and Intravoxel Incoherent Motion Imaging Using 3.0-T MR**

Tao Jiang[1], Peng Wang[1], Shi-Yuan Liu[1], Weibo Chen[2], Queenie Chan[3]
[1]Department of Radiology, Shanghai Changzheng Hospital, Shanghai, China; [2]Philips Healthcare, Shanghai, China; [3]Philips Healthcare, Hong Kong, China

Computer 27 **3103.** **Potential of Perfusion and Diffusion IVIM MRI in a Rat Brain 9L Glioma Model**

ISMRM MERIT AWARD magna cum laude

Mami Iima[1, 2], Olivier Reynaud[1], Tomokazu Tsurugizawa[1], Luisa Ciobanu[1], Jing-Rebecca Li[1], Françoise Geffroy[1], Boucif Djemai[1], Masaki Umehana[3], Denis Le Bihan[1]
[1]Neurospin, CEA Saclay , Gif-sur-Yvette, Ile-de-France, France; [2]Diagnostic Imaging and Nuclear Medicine, Kyoto University Graduate School of Medicine, Kyoto, Japan; [3]Kyoto University Faculty of Medicine, Kyoto, Japan

Computer 28 **3104.** **Optical Model Mapping for Characterizing Tumor Microcirculation with Diffusion Weighted Imaging in Head and Neck Cancer**

Yonggang Lu[1], Jacobus F.A. Jansen[2], Yousef Mazaheri[1], Hilda E. Stambuk[3], Amita Shukla-Dave[1]
[1]Medical Physics Department, Memorial Sloan-kettering Cancer Center, New York, NY, United States; [2]Radiology Department, Maastricht University, Maastricht, Netherlands; [3]Radiology Department, Memorial Sloan-kettering Cancer Center, New York, NY, United States

Computer 29 **3105.** **Intravoxel Incoherent Motion MR Imaging and Dynamic Contrast-Enhanced MRI in Brain Tumors: Correlation of Quantitative and Semi-Quantitative Parameters**

Moritz Jörg Schneider[1], Michael Ingrisch[1], Birgit Ertl-Wagner, Maximilian F. Reiser, Olaf Dietrich[1]
[1]Josef Lissner Laboratory for Biomedical Imaging, Institute for Clinical Radiology, LMU Ludwig Maximilian University of Munich, Munich, Bavaria, Germany

Computer 30 **3106.** **Investigating the Effect of Intra-Voxel Contrast Agent Diffusion on Quantitative DCE-MRI**

Stephanie L. Barnes[1, 2], Christopher C. Quarles[1, 2], Thomas E. Yankeelov[1, 2]
[1]Radiology and Radiological Sciences, Vanderbilt University, Nashville, TN, United States; [2]Vanderbilt University Institute of Imaging Sciences, Vanderbilt University, Nashville, TN, United States

Computer 31 **3107.** **Pulsatile Microvascular Perfusion Demonstrated in the Human Brain with Intravoxel Incoherent Motion (IVIM) MRI**

Christian Federau[1], Kieran O'Brien[2], Markus Müller[3], Matthias Stuber[1, 4], Reto Meuli[1], Philippe Maeder[1], Patric Hagmann[1]
[1]Radiology, CHUV, Lausanne, VD, Switzerland; [2]CIBM, Université de Genève, Lausanne, VD, Switzerland; [3]The Abdus Salam International Center for Theoretical Physics, Trieste, Italy; [4]CIBM, Lausanne, VD, Switzerland

Computer 32 **3108.** **Different Kinetics of Post-Exercise Perfusion Fraction by Diffusion-Weighted Imaging Between Athletes and Non-Athletes**

Yoshikazu Okamoto[1], Graham J. Kemp[2], Tomonori Isobe[1]
[1]University of Tsukuba Hospital, Tsukuba, Ibaraki, Japan; [2]University of Liverpool, Liverpool, United Kingdom

Computer 33 **3109.** **IVIM with Simultaneous T2 Mapping and Relaxivity Correction**

Sangwoo Lee[1], Jeong Min Lee[2], Jeong Hee Yoon[2], Hiroyuki Kabasawa[3]
[1]Global Applied Science Lab, GE Healthcare, Gangnam-gu, Seoul, Korea; [2]Radiology, Seoul National University Hospital, Jongno-gu, Seoul, Korea; [3]Global Applied Science Laboratory, GE Healthcare, Hino-shi, Tokyo, Japan

Computer 34 **3110. Insight Into Intravoxel Incoherent Motion: Appearance of Signal from Interstitial Fluid**

Kimihiro Ogisu[1], Akiko Fujita[2], Toru Yamamoto[3]
[1]Department of Radiology, National Hospital Organization Hokkaido Medical Center, Sapporo, Hokkaido, Japan; [2]Graduate School of Health Sciences, Hokkaido University, Sapporo, Hokkaido, Japan; [3]Faculty of Health Sciences, Hokkaido University, Sapporo, Hokkaido, Japan

Computer 35 **3111. Compressed Sensing for Flow-Compensated Intra-Voxel Incoherent Motion Modeling**

Andreas Wetscherek[1, 2], Frederik B. Laun[1, 3], Claudia Prieto[2, 4], Cristián Tejos, [25]
[1]Medical Physics in Radiology, German Cancer Research Center (DKFZ), Heidelberg, Germany; [2]Biomedical Imaging Center, Pontificia Universidad Catolica de Chile, Santiago, Chile; [3]Quantitative Imaging-Based Disease Characterization, German Cancer Research Center (DKFZ), Heidelberg, Germany; [4]Division of Imaging Sciences and Biomedical Engineering, King's College London, London, United Kingdom; [5]Department of Electrical Engineering, Pontificia Universidad Catolica de Chile, Santiago, Chile

Computer 36 **3112. Lenaldekar Prevented Relapses in Experimental Autoimmune Encephalomyelitis Mice: A Diffusion Basis Spectrum Imaging Study**

Xiaojie Wang[1], Matthew Cusick[2], Robert S. Fujinami[2], Sheng-Kwei Song[3, 4]
[1]Chemistry, Washington University, St. Louis, MO, United States; [2]Pathology, University of Utah, Salt Lake City, UT, United States; [3]Radiology, Washington University, St. Louis, MO, United States; [4]Hope Center for Neurological Disorders, Washington University, St. Louis, MO, United States

Computer 37 **3113. Comparing of Mono-Exponential, Bi-Exponential and Stretched Exponential Models with Multi-B Value Diffusion Weighed Imaging in Uterus Malignancies¡ªpilot Study**

Yan Zhou[1], Jianyu Liu[2], He Wang[3], Nan Sun[4]
[1]Peking University Third Hospital, Beijing , China; [2]Radiology Department, Peking University Third Hospital, Beijing, China; [3]MR Research China, GE Healthcare, Shanghai, China; [4]MR Research China, GE Healthcare, Beijing, China

Computer 38 **3114. Development of a Phantom for Quality Assurance in Multi-Centre Clinical Trials with Diffusion-Weighted MRI**

Naomi H. M. Douglas[1], Jessica M. Winfield[1], Nandita M. deSouza[1], David John Collins[1], Matthew R. Orton[1]
[1]Radiotherapy and Imaging, Institute of Cancer Research, Sutton, Surrey, United Kingdom

Computer 39 **3115. UMMDiffusion: An OsiriX Plug-In for ADC and IVIM Analysis in Clinical Routine**

Frank G. Zöllner[1], Sven Kaiser[1], Gerald Weisser[2], Lothar R. Schad[1]
[1]Computer Assisted Clinical Medicine, Medical Faculty Mannheim, Heidelberg University, Mannheim, Baden-Württemberg, Germany; [2]Institute for Clinical Radiology and Nuclear Medicine, Medical University Center, Heidelberg University, Mannheim, Baden-Württemberg, Germany

Computer 40 **3116. Does the Protein Content Influence on DWI-Thermometry?: Artificial CSF Phantom Study**

Koji Sakai[1], Ryusuke Nakai[1], Kei Yamada[2], Jun Tazoe[2], Kentaro Akazawa[2], Naozo Sugimoto[1]
[1]Kyoto University, Kyoto, Japan; [2]Kyoto Prefectural University of Medicine, Kyoto, Japan

Computer 41 **3117. Measurement of Portal Venous Flow Using Phase-Contrast MRI at 9.4T: Preliminary Repeatability, Reproducibility and Invasive Validation Studies**

Manil Chouhan[1, 2], Alan Bainbridge[3], Nathan Davies[4], Rajiv Jalan[4], Rajeshwar Mookerjee[4], Simon Walker-Samuel[2], Mark F. Lythgoe[2], Shonit Punwani[1], Stuart Taylor[1]
[1]UCL Centre for Medical Imaging, University College London, London, United Kingdom; [2]UCL Centre for Advanced Biomedical Imaging, University College London, London, United Kingdom; [3]Department of Medical Physics, University College Hospitals NHS Trust, London, United Kingdom; [4]UCL Institute for Liver and Digestive Health, University College London, London, United Kingdom

Computer 42 **3118. Validation of Cerebral Blood Volume Quantification in Humans by Rapid Steady State T_1 MRI**

Teodora-Adriana Perles-Barbacaru[1], Irène Troprès[2], David Chechin[3], Sylvie Grand[2], Jean-François Le Bas[2], Francois Berger[2], Hana Lahrech[2]
[1]Grenoble Institute of Neurosciences, University of Joseph Fourier, INSERM U 836 , La Tronche, France; [2]Grenoble Institute of Neurosciences, University of Joseph Fourier, INSERM U 836, La Tronche, France; [3]Philips Healthcare, Suresnes, France

Computer 43 **3119.** **Quantification of Pulmonary Perfusion Using Fourier Decomposition Method**
Åsmund Kjørstad[1], Dominique M.R. Corteville[1], André Fischer[2], Frank G. Zöllner[1], Lothar R. Schad[1]
[1]CKM, Heidelberg University, Mannheim, Baden-Württemberg, Germany; [2]Institute of Radiology, University of Wuerzburg, Würzburg, Bavaria, Germany

Computer 44 **3120.** **D_2O Perfusion MRI: Investigation on the D_2O Infusion Method**
Chin-Tien Lu[1], Tzu-Chen Yeh[2], Fu-Nien Wang[1]
[1]Department of Biomedical Engineering and Environmental Sciences, National Tsing Hua University, Hsinchu, Taiwan; [2]Department of Radiology, Taipei Veterans General Hospital , Taipei, Taiwan

Computer 45 **3121.** **Numerical Approach for Quantitative BOLD with Vessel Size Estimate – Validation on Phantom.**
Nicolas Pannetier[1, 2], Maja Sohlin[3], Thomas Christen[4], Lothar R. Schad[5], Norbert Schuff[1, 2]
[1]Department of Radiology, University of California San Francisco, San Francisco, CA, United States; [2]Centre for Imaging of Neurodegenerative Diseases, Veteran Affairs Medical Centre, San Francisco, CA, United States; [3]MR centre, Sahlgrenska University Hospital, Goteborg, Sweden; [4]Department of Radiology, Stanford University, Stanford, CA, United States; [5]Computer Assisted Clinical Medicine, Heidelberg University, Mannheim, Heidelberg, Germany

Computer 46 **3122.** **Quantitative BOLD Analysis Using a Numerical Model. Blood Volume, Oxygenation and Vessel Size Measurement in the Rat Brain.**
ISMRM MERIT AWARD magna cum laude
Nicolas Pannetier[1, 2], Benjamin Lemasson[3, 4], Thomas Christen[5], Greg Zaharchuck[5], Emmanuel Luc Barbier[3, 4], Norbert Schuff[1, 2]
[1]Department of Radiology, University of California San Francisco, San Francisco, CA, United States; [2]Centre for Imaging of Neurodegenerative Diseases, Veteran Affairs Medical Centre, San Francisco, CA, United States; [3]Grenoble Institute of Neurosciences, Grenoble University, La Tronche, Rhone-Alpes, France; [4]U836, INSERM, La Tronche, Rhone-Alpes, France; [5]Department of Radiology, Stanford University, Stanford, CA, United States

Computer 47 **3123.** **Does T2' Depend on the Measurement Method? Considerations for Quantitative BOLD Oxygenation**
Wendy W. Ni[1, 2], Thomas Christen[1], Zungho Zun[1], Greg Zaharchuk[1]
[1]Department of Radiology, Stanford University, Stanford, CA, United States; [2]Department of Electrical Engineering, Stanford University, Stanford, CA, United States

Electronic Poster
Diffusion: Models & Microstructure

Exhibition Hall Monday 14:15-15:15

Computer 49 **3124.** **Complex Patterns of Non-Gaussian Diffusion in Artificial Anisotropic Tissue Models**
Farida Grinberg[1], Ezequiel Farrher[2], Ivan I. Maximov[2], Nadim Jon Shah[2, 3]
[1]Institute of Neuroscience and Medicine , Forschungszentrum Juelich, Juelich, Germany; [2]Institute of Neuroscience and Medicine, Forschungszentrum Juelich, Juelich, Germany; [3]Faculty of Medicine, JARA, RWTH Aachen University, Aachen, Germany

Computer 50 **3125.** **Classification of Axon Diameter Properties Using Machine Learning**
Shlomi Lifshits[1], Assaf Horowits[2], Daniel Barazany[2], Saharon Rosset[1], Yaniv Assaf[2]
[1]Department of Statistics and Operations Research, Tel-Aviv University, Tel-Aviv, Israel; [2]Department of Neurobiology, Tel-Aviv University, Tel-Aviv, Israel

Computer 51 **3126.** **Pinning Down Specificity of Biomarkers to Axon and Myelin Damage: Preliminary Results**
Gemma Nedjati-Gilani[1], Torben Schneider[2], Bernard M. Siow, [13], Mohamed Tachrount[3], Andrew Davies[2], Kenneth J. Smith[2], Ying Li[4], Olga Ciccarelli[4], David L. Thomas[4], Daniel C. Alexander[1], Claudia Angela M. Wheeler-Kingshott[2]
[1]Centre for Medical Image Computing, Department of Computer Science, University College London, London, United Kingdom; [2]NMR Research Unit, Queen Square MS Centre, Department of Neuroinflammation, UCL Institute of Neurology, London, United Kingdom; [3]Centre for Advanced Biomedical Imaging, University College London, London, United Kingdom; [4]Department of Brain Repair and Rehabilitation, UCL Institute of Neurology, London, United Kingdom

Computer 52 **3127.** **Characterizing Microstructure by a Time-Dependent Transverse Relaxation Rate**
Alexander Ruh[1], Philipp Emerich[1], Dmitry S. Novikov[2], Valerij G. Kiselev[1]
[1]Department of Radiology, Medical Physics, University Medical Center Freiburg, Freiburg, Germany; [2]Bernard and Irene Schwartz Center for Biomedical Imaging, Department of Radiology, New York University School of Medicine, New York, NY, United States

Computer 53 **3128. Using *in-vivo* Human Brain Data to Select Diffusion MRI Compartment Models**
Uran Ferizi[1, 2], Torben Schneider[2], Eleftheria Panagiotaki[1], Gemma Nedjati-Gilani[1], Hui Zhang[1], Claudia Angela M. Wheeler-Kingshott[2], Daniel C. Alexander[1]
[1]Centre for Medical Image Computing and Department of Computer Science, University College London, London, England, United Kingdom; [2]NMR Research Unit, Queen Square MS Centre, Department of Neuroinflammation, UCL Institute of Neurology, London, England, United Kingdom

Computer 54 **3129. Multimodality Investigation of Microstructures by the Combination of Diffusion NMR and Diffuse Optical Spectroscopy**
Alessandro Proverbio[1], Bernard M. Siow[2], Daniel Alexander[3], Adam Gibson[1]
[1]Department of Medical Physics and Bioengineering, University College London, London, United Kingdom; [2]Centre for Advanced Biological Imaging, University College London, London, United Kingdom; [3]Centre for Medical Image Computing and Department of Computer Science, University College London, London, United Kingdom

Computer 55 **3130. Differentiation Between Apoptotic and Non-Apoptotic Cell Death Using Diffusion-Weighted MR**
Sato Eida[1], Marc Van Cauteren[2], Yuka Hotokezaka[1], Makoto Obara[2], Tomoaki Okuaki[2], Ikuo Katayama[1], Miho Sasaki[1], Misa Sumi[1], Takashi Nakamura[1]
[1]Radiology and Cancer Biology, Nagasaki university, nagasaki, Japan; [2]Philips Electronics, tokyo, Japan

Computer 56 **3131. High-Resolution Diffusion Kurtosis Imaging (DKI) Enabled by Segmented Position Orientation Adaptive Smoothing (POAS)**
Siawoosh Mohammadi[1], Karsten Tabelow[2], Thorsten Feiweier[3], Joerg Polzehl[2], Nikolaus Weiskopf[1]
[1]Wellcome Trust Centre for Neuroimaging at UCL, ION UCL, UCL, London, United Kingdom; [2]Weierstrass Institute for Applied Analysis and Stochastics, Berlin, Germany; [3]Healthcare Sector, Siemens AG, Erlangen, Bayern, Germany

Computer 57 **3132. Exact Analytical Results for ADC for Oscillating Diffusion Sensitizing Gradients**
Alexander L. Sukstanskii[1]
[1]Radiology, Washington University, St. Louis, MO, United States

Computer 58 **3133. Evaluation of the Biexponential Model for the Description of Diffusion Data Acquired with Multiple B-Values**
Letizia Squarcina[1], Denis Peruzzo[1], Filippo Arrigoni[2], Fabio Triulzi[3], Alessandra Bertoldo[1]
[1]Department of Information Engineering, University of Padova, Padova, Italy, Italy; [2]Neuroimaging Unit, Scientific Institute, IRCCS Eugenio Medea,, Bosisio Parini, Lecco, Italy; [3]Neuroimaging Unit, Fondazione IRCCS Ca' Granda, Ospedale Maggiore Policlinico, Milano, Italy, Italy

Computer 59 **3134. Investigation of Diffusion Kurtosis Imaging of the Organ with Plenty of Perfusion/flow Effect**
Yuriko Suzuki[1], Marc Van Cauteren[2]
[1]Philips Electronics Japan, Minato-ku, Tokyo, Japan; [2]Philips Healthcare Asia Pacific, Minato-ku, Tokyo, Japan

Computer 60 **3135. Does the Signal Arising from a Single Fascicle Significantly Deviates from a Monoexponential Decay with a Clinical Scanner?**
Benoit Scherrer[1], Maxime Taquet[1, 2], Onur Afacan[1], Simon K. Warfield[1]
[1]Computational Radiology Laboratory, Boston Children's Hospital, Harvard Medical School, Boston, MA, United States; [2]ICTEAM Institute, Université catholique de Louvain, Louvain-la-Neuve, Belgium

Computer 61 **3136. Microstructural Information by Double-Pulsed-Field-Gradient NMR: from Model Systems to Nerves**
Darya Morozov[1], Leah Bar[2], Nir Sochen[2], Yoram Cohen[1]
[1]School of Chemistry, Tel Aviv University, Tel Aviv, Israel; [2]School of Mathematical Sciences, Tel Aviv University, Tel Aviv, Israel

Computer 62 **3137. Nerve Microstructure: Modeling of the Diffusion MR Signal in Calibrated Model Systems and Nerves**
Darya Morozov[1], Leah Bar[2], Nir Sochen[2], Yoram Cohen[1]
[1]School of Chemistry, Tel Aviv University, Tel Aviv, Israel; [2]School of Mathematical Sciences, Tel Aviv University, Tel Aviv, Israel

Computer 63 **3138. Monte-Carlo Simulation of Susceptibility Effects on the PGSE Signal and Diffusion Measures**
Pim Pullens[1, 2], Alard Roebroeck[2], Rainer Goebel[2], Kamil Uludag[2]
[1]Biomedical MR Imaging and Spectroscopy Group, Image Sciences Institute, University Medical Center Utrecht, Utrecht, Netherlands; [2]Maastricht Brain Imaging Center, Maastricht, Netherlands

Computer 64 **3139. Explicit Formula for Diffusion Orientation Distribution Function Using a Kurtosis Approximation**
Jens H. Jensen[1, 2], Ali Tabesh[1, 2], Joseph A. Helpern[1, 2]
[1]Radiology and Radiological Science, Medical University of South Carolina, Charleston, SC, United States; [2]Center for Biomedical Imaging, Medical University of South Carolina, Charleston, SC, United States

Computer 65 **3140. The Influence of Macroscopic and Microscopic Fibre Orientation Dispersion on Diffusion MR Measurements: A Monte-Carlo Simulation Study**
Tingting Wang[1], Hui Zhang[1], Matt G. Hall[1], Daniel C. Alexander[1]
[1]University College London, London, United Kingdom

Computer 66 **3141. Monte Carlo Simulation of White Matter as a Composite Porous Medium**
Gregory T. Baxter[1], Lawrence R. Frank[1]
[1]Radiology, UCSD, La Jolla, CA, United States

Computer 67 **3142. Numerical Simulation of DMRI Signals in a Complex Tissue Model**
Jing-Rebecca Li[1], Denis Le Bihan[2]
[1]Equipe DEFI, INRIA Saclay, Palaiseau Cedex, France; [2]NeuroSpin, CEA, Gif-sur-Yvette Cedex, France

Computer 68 **3143. Selective Sensitivity of Diffusion-Weighted MRI to Various Length Scales in Tumors Following Treatment**
Junzhong Xu[1], John C. Gore[1]
[1]Institute of Imaging Science, Vanderbilt University, Nashville, TN, United States

Computer 69 **3144. The Anomalous Diffusion Parameter &[alpha] Provides the Most Relevant Information of Structural Complexity in Heterogeneous Media**
Marco Palombo[1, 2], Andrea Gabrielli[3], Giancarlo Ruocco[1, 4], Silvia Capuani[1, 2]
[1]Physics Department, Sapienza University, Rome, Italy; [2]CNR IPCF UOS Roma, Sapienza University, Rome, Italy; [3]ISC-CNR, Rome, Italy; [4]CNR IPCF UOS Roma, Sapienza University , Rome, Italy

Computer 70 **3145. Improvement of Diffusion Spectrum Imaging Using Bi-Exponential Diffusion Weighting**
Kwan-Jin Jung[1]
[1]Psychology, Carnegie Mellon University, Pittsburgh, PA, United States

Computer 71 **3146. Correlation Time Vs. Pulsed Field Gradient Diffusion MRI of the Brain: On the Effects of Magnetization Transfer and Myelination as a Function of Age**
Hazem Eltawell[1], Stephan Anderson[1], Osamu Sakai[1], Hernan Jara[1]
[1]Boston University Medical Center, Boston, MA, United States

Computer 72 **3147. Distinguishing Small Pore Sizes Using Oscillating Gradient Spin Echo Sequences**
Sheryl L. Herrera[1], Trevor J. Vincent[2], Jonathan D. Thiessen[1, 3], Richard Buist[3], Melanie Martin[2, 4]
[1]Physics and Astronomy, University of Manitoba, Winnipeg, Manitoba, Canada; [2]Physics, University of Winnipeg, Winnipeg, Manitoba, Canada; [3]Radiology, University of Manitoba, Winnipeg, Manitoba, Canada; [4]Radiology, Physics and Astronomy, University of Manitoba, Winnipeg, Manitoba, Canada

Electronic Poster
Fiber ODF & Fiber Tracking

Exhibition Hall Monday 15:15-16:15

Computer 49 **3148.** **RESDORE: Robust Estimation in Spherical Deconvolution by Outlier Rejection**
Greg D. Parker[1, 2], David Marshall[2], Paul L. Rosin[2], Nicholas Drage[3], Stephen Richmond[3], Derek K. Jones[1]
[1]CUBRIC, School of Psychology, Cardiff University, Cardiff, South Glamorgan, United Kingdom; [2]School of Computer Science, Cardiff University, Cardiff, South Glamorgan, United Kingdom; [3]School of Dentistry, Cardiff University, Cardiff, South Glamorgan, United Kingdom

Computer 50 **3149.** **Robust Fiber Response Function Estimation for Deconvolution Based Diffusion MRI Methods**
Chantal M.W. Tax[1], Ben Jeurissen[2], Max A. Viergever[1], Alexander Leemans[1]
[1]Image Sciences Institute, University Medical Center Utrecht, Utrecht, Netherlands; [2]Department of Physics, University of Antwerp, iMinds-Vision Lab, Antwerp, Belgium

Computer 51 **3150.** **Knowledge-Based Tractography Using Path Finding by Dynamic Programing**
Muwei Li[1], J. Tilak Ratnanather[2], Yajing Zhang[1], Hangyi Jiang[1], Kenichi Oishi[1], Michael I. Miller[2], Susumu Mori[1]
[1]The Russell H. Morgan Department of Radiology and Radiological Science, Johns Hopkins University School of Medicine, Baltimore, MD, United States; [2]Center for Imaging Science, Johns Hopkins University, Baltimore, MD, United States

Computer 52 **3151.** **Assessment of Local Fiber Plausibility Using a HARDI Based Reference**
Peter F. Neher[1], Bram Stieltjes[2], Ivo Wolf[3], Hans-Peter Meinzer[1], Klaus Hermann Fritzsche[1, 2]
[1]Medical and Biological Informatics, German Cancer Research Center (DKFZ), Heidelberg, Germany; [2]Quantitative Image-based Disease Characterization, German Cancer Research Center (DKFZ), Heidelberg, Germany; [3]Medical Informatics, Mannheim University, Mannheim, Germany

Computer 53 **3152.** **A Variational Bayesian Approach to Network Modularity Applied to the Structural Connectome of the Human Brain**
Etay Ziv[1], Julia P. Owen[1], Yi-Ou Li[1], Eric J. Friedman[2], Pratik Mukherjee[1]
[1]University of California, San Francisco, San Francisco, CA, United States; [2]International Computer Science Institute , Berkeley, CA, United States

Computer 54 **3153.** **Towards a Super-Resolution CONNECT/ARCHI Atlas of the White Matter Connectivity**
Delphine Duclap[1], Benoit Schmitt[1], Alice Lebois[1], Pamela Guevara[2], Hui Zhang[3], Clarisse Longo Dos Santos[1], Denis Le Bihan[1], Jean-François Mangin[1], Cyril Poupon[1]
[1]I2BM, CEA NeuroSpin, Gif-sur-Yvette, France; [2]University of Concepción, Concepción, Chile; [3]Department of Computer Science and Centre for Medical Image Computing, University College London, London, United Kingdom

Computer 55 **3154.** **Towards Probabilistic Atlases of the T1/T2 Relaxation Times from the CONNECT/ARCHI Database**
Alice Lebois[1], Delphine Duclap[1], Benoit Schmitt[1], Clarisse Longo Dos Santos[1], Pamela Guevara[2], Hui Zhang[3], Denis Le Bihan[1], Jean-François Mangin[1], Cyril Poupon[1]
[1]I2BM, CEA-NeuroSpin, Gif-Sur-Yvette, France, France; [2]University of Concepcion, Concepcion, Chile, Chile; [3]Department of Computer Science and Centre for Medical Image Computing, University College of London, London, United Kingdom

Computer 56 **3155.** **A Novel Probabilistic Connectivity Atlas for the Human Connectome : The CONNECT/ARCHI Atlas**
Benoit Schmitt[1], Delphine Duclap[1], Alice LEBOIS[1], Pamela Guevara[2], Hui Zhang[3], Yaniv Assaf[4], Fabrice POUPON[1], Denis Riviere[1], Yann Cointepas[1], Denis Le Bihan[1], Jean-François Mangin[1], Cyril POUPON[1]*
[1]I2BM, CEA - NeuroSpin, GIF-SUR-YVETTE, FRANCE, France, Metropolitan; [2]University of Concepcion, CONCEPCION, CHILE, Chile; [3]Department of Computer Science & Centre for Medical Image Computing, University College London, LONDON, UNITED KINGDOM, United Kingdom; [4]Department of Neurobiology, Tel-Aviv University, TEL-AVIV, ISRAEL, Israel

Computer 57 **3156.** **Multi-Fascicle Model Reconstruction from Acquisitions of DWI at a Single B-Value with a Population-Informed Prior**
Maxime Taquet[1, 2], Benoit Scherrer[1], Benoit Macq[2], Simon K. Warfield[1]
[1]Computational Radiology Laboratory, Harvard Medical School, Boston, MA, United States; [2]ICTEAM Institute, Université catholique de Louvain, Louvain-la-Neuve, Belgium

Computer 58 **3157. Construction of a Fiber Atlas of the Murine Heart**
Stelios Angeli[1], Nicholas Befera[2], Gary Cofer[2], G. Allan Johnson[2], Christakis Constantinides[1]
[1]University of Cyprus, Nicosia, Cyprus; [2]Radiology, Duke University Medical Center, Durham, NC, United States

Computer 59 **3158. Tractography-Based Voxel-Wise Analysis (TBVA): A New Approach for Detecting White Matter Abnormalities in Clinical Populations**
Su-Chun Huang[1, 2], Gregory J. Pauley[1], Todd L. Richards[1], Neva M. Corrigan, Dennis W. Shaw, Alan A. Artru[3], Annette Estes[4], Stephen R. Dager, Natalia M. Kleinhans, [1]
[1]Integrated Brain Imaging Center, Department of Radiology, University of Washington, Seattle, WA, United States; [2]Institute of Biomedical Engineering, National Taiwan University, Taipei, Taiwan; [3]Department of Anesthesiology, University of Washington, Seattle, WA, United States; [4]Speech and Hearing Sciences, University of Washington, Seattle, WA, United States

Computer 60 **3159. Microstructure-Informed Slow Diffusion Tractography in Humans Enhances Visualisation of Fibre Pathways**
Farida Grinberg[1], Ivan I. Maximov[1], Ezequiel Farrher[1], Nadim Jon Shah[1, 2]
[1]Institute of Neuroscience and Medicine 4 - Medical Imaging Physics, Forschungszentrum Juelich, Juelich, Germany; [2]Department of Neurology, Faculty of Medicine, JARA, RWTH Aachen University, Aachen, Germany

Computer 61 **3160. Evaluating the Accuracy of White-Matter Connectomes**
Franco Pestilli[1], Jason Yeatman[1], Ariel Rokem[1], Kendrick Kay[1], Brian Wandell[2]
[1]Psychology, Stanford University, Stanford, CA, United States; [2]Psychlogy, Stanford University, Stanford, CA, United States

Computer 62 **3161. Large Deformation Diffeomorphic Metric Mapping for Unlabeled Curves: Application to Fiber Tract Bundles**
Yung-Chin Hsu[1], Wen-Yih Isaac Tseng[1, 2]
[1]Center for Optoelectronic Biomedicine, College of Medicine, National Taiwan University, Taipei, Taiwan; [2]Graduate Institute of Brain and Mind Sciences, College of Medicine, National Taiwan University, Taipei, Taiwan

Computer 63 **3162. Fiberfox: A Novel Tool to Generate Software Phantoms of Complex Fiber Geometries**
Peter F. Neher[1], Bram Stieltjes[2], Frederik B. Laun[3], Hans-Peter Meinzer[1], Klaus Hermann Fritzsche[1, 2]
[1]Medical and Biological Informatics, German Cancer Research Center (DKFZ), Heidelberg, Germany; [2]Quantitative Image-based Disease Characterization, German Cancer Research Center (DKFZ), Heidelberg, Germany; [3]Medical Physics in Radiology, German Cancer Research Center (DKFZ), Heidelberg, Germany

Computer 64 **3163. Reconstructing Cerebellar-Cortical Connections with Advanced Diffusion Tractography**
Fulvia Palesi[1, 2], Donald Tournier[3, 4], Fernando Calamante, [45], Niels Muhlert[6], Gloria Castellazzi, [27], Declan T. Chard[6], Egidio Ugo D'Angelo, [28], Claudia Angela M. Wheeler-Kingshott[6]
[1]Department of Physics, University of Pavia, Pavia, Italy; [2]Brain Connectivity Center, IRCCS C. Mondino, Pavia, Italy; [3]Melbourne Brain Centre - Austin Campus, The Florey Institute of Neuroscience and Mental Health, Heidelberg, Victoria, Australia; [4]Department of Medicine, Austin Health and Northern Health, University of Melbourne, Melbourne, Australia; [5]Melbourne Brain Centre - Austin Campus, Florey Institute of Neuroscience and Mental Health, Heidelberg, Victoria, Australia; [6]NMR Research Unit, Queen Square MS Centre, Department of Neuroinflammation, UCL Institute of Neurology, London, United Kingdom; [7]Department of Industrial and Information Engineering, University of Pavia, Pavia, Italy; [8]Department of Public Health, Neuroscience, Experimental Medicine, University of Pavia, Pavia, Italy

Computer 65 **3164. A Multiple-Fibre Diffusion Phantom for the Validation of HARDI Methods**
Ezequiel Farrher[1], Farida Grinberg[1], A. Avdo Celik[2], Kaveh Vahedipour[2], Nadim Jon Shah[2, 3]
[1]Institute of Neuroscience and Medicine 4 - Medical Imaging Physics, Forschungszentrum Juelich, Jülich, Germany; [2]Institute of Neuroscience and Medicine 4 - Medical Imaging Physics, Forschungszentrum Jülich, Jülich, Germany; [3]Department of Neurology, Faculty of Medicine, JARA, RWTH Aachen University, Aachen, Germany

Computer 66 **3165. Comparison Study of Two DTI Tractography Methods for Quantifying Brain Structural Connectivity**
Qing Ji[1], John O. Glass[2], Wilburn E. Reddick[1]
[1]Radiological Science, St.Jude Children's Research Hospital, Memphis, TN, United States; [2]Radiological Science, St. Jude Children's Research Hospital, Memphis, TN, United States

Computer 67 **3166. Analysis of Tractography Biases Introduced by Anisotropic Voxels**
Peter F. Neher[1], Bram Stieltjes[2], Ivo Wolf[3], Hans-Peter Meinzer[1], Klaus Hermann Fritzsche[1, 2]
[1]Medical and Biological Informatics, German Cancer Research Center (DKFZ), Heidelberg, Germany; [2]Quantitative Image-based Disease Characterization, German Cancer Research Center (DKFZ), Heidelberg, Germany; [3]Medical Informatics, Mannheim University, Mannheim, Germany

Computer 68 **3167. Distortion Correction Improves DTI Visualization of the Microscopic Elements of the Medial Temporal Lobe**
Michael Zeineh[1], Samantha J. Holdsworth[1], Mansi B. Parekh[1], Stefan Skare[2], Roland Bammer[3]
[1]Stanford, Stanford, CA, United States; [2]Neuroradiology, Karolinska University Hospital, Stockholm, Sweden; [3]Stanford University, Stanford, CA, United States

Computer 69 **3168. Repeatability and Variability of Graph Metrics in a Test-Retest of Whole-Brain Structural Networks.**
Jennifer Andreotti[1], Kay Jann[1], Lester Melie-Garcia[2], Thomas Dierks[1], Andrea Federspiel[1]
[1]Dept. of Psychiatric Neurophysiology, University Hospital of Psychiatry / University of Bern, Bern, Switzerland; [2]Neuroinformatics Department, Cuban Neuroscience Center, Havana, Cuba

Computer 70 **3169. Test-Retest Reliability of Computational Network Metrics Derived from the Structural Connectome of the Human Brain**
Julia P. Owen[1], Etay Ziv[1], Polina Bukshpun[2], Nicholas Pojman[2], Mari Wakahiro[2], Jeffrey I. Berman[3], Timothy Roberts[4], Elliott Sherr[2], Pratik Mukherjee[1]
[1]Radiology, UCSF, San Francisco, CA, United States; [2]Neurology, UCSF, San Francisco, CA, United States; [3]Radiology, Children's Hospital of Philadelphia, Philadelphia, PA, United States; [4]Radiology, CHOP, Philadelphia, PA, United States

Computer 71 **3170. How Diffusion Model and Tract Direction Growth Affects Quantitative DTI Parameters in Ataxia**
Yu Zhang[1], Xue Wang[2], Yufen Chen[2], Michael Rozenfeld[2], Puneet Opal[3], Todd Parrish, [12]
[1]Biomedical Engineering, Northwestern University, Evanston, IL, United States; [2]Radiology, Northwestern University, Chicago, IL, United States; [3]Neurology, Northwestern University, Chicago, IL, United States

Computer 72 **3171. *In Vivo* Isotropic Resolution Diffuson Tensor Imaging of Mouse Brain at 9.4T**
Mingtao Wang[1], Caterina Caffes[2], Stephen T.C. Wong[1, 3], Kelvin K. Wong[1, 3]
[1]Department of Systems Medicine & Bioengineering, The Methodist Hospital Research Institute, Houston, TX, United States; [2]Texas Children's Hospital, Houston, TX, United States; [3]Department of Radiology, Weill Cornell Medical College, New York, NY, United States

Electronic Poster
Diffusion Acquisition & Analysis

Exhibition Hall Monday 14:15-15:15

Computer 73 **3172. Flow Sensitive Cine MR Imaging Using Improved Motion Sensitized Driven Equilibrium (IMSDE)**
Kazuyuki Endo[1], Tomohiko Horie[1], Isao Muro[1], Yutaka Imai[2], Kagayaki Kuroda[3], Tetsuo Ogio[4], Makoto Obara[5], Marc Van Cauteren[5], Thomas C. Kwee[6], Taro Takahara[7]
[1]Department of Radiological Technology, Tokai University Hospital, Isehara, Kanagawa, Japan; [2]Radiology, Tokai University Hospital, Isehara, Kanagawa, Japan; [3]Information Science and Technology, Tokai University, Hiratuka, Kanagawa, Japan; [4]Philips Healthcare , Minato-ku, Tokyo, Japan; [5]Philips Healthcare, Minato-ku, Tokyo, Japan; [6]Radiology, University Medical Center Utrecht, Utrecht, Netherlands; [7]Biomedical Engineering, Tokai University, Isehara, Kanagawa, Japan

Computer 74 **3173. The Effect of Coil Types and GRAPPA Acceleration in HARDI and Probabilistic Fibertracking**
Javier Urriola Yaksic[1], Nyoman Dana Kurniawan[1], Aiman Al Najjar[1], David C. Reutens[1]
[1]Centre for Advanced Imaging, The University of Queensland, Brisbane, Queensland, Australia

Computer 75 **3174. Self-Correction of B_1 Inhomogeneity Artifact in Diffusion-Weighted Imaging Using Double-Angle Excitation**
Kun Zhou[1], Wei Liu[1]
[1]Siemens Shenzhen Magnetic Resonance Ltd., Shenzhen, Guangdong, China

Computer 76 **3175. Diffusion Pore Imaging by Double Wave Vector Measurements**

Tristan Anselm Kuder[1], Frederik B. Laun[1, 2]
[1]Medical Physics in Radiology, German Cancer Research Center (DKFZ), Heidelberg, Germany; [2]Quantitative Imaging-Based Disease Characterization, German Cancer Research Center (DKFZ), Heidelberg, Germany

Computer 77 **3176. Simultaneous Multi-Slab Acquisition in 3D Multi-Slab Diffusion-Weighted Readout-Segmented Echo-Planar Imaging**

Robert Frost[1], Peter Jezzard[1], David A. Porter[2], Karla L. Miller[1]
[1]FMRIB Centre, Nuffield Department of Clinical Neurosciences, University of Oxford, Oxford, United Kingdom; [2]Healthcare Sector, Siemens AG, Erlangen, Germany

Computer 78 **3177. Improving the Efficiency of Diffusion Spectrum MRI Through Radial Acquisitions in Q-Space**

Fernando Emilio Boada[1], Steven Yutzy[2]
[1]Radiology , New York University, New York, United States; [2]Radiology, University of Pittsburgh, Pittsburgh, PA, United States

Computer 79 **3178. A *k-D* Space Acceleration Strategy for HARDI with Compressed Sensing**

Tzu-Cheng Chao[1, 2], Jr-Yuan Chiou[3], Cheng-Wen Ko[4], Ming-Ting Wu[5], Stephan E. Maier[3], Bruno Madore[3]
[1]Department of Computer Science and Information Engineering, National Cheng-Kung University, Tainan, Taiwan; [2]Institute of Medical Informatics, National Cheng-Kung University, Tainan, Taiwan; [3]Department of Radiology, Brigham and Women's Hospital, Harvard Medical School, Boston, MA, United States; [4]Department of Computer Science and Engineering, National Sun Yat-Sen University, Kaohsiung, Taiwan; [5]Department of Radiology, Kaohsiung Veteran General Hospital, Kaohsiung, Taiwan

Computer 80 **3179. Charged Containers for Optimal 3D Q-Space Sampling**

Hans Knutsson[1], Carl-Fredrik Westin, [1,2]
[1]Department of Biomedical Engineering, Medical Informatics, Linköping University, Linköping, Sweden; [2]Department of Radiology, BWH, Harvard Medical School, Boston, MA, United States

Computer 81 **3180. 3 Phase Cycle Diffusion Prepared 3D FSE to Eliminate Diffusion Weighted Image Distortion**

Mitsuharu Miyoshi[1], Yuji Iwadate[1], Hiroyuki Kabasawa[1]
[1]Global Applied Science Laboratory, GE Healthcare Japan, Hino, Tokyo, Japan

Computer 82 **3181. 3D DP-FISP for Diffusion Measurements in MR Microscopy at Ultra-High Field.**

Ileana Ozana Jelescu[1], Denis Le Bihan[1], Luisa Ciobanu[1]
[1]NeuroSpin, Gif-sur-Yvette, Essonne, France

Computer 83 **3182. Scan Time Reduction in 3D Diffusion-Weighted Steady-State Free Precession Imaging Using Constrained Reconstruction**

Rafael O'Halloran[1], Florian Knoll[2], Kristian Bredies[3], Rudolf Stollberger[2], Roland Bammer[1]
[1]Radiology, Stanford University, Stanford, CA, United States; [2]Institute of Medical Engineering, Graz University of Technology, Graz, Austria; [3]Department of Mathematics and Scientific Computing, University of Graz, Graz, Austria

Computer 84 **3183. Accelerated Diffusional Kurtosis Imaging Using Simultaneous Multi-Slice Echo Planar Imaging**

Jian Xu[1], George Russell Glenn[2], Himanshu Bhat[3], Stephen F. Cauley[4], Kawin Setsompop[5], Ray Lee[6], Ali Tabesh[2], Jens H. Jensen[2], Joseph A. Helpern[2], Keith A. Heberlein[7]
[1]Siemens Healthcare USA, New York, NY, United States; [2]Department of Radiology and Radiological Science, Medical University of South Carolina, Charleston, SC, United States; [3]Siemens Medical Solutions, Charlestown , MA, United States; [4]A.A. Martinos Center for Biomedical Imaging, Dept. of Radiology, Massachusetts General Hospital, Boston, MA, United States; [5]A.A. Martinos Center for Biomedical Imaging, Dept. of Radiology, MGH, Boston, MA, United States; [6]Princeton University, Princeton, NJ, United States; [7]Siemens Healthcare USA, Charlestown, MA, United States

Computer 85 **3184. Evaluation of Compressed Sensing Based Diffusion Spectrum Imaging Use of 3T MR**

Ping-Hong Yeh[1], Namgyun Lee[2], John Morissette[3], Binquan Wang[1], Wei Lui[1], John M. Ollinger[3], Terrence R. Oakes[3], Gerard Riedy[3]
[1]Henry Jackson Foundation for the Advancement of Military Medicine, Rockville, MD, United States; [2]Korea Basic Science Institute, Daejeon, Korea; [3]National Intrepid Center of Excellence, Walter Reed Army Medical Center, Bethesda, MD, United States

Computer 86 **3185. Diffusion Tensors from Double-PFG of the Human Brain**

Carl-Fredrik Westin[1, 2], Markus Nilsson[3], Ofer Pasternak[1], Hans Knutsson[2]
[1]Department of Radiology, BWH, Harvard Medical School, Boston, MA, United States; [2]Department of Biomedical Engineering, Medical Informatics, Linköping University, Linköping, Sweden; [3]Department of Medical Radiation Physics, Lund University, Lund, Sweden

Computer 87 **3186. Super Resolution Reconstruction from Differently Oriented Diffusion Tensor Datasets**

ISMRM MERIT AWARD summa cum laude

Gwendolyn Van Steenkiste[1], Ben Jeurissen[1], Jan Sijbers[1], Dirk H.J. Poot[2]
[1]iMinds-VisionLab, University of Antwerp, Antwerp, Belgium; [2]Biomedical Imaging Group Rotterdam, Erasmus MC - University Medical Center Rotterdam, Rotterdam, Netherlands

Computer 88 **3187. Assessing Scan-Rescan Reproducibility of the Parameter Estimates from NODDI**

Maira Tariq[1], Torben Schneider[2], Daniel C. Alexander[1], Claudia Angela M. Wheeler-Kingshott[2], Hui Zhang[1]
[1]Department of Computer Science & Centre for Medical Image Computing, University College London, London, United Kingdom; [2]NMR Research Unit, Queen Square MS Centre, Department of Neuroinflammation, UCL Institute of Neurology, London, United Kingdom

Computer 89 **3188. Convenient B-Value and B-Matrix Computations for Arbitrary Gradient Waveforms: Characterizing Signal Decay Due to Gaussian Diffusion**

Evren Ozarslan[1], Thomas H. Mareci[2]
[1]Department of Radiology, Brigham and Women's Hospital, Harvard Medical School, Boston, MA, United States; [2]Department of Biochemistry and Molecular Biology, University of Florida, Gainesville, FL, United States

Computer 90 **3189. On Random Walks and Entropy in Diffusion-Weighted Magnetic Resonance Imaging Studies of Neural Tissue**

Carson Ingo[1], Richard L. Magin[1], Luis Colon-Perez[2], William Triplett[3], Thomas H. Mareci[3]
[1]Department of Bioengineering, University of Illinois at Chicago, Chicago, IL, United States; [2]Department of Physics, University of Florida, Gainesville, FL, United States; [3]Department of Biochemistry and Molecular Biology, University of Florida, Gainesville, FL, United States

Computer 91 **3190. Application of Multi-Tensor Tract-Based Analysis (MTTA) with Routine Clinical Diffusion MRI**

Virendra Mishra[1], Hao Huang[1]
[1]Advanced Imaging Research Center, University of Texas Southwestern Medical Center, Dallas, TX, United States

Computer 92 **3191. TBSS May Be Sub-Optimal for Detection of DTI Parameter Changes in Crossing Fiber Regions**

Vincent J. Schmithorst[1], Jessica L. Wisnowski[1], Ashok Panigrahy[1]
[1]Radiology, Children's Hospital of Pittsburgh of UPMC, Pittsburgh, PA, United States

Computer 93 **3192. Motion Correction in Diffusion Spectrum Imaging Using Simulated Diffusion Images at Multiple B Bands**

Kwan-Jin Jung[1], Nidhi Kohli[2], Fang-Cheng Yeh[3], Timothy Keller[1], Tiejun Zhao[4]
[1]Psychology, Carnegie Mellon University, Pittsburgh, PA, United States; [2]Electrical and Computer Engineering, Carnegie Mellon University, Pittsburgh, PA, United States; [3]Biomedical Engineering, Carnegie Mellon University, Pittsburgh, PA, United States; [4]MR R&D Collaborations, Siemens Medical Solutions USA, Pittsburgh, PA, United States

Computer 94 **3193. Performance Evaluation of Various Numerical Algorithms for a Multi-Compartmental IVIM-Model**

Burkhard Mädler[1], Volker A. Coenen[2]
[1]Neurosurgery, University Bonn, Medical Centre, Bonn, Germany; [2]Divison Stereotaxy and MR-based OR Techniques, University Bonn - Medical Centre, Bonn, Germany

Computer 95 **3194. Information Extraction from Raw DTI Data Using Texture Based Analysis: A Preliminary Study of Classification and Regression**

ISMRM MERIT AWARD magna cum laude

Che-Wei Chang[1, 2], Chien-Chang Ho[1], Jyh-Horng Chen[1, 2]
[1]Electrical Engineering, National Taiwan University, Taipei, Taiwan; [2]Interdisciplinary MRI/MRS Lab, National Taiwan University, Taipei, Taiwan

Computer 96 **3195. High-Spatial and High-Angular Resolution Diffusion Imaging with a Fragmented Acquisition Scheme**
Sjoerd B. Vos[1, 2], Murat Aksoy[2], Julian R. Maclaren[2], Zhaoying Han[2], Samantha J. Holdsworth[2], Alexander Brost[2], Christoph Seeger[2, 3], Alexander Leemans[1], Roland Bammer[2]
[1]Image Sciences Institute, University Medical Center Utrecht, Utrecht, Netherlands; [2]Center for Quantitative Neuroimaging, Department of Radiology, Stanford University, Stanford, CA, United States; [3]Pattern Recognition Lab, Department of Computer Science, Friedrich-Alexander-University Erlangen-Nuremberg, Erlangen, Germany

Electronic Poster
Diffusion MR Artefacts & Data Quality

Exhibition Hall Monday 15:15-16:15

Computer 73 **3196. Retrospective Correction of Physiological Noise in DTI Using Peripheral Measurements in an Extended Tensor Model Framework**
Siawoosh Mohammadi[1], Chloe Hutton[1], Zoltan Nagy[1], Oliver Josephs[1], Nikolaus Weiskopf[1]
[1]Wellcome Trust Centre for Neuroimaging at UCL, ION UCL, UCL, London, United Kingdom

Computer 74 **3197. Inter-Vendor Variability in Apparent Diffusion Coefficient Values**
Michael A. Levine[1], Pavlina Polaskova[1], Sara Maria Sprinkhuizen[1], Steven M. Stufflebeam[1], Bruce R. Rosen[1], Jayashree Kalpathy-Cramer[1], Elizabeth R. Gerstner[1]
[1]Athinoula A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Charlestown, MA, United States

Computer 75 **3198. How Is the Fractional Anisotropy Affected by Frequency-Dependent Changes to the Eigenvalues of the Apparent Diffusion Tensor Measured with Oscillating-Gradient Spin-Echo Diffusion Tensor Imaging?**
Jeff Kershaw[1, 2], Christoph Leuze[3], Ichio Aoki[1], Takayuki Obata[4], Iwao Kanno[1], Hiroshi Ito[1], Yuki Yamaguchi[2], Hiroshi Handa[2]
[1]Molecular Imaging Centre, National Institute of Radiological Sciences, Chiba, Japan; [2]School of Bioscience and Biotechnology, Tokyo Institute of Technology, Yokohama, Japan; [3]Department of Neurophysics, Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany; [4]Research Centre for Charged Particle Therapy, National Institute of Radiological Sciences, Chiba, Japan

Computer 76 **3199. SNR Dependence of Mean Kurtosis and How to Correct It**
Elodie André[1], Christophe Phillips[1, 2], Ezequiel Farrher[3], Ivan I. Maximov[4], Farida Grinberg[3], Nadim Jon Shah[4, 5], Evelyne Balteau[1]
[1]Cyclotron research center, University of Liège, Liège, Belgium; [2]Department of Electrical Engineering and Computer Science, University of Liège, Liège, Belgium; [3]Institute of Neuroscience and Medicine - 4, Forschungszentrum Juelich, Juelich, Germany; [4]Institute of Neuroscience and Medicine - 4, Forschungszentrum Juelich GmbH, Juelich, Germany; [5]Department of Neurology, Faculty of Medicine, RWTH Aachen University, JARA, Aachen, Germany

Computer 77 **3200. Bias in Diffusion Tensor Tissue Integrity Measures Due to Sum of Squares Reconstruction: Characterization and Retrospective Correction**
Ken E. Sakaie[1], Kecheng Liu[2], Mark J. Lowe[1]
[1]Imaging Institute, The Cleveland Clinic, Cleveland, OH, United States; [2]Siemens Medical Solutions USA, Inc, Malvern, PA, United States

Computer 78 **3201. The Influence of Imaging Gradients in the Analysis of Diffusion Signals from Pulsed and Oscillating Gradient Sequences**
Damien McHugh[1, 2], Penny L. Hubbard[1, 2], Geoffrey Parker[1, 2], Josephine H. Naish[1, 2]
[1]Centre for Imaging Sciences, University of Manchester, Manchester, United Kingdom; [2]The University of Manchester Biomedical Imaging Institute, Manchester, United Kingdom

Computer 79 **3202. Gradient Nonlinearity Correction to Improve ADC Accuracy and Standardization in Breast Cancer Clinical Trials**
David C. Newitt[1], Ek T. Tan[2], Thomas L. Chenevert[3], Lisa J. Wilmes[1], Suchandrima Banerjee[4], Luca Marinelli[2], Nola M. Hylton[5]
[1]Radiology and Biomedical Imaging, University of California, San Francisco, San Francisco, CA, United States; [2]Diagnostics and Biomedical Technologies, GE Global Research, Niskayuna, NY, United States; [3]Radiology – MRI, University of Michigan, Ann Arbor, MI, United States; [4]Applied Science Lab, GE Healthcare, Menlo Park, CA, United States; [5]Radiology and Biomedical Imaging, University of California San Francisco, San Francisco, CA, United States

Computer 80 **3203. Improved Accuracy of Motion and Affine Eddy Current Distortion Correction in High B-Value Diffusion Weighted Imaging Using Brain Mask Based Weighting Functions**

Christopher Leslie Adamson[1], Richard Beare[1], Deanne Thompson[1], Marc Seal[1]
[1]Developmental Imaging, Murdoch Childrens Research Institute, Parkville, VIC, Australia

Computer 81 **3204. Joint Estimation Based Phase Error Correction in Multi-Shot Spiral Diffusion Weighted Imaging**

Pan Su[1], Xiaodong Ma[2], Wenchuan Wu[2], Hua Guo[2]
[1]School of Electronic and Information Engineering, Beihang University, Beijing, China; [2]Center for Biomedical Imaging Research, Department of Biomedical Engineering, School of Medicine, Tsinghua University, Beijing, China

Computer 82 **3205. Fast Automatic Spike Artifact Assessment in DTI Data for Monitoring Possible Hardware Issues**

Daniel Güllmar[1], Stefan Kämmer[2], Jürgen R. Reichenbach[3]
[1]Medical Physics Group, Institute of Diagnostic and Interventional Radiology I , Jena University Hospital - Friedrich Schiller University Jena , Jena, Germany; [2]Faculty of Computer Science and Automation, Technical University Ilmenau, Ilmenau, Germany; [3]Medical Physics Group, Institute of Diagnostic and Interventional Radiology I, Jena University Hospital - Friedrich Schiller University Jena, Jena, Germany

Computer 83 **3206. *in-vivo* High Resolution Diffusion Tensor Imaging of the Human Heart at 3T: Fat Suppression in the Presence of B_0 Field Inhomogeneities**

Jack Harmer[1], Christian T. Stoeck[2], Rachel W. Chan[3], Nicolas Toussaint[1], Constantin Von Deuster[2], David Atkinson[3], Sebastian Kozerke, [12]
[1]Division of Imaging Sciences and Biomedical Engineering, Kings College London, London, United Kingdom; [2]Institute for Biomedical Engineering, University and ETH Zurich, Zurich, Switzerland; [3]Centre for Medical Imaging, University College London, London, United Kingdom

Computer 84 **3207. A Novel Method for Determining the Reliability of Diffusion-Weighted Imaging Data**

Karl G. Helmer[1], Ming-Chung Chou[2], Ronny I. Preciado, Allen Song[3], Jessica Turner[4], Barjor Gimi[5], Susumu Mori[6, 7]
[1]Radiology, Massachusetts General Hospital, Charlestown, MA, United States; [2]Department of Medical Imaging and Radiological Sciences, Kaohsiung Medical University, Kaohsiung, Taiwan; [3]Radiology, Duke University, Durham, NC, United States; [4]Translational Neuroscience, The Mind Research Network, Albuquerque, NM, United States; [5]Radiology and Medicine, Dartmouth-Hitchcock Medical Center, Lebanon, NH, United States; [6]Radiology, Johns Hopkins School of Medicine, Baltimore, MD, United States; [7]Kennedy Kreiger Institute, Baltimore, MD, United States

Computer 85 **3208. Feasibility of Ultra-Short EPI Navigator for DTI Motion Detection**

Hu Cheng[1]
[1]Indiana University, Bloomington, IN, United States

Computer 86 **3209. Relaxation Corrected Diffusion Weighted Imaging**

Daniel Guo Quae Chong[1]
[1]Dept. of Diagnostic, Interventional and Pediatric Radiology (DIPR), Inselspital, Bern, Switzerland

Computer 87 **3210. Prospective Correction Rigid-Body Motion-Induced Phase for Diffusion-Weighted SSFP Imaging**

Rafael O'Halloran[1], Anh Tu Van[1], Eric Aboussouan[1], Murat Aksoy[1], Roland Bammer[1]
[1]Radiology, Stanford University, Stanford, CA, United States

Computer 88 **3211. Impact of Accuracy and Reliability of Diffusivity in Assessing Acute Ischemic Stroke**

Venkata Veerendranadh Chebrolu[1], Dattesh D. Shanbhag[2], Ek Tsoon Tan[3], Patrice Hervo[4], Marc-Antoine Labeyrie[5], Catherine Oppenheim[5, 6], Rakesh Mullick[2]
[1]Medical Image Analysis Lab, GE Global Research, Bangalore , Karnataka, India; [2]Medical Image Analysis Lab, GE Global Research, Bangalore, Karnataka, India; [3]GE Global Research, Niskayuna, NY, India; [4]GE Healthcare, Buc, France; [5]Departments of Radiology and Neurology, Centre Hospitalier, Sainte-Anne, Paris, France; [6]Université Paris Descartes , Paris, France

Computer 89 **3212. Combined Eddy-Current and EPI-PSF-Based Distortion Corrections in Quantification of DW EPI at UHF**

Oleg Posnansky[1], Myung-Ho In[1], Oliver Speck[1]
[1]BMMR, IEP, Otto-von-Guericke University, Magdeburg, SA, Germany

Computer 90 **3213. Comparison of Image Quality Control Tools for Diffusion Tensor Images**
Bilan Liu[1], Tong Zhu[2], Jianhui Zhong[2]
[1]Electrical and Computer Engineering , University of Rochester , Rochester , NY, United States; [2]Imaging Sciences, University of Rochester, Rochester, NY, United States

Computer 91 **3214. Clinical Diffusion Imaging: Can We Still Use Corrupted Images in Voxelwise Analysis?**
Ivan I. Maximov[1], Farida Grinberg[2], Irene Neuner[1, 3], Nadim Jon Shah[1, 4]
[1]Institute of Neuroscience and Medicine 4, Forschungszentrum Juelich GmbH, Juelich, Germany; [2]Institute of Neuroscience and Medicine 4, Forschungszentrum Juelich, Juelich, Germany; [3]Department of Psychiatry, Psychotherapy and Psychosomatics, RWTH Aachen University, Aachen, Germany; [4]Department of Neurology, RWTH Aachen University, Aachen, Germany

Computer 92 **3215. Quantitative Analysis of Directional Bias Imposed on Primary Eigenvector Estimations in DTI When Gradient Table Correction Is Neglected**
Ali Ersoz[1], Volkan Emre Arpinar[2], L. Tugan Muftuler[2, 3]
[1]Department of Biophysics, Medical College of Wisconsin, Milwaukee, WI, United States; [2]Department of Neurosurgery, Medical College of Wisconsin, Milwaukee, WI, United States; [3]Center for Imaging Research, Medical College of Wisconsin, Milwaukee, WI, United States

Computer 93 **3216. Gradient Nonlinearity Effects of Diffusion Weighted Imaging in a Dedicated Head-Only MRI System**
Ek T. Tan[1], Seung-Kyun Lee[1], Jean-Baptiste Mathieu[1], Venkata Veerendranadh Chebrolu[2], Dattesh D. Shanbhag[2], Matthew A. Bernstein[3], John Huston III[3], Luca Marinelli[1], John F. Schenck[1]
[1]Diagnostics and Biomedical Technologies, GE Global Research, Niskayuna, NY, United States; [2]Diagnostics and Biomedical Technologies, GE Global Research, Bangalore, India; [3]Radiology, Mayo Clinic, Rochester, MN, United States

Computer 94 **3217. Practical Aspects of Correcting ADC Bias Due to Gradient Nonlinearity in Media of Arbitrary Anisotropy**
Dariya I. Malyarenko[1], Brian D. Ross[1], Thomas L. Chenevert[1]
[1]Radiology - MRI, University of Michigan, Ann Arbor, MI, United States

Computer 95 **3218. Effects of Noise Estimation Error on the Accuracy and Precision of Maximum Likelihood Estimation of Apparent Diffusion Coefficient**
Jing Yuan[1], Qinwei Zhang[1], David Ka Wai Yeung[1], Anil T. Ahuja[1], Ann D. King[1]
[1]Department of Imaging and Interventional Radiology, Chinese University of Hong Kong, Shatin, NT, Hong Kong

Computer 96 **3219. A Simple and Efficient Method for Acceleration and Denoising of Multi-Contrast Diffusion Data: Application to Q-Space and HARDI**
Ana-Maria Oros-Peusquens[1], Nadim Jon Shah[1, 2]
[1]INM-4, Research Centre Jülich, Jülich, Germany; [2]Faculty of Medicine, JARA, RWTH Aachen University, Aachen, Germany

Electronic Poster
fMRI Applications In Neuroscience

Exhibition Hall Monday 16:30-17:30

Computer 1 **3220. T1ρ Response to the Activity-Dependent Localized Acidosis**
Hye-Young Heo[1, 2], Casey P. Johnson[1], Daniel R. Thedens[1], John A. Wemmie[3, 4], Vincent A. Magnotta[1, 3]
[1]Department of Radiology, University of Iowa, Iowa City, IA, United States; [2]Department of Biomedical Engineering, University of Iowa, Iowa City, IA, United States; [3]Department of Psychiatry, University of Iowa, Iowa City, IA, United States; [4]Department of Neurosurgery, University of Iowa, Iowa City, IA, United States

Computer 2 **3221. The Relationship Between Neurotransmitter Levels, BOLD Changes and Neural Oscillations in Primary Motor Cortex.**
Mary C. Stephenson[1], SoYoung Kim[2], Matthew J. Brookes[1], Steve Jackson[2], Peter G. Morris[1]
[1]School of Physics and Astronomy, University of Nottingham, Nottingham, Nottinghamshire, United Kingdom; [2]School of Psychology, University of Nottingham, Nottingham, Nottinghamshire, United Kingdom

Computer 3 **3222. A Pharmaco-fMRI Study on Pain Networks Induced by Electrical Stimulation After Sumatriptan Injection**
Yuan Wang[1], Ming Zhang[1], Netra Rana[1], Chenwang Jin[1], Shaohui Ma[1]
[1]Department of Medical Imaging, First Affiliated Hospital of medical college of Xi'an Jiaotong University, Xi'an, Shaanxi, China

Computer 5 **3223. Effect of Parasympathetic Stimulation on Brain Activity During Emotional Processing**

Barbara Basile[1], Andrea Bassi, Giovanni Calcagnini[2], Emiliano Macaluso[1], Angelica Piccolomini, Carlo Caltagirone[3], Marco Bozzali[1]

[1]Neuroimaging Laboratory, Santa Lucia Foundation, Rome, Italy, Italy; [2]3Department of Technology and Health, Italian Institute of Health, Rome, Italy, Italy; [3]Department of Neuroscience, University of Rome 'Tor Vergata', Rome, Italy, Italy

Computer 6 **3224. Brain Activation Associated with the Anxiety-Inducing Distractor in Working Memory Maintenance in Patients with Generalized Anxiety Disorder**

Chung-Man Moon[1], Moo-Suk Lee[2], Heoung-Keun Kang[3], Jong-Chul Yang[4], Gwang-Woo Jeong[1], [3]

[1]Interdisciplinary Program of Biomedical Engineering, Chonnam National University, Gwangju, Korea; [2]Psychiatry, Chonnam National University Hospital, Gwangju, Korea; [3]Radiology, Chonnam National University Hospital, Gwangju, Korea; [4]Psychiatry, Chonbuk National Universty Hosptal, Jeonju-si, Jeollabuk-do, Korea

Computer 7 **3225. A Framework for Investigating Decision-Making in the Brain with High Spatio-Temporal Resolution Using Simultaneous EEG/fMRI and Joint ICA**

Sreenath Pruthviraj Kyathanahally[1], Nurhan Erbil[1], Ana Maria Franco-Watkins[2], Xiaoxia Zhang[1], Vince D. Calhoun[3], [4], Gopikrishna Deshpande[1], [2]

[1]AU MRI Research Center, Department of Electrical and Computer Engineering, Auburn University, Auburn, AL, United States; [2]Department of Psychology, Auburn University, Auburn, AL, United States; [3]The Mind Research Network and Lovelace Biomedical and Environmental Research Institute, Albuquerque, NM, United States; [4]Department of Electrical and Computer Engineering, University of New Mexico, Albuquerque, NM, United States

Computer 8 **3226. Structural and Functional Changes of Hippocampus in Long Life Experienced Taxi Driver**

Geon-Ho Jahng[1], Kyung-Mi Lee[2], Myung-Won You[2], Eo-Jin Hwang[3], Min-Ji Kim[3], Hyug-Gi Kim[4], Dong-Kyun Lee[5], Jong-Min Lee[5], Chang-Woo Ryu[1], Wook Jin[1], Dal-Mo Yang[1], Ji Seon Park[6]

[1]Radiology, Kyung Hee University Hospital at Gangdong, Kyung Hee University, Seoul, Korea; [2]Radiology, Graduate College of of Medicine, Kyung Hee University, Seoul, Korea; [3]Radiology, Kyung Hee University Hospital at Gangdong, Seoul, Korea; [4]Biomedical Engineering, Graduate College of Electronics and Information, Kyung Hee University, Youngin, Gyeonggi-do, Korea; [5]Biomedical Engineering, Hanyang University, Seoul, Korea; [6]Radiology, Kyung Hee University Hospital, Kyung Hee University, Seoul, Korea

Computer 9 **3227. Neural Correlates of Mathematics Competence in Children: A Functional MRI Study**

John Y.S. Cheng[1], [2], Wing P. Chan[3], [4], Pei-Shan Ho[2], [5], Ho-Ling Liu[5], Chun-Yen Chang[2]

[1]Division of Neurosurgery, Department of Surgery, Taipei Medical University Hospital, Taipei Medical University, Taipei, Taiwan, Taiwan; [2]Graduate Institue of Science Education, National Taiwan Normal University, Taipei, Taiwan, Taiwan; [3]Department of Radiology, Wan-Fang Hospital, Taipei Medical University, Taipei, Taiwan, Taiwan; [4]School of Medicine, College of Medicine, Taipei Medical University, Taipei, Taiwan, Taiwan; [5]Department of Medical Imaging and Radiological Sciences, Chang Gung University, Taipei, Taiwan, Taiwan

Computer 10 **3228. Olfactory Neural Network Disruption in Alzheimer's Disease (AD): A Functional Magnetic Resonance Imaging Study**

Prasanna Karunanayaka[1], Megha Patel[1], Jian-Li Wang[1], Sarah Molitoris[1], Paul Eslinger[2], Qing X. Yang[1]

[1]Radiology, Hershey Medical Center, Hershey, PA, United States; [2]Neurology, Hershey Medical Center, Hershey, PA, United States

Computer 11 **3229. Adaptations in Cortical Activations in Early, Late Blind Individuals Reading Braille**

Ankeeta Sharma[1], S. Senthil Kumaran[1], Rohit Saxena[2], Garima Shukla[3], Vishnu Sreenivas[4], Naranamangalam R. Jagannathan[1]

[1]Department of NMR, All India Institute of Medical Sciences, New Delhi, Delhi, India; [2]Department of R.P.Centre for Ophthalmic Sciences, All India Institute of Medical Sciences, New Delhi, Delhi, India; [3]Department of Neurology, All India Institute of Medical Sciences, New Delhi, Delhi, India; [4]Department of Bio-Statistics, All India Institute of Medical Sciences, New Delhi, Delhi, India

Computer 12 **3230. Varying Frequencies of Flickering Checkerboard in Anisometropic Amblyopes: An fMRI Study**

Reena Singh[1], S. Senthil Kumaran[2], Rohit Saxena[1], Vimla Menon[1], Pradeep Sharma[1]

[1]Dr.R.P. Centre for Ophthalmic Sciences, All India Institute of Medical Sciences, New Delhi, Delhi, India; [2]Department of NMR, All India Institute of Medical Sciences, New Delhi, Delhi, India

Computer 13 **3231. A fMRI Study in AnisometropicAmblyopes Before and During Occlusion Therapy: Comparison 0f Responders and Non Responders on Basis of Cortical Activity Pattern**

S. Senthil Kumaran[1], Reena Singh[2], Rohit Saxena[2], Vimla Menon[2], Pradeep Sharma[2]
[1]Department of NMR, All India Institute of Medical Sciences, New Delhi, Delhi, India; [2]Dr.R.P. Centre for Ophthalmic Sciences, All India Institute of Medical Sciences, New Delhi, Delhi, India

Computer 14 **3232. Neurocognitive Alteration Associated with Auditory Tasks in Early and Late Blind Subjects**

Ankeeta Sharma[1], S. Senthil Kumaran[1], Rohit Saxena[2], Garima Shukla[3], Vishnu Sreenivas[4], Naranamangalam R. Jagannathan[1]
[1]Department of NMR, All India Institute of Medical Sciences, New Delhi, Delhi, India; [2]Department of R.P.Centre for Ophthalmic Sciences, All India Institute of Medical Sciences, New Delhi, Delhi, India; [3]Department of Neurology, All India Institute of Medical Sciences, New Delhi, Delhi, India; [4]Department of Bio-Statistics, All India Institute of Medical Sciences, New Delhi, Delhi, India

Computer 15 **3233. fMRI Study of Sound Pressure Level Encoding in the Different Subdivisions of Inferior Colliculus**

Jevin W. Zhang[1, 2], Condon Lau[1], Joe S. Cheng[1, 2], Iris Y. Zhou[1, 2], Matthew M. Cheung[1], Ed X. Wu[1, 2]
[1]Laboratory of Biomedical Imaging and Signal Processing, The University of Hong Kong, Hong Kong, Hong Kong SAR, China; [2]Department of Electrical and Electronic Engineering, The University of Hong Kong, Hong Kong, Hong Kong SAR, China

Computer 16 **3234. Direct Non-Invasive MRI Measurement of the Absolute CBV-CBF Relationship During Sensory-Motor and Auditory Stimulation in Normal Humans**

Pelin Aksit Ciris[1], Maolin Qiu[1], Robert Todd Constable[1]
[1]Diagnostic Radiology, Yale University, New Haven, CT, United States

Computer 17 **3235. Functional Magnetic Resonance Imaging of the Central Auditory System Following Long-Term and Passive Acoustic Exposure at Moderate Sound Pressure Level**

Condon Lau[1], Jevin W. Zhang[2], Joe S. Cheng[2], Iris Y. Zhou[2], Ed X. Wu[2, 3]
[1]Division of Biomedical Engineering, Hong Kong University of Science and Technology, Kowloon, HKSAR, China; [2]Laboratory of Biomedical Imaging and Signal Processing, The University of Hong Kong, Hong Kong, HKSAR, China; [3]Department of Electrical and Electronic Engineering, The University of Hong Kong, Hong Kong, HKSAR, China

Computer 18 **3236. Deep Brain Stimulation at the Subthalamic Nucleus Produces fMRI Response in the Motor Cortex**

ISMRM MERIT AWARD magna cum laude

Hsin-Yi Lai[1], John Robert Younce[1], Yu-Chieh Jill Kao[1], Hong Yuan[2], Yen-Yu Ian Shih[1]
[1]Experimental Neuroimaging Laboraory, Department of Neurology and Biomedical Research Imaging Center, University of North Carolina, Chapel Hill, NC, United States; [2]Department of Radiology, University of North Carolina, Chapel Hill, NC, United States

Computer 19 **3237. Deep Brain Stimulation fMRI with a Home-Made Two-Channel Tungsten Microwire Electrode**

Hsin-Yi Lai[1], John Robert Younce[1], Yu-Chieh Jill Kao[1], Yen-Yu Ian Shih[1]
[1]Experimental Neuroimaging Laboraory, Department of Neurology and Biomedical Research Imaging Center, University of North Carolina, Chapel Hill, NC, United States

Computer 20 **3238. Glucagon-Like Peptide-1 Modulates Functional Magnetic Resonance Imaging Signal Activity in the Rodent Brain**

Prasanth K. Chelikani[1], Ursula I. Tuor[2], David K. Min[1]
[1]Gastrointestinal Research Group, Production Animal Health, Faculty of Veterinary Medicine, University of Calgary, Calgary, Alberta, Canada; [2]Clinical Neurosciences, Radiology, and Physiology and Pharmacology, Hotchkiss Brain Institute, University of Calgary, Calgary, Alberta, Canada

Computer 21 **3239. fMRI and Electrophysiology of Optogenetic Vs. Whisker Stimulation in the Whisker Barrel Cortex of the Awake Rabbit**

Daniil Aksenov[1], Limin Li[1], Michael Miller[1], George Iordanescu[1], Alice M. Wyrwicz[1]
[1]Center for Basic MR Research, NorthShore University HealthSystem, Evanston, IL, United States

Computer 22 **3240. Brain Development During Adolescence: Metabolic, Anatomical and Functional Characterisation in Rats**

Luisa Altabella[1], Francesca Zoratto[1], Francesco De Pasquale[2], Giovanni Laviola[1], Walter Adriani[1], Rossella Canese[3]
[1]Cell Biology and Neuroscience, Istituto Superiore di Sanita', Rome, Italy; [2]ITAB Neuroscience and Imaging, University G. d'Annunzio, Chieti, Italy; [3]Cell Biology and Neuroscience, Istituto Superiore di Sanità, Rome, Italy

Computer 23 **3241. fMRI of Hypothalamic Activation by Fasting in ob/ob Mice Using T2* and FDWI with High and Low B Values. a Comparative Study.**

Blanca Lizarbe[1], Pilar Lopez-Larrubia[1], Sebastián Cerdán[2]
[1]Instituto Investigaciones Biomedicas "Alberto Sols" CSIC-UAM, Madrid, Spain; [2]Instituto de Investigaciones Biomédicas - CSIC, Madrid, Spain

Computer 24 **3242. Functional MRI and Neural Responses in a Rat Model of Alzheimer's Disease**

Basavaraju G. Sanganahalli[1], Peter Herman[1], Kevin L. Behar[1, 2], Hal Blumenfeld[3, 4], Douglas L. Rothman[1, 5], Fahmeed Hyder[1, 5]
[1]Diagnostic Radiology, Yale University, New Haven, CT, United States; [2]Psychiatry, Yale University, New Haven, CT, United States; [3]Neurology, Yale University, New Haven, CT, United States; [4]Neuroscience, Yale University, New Haven, CT, United States; [5]Biomedical Engineering, Yale University, New Haven, CT, United States

Electronic Poster
fMRI: Basics, Modalities & Analysis

Exhibition Hall Monday 17:30-18:30

Computer 1 **3243. T1ρ Functional Imaging Temporal Dynamics in the Human Visual Cortex**

Hye-Young Heo[1, 2], Casey P. Johnson[1], Daniel R. Thedens[1], John A. Wemmie[3, 4], Vincent A. Magnotta[1, 5]
[1]Department of Radiology, University of Iowa, Iowa City, IA, United States; [2]Department of Biomedical Engineering, University of Iowa, Iowa City, IA, United States; [3]Department of Psychiatry, University of Iowa, Iowa City, IA, United States; [4]Department of Neurosurgery, University of Iowa, Iowa City, IA, United States; [5]Department of Psychiatry, University of Iowa , Iowa City, IA, United States

Computer 2 **3244. Modeling the fMRI Signals at the Microscopic Level Using Quantitative Optical Microscopy Measurements**

Louis O. Gagnon[1], Sava Sakadzic[1], Anna Devor[2], Qianqian Fang[1], Frederic Lesage[3], Emiri T. Mandeville[1], Vivek J. Srinivasan[1], Mohammad A. Yaseen[1], Emmanuel Roussakis[4], Eng H. Lo[1], Sergei Vinogradov[4], Richard B. Buxton[2], Anders M. Dale[5], David A. Boas[1]
[1]Athinoula A. Martinos Center for Biomedical Imaging, Department of Radiology, Massachusetts General Hospital, Charlestown, MA, United States; [2]Department of Radiology and Neuroscience, University of California San Diego, La Jolla, CA, United States; [3]Department of Electrical Engineering, Ecole Polytechnique Montreal, Montreal, Quebec, Canada; [4]Department of Biochemistry and Biophysics, University of Pensylvania, Philadelphia, Pensylvania, United States; [5]Department of Radiology and Neuroscience, University of California, San Diego, La Jolla, CA, United States

Computer 3 **3245. Distributed Pattern of BOLD fMRI: Neuronal Activity or Hemodynamic Artifact**

Sun Mi Park[1], Francesca Branzoli[2], Misun Kim[1], Hyerin Lim[1], Matthias J.P. van Osch[2], Itamar Ronen[2], Dae-Shik Kim[1]
[1]Department of Electrical Engineering, Korea Advanced Institute of Science and Technology, Daejeon, Korea; [2]C. J. Gorter Center for High-field MRI, Department of Radiology, Leiden University Medical Center, Leiden, Netherlands

Computer 4 **3246. Thalamic Relay of Frequency-Specific EEG Scalp Field Maps**

Simon Schwab[1], Thomas Koenig[1], Andrea Federspiel[1], Thomas Dierks[1], Kay Jann[1]
[1]Dept. of Psychiatric Neurophysiology, University Hospital of Psychiatry / University of Bern, Bern, Switzerland

Computer 5 **3247. Temporally Quasi-Stable Spatial Configurations in fMRI Reveal Scale-Free Dynamics Similar to That of EEG Microstates**

Nurhan Erbil[1], Gopikrishna Deshpande[1, 2]
[1]Department of Electrical and Computer Engineering, Auburn University, Auburn, AL, United States; [2]Department of Psychology, Auburn University , Auburn, AL, United States

Computer 6 **3248. Removing Ballistocardiographic Noise in Combined EEG-fMRI Using Soft Constrained PLS Method**

Siamak Salari Sharif[1], Michael D. Noseworthy[2], James P. Reilly[3], Daniel J. Bosnyak[4]
[1]MR Innovations Inc., Detroit, MI, United States; [2]Electrical and computer engineering, school of biomedical engineering, McMaster University, Hamilton, ON, Canada; [3]Electrical and computer engineering, McMaster University, Hamilton, ON, Canada; [4]Department of Psychology, Neuroscience and Behaviour, McMaster University, Hamilton, ON, Canada

Computer 7 **3249. Effect of Respiration on Motion Correction in fMRI**

Hu Cheng[1], Aina Puce[1]
[1]Indiana University, Bloomington, IN, United States

Computer 8 **3250. On the Spatial Distribution of Cerebrovascular Reactivity During Breath Hold and CO_2 Inhalation Tasks as Assessed by Data-Driven Analysis Methods**

Ekaterina Tchistiakova[1, 2], David E. Crane[3], Jeremy Gilbert[4], Sandra E. Black[3, 5], Bradley J. MacIntosh[1, 3]
[1]Medical Biophysics, University of Toronto, Toronto, Ontario, Canada; [2]Heart and Stroke Foundation Centre for Stroke Recovery,, Sunnybrook Research Institute, Toronto, Ontario, Canada; [3]Heart and Stroke Foundation Centre for Stroke Recovery, Sunnybrook Research Institute, Toronto, Ontario, Canada; [4]Department of Medicine, Division of Endocrinology, Sunnybrook Health Sciences Centre, Toronto, Ontario, Canada; [5]Department of Medicine, Division of Neurology, University of Toronto, Toronto, Ontario, Canada

Computer 9 **3251. Global Intravascular and Local Hyperoxia Contrast Phase-Based Blood Oxygenation Measurements**

Ian D. Driver[1], Samuel J. Wharton[1], Paula L. Croal[1], Richard W. Bowtell[1], Susan T. Francis[1], Penelope A. Gowland[1]
[1]Sir Peter Mansfield Magnetic Resonance Centre, University of Nottingham, Nottingham, United Kingdom

Computer 10 **3252. Reducing Physiological Effects in Resting State fMRI by Dephasing Blood and CSF Signals**

Yongquan Ye[1], Ewart Mark Haacke[1]
[1]Radiology, Wayne State University, Detroit, MI, United States

Computer 11 **3253. Assessment of R2* Dependence on Oxygenation Across Field Strength.**

Paula L. Croal[1], Emma Louise Hall[1], Ian D. Driver[1], Susan T. Francis[1], Penelope A. Gowland[1]
[1]SPMMRC, School of Physics & Astronomy, University of Nottingham, Nottingham, Nottinghamshire, United Kingdom

Computer 12 **3254. Investigation of Cardiac and Respiratory Pressure Waves in the Brain by High Resolution Echo-Planar Imaging at 7 Tesla**

Marta Bianciardi[1], Karleyton C. Evans[2], Jonathan R. Polimeni[3], Tian Y. Song[2], Boris Keil[3], Thomas Witzel[3], Bruce R. Rosen[3], David A. Boas[3], Lawrence L. Wald[3]
[1]Department of Radiology, A.A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Harvard Medical School, Charlestown, MA, United States; [2]Department of Psychiatry, Massachusetts General Hospital, Harvard Medical School, Charlestown, MA, United States; [3]Department of Radiology, A.A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Harvard Medical School, Charlestown, MA, United States

Computer 13 **3255. Comparison of CO_2 in Air Versus Carbogen for the Measurement of Cerebrovascular Reactivity with Magnetic Resonance Imaging**

Hannah Hare[1], Michael Germuska[1], Daniel P. Bulte[1]
[1]FMRIB, University of Oxford, Oxford, Oxon, United Kingdom

Computer 14 **3256. Fully Connected Cascade Deep Architecture Neural Networks Outperform Support Vector Machines for Disease State Classification Using fMRI Data**

Peng Wang[1], Bogdan Wilamowski, Gopikrishna Deshpande[2]
[1]AU MRI Research Center, Department of Electrical and Computer Engineering, Auburn University, Auburn, AL, United States; [2]AU MRI Research Center, Department of Electrical and Computer Engineering; Department of Psychology, Auburn University, Auburn, AL, United States

Computer 15 **3257. Empirical Bayesian Estimation Improves Analysis of Resting-State Functional Connectivity from Multi-Echo BOLD Data**

Feng Xu[1, 2], Suresh E. Joel, [12], Jun Hua[1, 2], Craig K. Jones, [12], Brian S. Caffo[3], Martin A. Lindquist[4], Ciprian M. Crainiceanu[4], Peter C.M. van Zijl[1, 2], James J. Pekar[1, 2]
[1]Radiology, Johns Hopkins University, School of Medicine, Baltimore, MD, United States; [2]F. M. Kirby Research Center, Kennedy Krieger Institute, Baltimore, MD, United States; [3]Biostatistics, Johns Hopkins University, Baltimore, MD, United States; [4]Biostatistics, Johns Hopkins University, School of Public Health, Baltimore, MD, United States

Computer 16 **3258. Correcting Motion Induced Connectivity Changes in Resting-State fMRI**

Ali-mohammad Golestani[1], Mariana Lazar[1]
[1]Radiology, Center for Biomedical Imaging, NYU Medical Center, New York, NY, United States

Computer 17 **3259. Multitask Machine Learning for Brain-State Classification**

Yash S. Shah[1], Ashish Farmer[1], Luis Hernandez-Garcia[1], Douglas C. Noll[1], Mark Greenwald[2], Jon-Kar Zubieta[1], Scott J. Peltier[1]
[1]University of Michigan, Ann Arbor, MI, United States; [2]Wayne State University, Detroit, MI, United States

Computer 18 **3260. An *a Contrario* Approach for the Detection of Activated Brain Areas in FMRI**
Camille Maumet[1], Pierre Maurel[1], Jean-Christophe Ferré[1, 2], Christian Barillot[1]
[1]Visages Project-team / U746, University of Rennes 1, INSERM, CNRS, Inria, RENNES, Brittany, France; [2]Department of Neuroradiology, CHU Rennes, Rennes, Brittany, France

Computer 19 **3261. A Comparison of Parametric and Non-Parametric Blind Hemodynamic Deconvolution Methods for fMRI**
Karthik Ramakrishnan Sreenivasan[1], Martin Havlicek[2], Gopikrishna Deshpande,[3]
[1] AU MRI Research Center, Department of Electrical and Computer Engineering, Auburn University, Auburn, AL, United States; [2]Department of Cognitive Neuroscience, Maastricht University, Maastricht, Limburg , Netherlands; [3]Department of Psychology, Auburn University, Auburn, AL, United States

Computer 20 **3262. Toward Direct Detection of Neuronal Magnetic Fields Using MRI: Local and Three-Dimensional Mapping of Somatosensory Evoked Fields in the Rat Brain**
Masaki Sekino[1, 2], Tomoaki Takewa[1], Dongmin Kim[1, 2], Yusuke Inoue[1, 2], Hiroyuki Ohsaki[1]
[1]Department of Electrical Engineering and Information Systems, Graduate School of Engineering, The University of Tokyo, Bunkyo-ku, Tokyo, Japan; [2]Exploratory Research for Advanced Technology, Japan Science and Technology Agency, Bunkyo-ku, Tokyo, Japan

Computer 21 **3263. Functional MRI with an Ultra-Short Echo Time Sequence**
Geon-Ho Jahng[1], Min-Ji Kim[2], Eo-Jin Hwang[2], Hyug-Gi Kim[3], Kyung-Mi Lee[4], Chang-Woo Ryu[1], Soo-Yeol Lee[3], Wook Jin[1], Dal-Mo Yang[1], Ji Seon Park[5]
[1]Radiology, Kyung Hee University Hospital at Gangdong, Kyung Hee University, Seoul, Korea; [2]Radiology, Kyung Hee University Hospital at Gangdong, Seoul, Korea; [3]Biomedical Engineering, Graduate College of Electronics and Information, Kyung Hee University, Youngin, Gyeonggi-do, Korea; [4]Radiology, Graduate College of of Medicine, Kyung Hee University, Seoul, Korea; [5]Radiology, Kyung Hee University Hospital, Kyung Hee University, Seoul, Korea

Computer 22 **3264. Synchronous Recording of Multiple Physiological, Trigger and External Signal Traces for Co-Registration with Functional MRI Data**
Jaroslav Marek[1], Jan Rieger[1, 2], Darius Lysiak[1], Tomasz Kaczmarczyk[3], Martin Kanowski[4], Claus Tempelmann[4], Thoralf Niendorf[1, 5]
[1]Berlin Ultrahigh Field Facility (B.U.F.F.), Max-Delbrueck Center for Molecular Medicine, Berlin, Germany; [2]MRI.TOOLS GmbH, Berlin, Germany; [3]Blue Brick Ltd., Lodz, Poland; [4]Department of Neurology, Otto-von-Guericke-University Magdeburg, Magdeburg, Germany; [5]Joint cooperation - Charité Medical Faculty and the Max-Delbrueck Center for Molecular Medicine, Experimental and Clinical Research Center, Berlin, Germany

Computer 23 **3265. Functional MRI Using Spin-Lock Sequences to Modulate BOLD Activation**
Swati Rane[1], John T. Spear[1], Zhongliang Zu[1], Manus J. Donahue[1, 2], John C. Gore[1, 3]
[1]VUIIS, Radiology and Radiological Sciences, Vanderbilt University, Nashville, TN, United States; [2]Psychiatry, Vanderbilt University, Nashville, TN, United States; [3]Biomedical Engineering, Vanderbilt University, Nashville, TN, United States

Computer 24 **3266. Characterization of a Spin-Locked Spin-Echo EPI Sequence for pH-Sensitive Dynamic T1rho Imaging of the Brain**
Casey P. Johnson[1], Hye-Young Heo[2], Daniel R. Thedens[1], John A. Wemmie[3], Vincent A. Magnotta[1, 3]
[1]Radiology, University of Iowa, Iowa City, IA, United States; [2]Biomedical Engineering, University of Iowa, Iowa City, IA, United States; [3]Psychiatry, University of Iowa, Iowa City, IA, United States

Electronic Poster
Resting State Connectivity: Methods

Exhibition Hall Monday 16:30-17:30

Computer 25 **3267. Neural Origin of the Interhemispheric Functional Connectivity Loss After Complete Corpus Callosotomy**
Russell W. Chan[1, 2], Iris Y. Zhou[1, 2], Y. X. Liang[3], Yong Hu[4], K. F. So[3], Ed X. Wu[1, 2]
[1]Laboratory of Biomedical Imaging and Signal Processing, The University of Hong Kong, Hong Kong SAR, China; [2]Department of Electrical and Electronic Engineering, The University of Hong Kong, Hong Kong SAR, China; [3]Department of Anatomy, The University of Hong Kong, Hong Kong SAR, China; [4]Department of Orthopaedics & Traumatology, The University of Hong Kong, Hong Kong SAR, China

Computer 26 **3268.** **Spectral Changes in Resting-State fMRI Connectivity Induced by Corpus Callosum Transection**

ISMRM MERIT AWARD magna cum laude

Iris Y. Zhou[1, 2], Y. X. Liang[3], Russell W. Chan[1, 2], Joe S. Cheng[1, 2], Patrick P. Gao[1, 2], K. F. So[3], Ed X. Wu[1, 2]
[1]Laboratory of Biomedical Imaging and Signal Processing, The University of Hong Kong, Hong Kong SAR, China; [2]Department of Electrical and Electronic Engineering, The University of Hong Kong, Hong Kong SAR, China; [3]Department of Anatomy, The University of Hong Kong, Hong Kong SAR, China

Computer 27 **3269.** **White Matter Integrity Correlations with Coactivation of Resting State fMRI**

Edmund W. Wong[1], David Matthew Carpenter[1], Johnny Ng[1], Jessica Roman[1], Ying Wei Wu[2], Xiaofeng Tao[2], Cheuk Ying Tang[1]
[1]Radiology, Mount Sinai School of Medicine, New York, United States; [2]Radiology, Shanghai East Hospital, Shanghai Tongji University, Shanghai, China

Computer 28 **3270.** **Investigating Resting-State Functional Connectivity Using Passband BSSFP**

Joe S. Cheng[1, 2], Iris Y. Zhou[1, 2], Patrick P. Gao[1, 2], Russell W. Chan[1, 2], Queenie Chan[3], Henry Ka Fung Mak[4], Pek Lan Khong[4], Ed X. Wu[5]
[1]Laboratory of Biomedical Imaging and Signal Processing, The University of Hong Kong, Hong Kong, Hong Kong; [2]Department of Electrical and Electronic Engineering, Hong Kong, Hong Kong; [3]Philips Healthcare, Hong Kong, Hong Kong; [4]Diagnostic Radiology, The University of Hong Kong, Hong Kong, Hong Kong; [5]The University of Hong Kong, Hong Kong, SAR, China, Hong Kong

Computer 29 **3271.** **Balanced Steady-State Free Procession (BSSFP) for Detecting Resting-State Networks in Rat Brain at 7T**

Patrick P. Gao[1, 2], Russell W. Chan[1, 2], Joe S. Cheng[1, 2], Iris Y. Zhou[1, 2], Ed X. Wu[1, 2]
[1]Laboratory of Biomedical Imaging and Signal Processing, The University of Hong Kong, Hong Kong, Hong Kong SAR, China; [2]Department of Electrical and Electronic Engineering, The University of Hong Kong, Hong Kong, Hong Kong SAR, China

Computer 30 **3272.** **Simultaneous fMRI-DTI Using the Navigated Diffusion Sequence**

A. Alhamud[1], F. Robertson[1], D. Donaldson[1], André J. W. van der Kouwe[2], Ernesta M. Meintjes[1]
[1]Human Biology, MRC/UCT Medical Imaging Research Unit, University of Cape Town, Cape Town, Western Cape, South Africa; [2]Department of Radiology, Massachusetts General Hospital, Charlestown, MA, United States

Computer 31 **3273.** **Diffusion-Weighted Resting-State Functional MRI at 3T**

Joe S. Cheng[1, 2], Iris Y. Zhou[1, 2], Hua Guo[3], Patrick P. Gao[1, 2], Russell W. Chan[1, 2], Queenie Chan[4], Henry Ka Fung Mak[5], Pek Lan Khong[5], Ed X. Wu[1, 2]
[1]Laboratory of Biomedical Imaging and Signal Processing, The University of Hong Kong, Hong Kong, Hong Kong; [2]Department of Electrical and Electronic Engineering, Hong Kong, Hong Kong; [3]Biomedical Engineering & Center for Biomedical Imaging Research, Tsinghua University, Beijing, China; [4]Philips Healthcare, Hong Kong, Hong Kong; [5]Diagnostic Radiology, The University of Hong Kong, Hong Kong, Hong Kong

Computer 32 **3274.** **k-T FASTER: A New Method for the Acceleration of Resting State fMRI Data Acquisition**

Mark Chiew[1], Stephen M. Smith[1], Peter J. Koopmans[2], Thomas Blumensath[3], Karla L. Miller[1]
[1]FMRIB Centre, University of Oxford, Oxford, United Kingdom; [2]Donders Institute for Brain, Cognition and Behaviour, Radboud University Nijmegen, Nijmegen, Netherlands; [3]ISVR, University of Southampton, Southampton, Hampshire, United Kingdom

Computer 33 **3275.** **An Assessment of Motion Artefacts in Multi Band EPI for High Spatial and Temporal Resolution Resting State fMRI**

Michael E. Kelly[1], Eugene P. Duff[1], Janine D. Bijsterbosch[1], Natalie L. Voets[1], Nicola Filippini[1], Steen Moeller[2], Junqian Xu[2], Essa S. Yacoub[2], Edward J. Auerbach[2], Kamil Ugurbil[2], Stephen M. Smith[1], Karla L. Miller[1]
[1]FMRIB Centre, University of Oxford, Oxford, United Kingdom; [2]Center for Magnetic Resonance Research, University of Minnesota Medical School, Minneapolis, MN, United States

Computer 34 **3276.** **Flip Angle Effects on Resting State fMRI Studies**

Yongquan Ye[1], Ewart Mark Haacke[1]
[1]Radiology, Wayne State University, Detroit, MI, United States

Computer 35 **3277.** **Observing Resting-State Brain Modules at Different Frequencies Using MREG**

Hsu-Lei Lee[1], Jakob Assländer[1], Pierre Levan[1], Jürgen Hennig[1]
[1]University Medical Center Freiburg, Freiburg, Germany

Computer 36 **3278. Spatiotmeporal Fourier Analysis of Resting State Fluctuations in BOLD fMRI of the Rat**
Waqas Majeed[1], Matthew E. Magnuson[2], Shella Keilholz[2]
[1]Department of Electrical Engineering, Lahore University of Management Sciences, School of Science and Engineering, Lahore, Punjab, Pakistan; [2]Biomedical Engineering, Georgia Institute of Technology/Emory University, Atlanta, GA, United States

Computer 37 **3279. Transient Synchronising Sub-Networks Within Large Scale Networks**
Thomas Allan[1], Matthew J. Brookes[1], Susan T. Francis[1], Penelope A. Gowland[1]
[1]SPMMRC, University of Nottingham, Nottingham, Nottinghamshire, United Kingdom

Computer 38 **3280. Dynamic Temporal Topological Structure of Default Mode Network**
Pan Lin[1], De Pisapia Nicola[2], Jorge Jovicich[2]
[1]Institute of Biomedical Engineering,Xi'an Jiaotong University, xi'an, shaanxi, China; [2]Center for Mind/Brain Sciences, University of Trento, Trento, Trentino, Italy

Computer 39 **3281. Stable, Dynamic & Variable Functional Networks**
Suresh Emmanuel Joel[1], Anand Narasimha Murthy[1], Ek T. Tan[2], Dattesh D. Shanbhag[1], John F. Schenck[2], Rakesh Mullick[1]
[1]Diagnostics and Biomedical Technologies, General Electric Global Research, Bangalore, Karnataka, India; [2]Diagnostics and Biomedical Technologies, General Electric Global Research, Niskayuna, NY, United States

Computer 40 **3282. Using Exploratory Structural Equation Modeling to Estimate the Functional Connectivity Networks from CBF and BOLD Signals Simultaneously Measured by ASL MRI**
Jiancheng Zhuang[1], Savio Wong[1]
[1]University of Southern California, Los Angeles, CA, United States

Computer 41 **3283. Experimental Validation of Dynamic Granger Causality for Inferring Sub-100ms Neuronal Timing Differences from fMRI Without the Confounding Effect of Hemodynamic Variability**
Yunzhi Wang[1], Santosh Katwal[2, 3], Baxter Rogers[2, 4], John C . Gore,[4], Gopikrishna Deshpande[1, 5]
[1]AU MRI Research Center, Department of Electrical and Computer Engineering, Auburn University, Auburn, AL, United States; [2]Vanderbilt University Institute of Imaging Science (VUIIS), Nashville, TN, United States; [3]Department of Electrical Engineering and Computer Science, Vanderbilt University, Nashville, TN, United States; [4]Radiology and Radiological Sciences, Vanderbilt University, Nashville, TN, United States; [5]Department of Psychology, Auburn University, Auburn, AL, United States

Computer 42 **3284. Extracting Connectomic Profiles from Group Resting State fMRI Data Using Dictionary Learning**
Kaiming LI[1], Xiaoping P. Hu[1]
[1]Emory University, Atlanta, GA, United States

Computer 43 **3285. Head Motion in RS fMRI: Not the Problem We Think It Is**
Hang Joon Jo[1], Richard C. Reynolds[1], Stephen J. Gotts[2], Alex Martin[2], Robert W. Cox[1], Ziad S. Saad[1]
[1]Scientific and Statistical Computing Core, National Institutes of Mental Health, Bethesda, MD, United States; [2]Section on Cognitive Neuropsychology, Laboratory of Brain and Cognition, National Institutes of Mental Health, Bethesda, MD, United States

Computer 44 **3286. BOLD Functional Connectivity Analysis Based on Intravascular-Weighting and Parenchymal R2***
Swati Rane[1], Brandon Ally[2, 3], Tracy Wilson[1], Tricia Thornton-Wells[4, 5], John C. Gore[1, 6], Erin Hussey[3], Manus J. Donahue[1, 2]
[1]VUIIS, Radiology and Radiological Sciences, Vanderbilt University, Nashville, TN, United States; [2]Psychiatry, Vanderbilt University, Nashville, TN, United States; [3]Neurology, Vanderbilt University, Nashville, TN, United States; [4]Center for Human Genetics Research, Vanderbilt University, Nashville, TN, United States; [5]Molecular Physics and Biology, Vanderbilt University, Nashville, TN, United States; [6]Biomedical Engineering, Vanderbilt University, Nashville, TN, United States

Computer 45 **3287. Support Vector Machine Classification of Spontaneous Cognition Using Whole-Brain Resting-State Functional Connectivity**
Ying-Hui Chou[1], Pooja Gaur[2], Carol P. Weingarten[1], Mei-Lan Chu[1], David Madden[1], Allen W. Song[1], Nan-Kuei Chen[3]
[1]Duke University Medical Center, Durham, NC, United States; [2]Vanderbilt University, Nashville, TN, United States; [3]Duke University, Durham, NC, United States

Computer 46 **3288. Data-Driven Parcellation of Resting State Functional Connectivity Networks of the Frontal Lobe in New World and Old World Primates**
Li Min Chen[1], Alex V. Maier[2], Arabinda Mishra[1], Feng Wang[1], Daniel Colvin[1], Allen T. Newton[1], M. Young[2], John C. Gore[1], Jeffrey D. Schall[2]
[1]Vanderbilt University Institute of Imaging Science, Vanderbilt University, Nashville, TN, United States; [2]Department of Psychological Sciences, Vanderbilt University, Nashville, TN, United States

Computer 47 **3289. The Degree of Temporal Complexity in Resting State FMRI: A Potentially New Metric for Functional Studies in Alzheimer's Disease.**
Yinan Liu[1], Karl Young[2], Duygu Tosun[2], Yu Zhang[2], Norbert Schuff[2]
[1]San Francisco VA Medical Center, San Francisco, CA, United States; [2]Department of Radiology and Biomedical Imaging, University of California at San Francisco, San Francisco, CA, United States

Computer 48 **3290. Effect of Task/Condition-Related Signal Variance on Functional Connectivity: An fMRI Simulation Study**
Unal Sakoglu[1], Kushal Bohra[1]
[1]Computer Science Department, Texas A&M University - Commerce, Commerce, TX, United States

Electronic Poster
Resting State Connectivity: Applications

Exhibition Hall Monday 17:30-18:30

Computer 25 **3291. Age Effects on the Marginal Division of the Neostriatum in Health Adults Revealed by a Resting Functional Connectivity**
Zhiye Chen[1], Lin Ma[1], Xin Lou[1], Jinfeng Li[1]
[1]Department of Radiology, Chinese PLA General Hospital, Beijing, China

Computer 26 **3292. Default Mode Network CBF Predicts Individual Differences in Self-Esteem**
Zhuo Fang[1, 2], Senhua Zhu[1, 2], Hui Shi[2], Siyuan Hu[2], Huajian Cai[3], Marc Korczykowski[2], Hengyi Rao[1, 2]
[1]Department of psychology, Sun Yat-sen University, GuangZhou, GuangDong, China; [2]Center for functional Neuroimaging, University of Pennsylvania, Philadelphia, PA, United States; [3]Institute of psychology, Chinese Academy of Sciences, Beijing, China

Computer 27 **3293. Interhemispheric Structural and Functional Connectivities Show Distinct Strengths of Associations in Homotopic and Heterotopic Connections**
Hsin-Long Hsieh[1], Pin-Yu Chen[2], Fu-Shan Jaw[1], Wen-Yih Isaac Tseng[2]
[1]Institute of Biomedical Engineering, National Taiwan University, Taipei, Taiwan; [2]Center for Optoelectronic Biomedicine, National Taiwan University College of Medicine, Taipei, Taiwan

Computer 28 **3294. Motor Network Connectivity Following Training with an MR Compatible Hand Induced- Robotic Device**
Asimina Lazaridou[1, 2], Loukas Astrakas[1, 2], Dionyssios Mintzopoulos[1, 2], Azadeh Khanicheh[3], Aneesh Singhal[4], Michael Moskowitz[2], Bruce Rosen[2], Aria A. Tzika[1, 5]
[1]NMR Surgical Laboratory, Massachusetts General Hospital and Shriners Burn Institute, Harvard Medical School, Boston, MA, United States; [2]Radiology, Athinoula A. Martinos Center for Biomedical Imaging, Boston, MA, United States; [3]Mechanical Engineering, Northeastern University, Boston, MA, United States; [4]Department of Neurology, Stroke Research Center, Massachusetts General Hospital, Harvard Medical School, Boston, MA, United States; [5]Radiology, Athinoula A. Martinos Center for Biomedical Imaging , Boston, MA, United States

Computer 29 **3295. Resting State fMRI During Spinal Cord Stimulation**
Amir Abduljalil[1], Chima Oluigbo[2], Xiangyu Yang[1], Andrew Kalnin[3], Michael V. Knopp, Ali Rezai[2]
[1]Wright Center of Innovation, The Ohio State University, Columbus, OH, United States; [2]Neurosurgery, The Ohio State University, Columbus, OH, United States; [3]Radiology, The Ohio State University, Columbus, OH, United States

Computer 30 **3296. Initial Study on Functional Connectivity of Children with Profound Bilateral Prelingual Hearing Loss**
Yongquan Ye[1], Jie Yang[1], Ewart Mark Haacke[1], Shuang Xia[2, 3]
[1]Radiology, Wayne State University, Detroit, MI, United States; [2]Radiology, Nanjing Jinling Hospital, Nanjing University, Nanjing, Jiangsu, China; [3]Radiology, Tianjin First Central Hospital, Tianjin, China

Computer 31 **3297. Comparison of the Functional Brain Connectivity Network in Night Shift Workers with and Without Shift Work Disorder: A Resting State fMRI Analysis**

Siamak P. Nejad-Davarani[1, 2], Valentina Gumenyuk[3], Hassan Bagher-Ebadian[4, 5], Scott J. Peltier[2], John Budaj[1], Christopher L. Drake[3], Douglas C. Noll[2], Quan Jiang[1, 5], Michael Chopp[1]

[1]Neurology, Henry Ford Hospital, Detroit, MI, United States; [2]Biomedical Engineering, University of Michigan, Ann Arbor, MI, United States; [3]Sleep Disorders and Research Center, Henry Ford Hospital, Detroit, MI, United States; [4]Radiology, Henry Ford Hospital, Detroit, MI, United States; [5]Physics, Oakland University, Rochester, MI, United States

Computer 33 **3298. Combined Structural and Functional Connectivity Analysis in Multiple Sclerosis**

Edmund W. Wong[1], Roxana Teodorescu[2], Lazar Fleysher[2], Cheuk Ying Tang[1], Matilde Inglese[2], David Matthew Carpenter[1]

[1]Radiology, Mount Sinai School of Medicine, New York, United States; [2]Neurology, Mount Sinai School of Medicine, New York, United States

Computer 34 **3299. Learnings and Recommendations for Performing Multi-Center Clinical Drug Trials with Resting State Functional MRI in Alzheimer Patient Population: Data Processing Pipelines and Functional Connectivity Metrics**

Alexandre Coimbra[1], Farshid Faraji[2], Alex De Crespigny[1], David Clayton[2]

[1]Genentech Inc, South San Francisco, CA, United States; [2]Genentech, Inc., South San Francisco, CA, United States

Computer 35 **3300. Reliability of Detecting Functional Connectivity Changes in Alzheimer's Disease**

Guangyu Chen[1], Chunming Xie[1], Guangyu Chen[1], Wenjun Li[1], B. Douglas Ward[1], Jennifer L. Jones[2], Malgorzata Franczak[2], Piero G. Antuono[2], Shi-Jiang Li[1]

[1]Department of Biophysics, Medical College of Wisconsin, Milwaukee, WI, United States; [2]Department of Neurology, Medical College of Wisconsin, Milwaukee, WI, United States

Computer 36 **3301. Unconstrained Cross-Network Directional Interactions in Schizophrenia**

Dongyi Liao[1], Lena Palaniyappan[2], Karthik Ramakrishnan Sreenivasan[1], Peter Liddle[3], Molly Simmonite[2], Gopikrishna Deshpande[1, 4]

[1]AU MRI Research Center, Department of Electrical and Computer Engineering, Auburn University, Auburn, AL, United States; [2]Translational Neuroimaging, Institute of Mental Health, University of Nottingham, Nottingham, United Kingdom; [3]Department of Psychiatry, Institute of Mental Health, University of Nottingham, Nottingham, United Kingdom; [4]Department of Psychology, Auburn University, Auburn, AL, United States

Computer 37 **3302. Task Performance Classified Resting-State Functional Connectivity Analysis for Blast-Related Mild Traumatic Brain Injury**

Hai Pan[1], J. Graner[2], B. Wang[1], W. Liu[2], H. Tang[2], Ping-Hong Yeh[1], D. Nathan[2], Terrence R. Oakes[2], Gerard Riedy[2]

[1]Traumatic Brain Injury Image Analysis Lab, USUHS/Henry Jackson Foundation, Bethesda, MD, United States; [2]National Intrepid Center of Excellence (NICoE), Bethesda, MD, United States

Computer 38 **3303. Functional Connectivity Alterations in Asymptomatic High School Football Players**

Trey Shenk[1], Kausar Abbas[1], Evan Breedlove[2], Victoria N. Poole[3, 4], Katherine Breedlove[5], Larry Leverenz[5], Eric Nauman[2, 4], Thomas Talavage[1, 3], Meghan Robinson, [36]

[1]Electrical Engineering, Purdue University, West Lafayette, IN, United States; [2]Mechanical Engineering, Purdue University, West Lafayette, IN, United States; [3]Weldon School of Biomedical Engineering, Purdue University, West Lafayette, IN, United States; [4]Basic Medical Sciences, Purdue University, West Lafayette, IN, United States; [5]Health and Kinesiology, Purdue University, West Lafayette, IN, United States; [6]Translational Research Center for TBI and Stress Disorders (TRACTS), VA Boston Healthcare System, Boston, MA, United States

Computer 39 **3304. Lateralization of Temporal Lobe Epilepsy Using Resting State Functional Magnetic Resonance Imaging**

Jeiran Choupan[1], Zhengyi Yang[2], Luca Cocchi[3], Julia Hocking[1], David C. Reutens[1]

[1]Centre for Advanced Imaging, Brisbane, QLD, Australia; [2]School of Information Technology and Electrical Engineering, Brisbane, QLD, Australia; [3]Queensland Brain Institute, Brisbane, QLD, Australia

Computer 40 **3305. HIgh-Resolution Functional Connectivity Mapping of Eloquent Cortex Networks in Surgical Epilepsy Patients at 7T**

Steven M. Stufflebeam[1], Naoro Tanaka[1], Boris Keil[1], Linda Douw[1], Lawrence L. Wald[1], Christina Triantafyllou[1]

[1]Radiology, MGH-Martinos Center, Charlestown, MA, United States

Computer 41 **3306. Support Vector Machine Classification of Stroke Using Resting State Functional Connectivity**
Svyatoslav Vergun[1], Veena A. Nair[2], Matthew Jensen[3], Marcus Chacon[3], Justin Sattin[3], Vivek Prabhakaran[2]
[1]Medical Physics, UW-Madison, Madison, WI, United States; [2]Radiology, UW-Madison, Madison, WI, United States; [3]Neurology, UW-Madison, Madison, WI, United States

Computer 42 **3307. ADHD and the Role of the Posterior Cingulate Cortex in Resting State Studies of Infant Volunteers of Latin Origin**
Benito de Celis Alonso[1], Silvia Hidalgo Tobón[2], Pilar Dies Suarez[2], Manuel Obregon Espejel[2], Porfirio Ibañez Fernández[2], Heidi de la Rosa Guzmán[2], Eduardo Castro Sierra[2], Eduardo Barragán Pérez[2]
[1]Faculty of Medicine, BUAP, Puebla, Mexico; [2]Hospital Infantil de México, Mexico City, México FD, Mexico

Computer 43 **3308. Functional Networks and Their Modulation by Cortisol as Investigated by Pseudo Continuous Arterial Spin Labeling (PCASL)**
Ariane Orosz[1], Leila Maria Soravia[1], Andrea Federspiel[1], Roland Wiest[2], Thomas Dierks[1], Kay Jann[1]
[1]Dept. of Psychiatric Neurophysiology, University Hospital of Psychiatry / University of Bern, Bern, Switzerland; [2]Institut of Diagnostic and Interventional Neuroradiology, University of Bern / Inselspital, Bern, Switzerland

Computer 44 **3309. Assessing the Effect of Midazolam on the Brain Functional Connectivity Using Graph Analysis**
Hazim Omar[1], Theodore Kypraios[2], Dorothee P. Auer[1], Naranjargal Dashdorj[1]
[1]Radiological and Imaging Sciences, University of Nottingham, Nottingham, Nottinghamshire, United Kingdom; [2]School of Mathematical Sciences, University of Nottingham, Nottingham, Nottinghamshire, United Kingdom

Computer 45 **3310. Acetazolamide Blocks Increase in fc-fMRI Global Signal in Hypoxia, While Increasing Default Mode Network Correlations**
Kang Wang[1], Zachary M. Smith[1], Chi Wah Wong[1], David J. Dubowitz[1]
[1]University of California San Diego, La Jolla, CA, United States

Computer 46 **3311. Effects of Oxygen-Enhanced fMRI in the Resting-State Networks**
Johnny Ng[1], Ying Wei Wu[2], Xiaofen Tao[2], Edmund Wong[1], David Carpenter[1], Cheuk Tang[1, 3]
[1]Dept. of Radiology, Mount Sinai School of Medicine, New York, NY, United States; [2]Dept. of Radiology, Shanghai East Hospital, Shanghai Tongji University, Shanghai 200120, China; [3]Dept. of Psychiatry, Mount Sinai School of Medicine, New York, NY, United States

Computer 47 **3312. Hypoxia Decreases Resting-State Functional Connectivity in Anesthetized Rats**
Joe S. Cheng[1, 2], Iris Y. Zhou[1, 2], Patrick P. Gao[1, 2], Russell W. Chan[1, 2], Ed X. Wu[1, 2]
[1]Laboratory of Biomedical Imaging and Signal Processing, The University of Hong Kong, Hong Kong, Hong Kong; [2]Department of Electrical and Electronic Engineering, Hong Kong, Hong Kong

Computer 48 **3313. Functional Connectivity of the Mouse Brain Is Influenced by State of Consciousness: A Comparison of Awake and Differentially Anesthetized Mouse rsfMRI Protocols.**
Elisabeth Jonckers[1], Rafael Delgado y Palacios[1], Disha Shah[1], Caroline Guglielmetti[1], Marleen Verhoye[1], Annemie Van der Linden[1]
[1]Biomedical Sciences, Bio-Imaging Lab, University of Antwerp, Wilrijk, Belgium

Electronic Poster
fMRI Acquisition Methods

Exhibition Hall Monday 16:30-17:30

Computer 49 **3314. Simultaneous Multi-Slice Spectral-Spatial Excitation for Reduced Signal Loss Artifact in BOLD FMRI**
ISMRM MERIT AWARD magna cum laude
Robert James Anderson[1], Benedikt A. Poser[1], Victor Andrew Stenger[1]
[1]Dept. of Medicine, University of Hawaii, Honolulu, HI, United States

Computer 50 **3315. Characterization and Mitigation of Signal Leakage in Simultaneous Multi-Slice (SMS) Acquisition**
Kawin Setsompop[1, 2], Stephen F. Cauley[3], Himanshu Bhat[4], Jonathan R. Polimeni[1, 2], Lawrence L. Wald[1, 2]
[1]A.A. Martinos Center for Biomedical Imaging, MGH, Charlestown, MA, United States; [2]Harvard Medical School, Boston, MA, United States; [3]Massachusetts General Hospital, Charlestown, MA, United States; [4]Siemens Medical Solutions, Charlestown, MA, United States

Computer 51 **3316. Zoomed Resolution in Simultaneous Multi-Slice EPI for fMRI**

David Feinberg[1, 2], Liyong Chen, [23], An T. Vu[4]
[1]Advanced MRI Technologies, Sebastopol, CA, United States; [2]Helen Wills Neuroscience Institute, University of California, Berkeley, CA, United States; [3]Advanced MRI Technologies, LLC, Sebastopol, CA, United States; [4]CMRR, University of Minnesota, Minneapolis, MN, United States

Computer 52 **3317. Simultaneous Multislice Spiral Imaging Using Z-Gradient Modulation and Parallel Receive Coils**

Alan Chu[1], Douglas C. Noll[1]
[1]Biomedical Engineering, University of Michigan, Ann Arbor, MI, United States

Computer 53 **3318. Improved Detection of Subcortical Resting State Networks in Functional MRI Using Multi-Echo Simultaneous Multi-Slice Acquisition**

Valur Olafsson[1], Prantik Kundu[2], Chi Wah Wong[1], Jia Guo[3], Peter A. Bandettini[4, 5], Eric Wong[1], Thomas Liu[1]
[1]Center for Functional MRI, UCSD, La Jolla, CA, United States; [2]Section on Functional Imaging Methods, NIMH, Bethesda, MD, United States; [3]Center for Functional MRI, University of California San Diego, La Jolla, CA, United States; [4]Section on Functional Imaging Methods, National Institute of Mental Health, Bethesda, MD, United States; [5]Functional MRI Facility, NIMH, Bethesda, MD, United States

Computer 54 **3319. Stronger Brain Functional Connectivity Revealed by Multi-Band Acquisition of FMRI**

Zhan Xu[1], Guangyu Chen[2], Andrew S. Nencka[1], Shi-Jiang Li[1]
[1]department of biophysics, medical college of wisconsin, milwaukee, wi, United States; [2]department of biophysics, Medical College of Wisconsin, milwaukee, wi, United States

Computer 55 **3320. High-Quality and High-Resolution fMRI Enabled by Multiplexed Parallel Reconstruction of Segmented EPI Data**

Hing-Chiu Chang[1], Pooja Gaur[2], Ying-Hui Chou[3], Nan-Kuei Chen[1]
[1]Brain Imaging and Analysis Center, Duke University, Durham, NC, United States; [2]Department of Biomedical Engineering, Vanderbilt University, Nashville, TN, United States; [3]Brain Imaging and Analysis Center, Duke University Medical Center, Durham, NC, United States

Computer 56 **3321. Highly Accelerated EPI Evaluated for fMRI**

Liyong Chen[1, 2], An T. Vu[1, 2], Junqian Xu[3], Kamil Ugurbil[3], Essa S. Yacoub[3], David Feinberg, [24]
[1]Advanced MRI Technologies, LLC, Sebastopol, CA, United States; [2]Helen Wills Neuroscience Institute, University of California, Berkeley, CA, United States; [3]CMRR, University of Minnesota, Minneapolis, MN, United States; [4]Advanced MRI Technologies, Sebastopol, CA, United States

Computer 57 **3322. Simultaneous fMRI Acquisition of Distributed Brain Regions with High Temporal Resolution**

Jürgen Finsterbusch[1, 2]
[1]Department of Systems Neuroscience, University Medical Center Hamburg-Eppendorf, Hamburg, Germany; [2]Neuroimage Nord, Hamburg-Kiel-Lübeck, Germany

Computer 58 **3323. Comparison of SSFP and Multiband EPI in Functional MRI at 7 Tesla**

Zhongwei Chen[1], Rong Xue[2], Danny J.J. Wang[3]
[1]State Key Laboratory of Brain and Cognitive Science, Institute of Biophysics, Chinese Academy of Sciences , Chaoyang District, Beijing, China; [2]State Key Laboratory of Brain and Cognitive Science, Institute of Biophysics, Chinese Academy of Sciences, Chaoyang District, Beijing, China; [3]Department of Neurology, University of California Los Angeles, Los Angeles, CA, United States

Computer 59 **3324. Analytic Solution of the Optimum Flip Angle for Pass-Band SSFP fMRI Prescribes High Flip Angle Acquisitions**

Steve Patterson[1, 2], Chris Bowen, [12]
[1]Dalhousie University, Halifax, NS, Canada; [2]Institute for Biodiagnostics (Atlantic), NRC, Halifax, NS, Canada

Computer 60 **3325. Robust 7T Spin Echo BOLD fMRI Using Subject-Tailored Multidimensional Excitation and Refocusing Pulses**

Manus J. Donahue[1], William A. Grissom[2]
[1]Radiology and Radiological Sciences, Vanderbilt University, Nashville, TN, United States; [2]Biomedical Engineering, Vanderbilt University, Nashville, TN, United States

Computer 61 **3326. Recovering TSNR and BOLD Sensitivity by Combining Hyperbolic Secant RF Excitation Pulses and Compensatory Gradients**

Stephen James Wastling[1], David J. Lythgoe[1], Gareth John Barker[1]
[1]Department of Neuroimaging, King's College London, London, United Kingdom

Computer 62 **3327. Single Shot BOLD fMRI with Signal-Loss Compensation Using Interleaved Dual-Echo Acquisition (IDEA) EPI**

Benedikt A. Poser[1], Benjamin Zahneisen[1], Robert James Anderson[1], Markus Barth[2, 3], Victor Andrew Stenger[1]
[1]John A Burns School of Medicine, University of Hawaii, Honolulu, HI, United States; [2]Donders Institute for Brain, Cognition and Behaviour, Centre for Cognitive Neuroimaging, Radboud University, Nijmegen, Netherlands; [3]Erwin L Hahn Institute for Magnetic Resonance Imaging, University Essen-Duisburg, Essen, Germany

Computer 63 **3328. RF Pulse Comparison for the Hybrid Gradient and Spin Echo EPI Pulse Sequence for fMRI**

Brice Fernandez[1], Gavin Houston[2], Victor Spoormaker[3], Marion Smits[4], Michael Czisch[3], Patrick Le Roux[5]
[1]EMEA Research and Collaboration, Applied Science Laboratory, GE Healthcare, Munich, Germany; [2]EMEA Research and Collaboration, Applied Science Laboratory, GE Healthcare, Rotterdam, Netherlands; [3]RG Neuroimaging, Max Planck Institute of Psychiatry, Munich, Germany; [4]Departement of Radiology, Erasmus MC - University Medical Centre Rotterdam, Rotterdam, Netherlands; [5]EMEA Research and Collaboration, Applied Science Laboratory, GE Healthcare, Palaiseau, France

Computer 64 **3329. Recovery of Susceptibility Induced Signal Loss in Reduced Field-Of-View EPI-BOLD Using Z-Shim**

W. Scott Hoge[1], Hong Pan[1], Ravi T. Seethamraju[2], Keith A. Heberlein[3], Emily Stern[1]
[1]Radiology, Brigham and Women's Hospital, Boston, MA, United States; [2]Siemens Healthcare, Boston, MA, United States; [3]Siemens Healthcare USA, Boston, MA, United States

Computer 65 **3330. Evaluation of Readout-Segmented EPI for Use in fMRI at 7T**

Ryan K. Robison[1, 2], Allen T. Newton[2, 3]
[1]Philips Healthcare, Nashville, TN, United States; [2]Vanderbilt University Institute of Imaging Science, Vanderbilt University, Nashville, TN, United States; [3]Monroe Carell Jr. Children's Hospital at Vanderbilt, Nashville, TN, United States

Computer 66 **3331. K-Space Density Weighted Functional Magnetic Resonance Imaging**

Mario Zeller[1], Andreas J. Bartsch[2, 3], Alexander Müller[1], Marcel Gutberlet[4], Dietbert Hahn[1], Herbert Köstler[1]
[1]Institute of Radiology, University of Würzburg, Würzburg, Germany; [2]Department of Neuroradiology, University of Heidelberg, Heidelberg, Germany; [3]FMRIB Centre, Oxford University, Oxford, United Kingdom; [4]Institute for Interventional and Diagnostic Radiology, Hannover Medical School, Hannover, Germany

Computer 67 **3332. Analysis of BOLD Sensitivity in Matched Filter FMRI**

Lars Kasper[1], Maximilian Haeberlin[1], Benjamin E. Dietrich[2], Simon Gross[1], Christoph Barmet[2, 3], Christian C. Ruff[4], Klaas E. Stephan[1, 5], Klaas P. Pruessmann[1]
[1]Institute for Biomedical Engineering, University & ETH Zurich, Zurich, Switzerland; [2]Institute for Biomedical Engineering, University and ETH Zurich, Zurich, Switzerland; [3]Skope Magnetic Resonance Technologies, Zurich, Switzerland; [4]Department of Economics, University of Zurich, Zurich, Switzerland; [5]Wellcome Trust Centre for Neuroimaging, University College of London, London, United Kingdom

Computer 68 **3333. Steady-State Functional MRI Using Small-Tip Fast Recovery (STFR) Imaging**

Jon-Fredrik Nielsen[1], Hao Sun[2], Jeffrey A. Fessler[2], Douglas C. Noll[1]
[1]Biomedical Engineering, University of Michigan, Ann Arbor, MI, United States; [2]Electrical Engineering and Computer Science, University of Michigan, Ann Arbor, MI, United States

Computer 69 **3334. Quantitative Susceptibility Mapping (QSM) for High Resolution Quantitative Cerebral Metabolic Rate of Oxygen (CMRO2)**

Jingwei Zhang[1], Mengchao Pei[1], Tian Liu[1, 2], Ajay Gupta[1], Cynthia Wisnieff[1], Pina C. Sanelli, [1], Pascal Spincemaille[1], Yi Wang[1]
[1]Department of Radiology, Weill Medical College of Cornell University, New York, NY, United States; [2]MedImageMetric LLC, New York, NY, United States

Computer 70 **3335. Measuring Changes in Brain Oxygenation Using Dynamic T1 Weighted Imaging**
Bryan Haddock[1], Henrik B.W. Larsson[1], Adam E. Hansen[1], Egill Rostrup[1, 2]
[1]Department of Diagnostics, Glostrup Hospital, Glostrup, Denmark; [2]Faculty of Health Sciences, University of Copenhagen, Copenhagen, Denmark

Computer 71 **3336. Functional Mapping of the Human Visual Cortex with Intravoxel Incoherent Motion (IVIM) MRI**
Christian Federau[1], Kieran O'Brien[2], Adrien Birbaumer[1], Reto Meuli[1], Patric Hagmann[1], Philippe M. Maeder[1]
[1]Radiology, CHUV, Lausanne, VD, Switzerland; [2]CIBM, Université de Genève, Lausanne, VD, Switzerland

Computer 72 **3337. Simultaneous Quantification of Cerebral Arterial Blood Volume and Flow During Visual Stimulation in Humans at 3 T.**
Tae Kim[1], Seong-Gi Kim[1], Kyongtae Ty Bae[1]
[1]University of Pittsburgh, Pittsburgh, PA, United States

Electronic Poster
fMRI: Physiological Noise & Beyond BOLD

Exhibition Hall Monday 17:30-18:30

Computer 49 **3338. Testing Whether the Brain Flow-Metabolism Coupling Ratio Is the Same for Two Different Stimulus Responses Without a Calibration Experiment**
Valerie E M Griffeth[1], Nicholas P. Blockley[2], Aaron Simon[3], Richard B. Buxton[4]
[1]Bioengineering, University of California San Diego, La Jolla, CA, United States; [2]FMRIB, University of Oxford, Oxford, United Kingdom; [3]Bioengineering, University of California, San Diego, La Jolla, CA, United States; [4]Radiology, University of California San Diego, La Jolla, CA, United States

Computer 50 **3339. Measurements of Cerebral Blood Volume and BOLD Signal During Hypercapnia and Functional Stimulation in Humans at 7T: Application to Calibrated BOLD**
Laurentius Huber[1], Dimo Ivanov[2, 3], Steffen N. Krieger[2], Claudine Joëlle Gauthier[2], Elisabeth Roggenhofer[4], Ilona Henseler[4], Robert Turner[2], Harald E. Moeller[1]
[1]NMR-Unit, Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany; [2]Neurophysics, Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany; [3]Cognitive and Clinical Neuroscience, Maastricht University, Maastricht, Netherlands; [4]Neurology, Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany

Computer 51 **3340. Comparison of ASL Measures of Cerebrovascular Reactivity to CO_2 Using Different Respiratory Manipulations**
Felipe B. Tancredi[1, 2], Richard D. Hoge[1, 2]
[1]Institut de génie biomédical, Université de Montréal, Montreal, Quebec, Canada; [2]Unité de neuroimagerie fonctionnelle, CRIUGM, Montreal, Quebec, Canada

Computer 52 **3341. A Quantitative Framework for Interpreting Relationships Between GABA, BOLD FMRI, and Hemodynamic Reactivity in MRI Voxels**
Manus J. Donahue[1], Swati Rane[1]
[1]Radiology and Radiological Sciences, Vanderbilt University, Nashville, TN, United States

Computer 53 **3342. CBF Modulation of Task-Positive and Task-Negative BOLD Responses to a Cognitive Task: Differential Effects in the Default Mode Network**
Ashley D. Harris[1], Kevin Murphy[1], Richard G. Wise[1]
[1]CUBRIC - School of Psychology, Cardiff University, Cardiff, United Kingdom

Computer 54 **3343. Measuring the Influence of Hypercapnia on Absolute $CMRO_2$ in Humans**
Kevin Murphy[1], Ashley D. Harris[1], Richard G. Wise[1]
[1]CUBRIC, School of Psychology, Cardiff University, Cardiff, Wales, United Kingdom

Computer 55 **3344. Efficient Measurement of Resting and Elevated Absolute $CMRO_2$ and Their Within Session Repeatability in the Human Brain Using Calibrated FMRI**
Alan J. Stone[1], Kevin Murphy[2], Ashley D. Harris[2], Richard G. Wise[2]
[1]Cardiff University Brain Research Imaging Centre, School of Psychology, Cardiff University , Cardiff, United Kingdom; [2]Cardiff University Brain Research Imaging Centre, School of Psychology, Cardiff University, Cardiff, United Kingdom

Computer 56 **3345. Mapping BOLD-Coupled CBF Changes with Improved Sensitivity**
Molly G. Bright[1], Kevin Murphy[1]
[1]CUBRIC, School of Psychology, Cardiff University, Cardiff, Wales, United Kingdom

Computer 57 **3346. Spatial Variability in the Contribution of Cerebral Blood Flow Fluctuations to the Resting-State BOLD Signal**
Sungho Tak[1], Danny J.J. Wang[2], Lirong Yan[2], J. Jean Chen
[1]Rotman Research Institute at Baycrest Centre, University of Toronto, Toronto, ON, Canada; [2]Neurology, University of California, Los Angeles (UCLA), Los Angeles, CA, United States

Computer 58 **3347. Subject-Specific BOLD fMRI Respiratory and Cardiac Response Functions Obtained from Global Signal**
ISMRM MERIT AWARD magna cum laude
Maryam Falahpour[1, 2], Hazem Refai[2], Jerzy Bodurka[1, 3]
[1]Laureate Institute for Brain Research, Tulsa, OK, United States; [2]Electrical and Computer Engineering, University of Oklahoma, Tulsa, OK, United States; [3]College of Engineering, University of Oklahoma, Tulsa, OK, United States

Computer 59 **3348. Effects of Chest Motion and Respiratory Pressure Wave in the Brain Investigated Using High Spatial Resolution fMRI at 7 Tesla**
Marta Bianciardi[1], Karleyton C. Evans[2], Jonathan R. Polimeni[3], Tian Y. Song[2], Boris Keil[3], Christina Triantafyllou[3], Bruce R. Rosen[3], David A. Boas[3], Lawrence L. Wald[3]
[1]Department of Radiology, A.A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Harvard Medical School, Charlestown, MA, United States; [2]Department of Psychiatry, Massachusetts General Hospital, Harvard Medical School, Charlestown, MA, United States; [3]Department of Radiology, A.A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Harvard Medical School, Charlestown, MA, United States

Computer 60 **3349. Automatic Selection of Artifact Components Via Residual K0 Phase**
Andrew T. Curtis[1], Ravi S. Menon[1]
[1]Medical Biophysics, University of Western Ontario, London, Ontario, Canada

Computer 61 **3350. Effects of Rapid Head Motions on Group fMRI Functional Connectivity Evaluated with E-REMCOR**
Vadim Zotev[1], Han Yuan[1], Masaya Misaki[1], Raquel Phillips[1], Kymberly D. Young[1], Jerzy Bodurka[1, 2]
[1]Laureate Institute for Brain Research, Tulsa, OK, United States; [2]College of Engineering, University of Oklahoma, Tulsa, OK, United States

Computer 62 **3351. Combining R2* Mapping and Slice Registration for fMRI Analysis of Moving Subjects**
Sharmishtaa Seshamani[1], Chris Gatenby, Mads Fogtmann[1], Xi Cheng[1], Manjiri Dighe, Colin Studholme[1]
[1]Pediatrics, Bioengineering, Radiology, University of Washington, Seattle, WA, United States

Computer 63 **3352. The Effects of Receive Field Contrast on Motion-Corrected EPI Time Series: A Simulation of a 32 Channel Receive Array**
Daniel J. Sheltraw[1], Ben Inglis[1]
[1]Henry H. Wheeler Jr. Brain Imaging Center, University of California Berkeley, Berkeley, CA, United States

Computer 64 **3353. Volumetric Space–Time Structure of Physiological Noise in BOLD FMRI**
Arno Solin[1], Simo Särkkä[1], Aapo Nummenmaa[2], Aki Vehtari[1], Toni Auranen[3], Simo Vanni[3, 4], Fa-Hsuan Lin[1, 5]
[1]Department of Biomedical Engineering and Computational Science, Aalto University, Espoo, Finland; [2]Athinoula A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Boston, MA, United States; [3]Advanced Magnetic Imaging Centre, Aalto University, Espoo, Finland; [4]Brain Research Unit, O.V. Lounasmaa Laboratory, Aalto University, Espoo, Finland; [5]Institute of Biomedical Engineering, National Taiwan University, Taipei, Taiwan

Computer 65 **3354. Modeling Physiological Fluctuations in Multi-Channel Coil fMRI Time-Series at 7T and 3T**
Christina Triantafyllou[1], Jonathan R. Polimeni[1], Boris Keil[1], Lawrence L. Wald[1, 2]
[1]A.A. Martinos Center for Biomedical Imaging, Department of Radiology, Massachusetts General Hospital, Charlestown, MA, United States; [2]Health Science and Technology, MIT, Cambridge, MA, United States

Computer 66 **3355.** **Optimal SNR Combinations of Multi-Channel Coil Data for GRAPPA-Reconstructed and Time-Series EPI Data**
Jonathan R. Polimeni[1], Kawin Setsompop[1], Christina Triantafyllou[1], Lawrence L. Wald[1, 2]
[1]Athinoula A. Martinos Center for Biomedical Imaging, Department of Radiology, Harvard Medical School, Massachusetts General Hospital, Charlestown, MA, United States; [2]Harvard-MIT Division of Health Sciences and Technology , Massachusetts Institute of Technology, Cambridge, MA, United States

Computer 67 **3356.** **cardioX: Short-Time Localized Sliding Estimate of Cardiac Component for Physiological Noise Removal in fMRI**
ISMRM MERIT AWARD magna cum laude
Christine Law[1]
[1]University of Oxford, Oxford, Oxfordshire, United Kingdom

Computer 68 **3357.** **Echo Time Dependence of Resting Signal Fluctuations in USPIO Based Cerebral Blood Volume Imaging: Implications for Task-Based and Resting State fMRI**
Deqiang Qiu[1], Greg Zaharchuk[1], Thomas Christen[1], Wendy W. Ni[1], Michael E. Moseley[1]
[1]Radiology, Stanford University, Stanford, CA, United States

Computer 69 **3358.** **Ferumoxytol Enhanced Resting State fMRI and Relative Cerebral Blood Volume, RCBV, Mapping in Normal Human Brain**
Helen Erica D'Arceuil[1], Alexandre Coimbra[2], Pamela Triano[3], Margaret Dougherty[3], Julie Mello[3], Michael E. Moseley[4], Gary H. Glover, Maarten Lansberg[5], Francis Blankenberg[6]
[1]Diagnostic Radiology, Stanford, Stanford, CA, United States; [2]Genentech Inc, South San Francisco, CA, United States; [3]Department of Rehabilitation Services, Stanford Hospital and Clinics, Stanford, CA, United States; [4]Diagnostic Radiology, Stanford University, Stanford, CA, United States; [5]Neurology and Neurological Sciences, Stanford Stroke Center, Stanford Hospital and Clinics, Stanford, CA, United States; [6]Pediatric Radiology, Stanford Hospital and Clinics, Palo Alto, CA, United States

Computer 70 **3359.** **Detecting Neuronal Currents with MRI: A Human Study**
Jie Huang[1]
[1]Department of Radiology, Michigan State University, East Lansing, MI, United States

Computer 71 **3360.** **Very Low Current Detection in MRI: Some Limitations**
Carlos Ernesto Garrido Salmon[1], Danilo Maziero[1]
[1]Department of Physics, University of Sao Paulo, FFCLRP, Ribeirao Preto, Brazil

Computer 72 **3361.** **Gradient-Echo Imaging of Ionic Currents in Solution**
Mukund Balasubramanian[1], Padma Sundaram[1], William M. Wells, III[2], Robert V. Mulkern[1], Darren B. Orbach[1]
[1]Radiology, Boston Children's Hospital, Boston, MA, United States; [2]Radiology, Brigham and Women's Hospital, Boston, MA, United States

Electronic Poster
Breast: Clinical, Technical & Treatment Response

Exhibition Hall Tuesday 10:00-11:00

Computer 1 **3362.** **An Automatic Template-Based Breast Segmentation Method for Fat-Suppressed MRI**
Xiaoyong Wang[1], Muqing Lin[1], Peter T. Fwu[1], Ling-Chuan Chang[2], Yi-Ting Wu[2], Chin-Yu Chang[2], Jeon-Hor Chen[3], Min-Ying Su[1]
[1]Center for Functional Onco-Imaging, University of California, Irvine, CA, United States; [2]Department of Radiology, China Medical University Hospital, Taichung, Taiwan; [3]Center for Functional Onco-Imaging, University of California Irvine, Irvine, CA, United States

Computer 2 **3363.** **A 3D Shape and Textural Classification Tool for Identifying Malignant Breast Cancer**
Rebecca E. Thornhill[1], Greg O. Cron[2], Kevin Ibach[1], Shilpa Lad[1], Mark E. Schweitzer[1], Jean Seely[1]
[1]Medical Imaging, The Ottawa Hospital, Ottawa, Ontario, Canada; [2]Medical Imaging, Ottawa Hospital Research Institute, Ottawa, Ontario, Canada

Computer 3 **3364. Association of Lesion and Background Parenchyma in Diagnostically Challenging Breast Lesions**

Ana Paula Klautau Leite[1, 2], Melanie Freed[1], Melanie Moccaldi[3], Kai Tobias Block[4], Amy Melsaether[3], Alana Amarosa[3], Sungheon Kim[1], Linda Moy[3]

[1]Radiology, Center for Biomedical Imaging, New York Universiy School of Medicine, New York, United States; [2]Radiology, Hospital das Clinicas- FMUSP, School of Medicine - University of Sao Paulo, Sao Paulo, SP, Brazil; [3]Radiology, Cancer Institute, New York University School of Medicine, New York, United States; [4]Radiology, NYU Langone Medical Center, New York, United States

Computer 4 **3365. Age Correlation of Background Breast Tissue Enhancement Measured from the Entire Segmented Fibroglandular Tissue and the Hot-Spot in DCE-MRI**

Xiaoyong Wang[1], Jeon-Hor Chen[2], Christine Hsu[2], Shadfar Bahri[1], Hon J. Yu[1], Peter T. Fwu[1], Muqing Lin[1], Min-Ying Su[1]

[1]Center for Functional Onco-Imaging, University of California, Irvine, CA, United States; [2]Center for Functional Onco-Imaging, University of California Irvine, Irvine, CA, United States

Computer 5 **3366. Comparative Measurement of Breast Volume and Dense Tissue Volume Based on Breast MRI and Low Dose Chest CT**

Xiaoyong Wang[1], Jeon-Hor Chen[2], Yen-Hsiu Liao[3], Peter T. Fwu[1], Muqing Lin[1], Min-Ying Su[1]

[1]Center for Functional Onco-Imaging, Department of Radiological Sciences, University of California, Irvine, CA, United States; [2]Center for Functional Onco-Imaging, Department of Radiological Sciences, University of California Irvine, Irvine, CA, United States; [3]Department of Radiology, China Medical University Hospital, Taichung, Taiwan

Computer 6 **3367. Agreement Between Quantitative and Radiologist-Assessed Qualitative Background Parenchymal Breast Enhancement at MRI**

Ania Azziz[1], Ella Jones[2], Catherine Klifa[2], David C. Newitt[2], Elissa Price[2], Nola M. Hylton[3], Bonnie N. Joe[2]

[1]Radiology , UCSF, San Francisco, CA, United States; [2]Radiology, UCSF, San Francisco, CA, United States; [3]Radiology, University of California San Francisco, San Francisco, CA, United States

Computer 7 **3368. Clinical 7 Tesla Contrast-Enhanced Breast MRI**

Bertine L. Stehouwer[1], Wouter B. Veldhuis[1], Michel Italiaander[1], Vincent Oltman Boer[1], Peter R. Luijten[1], Maurice A.A.J. van den Bosch[1], Dennis W.J. Klomp[1]

[1]Radiology, University Medical Center Utrecht, Utrecht, Netherlands

Computer 8 **3369. SWIFT Dual Breast Imaging Sequence and Coil with Interleaved Adiabatic Fat Suppression**

Curtis Andrew Corum[1], Djaudat Idiyatullin[1], Angela Snyder[1], Carl Snyder[1], Diane Hutter[1], Lenore Everson[1], Lynn E. Eberly[2], Michael Nelson[3], Michael Garwood[1]

[1]CMRR, Radiology, University of Minnesota, Minneapolis, MN, United States; [2]Biostatistics, University of Minnesota, Minneapolis, MN, United States; [3]Breast Center, Radiology, University of Minnesota, Minneapolis, MN, United States

Computer 9 **3370. BreastVIEW: Isotropic 3D High Resolution T2-Weighted Breast Imaging at 7T**

Ivan E. Dimitrov[1, 2], Ananth J. Madhuranthakam[3], Sergey Cheshkov[2], Stephen Seiler[3], Sally Goudreau[3], Joseph Rispoli[4], Mary P. McDougall[4], Steven M. Wright[4], Craig R. Malloy[2, 3]

[1]Philips Medical Systems, Highland Heights, OH, United States; [2]Advanced Imaging Research Center, University of Texas Southwestern Medical Center, Dallas, TX, United States; [3]Radiology, University of Texas Southwestern Medical Center, Dallas, TX, United States; [4]Biomedical Engineering, Texas A&M University, College Station, TX, United States

Computer 10 **3371. Fast Bilateral Breast Coverage with SENSE-Accelerated High Spectral and Spatial Resolution (HiSS) MRI**

Milica Medved[1], Hiroyuki Abe[1], Gillian M. Newstead[1], Marko K. Ivancevic[2], Olufunmilayo I. Olopade[3], Gregory S. Karczmar[1]

[1]Radiology, University of Chicago, Chicago, IL, United States; [2]Philips Healthcare, Cleveland, OH, United States; [3]Medicine, University of Chicago, Chicago, IL, United States

Computer 11 **3372. Towards the Investigation of Breast Tumor Malignancy Via Electric Conductivity Measurement**

Ulrich Katscher[1], Hiroyuki Abe[2], Marko K. Ivancevic[3], Karim Djamshidi[1], Philipp Karkowski[1], Gillian M. Newstead[2]

[1]Philips Research Europe, Hamburg, Germany; [2]Medical Center, University of Chicago, Chicago, IL, United States; [3]MR Clinical Science, Philips Healthcare, Cleveland, OH, United States

Computer 12 **3373. Diffusion Tensor Imaging (DTI) at Multiple Diffusion Times in Mammary Fibroglandular Tissue and Cancerous Lesions**

Gene Young Cho[1, 2], Ana Paula Klautau Leite[3], Steven Baete[3], Daniel K. Sodickson[3], Sungheon Kim[3], Linda Moy[4], Eric E. Sigmund[3]

[1]Radiology - Center for Biomedical Imaging, New York University, New York, NY, United States; [2]Sackler Institute of Graduate Biomedical Sciences, New York University School of Medicine, New York, NY, United States; [3]Radiology - Center for Biomedical Imaging, New York University School of Medicine, New York, NY, United States; [4]Radiology - Cancer Institute, New York University School of Medicine, New York, NY, United States

Computer 13 **3374. Contrast-Enhanced MRI of the Breast at 7 and 3 T in the Same Patients: Inital Experience**

Katja Pinker-Domenig[1], Pascal Baltzer[1], Wolfgang Bogner[2], Stephan Gruber[2], Lenka Minarikova[2], Olgica Zaric[2], Doris Leithner[1], Siegfried Trattnig[2], Thomas Helbich[3]

[1]Dept. of Radiology, Division of Molecular and Gender Imaging, Medical University Vienna, Vienna, Austria; [2]Dept. of Radiology, MR Centre of Excellence, Medical University Vienna, Vienna, Austria; [3]Dept. of Radiology, Division of Molecular and Gender Imaging, Medical University of Vienna, Vienna, Austria

Computer 14 **3375. Impact of TWIST View Sharing on Lesion Enhancement Profile in Dynamic Breast MRI**

Yuan Le[1], Randall Kroeker[2], Christian Geppert[3], Brian M. Dale[4], Hal D. Kipfer[1], Chen Lin[1]

[1]Radiology and Imaging Science, Indiana University School of Medicine, Indianapolis, IN, United States; [2]Siemens Medical Solutions, Winnipeg, Manitoba, Canada; [3]Siemens Medical Systems, New York, NY, United States; [4]MR R&D, Siemens Medical Solutions, Morrisville, NC, United States

Computer 15 **3376. Spectrally Selective Excitation for Improved DWI, APT and MRS of the Breast**

He Zhu[1], Lori R. Arlinghaus[1], John C. Gore[1], Thomas E. Yankeelov[1]

[1]Radiology, Vanderbilt University, Nashville, TN, United States

Computer 16 **3377. Comparison of Morphological and Functional Imaging in Tumour Response Evaluation in Patients with Locally Advanced Breast Cancer Receiving Neoadjuvant Chemotherapy**

Karthik Panchanatheeswaran[1], Rajinder Parshad[1], Rani G. Sah[2], Uma Sharma[2], Naranamangalam R. Jagannathan[2], Vurthaluru Seenu[1], Raju Sharma[3], Sanjay Thulkar[3]

[1]Department of Surgical Disciplines, All India Institute of Medical Sciences, New Delhi, Delhi, India; [2]Department of NMR & MRI Facility, All India Institute of Medical Sciences, New Delhi, Delhi, India; [3]Department of Radiodiagnosis, All India Institute of Medical Sciences, New Delhi, Delhi, India

Computer 17 **3378. Treatment Response Monitoring in Breast Cancer Patients Undergoing Neoadjuvant Chemotherapy and Association of Total Choline with Receptor Status: A Feasibility Study Using Serial 3D High-Speed MR Spectroscopic Imaging and Dynamic Contrast Enhanced MR Ima**

Stefan Posse[1, 2], Tongsheng Zhang[1], Melanie E. Royce, [23], Zoneddy Ruiz Dayao, [23], Susan Lopez[2], Laurel Sillerud[4], Claudia Wuillma Narvaez Villarrubia[5], Steven Eberhardt, [26], Lesley Carol Lomo, [27], Ashwani Rajput, [28], John Russell, [28], Linda Casey[9], Patrick J. Bolan[10, 11]

[1]Neurology, University of New Mexico, Albuquerque, NM, United States; [2]UNM Cancer Center, University of New Mexico, Albuquerque, NM, United States; [3]Medical Oncology, University of New Mexico, Albuquerque, NM, United States; [4]Biochemistry, University of New Mexico, Albuquerque, NM, United States; [5]Center for Emerging Energy Technology, University of New Mexico, Albuquerque, NM, United States; [6]Radiology, University of New Mexico, Albuquerque, NM, United States; [7]Pathology, University of New Mexico, Albuquerque, NM, United States; [8]Surgery, University of New Mexico, Albuquerque, NM, United States; [9]Radiology, Nex Mexico Cancer Center, Albuquerque, NM, United States; [10]Center for Magnetic Resonance Research, University of Minnesota, Minnesota, MN, United States; [11]Radiology, University of Minnesota, Minnesota, MN, United States

Computer 18 **3379. Predicting Malignancy in High-Risk Breast Cancer Patients: Evaluating Diagnostic Accuracy of Pre-Treatment Contrast-Enhanced MRI**

Yousef Mazaheri[1], Charles W. Fry[2], Sandra B. Brennan[2], Elizabeth A. Morris[2]

[1]Medical Physics, Memorial Sloan-Kettering Cancer Center, New York, NY, United States; [2]Radiology, Memorial Sloan-Kettering Cancer Center, New York, NY, United States

Computer 19 **3380. Quantitative DCE-MRI Assessment of Breast Cancer Therapeutic Response: How Long Is the Acquisition Time Necessary?**

Mohan L. Jayatilake[1], Xin Li[1], Alina Tudorica[1], Karen Oh[1], Nicole Roy[1], Stephen Chui[1], Wei Huang[1]

[1]Oregon Health & Science University, Portland, OR, United States

Computer 20 **3381.** **Is Assessment of Breast Tumors with the Sole Use of DWI Sufficient for Breast Cancer Diagnosis?**
Pascal Baltzer[1], Wolfgang Bogner[2], Hubert Bickel[1], Olgica Zaric[2], Thomas Helbich[3], Georg Wengert[1], Katja Pinker-Domenig[1]
[1]Dept. of Radiology, Divison of Molecular and Gender Imaging, Medical University Vienna, Vienna, Austria; [2]MR Centre of Excellence, Medical University Vienna, Vienna, Austria; [3]Dept. of Radiology, Divison of Molecular and Gender Imaging, Medical University of Vienna, Vienna, Austria

Computer 21 **3382.** **Association of Apparent Diffusion Coefficient with Molecular Biomarkers (ER, PR, HER2 Status) in Invasive Breast Cancer Patients Using Diffusion Weighted MR Imaging**
Naranamangalam R. Jagannathan[1], Rani G. Sah[1], Uma Sharma[1], Rajinder Parshad[2], Vurthaluru Seenu[2], Sandeep Mathur[3]
[1]Department of NMR & MRI Facility, All India Institute of Medical Sciences, New Delhi, Delhi, India; [2]Department of Surgical Disciplines, All India Institute of Medical Sciences, New Delhi, Delhi, India; [3]Department of Pathology, All India Institute of Medical Sciences, New Delhi, Delhi, India

Computer 22 **3383.** **Potential of Perfusion Imaging with IVIM MRI in Breast Cancer**
Mami Iima[1], Masako Kataoka[1], Denis Le Bihan[2], Masaki Umehana[3], Takuma Imakita[3], Masayuki Nakagawa[1], Shotaro Kanao[1], Kojiro Yano[1, 4], Thorsten Feiweier[5], Kaori Togashi[1]
[1]Diagnostic Imaging and Nuclear Medicine, Kyoto University Graduate School of Medicine, Kyoto, Japan; [2]Neurospin, CEA Saclay, Gif-sur-Yvette, Ile-de-France, France; [3]Kyoto University Faculty of Medicine, Kyoto, Japan; [4]Information Science and Technology, Osaka Institute of Technology, Hirakata, Osaka, Japan; [5]Siemens AG, Erlangen, Germany

Computer 23 **3384.** **Quantitative DCE- And DW-MRI to Predict the Response of Primary Breast Cancer to Neoadjuvant Therapy**
Xia Li[1], Lori R. Arlinghaus[1], A. Bapsi Chakravarthy[1], Richard G. Abramson[1], Vandana G. Abramson[1], Jaime Farley[1], Gregory D. Ayers[1], Ingrid A. Mayer[1], Mark C. Kelley[1], Ingrid M. Meszoely[1], Julie Means-Powell[1], Ana M. Grau[1], Melinda Sanders[1], Sandeep R. Bhave[2], Thomas E. Yankeelov[1]
[1]Vanderbilt University, Nashville, TN, United States; [2]Washington University in St. Louis, St. Louis, MO, United States

Computer 24 **3385.** **Semi-Automated Method for Improved Reproducibility of Apparent Diffusion Coefficient Measurements in Breast Lesions**
Matthew L. Olson[1], Habib Rahbar[1], Brenda F. Kurland[2], Xiaoyu Chai[2], Joshua Usoro[1], Constance D. Lehman[1], Savannah C. Partridge[1]
[1]University of Washington, Seattle, WA, United States; [2]Fred Hutchinson Cancer Research Center, Seattle, WA, United States

Electronic Poster
Prostate

Exhibition Hall Tuesday 11:00-12:00

Computer 1 **3386.** **Computed High B-Value DWI for Detection of Prostatic Cancer at 3-Tesla MRI**
Yoshiko Ueno[1], Satoru Takahashi[1], Kazuhiro Kitajima[1], Tokunori Kimura[2], Ikuo Aoki[2], Fumi Kawakami[3], Hideaki Miyake[4], Yoshiharu Ohno[1, 5], Kazuro Sugimura[1]
[1]Department of Radiology, Kobe University Graduate School of Medicine, Kobe, Hyogo, Japan; [2]Toshiba Medical Systems, Ohtawara, Tochigi, Japan; [3]Department of Pathology, Kobe University Graduate School of Medicine, Kobe, Hyogo, Japan; [4]Department of Urology, Kobe University Graduate School of Medicine, Kobe, Hyogo, Japan; [5]Advanced Biomedical Imaging Research Center, Kobe University Graduate School of Medicine, Kobe, Hyogo, Japan

Computer 2 **3387.** **Diffusional Kurtosis Imaging of Prostate Cancer: Effect of B-Values and Noise Compensation on Quantitative Parameters, Relative Contrast, and Short-Term Repeatability**
Edward M. Lawrence[1], Andrew N. Priest[1], Tristan Barrett[1], Anne Warren[2], Ferdia A. Gallagher[1], Vincent J. Gnanapragasam[3], Evis Sala[1]
[1]Radiology, Addenbrooke's Hospital, Cambridge, Cambridgeshire, United Kingdom; [2]Histopathology, Addenbrooke's Hospital, Cambridge, Cambridgeshire, United Kingdom; [3]Urology, Addenbrooke's Hospital, Cambridge, Cambridgeshire, United Kingdom

Computer 3 **3388.** **Addition of MR Prostate Volume and Apparent Diffusion Coefficient to D'Amico Classification Improves Prediction of Post-Operative Pathologic Outcomes**
Nelly Tan[1], Daniel J.A. Margolis[1], David Y. Lu[2], Htwe K. Khin[1], Koroush Beroukhim[1], Robert E. Reiter[3], Steven S. Raman[1]
[1]Radiology, UCLA, Los Angeles, CA, United States; [2]Patholgoy, UCLA, Los Angeles, CA, United States; [3]Urology, UCLA, Los Angeles, CA, United States

Computer 4 **3389. Combination of MR Spectroscopic and Diffusion Weighted Imaging of the Prostate for the Prediction of Tumor Aggressiveness**

Josephin Otto[1], Gregor Thörmer[1], Christian Schröder[1], Nikita Garnov[1], Lars-Christian Horn[2], Minh Hoang Do[3], Jens-Uwe Stolzenburg[3], Michael Moche[1], Thomas Kahn[1], Harald Busse[1]

[1]Diagnostic and Interventional Radiology Department, Leipzig University Hospital, Leipzig, Saxony, Germany; [2]Institute of Pathology, University of Leipzig, Leipzig, Saxony, Germany; [3]Department of Urology, Leipzig University Hospital, Leipzig, Saxony, Germany

Computer 5 **3390. Zoomed EPI Using Parallel Transmission: Impact on Image Quality of Diffusion-Weighted Imaging of the Prostate at 3T**

Andrew B. Rosenkrantz[1], Christian Geppert[2], Josef Pfeuffer[3], David J. Mossa[1], Hersh Chandarana[1]

[1]Radiology, NYU Langone Medical Center, New York, United States; [2]Siemens Medical Systems, New York, United States; [3]Siemens Healthcare, Erlangen, Bavaria, Germany

Computer 6 **3391. Improved Conspicuity and Delineation of High-Grade Prostate Tumors Using "Restriction Spectrum Imaging": Quantitative Comparison with High B-Value ADC**

David Karow[1], Nate White[1], Jiaoti Huang[2], Robert Reiter[3], Robert F. Mattrey[4], Daniel J.A. Margolis[5], Steve Raman[5], Anders M. Dale[6]

[1]Radiology, UCSD, La Jolla, CA, United States; [2]Pathology, UCLA, Los Angeles, CA, United States; [3]Urology, UCLA, Los Angeles, CA, United States; [4]Radiology, UCSD, San Diego, CA, United States; [5]Radiology, UCLA, Los Angeles, CA, United States; [6]Radiology, University of California, San Diego, La Jolla, CA, United States

Computer 7 **3392. Usefulness of Parameters Derived from Intravoxel Incoherent Motion (IVIM) Data – Comparison of Two Methods in Patients with Proven Prostate Carcinoma**

Timur H. Kuru[1, 2], Matthias Roethke[1], Heinz-Peter Schlemmer[1], Bram Stieltjes[1], Michael Fenchel[1]

[1]Department of Radiology, German Cancer Research Center (DKFZ), Heidelberg, BW, Germany; [2]Department of Urology, UniversityHospital Heidelberg, Heidelberg, BW, Germany

Computer 8 **3393. Diffusion Imaging for Prostate Cancer: A Quantitative Comparison of Echo Planar Imaging and Half Fourier Single Shot Turbo Spin Echo Sequences**

Ben Babourina-Brooks[1, 2], Ian Brereton[2], Gary Cowin[2]

[1]School of Cancer Sciences, University of Birmingham, Birmingham, West Midlands, United Kingdom; [2]Centre for Advanced Imaging, University of Queensland, Brisbane, Queensland, Australia

Computer 9 **3394. Metabolic Signature of Prostate Cancer as Detected with Proton Magnetic Resonance Spectroscopic Imaging and 18F- Fluorodeoxyglucose-Positron Emission Tomography**

Amita Shukla-Dave[1], Cecilia Wassberg[2], Darko Pucar[3], Heiko Schoder[1], Debra Goldman[1], Victor E. Reuter[1], James Eastham[1], Peter T. Scardino[1], Steve M. Larson[1], Hedvig Hricak[1]

[1]Memorial Sloan-Kettering Cancer Center, New York, United States; [2]Uppsala University Hospital, Uppsala, Sweden; [3]Georgia Health Sciences University, Augusta, GA, United States

Computer 10 **3395. Diffusion-Weighted MRI of the Prostate in Patients with a Significant Family History of Prostate Cancer: Do Histogram Metrics Correlate with Risk?**

Maysam Jafar[1], Rosalind Eeles[2], Sharon L. Giles[3], Elizabeth Bancroft[2], Elena Castro[2], Veronica A. Morgan[3], Catherine J. Simpkin[3], Nandita M. deSouza[4]

[1]Cancer Research UK and EPSRC Cancer Imaging Centre, Institute of Cancer Research, Sutton, Surrey, United Kingdom; [2]Genetics & Epidemiology, Institute of Cancer Research, Sutton, Surrey, United Kingdom; [3]Cancer Research UK and EPSRC Cancer Imaging Centre, Royal Marsden NHS Foundation Trust, Sutton, Surrey, United Kingdom; [4]Cancer Research UK and EPSRC Cancer Imaging Centre, Institute of Cancer Research & Royal Marsden NHS Foundation Trust, Sutton, Surrey, United Kingdom

Computer 11 **3396. Diffusion-Weighted MRI of the Prostate at 3-T: Comparison of Endorectal Coil (ERC) MRI and Phased-Array Coil (PAC) MRI – the Impact of SNR on ADC Measurement**

Yousef Mazaheri[1], Alberto Vargas[2], Gregory Nyman[2], Amita Shukla-Dave[1], Oguz Akin[2], Hedvig Hricak[2]

[1]Medical Physics, Memorial Sloan-Kettering Cancer Center, New York, NY, United States; [2]Radiology, Memorial Sloan-Kettering Cancer Center, New York, NY, United States

Computer 12 **3397. Diffusion-Weighted MRI of the Prostate for Tumor Detection in Patients with a Significant Family History of Prostate Cancer: Comparison of Qualitative Vs. Quantitative Analyses**

Maysam Jafar[1], Veronica A. Morgan[2], Sharon L. Giles[2], Catherine J. Simpkin[2], Rosalind Eeles[3], Elizabeth Bancroft[3], Elena Castro[3], Nandita M. deSouza[4]

[1]Cancer Research UK and EPSRC Cancer Imaging Centre, Institute of Cancer Research, Sutton, Surrey, United Kingdom; [2]Cancer Research UK and EPSRC Cancer Imaging Centre, Royal Marsden NHS Foundation Trust, Sutton, Surrey, United Kingdom; [3]Genetics & Epidemiology, Institute of Cancer Research, Sutton, Surrey, United Kingdom; [4]Cancer Research UK and EPSRC Cancer Imaging Centre, Institute of Cancer Research & Royal Marsden NHS Foundation Trust, Sutton, Surrey, United Kingdom

Computer 13 **3398. Optimization of B-Value Distribution for Biexponential DWI of Normal Prostate**

Ivan Jambor[1, 2], Jukka Järvinen[1, 3], Hannu J. Aronen[1, 3], Jani Saunavaara[3], Harri Merisaari[4], Tommi Kauko[5], Ronald Borra[1, 3], Marko Pesola, [13]

[1]Department of Diagnostic Radiology, University of Turku, Turku, Finland; [2]2nd Department of Radiology, Comenius University and St. Elisabeth Oncology Institute, Bratislava, Slovakia; [3]Medical Imaging Centre of Southwest Finland, Turku University Hospital, Turku, Finland; [4]Turku PET centre, University of Turku, Turku, Finland; [5]Department of Biostatistics, University of Turku, Turku, Finland

Computer 14 **3399. Robustness of Normalized ADC Values of Prostate Cancer Against Different Imaging Conditions and Calculation Methods**

Harald Busse[1], Josephin Otto[1], Gregor Thörmer[1], Nikita Garnov[1], Lars-Christian Horn[2], Martin Reiss-Zimmermann[1], Thomas Kahn[1], Michael Moche[1]

[1]Diagnostic and Interventional Radiology Department, Leipzig University Hospital, Leipzig, Saxony, Germany; [2]Institute of Pathology, University of Leipzig, Leipzig, Saxony, Germany

Computer 15 **3400. Discrimination of Prostate Cancer from Chronic Prostatitis: Comparison Between Biexponential and Monoexponential Models**

Wenchao Cai[1], Feiyu Li[1], Jintang Ye[1], Queenie Chan[2], Xiaoying Wang[1], Xuexiang Jiang[1]

[1]Department of Radiology, Peking University First Hospital, Beijing, China; [2]Philips Healthcare, Hong Kong, China

Computer 16 **3401. Prostate Imaging at 7 Tesla with Fractionated Dipole Antennas: A New Type of Radiative Coil Array Element with Lower SAR Levels.**

Alexander Raaijmakers[1], Ingmar Voogt[1], Dennis W. J. Klomp[1], Peter R. Luijten[1], Nico van den Berg[1]

[1]Imaging Division, UMC Utrecht, Utrecht, Netherlands

Computer 17 **3402. Prostate Perfusion Imaging Using Velocity-Selective ASL**

Xiufeng Li[1], Gregory J. Metzger[1]

[1]Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, MN, United States

Computer 18 **3403. ^{31}P MR Spectroscopic Imaging of Patients with Prostate Cancer at 7T**

Miriam W. Lagemaat[1], Eline K. Vos[1], Marnix C. Maas[1], Thiele Kobus[1], Andreas K. Bitz[2, 3], Mark J. van Uden[1], Stephan Orzada[2, 3], Arend Heerschap[1], Tom W.J. Scheenen[1, 2]

[1]Radiology, Radboud University Nijmegen Medical Centre, Nijmegen, Netherlands; [2]Erwin L. Hahn Institute for Magnetic Resonance Imaging, Essen, Germany; [3]Diagnostic and Interventional Radiology, University Hospital Essen, Essen, Germany

Computer 19 **3404. Tumor Angiogenesis Correlates with Metastasis in Human Prostate Cancer: An Arterial Spin-Labeling MRI Study**

Feiyu Li[1], Wenchao Cai[1], Jing Wang[2], Jue Zhang[2, 3], Xiaoying Wang[1, 2], Xuexiang Jiang[1]

[1]Department of Radiology, Peking University First Hospital, Beijing, China; [2]Academy for Advanced Interdisciplinary Studies, Peking University, Beijing, China; [3]College of Engineering, Peking University, Beijing, China

Computer 20 **3405. Prostate Cancer Localization Using Multi-Parametric MRI and a Maximum Likelihood Classification Algorithm**

Sharon Clarke[1], Bruce Daniel[2], Jesse McKenney[3], Manojkumar Saranathan[2], Brian Andrew Hargreaves[2], James Brooks[4], Harachan Gill[4], Mark Gonzalgo[4], Benjamin Chung[4], Emine U. Saritas[5], Ajit Shankaranarayanan[6], Graham Sommer[2]

[1]Diagnostic Radiology, Dalhousie University, Halifax, Nova Scotia, Canada; [2]Diagnostic Radiology, Stanford University, Stanford, CA, United States; [3]Anatomic Pathology, Cleveland Clinic, Cleveland, OH, United States; [4]Urology, Stanford University, Stanford, CA, United States; [5]Bioengineering, University of California Berkeley, Berkeley, CA, United States; [6]GE Healthcare, Menlo Park, CA, United States

Computer 21 **3406. Multiparametric MRI Discriminates Between Benignity and Insignificant and Significant Cancers in MRI-Ultrasound Fusion Targeted Biopsy**

Daniel J.A. Margolis[1], Edward Chang[2], Frederick Dorey[3], Jiaoti Huang[4], Maria Luz Macairan[2], Shyam Natarajan[5], Steven Raman[1], Geoff Sonn[2], Leonard Marks[2]

[1]Radiological Sciences, UCLA David Geffen School of Medicine, Los Angeles, CA, United States; [2]Urology, UCLA David Geffen School of Medicine, Los Angeles, CA, United States; [3]Department of Pediatrics, USC Keck School of Medicine, Los Angeles, CA, United States; [4]Pathology, UCLA David Geffen School of Medicine, Los Angeles, CA, United States; [5]Bioengineering, UCLA David Geffen School of Medicine, Los Angeles, CA, United States

Computer 22 **3407. The Comparison of Arterial Spin Labeling Perfusion MRI and DCE-MRI in Bone Metastasis from Prostate Cancer**

Wenchao Cai[1], Feiyu Li[1], Jing Wang[2], Huarui Du[2], Jue Zhang[2], [3], Xiaoying Wang[1], [3], Xuexiang Jiang[1]

[1]Department of Radiology, Peking University First Hospital, Beijing, China; [2]Peking University, Department of Biomedical Engineering, Beijing, China; [3]Academy for Advanced Interdisciplinary Studies, Peking University, Beijing, China

Computer 23 **3408. Probability Maps for Tumour Localisation, Using 3D ^{1}H-MRSI and LCModel Fitting of Model "Benign" and "Tumour" Basis Spectra.**

Alan Wright[1], Thiele Kobus[1], Arend Heerschap[1]

[1]Radboud University Nijmegen Medical Centre, Nijmegen, Gelderland, Netherlands

Computer 24 **3409. Transperineal Prostate Cryoablation Under MR-Guidance**

Georgia Tsoumakidou[1], Herve Lang[2], Julien Garnon[1], Elodie Breton[3], Eva Rothgang[4], Afshin Gangi[1], [3]

[1]Interventional Radiology, University Hospital of Strasbourg, Strasbourg, Alsace, France; [2]Urology, University Hospital of Strasbourg, Strasbourg, Alsace, France; [3]CNRS, ICube Strasbourg University, Strasbourg, Alsace, France; [4]Siemens Corporation, Center for Applied Medical Imaging, Strasbourg, Alsace, France

Electronic Poster
Preclinical MR of Cancer: Cells & Animals

Exhibition Hall Tuesday 10:00-11:00

Computer 25 **3410. Magnetic Resonance Imaging of Malignant Glioma Using 5-Aminolevulinic Acid in an Animal Model**

Seung Hong Choi[1]

[1]Radiology, Seoul National University, Seoul, Select, Korea

Computer 26 **3411. *in vivo* Detection and Characterization of 9L Tumors in Rat Brain by BIRDS**

Daniel Coman[1], Yuegao Huang[1], Henk M. De Feyter[1], Douglas L. Rothman[1], [2], Fahmeed Hyder[1], [2]

[1]Diagnostic Radiology, Yale University, New Haven, CT, United States; [2]Biomedical Engineering, Yale University, New Haven, CT, United States

Computer 27 **3412. Sodium-Diffusion MRI of Emerging Drug Resistance in Rat Glioma Model**

Victor D. Schepkin[1], Thomas Morgan[2], Shannon Gower-Winter[2], Petr L. Gor'kov[1], William W. Brey[1], Cathy W. Levenson[2]

[1]National High Magnetic Field Lab/FSU, Tallahassee, FL, United States; [2]College of Medicine, FSU, Tallahassee, FL, United States

Computer 28 **3413. Microbeam Radiation Therapy Effects on White Matter Assessed by Fiber Tractography**
Yohan van de Looij[1, 2], Audrey Bouchet[3, 4], Benoit Pouyatos[3], Luc Renaud[5], Elke Bräuer-Krisch[4], Géraldine Le Duc[4], Jean A. Laissue[6], Raphaël Serduc[3]
[1]Division of Child Growth & Development, University of Geneva, Geneva, Switzerland; [2]Laboratory for Functional and Metabolic Imaging, Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland; [3]Grenoble Institut des Neurosciences UMR836, Université Joseph Fourier, Grenoble, France; [4]European Synchrotron Radiation Facility, Grenoble, France; [5]Centre de Recherche Cerveau et Cognition, Université de Toulouse, Toulouse, France; [6]Institute of Pathology, University of Bern, Bern, Switzerland

Computer 29 **3414. Characterization of an Orthotopic Mouse Model Developed from Human Glioblastoma Spheres**
Feriel Tiar[1], Teodora-Adriana Perles-Barbacaru[1], Michelle El-atifi[1], Didier Wion[1], Laurent Pelletier[1], Hana Lahrech[1], Francois Berger[1]
[1]INSERM U 836, Grenoble Institute of Neurosciences, La Tronche, France

Computer 30 **3415. Tumor pH and Vascularity in Human Prostate Cancer Models**
Ellen Ackerstaff[1], Natalia Kruchevsky[1], Radka Stoyanova[2], Sean D. Carlin[1], Nerissa Viola-Villegas[1], Kuntalkumar Sevak[1], Jason S. Lewis[1], Jason A. Koutcher[1]
[1]Memorial Sloan Kettering Cancer Center, New York, NY, United States; [2]Miller School of Medicine University of Miami, Miami, FL, United States

Computer 31 **3416. A Method for Identifying Tumor Sub-Regions with Similar Enhancement Characteristics Based on Volumetric High Resolution DCE-MRI**
Ergys Subashi[1, 2], Everett J. Moding[3], James R. MacFall[4, 5], David G. Kirsch[3], Yi Qi, [25], G. Allan Johnson[2, 5]
[1]Medical Physics Graduate Program, Duke University Medical Center, Durham, NC, United States; [2]Center for In-Vivo Microscopy, Duke University Medical Center, Durham, NC, United States; [3]Department of Pharmacology and Cancer Biology, Duke University Medical Center, Durham, NC, United States; [4]Department of Biomedical Engineering, Duke University Medical Center, Durham, NC, United States; [5]Department of Radiology, Duke University Medical Center, Durham, NC, United States

Computer 32 **3417. Comparison of T1, T2 and T2* Contrast Agents in the Perfusion Assessment of a Glioma Rat Model**
Rocío Pérez-Carro[1], Pilar López-Larrubia[1]
[1]Instituto de Investigaciones Biomédicas, CSIC-UAM, Madrid, Spain

Computer 33 **3418. Detection of the Effect of Nanoparticle Preconditioning in a Mouse Model of Prostate Cancer by MRI**
Isabelle Iltis[1], Jeunghwan Choi[2], Manda Vollmers[1], Mithun Shenoi[2], John Bischof[2], Gregory J. Metzger[1]
[1]Radiology, Center for Magnetic Resonance Research - University of Minnesota, Minneapolis, MN, United States; [2]Department of Mechanical Engineering, Bioheat and Mass Transfer Laboratory - University of Minnesota, Minneapolis, MN, United States

Computer 34 **3419. Cytotoxic Effects of Magnetic Field Gradients on Iron Oxide Labeled Cancer Cells**
Sudath Hapuarachchige[1, 2], Yoshinori Kato[1, 3], Dmitri Artemov[1, 3]
[1]Division of Cancer Imaging Research, Russell H. Morgan Department of Radiology and Radiological Sc., The Johns Hopkins University School of Medicine, Baltimore, MD, United States; [2]In vivo Cellular Molecular Imaging Program, The Johns Hopkins University School of Medicine, Baltimore, MD, United States; [3]Department of Oncology, Sidney Kimmel Comprehensive Cancer Center, The Johns Hopkins University School of Medicine, Baltimore, MD, United States

Computer 35 **3420. Monitoring Temporally Selective LDH-A Gene Deletion in Prostate Cancer Using Hyperpolarized Frequency Specific 13C-MRI**
Subramaniam Sukumar[1], Robert A. Bok[2], Daniel B. Vigneron[3], Pankaj Seth[4], John Kurhanewicz[1]
[1]Radiology and Biomedical Imaging, UCSF, San Francisco, CA, United States; [2]Radiology and Biomedical Imaging, University of California San Francisco, San Francisco, CA, United States; [3]Radiology and Biomedical imaging, UCSF, San Francisco, CA, United States; [4]Medicine, Beth Israel Deaconess Med Center, Boston, MA, United States

Computer 36 **3421. *in vivo* 2D L-COSY Detects Decreased PC in Gliomas After Treatment with MN58b, a Choline Kinase Inhibitor**
Gaurav Verma[1], Manoj Kumar[1], Sona Saksena[2], Ranjit Ittyerah[2], Anatoliy V. Popov[2], Jenny Li[3], M. Albert Thomas[3], Edward James Delikatny[2], Harish Poptani[1]
[1]Department of Radiology and Radiation Oncology, University of Pennsylvania, Philadelphia, PA, United States; [2]Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States; [3]Department of Radiological Sciences, University of California Los Angeles, Los Angeles, CA, United States

Computer 37 **3422. Early Detection of Response to Radiotherapy in Brain Metastases Using Dynamic Contrast-Enhanced Magnetic Resonance Imaging**

Chen-Hao Wu[1, 2], Chuan-Han Chen[1], Yi-Ying Wu[1], Jyh-Wen Chai, Clayton Chi-Cheng Chen, Chung-Ming Chen[2], Wen-Yih Isaac Tseng[2, 3]

[1]Department of Radiology, Taichung Veterans General Hospital, Taichung, Taiwan; [2]Institute of Biomedical Engineering, National Taiwan University, Taipei, Taiwan; [3]Center for Optoelectronic Biomedicine, National Taiwan University College of Medicine, Taipei, Taiwan

Computer 38 **3423. Induction of Apoptosis by High Levels of Oscillatory Shear Strain: Proof of Concept in a Human Colon Cancer Metastasis Cell Line.**

Philippe Garteiser[1], Mouniya Mebarki[1], Sabrina Doblas[1], Simon Auguste Lambert[1], Valérie Vilgrain[2], Bernard E. Van Beers[2], Valerie Paradis[3], Ralph Sinkus[1]

[1]U773-CRB3, INSERM, Universite Sorbonne Paris-Cite, Paris, 75018, France; [2]Service de Radiologie, AP-HP Hopital Beaujon, Clichy, 92110, France; [3]Service d'Anatomo-Pathologie, AP-HP Hopital Beaujon, Clichy, 92110, France

Computer 39 **3424. Combination of Perfusion and Diffusion-Weighted MRI for Functional Evaluation of Therapeutic Response of Lung Cancer**

Yeun-Chung Chang[1], Ang Yuan[2], Chia-Hsien Cheng[3], Yi Fang Chen[4], Yi-Chien Lu[1], Kua-Hung Cho[5], Jyh-Horng Chen[6]

[1]Department of Medical Imaging, National Taiwan University Hospital and National Taiwan University College of Medicine, Taipei, Taiwan, Taiwan; [2]Department of Internal Medicine, National Taiwan University Hospital and National Taiwan University College of Medicine, Taipei, Taiwan, Taiwan; [3]Department of oncology, National Taiwan University, Taipei, Taiwan, Taiwan; [4]Institute of Clinical Dentistry, National Taiwan University, Taipei, Taiwan, Taiwan; [5]Instrumentation Resource Center, National Yang-Ming University, Taipei, Taiwan, Taiwan; [6]National Taiwan University, National Taiwan University, Taipei, Taiwan, Taiwan

Computer 40 **3425. Multimodality Imaging Assessments of Response to Metformin Therapy for Breast Cancer in Nude Mice**

Yi Mao[1], Rui xia[1], Lei Wang[1], yuqing wang[1], Fabao Gao[1]

[1]Department of Radiology, West China Hospital, Sichuan University, chengdu, sichuan, China

Computer 41 **3426. Is Higher Lactate Generation Rate an Indicator of Tumor Metastatic Risk?-A Pilot Study Using Hyperpolarized ^{13}C-NMR**

He N. Xu[1], Stephen J. Kadlececk[1], Harrilla Profka[1], Ben Pullinger[1], Jerry D. Glickson[1], Rahim Rizi[1], Lin Z. Li[1]

[1]University of Pennsylvania, Philadelphia, PA, United States

Computer 42 **3427. Evaluating the Metabolic Profile of Prostate Cancer Cells Using an MR Compatible Bio-Reactor**

Mithun Kailavasan[1], Steven Reynolds[1], Adriana Bucur[1], Samira Kazan[2], Tooba Alizadeh[2], Gillian M. Tozer[2], Ishtiaq Rehman[3], Martyn Paley[1]

[1]Academic Radiology, University of Sheffield, Sheffield, Yorkshire, United Kingdom; [2]Oncology, University of Sheffield, Sheffield, Yorkshire, United Kingdom; [3]Human Metabolism, University of Sheffield, Sheffield, Yorkshire, United Kingdom

Computer 43 **3428. Assessment of the Serine Synthesis Pathway During Breast Cancer Progression Using ^{13}C-MRS**

Dania Daye[1, 2], Suzanne Wehrli[3], Chris Sterner, [24], Tien-Chi Pan, [24], Mitchell D. Schnall[5], Lewis A. Chodosh, [24]

[1]Department of Bioengineering, University of Pennsylvania, Philadelphia, PA , United States; [2]Abramson Family Cancer Research Institute, University of Pennsylvania, Philadelphia, PA, United States; [3]NMR Core Facility, Children's Hospital of Philadelphia, Philadelphia, PA, United States; [4]Department of Cancer Biology, University of Pennsylvania, Philadelphia, PA, United States; [5]Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States

Computer 44 **3429. Validation of Hyperpolarized ^{13}C Lactate as a Prostate Cancer Biomarker Using a Human Prostate Tissue Slice Culture Bioreactor**

Kayvan R. Keshari[1], Renuka Sriram[1], Mark Van Criekinge[1], David M. Wilson[1], Zhen J. Wang[1], Daniel B. Vigneron[1], Donna M. Peehl[2], John Kurhanewicz[1]

[1]Radiology and Biomedical Imaging, University of California San Francisco, San Francisco, CA, United States; [2]Stanford University, Stanford, CA, United States

Computer 45 **3430. NMR Metabolomics of Drug Response to Antineoplastic Polyherbal Formulations Studied in Human Hepatocellular Carcinoma Cells**
G. Sharma[1], Rama Jayasundar[1], T. Velpandian[2], R. Singh[3], S. S. Chauhan[3], V. Kapoor[4], S. N. Das[4]
[1]NMR, All India Institute of Medical Sciences, New Delhi, India; [2]Ocular Pharmacology & Pharmacy, All India Institute of Medical Sciences, New Delhi, India; [3]Biochemistry, All India Institute of Medical Sciences, New Delhi, India; [4]Biotechnology, All India Institute of Medical Sciences, New Delhi, India

Computer 46 **3431. Altered Choline Phospholipid Metabolism in a Panel of Pancreatic Cancer Cell Lines**
Tariq Shah[1], Marie-France Penet[1], Yelena Mironchik[1], Flonné Wildes[1], Anirban Maitra[2], Zaver M. Bhujwalla[1]
[1]Division of Cancer Imaging Research, Johns Hopkins University, Baltimore, MD, United States; [2]Pathology, Johns Hopkins University, Baltimore, MD, United States

Computer 47 **3432. Monitoring PKM2 Status in Glioblastoma Using Hyperpolarized ^{13}C MRS**
Myriam Marianne Chaumeil[1], Joydeep Mukherjee[2], Humsa Venkatesh[1], Russell O. Pieper[2], Sabrina M. Ronen[1]
[1]Radiology, University of California, San Francisco, San Francisco, CA, United States; [2]Neurological Surgery, University of California, San Francisco, San Francisco, CA, United States

Computer 48 **3433. Choline Kinase Alpha Has Ethanolamine Kinase Activity and Its Choline Kinase Activity Is Modulated by Ethanolamine in Breast Cancer Cells**
Tariq Shah[1], Jannie P. Wijnen[1], Flonné Wildes[1], Balaji Krishnamachary[1], Kristine Glunde[1], Zaver M. Bhujwalla[1]
[1]Division of Cancer Imaging Research, Johns Hopkins University, Baltimore, MD, United States

Electronic Poster
Cancer

Exhibition Hall Tuesday 11:00-12:00

Computer 25 **3434. Comparison of R2* Measurements Values and Reproducibility in Liver Metastases and Normal Liver**
Nina Tunariu[1, 2], David John Collins[1], James A. d'Arcy[3], Veronica A. Morgan[4], Sharon L. Giles[4], Catherine J. Simpkin[4], Timothy A. Yap[5], Nandita M. De Souza[6]
[1]CR-UK and EPSRC Cancer Imaging Centre , Institute of Cancer Research & The Royal Marsden Hospital, Sutton, London, United Kingdom; [2]Drug Development Unit, Institute of Cancer Research & The Royal Marsden Hospital, Sutton, London, United Kingdom; [3]CR-UK and EPSRC Cancer Imaging Centre, The Institute of Cancer Research, Sutton, London, United Kingdom; [4]CR-UK and EPSRC Cancer Imaging Centre, Institute of Cancer Research & The Royal Marsden Hospital, Sutton, London, United Kingdom; [5]Section of Medicine, Institute of Cancer Research & The Royal Marsden Hospital, Sutton, London, United Kingdom; [6]CR-UK and EPSRC Cancer Imaging Centre, Institute of Cancer Research, Sutton, London, United Kingdom

Computer 26 **3435. Discrimination of Dysplastic Nodules from Well-Differentiated (Grade 1) Hepatocellular Carcinoma on MR Imaging: Evaluation with LIRADS and OPTN Criteria**
Surachate Siripongsakun[1], Eugene K. Choi[1], Stephanie Lin[1], Steven S. Raman[1], David S.K. Lu[1]
[1]Radiology, David Geffen School of Medicine at UCLA, Los Angeles, CA, United States

Computer 27 **3436. Which Is Better for Detection of Hepatocellular Carcinoma (HCC) and Vessel Thrombus? Comparison of Superparamagnetic Iron Oxide (SPIO) - Enhanced T_2^* - Weighted Imaging (T_2^*WI) and 3D Balanced Turbo Field-Echo (B**
Masayuki Kanamoto[1, 2], Kazuki Terashima[3], Tosiaki Miyati[2], Kei Katahira[1], Ryoji Ida[1], Daisaku Suga[4], Nobukazu Fuwa[3]
[1]Department of Radiation Tecnology, Hyogo Ion Beam Medical Center, Tatsuno, Hyogo, Japan; [2]Division of Health Sciences, Graduate School of Medical Science, Kanazawa University, Kanazawa, Ishikawa, Japan; [3]Department of Radiology, Hyogo Ion Beam Medical Center, Tatsuno, Hyogo, Japan; [4]Hyogo Ion Beam Medical Support, Tatsuno, Hyogo, Japan

Computer 28 **3437. Performance of Gd-EOB-DTPA MRI Criteria for Diagnosis of Pathologically Proven HCC: A Comparison with AASLD and Barcelona Criteria.**
Anokh Pahwa[1], Katrina Beckett[2], Stephanie Channual[2], Nelly Tan[2], David Lu[2], Steven Raman[2]
[1]Olive View-UCLA Medical Center, Sylmar, CA, United States; [2]UCLA, Los Angeles, CA, United States

Computer 29 **3438. Measurement Reproducibility of ADC for Liver Metastases Using Multi B Value Diffusion Weighted Imaging: Preliminary Results.**

Richard Kinh Gian Do[1], David H. Gultekin[2], Seth S. Katz[1], Michael J. Sohn[1], Charles G. Nyman[1], Emily C. Zabor[3], Chaya M. Moskowitz[3], Diane L. Reidy[4]

[1]Radiology, Memorial Sloan-Kettering Cancer Center, New York, NY, United States; [2]Medical Physics, Memorial Sloan-Kettering Cancer Center, New York, NY, United States; [3]Epidemiology and Biostatistics, Memorial Sloan-Kettering Cancer Center, New York, NY, United States; [4]Medicine, Memorial Sloan-Kettering Cancer Center, New York, NY, United States

Computer 30 **3439. Diagnostic Performance of Delayed Hepatobiliary Imaging Post Gadoxetic Acid Combined with DWI Vs. Dynamic Contrast-Enhanced Imaging for HCC Detection: Pilot Data.**

Cecilia Besa[1], Nancy A. Cooper[1], Sara Lewis[2], Amita Kamath[1], Sasan Roayaie[3], Marcelo Facciuto[4], Isabel I. Fiel[5], Bachir Taouli[6]

[1]Radiology, Mount Sinai Medical School, New York, NY, United States; [2]Radiology, Mount Sinai Medical School, New York, NY, United States Minor Outlying Islands; [3]Surgery, Mount Sinai Medical School, New York, NY, United States; [4]Surgery, Mount Sinia Medical School, New York, NY, United States; [5]Pathology, Mount Sinai Medical School, New York, NY, United States; [6]Mount Sinai School of Medicine, New York, NY, United States

Computer 31 **3440. Gadoxetic Acid-Enhanced MRI of Liver: Can 5 Min-Delayed Hepatocyte-Phase Imaging with High Flip Angle (30°) Replace 20 Min-Delayed Hepatocyte-Phase Imaging with Low Flip Angle (10°)?**

Eun-Suk Cho[1], Jeong-Sik Yu[1]

[1]Radiology, Yonsei University College of Medicine, Gangnam Severance Hospital, Seoul, Korea

Computer 32 **3441. ^{31}P MRSI as an Early Indicator of Response to Radiation Treatment in Liver Cancer**

Tony Clevenger[1, 2], Anshuman Panda, [13], Scott Jones[1, 2], Kumar Sandrasegaran[2], Higinia Cardenes[4], Ulrike Dydak[1, 2]

[1]School of Health Sciences, Purdue University, West Lafayette, IN, United States; [2]Department of Radiology and Imaging Sciences, Indiana University School of Medicine, Indianapolis, IN, United States; [3]Department of Radiology, Mayo Clinic Arizona, Scottsdale, AZ, United States; [4]Department of Radiation Oncology, Indiana University School of Medicine, Indianapolis, IN, United States

Computer 33 **3442. The Potential of High Resolution MR Imaging at 3 and 7 Tesla for Treatment Guidance of Early Glottic Carcinoma.**

Johanna J. Bluemink[1], Marielle E.P. Philippens[1], Wouter Koning[2], Chris Terhaard[1], Frank A. Pameijer[2], Peter R. Luijten[2], Cornelis A.T. van den Berg[1]

[1]Radiotherapy, UMC Utrecht, Utrecht, Netherlands; [2]Radiology, UMC Utrecht, Utrecht, Netherlands

Computer 34 **3443. Diffusion Weighted Imaging in Head-And-Neck Cancer: Comparison Between Echo Planar and Turbo Spin Echo Sequences**

Tim Schakel[1], Gert van Yperen[2], Johan van den Brink[2], Frank A. Pameijer[3], Chris Terhaard[1], Hans Hoogduin[3], Marielle E.P. Philippens[1]

[1]Radiotherapy, UMC Utrecht, Utrecht, Netherlands; [2]Philips Healthcare, Best, Netherlands; [3]Radiology, UMC Utrecht, Utrecht, Netherlands

Computer 35 **3444. Adaptive Model for Direct Estimation of Hemodynamic Parameters in MR Perfusion Studies: Comparison and Evaluation Using CT Perfusion and Singular Value Decomposition Technique**

Hassan Bagher-Ebadian[1, 2], Rajan Jain[1], Jayant Narang[1], Hamid Soltanian-Zadeh[1, 3]

[1]Radiology, Henry Ford Hospital, Detroit, MI, United States; [2]Physics, Oakland University, Rochester, MI, United States; [3]CIPCE-Department of ECE, University of Tehran, Tehran, Iran

Computer 36 **3445. No Volumetric and Metabolic Differences in the Brain Between Severely Fatigued and Non-Fatigued Disease-Free Cancer Survivors**

H. Prinsen[1], H. W.M. van Laarhoven[1, 2], G. Bleijenberg[3], M. J. Zwarts[4], M. van der Graaf[5, 6], M. Rijpkema[7], Arend Heerschap[5]

[1]Medical Oncology, Radboud University Nijmegen Medical Centre, Nijmegen, Gelderland, Netherlands; [2]Medical Oncology, Academic Medical Centre, University of Amsterdam, Amsterdam, Noord-Holland, Netherlands; [3]Expert Centre for Chronic Fatigue, Radboud University Nijmegen Medical Centre, Nijmegen, Gelderland, Netherlands; [4]Epilepsy Centre Kempenhaeghe, Heeze, Noord-Brabant, Netherlands; [5]Radiology, Radboud University Nijmegen Medical Centre, Nijmegen, Gelderland, Netherlands; [6]Clinical Physics Laboratory, Radboud University Nijmegen Medical Centre, Nijmegen, Gelderland, Netherlands; [7]Nuclear Medicine, Radboud University Nijmegen Medical Centre, Nijmegen, Gelderland, Netherlands

Computer 37 **3446. Rapid *ex vivo* Imaging of PAIII Prostate to Bone Tumor with SWIFT-MRI**

Ihor Luhach[1], Djaudat Idiyatullin[2], Conor Lynch[1], Curtis Andrew Corum, Gary V. Martinez[1], Michael Garwood, Robert J. Gillies[3]

[1]H. Lee Moffitt Cancer Center and Research Institute, Tampa, FL, United States; [2]Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, MN, United States; [3]H. Lee Moffitt Cancer Center, Tampa, FL, United States

Computer 38 **3447. Relationships Between Diffusion Weighted Signal Intensity, ADC and Water/fat Content of Malignant Bone Marrow**

Ashik Amlani[1], Subhadip Ghosh-Ray[1], Katherine van Ree[1], Andreas Makris[2], Shirley D'Sa[2], Peter Ostler[2], Nicola Anyamene[2], Anwar R. Padhani[1]

[1]Paul Strickland Scanner Centre, Mount Vernon Cancer Centre, London, Middlesex, United Kingdom; [2]Mount Vernon Cancer Centre, London, United Kingdom

Computer 39 **3448. Whole Body Diffusion-Weighted Imaging (WB-DWI) to Assess Treatment Response in Multiple Myeloma**

Sharon L. Giles[1], Christina Messiou[1], David John Collins[1, 2], Veronica A. Morgan[1], Faith E. Davies[3, 4], Gareth Morgan[3, 4], Nandita M. deSouza, [12]

[1]MRI Department, Royal Marsden Hospital, Sutton, Surrey, United Kingdom; [2]Clinical Magnetic Resonance, Institute of Cancer Research, Sutton, Surrey, United Kingdom; [3]Haemato-oncology Department, Royal Marsden Hospital, Sutton, Surrey, United Kingdom; [4]Molecular Pathology, Institute of Cancer Research, Sutton, Surrey, United Kingdom

Computer 40 **3449. Comparison of SUV Between Simultaneous PET/MRI and PET/CT: A Single Injection Study in Patients with Cancer**

Shanaugh McDermott[1], Ronald Borra[2], Michael Blake[1], Dushyant V. Sahani[1], Grae Arabasz[2], Shirley Hsu[2], Lawrence T. White[2], Mary Ohara[2], Jacob M. Hooker[2], Ciprian Catana[3], Bruce R. Rosen[2], Alexander R. Guimaraes[2]

[1]Radioloy, Massachusetts General Hospital; Division of Abdominal Imaging and Interventional Radiology, Boston, MA, United States; [2]Radiology; Massachusetts General Hospital, Martinos Center for Biomedical Imaging, Charlestown, MA, United States; [3]Radiology; Massachusetts General Hospital, Massachusetts General Hospital, Charlestown, MA, United States

Computer 41 **3450. Early Predictive Power of Magnetic Resonance Imaging Parameters During Neoadjuvant Chemotherapy in Uterine Cervical Cancer**

Yuki Himoto[1], Koji Fujimoto[1], Aki Kido[2], Shigeaki Umeoka[2], Kayo Kiguchi[2], Fuki Shitano[2], Tsukasa Baba[3], Ikuo Konishi[3], Kaori Togashi[2]

[1]Department of Diagnostic Imaging and Nuclear Medicine, Kyoto University, Kyoto, Japan; [2]Department of Diagnostic Imaging and Nuclear Medicine, Kyoto University Hospital, Kyoto, Japan; [3]Department of Gynecology and Obsterics, Kyoto University Hospital, Kyoto, Japan

Computer 42 **3451. K-Means Clustering of DCE-MRI Pharmacokinetic Parameters for Prediction of Chemotherapeutic Response of Bladder Cancer**

Huyen Thanh Nguyen[1], Guang Jia[1], Zarine K. Shah, Kamal S. Pohar[2], Amir Mortazavi[3], Debra L. Zynger[4], Xiangyu Yang[1], Michael V. Knopp[1]

[1]Wright Center of Innovation in Biomedical Imaging, Department of Radiology, The Ohio State University, Columbus, OH, United States; [2]Department of Urology, The Ohio State University, Columbus, OH, United States; [3]Department of Internal Medicine, The Ohio State University, Columbus, OH, United States; [4]Department of Pathology, The Ohio State University, Columbus, OH, United States

Computer 43 **3452. MR Imaging Features of Gastrointestinal Stromal Tumor (GIST) of the Gastrointestinal (GI) Tract**

Mi Hye Yu[1], Jeong Min Lee[2], Jee Hyun Baek[2], Joon Koo Han[1], Byung-Ihn Choi[1]

[1]Radiology, Seoul National University Hospital, Seoul, Korea; [2]Radiology, Seoul National University, Seoul, Korea

Computer 44 **3453. Quantitative DCE-MRI as a Predictor of Acute Leukemia Response to Therapy**

Mohan L. Jayatilake[1], Aneela Afzal[1], Xin Li[1], Yiyi Chen[2], William J. Woodward[1], Tibor J. Kovacsovics[3], William H. Fleming[3, 4], Wei Huang[1]

[1]Advanced Imaging Research Center, Oregon Health & Science University, Portland, OR, United States; [2]Biostatistics, Oregon Health & Science University, Portland, OR, United States; [3]Center for Hematologic Malignancies, Knight Cancer Institute, Oregon Health & Science University, Portland, OR, United States; [4]Oregon Stem Cell Center, Oregon Health & Science University, Portland, OR, United States

Computer 45 **3454. Adult Lymphoma: Comparison of Whole-Body Diffusion Weighted Sequence MR Imaging with an Enhanced PET/CT Reference for Initial Staging**

Sikandar Mohammed Shaikh[1], [2]

[1]Dept of PET-CT & Nuclear Medicine, Yashoda Hospitals, Hyderabad, Andhra Pradesh, India; [2]Dept of Radiology, Shadan Medical College, Hyderabad, Andhra Pradesh, India

Computer 46 **3455. High-Resolution *in vivo* Imaging of Inguinal Lymph Nodes Using 7 Tesla MRI: A Feasibility Study.**

Martin T. Freitag[1], Mathies Breithaupt[2], Ann-Kathrin Homagk[2], Moritz Berger[2], Bram Stieltjes[1]

[1]Quantitative Imaging-based Disease Characterization, German Cancer Research Center (DKFZ), Heidelberg, Baden-Wuerttemberg, Germany; [2]Department of Medical Physics in Radiology, German Cancer Research Center (DKFZ), Heidelberg, Baden-Wuerttemberg, Germany

Computer 47 **3456. Breast Tissue Expanders with Magnetic Ports: In Vitro Testing and Clinical Experience at 1.5-Tesla**

Nanda Deepa Thimmappa[1], Frank G. Shellock[2], Cristen Giangarra[3], Christina Y. Ahn[4], Martin R. Prince[1], Joshua L. Levine[5]

[1]Radiology, Weill Cornell Medical College, New York, NY, United States; [2]Radiology, University of Southern California, Los Angeles, CA, United States; [3]University College of Washington University, Saint Louis, MO, United States; [4]NYC Breast Reconstruction Center, New York, NY, United States; [5]Plastic Surgery, The Center for the Advancement of Breast Reconstruction at NYEE, New York, NY, United States

Electronic Poster
Bone, Menisci, Tendon & Spine

Exhibition Hall Tuesday 10:00-11:00

Computer 49 **3457. Ultrashort Echo Time (UTE) Bi-Component Analysis of Bound and Free Water in Cortical Bone - A Field Dependence Study**

Shihong Li[1], [2], Won C. Bae[1], Eric Chang[1], Sheronda Statum[1], Christine Chung[1], Graeme M. Bydder[3], Jiang Du[1]

[1]Radiology, University of California, San Diego, San Diego, CA, United States; [2]Huadong Hospital, Fudan University, Shanghai, China; [3]Radiology, University of California San Diego, San Diego, CA, United States

Computer 50 **3458. Excitation and Preparation Pulses Affect UTE Bi-Component Analysis of Bound and Free Water in Cortical Bone**

Shihong Li[1], [2], Monica Tafur[1], Won C. Bae[1], Eric Chang[1], Christine Chung[1], Graeme M. Bydder[3], Jiang Du[1]

[1]Radiology, University of California, San Diego, San Diego, CA, United States; [2]Huadong Hospital, Fudan University, Shanghai, China; [3]Radiology, University of California San Diego, San Diego, CA, United States

Computer 51 **3459. A Longitudinal Study on the Relationship Between BMD and Bone Marrow Perfusion of Proximal Femur Based on DCE-MRI**

Heather T. Ma[1], James F. Griffith[2], Haiyan Lv[1], Alvin FW Li[2], David K.W. Yeung[2], Anthony Kwok[2], Ping-Chung Leung[2]

[1]Department of Electronic and Information Engineering, Harbin Insitute of Technology Shenzhen Graduate School, Shenzhen, Guangdong, China; [2]Prince of Wales Hospital, The Chinese University of Hong Kong, Hong Kong, China

Computer 52 **3460. Addressing Overlapping Water-Fat Peaks and Water-Fat Chemical Shift Displacement Effects in Single-Voxel MRS of Bone Marrow**

Dimitrios C. Karampinos[1], [2], Gerd Melkus[1], Thomas Baum[2], Jan S. Bauer[2], Ernst J. Rummeny[2], Roland Krug[1]

[1]Department of Radiology and Biomedical Imaging, University of California, San Francisco, San Francisco, CA, United States; [2]Department of Diagnostic and Interventional Radiology, Technical University of Munich, Munich, Germany

Computer 53 **3461. Fat Fraction and Bone Mineral Density in the Proximal Femur: A Localized Assessment of Their Relationship in Fragility Fractures**

Julio Carballido-Gamio[1], Dimitrios C. Karampinos[1], [2], Andrew Lai[1], Sonia Lee[1], Roland Krug[1]

[1]Department of Radiology and Biomedical Imaging, University of California, San Francisco, San Francisco, CA, United States; [2]Department of Diagnostic and Interventional Radiology, Technical University of Munich, Munich, Germany

Computer 54 **3462. Feasibility of *in vivo* 3-D MRI of Femoral Neck Bone Microarchitecture at 3 T**
Gregory Chang[1], Ryan Brown[2], Graham C. Wiggins[2], Chamith S. Rajapakse[3], Stephen Honig[4], Ravinder R. Regatte[2]
[1]Radiology, New York University Langone Medical Center, New York, NY, United States; [2]Radiology, NYU Langone Medical Center, New York, NY, United States; [3]Radiology, Hospital of the University of Pennsylvania, Philadelphia, PA, United States; [4]Rheumatology, NYU Langone Medical Center, New York, NY, United States

Computer 55 **3463. Use of Dynamic Contrast-Enhanced MRI (DCEMRI) for Evaluation of Bone Viability**
Sandra Rutigliano[1], adam zoga[1], suzanne long[1], William Morrison[1]
[1]radiology, thomas jefferson university hospital, Philadelphia, PA, United States

Computer 56 **3464. Ultrashort Echo Time Magnetization Transfer (UTE-MT) Imaging of Meniscus**
Jiang Du[1], Shihong Li[1, 2], Michael Carl[3], Monica Tafur[1], Nikolaus M. Szeverenyi[1], Eric Chang[1], Christine Chung[1], Graeme M. Bydder[4]
[1]Radiology, University of California, San Diego, San Diego, CA, United States; [2]Huadong Hospital, Fudan University, Shanghai, China; [3]Global Applied Science Laboratory, GE Healthcare, San Diego, CA, United States; [4]Radiology, University of California San Diego, San Diego, CA, United States

Computer 57 **3465. Analysis of Menisci Using Bi-Exponential T2* Fitting with VTE Sequence at 3T**
Vladimir Juras[1, 2], Sebastian Apprich[1], Pavol Szomolanyi[1], Lukas Zak[3], Oliver Bieri[4], Xeni Deligianni[4], Siegfried Trattnig[1]
[1]MR Centre of Excellence, Department of Radiology, Medical University of Vienna, Vienna, Austria; [2]Department of Imaging Methods, Institute of Measurement Science, Bratislava, Slovakia; [3]Department of Trauma Surgery, Medical University of Vienna, Vienna, Austria; [4]Department of Radiology, Division of Radiological Physics, University of Basel Hospital, Basel, Switzerland

Computer 58 **3466. A Comparison of T2* Measured by a Variable Echo Time Sequence at 3 and 7T in Connective Tissues in the *ex vivo* Knees**
Vladimir Juras[1, 2], Sebastian Apprich[1], Pavol Szomolanyi[1], Claudia Kronnerwetter[1], Oliver Bieri[3], Xeni Deligianni[3], Siegfried Trattnig[1]
[1]MR Centre of Excellence, Department of Radiology, Medical University of Vienna, Vienna, Austria; [2]Department of Imaging Methods, Institute of Measurement Science, Bratislava, Slovakia; [3]Department of Radiology, Division of Radiological Physics, University of Basel Hospital, Basel, Switzerland

Computer 59 **3467. Automatic Segmentation of the Medial and Lateral Meniscus in Knee MRI Using Chan-Vese Model with Shape Prior**
Junga Baek[1], Helen Hong[1], Joon Ho Wang[2]
[1]Department of Multimedia Engineering, Seoul Women's University, Seoul, Korea; [2]Department of Orthopedic Surgery, Samsung Medical Center, Seoul, Korea

Computer 60 **3468. Quantitative Characterization of Meniscal Pathology: UTE MRI Versus Long T2 Techniques**
Michael Im[1], Ja-Young Choi[2], Reni Biswas[3], Won C. Bae[1], Sheronda Statum[1], Eric Chang[3], Jiang Du[3], Graeme M. Bydder[1], Darryl D. D'Lima[1], Christine Chung[3]
[1]Radiology, UCSD, San Diego, CA, United States; [2]Radiology, UC San Diego Medical Center, San Diego, CA, United States; [3]Radiology, University of California, San Diego, San Diego, CA, United States

Computer 61 **3469. UTE MRI and Biomechanical Properties of Normal and Pathologic Human Menisci**
Won C. Bae[1], Reni Biswas[1], Ja Young Choi[2], Robert Healey[3], Jiang Du[1], Darryl D. D'Lima[4], Sheronda Statum[1], Christine B. Chung[1, 5]
[1]Dept. of Radiology, University of California, San Diego, San Diego, CA, United States; [2]Seoul National University Hospital, Seoul, Korea; [3]Dept. of Orthopaedic Surgery, University of California, San Diego, La Jolla, CA, United States; [4]Shiley Center for Orthopaedic Research and Education at Scripps Clinic, La Jolla, CA, United States; [5]Veterans Affairs Healthcare System, La Jolla, CA, United States

Computer 62 **3470. Effects of Repetitive Freeze-Thawing Cycles on Quantitative Magnetic Resonance Imaging of the Achilles Tendon**

Eric Y. Chang[1, 2], Sheronda Statum[2], Tanya Wolfson[2], Anthony Gamst[2], Jiang Du[3], Won C. Bae[2], Graeme M. Bydder[4], Christine B. Chung, [12]

[1]Dept of Radiology, VA San Diego Healthcare System, San Diego, CA, United States; [2]Dept of Radiology, University of California, San Diego Medical Center, San Diego, CA, United States; [3]Dept of Radiology, University of California, San Diego, San Diego, CA, United States; [4]Dept of Radiology, University of California San Diego, San Diego, CA, United States

Computer 63 **3471. Quantitative T2*-Mapping of the Achilles Tendon Using a Multi-Echo VTE SPGR-Sequence at 3 Tesla: Preliminary Results.**

Sebastian Apprich[1], Vladimir Juras[1], Oliver Bieri[2], Stefan Zbýn[1], Siegfried Trattnig[1]

[1]Department of Radiology - MR Center of Excellence, Medical University of Vienna, Vienna, Austria; [2]Division of Radiological Physics, University of Basel Hospital, Basel, Switzerland

Computer 64 **3472. VIMATS – Vienna Morphological Achilles Tendon Score**

Sebastian Apprich[1], Klaus Friedrich[2], Veronika Schöpf[2], Siegfried Trattnig[1]

[1]Department of Radiology - MR Center of Excellence, Medical University of Vienna, Vienna, Austria; [2]Department of Radiology, Medical University of Vienna, Vienna, Austria

Computer 65 **3473. Dipolar Anistropy Reveals Sub-Structures in Achilles Tendon at 11.7 Tesla**

Nikolaus M. Szeverenyi[1], Paul A. DiCamillo[1], Graeme M. Bydder[2]

[1]Radiology, University of California, San Diego, San Diego, CA, United States; [2]Radiology, University of California San Diego, San Diego, CA, United States

Computer 66 **3474. Magic Angle Enhanced Imaging in High-Field MRI Using an Automated MR-Conditional Positioner**

Christopher Mershon[1], Alex Squires[1], Yabiao Gao[1], Kevin C. Chan[2], Zion Tse[1]

[1]College of Engineering, University of Georgia, Athens, GA, United States; [2]Departments of Ophthalmology and Bioengineering, University of Pittsburgh, Pittsburgh, PA, United States

Computer 67 **3475. *in-vivo* MR-Imaging of the Endplates of the Lumbar Spine**

Klaus M. Friedrich[1], Sebastian Apprich[1], Sonja M. Walzer[2], Stefan Zbýn[1], Vladimir Juras[1], Iris Nöbauer-Huhmann[1], Siegfried Trattnig[1]

[1]Radiology, Medical University of Vienna, Vienna, Austria; [2]Orthopaedics, Medical University of Vienna, Vienna, Austria

Computer 68 **3476. Accelerated T1rho Relaxation Quantification in Intervertebral Disc Using Limited Spin-Lock Times**

Pu-Xuan Lu[1], Feng Zhao[2], Jing Yuan[2], Greta S.P. Mok[3], James F. Griffith[2], Yi-Xiang Wang[2]

[1]Department of Radiology, the Shenzhen Third People's Hospital, Shenzhen, Guangdong, China; [2]Department of Imaging and Interventional Radiology, The Chinese University of Hong Kong, Shatin, N.T., Hong Kong; [3]Department of Electrical and Electronics Engineering, University of Macau, Macau, Macau

Computer 69 **3477. Non-Gaussian Diffusion Weighted Imaging for Assessing Diurnal Changes in Intervertebral Disc Composition**

Masaki Katsura[1], Yuichi Suzuki[2], Junichi Hata[2], Hiroki Sasaki[1, 2], Hiroyuki Akai[1], Wataru Gonoi[1], Harushi Mori[1], Akira Kunimatsu[1], Yoshitaka Masutani[1], Masaaki Hori[3], Shigeki Aoki[3], Kuni Ohtomo[1]

[1]Radiology, Graduate School of Medicine, The University of Tokyo, Tokyo, Japan; [2]Radiology, The University of Tokyo Hospital, Tokyo, Japan; [3]Radiology, School of Medicine, Juntendo University, Tokyo, Japan

Computer 70 **3478. Maximum Likelihood Estimation of T1rho Relaxation Time in Lumbar Intervertebral Disc at 3T**

Jing Yuan[1], Pengyu Yan[2], Greta S.P. Mok[2], Yi-Xiang Wang[1], Anil T. Ahuja[1], James F. Griffith[1]

[1]Department of Imaging and Interventional Radiology, Chinese University of Hong Kong, Shatin, NT, Hong Kong; [2]Department of Electrical and Electronics Engineering,, University of Macau, Macau, NA, Macau

Computer 71 **3479. MR Evaluation of Multiple Myeloma at 3.0 Tesla: How Do Bone Marrow Signal Intensity and Selection of Protocols Affect Lesion Conspicuity?**

Miyuki Takasu[1], Yoko Kaichi[1], Miho Ishikawa[1], Yuji Akiyama[1], Shuji Date[1], Akira Sakai[2], Yoshiaki Kuroda[3], Kazuo Awai[1]

[1]Department of Diagnostic Radiology, Graduate School of Biomedical Sciences, Hiroshima University, Hiroshima, Japan; [2]Department of Radiation Life Sciences, Fukushima Medical University School of Medicine, Fukushima, Japan; [3]Department of Hematology, Hiroshima University Hospital, Hiroshima, Japan

Computer 72 **3480. 7 Tesla, High Resolution Dixon Imaging of the SI Joints in Patients with Ankylosing Spondylitis**

Wouter M. Teeuwisse[1], Monique Reijnierse[2], Andrew G. Webb[1]

[1]Radiology, C.J.Gorter Center for High Field MRI, Leiden University Medical Center, Leiden, ZH, Netherlands; [2]Radiology, Leiden University Medical Center, Leiden, ZH, Netherlands

Electronic Poster
Technical & Miscellaneous

Exhibition Hall Tuesday 11:00-12:00

Computer 49 **3481. Dynamic Functional Imaging of Quadriceps and Hamstring Muscles Under Isometric and Active Extension-Flexion Contraction.**

Shantanu Sinha[1], Ali Moghadasi, Vadim Malis[2], Usha Sinha[2]

[1]Radiology, University of California at San Diego, San Diego, CA, United States; [2]Physics, San Diego State University, San Diego, CA, United States

Computer 50 **3482. Quantitative Kinematics of the Wrist Using Dynamic MRI**

Michael H. Buonocore[1, 2], Robert D. Boutin[1], Igor Immerman[3], Gerald J. Sonico[2], Zachary Ashwell[1], Robert M. Szabo[3], Abhijit J. Chaudhari[1]

[1]Radiology, UC Davis, Sacramento, CA, United States; [2]Imaging Research Center, UC Davis, Sacramento, CA, United States; [3]Orthopedic Surgery, UC Davis, Sacramento, CA, United States

Computer 51 **3483. Flexible Real-Time Imaging of Highly-Dynamic Knee Joint Motion**

Ozan Sayin[1], Haris Saybasili[1, 2], Liheng Guo[1], John A. Carrino[3], Frances T. Sheehan[4], Mark A. Griswold[2, 5], Nicole Seiberlich[5], Daniel A. Herzka[6]

[1]Department of Biomedical Engineering, Johns Hopkins School of Medicine, Baltimore, MD, United States; [2]Department of Radiology, Case Western Reserve University, Cleveland, OH, United States; [3]Russell H. Morgan Department of Radiology and Radiological Science, Johns Hopkins School of Medicine, Baltimore, MD, United States; [4]Rehabilitation Medicine, National Institutes of Health, Bethesda, MD, United States; [5]Department of Biomedical Engineering, Case Western Reserve University, Cleveland, OH, United States; [6]Department of Biomedical Engineering, Johns Hopkins University, Baltimore, MD, United States

Computer 52 **3484. Feasibility of Accelerating 3 T Hip Imaging Using Compressed Sensing**

Riccardo Lattanzi[1, 2], Alicia W. Yang[1, 2], Li Feng, [23], Michael P. Recht[4], Daniel K. Sodickson[1, 2], Ricardo Otazo[1, 2]

[1]Radiology/Center for Biomedical Imaging, NYU Langone Medical Center, New York, NY, United States; [2]The Sackler Institute of Graduate Biomedical Sciences, New York University School of Medicine, New York, NY, United States; [3]Radiology/Center for Biomedical Imaging, New York University Langone Medical Center, New York, NY, United States; [4]Radiology, NYU Langone Medical Center, New York, NY, United States

Computer 53 **3485. Optimizing 3D FSE FS Sequences of the Knee at 3 T for Clinical Use, Automated Segmentation, Quantitative Analysis of Articular Cartilage and Templating for T2 Maps: Creating a Single MR Data Set for Morphological and Quantitative Functions**

Joshua Michael Farber[1], Jose Tamez-Pena[2], saara Totterman[3], Hubert LeJay[4], Edward Schreyer[3], Karl Baum[3]

[1]Radiology, Qmetrics/Rad Ass of N KY, Cincinnati, OH, United States; [2]Mathematics and Statistics, Tec de Monterrey, Monterrey, NL, Mexico; [3]Imaging, Qmetrics, Rochester, NY, United States; [4]MRI - Global, GE, Milwaukee, WI, United States

Computer 54 **3486. Evaluation of T2-Weighted Slice Encoding for Metal Artifact Correction in Patients with Recalled Orthopedic Hip Implants**

Conny Ström[1], Jörgen Strinnholm[1], Sead Crnalic[2], Morten Bruvold[3], Ulrike A. Blume[4], Chiel den Harder[3], Clemens Bos[5]

[1]Department of Radiation Sciences, Umeå University, Faculty of Medicine, Diagnostic Radiology, Umeå, Sweden; [2]Department of Ortopedy, Umeå University, Faculty of Medicine, Umeå, Sweden; [3]Philips Healtcare, Best, Netherlands; [4]Philips Healtcare, Hamburg, Germany; [5]Division Image, University Medical Center in Utrecht, Utrecht, Netherlands

Computer 55 **3487. Quantitative DCE-MRI in Patients with Hip Implants**

Greg O. Cron[1, 2], Kawan Rakhra[1, 2], Paul E. Beaule[1, 3], Isabelle Catelas[4], Arturo Cardenas-Blanco[1, 2], Ian G. Cameron[1, 2], Mark E. Schweitzer[1, 2]

[1]Ottawa Hospital Research Institute, Ottawa, Ontario, Canada; [2]Radiology, University of Ottawa, Ottawa, Ontario, Canada; [3]Surgery, University of Ottawa, Ottawa, Ontario, Canada; [4]Mechanical Engineering; Surgery; Biochemistry, Microbiology and Immunology, University of Ottawa, Ottawa, Ontario, Canada

Computer 56 **3488. The Optimizations of SEMAC-VAT Technique for Magnetic Resonance Imaging of Total Knee Prosthesis: Comparison of 1.5T and 3T for Different Metal Materials**

Tao Al[1], Frank F. Goerner[2], Abraham Padua[3], Mathias Nittka[4], Xiaoming Li[1], Val M. Runge[5]

[1]Radiology, Tongji Hospital, Tongji Medical College, Huazhong University of Science and Technology, Wuhan, Hubei, China; [2]Radiology, University of Texas Medical Branch (UTMB), Galveston, TX, United States; [3]Healthcare Sector, Siemens AG, Malvern, PA, United States; [4]Healthcare Sector, Siemens AG, Erlangen, Deutschland, Germany; [5]Editor-in-Chief of Investigative Radiology, Galveston, TX, United States

Computer 57 **3489. Improve Volume Selective 3D Fast Spin Echo Acquisition**

Weitian Chen[1], Donglai Huo[2], Kristin Granlund[3], Garry E. Gold[3], Yuval Zur[4]

[1]Applied Science Laboratory, GE Healthcare, Menlo Park, CA, United States; [2]PSD Applications, GE Healthcare, Waukesha, WI, United States; [3]Radiology, Stanford University, Palo Alto, CA, United States; [4]GE Healthcare, Haifa, Israel

Computer 58 **3490. MR Spectroscopy (MRS) in Objective Measurement of Intramuscular Fat as a Non-Invasive Biomarker: Comparison Study in Boys with Duchenne Muscular Dystrophy (DMD) and Healthy Boys.**

Suraj D. Serai[1], Hee Kyung Kim[1], Paul Horn[2], Brenda L. Wong[2], Diana Lindquist[1]

[1]Radiology, CCHMC, Cincinnati, OH, United States; [2]Neurology, CCHMC, Cincinnati, OH, United States

Computer 59 **3491. Improved IVIM Image Quantitation of Exercised Lower Back Muscles by Local Principle Component Analysis**

Patrick Hiepe[1], Daniel Güllmar[2], Alexander Gussew[3], Reinhard Rzanny[2], Jürgen R. Reichenbach[2]

[1]Medical Physics Group, Institute of Diagnostic and Interventional Radiology I , Jena University Hospital, Jena, Germany; [2]Medical Physics Group, Institute of Diagnostic and Interventional Radiology I, Jena University Hospital - Friedrich Schiller University Jena, Jena, Germany; [3]Medical Physics Group, Institute of Diagnostic and Interventional Radiology I , Jena University Hospital - Friedrich Schiller University Jena , Jena, Germany

Computer 60 **3492. Difussion Tensor Imaging Studies in Limb-Girdle Muscular Distrophies**

Hidalgo-Tobon S. Silvia[1], Gabriela R. Hernandez Salazar[2], S Vargas-Cañas[2], O. Marrufo-Melendez[3], S. Solis Najera[4], Alfredo O. Rodriguez[5], Rosa Delgado-Hernandez[6]

[1]Universidad Autonoma Metropolitana, Mexico City, Mexico, Mexico; [2]Insituto Nacional de Neurologia, Mexico, Mexico; [3]Insituto Nacional de Neurologia, DF, Mexico, Mexico; [4]UNAM, MExico, Mexico; [5]UAM, DF, Mexico, Mexico; [6]Imagenologia, Instituto Nacional de Neurologia y Neurocirugia, DF, Mexico, Mexico

Computer 61 **3493. Three Dimensional Mapping of Oxidative Capacity in Human Lower Leg Muscles with Compressed Sensing 31P-MRI**

Prodromos Parasoglou[1], Li Feng[1], Ding Xia[1], Ricardo Otazo[1], Ravinder R. Regatte[1]

[1]Department of Radiology, New York University Langone Medical Center, New York, NY, United States

Computer 62 **3494. Development of MR Compatible Muscle Stimulation Device: Deformation and Velocity Imaging of Rat Muscle Contraction.**

Shantanu Sinha[1], Raj Rajasekaran[2], Ali Moghadasi, Youngseop Chang[2], Usha Sinha[3]

[1]Radiology, University of California at San Diego, San Diego, CA, United States; [2]Medicine, University of California at San Diego, San Diego, CA, United States; [3]Physics, San Diego State University, San Diego, CA, United States

Computer 63 **3495. Optimizing Diffusion Weighted Imaging of Skeletal Muscle.**

ISMRM MERIT AWARD magna cum laude

Martijn Froeling[1], Gustav J. Strijkers[2], Aart J. Nederveen[3], Peter R. Luijten[4]

[1]Department of Radiology, Universiy Medical Center Utrecht, Utrecht,, Netherlands; [2]Biomedical NMR, Department of Biomedical Engineering, Eindhoven University of Technology, Eindhoven, Netherlands; [3]Department of Radiology, Academic Medical Center, Amsterdam, Netherlands; [4]Department of Radiology, Universiy Medical Center Utrecht, Utrecht, Netherlands

Computer 64 **3496. Demonstration of Striations in Articular Cartilage at High Field**

Paul A. DiCamillo[1], Nikolaus M. Szeverenyi[1], Sheronda Statum[1], Graeme M. Bydder[2]
[1]Department of Radiology, University of California, San Diego, CA, United States; [2]Department of Radiology, University of California San Diego, San Diego, CA, United States

Computer 65 **3497. Robust Image Registration for *In-Vivo* Human Osteoarthritic Knees and Cartilage Specimens and Correlation Between *In-Vivo* and *Ex-Vivo* T1&[rho]**

Wei-Ching Lo[1], Karupppasamy Subburaj[1], Lorenzo Nardo[1], Sharmila Majumdar[1], Michael Ries[2], Xiaojuan Li[1]
[1]Department of Radiology and Biomedical Imaging, University of California, San Francisco, San Francisco, CA, United States; [2]Orthopaedic Surgery, University of California, San Francisco, San Francisco, CA, United States

Computer 66 **3498. Feasibility Study of Diffusion Tensor Imaging of Guyon's Canal**

Eiko Yamabe[1], Ryo Miyagi[2], Toshinori Sakai[3], Toshiyasu Nakamura[4], Hiroshi Yoshioka[1]
[1]Department of Radiological Sciences, University of California Irvine, Orange, CA, United States; [2]Department of Orthopaedic Surgery, Miyoshi City National Insurance Nishi-Iya Clinic, Tokushima, Japan; [3]Department of Orthopedics, Institute of Health Biosciences, The University of Tokushima Graduate School, Tokushima, Japan; [4]Department of Orthopaedic Surgery, Keio University School of Medicine, Tokyo, Japan

Computer 67 **3499. Age Estimation of Soft Tissue Hematomas**

Bernhard Neumayer[1], Eva Hassler[1, 2], Thomas Widek[1], Kathrin Ogris[1], Eva Scheurer[1]
[1]Clinical Forensic Imaging, Ludwig Boltzmann Institute, Graz, Styria, Austria; [2]Department of Radiology, Medical University of Graz, Graz, Styria, Austria

Computer 68 **3500. The Association of Femoral Neck Stress Fractures with Femoral Acetabular Impingement**

Kathryn Stevens[1], Michael Goldin[2], Michael Fredericson[3], Christian Anderson[4], Marc R. Safran[4]
[1]Department of Radiology, Stanford University, Stanford, CA, United States; [2]Department of PM & R, Stanford University, Stanford, CA, United States; [3]Department of Orthopaedic Surgery, Stanford University, Redwood City, CA, United States; [4]Department of Sports Medicine, Stanford University, Redwood City, CA, United States

Computer 69 **3501. Can 3D Shape and Textural Analysis Differentiate Liposarcomas from Benign Lipomas?**

Rebecca E. Thornhill[1], Greg O. Cron[2], Mohammad Golfam[1], Gina DiPrimio[1], Adnan Sheikh[1], Eric A. White[3], Joel Werier[4], Mark E. Schweitzer[1]
[1]Medical Imaging, The Ottawa Hospital, Ottawa, Ontario, Canada; [2]Medical Imaging, Ottawa Hospital Research Institute, Ottawa, Ontario, Canada; [3]Radiology, University of Southern California, Los Angeles, CA, United States; [4]Surgery, The Ottawa Hospital, Ottawa, Ontario, Canada

Computer 70 **3502. The Potential Pitfalls and Image Artifacts in Integrated Whole-Body PET/MR Imaging**

Hye Jin Yoo[1], Sung Hwan Hong[1], Ja-Young Choi[1], Sung Eun Kang[1], Hye Young Sun[1]
[1]Radiology, Seoul National University, Seoul, Korea

Computer 71 **3503. Dental MRI**

Volker Rasche[1], Erich Hell[2], Magrit-Ann Geibel[3]
[1]Experimental Cardiovascular Imaging, Ulm University, Ulm, NA, Germany; [2]Research and Development, Sirona Dental Systems GmbH, Bensheim, Hessen, Germany; [3]Department of Operative Dentistry, Periodontology and Pedodontics, Ulm University, Ulm, Baden Wuerttemberg, Germany

Computer 72 **3504. Towards Theranostics of Rheumatoid Arthritis: $^{1}H/^{19}F$ Imaging of Non-Steroidal Anti-Inflammatory Drugs in Hand and Wrist at 7 Tesla**

Helmar Waiczies[1, 2], André Kühne[3, 4], Lukas Winter[2], Tobias Frauenrath[2], Werner Hoffmann[3], Bernd Ittermann[3], Sonia Waiczies[1, 2], Thoralf Niendorf[2, 5]
[1]Magnetic Resonance Imaging in Immunology, Experimental and Clinical Research Center (ECRC), a cooperation of the Charité Medical Faculty and the Max Delbrück Center for Molecular Medicine, Berlin, Germany; [2]Berlin Ultrahigh Field Facility (B.U.F.F.), Max Delbrück Center for Molecular Medicine, Berlin, Germany; [3]Department of Medical Physics and Metrological Information, Physikalisch Technische Bundesanstalt, Berlin, Germany; [4]Center for Medical Physics and Biomedical Engineering, Medical University of Vienna, Vienna, Austria; [5]Experimental and Clinical Research Center (ECRC), Charité University Medicine Campus Berlin-Buch, Berlin, Germany

Electronic Poster
Muscle

Exhibition Hall Tuesday 10:00-11:00

Computer 73 **3505.** **Functional ^{31}P-MR Chemical Shift Imaging in Lower Back Muscles During Isometric Load**

Patrick Hiepe[1], Alexander Gussew[2], Reinhard Rzanny[3], Jürgen R. Reichenbach[3]

[1]Medical Physics Group, Institute of Diagnostic and Interventional Radiology I , Jena University Hospital, Jena, Germany; [2]Medical Physics Group, Institute of Diagnostic and Interventional Radiology I , Jena University Hospital - Friedrich Schiller University Jena , Jena, Germany; [3]Medical Physics Group, Institute of Diagnostic and Interventional Radiology I, Jena University Hospital - Friedrich Schiller University Jena, Jena, Germany

Computer 74 **3506.** **Investigation of Diffusion Tensor Imaging Indices, Mean BOLD Signal and Calf Muscle Cross Sectional Area Following Bed Rest**

Alyaa H. Elzibak[1], Michael D. Noseworthy[2]

[1]Medical Physics and Applied Radiation Sciences, McMaster University, Hamilton, Ontario, Canada; [2]Electrical and Computer Engineering, School of Biomedical Engineering, Department of Radiology, McMaster University, Hamilton, Ontario, Canada

Computer 75 **3507.** **Temporal Changes in Magnetic Resonance Imaging in the *mdx* Mouse**

Su Xu[1, 2], Stephen J.P. Pratt[3], Roger J. Mullins[1, 2], Richard M. Lovering[3]

[1]Department of Diagnostic Radiology and Nuclear Medicine, University of Maryland School of Medicine, Baltimore, MD, United States; [2]Core for Translational Research in Imaging @ Maryland, Baltimore, MD, United States; [3]Department of Orthopaedics, University of Maryland School of Medicine, Baltimore, MD, United States

Computer 76 **3508.** ***In Vivo* Transverse Relaxation and Magnetization Transfer Imaging of Human Thigh Muscles at 3.0 Tesla**

Ke Li[1, 2], Richard D. Dortch[1, 2], Nathan D. Bryant[1, 2], Amanda K.W. Buck[1, 2], Theodore F. Towse, [23], Daniel F. Gochberg[1, 2], Mark D. Does[1, 2], Bruce M. Damon[1, 2], Jane H. Park[4]

[1]Institute of Imaging Science, Vanderbilt University, Nashville, TN, United States; [2]Radiology and Radiological Sciences, Vanderbilt University, Nashville, TN, United States; [3]Physical Medicine and Rehabilitation, Vanderbilt University, Nashville, TN, United States; [4]Molecular Physiology and Biophysics, Vanderbilt University, Nashville, TN, United States

Computer 77 **3509.** **Evaluation of Muscle Blood Flow of the Lower-Leg After Exercise Using 3D-PCASL Volume Data**

Shuya Fujihara[1], Tosiaki Miyati[2], Saori Watanabe[2, 3], Naoki Ohno[2], Takashi Hamaguchi[2], Masako Takanaga[2], Takayuki Miyazaki[4]

[1]Division of Health Sciences, Graduate School of Medical Sciences , Kanazawa University, Kanazawa, Ishikawa, Japan; [2]Division of Health Sciences, Graduate School of Medical Sciences, Kanazawa University, Kanazawa, Ishikawa, Japan; [3]Department of Radiology, Kanazawa University Hospital, Kanazawa, Ishikawa, Japan; [4]School of Health Sciences, College of Medical Pharmaceutical and Health Sciences, Kanazawa University, Kanazawa, Ishikawa, Japan

Computer 78 **3510.** **Multi-Parametric Characterization of Polymyositis at 3.0 T: A Preliminary Study**

Ke Li[1, 2], Richard D. Dortch[1, 2], E. Brian Welch[1, 2], Susan F. Kroop[3], Bruce M. Damon[1, 2], Jane H. Park[4]

[1]Institute of Imaging Science, Vanderbilt University, Nashville, TN, United States; [2]Radiology and Radiological Sciences, Vanderbilt University, Nashville, TN, United States; [3]Rheumatology, Vanderbilt University, Nashville, TN, United States; [4]Molecular Physiology and Biophysics, Vanderbilt University, Nashville, TN, United States

Computer 79 **3511.** ***In Vivo* Diffusion Tensor Imaging of Human Thigh Muscles at 3.0 Tesla**

Ke Li[1, 2], Richard D. Dortch[1, 2], Ha-Kyu Jeong[1, 2], Amanda K.W. Buck[1, 2], Theodore F. Towse, [23], Bruce M. Damon[1, 2], Jane H. Park[4]

[1]Institute of Imaging Science, Vanderbilt University, Nashville, TN, United States; [2]Radiology and Radiological Sciences, Vanderbilt University, Nashville, TN, United States; [3]Physical Medicine and Rehabilitation, Vanderbilt University, Nashville, TN, United States; [4]Molecular Physiology and Biophysics, Vanderbilt University, Nashville, TN, United States

Computer 80 **3512.** **Functional T_2 Measurements in Lower Back Muscles Before and After Isometric Muscle Contraction**

Patrick Hiepe[1], Alexander Gussew[2], Reinhard Rzanny[3], Jürgen R. Reichenbach[3]

[1]Medical Physics Group, Institute of Diagnostic and Interventional Radiology I , Jena University Hospital, Jena, Germany; [2]Medical Physics Group, Institute of Diagnostic and Interventional Radiology I , Jena University Hospital - Friedrich Schiller University Jena , Jena, Germany; [3]Medical Physics Group, Institute of Diagnostic and Interventional Radiology I, Jena University Hospital - Friedrich Schiller University Jena, Jena, Germany

Computer 81 **3513. Detectability of Exercise-Induced Muscle Activities of Abdominal Oblique Muscle Using Muscle Functional MRI**

Noriyuki Tawara[1], Takahiro Ohnishi[2], Katsuya Maruyama[2], Vladimir Jellus[3], Naoyuki Tamura[4], Hideyuki Takahashi[4], Mamoru Niitsu[5], Atsuto Hoshikawa[1], Kohei Nakajima[1], Toru Okuwaki[1], Takashi Kawahara[1]

[1]Medical Center, Japan Institute of Sports Sciences, Tokyo, Japan; [2]Siemens Japan, Tokyo, Japan; [3]Siemens AG, Erlangen, Germany; [4]Department of Sports Science, Japan Institute of Sports Sciences, Tokyo, Japan; [5]Department of Radiology, Saitama Medical University, Saitama, Japan

Computer 82 **3514. Analysis of the Stiffness Anisotropy Structure Using MR Elastography in the Skeletal Muscle**

Hata Junichi[1], Numano Tomokazu[2], Mizuhara Kazuyuki[3], Washio Toshikatsu[4], Takamoto Kohichi[5], Homma Kazuhiro[4], Yagi Kazuo[2], Yano Keichi[1], Ohtomo Kuni[1]

[1]The University of Tokyo Hospital, Bunkyou, Tokyo, Japan; [2]Tokyo Metropolitan University, Arakawa, Tokyo, Japan; [3]University of Tokyo Denki, Adachi, Tokyo, Japan; [4]National Institute of Advanced Industrial Science and Technology, Tsukuba, Ibaraki, Jamaica; [5]University of Toyama, Toyama, Japan

Computer 83 **3515. Characteristics of Off-Center Anatomy-Related Artifact in Open MRI**

CheolPyo Hong[1], Donghoon Lee[2], Si Seung Kim[3], Youngkeun Woo[4]

[1]Radiological Science , Yonsei University, Wonju, Gangwon-do, Korea; [2]Radiological Science, Yonsei University, Wonju, Gangwon-do, Korea; [3]Research and development, SciMedix Co.,Ltd, Incheon, Korea; [4]Physical Therapy, Jeonju University, Jeonju, Jeonbuk, Korea

Computer 84 **3516. MR Quantification of Fatty Fraction in the Muscle Atrophy in Rotator Cuff Tears from T2*-Corrected Dixon Fat/Water Separation VIBE**

Young Han Lee[1], Daekeon Lim[1], Ho-Taek Song[1], InSeong Kim[2], Jin-Suck Suh[1]

[1]Yonsei University College of Medicine Severance hospital, Seoul, Korea; [2]Siemens Healthcare, Seoul, Korea

Computer 85 **3517. 31-Phosphorus Magnetic Resonance Spectroscopy Following Isovolumetric Muscle Exercise**

Dong-Ho Ha[1], Sunseob Choi[2]

[1]Dong-A university, Busan, Korea; [2]Dong-A University Medical Center, Busan, Korea

Computer 86 **3518. Mitochondrial Skeletal Muscle Uncoupling in a Murine Cancer Cachexia Model**

Valeria Righi[1, 2], Cibely Cristine Fontes De Oliveira[3], Alexander A. Shestov[4], Dionyssios Mintzopoulos[1, 5], Nikolaos Psychogios[1, 5], Caterina Constantinou[1, 6], Silvia Busquets[3], Francisco J. Lopez-Soriano[3], Sylvain Milot[7], Francois Lepine[8], Michael N. Mindrinos[9], Laurence G. Rahme[6], Josep M. Argiles[3], Aria A. Tzika[1, 5]

[1]NMR Surgical Laboratory, Department of Surgery, Massachusetts General Hospital and Shriners Burn Institute, Harvard Medical School, Boston, MA, United States; [2]Department of Science for Life Quality, University of Bologna, Rimini, Italy; [3]Cancer Research Group, Department de Bioquýmica y Biologia Molecular, Facultat de Biologia, Universitat de Barcelona, Barcelona, Spain; [4]Center for Magnetic Resonance Research, Department of Radiology, University of Minnesota Medical School, Minneapolis, MN, United States; [5]Department of Radiology, Athinoula A. Martinos Center of Biomedical Imaging, Boston, MA, United States; [6]Molecular Surgery Laboratory, Department of Surgery, Massachusetts General Hospital and Shriners Burn Institute, Harvard Medical School, Boston, MA, United States; [7]INRS-Institut Armand-Frappier, Université du Québec, Laval,, Quebec, Canada; [8]INRS-Institut Armand-Frappier, Université du Québec, Leval, Quebec, Canada; [9]Department of Biochemistry, Stanford University School of Medicine, Stanford,, CA, United States

Computer 87 **3519. Chemical Shift-Based Imaging to Measure Fat Fractions in Dystrophic Skeletal Muscle**

ISMRM MERIT AWARD magna cum laude

Celine Baligand[1], William Triplett[2], Sean C. Forbes[3], Rebecca J. Willcocks[3], Donovan J. Lott[3], Soren De Vos[3], Jim Pollaro[4], William D. Rooney[4], H. Lee Sweeney[5], Carsten G. Bonnemann[6], Krista Vandenborne[3], Glenn A. Walter[2]

[1]Physiology and Functional Genomics, University of Florida, Gainesville, FL , United States; [2]Physiology and Functional Genomics, University of Florida, Gainesville, FL, United States; [3]Physical Therapy, University of Florida, Gainesville, FL, United States; [4]Department of Behavioral Neuroscience, Oregon Health & Science University, Portland, OR, United States; [5]Department of Physiology, University of Pennsylvania, Philadelphia, PA, United States; [6]Pediatrics, The Children's Hospital of Philadelphia, Philadelphia, PA, United States

Computer 88 **3520. Analysis of the Relationship of Mandibular Movement with the Condition of the Masseter Muscles and the Temporomandibular Joint Using Multi-Section Dynamic MRI and DTI and a T1, T2 Map**

Ryusuke Nakai[1, 2], Takashi Azuma[3], Keiji Shigeno[1], Osamu Takizawa[4], Hiroo Iwata[1]

[1]Institute for Frontier Medical Sciences, Kyoto University, Kyoto, Japan; [2]Kokoro Research Center, Kyoto University, Kyoto, Japan; [3]National Institute of Information and Communications Technology, Suita, Osaka, Japan; [4]Siemens Japan K.K., Tokyo, Japan

Computer 89 **3521.** **Isolating CEST and MT in the Human Calf Muscle at 7T**

ISMRM MERIT AWARD magna cum laude

Prodromos Parasoglou[1], Jae-Seung Lee[1, 2], Ding Xia[1], Gregory Chang[1], Alexej Jerschow[1, 2], Ravinder R. Regatte[1]
[1]Department of Radiology, New York University Langone Medical Center, New York, NY, United States; [2]Department of Chemistry, New York University, New York, NY, United States

Computer 90 **3522.** **3D Strain Rate Mapping of the Calf Muscle and Correlation of Strain Rate Orientation to Muscle Fiber Direction.**

Usha Sinha[1], Ali Moghadasi[2], Shantanu Sinha[3]
[1]Physics, San Diego State University, San Diego, CA, United States; [2]University of California at San Diego, San Diego, CA, United States; [3]Radiology, University of California at San Diego, San Diego, CA, United States

Computer 91 **3523.** **3D Mapping of Creatine Kinase Reaction Rates and Metabolic Fluxes in the Human Calf Muscle at 3T**

Ding Xia[1], Prodromos Parasoglou[1], Gregory Chang[1], Ravinder R. Regatte[1]
[1]Department of Radiology, New York University Langone Medical Center, New York, United States

Computer 92 **3524.** **Assessment of Skeletal Muscle Oxygen Kinetics Using Quantitative BOLD (QBOLD)**

Xiang He[1], Serter Gumus[1], Jung-Hwan Kim[1], Ted Huppert[1], Bret Goodpaster[2], Dmitriy A. Yablonskiy[3], Kyongtae Ty Bae[1]
[1]Department of Radiology, University of Pittsburgh, Pittsburgh, PA, United States; [2]2Department of Endocrinology and Metabolism, University of Pittsburgh, Pittsburgh, PA, United States; [3]Mallinckrodt Institute of Radiology, Washington University in St Louis, St Louis, MO, United States

Computer 93 **3525.** **Preliminary MR DTI Study of Age-Related Regeneration Process of Skeletal Muscle with Ischemia Injury**

Ke Jiang[1], Xiaotian Wang[1, 2], Hulong Lei[1], Wei Yang[1], Yin Wu[1]
[1]Paul C. Lauterbur Research Center for Biomedical Imaging, Shenzhen Key Laboratory for MRI, Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences, Shenzhen, Guangdong, China; [2]Sino-Dutch Biomedical and Information Engineering School, Northeastern University, Shenyang, Liaoning, China

Computer 94 **3526.** **Changes in Diffusion Tensor Imaging (DTI) Eigenvalues of Skeletal Muscle Due to Hybrid Exercise Training**

Yoshikazu Okamoto[1], Tomonori Isobe[1], Graham J. Kemp[2]
[1]University of Tsukuba Hospital, Tsukuba, Ibaraki, Japan; [2]University of Liverpool, Liverpool, United Kingdom

Computer 95 **3527.** **Non-Contrast MRI Perfusion Angiosome in Diabetic Feet**

Jie Zheng[1], Mary K. Hasting[1], David Muccigrosso[1], Darrah Snozek[1], Zhaoyang Fan[2], John Curci[1], Michael Mueller[1]
[1]Washington University in St. Louis, Saint Louis, MO, United States; [2]Cedars-Sinal Medical Center, Los Angelas, CA, United States

Computer 96 **3528.** **Changes in Elastic Modulus of Muscles from Multi-Parametric MRI and Agglomerative Hierarchical Clustering**

Delphine Perie[1, 2], Daniel Curnier[3, 4]
[1]Mechanical Engineering, Ecole Polytechnique de Montreal, Montreal, QC, Canada; [2]Research center, CHU Sainte Justine, Montreal, Quebec, Canada; [3]Kinesiology, Université de Montréal, Montreal, QC, Canada; [4]Research center, CHU Sainte Justine, Montreal, QC, Canada

Electronic Poster
Cartilage

Exhibition Hall Tuesday 11:00-12:00

Computer 73 **3529.** **Quantitative 11.7 T MRI and EPIC-µCT Assessment of Cartilage Repair in a Rabbit Glenohumeral Joint Model Following Microfracture and Autologous Matrix Induced Chondrogenesis**

ISMRM MERIT AWARD magna cum laude

Ziying Yin[1], Andrew S. Lee[2], Geoffrey S. Van Thiel[2], Vasili Karas[2], Kristen Hussey[2], Elizabeth F. Shewman[2], Dale R. Sumner[2], Brian J. Cole[2], Vincent M. Wang[2], Richard L. Magin[1]
[1]Bioengineering, University of Illinois at Chicago, Chicago, IL, United States; [2]Orthopedic Surgery, Rush University Medical Center, Chicago, IL, United States

Computer 74 **3530.** ***in vivo*** **DTI of Articular Cartialge at 3T with a Spin Echo Radial Diffusion Tensor Imaging (RAISED) Sequence**

Jose G. Raya[1], Eike Dettmann[1], Ali-mohammad Golestani[1], Kai Tobias Block[2]
[1]Radiology, New York University Langone Medical Center, New York, NY, United States; [2]Radiology, NYU Langone Medical Center, New York, NY, United States

Computer 75 **3531. The Effect of Bone Marrow Edema-Like Lesions on Knee Articular Cartilage Laminar MR Relaxation Time**
Joseph Alan Schooler[1], Deepak Kumar[1], Xiaojuan Li[1], Thomas M. Link[1], Sharmila Majumdar[1]
[1]Radiology and Biomedical Imaging, University of California - San Francisco, San Francisco, CA, United States

Computer 76 **3532. T2* of the Osteochondral Junction Measured by VTE at 7T and Correlated with Histology**
Vladimir Juras[1], Maria Isabel Menedez[2], Jochen Hofstaetter[3], Martin Brix[3], Sonja M. Walzer[3], Pavol Szomolanyi[1], Oliver Bieri[4], Xeni Deligianni[4], Siegfried Trattnig[1]
[1]MR Centre of Excellence, Department of Radiology, Medical University of Vienna, Vienna, Austria; [2]The Wright Center of Innovation in Biomedical Imaging, The Ohio State University Wexner Medical Center, Columbus, OH, United States; [3]Department of Orthopaedics, Medical University of Vienna, Vienna, Austria; [4]Department of Radiology, Division of Radiological Physics, University of Basel Hospital, Basel, Switzerland

Computer 77 **3533. Automated Cartilage Morphometric and T2 Mapping Using 3D-FSE MRI at 3T**
Jurgen Fripp[1], Rachel Surowiec[2], Erin Lucas[2], Craig Engstrom[3], Chandra Shakes[4], Raphael Schwarz[5], Charles Ho[2], Stuart Crozier[6]
[1]The Australian eHealth Research Centre, CSIRO ICT Centre, Brisbane, Qld, Australia; [2]Steadman Philippon Research Institute, Vail, Colarado, United States; [3]School of Human Movement Studies, University of Queensland, Brisbane, Qld, Australia; [4]Australian eHealth Research Centre, ICT Centre, CSIRO, Herston, Queensland, Australia; [5]Healthcare, Siemens, Erlangen, Bavaria, Germany; [6]The School of Information Technology and Electrical Engineering, The University of Queensland, Brisbane, Qld, Australia

Computer 78 **3534. In Vivo High-Resolution T1$_{\&[rho]}$ MRI of the Wrist at 3T: Usefulness of Realignment During Post-Processing**
Hon J. Yu[1], Dave Michael Hitt[2], Hiroshi Yoshioka[3]
[1]Tu & Yuen Center for Functional Onco-Imaging, University of California, Irvine, Irvine, CA, United States; [2]U.S. Clinical Science , Philips Healthcare, Cleveland, OH, United States; [3]Radiological Sciences, University of California, Irvine, Orange, CA, United States

Computer 79 **3535. Planar Hip Cartilage Quality Maps – a Novel Approach to 3D Cartilage Assessment by Combining DGEMRIC with Automated Segmentation**
Carl Siversson[1, 2], Alireza Akhondi-Asl[1], Young-Jo Kim[3], Simon K. Warfield[1]
[1]Computational Radiology Laboratory, Children's Hospital Boston, Harvard Medical School, Boston, MA, United States; [2]Dept. of Medical Radiation Physics, Lund University, Malmo, Sweden; [3]Department of Orthopaedics, Children's Hospital Boston, Harvard Medical School, Boston, MA, United States

Computer 80 **3536. Delayed Gadolinium-Enhanced MRI of the Fibrocartilage Disc of the Temporomandibular Joint - Feasibility Study**
Elisabeth Pittschieler[1], Pavol Szomolanyi[2, 3], Martina Schmid-Schwap[4], Michael Weber, Hanns Plenk[5], Siegfried Trattnig[2]
[1]Department of Orthodontics, Bernhard-Gottlieb University Dental Clinic, Vienna, Austria; [2]High field MR Center of Excellence, Department of Radiology, Medical University of Vienna/Vienna General Hospital, Vienna, Austria; [3]Department of Imaging Methods, Institute of Measurement Science, Slovak Academy of Sciences, Bratislava, Slovakia; [4]Department of Prosthodontics, Bernhard Gottlieb Universitity of Dentistry, University of Vienna, Vienna, Austria; [5]Department of Histology and Embryology, Medical University of Vienna, Vienna, Austria

Computer 81 **3537. Comparison of T2 Relaxation Time in Knee Cartilage Using Quantitative DESS, CubeQuant and 2D-FSE**
Kambiz A. Asher[1], Bragi Sveinsson[1, 2], Garry E. Gold[1, 3]
[1]Department of Radiology, Stanford University, Stanford, CA, United States; [2]Department of Electrical Engineering, Stanford University, Stanford, CA, United States; [3]Department of Bioengineering, Stanford University, Stanford, CA, United States

Computer 82 **3538. In Vivo High-Resolution Angular/Depth Dependent T2 and T1$_{\&[rho]}$ Mapping Analysis of Femoral Cartilage at 3T**
Hon J. Yu[1], Peter Huy Pham[2], Dave Michael Hitt[3], Hiroshi Yoshioka[4]
[1]Tu & Yuen Center for Functional Onco-Imaging, University of California, Irvine, Irvine, CA, United States; [2]Loma Linda University Medical Center, Loma Linda, CA, United States; [3]U.S. Clinical Science , Philips Healthcare, Cleveland, OH, United States; [4]Radiological Sciences, University of California, Irvine, Orange, CA, United States

Computer 83 **3539. Biomechanical MR Imaging of the Human Knee Cartilage After Cartilage Transplantation**
Elisabeth Schoenbauer[1], Pavol Szomolanyi[1, 2], Vladimir Juras[1, 2], Toshiyuki Shiomi[1], Stefan Zbýň[1], Siegfried Trattnig[1]
[1]High field MR Center of Excellence, Department of Radiology, Medical University of Vienna/Vienna General Hospital, Vienna, Austria; [2]Department of Imaging Methods, Institute of Measurement Science, Slovak Academy of Sciences, Bratislava, Slovakia

Computer 84 **3540. The Effect of the Selection of Measured Tissue and Assumed Constant T1 Values on the Measurement of T1rho in Patients with Minimal and Severe Osteoarthritis (OA) at 3.0T MR System**
In Chan Song[1], Hyeonjin Kim[1], Hye Jin Yoo[1], Ja-Young Choi[1], Sung Hwan Hong[1]
[1]Radiology, Seoul National University Hospital, Seoul, Korea

Computer 85 **3541. T2 Mapping of the Articular Disc of the Temporomandibular Joint–a Feasibility Study**
Pavol Szomolanyi[1, 2], Martina Schmid-Schwap[3], Margit Bristela[3], Elisabeth Pittschieler[4], Astrid Skolka[5], Michael Weber, Eva Piehslinger[5], Siegfried Trattnig[1]
[1]High field MR Center of Excellence, Department of Radiology, Medical University of Vienna/Vienna General Hospital, Vienna, Austria; [2]Department of Imaging Methods, Institute of Measurement Science, Slovak Academy of Sciences, Bratislava, Slovakia; [3]Department of Prosthodontics, Bernhard Gottlieb University of Dentistry,, Vienna, Austria; [4]Department of Orthodontics, Bernhard Gottlieb University of Dentistry, Vienna, Austria; [5]Department of Prosthodontics, Bernhard Gottlieb University of Dentistry, Vienna, Austria

Computer 86 **3542. Feasibility Study of High Resolution PDw Imaging of Cartilage of the Thumb at 7Tesla MRI**
Mies A. Korteweg[1], Fredy Visser[2, 3], Paul Cernohorsky[4], Simon D. Strackee[4], Peter R. Luijten[2], Mario Maas[1], Dennis W.J. Klomp[2]
[1]Radiology, Academic Medical Center, Amsterdam, Netherlands; [2]7Tesla, University Medical Center Utrecht, Utrecht, Netherlands; [3]Philips Healthcare, Best, Netherlands; [4]Plastic Reconstructive Hand Surgery, Academic Medical Center, Amsterdam, Netherlands

Computer 87 **3543. *Rapid Magnetization Prepared Diffusion Weighted Imaging of Articular Cartilage in-vivo</i>*iti Guha[1], Cory Wyatt[1], Sharmila Majumdar[1]**
[1]Radiology and Biomedical Imaging, University of California, San Francisco, San Francisco, CA, United States

Computer 88 **3544. Sodium Concentration Reduction in Human Knee Cartilage with Healthy Aging**
Rebecca Emily Feldman[1], Christian Beaulieu[1]
[1]Biomedical Engineering, University of Alberta, Edmonton, Alberta, Canada

Computer 89 **3545. Rapid Isotropic Resolution Imaging of the Articular Cartilage of the Knee Joint at 3.0T Using VIPR-IDEAL**
Larry Hernandez[1], Leah C. Henze Bancroft[2], Walter F. Block[3, 4], Richard Kijowski[5]
[1]Medical Physics, University of Wisconsin - Madison, Madison, WI, United States; [2]Biomedical Engineering, University of Wisconsin - Madison, Madison, WI, United States; [3]Biomedical Engineering, University of Wisconsin-Madison, Madison, WI, United States; [4]Medical Physics, University of Wisconsin, Madison, WI, United States; [5]Radiology, University of Wisconsin, Madison, WI, United States

Computer 90 **3546. Alternative Methods for Transforming T2 Anisotropy of MRI Into Collagen Architecture of Articular Cartilage – the Effect on Knee Joint Mechanics – Data from the Osteoarthritis Initiative (OAI)**
Lasse P. Räsänen[1, 2], Mika E. Mononen[1], Miika T. Nieminen[3, 4], Eveliina Lammentausta[3], Jukka S. Jurvelin[1], Rami K. Korhonen[1]
[1]Department of Applied Physics, University of Eastern Finland, Kuopio, Finland; [2]Department of Clinical Radiology, Kuopio University Hospital, Kuopio, Finland; [3]Department of Diagnostic Radiology, Oulu University Hospital, Oulu, Finland; [4]Department of Radiology, University of Oulu, Oulu, Finland

Computer 91 **3547. Influence of Loading on Cartilage T1rho and T2 Value in the Porcine Knee Joint**
Hidetoshi Hamada[1], Takashi Nishii[2], Satoru Tamura[2], Tetsuya Wakayama[3], Hisashi Tanaka[4], Kenya Murase[5], Hideki Yoshikawa[1], Nobuhiko Sugano[2]
[1]Department of Orthopedic surgery, Osaka university graduate school of medicine, Suita, Osaka, Japan; [2]Departments of Orthopedic Medical Engineering, Osaka University Graduate School of Medicine, Suita, Osaka, Japan; [3]GE Healthcare Applied Science Laboratory, Asia Pacific, Hino, Tokyo, Japan; [4]Department of Radiology, Osaka University Medical School, Suita, Osaka, Japan; [5]Department of Medical Physics and Engineering, Osaka University Medical School, Suita, Osaka, Japan

Computer 92 **3548. Standard Deviation of T1ρ and T2 Relaxation Times Show Regional Changes in Hip Articular Cartilage of Patients with FAI**
Stephen J. Matzat[1], Emily J. McWalter[2], Weitian Chen[3], Marc R. Safran[4], Garry E. Gold[2, 5]
[1]Stanford University, Stanford, CA, United States; [2]Department of Radiology, Stanford University, Stanford, CA, United States; [3]MR Applied Science Laboratory, GE Healthcare, Menlo Park, CA, United States; [4]Department of Orthopaedic Surgery, Stanford University, Stanford, CA, United States; [5]Department of Bioengineering, Stanford University, Stanford, CA, United States

Computer 93 **3549. Quantitative Sodium MRI in an Osteoarthritis Goat Animal Model: Preliminary Results**
Gunthard Lykowsky[1], Flavio Carinci[1], Kathrin Hemberger[1], Eberhard Munz[2], Peter M. Jakob[1, 2], Daniel Haddad[1]
[1]MRB Research Center, Würzburg, Bavaria, Germany; [2]Department of Experimental Physics 5, University of Würzburg, Würzburg, Bavaria, Germany

Computer 94 **3550. Prolonged Subregional Femorotibial Cartilage Increase After Acute Anterior Cruciate Ligament Tear - Five Year Follow Up Data After Injury**
Felix Eckstein[1, 2], Wolfgang Wirth[1, 2], Martin Hudelmaier[1, 2], Stefan Lohmander[3], Richard B. Frobell[4]
[1]Institute of Anatomy and Musculoskeletal Research, Paracelsus Medical University, Salzburg, Austria; [2]Chondrometrics GmbH, Ainring, Bavaria, Germany; [3]Dept Orthopaedics, Clinical Sciences Lund, Lund University, Lund, SE, Sweden; [4]Orthopedics, Clinical Sciences Lund, Lund University, Lund, SE, Sweden

Computer 95 **3551. Multi-Parametric MRI Assessment of Degeneration of Human Articular Cartilage – Association to Histopathological Grade**
Elli-Noora Salo[1], Jari Rautiainen[2, 3], Virpi Tiitu[4], Mikko A.J. Finnilä[5], Olli-Matti Aho[6], Petri Lehenkari[6], Jutta Maria Ellermann[7], Simo Saarakkala[5], Mikko J. Nissi[7, 8], Miika T. Nieminen[1, 3]
[1]Department of Diagnostic Radiology, Oulu University Hospital, Oulu, Finland; [2]Department of Applied Physics, University of Eastern Finland, Kuopio, Finland; [3]Department of Radiology, University of Oulu, Oulu, Finland; [4]Institute of Biomedicine, Anatomy, University of Eastern Finland, Kuopio, Finland; [5]Department of Medical Technology, University of Oulu, Oulu, Finland; [6]Department of Anatomy and Cell Biology, University of Oulu, Oulu, Finland; [7]Center for Magnetic Resonance Research and Department of Radiology, University of Minnesota, Minneapolis, MN, United States; [8]Department of Orthopaedic Surgery, University of Minnesota, Minneapolis, MN, United States

Computer 96 **3552. Orientation Anisotropy of Rotating Frame and T_2 Relaxation Parameters in Articular Cartilage**
Mikko J. Nissi[1, 2], Silvia Mangia[1], Shalom Michaeli[1], Miika T. Nieminen[3, 4]
[1]CMRR and Department of Radiology, University of Minnesota, Minneapolis, MN, United States; [2]Department of Applied Physics, University of Eastern Finland, Kuopio, Finland; [3]Department of Diagnostic Radiology, Oulu University Hospital, Oulu, Finland; [4]Department of Radiology, University of Oulu, Oulu, Finland

Electronic Poster
fMRI of Brain Disorders

Exhibition Hall Tuesday 13:30-14:30

Computer 1 **3553. Abnormalities of the Brain Connectome in Patients with Multiple Sclerosis**
Massimo Filippi[1], Paola Valsasina[1], Sara Sala[1, 2], Alessandro Meani[1], Andrea Falini[3], Giancarlo Comi[4], Maria A. Rocca[1]
[1]Neuroimaging Research Unit, Institute of Experimental Neurology, San Raffaele Scientific Institute, Vita-Salute San Raffaele University, Milan, MI, Italy; [2]Department of Statistics, University of Milano-Bicocca, Milan, MI, Italy; [3]Department of Neuroradiology, San Raffaele Scientific Institute, Vita-Salute San Raffaele University, Milan, MI, Italy; [4]Department of Neurology, San Raffaele Scientific Institute, Vita-Salute San Raffaele University, Milan, MI, Italy

Computer 2 **3554. Cerebrovascular Reactivity-Based Calibration of Presurgical Motor Activation Maps to Improve Detectability of the BOLD Signal in Patients with Perirolandic Brain Tumors**
Domenico Zacà[1, 2], Sreenivasan R. Nadar[1], Jorge Jovicich[2], Jay J. Pillai[1]
[1]Division of Neuroradiology, Johns Hopkins University, School of Medicine, Baltimore, MD, United States; [2]Center for Mind Brain Sciences, University of Trento, Mattarello, TN, Italy

Computer 3 **3555. Altered Spontaneous Neural Activity in Large-Scale Brain Systems Associated with Executive Dysfunction in Attention Deficit Hyperactivity Disorder**
Fei Li[1], Ning He[2], Yuanyuan Li[2], Xiaoqi Huang[1], Su Lui[1], Lanting Guo[2], Qiyong Gong[1]
[1]Huaxi MR Research Center (HMRRC), Department of Radiology, West China Hospital, Chengdu, Sichuan, China; [2]Department of Psychiatry, West China Hospital, Chengdu, Sichuan, China

Computer 4 **3556. Altered Thalamic Connectivity in Schizophrenia**
Ali-Mohammad Golestani[1], Dolores Malaspina[2], Laura Miles[1], Mariana Lazar[1]
[1]Radiology, Center for Biomedical Imaging, NYU Medical Center, New York, NY, United States; [2]Psychiatry, NYU School of Medicine, New York, NY, United States

Computer 5 **3557. The Dynamically Changing Default-Mode Network Functional Connectivity After Concussion in Sports**
David C. Zhu[1], Randy Pearson[1], Jeffrey Monroe[1], Sally Nogle[1], Scarlett Doyle[1], Doozie Russell[1], Christine Liszewski[1], Albert Aniskiewicz[1], Michael Shingles[1], Douglas Dietzel[1], Michael Andary[1], J. Kevin DeMarco[1], David Kaufman[1]
[1]Michigan State University, East Lansing, MI, United States

Computer 6 **3558. A Framework for Causal Connectivity Analysis of fMRI in Patient Populations: An Application to Major Depression and Early Life Stress**
Karthik Ramakrishnan Sreenivasan[1], Merida M. Grant[2], Gopikrishna Deshpande, [3]
[1] AU MRI Research Center, Department of Electrical and Computer Engineering, Auburn University, Auburn, AL, United States; [2]Department of Psychiatry, University of Alabama School of Medicine, Birmingham, AL, United States; [3]Department of Psychology, Auburn University, Auburn, AL, United States

Computer 7 **3559. Motor Impairment in Schizophrenics: A Combined fMRI and VBM Study**
Sadhana Singh[1], Satnam Goyal[2], Shilpi Modi[1], Pawan Kumar[1], Namita Singh[1], Tripish Bhatia[3], Smita N. Deshpande[3], Subash Khushu[1]
[1]NMR Research Centre, INMAS, Delhi, India; [2]Department of Psychiatry, PGIMER,, New Delhi, Delhi, India; [3]Department of Psychiatry, PGIMER, New Delhi, Delhi, India

Computer 8 **3560. Neural Activation Associated with Inhibition Control in Working Memory Maintenance and Its Correlation with Brain Volume Changes in Generalized Anxiety Disorder**
Gwang-Won Kim[1], Moo-Suk Lee[2], Heoung-Keun Kang[3], Tae-Jin Park[4], Jong-Chul Yang[5], Gyung-Ho Chung[6], Gwang-Woo Jeong[1, 3]
[1]Research Institute of Medical Imaging, Chonnam National University Medical School, Gwangju, Korea; [2]Psychiatry, Chonnam National University Medical School, Gwangju, Korea; [3]Radiology, Chonnam National University Medical School, Gwangju, Korea; [4]Psychology, Chonnam National University, Gwangju, Korea; [5]Psychiatry, Chonbuk National University Medical School, jeonju, Korea; [6]Radiology, Chonbuk National University Medical School, jeonju, Korea

Computer 9 **3561. Neuroimaging Biomarkers of Mild Traumatic Brain Injury (MTBI) and Its Recovery: A Preliminary Study in Acute Setting**
Jie Yang[1], Zhifeng Kou[2], Robert Dean Welch[3], Randall Benson[4, 5], Ramtilak Gattu[2], Valerie Mika[3], Ewart Mark Haacke[1]
[1]Radiology, Wayne State University School of Medicine, Detroit, MI, United States; [2]Radiology, Wayne State University, Detroit, MI, United States; [3]Emergency Medicine, Wayne State University School of Medicine, Detroit, MI, United States; [4]Neurology, Wayne State University, Detroit, MI, United States; [5]Center for Neurologic Studies, Novi, MI , United States

Computer 10 **3562. Language Lateralization and Corpus Callosum Fractional Anisotropy in Patients with Brain Tumor: Combined Functional MRI with Diffusion Tensor Imaging**
Kyung K. Peck[1], Gabriella Tantillo, John Jyo, Rob Young, Nicole Brennan, Joanne Chou[2], Andrei Holodny
[1]Medical Physics and Radiology, Memorial Sloan-Kettering Cancer Center, New York, United States; [2]Statistics, Memorial Sloan-Kettering Cancer Center, New York, United States

Computer 11 **3563. Motor Functional Plasticity in Patients with Brain Tumor: The fMRI Study**
Chen Niu[1], Pan Lin[2], Ming Zhang[3], Zhigang Min[3], Netra Rana[3]
[1]The First Affiliated Hospital of Medical College, Xi'an Jiaotong University, Xi'an, Shaanxi, China; [2]Key Laboratory of Biomedical Information Engineering of Education Ministry, Xi'an Jiaotong Universit, Xi'an, Shaanxi, China; [3]The First Affiliated Hospital of Medical College, Xi'an Jiaotong University,, Xi'an, Shaanxi, China

Computer 12 **3564. Evaluation of Resting State Networks Following Traumatic Brain Injury**
Leanne Y. Lin[1], Christine L. MacDonald[1], Megan H. Lee[1], Abraham Z. Snyder[1], David L. Brody[2], Joshua S. Shimony[1]
[1]Washington University School of Medicine, St. Louis, MO, United States; [2]Washington University in St. Louis, St. Louis, MO, United States

Computer 13 **3565. Language Processing in Temporal Lobe Epilepsy and Extra Temporal Lobe Epilepsy Using Functional MRI**
Kapil Chaudhary[1], S. Senthil Kumaran[2], Manjari Tripathi[1], Sarat P. Chandra[3]
[1]Department of Neurology, All India Institute of Medical Sciences, New Delhi, Delhi, India; [2]Department of NMR, All India Institute of Medical Sciences, New Delhi, Delhi, India; [3]Department of Neuro-Surgery, All India Institute of Medical Sciences, New Delhi, Delhi, India

Computer 14 **3566. Language Reorganization Following Anterior Temporal Lobectomy in Patients with Chronic Intractable Epilepsy**

S. Senthil Kumaran[1], Kapil Chaudhary[2], Manjari Tripathi[2], Sarat P. Chandra[3]
[1]Department of NMR, All India Institute of Medical Sciences, New Delhi, Delhi, India; [2]Department of Neurology, All India Institute of Medical Sciences, New Delhi, Delhi, India; [3]Department of Neuro-Surgery, All India Institute of Medical Sciences, New Delhi, Delhi, India

Computer 15 **3567. Semantic Memory Processing in Left Temporal Lobe Epilepsy Using Functional Magnetic Resonance Imaging**

Kapil Chaudhary[1], S. Senthil Kumaran[2], Manjari Tripathi[1], Sarat P. Chandra[3]
[1]Department of Neurology, All India Institute of Medical Sciences, New Delhi, Delhi, India; [2]Department of NMR, All India Institute of Medical Sciences, New Delhi, Delhi, India; [3]Department of Neuro-Surgery, All India Institute of Medical Sciences, New Delhi, Delhi, India

Computer 16 **3568. Alteration of Regional Low-Frequency Fluctuation in Very Young Autistic Children: A Sedated-State fMRI Study**

Hua Cheng[1], Jishui Zhang[1], Hao Huang[2], Jun Wang[3], Gaolang Gong[3], Yun Peng[1]
[1]Beijing Children's Hospital, Capital Medical University, Beijing, China; [2]Advanced Imaging Research Center, University of Texas Southwestern Medical Center, Dallas, TX, United States; [3]State key laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China

Computer 17 **3569. Changes in Upper Alpha EEG Power Predict Performance in Real-Time fMRI Neurofeedback Training of Amygdala**

Vadim Zotev[1], Han Yuan[1], Masaya Misaki[1], Raquel Phillips[1], Kymberly D. Young[1], Jerzy Bodurka[1, 2]
[1]Laureate Institute for Brain Research, Tulsa, OK, United States; [2]College of Engineering, University of Oklahoma, Tulsa, OK, United States

Computer 18 **3570. Amplitude Spectrum of Spontaneous Fluctuations in Idiopathic Generalized Epilepsy**

Zhengge Wang[1, 2], Zhiqiang Zhang[2], Qiang Xu[2], Guangming Lu[2]
[1]Dept. of Radiology, Nanjing Drum Tower Hospital, Nanjing, Jiangsu, China; [2]Department of Medical Imaging, Jinling Hospital, Nanjing University School of Medicine, Nanjing, Jiangsu, China

Computer 19 **3571. Regionally Specific Association Between Reduced CVR and Cortical Thinning in the Pediatric Population with Sickle Cell Disease**

Junseok Kim[1, 2], Jackie Leung[2], Jason P. Lerch[2], Gabrielle deVeber[2], Andrea Kassner[1, 2]
[1]University of Toronto, Toronto, ON, Canada; [2]Hospital for Sick Children, Toronto, ON, Canada

Computer 20 **3572. Resting State Connectivity in Mild Traumatic Brain Injury: Abnormally Increased Contributions from Orbitofrontal Cortex and Thalamus**

Jadwiga Rogowska[1], Piotr Bogorodzki[2], Elliott Bueler[1], Deborah Yurgelun-Todd[1]
[1]Brain Institute, University of Utah, Salt Lake City, UT, United States; [2]Technical University of Warsaw, Warsaw, Poland

Computer 21 **3573. Task Based and Resting State fMRI for Pre-Surgical Mapping of Language Function**

Madalina E. Tivarus[1, 2], Bradford Z. Mahon[3, 4], Ali Hussain[1], Webster Pilcher[5], Sven Ekholm[1]
[1]Department of Imaging Sciences , University of Rochester, Rochester, NY, United States; [2]Rochester Center for Brain Imaging, University of Rochester, Rochester, NY, United States; [3]Brain and Cognitive Sciences, University of Rochester, Rochester, NY, United States; [4]Department of Neurosurgery, University of Rochester, Rochester, NY, United States; [5]Department of Neurosurgery, University of Rochester, Rochester , NY, United States

Computer 22 **3574. Alterations of Resting State Networks in Dementia: Reduction of Functional Integrity and Compensatory Mechanisms**

Gloria Castellazzi[1, 2], Fulvia Palesi, [23], Stefano Casali, [24], Egidio Ugo D'Angelo, [25], Claudia Angela M. Wheeler-Kingshott[6]
[1]Department of Industrial and Information Engineering, University of Pavia, Pavia, PV, Italy; [2]Brain Connectivity Center, IRCCS C. Mondino, Pavia, PV, Italy; [3]Department of Physics, University of Pavia, Pavia, PV, Italy; [4]Department of Psychology, University of Pavia, Pavia, PV, Italy; [5]Public Health, Neuroscience, Experimental Medicine, University of Pavia, Pavia, PV, Italy; [6]NMR Research Unit, Queen Square MS Centre, UCL Institute of Neurology, London, England, United Kingdom

Computer 23 **3575. Changes in Low Frequency Fluctuations in Patients with Mild Traumatic Brain Injury: A Resting State fMRI Study**

Jadwiga Rogowska[1], Piotr Bogorodzki[2], Melissa Lopez-Larson[1], Jace B. King[1], Deborah Yurgelun-Todd[1]
[1]Brain Institute, University of Utah, Salt Lake City, UT, United States; [2]Technical University of Warsaw, Warsaw, Poland

Computer 24 **3576. Inhibition Network Differences Between ADHD and Healthy Adults Are Unbiased by Drug Use History**

Jerod Rasmussen[1], B.J. Casey[2], Theodorus GM Van Erp[1], Leanne Tamm[3], Jeff Epstein[3], Claudia Buss[1], James Bjork[4], James Swanson[5], Tim Wigal[1], Steven Potkin[1]
[1]UC Irvine, Irvine, CA, United States; [2]Cornell University, New York, NY, United States; [3]Cincinnati Children's Hospital, Cincinnati, OH, United States; [4]NIH, Rockville, MD, United States; [5]UC Irvine, Irvine, Ca, United States

Electronic Poster
Imaging of Psychiatric Disorders

Exhibition Hall Tuesday 14:30-15:30

Computer 1 **3577. Integration of Functional and Structural Connectivity from rs-fMRI and DTI to Study Healthy Maltreated Adolescents**

Minhui Ouyang[1], Uma Rao[2], Tejasvi Gundapuneedi[1], Hao Huang[1]
[1]Advanced Imaging Research Center, University of Texas Southwestern Medical Center, Dallas, TX, United States; [2]Department of Psychiatry and Behavioral Sciences, Meharry Medical College, Nashville, TN, United States

Computer 2 **3578. A Meta-Analytic Framework for Investigating Differential Bio-Markers of Functional and Structural Connectivity: Application to Sex Differences Underlying Suicide and Depression.**

Nikhil Garrepalli[1], Jennifer Robinson[2], Tracy K. Witte[2], Gopikrishna Deshpande[1, 2]
[1]AU MRI Research Center, Department of Electrical and Computer Engineering, Auburn University, Auburn, AL, United States; [2]Department of Psychology, Auburn University, Auburn, AL, United States

Computer 3 **3579. White Matter Abnormalities in Male Violent Offenders with Schizophrenia: A Diffusion Tensor Imaging Study Using Tract-Based Spatial Statistics**

Yi Liao[1], Lizhou Chen[1], Xinyu Hu[1], Junmei Hu[2], Xuanli Chen[3], Jianmei Liu[2], Danlin Shen[2], Qiyong Gong[1], Xiaoqi Huang[1]
[1]Huaxi MR Research Center, Radiology, West China Hospital of Sichuan University, Chengdu, Sichuan, China; [2]School of Basic Science and Forensic Medicine, Sichuan University, Chengdu, Sichuan, China; [3]Computer Aided Medical Procedures & Augmented Reality, Technische Universität München,, Garching bei München, Bayern, Germany

Computer 4 **3580. White Matter Microstructure Correlates of Visual Working Memory in Schizophrenia Patients and Healthy Controls**

Ali-Mohammad Golestani[1], Dolores Malaspina[2], Laura Miles[1], Nicole Peccerelli[1], Mariana Lazar[1]
[1]Radiology, Center for Biomedical Imaging, NYU Medical Center, New York, NY, United States; [2]Psychiatry, NYU School of Medicine, New York, NY, United States

Computer 5 **3581. Atypically Increased Functional Connectivity in Young Adults with Borderline Personality Disorder**

Jeong-Won Jeong[1, 2], Jeffrey Kuentzel[3], Carla D. Chugani[4], Harry T. Chugani, [2,5], Diane C. Chugani, [2,6]
[1]Pediatrics and Neurology, Wayne State University, Detroit, MI, United States; [2]PET center, Children's Hospital of Michigan, Detroit, MI, United States; [3]Psychology, Wayne State University, Detroit, MI, United States; [4]Counseling and Psychological Services, Florida Gulf Coast University, Fort Myers, FL, United States; [5]Pediatrics, Neurology, and Radiology, Wayne State University, Detroit, MI, United States; [6]Pediatrics and Radiology, Wayne State University, Detroit, MI, United States

Computer 6 **3582. *in vivo* Imaging of Dentate Granule Cell Layer Abnormalities in Schizophrenia**

Ivan I. Kirov[1], Caitlin Hardy[1, 2], Kant Matsuda[3], Graham Wiggins[1], Ajax George[1], Dolores Malaspina[2], Oded Gonen[1]
[1]Radiology, New York University, New York, NY, United States; [2]Psychiatry, New York University, New York, NY, United States; [3]Pathology, New York University, New York, NY, United States

Computer 7 **3583. White Matter Development Differences in Children and Adolescents with Autism**

Sean C. L. Deoni[1], Asal Shahidiani[2], Vera D'Almeida[2], Steven Williams[3], Declan Murphy[2]
[1]Advanced Baby Imaging Lab, Brown University, Providence, RI, United States; [2]Department of Forensic and Developmental Sciences, King's College London, London, England, United Kingdom; [3]Department of NeuroImaging, King's College London, London, England, United Kingdom

Computer 8 **3584. Brain Volume Variation in Female-To-Male Transsexuals**
Tae-Hoon Kim[1], Seok-Kwun Kim[2], Heoung-Keun Kang[3], Gwang-Woo Jeong, [13]
[1]Research Institute of Medical Imaging, Chonnam National University Medical School, Gwangju, Korea; [2]Plastic and Reconstructive Surgery, Donga-A University School of Medicine, Busan, Korea; [3]Radiology, Chonnam National University Medical School, Gwangju, Korea

Computer 9 **3585. Whole Brain Parcellation Based on Group-ICA of Tractography Connectivity Maps Shows Differences in Schizophrenia Subjects and Healthy Controls**
Lei Wu[1], Vince D. Calhoun[1], Rex Jung[2], Arvind Caprihan[1]
[1]The Mind Research Network, Albuquerque, NM, United States; [2]Neurosurgery, University of New Mexico, Albuquerque, NM, United States

Computer 10 **3586. Major Depression Impairs Biophysical Integrity of Brain Beyond Normal Aging Revealed by Magnetization Transfer Imaging**
Shaolin Yang[1, 2], Olusola Ajilore[1], Minjie Wu[1], Rebecca A. Charlton[1], Melissa Lamar[1], Anand Kumar[1]
[1]Department of Psychiatry, University of Illinois at Chicago, Chicago, IL, United States; [2]Department of Radiology, University of Illinois at Chicago, Chicago, IL, United States

Computer 11 **3587. Supertoroidal Analysis of Diffusion Tensor MRI of Patients with First-Episode Psychosis**
Fabricio R. S. Pereira[1], Marcus V. Zanetti[1], Maurício H. Serpa[1], Tiffany Moukbel Chaim[1], Geraldo Busatto[1], Choukri Mekkaoui[2], Marcel Parolin Jackowski[3]
[1]School of Medicine, University of São Paulo, São Paulo, Brazil; [2]Harvard Medical School, Boston, MA, United States; [3]Computer Science, University of São Paulo, São Paulo, Brazil

Computer 12 **3588. Reduced Lateralization in Early Onset Schizophrenia: A DTI Study Using TBSS**
Martin T. Freitag[1], Thomas van Bruggen[2], Klaus Hermann Fritzsche[2], Romy Henze[3], Romuald Brunner[3], Peter Parzer[3], Franz Resch[3], Bram Stieltjes[1]
[1]Quantitative Imaging-based Disease Characterization, German Cancer Research Center, Heidelberg, Baden-Wuerttemberg, Germany; [2]Division of Medical and Biological Informatics, German Cancer Research Center, Heidelberg, Baden-Wuerttemberg, Germany; [3]Department of Child and Adolescent Psychiatry, Section Disorders of Personality Development, University Clinic Heidelberg, Heidelberg, Baden-Wuerttemberg, Germany

Computer 13 **3589. Relationships Between Metabolite Concentrations and Working Memory Performance in Patients with Bipolar Disorder and Schizophrenia**
Wen-Jang Chu[1, 2], Mathew Norris, [23], Tracie Northern[3], Judd Storrs[2], David E. Fleck, [23], Elizabeth M. Fugate[1, 2], Jing-Huei Lee, [23], Caleb M. Adler, [23], Melissa P. DelBello[3], Henry Nasrallah[3], Stephen M. Strakowski, [23]
[1]Psychiatry and Behavioral Neuroscience, University of Cincinnati, Cincinnati, OH, United States; [2]Center for Imaging Research, Univ. of Cincinnati, Cincinnati, OH, United States; [3]Psychiatry and Behavioral Neuroscience, Univ. of Cincinnati, Cincinnati, OH, United States

Computer 14 **3590. Altered White Matter Myelination in Chronic Schizophrenia**
Mariana Lazar[1], Dolores Malaspina[2], Laura Miles[1], Ali-mohammad Golestani[1], Nicole Peccerelli[1]
[1]Department of Radiology, New York University School of Medicine, New York, NY, United States; [2]Department of Psychiatry, New York University School of Medicine, New York, NY, United States

Computer 15 **3591. Correlations Among fMRI, MRS and Working Memory in Healthy, Bipolar and Schizophrenic Subjects**
Wen-Jang Chu[1, 2], Mathew Norris, [23], Tracie Northern[3], Judd Storrs[2], David E. Fleck, [23], Elizabeth M. Fugate[1, 2], Jing-Huei Lee, [23], Caleb M. Adler, [23], Melissa P. DelBello[3], Henry Nasrallah[3], Stephen M. Strakowski, [23]
[1]Psychiatry and Behavioral Neuroscience, University of Cincinnati, Cincinnati, OH, United States; [2]Center for Imaging Research, Univ. of Cincinnati, Cincinnati, OH, United States; [3]Psychiatry and Behavioral Neuroscience, Univ. of Cincinnati, Cincinnati, OH, United States

Computer 16 **3592. Short Echo MRSI at 7 Tesla in Patients with Major Depressive Disorder**

Yan Li[1], Angela Jakary[1], Erin Gillung[2], Natalie M. Holbrook[2], Stuart Eisendrath, [23], Sarah J. Nelson[1, 4], Pratik Mukherjee[1], Tracy L. Luks[1]

[1]Department of Radiology and Biomedical Imaging, University of California, San Francisco, CA, United States; [2]Langley Porter Psychiatric Institute, University of California, San Francisco, CA, United States; [3]Department of Psychiatry, University of California, San Francisco, CA, United States; [4]Department of Bioengineering and therapeutic sciences, University of California, San Francisco, CA, United States

Computer 17 **3593. ^{1}H MRS Reveals GABA and Glutamatergic Compound Elevations in Subjects at Ultra-High Risk for Schizophrenia**

Camilo de la Fuente-Sandoval[1], Pablo L. Ortiz[2], Xiangling Mao[3], Patricia Alavarado-Alanis[4], Oscar Rodríguez-Mayoral[5], Francisco Reyes-Madrigal[4], Ariel Graff-Guerrero[6], Rodolfo Solis-Vivanco[7], Rafael Favila[8], Dikoma C. Shungu[3]

[1]Neuropsychiatry & Laboratory of Experimental Psychiatry, Instituto Nacional de Neurología y Neurocirugía (INNN), Mexico City, Distrito Federal, Mexico; [2]Education, INNN, Mexico City, Distrito Federal, Mexico; [3]Radiology, Weill Cornell Medical College, New York, NY, United States; [4]Laboratory of Experimental Psychiatry, INNN, Mexico City, Distrito Federal, Mexico; [5]Early Psychosis Intervention, Hospital Fray Bernardino Alvarez, Mexico City, Distrito Federal, Mexico; [6]Multimodal Neuroimaging Schizophrenia Group, Centre for Addiction and Mental Health, Toronto, ON, Canada; [7]Laboratory of Neuropsychology, INNN, Mexico City, Distrito Federal, Mexico; [8]MR Advanced Applications, GE Healthcare, Mexico City, Distrito Federal, Mexico

Computer 18 **3594. Prominent Nodal Role of Amygdala and Nucleus Accumbens and Altered Prefrontal Strength in Functional Connectivity in Pediatric Bipolar Disorder**

Minjie Wu[1], Alexander Kmicikewycz[1], Shaolin Yang[1], Lisa Lu[1, 2], Donatello Arienzo[1], Mani Pavuluri[1]

[1]Psychiatry, University of Illinois at Chicago, Chicago, IL, United States; [2]Psychology, Roosevelt University , Chicago, IL, United States

Computer 19 **3595. Impaired Small-World Efficiency in Structural Networks in Pediatric Bipolar Disorder**

Minjie Wu[1], Alexander Kmicikewycz[1], Shaolin Yang[1], Lisa Lu[1, 2], Donatello Arienzo[1], Mani Pavuluri[1]

[1]Psychiatry, University of Illinois at Chicago, Chicago, IL, United States; [2]Psychology, Roosevelt University , Chicago, IL, United States

Computer 20 **3596. Increased Glutathione Levels in Chronic and Recent Onset Schizophrenic Patients**

Susanne Bonekamp[1], Richard Anthony Edward Edden[1], Nicolaas A. J. Puts[2], Jennifer M. Coughlin[3], He Zhu, [24], Mark Varvaris[5], Nicola Cascella[6], Akira Sawa[3], Peter B. Barker[1]

[1]Radiology, Johns Hopkins University, Baltimore, MD, United States; [2]Radiology, JHU, Baltimore, MD, United States; [3]Psychiatry and Behavioral Sciences, JHU, Baltimore, MD, United States; [4]Institute of Imaging Science, Vanderbilt University, Nashville, TN, United States; [5]Neuro Cognitive Neurology, JHU, Baltimore, MD, United States; [6]Neuropsychiatry, Sheppard Enoch Pratt Hospital, Towson, MD, United States

Computer 21 **3597. In Vivo ^{1}H MRS Assessment of Cortico-Striatal GABAergic and Glutamatergic Dysregulations in Antipsychotic-Naïve First-Episode Schizophrenia**

Camilo de la Fuente-Sandoval[1], Pablo L. Ortiz[2], Xiangling Mao[3], Patricia Alavarado-Alanis[4], Oscar Rodríguez-Mayoral[5], Francisco Reyes-Madrigal[4], Ariel Graff-Guerrero[6], Rodolfo Solis-Vivanco[7], Rafael Favila[8], Dikoma C. Shungu[3]

[1]Neuropsychiatry & Laboratory of Experimental Psychiatry, Instituto Nacional de Neurología y Neurocirugía (INNN), Mexico City, Distrito Federal, Mexico; [2]Education, INNN, Mexico City, Distrito Federal, Mexico; [3]Radiology, Weill Cornell Medical College, New York, NY, United States; [4]Laboratory of Experimental Psychiatry, INNN, Mexico City, Distrito Federal, Mexico; [5]Early Psychosis Intervention, Hospital Fray Bernardino Alvarez, Mexico City, Distrito Federal, Mexico; [6]Multimodal Neuroimaging Schizophrenia Group, Centre for Addiction and Mental Health, Toronto, ON, Canada; [7]Laboratory of Neuropsychology, INNN, Mexico City, Distrito Federal, Mexico; [8]MR Advanced Applications, GE Healthcare, Mexico City, Distrito Federal, Mexico

Computer 22 **3598. Alterations in Cerebellar Functional Connectivity in Social Anxiety Disorder**

Sheeba Arnold Anteraper[1], Susan Whitfield-Gabrieli[2], Alice Sawyer[3], John Gabrieli[2], Christina Triantafyllou[4]

[1]A.A. Martinos Imaging Center at McGovern Institute for Brain Research, Massachusetts Institute of Technology, Cambridge, MA, United States; [2]Department of Brain and Cognitive Sciences, Massachusetts Institute of Technology, Cambridge, MA, United States; [3]Department of Psychology, Boston University, Boston, MA, United States; [4]A.A. MArtinos Center for Biomedical Imaging, Massachusetts General Hospital, Harvard Medical School, Charlestown, MA, United States

Computer 23 **3599. 7-Tesla GRE Imaging of Hippocampal Subregion Thickness Is Associated with Symptom Severity and Neurocognitive Deficits in Major Depressive Disorder**

Tracy L. Luks[1], Yan Li[1], Angela Jakary[1], Erin Gillung[2], Natalie M. Holbrook[2], Stuart Eisendrath[2], Pratik Mukherjee[1], Sarah J. Nelson[3]

[1]Department of Radiology and Biomedical Imaging, University of California San Francisco, San Francisco, CA, United States; [2]Langley Porter Psychiatric Institute, San Francisco, CA, United States; [3]Department of Bioengineering and Therapeutic Sciences, University of California San Francisco, San Francisco, CA, United States

Computer 24 **3600. The Neuroanatomic Difference in Grey Matter Among Post-Traumatic Stress Disorder, Obsessive¨Ccompulsive Disorder and Social Anxiety Disorder**

Bochao Cheng[1], Xiaoqi Huang[1], Xun Yang[2], Xinyu Hu[1], Yajing Meng[2], Shiguang Li[1], Xiuli Wang[2], Qiyong Gong[1]

[1]HMRRC.Department of Radiology, West China Hospital of Sichuan University, Chengdu, Sichuan province, China; [2]West China Hospital of Sichuan University, Psychiatric department, Chengdu, Sichuan, China

Electronic Poster
Multiple Sclerosis

Exhibition Hall Tuesday 13:30-14:30

Computer 25 **3601. Cerebrovascular Reactivity Defect in Multiple Sclerosis**

Yulin Ge[1], Yongxia Zhou[2], Hanzhang Lu[3], Feng Xu[3], Ilya Kister[4], Hina Jaggi[2], Damon Kenul[2], Joseph Herbert[5], Robert I. Grossman[6]

[1]Radiology, New York University Langone Medical Center, New York, United States; [2]Radiology, NYU Medical Center, New York, United States; [3]2Advanced Imaging Research Center, UT Southwestern Medical Center, Dallas, TX, United States; [4]Neurology, NYU Medical Center, New York, United States; [5]Neurology, New York University, New York, United States; [6]Radiology, New York University, New York, United States

Computer 26 **3602. Using the Null Point Imaging to Improve Cortical Lesion Detection in MS**

Olivier E. Mougin[1], Rasha Abdel-Fahim[2], Alain Pitiot[3], Nikos Evangelou[2], Penelope A. Gowland[4]

[1]SPMMRC, School of Physics and Astronomy, University of Nottingham, Nottingham, Select, United Kingdom; [2]Clinical Neurology, School of Clinical Sciences, Faculty of Medicine and Health Sciences, Nottingham, Nottinghamshire, United Kingdom; [3]School of Psychology, Nottingham, Nottinghamshire, United Kingdom; [4]SPMMRC, University of Nottingham, Nottingham, Select, United Kingdom

Computer 27 **3603. Quantitative Volumetrics of Multiple Sclerosis Brain from 7T MRI**

Yosef A. Berlow[1], Manoj K. Sammi[1], Audrey H. Selzer[1], Dennis Bourdette[1], William D. Rooney[1]

[1]Advanced Imaging Research Center, Oregon Health & Science University, Portland, OR, United States

Computer 28 **3604. Multicomponent Relaxation in Clinically Isolated Syndrome**

Hagen H. Kitzler[1], Hannes Wahl[1], Jason Su[2], Nora Nilles[1], Henning Schmitz-Peiffer[3], Tjalf Ziemssen[3], Sean C. L. Deoni[4], Brian K. Rutt[2]

[1]Neuroradiology Department, Technische Universitaet, Dresden, SN, Germany; [2]Radiology Department, Stanford University, Palo Alto, CA, United States; [3]Neurology Department, Technische Universitaet, Dresden, SN, Germany; [4]Engineering Department, Brown University, Providence, RI, United States

Computer 29 **3605. Chemical Exchange Saturation Transfer (CEST) MRI as a Biomarker for Diffuse Pathology of Normal Appearing White Matter in the Brain and Spinal Cord in Multiple Sclerosis**

Adrienne N. Dula[1, 2], Richard D. Dortch[1, 2], David R. Pennell[2], Francesca Bagnato[2], Siddharama Pawate[3], John C. Gore[1, 2], Seth A. Smith[1, 2]

[1]Radiology and Radiological Sciences, Vanderbilt University, Nashville, TN, United States; [2]Institute of Imaging Science, Vanderbilt University, Nashville, TN, United States; [3]Neurology and Neuroimmunology, Vanderbilt University, Nashville, TN, United States

Computer 30 **3606. Intra-Observer and Scan-Rescan Reproducibility of Quantitative Oxygen Extraction Fraction from MRI Phase at 7 Tesla**

Audrey Peiwen Fan[1], Sindhuja Tirumalai Govindarajan[2], R. Philip Kinkel[3], Bruce R. Rosen[2, 4], Elfar Adalsteinsson[1, 2], Caterina Mainero[2, 4]

[1]Electrical Engineering and Computer Science, Massachusetts Institute of Technology, Cambridge, MA, United States; [2]Radiology, Athinoula A. Martinos Center for Biomedical Imaging, Charlestown, MA, United States; [3]Neurology, Beth Israel Deaconess Medical Center, Boston, MA, United States; [4]Harvard Medical School, Boston, MA, United States

Computer 31 **3607. Dynamic Patterns of Gray and White Matter Atrophy in Patients with Clinically Isolated Syndrome Suggestive of Multiple Sclerosis After 1 Year from the First Clinical Episode**

Elisabetta Pagani[1], Maria A. Rocca[1], Paolo Preziosa[1], Sarlota Mesaros[2], Dusan Damjanovic[3], Tatjana Stosic-Opincal[3], Jelena Drulovic[2], Massimo Filippi[1]
[1]Neuroimaging Research Unit, Institute of Experimental Neurology, San Raffaele Scientific Institute, Vita-Salute San Raffaele University, Milan, MI, Italy; [2]Clinic of Neurology, Faculty of Medicine, University of Belgrade, Belgrade, BG, Yugoslavia; [3]Clinic of Radiology, Faculty of Medicine, University of Belgrade, Belgrade, BG, Yugoslavia

Computer 32 **3608. A Gradient in Cortical T2* Relaxation Decay Changes at 7 Tesla MRI in Patients with Multiple Sclerosis**

Caterina Mainero[1], Sindhuja T Govindarajan[1], R. Philip Kinkel[2], Allen S. Nielsen[2], Julien Cohen-Adad[1, 3]
[1]A. A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Charlestown, MA, United States; [2]Neurology, Beth Israel Deaconess Medical Center, Boston, MA, United States; [3]Department of Electrical Engineering, Institute of Biomedical Engineering, Ecole Polytechnique de Montreal, Montreal, QC, Canada

Computer 33 **3609. Role of Magnetization Transfer in McDESPOT Results**

Jing Zhang[1], Alex L. MacKay[1, 2]
[1]Department of Radiology, University of British Columbia, Vancouver, British Columbia, Canada; [2]Department of Physics and Astonomy, University of British Columbia, Vancouver, British Columbia, Canada

Computer 34 **3610. Altered White Matter Connectivity in Early Relapsing-Remitting Multiple Sclerosis Patients with High Lesion Load**

Wan Hazlin Zaini[1], Zhang Chen[1], Min Liu[1], Fabrizio Giuliani[2], Chris Hanstock[1], Christian Beaulieu[1]
[1]Biomedical Engineering, University of Alberta, Edmonton, Alberta, Canada; [2]Division of Neurology, University of Alberta, Edmonton, Alberta, Canada

Computer 35 **3611. Influence of Depression and Fatigue on the Regional Distribution of Brain Damage in Patients with Multiple Sclerosis**

Paola Valsasina[1], Maria A. Rocca[1], Gianna Riccitelli[1], Claudio Gobbi[1, 2], Elisabetta Pagani[1], Paolo Preziosa[1], Vittorio Martinelli[3], Giancarlo Comi[3], Massimo Filippi[1]
[1]Neuroimaging Research Unit, Institute of Experimental Neurology, San Raffaele Scientific Institute, Vita-Salute San Raffaele University, Milan, MI, Italy; [2]Department of Neurology, Neurocentre of Southern Switzerland, Lugano, TI, Switzerland; [3]Department of Neurology, San Raffaele Scientific Institute, Vita-Salute San Raffaele University, Milan, MI, Italy

Computer 36 **3612. Quantitative Susceptibility Mapping in Multiple Sclerosis**

Ying Wu[1, 2], Huan Tan[1], Ryan Hutten[1], Tian Liu[3], Hongyan Du[1, 4], Hector Ferral[1, 2], Matthew Walker[1, 2], Joel Meyer[1, 2], Yi Wang[3], Robert R. Edelman[1, 5]
[1]Department of Radiology, NorthShore University HealthSystem, Evanston, IL, United States; [2]Department of Radiology, The University of Chicago Pritzker School of Medicine, Chicago, IL, United States; [3]Weill Cornell Medical College, New York, United States; [4]Center for Clinical and Research Informatics (CCRI), NorthShore University HealthSystem, Evanston, IL, United States; [5]Department of Radiology, Northwestern University Feinberg School of Medicine, Chicago, IL, United States

Computer 37 **3613. Direct Comparison Between Macromolecular Proton Fraction, R1, Magnetization Transfer Ratio, and Lesion Volume as Predictors of Clinical Status in Multiple Sclerosis**

Vasily L. Yarnykh[1], James D. Bowen[2], Alexey A. Samsonov[3], Pavle Repovic[2], Angeli Mayadev[2], Bart P. Keogh[2], Beena Gangadharan[2], Hunter R. Underhill[1], Kenneth R. Maravilla[1], Lily K. Jung Henson[2]
[1]Radiology, University of Washington, Seattle, WA, United States; [2]Swedish Medical Center, Seattle, WA, United States; [3]Radiology, University of Wisconsin, Madison, WI, United States

Computer 38 **3614. Quantitative Susceptibility Mapping of White Matter Hyperintensities in Patients with Traumatic Brain Injury**

Wei Liu[1, 2], Binquan Wang[1, 2], Tian Liu[3], Ping-Hong Yeh[1, 2], John Graner[2, 4], John M. Ollinger[2, 4], Hai Pan[1, 2], Jamie Harper[2, 4], Terrence R. Oakes[2, 4], Yi Wang[3], Gerard Riedy[2, 4]
[1]Henry M. Jackson Foundation for the Advancement of Military Medicine, Bethesda, MD, United States; [2]National Capital Neuroimaging Consortium, Bethesda, MD, United States; [3]Biomedical Engineering, Cornell University, New York, United States; [4]National Intrepid Center of Excellence, Bethesda, MD, United States

Computer 39 **3615. Ultra-Fast T2 Mapping of Multiple Sclerosis Pathology in Early Disease**
Guillaume Bonnier[1], Tilman Johannes Sumpf[2], David Romanasco[1], Alexis Roche[1], Myriam Schluep[3], Renaud Du Pasquier[3], Jens Frahm[2], Gunnar Krueger[4], Cristina Granziera[3]
[1]ACIT, EPFL, Lausanne, Switzerland; [2]biophysikalische Chemie · Biomedizinische NMR Forschungs GmbH, Max Planck Institute, Göttingen, Germany; [3]Centre Hospitalier Universitaire Vaudois (CHUV), Lausanne, Switzerland; [4]Advanced Clinical Imaging Technology, Siemens Healthcare IM S AW, Lausanne, Switzerland

Computer 40 **3616. White Matter Microstructural Alterations and Their Correlations to Neuropsychological Measures**
Tejasvi Gundapuneedi[1], Hao Huang[1], Nicholas Hubbard[2], Joanna Hutchison[2], Bart Rypma[2]
[1]Advanced Imaging Research Center, University of Texas Southwestern Medical Center, Dallas, TX, United States; [2]Center for Brain Health, University of Texas at Dallas, Richardson, TX, United States

Computer 41 **3617. Multi-Compartment T2 Relaxometry Using a Spatially Constrained Multi-Gaussian Model**
Ashish Raj[1], XIaobo Shen[2], Thanh D. Nguyen, PhD[3], Susan A. Gauthier[4]
[1]Department of Radiology, Weill Cornell Medical Collge, New York, NY, United States; [2]Department of Computer Science, Cornell University, Ithaca, NY, United States; [3]Department of Radiology, Weill Cornell Medical College, New York, NY, United States; [4]Department of Neurology and Neuroscience, Weill Cornell Medical College, New York, NY, United States

Computer 42 **3618. Magnetization Transfer Ratio of Normal Appearing Subcortical Brain Structures in MS Patients Measured with Balanced Steady State Free Precession Imaging**
Michael Amann[1], Michaela Andelova[2], Athina Papadopoulou[2, 3], Yvonne Naegelin[2], Julia Reinhardt, Katrin Weier[2], Ernst-Wilhelm Radue[3], Ludwig Kappos[2], Oliver Bieri[4], Christoph Stippich, Till Sprenger[1]
[1]Neurology/Neuroradiology, UniversitÃ¤tsspital Basel, Basel, BS, Switzerland; [2]Neurology, UniversitÃ¤tsspital Basel, Basel, BS, Switzerland; [3]Medical Image Analysis Centre, Basel, BS, Switzerland; [4]Medical Physics, University of Basel Hospital, Basel, BS, Switzerland

Computer 43 **3619. Comparative Analysis of Neuronal Tracts DTI Metrics and Physical Disability in Multiple Sclerosis**
Milos Ivkovic[1], Susan A. Gauthier[1]
[1]Weill Cornell Medical College, New York, United States

Computer 44 **3620. T2 Relaxometry**
Eve LoCastro[1], Sneha N. Pandya[1], Xiobo Shen[2], Thanh Nguyen, PhD[1], Susan A. Gauthier[3], Ashish Raj[1]
[1]Department of Radiology, Weill Cornell Medical College, New York, NY, United States; [2]Department of Computer Science, Cornell University, Ithaca, NY, United States; [3]Department of Neurology and Neuroscience, Weill Cornell Medical College, New York, NY, United States

Computer 45 **3621. MRI-Based Pseudo-Continuous Arterial Spin Labeling Suggested Reduced Perfusion in Patients with Multiple Sclerosis**
Yuxiang Zhou[1, 2], Lingyun Chen[3], Xiaojun Sun[1], Sushmita Datta[4], Jerry S. Wolinsky[5], Ponnada A. Narayana[1]
[1]Department of Diagnostic and Interventional Imaging, University of Texas Medical School at Houston, Houston, TX, United States; [2]Department of Diagnostic Radiology & Molecular Imaging , Beaumont Health System, Royal Oak, MI, United States; [3]Department of Diagnostic Radiology & Molecular Imaging, Beaumont Health System, Royal Oak, MI, United States; [4]Department of Diagnostic and Interventional Imaging, Medical School, The University of Texas Health Science Center at Houston, Houston, TX, United States; [5]Department of Neurology, University of Texas Medical School at Houston, Houston, TX, United States

Computer 46 **3622. Noninvasively Detection of the Pathological Changes of MS Lesions Responding to Treatment Using Diffusion Basis Spectrum Imaging**
Yong Wang[1], Peng Sun[1], Anne H. Cross[2, 3], Sheng-Kwei Song[1, 3]
[1]Radiology, Washington University in St. Louis, Saint Louis, MO, United States; [2]Neurology, Washington University in St. Louis, Saint Louis, MO, United States; [3]Hope Center for Neurological Disorders, Washington University in St. Louis, St. Louis, MO, United States

Computer 47 **3623. Analysing McDESPOT Data with an Arbitrary Number of T2 Components**
Jing Zhang[1], Alex L. MacKay[1, 2]
[1]Department of Radiology, University of British Columbia, Vancouver, British Columbia, Canada; [2]Department of Physics and Astonomy, University of British Columbia, Vancouver, British Columbia, Canada

Computer 48 **3624.** **Diffusion Basis Spectrum Imaging Accurately Reflects Underlying Pathologies in Multiple Sclerosis Lesions Missed by Conventional MRI and DTI**

ISMRM MERIT AWARD summa cum laude

Yong Wang[1], Peng Sun[2], Fang-Chang Yeh[3], Robert Naismith[4, 5], Anne H. Cross[4, 5], Sheng-Kwei Song[1, 6]
[1]Radiology, Washington University in St. Louis, Saint Louis, MO, United States; [2]Radiology, Washington University in St. Louis, St. Louis, MO, United States; [3]2Departments of Biomedical Engineering, Carnegie Mellon University, Pittsburgh, PA, United States; [4]Neurology, Washington University in St. Louis, Saint Louis, MO, United States; [5]Hope Center of Neurological disorders, Washington University in St. Louis, St. Louis, MO, United States; [6]Hope Center of Neurological disorders, Washington University, St. Louis, MO, United States

Electronic Poster
Human Brain Tumors: Diagnosis & Responses

Exhibition Hall Tuesday 14:30-15:30

Computer 25 **3625.** **Tissue Cell Fraction (TCF) from Quantitative Sodium MR Imaging Measures Real-Time Tumor Response to Fractionated Radiation Therapy**

Keith R. Thulborn[1], Ian C. Atkinson[1], Aiming Lu[1], Saad Jamil[1], Wesley McClain[1], Matthew Koshy[1], Pauliah Mohan[2], Kathryn Beal[2], Antonio M. Omuro[2], Michelle Bradbury[2]
[1]Ctr Magnetic Resonance Research, University of Illinois, Chicago, IL, United States; [2]Radiology, Memorial Sloan Kettering Cancer Ctr, New York, NY, United States

Computer 26 **3626.** **Systematic Brain Tumor Conductivity Study with Optimized EPT Sequence and Reconstruction Algorithm**

ISMRM MERIT AWARD magna cum laude

Monika Huhndorf[1], Christian Stehning[2], Axel Rohr[1], Michael Helle[3], Ulrich Katscher[2], Olav Jansen[1]
[1]Institute of Neuroradiology, University Medical Center Schleswig-Holstein, Kiel, Germany; [2]Philips Research Europe, Hamburg, Germany; [3]Philips Research Laboratories, Hamburg, Germany

Computer 27 **3627.** **Long Term Effect of Radiotherapy on Adult Survivors of Childhood Brain Tumor Patients: A Neuroimaging Study**

Liya Wang[1, 2], Tricia King[3], Hui Mao[1, 2]
[1]Department of Radiology and Imaging Sciences, Emory University, Atlanta, GA, United States; [2]Center for Systems Imaging, Emory University, Atlanta, GA, United States; [3]Department of Psychology, Georgia State University, Atlanta, GA, United States

Computer 28 **3628.** **Automatic Alignment for Tumor Assessment**

Alexander Brost[1], Neilesh Gupta[1], Christoph Seeger[1, 2], Aaryani Tipirneni[1], Zhaoying Han[1], Sjoerd B. Vos[1, 3], Julian R. Maclaren[1], Matus Straka[1], Nancy J. Fischbein[1], Roland Bammer[1]
[1]Center for Quantitative Neuroimaging, Stanford University, Stanford, CA, United States; [2]Pattern Recognition Lab, Friedrich-Alexander-University Erlangen-Nuremberg, Erlangen, Germany; [3]Image Sciences Institute, University Medical Center Utrecht, Utrecht, Netherlands

Computer 29 **3629.** **"T1-Enhanced" Whole-Brain Black-Blood RARE Images Using 3D MSDE-TSE with Anti Driven Equilibrium**

Masami Yoneyama[1], Masanobu Nakamura[1], Taro Takahara[2], Thomas C. Kwee[3], Atsushi Takemura[4], Makoto Obara[4], Takashi Tabuchi[1], Satoshi Tatsuno[1]
[1]Yaesu Clinic, Tokyo, Japan; [2]Tokai University School of Engineering, Kanagawa, Japan; [3]University Medical Center Utrecht, Utrecht, Netherlands; [4]Philips Electronics Japan, Tokyo, Japan

Computer 30 **3630.** **Quantification of 7 Tesla SWI Hypointensities in Gliomas Using the Local Image Variance**

Günther Grabner[1], Sabine Goed[1], Adelheid Wöhrer[2], Christine Marosi[2], Aygül Mert[3], Stefan Wolfsberger[3], Georg Widhalm[3], Siegfried Trattnig[1], Matthias Preusser[2]
[1]Department of Radiology, Medical University of Vienna, Vienna, Austria; [2]Institute of Neurology, Medical University of Vienna, Vienna, Austria; [3]Department of Neurosurgery, Medical University of Vienna, Vienna, Austria

Computer 31 **3631.** **Tissue Expansion Maps (TEMs) Derived from Nonlinear Registration of Serial 3D MR Scans as an Imaging Biomarker for Detecting Brain Tumor Invasion and Quantifying Tumor Response to Therapy**

Benjamin M. Ellingson[1, 2], Timothy F. Cloughesy[3], Robert J. Harris[1], Davis C. Woodworth[1], Kevin Leu[1], Albert Lai[3], Phioanh (Leia) Nghiemphu[3], Whitney B. Pope[1]
[1]Dept. of Radiological Sciences, UCLA, Los Angeles, CA, United States; [2]Biomedical Physics, UCLA, Los Angeles, CA, United States; [3]Neurology, UCLA, Los Angeles, CA, United States

Computer 32 **3632. Differentiating Pseudoprogression from True Progression Using DTI and DSC-MRI**

ISMRM MERIT AWARD magna cum laude

Sumei Wang[1], Sanjeev Chawla[1], Sungheon Kim[2], Arati Desai[3], Michelle Alonso-Basanta[4], Maria Martinez-Lage[5], Steven Brem[6], Elias R. Melhem[1, 7], Harish Poptani[1]

[1]Radiology, University of Pennsylvania, Philadelphia, PA, United States; [2]Radiology, New York University School of Medicine, New York, NY, United States; [3]Hematology-Oncology, University of Pennsylvania, Philadelphia, PA, United States; [4]Radiation Oncology, University of Pennsylvania, Philadelphia, PA, United States; [5]Pathology and Laboratory Medicine, University of Pennsylvania, Philadelphia, PA, United States; [6]Neurosurgery, University of Pennsylvania, Philadelphia, PA, United States; [7]Radiology, University of Maryland, Baltimore, MD, United States

Computer 33 **3633. Potential Utility of Early Post-Operative Diffusion-Weighted Imaging and Perfusion Weighted Imaging in Differentiating Between Pseudo-Progression and Progression in Patients with Glioblastoma Treated with Temozolomide and Radiotherapy**

Xiang Liu[1], Wei Tian[1], Henry Wang[1], Sven Ekholm[1]

[1]Imaging Science, University of Rochester Medical Center, Rochester, NY, United States

Computer 34 **3634. Assessment of Tumor Blood Flow in Skull Base Meningiomas and Schwannomas Using Pulsed-Continuous Arterial Spin Labeling Images and Its Correlation with Histopathologic Features**

Tatsuya Yamamoto[1], Hiroaki Takeuchi[2], Yasuhiro Fujiwara[3], Hirohiko Kimura[1]

[1]Department of Radiology, University of Fukui, Fukui, Japan; [2]Department of neurosurgery, University of Fukui, Fukui, Japan; [3]Division of Radiography, University of Fukui Hospital, Fukui, Japan

Computer 35 **3635. Repeatability of Independent Component Analysis Applied to Dynamic Susceptibility Contrast MRI in Newly Diagnosed Brain Tumor Patients with Two Baseline Imaging Scans**

Peter S. LaViolette[1], Mitchell Daun[2], Melissa A. Prah[1], Kourosh Jafari-Khouzani[3], Pavlina Polaskova[3], Elizabeth R. Gerstner[4], Steven M. Stufflebeam[3], Kathleen M. Schmainda[1]

[1]Radiology, Medical College of Wisconsin, Milwaukee, WI, United States; [2]Neurology, Medical College of Wisconsin, Milwaukee, WI, United States; [3]Radiology, Massachusetts General Hospital, Charlestown, MA, United States; [4]Neurology, Massachusetts General Hospital, Boston, MA, United States

Computer 36 **3636. Cerebral Blood Flow Changes in Glioblastoma Multiforme Patients Undergoing Bevacizumab Treatment Are Seen in Both Tumor and Normal Brain.**

Jalal B. Andre[1], Seema Nagpal[2], Daniel S. Hippe[1], Heiko Schmiedeskamp[3], Roland Bammer[3], Reena Thomas[2], Matus Straka[3], Lawrence Recht[2], Greg Zaharchuk[3]

[1]Radiology, University of Washington, Seattle, WA, United States; [2]Neuro-oncology, Stanford University, Stanford, CA, United States; [3]Radiology, Stanford University, Stanford, CA, United States

Computer 37 **3637. Optimization of B-Values for Diffusion Kurtosis Imaging in Patients with Glioblastoma**

Masaki Katsura[1], Masaaki Hori[2], Issei Fukunaga[3], Fumitaka Kumagai[3], Hiroki Sasaki[1], Harushi Mori[1], Akira Kunimatsu[1], Yoshitaka Masutani[1], Keigo Shimoji[2], Atsushi Nakanishi[2], Shigeki Aoki[2], Kuni Ohtomo[1]

[1]Radiology, Graduate School of Medicine, The University of Tokyo, Tokyo, Japan; [2]Radiology, School of Medicine, Juntendo University, Tokyo, Japan; [3]Graduate School of Health Promotion Science, Tokyo Metropolitan University, Tokyo, Japan

Computer 38 **3638. Comparison of Monoexponential,Biexponential and Stretched-Exponential Models of DWI in Grading Gliomas**

Yan Bai[1], Meiyun Wang[1], Dapeng Shi[1], Jinyuan Zhou[2]

[1]Radiology, Henan Provincial People's Hospital, Zhengzhou, Henan, China; [2]Johns Hopkins University School of Medicine, Baltimore, MD, United States

Computer 39 **3639. Assessment of Structural Integrity of Normal Brain Tissues in Craniopharyngioma Patients After Proton Therapy**

Jinsoo Uh[1], Chia-ho Hua[1], Michael Lam[2], Daniel J. Indelicato[3], Thomas E. Merchant[1]

[1]Radiological Sciences, St. Jude Children's Research Hospital, Memphis, TN, United States; [2]Chemistry and Physics, Union University, Jackson, TN, United States; [3]Radiation Oncology, University of Florida Proton Therapy Institute, Jacksonville, FL, United States

Computer 40 **3640. Associations of Metabolite Concentration and Water Diffusivity in Normal Appearing Brain Tissue with Glioma Grade**

Andrew A. Maudsley[1], Bhaswati Roy[2], Rakesh K. Gupta[2], Sulaiman Sheriff[1], Rishi Awasthi[2], Meng Gu[3], Nuzhat Hussain[4], Sudipta Mohakud[2], Sanjay Behari[2], Daniel Spielman[3]
[1]Radiology, University of Miami, Miami, FL, United States; [2]Radiodiagnostics, SGPGIMS, Lucknow, Uttar Pradesh, India; [3]Radiology, Stanford University, Stanford, CA, United States; [4]Pathology, Ram Manohar Lohia, Institute of Medical Sciences, Lucknow, Uttar Pradesh, India

Computer 41 **3641. Diagnostic Performance of DTI in Differentiating Glioblastomas from Brain Metastases**

Sumei Wang[1], Sang Joon Kim[1, 2], John H. Woo[1], Suyash Mohan[1], Ruyun Jin[3], Matthew R. Voluck[1], Ronald L. Wolf[1], Donald M. O'Rourke[4], Harish Poptani[1], Elias R. Melhem[1, 5], Sungheon Kim[6]
[1]Radiology, University of Pennsylvania, Philadelphia, PA, United States; [2]Radiology, University of Ulsan Asan Medical Center, Seoul, Korea; [3]Medical Data Research Center, Providence Health & Services, Portland, OR, United States; [4]Neurosurgery, University of Pennsylvania, Philadelphia, PA, United States; [5]Radiology, University of Maryland, Baltimore, MD, United States; [6]Radiology, New York University School of Medicine, New York, NY, United States

Computer 42 **3642. Improving SNR and Spatial Coverage for 7T DTI of Human Brain Tumor Using B_1 Mapping and Multiband Acquisition**

Douglas A.C. Kelley[1], Suchandrima Banerjee[2], Wei Bian[3], Julia P. Owen[4], Christopher P. Hess[4], Sarah J. Nelson[4]
[1]Applied Science Laboratory, GE Healthcare, Corte Madera, CA, United States; [2]Applied Science Laboratory, GE Healthcare, Menlo Park, CA, United States; [3]Radiology, UC San Francisco, San Francisco, CA, United States; [4]Radiology, UCSF, San Francisco, CA, United States

Computer 43 **3643. Association Between MR Imaging Measurements and Image-Guided Tissue Histopathology in Patients with Recurrent GBM**

Qiuting Wen[1, 2], Adam Elkhaled[2], Emma Essock-Burns[1], Annette Molinaro[3], Joanna Phillips[3, 4], Susan M. Chang[5], Soonmee Cha[6], Sarah J. Nelson[1, 7]
[1]Graduate Group in Bioengineering, UC Berkeley/UC San Francisco, San Francisco, CA, United States; [2]Department of Radiology and Biomedical Imaging, UC San Francisco, San Francisco, CA, United States; [3]Department of Neurological Surgery, UC San Francisco, San Francisco, CA, United States; [4]Department of Pathology, UC San Francisco, UCSF San Francisco, CA, United States; [5]Department of Neurological Surgery, University of California San Francisco, San Francisco, CA, United States; [6]Department of Neurological Surgery, University of California, San Francisco, San Francisco, CA, United States; [7]Bioengineering and Therapeutic Science, UC San Francisco, San Francisco, CA, United States

Computer 44 **3644. Regional Variation in White Matter Diffusion Index Changes Following Chemoradiotherapy: A Prospective Study Using Tract-Based Spatial Statistics**

ISMRM MERIT AWARD magna cum laude

Christopher H. Chapman[1], Mohammad Nazem-Zadeh[1], Oliver Lee[2], Matthew Schipper[1], Christina I. Tsien[1], Theodore S. Lawrence[1], Yue Cao[1, 3]
[1]Department of Radiation Oncology, University of Michigan, Ann Arbor, MI, United States; [2]Department of Biostatistics, University of Michigan, Ann Arbor, MI, United States; [3]Department of Biomedical Engineering, University of Michigan, Ann Arbor, MI, United States

Computer 45 **3645. Phospholipid Metabolism Before and During Bevacizumab Therapy in Recurrent Glioma**

Ulrich Pilatus[1], Oliver Bär[2], Johannes Rieger[2], Stefanie Pellikan[1], Maurice Harth[1], Joachim Steinbach[2], Elke Hattingen[1]
[1]Institute of Neuroradiology, Goethe-University Frankfurt, Frankfurt, Germany; [2]Dr. Senckenbergisches Institut für Neuroonkologie, Goethe-University Frankfurt, Frankfurt, Germany

Computer 46 **3646. *Citrate Increases in Gliomas in Adult Patients, as Measured by 1H-MRS at 3T in vivo</i>*angho Choi[1], Sandeep Ganji[2], Akshay Madan[1], Robert Bachoo[1], Ralph DeBerardinis[1], Elizabeth A. Maher[1]**

[1]University of Texas Southwestern Medical Center, Dallas, TX, United States; [2]UT Southwestern Medical Center, Dallas, TX, United States

Computer 47 **3647. Multi-Compartment Diffusion Analysis for Differentiation of Malignant and Benign Brain Tumors in Pediatric Patients**

Jie Deng[1, 2], Delilah Burrowes[1], Emma Boylan[1]
[1]Medical Imaging, Ann & Robert H. Lurie Children's Hospital of Chicago , Chicago, IL, United States; [2]Radiology, Feinberg School of Medicine, Northwestern University, Chicago, IL, United States

Computer 48 **3648. Brain Tumor Clean-APT and NOE-CEST Imaging at 7T**

Craig K. Jones[1, 2], Domenico Zaca[3], Jun Hua[1, 2], Jinyuan Zhou[1, 2], Peter C.M. van Zijl[1, 2], Jay J. Pillai[4]

[1]Department of Radiology and Radiological Sciences, Johns Hopkins University School of Medicine, Baltimore, MD, United States; [2]FM Kirby Center, Kennedy Krieger Institute, Baltimore, MD, United States; [3]Center for Mind Brain Sciences, University of Trento, Trento, Italy, Italy; [4]Division of Neuroradiology, Johns Hopkins University School of Medicine, Baltimore, MD, United States

Electronic Poster
Brain Diffusion Imaging & Neuroeducation

Exhibition Hall Tuesday 13:30-14:30

Computer 49 **3649. Coupled Two Compartment Diffusion Model for Estimating Water Exchange Ratio in White Matter Fiber Tracts Using Diffusion MRI**

Esmaeil Davoodi-Bojd[1, 2], Michael Chopp[3, 4], Hamid Soltanian-Zadeh, [25], Shiyang Wang[1, 6], Guangliang Ding[1], Quan Jiang[1]

[1]Neurology, Henry Ford Health System, detroit, MI, United States; [2]Electrical and Computer Engineering, University Of Tehran, Tehran, Iran; [3]Neurology, Henry Ford Hospital, detroit, MI, United States; [4]Physics, Oakland University, Rochester, MI, United States; [5]Radiology, Henry Ford Health System, detroit, MI, United States; [6]Radiology , University of Chicago, Chicago, IL, United States

Computer 50 **3650. TBSS Result Variations: Is the Analysis Dependent on the Fitting Algorithm?**

Ivan I. Maximov[1], Heike Thoennessen[1, 2], Kerstin Konrad[2, 3], Laura Amort[1, 4], Irene Neuner[1, 4], Nadim Jon Shah[1, 5]

[1]Institute of Neuroscience and Medicine 4, Forschungszentrum Juelich GmbH, Juelich, Germany; [2]Department of Child and Adolescent Psychiatry and Psychotherapy, RWTH Aachen University, Aachen, Germany; [3]Institute of Neuroscience and Medicine 3, Forschungszentrum Juelich GmbH, Juelich, Germany; [4]Department of Psychiatry, Psychotherapy and Psychosomatics, RWTH Aachen University, Aachen, Germany; [5]Department of Neurology, RWTH Aachen University, Aachen, Germany

Computer 51 **3651. A Permutation Test Statistical Analysis of Learning Induced DTI Changes**

Ido Tavor[1], Shlomi Lifshits[2], Shir Hofstetter[1], Yaniv Assaf[1]

[1]Department of Neurobiology, Tel Aviv University, Tel Aviv, Israel; [2]Department of Statistics and Operations Research, Tel Aviv University, Tel Aviv, Israel

Computer 52 **3652. White Matter Connectivity and Network Analysis in Polymicrogyria Using an Individual's Primary Gyral Pattern**

Kiho Im[1], Michael J. Paldino[1], Olaf Sporns[2], Patricia Ellen Grant[3]

[1]Boston Children's Hospital, Harvard Medical School, Boston, MA, United States; [2]Indiana University, Bloomington, IN, United States; [3]Boston Children's Hospital, Boston, MA, United States

Computer 53 **3653. Left Hippocampal Volume Reduction Is Strongly Coupled with Structural and Functional Connectivity in Patients with Left Mesial Temporal Lobe Epilepsy**

Y.C. Shih[1, 2], H.H. Liu[3], C.E. J. Tseng[2], Wen-Yih Isaac Tseng[2]

[1]Institute of Biomedical Engineering, National Taiwan University, Taipei, Taiwan, Taiwan; [2]Center for Optoelectronic Biomedicine, National Taiwan Univerity College of Medicine, Taipei, Taiwan, Taiwan; [3]Department of Neurology, National Taiwan University Hospital, Taipei, Taiwan, Taiwan

Computer 54 **3654. Microstructural Characterization of Unidentified Bright Objects in Neurofibromatosis Type 1**

Thibo Billiet[1], Louise Emsell[1], Felice D'Arco[2], Sabine Deprez[1], Judith Verhoeven[1], Ellen Plasschaert[3], Ronald Peeters[1], Eric Legius[3], Stefan Sunaert[1]

[1]Radiology, KULeuven, Leuven, Belgium; [2]Radiology, University Federico II of Naples, Naples, Italy; [3]Human Genetics, UZLeuven, Leuven, Belgium

Computer 55 **3655. Microstructural Visual Brain Reorganization in the Congenitally Blind and Acquired Blind**

Vincent Lee[1], Amy C. Nau[2, 3], Kevin C. Chan[4, 5]

[1]Department of Radiology, University of Pittsburgh, Pittsburgh, PA, United States; [2]Sensory Substitution Laboratory, University of Pittsburgh, Pittsburgh, PA, United States; [3]Department of Ophthalmology, University of Pittsburgh, Pittsburgh, PA, United States; [4]Departments of Ophthalmology and Bioengineering, University of Pittsburgh, Pittsburgh, PA, United States; [5]Center for the Neural Basis of Cognition, University of Pittsburgh and Carnegie Mellon University, Pittsburgh, PA, United States

Computer 56 **3656. Altered Myelination and Axonal Integrity in Primary Restless Legs Syndrome Patients: Diffusion Tensor Imaging Study**

Jong-su Baeck[1], Jeehye Seo[1], Seong-Uk Jin[1], Jang Woo Park[1], Moon Han[1], Yongmin Chang[2, 3], Yong Won Cho[4]
[1]Department Medical & Biological Engineering, kyungpook national University, Daegu, Korea; [2]Department of Radiology, Kyungpook National University, Daegu, Korea; [3]Department of Molecular Medicine, kyungpook national University, Daegu, Korea; [4]Department of Neurology, Kemyung University School of Medicine, Daegu, Korea

Computer 57 **3657. Axial and Radial Diffusion Changes in Recently-Diagnosed Patients with Obstructive Sleep Apnea**

Rajesh Kumar[1], Paul M. Macey[2], Mary A. Woo[2], Frisca L. Yan-Go[3], Ronald M. Harper[1]
[1]Neurobiology, University of California at Los Angeles, Los Angeles, CA, United States; [2]UCLA School of Nursing, University of California at Los Angeles, Los Angeles, CA, United States; [3]Neurology, University of California at Los Angeles, Los Angeles, CA, United States

Computer 58 **3658. Increased Global and Regional Brain Mean Diffusivity in Patients with Heart Failure**

Rajesh Kumar[1], Mary A. Woo[2], Paul M. Macey[2], Gregg C. Fonarow[3], Ronald M. Harper[1]
[1]Neurobiology, University of California at Los Angeles, Los Angeles, CA, United States; [2]UCLA School of Nursing, University of California at Los Angeles, Los Angeles, CA, United States; [3]Cardiology, University of California at Los Angeles, Los Angeles, CA, United States

Computer 59 **3659. Diffusion Tensor Markers of the Neurobiology of Cocaine Addiction**

Khader M. Hasan[1], MA Liangsuo[2], Larry A. Kramer[1], Scott D. Lane[2], Joel S. Steinberg[2], Ponnada A. Narayana[1], Gerry F. Moeller[2]
[1]Diagnostic and Interventional Imaging, University of Texas Health Science Center at Houston, Houston, TX, United States; [2]Psychiatry and Behavioral Sciences, University of Texas Health Science Center at, Houston, TX, United States

Computer 60 **3660. Postoperative Cerebral White Matter Changes in Diffusion Anisotropy Associated with Alterations in Cognitive Function After Carotid Endarterectomy: A Tract-Based Spatial Statistics Study**

Kenji Ito[1], Kuniaki Ogasawara[2], Masakazu Kobayashi[2], Makoto Sasaki[1], Kohsuke Kudo[1], Fumio Yamashita[1], Satomi Higuchi[1], Jonathan Goodwin[1], Ikuko Uwano[1], Suguru Yokosawa[1]
[1]Division of Ultrahigh Field MRI, Institute for Biomedical Sciences, Iwate Medical University, Morioka, Iwate, Japan; [2]Department of Neurosurgery, Iwate Medical University, Morioka, Iwate, Japan

Computer 61 **3661. Robust Detection of Progressive White Matter Abnormalities in MTBI Using DW-MRI**

ISMRM MERIT AWARD magna cum laude

Il Yong Chun[1], Allan Diaz[1], Yun-Jang Jin[1], Xiaodong Li[1], Larry Leverenz[2], Eric Nauman[3], Thomas Talavage[1, 4]
[1]School of Electrical and Computer Engineering, Purdue University, West Lafayette, IN, United States; [2]3Department of Health and Kinesiology, Purdue University, West Lafayette, IN, United States; [3]School of Mechanical Engineering, Purdue University, West Lafayette, IN, United States; [4]Weldon School of Biomedical Engineering, Purdue University, West Lafayette, IN, United States

Computer 62 **3662. Evaluation of the Impact of White Matter Lesion on the Fractional Anisotropy Maps in Alzheimer's Disease Patients and Normal Healthy Controls**

Keumsil Lee[1], Daniel H.-E. Chang[1], Huali Wang[2], Min-Ying Su[1]
[1]Center for Functional Onco-Imaging, Department of Radiological Sciences, University of California, Irvine, CA, United States; [2]Department of Geriatric Psychiatry, Peking University Institute of Mental Health, Beijing, China

Computer 63 **3663. Improved White Matter Microstructure After a Novel Drumming Training in Huntington's Disease**

Claudia Metzler-Baddeley[1], Roland John Baddeley[2], Jaime Canteras[3], Anne Rosser[4], Elizabeth Coulthard[5], Derek K. Jones[1]
[1]CUBRIC, Cardiff University, Cardiff, Wales, United Kingdom; [2]Experimental Psychology, Bristol University, Bristol, Avon, United Kingdom; [3]Music Factory, Bristol, Avon, United Kingdom; [4]Biosciences, Cardiff University, Cardiff, Wales, United Kingdom; [5]Dementia and Cognitive Neurosciences, Bristol University, Bristol, Avon, United Kingdom

Computer 64 **3664. Using Atrophy as a Marker of Disease Severity to Understand the Evolution of DTI Changes in Alzheimer&[prime]s Disease**

Julio Acosta-Cabronero[1], Dina Kronhaus[2], Robert J. Arnold[1], Guy B. Williams[3], Peter J. Nestor[4]
[1]Department of Clinical Neurosciences, University of Cambridge, Cambridge, Cambridgeshire, United Kingdom; [2]Department of Applied Mathematics and Theoretical Physics, University of Cambridge, Cambridge, Cambridgeshire, United Kingdom; [3]Wolfson Brain Imaging Centre, University of Cambridge, Cambridge, Cambridgeshire, United Kingdom; [4]Plasticity and Neurodegeneration, German Center for Neurodegenerative Diseases (DZNE), Magdeburg, Saxony-Anhalt, Germany

Computer 65 **3665. Graph Diffusion**

Ashish Raj[1], Amy Kuceyeski, PhD[1], Michael Weiner, MD[2], Bruce Miller, MD[3]
[1]Department of Radiology, Weill Cornell Medical College, New York, NY, United States; [2]Department of Radiology, University of California, San Francisco, San Francisco, CA, United States; [3]Department of Neurology, University of California, San Francisco, San Francisco, CA, United States

Computer 66 **3666. Correlation of Stromal Area and Nuclear-To-Cytoplasm Ratio with Apparent Diffusion Coefficient in Laryngeal and Hypopharyngeal Squamous Cell Carcinoma**

Juliette Driessen[1, 2], Joanna Caldas-Magalhaes[3], Chris Terhaard[3], Luuk M. Janssen[1], Wilko Grolman[1, 2], Marielle E.P. Philippens[3]
[1]Otorhinolaryngology – Head and Neck Surgery, University Medical Center Utrecht, Utrecht, Netherlands; [2]Rudolf Magnus Institute of Neuroscience, Utrecht, Netherlands; [3]Radiotherapy, University Medical Center Utrecht, Utrecht, Netherlands

Computer 67 **3667. MR Examination Times of Less Than 8 Minutes for 4 Common Indications**

Tim Leiner[1], Eveline Alberts[2], Niels Blanken[1], Mark Stoesz[2], Martijn Hartjes[2], Jeroen Hendrikse[1]
[1]Department of Radiology, Utrecht University Medical Center, Utrecht, Netherlands; [2]Clinical Science Department, Philips Healthcare, Eindhoven, Netherlands

Computer 68 **3668. Neuroimaging Capabilities of Low-Field Permanent Magnet MR Systems in Resource-Limited Settings**

Christina Louise Sammet[1], Adesola Ogunniyi[2], Ann B. Ragin[1], Robert L. Murphy[1], Steffen Sammet[3], Godwin Inalegwu Ogbole[2]
[1]Northwestern University, Chicago, IL, United States; [2]University of Ibadan, Ibadan, Oyo, Nigeria; [3]University of Chicago, Chicago, IL, United States

Computer 69 **3669. *Effect of Combination of B Values and Rician Noise Filter on Diffusional Kurtosis and Tensor Imaging Metrics in Spinal Cord in vivo***

Saaki Hori[1], Koji Kamagata[1], Mariko Yoshida[1], Nozomi Hamasaki[2], Keigo Shimoji[1], Yuriko Suzuki[3], Yoshitaka Masutani[4], Issei Fukunaga[5, 6], Shigeki Aoki[1]
[1]Department of Radiology, School of Medicine, Juntendo University, Tokyo, Japan; [2]Juntendo University Hospital, Tokyo, Japan; [3]Philips Electronics Japan, Ltd., Tokyo, Japan; [4]Division of Radiology, and Biomedical Engineering, Graduate School of Medicine, The University of Tokyo, Tokyo, Japan; [5]Department of Radiology, Juntendo University, Tokyo, Japan; [6]Graduate School of Human Health Sciences, Tokyo, Japan

Computer 70 **3670. Selection of Coils, Sequences and Scan Parameters for Non-Human Primate Brain Imaging**

Michael H. Buonocore[1, 2], David G. Amaral[3], Gerald J. Sonico[2], Jeff Bennett[3], Martin Styner[4]
[1]Radiology, UC Davis, Sacramento, CA, United States; [2]Imaging Research Center, UC Davis, Sacramento, CA, United States; [3]Psychiatry and Behavioral Sciences, UC Davis, Sacramento, CA, United States; [4]Psychiatry and Computer Science, University of North Carolina at Chapal Hill, Chapel Hill, NC, United States

Computer 71 **3671. Inhance 3D Phase Contrast Angiographic Magnetic Resonance Venography of the Brain: Initial Clinical Experience in 23 Patients.**

Norbert Campeau[1], Alice Patton[1]
[1]Radiology, Mayo Clinic, Rochester, MN, United States

Computer 72 **3672. MR Imaging of Parkinson Disease: Review of Conventional and Advanced Techniques**

Koji Kamagata[1], Masaaki Hori[1], Keigo Shimoji[1], Michimasa Suzuki[1], Atsushi Nakanishi[1], Hiroyuki Tomiyama[2], Yumiko Motoi[2], Issei Fukunaga[3], Humitaka Kumagai[1], Nobutaka Hattori[2], Shigeki Aoki[1]
[1]Department of Radiology, Juntendo university, Tokyo, Japan; [2]Department of Neurology, Juntendo university, Tokyo, Japan; [3]Department of Radiology, Juntendo University, Tokyo, Japan

Electronic Poster
Animal Models Other Than Stroke

Exhibition Hall Tuesday 14:30-15:30

Computer 49 **3673.** **Diffusion Tensor Imaging Demonstrated Significant Axonal Damage in *Fmr1* Knock Out Mice**

ISMRM MERIT AWARD magna cum laude

Da Shi[1, 2], Jiachen Zhou,[2,3], Su Xu[2, 3], Rao P. Gullapalli[2, 3]

[1]Biochemistry and Molecular Biology, University of Maryland Baltimore, Baltimore, MD, United States; [2]Core for Translational Research in Imaging @ University of Maryland, University of Maryland Baltimore, Baltimore, MD, United States; [3]Diagnostic Radiology and Nuclear Medicine, University of Maryland Baltimore, Baltimore, MD, United States

Computer 50 **3674.** **Combined DTI and ASL with T2* Imaging Discriminates Between Angiogenic and Highly Diffuse Infiltrative Brain Tumor Models: A Study at 11.7 Tesla**

Houshang Amiri[1, 2], Anna C. Navis[3], Jolanda de Vries[2], William P. Leenders[3], Arend Heerschap[1]

[1]Radiology Department, Radboud University Nijmegen Medical Centre, Nijmegen, Gelderland, Netherlands; [2]Tumor Immunology Department, Nijmegen Centre for Molecular Life Sciences, Nijmegen, Gelderland, Netherlands; [3]Pathology Department, Radboud University Nijmegen Medical Centre, Nijmegen, Gelderland, Netherlands

Computer 51 **3675.** **Multimodal MR Evaluation of Experimentally Induced Apoptotic Neuronal Death in the Rat Brain**

Yohan van de Looij[1, 2], Volodomyr Petrenko[3], Petra Susan Hüppi[1], Rolf Gruetter[4, 5], Jozsef Kiss[3], Stéphane V. Sizonenko[1]

[1]Division of Child Growth & Development, University of Geneva, Geneva, Switzerland; [2]Laboratory for Functional and Metabolic Imaging, Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland; [3]Department of Fundamental Neurosciences, University of Geneva, Geneva, Switzerland; [4]Laboratory for Functional and Metabolic Imaging, École Polytechnique Fédérale de Lausanne, Lausanne, Switzerland; [5]Department of radiology, University of Geneva and Lausanne, Geneva and Lausanne, Switzerland

Computer 52 **3676.** **Multi-Parameter MRI Assessment of Glioma Response to Radiotherapy**

Xiaohua Hong[1, 2], Silun Wang[1], Jinyuan Zhou[1]

[1]Radiology, Johns Hopkins University, Baltimore, MD, United States; [2]Oncology, Union Hospital, Tongji Medical College, Huazhong University of Science and Technology, Wuhan, Hubei, China

Computer 53 **3677.** **Susceptibility Weighted Imaging of Iron-Labeled C6-Glioma in Rats at 7T**

Monika Huhndorf[1], Olga Will[2], Rolf Mentlein[3], Olav Jansen[1], Susann Boretius[2]

[1]Institute of Neuroradiology, University Medical Center Schleswig-Holstein, Kiel, Germany; [2]Biomedical Imaging, Diagnostic Radiology, Christian-Albrechts-University, Kiel, Germany; [3]Institute of Anatomy, Christian-Albrechts-University, Kiel, Germany

Computer 54 **3678.** **Characterizing the Effect of Fetal Ethanol Exposure on Subsequent Morphological Development of Neurons in the Cerebral Cortex by Diffusion Tensor Imaging**

Lindsey A. Leigland[1], Matthew D. Budde[2], Christopher D. Kroenke[1, 3]

[1]Advanced Imaging Research Center and Department of Behavioral Neuroscience, Oregon Health & Science University, Portland, OR, United States; [2]Department of Neurosurgery, Medical College of Wisconsin, Milwaukee, WI, United States; [3]Division of Neuroscience, Oregon National Primate Research Center, Oregon Health & Science University, Beaverton, OR, United States

Computer 55 **3679.** **Tensor-Based Morphometry as a Sensitive Biomarker of Alzheimer's Disease Neuropathology in a Tau Transgenic Mouse**

Holly Elizabeth Holmes[1], Nick M. Powell[1, 2], Jack A. Wells[1], Niall Colgan[1], James M. O'Callaghan[1], Da Ma[1, 2], Marc Modat[2], Manuel Jorge Cardoso[2], Simon Richardson[1], Bernard M. Siow[1], Michael J. O'Neill[3], E Catherine Collins[4], Elizabeth Fisher[5], Sebastien Ourselin[2], Mark F. Lythgoe[1]*

[1]Centre for Advanced Biomedical Imaging, University College London, London, Greater London, United Kingdom; [2]Centre for Medical Image Computing, University College London, London, Greater London, United Kingdom; [3]Eli Lilly & Co. Ltd, Windlesham, Surrey, United Kingdom; [4]Eli Lilly & Co. Ltd, Indianapolis, IN, United States; [5]Institute of Neurology, University College London, London, Greater London, United Kingdom

Computer 56 **3680.** **Diffusion Kurtosis and Proton MRS Changes Following Mild TBI from Blast Overpressure Using a Novel Direct Cranial Blast Injury Model**

Su Xu[1, 2], Kaspar M. Keledjian[3], Jiachen Zhuo[1, 2], Xin Lu[1, 2], Vladimir V. Gerzanich[3], J. Marc Simard[3], Rao P. Gullapalli[1, 2]

[1]Department of Diagnostic Radiology and Nuclear Medicine, University of Maryland School of Medicine, Baltimore, MD, United States; [2]Core for Translational Research in Imaging @ Maryland, Baltimore, MD, United States; [3]Departments of Neurosurgery, University of Maryland School of Medicine, Baltimore, MD, United States

Computer 57 **3681. MRI of Acute and Delayed Administration of Marrow Stromal Cells in Rats with Traumatic Brain Injury**
Lian Li[1], Michael Chopp[1, 2], Guangliang Ding[1], Changsheng Qu[3], Qingjiang Li[1], Siamak P. Nejad-Davarani[1], Quan Jiang[1]
[1]Neurology, Henry Ford Hospital, Detroit, MI, United States; [2]Physics, Oakland University, Rochester, MI, United States; [3]Neurosurgery, Henry Ford Hospital, Detroit, MI, United States

Computer 58 **3682. MRI of Neuronal Recovery After Methamphetamine Treatment of Traumatic Brain Injure in Rats**
Guangliang Ding[1], Michael Chopp[1, 2], David J. Poulsen[3], Lian Li[1], Changsheng Qu[4], Qingjiang Li[1], Siamak P. Nejad-Davarani[1], John Budaj[1, 5], Hongtao Wu[4], Asim Mahmood[4], Quan Jiang[1]
[1]Neurology, Henry Ford Hospital, Detroit, MI, United States; [2]Physics, Oakland University, Rochester, MI, United States; [3]Biomedical and Pharmaceutical Sciences, University of Montana, Missoula, MT, United States; [4]Neurosurgery, Henry Ford Hospital, Detroit, MI, United States; [5]Biomedical Engineering, Oakland University, Rochester, MI, United States

Computer 59 **3683. Longitudinal Anatomical and Diffusion MRI Evaluation in Rabbit External Capsules and Hippocampi After Cerebral Hemisphere Radiation Exposure**
Chao-Yu Shen[1, 2], Zhen-Hui Li[1], Tao-Tao Chen[1], Yeu-Sheng Tyan[1, 2], Jun-Cheng Weng[1, 2]
[1]School of Medical Imaging and Radiological Sciences, Chung Shan Medical University, Taichung, Taiwan; [2]Department of Medical Imaging, Chung Shan Medical University Hospital, Taichung, Taiwan

Computer 60 **3684. DWI Detected Differential Response of Hypothalamic Nuclei Between Leptin Deficient and Wild Type Mice**
Blanca Lizarbe[1], Pilar Lopez-Larrubia[1], Sebastián Cerdán[2]
[1]Instituto Investigaciones Biomedicas "Alberto Sols" CSIC-UAM, Madrid, Spain; [2]Instituto de Investigaciones Biomédicas - CSIC, Madrid, Spain

Computer 61 **3685. DTI Study of Corpus Callosum Integrity in Adult Macaques with Neonatal Hippocampal Lesion**
Yuguang Meng[1], Longchuan Li[2], Xiaoping P. Hu[2], Jocelyne Bachevalier[3], Christa Payne[3], Xiaodong Zhang[1, 4]
[1]Yerkes Imaging Center, Yerkes National Primate Research Center, Emory University, Atlanta, GA, United States; [2]Department of Biomedical Engineering, Georgia Institute of Technology and Emory University, Atlanta, GA, United States; [3]Yerkes National Primate Research Center and Department of Psychology, Emory University, Atlanta, GA, United States; [4]Division of Neuropharmacology and Neurologic Disease, Emory University, Atlanta, GA, United States

Computer 62 **3686. Resting State Network in ADHD Rat Model Using Group ICA**
Yi-Ling Wu[1], Sheng-Min Huang[1], Shin-Lei Peng[1], Yi-Chun Wu[2], Tao-Chieh Yang[3], Jee-Ching Hsu[4], Ming-Long Wu[5], Fu-Nien Wang[1]
[1]Department of Biomedical Engineering & Environmental Sciences, National Tsing Hua University, Hsinchu, Taiwan; [2]Animal Molecular Center, Chang Gung Memorial Hospital, Taoyuan, Taiwan; [3]Department of Neurosurgy, Chang Gung Memorial Hospital, Taoyuan, Taiwan; [4]Department of Anesthesiology, Chang Gung Memorial Hospital, Taoyuan, Taiwan; [5]Department of Computer Science and Information Engineering, National Cheng Kung University, Tainan, Taiwan

Computer 63 **3687. Effects of a Nutrient-Combination Diet on Cerebral Blood Flow, Metabolites Levels and Brain Diffusion in ApoE4 and ApoE Knockout Mice**
Valerio Zerbi[1, 2], Diane Jansen[1], Maarten Van Beek[1], Roy Haast[1], Andor Veltien[3], Laus M. Broersen[4], Jack JA Van Asten[3], Arend Heerschap[3], Amanda J. Kiliaan[1]
[1]Anatomy, Radboud University Nijmegen Medical Centre, Nijmegen, The Netherlands, Netherlands; [2]Radiology, Radboud University Nijmegen Medical Centre, Nijmegen, Netherlands, Netherlands; [3]Radiology, Radboud University Nijmegen Medical Centre, Nijmegen, The Netherlands, Netherlands; [4]Nutricia Advanced Medical Nutrition, Centre for Specialised Nutrition, Wageningen, Netherlands, Netherlands

Computer 64 **3688. MR Spectroscopy of Hypobaric Hypoxia Induced Changes in Rat Brain Hippocampus Using 7Tesla**
Sunil Koundal[1], Sonia Gandhi[1], Tanzeer Kaur[2], Subash Khushu[1], Rajendra P. Tripathi[1]
[1]NMR Research Centre, Institute of Nuclear Medicine and Allied Sciences (INMAS), Delhi, India; [2]Department of Biophysics, Panjab University, Chandigarh, Panjab, India

Computer 65 **3689. Longitudinal Imaging of the Influence of ApoE Isoforms on Brain Structure and Function**
Xuan Vinh To[1, 2], Chun-Yu Yip[1], Ho Ngoc Na[1], Boon Seng Wong[2], Kai-Hsiang Chuang[1, 2]
[1]Magnetic Resonance Imaging Group, Singapore Bioimaging Consortium, A*STAR, Singapore, Singapore; [2]Department of Physiology, National University of Singapore, Singapore, Singapore

Computer 66 **3690. ASL-Based Cerebral Perfusion with or Without Permanent Unilateral Common Carotid Artery Occlusion: Towards an Optimized Mouse Stroke Model.**
Tom Dresselaers[1], Wouter Oosterlinck[2], Tom Struys[1, 3], Kristof Govaerts[1], Ivo Lambrichts[3], Paul Herijgers[2], Uwe Himmelreich[1]
[1]Department of Imaging & Pathology, KU Leuven, Leuven, Vl.Brabant, Belgium; [2]Department of Experimental Cardiac Surgery, KU Leuven, Leuven, Vl.Brabant, Belgium; [3]Department of Functional Morphology, Hasselt University, Diepenbeek, Limburg, Belgium

Computer 67 **3691. Alterations of Temporal and Prefrontal White Matter in Adult Macaques with Neonatal Hippocampal Lesion**
Yuguang Meng[1], Longchuan Li[2], Xiaoping P. Hu[2], Jocelyne Bachevalier[3], Christa Payne[3], Xiaodong Zhang[1, 4]
[1]Yerkes Imaging Center, Yerkes National Primate Research Center, Emory University, Atlanta, GA, United States; [2]Department of Biomedical Engineering, Georgia Institute of Technology and Emory University, Atlanta, GA, United States; [3]Yerkes National Primate Research Center and Department of Psychology, Emory University, Atlanta, GA, United States; [4]Division of Neuropharmacology and Neurologic Disease, Emory University, Atlanta, GA, United States

Computer 69 **3692. Longitudinal Effects on Rat Brain of Different Degrees Infection by Angiostrongylus Cantonensis**
Ling-Yuh Shyu[1], Hao-Hung Tsai[2, 3], Yi-Hsin Wang[2], Shin-Tai Chong[2, 4], Jun-Cheng Weng[2, 3]
[1]Department of Parasitology, Chung Shan Medical University, Taichung, Taiwan; [2]School of Medical Imaging and Radiological Sciences, Chung Shan Medical University, Taichung, Taiwan; [3]Department of Medical Imaging, Chung Shan Medical University Hospital, Taichung, Taiwan; [4]Institute of Neuroscience, National Yang-Ming University, Taipei, Taiwan

Computer 70 **3693. Volumetric Changes in the Monkey Cerebral Cortex Following Prolonged Voluntary Ethanol Drinking**
Christopher D. Kroenke[1, 2], Torsten Rohlfing[3], Edith V. Sullivan[4], Adolf Pfefferbaum, [3,4], Kathleen A. Grant[2, 5]
[1]Advanced Imaging Research Center, Oregon Health & Science University, Portland, OR, United States; [2]Division of Neuroscience, Oregon National Primate Research Center, Oregon Health & Science University, Portland, OR, United States; [3]Neuroscience Program, SRI International, Menlo Park, CA, United States; [4]Department of Psychiatry and Behavioral Sciences, Stanford University, Palo Alto, CA, United States; [5]Department of Behavioral Neuroscience, Oregon Health & Science University, Portland, OR, United States

Computer 71 **3694. Vascular Response to Different Hypercapnic Challenges in Free Breathing or Ventilated C57Bl/6 Mice.**
Tom Dresselaers[1], Tom Struys[1], Wouter Oosterlinck[2], Sarah Caers[1], Ann Van Santvoort[1], Paul Herijgers[2], Ivo Lambrichts[3], Uwe Himmelreich[1]
[1]Department of Imaging & Pathology, KU Leuven, Leuven, Vl.Brabant, Belgium; [2]Department of Experimental Cardiac Surgery, KU Leuven, Leuven, Vl.Brabant, Belgium; [3]Department of Functional Morphology, Hasselt University, Diepenbeek, Limburg, Belgium

Computer 72 **3695. Effects of Ascent to High Altitude: A T2 Relaxometry Study on Rat Brain**
Sunil Koundal[1], Sonia Gandhi[1], Tanzeer Kaur[2], Subash Khushu[1], Rajendra P. Tripathi[1]
[1]NMR Research Centre, Institute of Nuclear Medicine and Allied Sciences (INMAS), Delhi, India; [2]Department of Biophysics, Panjab University, Chandigarh, Panjab, India

Electronic Poster
Pulse Sequences: Research

Exhibition Hall Tuesday 16:00-17:00

Computer 1 **3696. Real-Time MRI of Tablet Disintegration: Visualization and Quantification**
Amir Moussavi[1, 2], Julian Quodbach[3], Jens Frahm, [2,4], Roland Tammer[1, 2]
[1]Biomedizinische NMR Forschungs GmbH, am Max-Planck-Institut für biophysikalische Chemie, Göttingen, Niedersachsen, Germany; [2]DFG Research Center for Molecular Physiology of the Brain (CMPB), Göttingen, Niedersachsen, Germany; [3]Institut für Pharmazeutische Technologie und Biopharmazie, Heinrich-Heine-Universität Düsseldorf, Düsseldorf, NRW, Germany; [4]Biomedizinische NMR Forschungs GmbH, Max Planck Institute, Göttingen, Niedersachsen, Germany

Computer 2 **3697. T1-W SE-Prop to Overcome Flow Artifacts in Post-Gd Brain Imaging**
Stefan Skare[1], Magnus Mårtensson[2], Patrik Ring[1], Anders Lilja[1]
[1]Dept Neuroradiology, Karolinska University Hospital, Stockholm, Sweden; [2]EMEA Research and Collaboration, Applied Science Laboratory, GE Healthcare, Stockholm, Sweden

Computer 3 **3698. Mulit-Echo Averaging in MR Elastography for Improved SNR**
Bing Wu[1], Yongchuan Lai[1]
[1]GE healthcare , Beijing, China

Computer 4 **3699. Temporal Phase Transition Via Fractional Wave Cycle TR in MR Elastography**
Bing Wu[1], Yongchuan Lai[1]
[1]GE healthcare , Beijing, China

Computer 5 **3700. T1 Mapping in Real Time: Single Inversion-Recovery Radial FLASH with Nonlinear Inverse Reconstruction**
Shuo Zhang[1], Martin Uecker[2], Jens Frahm[1]
[1]Biomedizinische NMR Forschungs GmbH am Max-Planck-Institut fuer biophysikalische Chemie, Goettingen, Niedersachsen, Germany; [2]Dept. of Electrical Engineering and Computer Sciences, University of California, Berkeley, CA, United States

Computer 6 **3701. B_1 Gradient Encoding with the Rotating RF Coil**
ISMRM MERIT AWARD summa cum laude
Adnan Trakic[1], Ewald Weber[1], Ming Yan Li[1], Jin Jin[1], Feng Liu[1], Stuart Crozier[1]
[1]The School of ITEE, The University of Queensland, Brisbane, QLD, Australia

Computer 7 **3702. Multidimensional Gradient Encoding: Artifacts Resulting from Destructive Signal Interference**
ISMRM MERIT AWARD magna cum laude
Gerrit Schultz[1], Stefan Kroboth[2], Daniel Gallichan[3], Jürgen Hennig[1], Maxim Zaitsev[1]
[1]University Medical Center Freiburg, Freiburg, Germany; [2]Graz University of Technology, Graz, Austria; [3]Center for Biomedical Imaging (CIBM), Lausanne, Switzerland

Computer 8 **3703. Segmented Multi-Echo MPRAGE Acquisition for Accelerated T1-Weighted Brain Imaging**
ISMRM MERIT AWARD magna cum laude
Pavel Falkovskiy[1, 2], Tobias Kober, [12], Denise Reyes[3], Kaely Steinert[3], Matthias Seeger[4], Matthew Bernstein[3], Gunnar Krueger, [12]
[1]Advanced Clinical Imaging Technology, Siemens Healthcare IM S AW, Lausanne, Switzerland; [2]CIBM-AIT, École Polytechnique Fédérale de Lausanne, Lausanne, Switzerland; [3]Department of Radiology, Mayo Clinic, Rochester, MN, United States; [4]Laboratory for Probabilistic Machine Learning, École Polytechnique Fédérale de Lausanne, Lausanne, Switzerland

Computer 9 **3704. A Whole Brain High Temporal and Spatial Resolution SE Simultaneous Multislice Sequence for Task fMRI at 7T**
ISMRM MERIT AWARD magna cum laude
Rasim Boyacioglu[1], Jennifer Bersch[1], Nils Müller[1], Peter J. Koopmans[1, 2], Markus Barth[1, 3], David Norris[1, 2]
[1]Donders Institute for Brain, Cognition and Behaviour, Radboud University, Nijmegen, Netherlands; [2]Erwin L. Hahn Institute for Magnetic Resonance Imaging, University Duisburg-Essen, Essen, Germany; [3]Erwin L. Hahn Institute for Magnetic Resonance Imaging,, University Duisburg-Essen, Essen, Germany

Computer 10 **3705. Superior GRAPPA Reconstruction with Reduced G-Factor Noise Using 2D CAIPIRINHA for 3D EPI**
ISMRM MERIT AWARD magna cum laude
Mayur Narsude[1, 2], José P. Marques[1, 2], Daniel Gallichan[3], Rolf Gruetter, [24]
[1]Laboratory for Functional and Metabolic Imaging, Ecole Polytechnique Fédéral de Lausanne, Lausanne, Vaud, Switzerland; [2]Department of Radiology, University of Lausanne, Lausanne, Vaud, Switzerland; [3]Laboratory for Functional and Metabolic Imaging, Ecole Polytéchnique Fédérale de Lausanne, Lausanne, Vaud, Switzerland; [4]Laboratory for Functional and Metabolic Imaging, École Polytechnique Fédérale de Lausanne, Lausanne, Vaud, Switzerland

Computer 11 **3706. Reduced Scan Time 3D FLAIR Using Variable Repetition Time**
Neville D. Gai[1], John Anthony Butman[1]
[1]Radiology & Imaging Sciences, National Institutes of Health, Bethesda, MD, United States

Computer 12 **3707. Short TR Resting State Data Acquired with a Simultaneous Multislice Multi-Echo Sequence at 7T, a Comparison with Multi-Echo**
Rasim Boyacioglu[1], Jennifer Bersch[1], Benedikt A. Poser[2], Peter J. Koopmans[1, 3], Markus Barth[1, 3], David Norris[1, 3]
[1]Donders Institute for Brain, Cognition and Behaviour, Radboud University, Nijmegen, Netherlands; [2]John A. Burns School of Medicine, U. of Hawaii, Honolulu, HI, United States; [3]Erwin L. Hahn Institute for Magnetic Resonance Imaging, University Duisburg-Essen, Essen, Germany

Computer 13 **3708. Weighted Dual-Echo T1-W Spin-Echo Propeller with Mutual Cross-Calibration**
Stefan Skare[1], Magnus Mårtensson[2], Ajit Shankaranarayanan[3], Patrik Ring[1], Anders Lilja[1]
[1]Dept Neuroradiology, Karolinska University Hospital, Stockholm, Sweden; [2]EMEA Research and Collaboration, Applied Science Laboratory, GE Healthcare, Stockholm, Sweden; [3]Global Applied Science Laboratory, GE Healthcare, Menlo Park, CA, United States

Computer 14 **3709. MP2RAGE Imaging at 9.4T Using a PTX System**
Daniel Brenner[1], Kaveh Vahedipour[1], Tony Stöcker[1], Jörg Felder[1], Frank Geschewski[1], Eberhard Daniel Pracht[1], Nadim Jon Shah[1, 2]
[1]INM-4, Forschungszentrum Juelich, Juelich, Germany; [2]JARA - Faculty of Medicine, RWTH Aachen University, Aachen, Germany

Computer 15 **3710. Improved Compressed Sensing Reconstructions with MOET**
Daniel Neumann[1], Felix A. Breuer[1], Peter M. Jakob[1, 2], Mark A. Griswold[3, 4]
[1]Research Center MR Bavaria (MRB), Würzburg, Germany; [2]Experimental Physics 5, University of Würzburg, Würzburg, Germany; [3]Radiology, University Hospitals, Cleveland, OH, United States; [4]Biomedical Engineering, Case Western Reserve University, Cleveland, OH, United States

Computer 16 **3711. Reducing Fluctuation of Train Trajectories in 3D TSE Imaging with Compressed Sampling**
Guobin Li[1], Maxim Zaitsev[1], Esther Meyer[2], Dominik Paul[2], Jürgen Hennig[1]
[1]University Medical Center Freiburg, Freiburg, Germany; [2]Siemens Healthcare, Erlangen, Germany

Computer 17 **3712. Reducing Off-Resonance Artifacts in O-Space Imaging**
Dana C. Peters[1], Leo K. Tam[1], Gigi Galiana[2], Robert Todd Constable[2]
[1]Diagnostic Radiology, Yale Medical School, New Haven, CT, United States; [2]Diagnostic Radiology, Yale University, New Haven, CT, United States

Computer 18 **3713. Variable Flip Angle Balanced SSFP for Low SAR Cardiac Cine Imaging**
Subashini Srinivasan[1, 2], Daniel B. Ennis, [1,2]
[1]Department of Bioengineering, University of California, Los Angeles, CA, United States; [2]Department of Radiological Sciences, University of California, Los Angeles, CA, United States

Computer 19 **3714. Robust Dual-Contrast 3D Abdominal Imaging Within a Single Breath-Hold**
Nadine Gdaniec[1], Peter Koken[2], Peter Börnert[3], Christian Stehning[2], Holger Eggers[2], Mariya Doneva[4], Alfred Mertins[1]
[1]University of Lübeck, Lübeck, Germany; [2]Philips Research Laboratories, Hamburg, Germany; [3]Philips Research Laboratory, Hamburg, Germany; [4]Philips Research Europe, Hamburg, Germany

Computer 20 **3715. K-Space Density Weighted Echo Planar Imaging**
Mario Zeller[1], Alexander Müller[1], Marcel Gutberlet[2], Andreas J. Bartsch[3, 4], Daniel Stäb[1], Dietbert Hahn[1], Herbert Köstler[1]
[1]Institute of Radiology, University of Würzburg, Würzburg, Germany; [2]Institute for Interventional and Diagnostic Radiology, Hannover Medical School, Hannover, Germany; [3]Department of Neuroradiology, University of Heidelberg, Heidelberg, Germany; [4]FMRIB Centre, Oxford University, Oxford, United Kingdom

Computer 21 **3716. A Systematic Approach to Design Flip Angle Modulation in Pseudo-Steady-State 3D Fast Spin Echo Acquisition**
Weitian Chen[1], Kristin Granlund[2], Donglai Huo[3], Garry E. Gold[2]
[1]Applied Science Laboratory, GE Healthcare, Menlo Park, CA, United States; [2]Radiology, Stanford University, Palo Alto, CA, United States; [3]PSD Applications, GE Healthcare, Waukesha, WI, United States

Computer 22 **3717. W=2 Acceleration Single Carrier Wideband MRI Technique and Blur Mitigation Method**
Yun-An Huang[1], Edzer L. Wu[1, 2], Tzi-Dar Chiueh[1], Jyh-Horng Chen[1, 2]
[1]Dept. Electrical engineering, National Taiwan University, Taipei, Taiwan; [2]Institue of biomedical engineering, National Taiwan University, Taipei, Taiwan

Electronic Poster
Pulse Sequences: Education

Exhibition Hall Tuesday 16:00-17:00

Computer 23 **3718. Using Extended Phase Graphs: Review and Examples**
Brian Andrew Hargreaves[1], Karla L. Miller[2]
[1]Radiology, Stanford University, Stanford, CA, United States; [2]FMRIB Centre, Oxford University, Oxford, United Kingdom

Computer 24 **3719. arrayShow: A Guide to an Open Source Matlab Tool for Complex MRI Data Analysis**
Tilman Johannes Sumpf[1], Markus Untenberger[1]
[1]Biomedizinische NMR Forschungs GmbH am Max-Planck-Institut fuer biophysikalische Chemie, Goettingen, Germany

Electronic Poster
Advances in Image Analysis: Image Analysis

Exhibition Hall Tuesday 17:00-18:00

Computer 1 **3720. Fast and Robust Framework for PET-MR Attenuation Map Generation with Joint MR Bias Estimation and Tissue Segmentation**
Dattesh D. Shanbhag[1], Sheshadri Thiruvenkadam[1], Sandeep Kaushik[1], Gaspar Delso[2], Scott D. Wollenweber[3], Sonal Ambwani[3], Rakesh Mullick[1], Florian Wiesinger[4]
[1]GE Global Research, Bangalore, Karanataka, India; [2]GE Healthcare, Glattbrugg, Zurich, Switzerland; [3]GE Healthcare, Waukesha, WI, United States; [4]GE Global Research, Garching b. Munchen, Bavaria, Germany

Computer 2 **3721. Quantitative Oxygenation Venography from MRI Phase**
Audrey Peiwen Fan[1], Berkin Bilgic[1], Louis O. Gagnon[2, 3], Thomas Witzel[3], Himanshu Bhat[3], Bruce R. Rosen[2, 3], Elfar Adalsteinsson[1, 3]
[1]Electrical Engineering and Computer Science, Massachusetts Institute of Technology, Cambridge, MA, United States; [2]Health Sciences and Technology, Harvard-MIT, Cambridge, MA, United States; [3]Radiology, Athinoula A. Martinos Center for Biomedical Imaging, Charlestown, MA, United States

Computer 3 **3722. An MR Brain Image Classifier System Via Particle Swarm Optimization and Kernel Support Vector Machine**
Yudong Zhang[1, 2], Chuanmiao Xie,[13], Bradley S. Peterson[1, 2], Zhengchao Dong[1, 2]
[1]Columbia University, New York, NY, United States; [2]New York State of Psychiatric Institute, New York, NY, United States; [3]Department of Medical Imaging & Interventional Radiology, Sun Yat-Sen University, Guangzhou, Guangdong, China

Computer 4 **3723. Robust Reproducible Semi-Automated Perfusion-Diffusion Mismatch Assessment in Acute Ischemic Stroke Setting**
Venkata Veerendranadh Chebrolu[1], Dattesh D. Shanbhag[2], Arun Govinda Rao[3], Patrice Hervo[4], Marc-Antoine Labeyrie[5], Catherine Oppenheim[5, 6], Rakesh Mullick[2]
[1]Medical Image Analysis Lab, GE Global Research, Bangalore , Karnataka, India; [2]Medical Image Analysis Lab, GE Global Research, Bangalore, Karnataka, India; [3]GE Healthcare, Bangalore, Karnataka, India; [4]GE Healthcare, Buc, France; [5]Departments of Radiology and Neurology, Centre Hospitalier, Sainte-Anne, Paris, France; [6]Université Paris Descartes , Paris, France

Computer 5 **3724. Myelin Water Fraction Using Multiple-Echo 2D and 3D GRE at 3T with Whole-Brain Coverage**
Ana-Maria Oros-Peusquens[1], Sandra M. Meyers[2], Alex L. MacKay[2], Nadim Jon Shah[1, 3]
[1]INM-4, Research Centre Jülich, Jülich, Germany; [2]Department of Physics and Astronomy, University of British Columbia, Vancouver, B.C., Canada; [3]Faculty of Medicine, JARA, RWTH Aachen University, Aachen, Germany

Computer 6 **3725. Automated Bolus Tracker Positioning for MRI Liver Scans**
Takao Goto[1], Hiroyuki Kabasawa[1]
[1]Global Science Laboratory, GE Healthcare, Hino-shi, Tokyo, Japan

Computer 7 **3726. Streaking Artifact Reduction in Orthogonal Super Resolution Reconstruction of MRI Data Sets**
Niranchana Manivannan[1], Bradley Dean Clymer[1], Anna Bratasz[2, 3], Kimerly A. Powell[2, 3]
[1]Department of Electrical and Computer Engineering, The Ohio State University, Columbus, OH, United States; [2]Small Animal Imaging Shared Resources, The Ohio State University, Columbus, OH, United States; [3]Department of Biomedical Informatics, The Ohio State University, Columbus, OH, United States

Computer 8 **3727. Comparison of Bayesian and Linear Regression-Based Partial Volume Correction in Single Time Point ASL**
Ruth Oliver[1], Michael A. Chappell[2, 3], David Thomas[1], Xavier Golay[1]
[1]Institute of Neurology, University College London, London, United Kingdom; [2]Institute of Biomedical Engineering, University of Oxford, Oxford, United Kingdom; [3]FMRIB Centre, University of Oxford, Oxford, United Kingdom

Computer 9 **3728. Computer Aided Diagnosis of Parkinson's Disease from T1-Weighted MRI**
Mohit Saxena[1], Namita Aggarwal[2], Bharti Rana[2], S. Senthil Kumaran[3], Ramesh Kumar Agrawal[2], Madhuri Behari[1]
[1]Department of Neurology, All India Institute of Medical Sciences, New Delhi, Delhi, India; [2]School of Computer & Systems Sciences, Jawaharlal Nehru University, New Delhi, Delhi, India; [3]Department of NMR, All India Institute of Medical Sciences, New Delhi, Delhi, India

Computer 10 **3729. 3D Co-Registration of MRI and Histology in a Mouse Model of Obesity and Non-Alcoholic Fatty Liver Disease**
Eli Gibson[1, 2], Lanette J. Friesen-Waldner,[2,3], Amanda M. Hamilton[2], Emeline J. Ribot[2], Trevor P. Wade[3, 4], Curtis N. Wiens[5], Kundan Thind,[2,3], Jacqueline K. Harris[3], Nica M. Borradaile[6], Charles A. McKenzie[1, 3], Aaron D. Ward[1, 2]
[1]Biomedical Engineering, University of Western Ontario, London, Ontario, Canada; [2]Robarts Research Institute, London, Ontario, Canada; [3]Medical Biophysics, University of Western Ontario, London, Ontario, Canada; [4]Robarts Research Institute , London, Ontario, Canada; [5]Physics and Astronomy, University of Western Ontario, London, Ontario, Canada; [6]Physiology and Pharmacology, University of Western Ontario, London, Ontario, Canada

Computer 11 **3730. Non-Rigid Registration of Sequential DCE-MRI in the Assessment of Response to Neoadjuvant Chemotherapy in Breast Cancer**
Tess E. Catherwood[1], Andrew J. Patterson[1], Kamarul Zaki[2], Mahesh Iddawela[2], Helena Earl[2], Carlos Caldas[3], Karen Sayal[4], Martin John Graves[1], Fiona J. Gilbert[1]
[1]Radiology, University of Cambridge, NHS Foundation Trust, Cambridge, United Kingdom; [2]Oncology, Addenbrooke's Hospital and University of Cambridge, NHS Foundation Trust, Cambridge, United Kingdom; [3]Cancer Research UK Cambridge Institute, Cambridge, United Kingdom; [4]University of Cambridge, Cambridge, United Kingdom

Computer 12 **3731. Time Correlation of EPI Versus Real-Time fMRI Time Series**
Radu Mutihac[1, 2], Allen Braun[3], Thomas J. Balkin[2]
[1]Department of Physics, University of Bucharest, Bucharest, Bucharest-Magurele, Romania; [2]Psychiatry & Neuroscience, Department of Behavioral Biology, Walter Reed Army Institute of Research, Silver Spring, MD, United States; [3]Language Section, NIDCD / National Institutes of Health, Bethesda, MD, United States

Electronic Poster
Advances in Image Analysis: Image Reconstruction & Processing

Exhibition Hall Tuesday 17:00-18:00

Computer 13 **3732. Improving Through-Plane Resolution for Multi-Slice Acquisitions**
Thomas A. Depew[1], Qing-San Xiang[1, 2]
[1]Physics & Astronomy, University of BC, Vancouver, BC, Canada; [2]Radiology, University of BC, Vancouver, BC, Canada

Computer 14 **3733. An Exact Phase Unwrapping Method Based on FFT**
Renjie He[1], Joshua P. Yung[1], David T. A. Fuentes[1], R. Jason Stafford[1], John D. Hazle[1]
[1]Department of Imaging Physics, The University of Texas M. D. Anderson Cancer Center, Houston, TX, United States

Computer 15 **3734. A Bilinear Noise Transfer Model for SENSE Reconstruction**
Yu Ding[1], Rizwan Ahmad[2], Hui Xue[3], Lee C. Potter[2], Samuel T. Ting[2], Ning Jin[4], Orlando P. Simonetti[2]
[1]The Ohio State University, Columbus, OH, United States; [2]The Ohio State University, Columbus,, OH, United States; [3]Corporate Research, Siemens Corporation, Princeton, NJ, United States; [4]Siemens Healthcare, Columbus,, OH, United States

Computer 16 **3735. An Efficient De-Convolution Reconstruction Method for Spatiotemporally-Encoded Single-Scan 2D MRI**
Congbo Cai[1], Jiyang Dong[1], Shuhui Cai[1], Jing Li[1], Lin Chen[1], Zhong Chen[2]
[1]Department of Communication Engineer and Electronic Science, Xiamen university, Xiamen, Fujian, China; [2]Department of Communication Engineer and Electronic Science, Xiamen University, Xiamen, Fujian, China

Computer 17 **3736. Adaptive Synthesis of Prior Image and New Acquired Data in Repetitive 3D Examinations**
ISMRM MERIT AWARD magna cum laude
Guobin Li[1], Maxim Zaitsev[1], Esther Meyer[2], Dominik Paul[2], Jürgen Hennig[1]
[1]University Medical Center Freiburg, Freiburg, Germany; [2]Siemens Healthcare, Erlangen, Germany

Computer 18 **3737. Comparison of the Accuracy of PET/CT and PET/MR Spatial Registration in Multiple Metastatic Lesions**
Linda DeMello[1], Rajan Rakheja[1], Christopher B. Glielmi[2], Christian Geppert[3], Hersh Chandarana[4], Kent Friedman[1]
[1]Radiology, New York University School of Medicine, New York, United States; [2]MR R&D Collaborations, Siemens Healthcare, New York, United States; [3]MR R&D Collaborations, Siemens Medical Systems, New York, United States; [4]Radiology, NYU Langone Medical Center, New York, United States

Computer 19 **3738. Fast Platform Independent Web-Based Visualization of MRI Data for Computers, Tablets and Smartphones**
Daniel Hähn[1, 2], Nicolas Rannou[1, 2], Thomas J. Re[1, 3], Patricia Ellen Grant[1, 2], Rudolph Pienaar[1, 2]
[1]Radiology, Boston Children's Hospital, Boston, MA, United States; [2]Radiology, Harvard Medical School, Boston, MA, United States; [3]Radiology, University of Milan, Milan, Italy

Computer 20 **3739. Optimal Phase Sensitive Combination of Multi-Channel, Multi-Echo Images**
L. Martyn Klassen[1], Ravi S. Menon[1]
[1]Robarts Research Institute, The University of Western Ontario, London, ON, Canada

Computer 21 **3740. A Magnitude-Based Asymmetric Fourier Imaging (MagAFI)**
Tokunori Kimura[1], Naho Imamura[1]
[1]MRI development department, Toshiba medical systems corp., Otawara, Tochigi, Japan

Computer 22 **3741. Measuring and Characterizing Short-Term High Order Eddy Currents with a Phantom**
Dan Xu[1], Joseph K. Maier[1], Kevin F. King[1], R. Scott Hinks[1]
[1]GE Healthcare, Waukesha, WI, United States

Computer 23 **3742. Navigators Improve Accuracy of Quantitative Sodium MR Imaging Compromised by Head Motion During with Long Acquisition Times**
Aiming Lu[1], Ian C. Atkinson[1], Keith R. Thulborn[1]
[1]Ctr Magnetic Resonance Research, University of Illinois, Chicago, IL, United States

Computer 24 **3743. Ultra-Low-Field MRI Noise Suppression Using a Data Consistency Constraint**
Fa-Hsuan Lin[1, 2], Yi-Cheng Hsu[3], Panu Vesanen[2], Jaako O. Nieminen[2], Koos C. J. Zevenhoven[2], Juhani Dabek[2], Lauri T. Parkkonen[2], Risto J. Ilmoniemi[2]
[1]Institute of Biomedical Engineering, National Taiwan University, Taipei, Taiwan; [2]Department of Biomedical Engineering and Computational Science, Aalto University, Espoo, Finland; [3]Department of Mathematics, Nnational Taiwan University, Taipei, Taiwan

Electronic Poster
Artifacts & Correction: Motion

Exhibition Hall Tuesday 16:00-17:00

Computer 25 **3744. Retrospective Rigid Body Motion Correction of Interleaved Slice-Selective Acquisitions**
Murat Aksoy[1], Melvyn B. Ooi[2], Anh Tu Van[2], Roland Bammer[2]
[1]Center for Quantitative Neuroimaging, Department of Radiology, Stanford University, Stanford, CA, United States; [2]Center for Quantitative Neuroimaging, Department of Radiology, Stanford University, Stanford, CA, United States

Computer 26 **3745. T1- And T2-Weighted MR Acquisition for Bulk Motion Correction for Simultaneous PET-MR**
Christoph Kolbitsch[1], Claudia Prieto[1], Charalampos Tsoumpas[1], Christian Buerger[1], Tobias Schaeffter[1]
[1]Division of Imaging Sciences & Biomedical Engineering, King's College London, London, United Kingdom

Computer 27 **3746. Motion-Robust Super-Resolution Reconstruction of Fetal Brain MRI**
Ali Gholipour[1], Judy A. Estroff[1], Simon K. Warfield[1]
[1]Department of Radiology, Boston Children's Hospital and Harvard Medical School, Boston, MA, United States

Computer 28 **3747. Cardiac Functional Assessment Without ECG Using Physiological Self-Navigation**
Christoph Kolbitsch[1], Claudia Prieto[1], Tobias Schaeffter[1]
[1]Division of Imaging Sciences & Biomedical Engineering, King's College London, London, United Kingdom

Computer 29 **3748. SPIRiT^{mc} - Autocalibrating Parallel Imaging with Non-Rigid Motion Correction**
Claudio Santelli[1, 2], Johannes F.M. Schmidt[2], Tobias Schaeffter[1], Sebastian Kozerke,[12]
[1]Imaging Sciences and Biomedical Engineering, King's College London, London, United Kingdom; [2]Institute for Biomedical Engineering, University and ETH Zurich, Zurich, Switzerland

Computer 30 **3749. Optimal Channel Selection for Respiratory Self-Gating Signals**
Robert Grimm[1], Simon Bauer[2], Berthold Kiefer[2], Joachim Hornegger[1], Kai Tobias Block[3]
[1]Pattern Recognition Lab, FAU Erlangen-Nuremberg, Erlangen, Germany; [2]Siemens Healthcare, Erlangen, Germany; [3]Department of Radiology, NYU Langone Medical Center, New York City, NY, United States

Computer 31 **3750. Fast, Robust and Self-Navigated 3D Cylindrical Imaging: MP-RAGE and FLAIR**
Wei Lin[1], Qin Qin[2, 3], Stewart H. Mostofsky[4], George Randy Duensing[1]
[1]Invivo Corporation, Philips Healthcare, Gainesville, FL, United States; [2]Radiology, The Johns Hopkins University, Baltimore, MD, United States; [3]F.M. Kirby Research Center, Kennedy Krieger Institute, Baltimore, MD, United States; [4]Neurology and Psychiatry, The Johns Hopkins University, Baltimore, MD, United States

Computer 32 **3751. Real-Time Motion Correction in 2D Multi-Slice Imaging with Through-Plane Navigator**
Wei Lin[1], Tim Nielsen[2], Qin Qin[3, 4], Stewart H. Mostofsky[5], George Randy Duensing[1]
[1]Invivo Corporation, Philips Healthcare, Gainesville, FL, United States; [2]Philips Research Europe, Hamburg, Germany; [3]Radiology, The Johns Hopkins University, Baltimore, MD, United States; [4]F.M. Kirby Research Center, Kennedy Krieger Institute, Baltimore, MD, United States; [5]Neurology and Psychiatry, The Johns Hopkins University, Baltimore, MD, United States

Computer 33 **3752. Free Breathing Abdominal Imaging Via Self-Navigation and Subvolume Registration**
Gregory R. Lee[1, 2], Yong Chen[3, 4], Nicole Seiberlich,[4,5], Mark A. Griswold[3, 4], Vikas Gulani,[4,6]
[1]Radiology, Cincinnati Children's Hospital Medical Center, Cincinnati, OH, United States; [2]Radiology, University of Cincinnati, Cincinnati, OH, United States; [3]Radiology, Case Western Reserve University, Cleveland, OH, United States; [4]Radiology, University Hospitals of Cleveland, Cleveland, OH, United States; [5]Biomedical Engineering, Case Western Reserve University, Cleveland, OH, United States; [6]Radiology, University Hospitals Case Medical Center, Cleveland, OH, United States

Computer 34 **3753. Motion-Immune Structural MRI Based on Repeated K-T-Subsampling and Artifact-Minimization (REKAM)**
Mei-Lan Chu[1, 2], Nan-Kuei Chen[3]
[1]Graduate Institute of Biomedical Electronics and Bioinformatics, National Taiwan University, Taipei, Taiwan; [2]Brain Imaging and Analysis Center, Duke University Medical Center, Durham, NC, United States; [3]Brain Imaging and Analysis Center, Duke University, Durham, NC, United States

Computer 35 **3754. Compressive Manifold Learning Respiratory Self-Gated Liver MRI: Estimating the Respiratory Motion Directly from Undersampled K-Space**
Muhammad Usman[1], Paul Aljabar[1], Tobias Schaeffter[1], Claudia Prieto[1, 2]
[1]King's College London, London, United Kingdom; [2]Pontificia Universidad Catolica de Chile, Santiago, Chile

Computer 36 **3755. Bringing Prospective Motion Correction to Clinical Routine - Fast Camera Calibration**
Cris Lovell-Smith[1], Julian R. Maclaren[2], Michael Herbst[1], Ilja Kadashevich[3], K.A. Danishad[3], Oliver Speck[3], Maxim Zaitsev[1]
[1]Department of Radiology, University Medical Center Freiburg, Freiburg, Germany; [2]Department of Radiology, Stanford University, Stanford, CA, United States; [3]Faculty of Natural Sciences, Institute of Experimental Physics (IEP), Magdeburg, Germany

Computer 37 **3756. Cross-Calibration Accuracy Requirements for Prospective Motion Correction**
Murat Aksoy[1], Melvyn B. Ooi[2], Julian R. Maclaren[2], Roland Bammer[2]
[1]Center for Quantitative Neuroimaging, Department of Radiology, Stanford University, Stanford, CA, United States; [2]Center for Quantitative Neuroimaging, Department of Radiology, Stanford University, Stanford, CA, United States

Computer 38 **3757. 2D Nose Navigators (NoseNav) for Real-Time Correction of Nodding Motion in Brain MRI**
Axel Hartwig[1], Magnus Mårtensson[2], Stefan Skare[1]
[1]Neuroradiology, Karolinska University Hospital, Stockholm, Sweden; [2]EMEA Research and Collaboration, Applied Science Laboratory, GE Healthcare, Stockholm, Sweden

Computer 39 **3758. High-Resolution Multi-Shot Spiral Diffusion Tensor Imaging with Inherent Correction of Motion-Induced Phase Errors**
Trong-Kha Truong[1], Arnaud Guidon[1]
[1]Brain Imaging and Analysis Center, Duke University, Durham, NC, United States

Computer 40 **3759. Prospective Motion Correction Reduces the Number of False Positive Activations in an fMRI Group Study Involving Task-Correlated Motion**
Jessica Schulz[1], Thomas Siegert[1], Pierre-Louis Bazin[1], Julian R. Maclaren[2], Michael Herbst[3], Maxim Zaitsev[3], Robert Turner[1]
[1]Neurophysics, Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany; [2]Stanford University, Stanford, CA, United States; [3]Radiology, University Medical Center Freiburg, Freiburg, Germany

Computer 41 **3760. Characterizing Respiratory Motion of the Major Abdominal Vessels**
Ashley Gould Anderson III[1], Christopher J. François[2], Oliver Wieben[1, 2]
[1]Medical Physics, University of Wisconsin, Madison, WI, United States; [2]Radiology, University of Wisconsin, Madison, WI, United States

Computer 42 **3761. Generalized Multiple Averages (GRAMA) for Motion Compensation**
Shujing Cao[1], Feng Huang[2], Rui Li[1], Chun Yuan[3]
[1]Center for Biomedical Imaging Research, Department of Biomedical Engineering, School of Medicine, Tsinghua University, Beijing, China; [2]Philips Healthcare, Beijing, China; [3]Department of Radiology, University of Washington, Seattle, WA, United States

Computer 43 **3762. Abdominal Fat-Water Separation in High Temporal and Spatial Resolution During Free Breathing**
Riad Ababneh[1], Thomas Benkert[2], Martin Blaimer[2], Felix A. Breuer[2]
[1]Physics, Yarmouk University, Irbid, Jordan; [2]Research Center Magnetic Resonance Bavaria, Würzburg, Bavaria, Germany

Computer 44 **3763. Prospective Real Time Correction of Head Motion Using NMR Probes at 7 Tesla**
Saikat Sengupta[1], Sasidhar Tadanki, John C . Gore[1], E. Brian Welch[1]
[1]Radiology and Radiological Sciences, Vanderbilt University, Nashville, TN, United States

Computer 45 **3764. Hybrid MP-RAGE Trajectory with FID Motion Detection and Self-Navigated Motion Correction (MoCoRAGE)**
Tobias Kober[1, 2], Davide Piccini[1, 2], Christoph Forman[3, 4], Thorsten Feiweier[5], Gunnar Krueger[1, 2]
[1]Advanced Clinical Imaging Technology, Siemens Healthcare IM S AW, Lausanne, Switzerland; [2]CIBM - AIT, Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland; [3]Pattern Recognition Lab, Friedrich-Alexander-University Erlangen-Nürnberg, Erlangen, Germany; [4]Erlangen Graduate School in Advanced Optical Technologies, Friedrich-Alexander-University Erlangen-Nürnberg, Erlangen, Germany; [5]Siemens AG, Erlangen, Germany

Computer 46 **3765. Inherent Correction of Artifacts from Large-Scale Patient Motion in High-Resolution Multishot Diffusion-Weighted EPI**
Shayan Guhaniyogi[1], Allen Song[1], Jeffrey Petrella[2], Nan-Kuei Chen[1]
[1]Brain Imaging and Analsyis Center, Duke University, Durham, NC, United States; [2]Department of Radiology, Duke University, Durham, NC, United States

Computer 47 **3766. On the Robustness of Prospective Motion Correction for Clinical Routine**
Michael Herbst[1], Cris Lovell-Smith[1], Benjamin Haeublein[1], Rebecca Sostheim[1], Julian R. Maclaren[2], Jan G. Korvink[3], Maxim Zaitsev[1]
[1]Department of Radiology, University Medical Center Freiburg, Freiburg, Germany; [2]Department of Radiology, Stanford University, Stanford, CA, United States; [3]Laboratory for Simulation, IMTEK - Institute of Microsystem Technology, Freiburg, Germany

Computer 48 **3767. Non-Rigid Motion-Corrected Averaging for Improved Pelvic MRI**
Patrick J. Bolan[1], Xiufeng Li[1], Gregory J. Metzger[1]
[1]Radiology, CMRR, University of Minnesota, Minneapolis, MN, United States

Electronic Poster
Artifacts & Corrections: Off-Resonance & Eddy Currents

Exhibition Hall Tuesday 17:00-18:00

Computer 49 **3768.** **Improved RF Pulses for 3D SSFP with Minimised Off-Resonance Out-Of-Slab Corruption**
Anthony N. Price[1], Shaihan J. Malik[1], Joseph V. Hajnal[1]
[1]Division of Imaging Sciences and Biomedical Engineering, King's College London, London, United Kingdom

Computer 50 **3769.** **Using Spatio-Temporal Duality for Memory-Efficient Non-Uniform Fourier Transformation with Field Correction**
Kaveh Vahedipour[1, 2], Nadim Jon Shah[1, 3]
[1]Juelich Research Centre, Juelich, Germany; [2]Maastricht University, Maastricht, Netherlands; [3]RWTH Aachen University, Aachen, Germany

Computer 51 **3770.** **An Extended PSF Mapping Method for Distortion Correction in DW-EPI with Both Forward and Reverse Phase-Encoding Polarity at UHF**
Myung-Ho In[1], Oleg Posnansky[1], Erik B. Beall[2], Mark J. Lowe[3], Oliver Speck[1]
[1]Biomedical Magnetic Resonance, Otto-von-Guericke University, Magdeburg, Germany; [2]Radiology, Cleveland Clinic, Cleveland, OH, United States; [3]Radiology, Imaging Institute, Cleveland Clinic, Cleveland, OH, United States

Computer 52 **3771.** **Phase-Labeled Reference EPI for Frequency-Segmented Inhomogeneity Corrections (PREFICS)**
Mario Zeller[1], Alexander Müller[1], Dietbert Hahn[1], Herbert Köstler[1]
[1]Institute of Radiology, University of Würzburg, Würzburg, Germany

Computer 53 **3772.** **Parallel Transmission Z-Shimming to Compensate GE-EPI Signal Voids at 7 Tesla**
Benedikt A. Poser[1], Soeren Johst[2], Weiran Deng[1], Stephan Orzada[2], Mark E. Ladd[2, 3], Victor Andrew Stenger[1]
[1]John A Burns School of Medicine, University of Hawaii, Honolulu, HI, United States; [2]Erwin L Hahn Institute for Magnetic Resonance Imaging, University Duisburg-Essen, Essen, Germany; [3]Department of Diagnostic and Interventional Radiology and Neuroradiology,, University Hospital Essen, Essen, Germany

Computer 54 **3773.** **VOI-Based Fourier Transform Method for Rapid Partial Calculation of B_0 Maps from Sparse Susceptibility Distributions**
Rahul Dewal[1], Qing X. Yang[1]
[1]Radiology, Pennsylvania State University, Hershey, PA, United States

Computer 55 **3774.** **Gradient Nonlinearity Terms in the Concomitant Field for Quantitative Phase Contrast Correction**
Ek T. Tan[1], Christopher J. Hardy[1], John F. Schenck[1]
[1]Diagnostics and Biomedical Technologies, GE Global Research, Niskayuna, NY, United States

Computer 56 **3775.** **Temporal Unwrapping of Highly Wrapped Multi-Echo Phase Images at Ultra-High Field: UMPIRE**
Simon P. Robinson[1], Horst Schödl[1], Siegfried Trattnig[1]
[1]Department of Radiology, Medical University of Vienna, Vienna, Austria

Computer 57 **3776.** **Correction of Gradient-Induced Phase Errors in Radial MRI**
Amir Moussavi[1, 2], Markus Untenberger[1], Martin Uecker[3], Jens Frahm[1, 2]
[1]Biomedizinische NMR Forschungs GmbH, am Max-Planck-Institut für biophysikalische Chemie, Göttingen, Niedersachsen, Germany; [2]DFG Research Center for Molecular Physiology of the Brain (CMPB), Göttingen, Niedersachsen, Germany; [3]Dept. of Electrical Engineering and Computer Sciences, University of California, Berkeley, CA, United States

Computer 58 **3777.** **Measurement of Short Time Constant Eddy Currents with Zero TE Imaging**
Kevin F. King[1], Graeme C. McKinnon[1], Xu Dan[1], Joseph K. Maier[1]
[1]GE Healthcare, Waukesha, WI, United States

Computer 59 **3778. Correction Method for Thin Slice Spectral Spatial RF Pulses**
Yuval Zur[1]
[1]GE Healthcare, Haifa, Israel

Computer 60 **3779. A Novel Approach in the Network Analysis of Eddy Current Induced by Planar Z Gradient Coil**
Md. Shahadat Hossain Akram[1]*, Katsumi Kose*[1]
[1]Institute of Applied Physics, University of Tsukuba, Ibaraki, Tsukuba, Japan

Computer 61 **3780. Correction of RF Spike Noise in MR Images Using Robust Principal Component Analysis**
ISMRM MERIT AWARD magna cum laude
Adrienne E. Campbell-Washburn[1, 2]*, David Atkinson*[3]*, Oliver Josephs*[4]*, Mark F. Lythgoe*[5]*, Roger J. Ordidge*[6]*, David L. Thomas*[7]
[1]Centre for Advnaced Biomedical Imaging, University College London, London, United Kingdom; [2]Department of Medical Physics and Bioengineering, University College London, London, United Kingdom; [3]Centre for Medical Imaging and Centre for Medical Image Computing, University College London, London, United Kingdom; [4]University College London and Birkbeck College, London, United Kingdom; [5]Centre for Advanced Biomedical Imaging, Division of Medicine and Institute of Child Health, University College London, London, United Kingdom; [6]Centre for Neuroscience, University of Melbourne, Melbourne, Victoria, Australia; [7]Department of Brain Repair and Rehabilitation, UCL Institute of Neurology, University College London, London, United Kingdom

Computer 62 **3781. DC Artifact Correction for Arbitrary Phase-Cycling Sequence**
Paul Kyu Han[1]*, Jong Chul Ye*[1]*, HyunWook Park*[2]*, Sung-Hong Park*[1]
[1]Bio and Brain Engineering, Korea Advanced Institute of Science and Technology, Daejeon, Korea; [2]Electrical Engineering, Korea Advanced Institute of Science and Technology, Daejeon, Korea

Computer 63 **3782. Fast, Parallelized Implementation of a Novel Temporal Phase Unwrapping Method, and Comparison with Spatial Approaches**
Horst Schödl[1]*, Siegfried Trattnig*[1]*, Simon Robinson*[1]
[1]Department of Radiology, Medical University Vienna, Vienna, Austria

Computer 64 **3783. Nonlinear Phase Correction of Multi-Shot Diffusion Weighted EPI Using Parallel Imaging Estimated Phase Cycled Reconstruction (PIPCR) Method**
Wentao Liu[1]*, Xin Tang*[1]*, Yajun Ma*[1]*, Jia-Hong Gao*[1, 2]
[1]MRI Research Center and Beijing City Key Lab for Medical Physics and Engineering, Peking University, Beijing, China; [2]Brain Research Imaging Center and Department of Radiology, The University of Chicago, Chicago, IL, United States

Computer 65 **3784. Removing Echo Planar Imaging Banding Artifact Using Phase Matching**
Dan Xu[1]*, Kenichi Kanda*[1]*, Kevin F. King*[1]*, Zhenghui Zhang*[1]*, Robert D. Peters*[1]
[1]GE Healthcare, Waukesha, WI, United States

Computer 66 **3785. Robust Estimation of True K-Space Center Position for Radial Center-Out Trajectories**
ISMRM MERIT AWARD magna cum laude
Martin Krämer[1]*, Karl-Heinz Herrmann*[1]*, Jürgen R. Reichenbach*[1]
[1]Medical Physics Group, Institute of Diagnostic and Interventional Radiology I, Jena University Hospital - Friedrich Schiller University Jena, Jena, Germany

Computer 67 **3786. Fast Automatic Coil Selection for Radial Stack-Of-Stars GRE Imaging**
Robert Grimm[1]*, Christoph Forman*[2]*, Jana Hutter*[1]*, Berthold Kiefer*[3]*, Joachim Hornegger*[1]*, Kai Tobias Block*[4]
[1]Pattern Recognition Lab, FAU Erlangen-Nuremberg, Erlangen, Germany; [2]Pattern Recognition Lab, Friedrich-Alexander-University Erlangen-Nürnberg, Erlangen, Germany; [3]Siemens Healthcare, Erlangen, Germany; [4]Department of Radiology, NYU Langone Medical Center, New York City, NY, United States

Computer 68 **3787. Intensity Inhomogeneity Correction in Human Brain Imaging at 7 Tesla Using SPM8**
Ikuko Uwano[1]*, Kohsuke Kudo*[1]*, Fumio Yamashita*[1]*, Jonathan Goodwin*[1]*, Tsuyoshi Metoki*[1]*, Satomi Higuchi*[1]*, Kenji Ito*[1]*, Makoto Sasaki*[1]
[1]Division of Ultrahigh Field MRI, Institute for Biomedical Sciences, Iwate Medical University, Morioka, Iwate, Japan

Computer 69 **3788.** **A Retrospective, Fully Automated and Fast Method for Intensity Inhomogeneity Correction in 7T MRI**
Sven Jaeschke[1, 2], Robin Martin Heidemann[2], Aleksandar Petrovic[2]
[1]HAW Hamburg, Hamburg, Germany; [2]Healthcare Sector, Siemens AG, Erlangen, Germany

Computer 70 **3789.** **A Clinical Evaluation of a Novel, Retrospective and Entropy-Based Intensity Inhomogeneity Correction Method in 3T MRI**
Sven Jaeschke[1, 2], Alexander Hubert[3], Andreas J. Bartsch[4], Antje Kickhefel[2], Aleksandar Petrovic[2]
[1]HAW Hamburg, Hamburg, Germany; [2]Healthcare Sector, Siemens AG, Erlangen, Germany; [3]Neuroradiology, Universitätsklinikum Heidelberg, Heidelberg, Germany; [4]Neuroradiology, University of Heidelberg, Heidelberg, Germany

Computer 71 **3790.** **N/2 Ghosting Artifacts in a Radial 3D EPI Pulse Sequence**
Sumeeth Vijay Jonathan[1], Parmede Vakil[1], Yong Jeong[1], Timothy J. Carroll[1, 2]
[1]Biomedical Engineering, Northwestern University, Chicago, IL, United States; [2]Radiology, Northwestern University, Chicago, IL, United States

Computer 72 **3791.** **Eye Movement Artifact Suppression Via 2D Spatially Selective RF-Excitation**
Paul Wighton[1], Matthew Dylan Tisdall[1], André J. W. van der Kouwe[1]
[1]Department of Radiology, MGH, Martinos Center for Biomedical Imaging, Charlestown, MA, United States

Electronic Poster
Compressed Sensing

Exhibition Hall Tuesday 16:00-17:00

Computer 49 **3792.** **Iterative Hard Thresholding and Matrix Shrinkage (IHT+MS) for Low-Rank Recovery of K-T Undersampled MRI Data**
Mark Chiew[1], Karla L. Miller[1], Peter J. Koopmans[2], Elizabeth M. Tunnicliffe[3], Stephen M. Smith[1], Thomas Blumensath[4]
[1]FMRIB Centre, University of Oxford, Oxford, United Kingdom; [2]Donders Institute for Brain, Cognition and Behaviour, Radboud University Nijmegen, Nijmegen, Netherlands; [3]AVIC, Nuffield Department of Clinical Medicine, University of Oxford, Oxford, United Kingdom; [4]ISVR, University of Southampton, Southampton, Hampshire, United Kingdom

Computer 50 **3793.** **Fast Compressed Sensing Reconstruction Using a Direct Fourier-Wavelet Transform**
KyungHyun Sung[1], Brian Andrew Hargreaves[2]
[1]Radiological Sciences, UCLA, Los Angeles, CA, United States; [2]Radiology, Stanford University, Stanford, CA, United States

Computer 51 **3794.** **AMP-SENSE: Parallel Imaging Compressed Sensing with Approximate Message Passing**
ISMRM MERIT AWARD magna cum laude
Evan Levine[1, 2], Kyunghyun Sung[3], Manojkumar Saranathan[2], Bruce Daniel[2], Brian Andrew Hargreaves[2]
[1]Electrical Engineering, Stanford University, Palo Alto, CA, United States; [2]Radiology, Stanford University, Palo Alto, CA, United States; [3]Radiological Sciences, University of California, Los Angeles, Los Angeles, CA, United States

Computer 52 **3795.** **Improving Compressed Sensing Initialization and Convergence Using an Efficient Auto-Calibrating Parallel Imaging Method**
Peng Lai[1], Shreyas S. Vasanawala[2], Michael Lustig[3], Kang Wang[4], Anja C.S Brau[5]
[1]MR Applications & Workflow , GE Healthcare, Menlo Park, CA, United States; [2]Radiology, Stanford University, Stanford, CA, United States; [3]Electrical Engineering & Computer Science, University of California, Berkeley, CA, United States; [4]MR Applications & Workflow, GE Healthcare, Madison, WI, United States; [5]MR Applications & Workflow, GE Healthcare, Garching, Munchen, Germany

Computer 53 **3796.** **CIRcular Cartesian UnderSampling (CIRCUS): A Variable Density 3D Cartesian Undersampling Strategy for Compressed Sensing and Parallel Imaging**
Jing Liu[1], David A. Saloner[1]
[1]University of California San Francisco, San Francisco, CA, United States

Computer 54 **3797. Highly Accelerated 3D Dynamic Imaging with Variable Density Golden Angle Stack-Of-Stars Sampling**
Zhitao Li[1], Benjamin Paul Berman[2], Maria I. Altbach[3], Jean-Philippe Galons[3], Diego R. Martin[3], Bin Dong, Puneet Sharma[3], Natarajan Raghunand[3], Ali Bilgin[1, 4]
[1]Electrical and Computer Engineering, University of Arizona, Tucson, AZ, United States; [2]Applied Mathematics, University of Arizona, Tucson, AZ, United States; [3]Medical Imaging, University of Arizona, Tucson, AZ, United States; [4]Biomedical Engineering, University of Arizona, Tucson, AZ, United States

Computer 55 **3798. Optimising for Eddy Currents in Compressed Sensing Spiral Acquisitions**
Kaveh Vahedipour[1, 2], Nadim Jon Shah[1, 3]
[1]Juelich Research Centre, Juelich, Germany; [2]Maastricht University, Maastricht, Netherlands; [3]RWTH Aachen University, Aachen, Germany

Computer 56 **3799. Evaluation of Sparse K-Space Sampling Schemes for Fast Cardiac MRI Using Compressed Sensing Reconstruction Technique**
Youngseob Seo[1, 2], Jonathan M. Chia[3], Nancy K. Rollins[2, 4], Zhiyue J. Wang[2, 4]
[1]Division of Convergence Technology, Korea Research Institute of Standards and Science, Daejeon, Korea; [2]Radiology, University of Texas Southwestern Medical Center at Dallas, Dallas, TX, United States; [3]Philips Healthcare, Cleveland, OH, United States; [4]Radiology, Children's Medical Center Dallas, Dallas, TX, United States

Computer 57 **3800. Unifying Compressed-Sensing Reconstruction Framework for Multidimensional MRI: Combining Novel Dictionary Models with Frame-Based Sparsity and Flexible Undersampling Schemes**
Suyash P. Awate[1], Edward V.R. DiBella[2]
[1]Scientific Computing and Imaging (SCI) Institute, University of Utah, Salt Lake City, UT, United States; [2]Utah Center for Advanced Imaging Research (UCAIR), University of Utah, Salt Lake City, UT, United States

Computer 58 **3801. Region of Interest Compressive Sensing (ROICS)**
Amaresha Sridhar Konar[1], Steen Moeller[2], Julianna Czum[3], Barjor Gimi[3], Sairam Geethanath[1]
[1]Biomedical Research Center, Dayananda Sagar Institutions, Bangalore, Karnataka, India; [2]Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, MN, United States; [3]Dept. of Radiology, Giesel School of Medicine at Dartmouth, Lebanon, NH, United States

Computer 59 **3802. Blind Compressive Sensing Dynamic MRI with Sparse Dictionaries**
Sajan Goud Lingala[1], Mathews Jacob[1]
[1]The University of Iowa, Iowa city, IA, United States

Computer 60 **3803. Motion Residual Reconstruction Using Low Rank Property of Similarity Patches in Motion Compensated Compressed Sensing Dynamic MRI**
Huisu Yoon[1], Daniel Kim[2], Kyung Sang Kim[1], Jong Chul Ye[1]
[1]KAIST, Daejeon, Korea; [2]The University of Utah, Salt Lake City, UT, United States

Computer 61 **3804. Accelerating Dynamic MRI Using Patch-Based Spatiotemporal Dictionaries**
Yanhua Wang[1], Leslie Ying[1]
[1]Department of Biomedical Engineering, Department of Electrical Engineering, The State University of New York at Buffalo, Buffalo, NY, United States

Computer 62 **3805. Cardiovascular MRI Reconstruction with Data-Driven Sparsifying Transform**
Qiu Wang[1], Jun Liu[1], Nirmal Janardhanan[1], Mariappan S. Nadar[1]
[1]Imaging and Computer Vision, Siemens Corporation, Corporate Technology, Princeton, NJ, United States

Computer 63 **3806. Dictionary Based Reconstruction of Dynamic Complex MRI Data**
Jose Caballero[1], Anthony Price[2], Daniel Rueckert[1], Joseph V. Hajnal[2]
[1]Department of Computing, Imperial College London, London, United Kingdom; [2]Division of Imaging Sciences and Biomedical Engineering Department, King's College London, London, United Kingdom

Computer 64 **3807.** **Investigating Spatiotemporal Sparse SENSE Reconstruction to Preserve Geometric and Temporal Fidelity**

ISMRM MERIT AWARD magna cum laude

Jerome Yerly[1, 2], Mari Elyse Boesen, [23], Michel Louis Lauzon, [24], Richard Frayne, [24]
[1]Electrical and Computer Engineering, University of Calgary, Calgary, AB, Canada; [2]Seaman Family MR Research Centre, Foothills Medical Centre, Calgary, AB, Canada; [3]Physics and Astronomy, University of Calgary, Calgary, AB, Canada; [4]Radiology and Clinical Neurosciences, University of Calgary, Calgary, AB, Canada

Computer 65 **3808.** **Ultrashort Echo Time (UTE) Imaging with a Time Frame Regularized Compressive Sensing (TF-CS)**

Xun Jia[1], Yifei Lou[2], Jiang Du[3]
[1]Radiation Medicine and Applied Sciences, University of California, San Diego, La Jolla, CA, United States; [2]Mathematics, University of California, Irvine, Irvine, CA, United States; [3]Radiology, University of California, San Diego, San Diego, CA, United States

Computer 66 **3809.** **Bringing Compressed Sensing to Clinical Reality: Prototypic Setup for Evaluation in Routine Applications**

Kai Tobias Block[1], Robert Grimm[2], Li Feng[3], Ricardo Otazo[1], Hersh Chandarana[1], Mary Bruno[1], Christian Geppert[4], Daniel K. Sodickson[1]
[1]Center for Biomedical Imaging, NYU Langone Medical Center, New York, NY, United States; [2]Pattern Recognition Lab, University of Erlangen-Nuremberg, Erlangen, Germany; [3]Center for Biomedical Imaging, New York University Langone Medical Center, New York, NY, United States; [4]Siemens Medical Systems, New York, NY, United States

Computer 67 **3810.** **SWIRLS 3D CE-MRA with Field-Corrected Sparse SENSE Reconstruction**

ISMRM MERIT AWARD magna cum laude

Joshua D. Trzasko[1], Yunhong Shu[1], Armando Manduca[1], John Huston III[1], Matthew A. Bernstein[1]
[1]Mayo Clinic, Rochester, MN, United States

Computer 68 **3811.** **Highly Undersampled Time Resolved Phase-Contrast MRA with Flow-Adapted Compressed Sensing Reconstruction**

Jana Hutter[1, 2], Andreas Greiser[3], Robert Grimm[1], Christoph Forman, [24], Joachim Hornegger[1, 2], Peter Schmitt[5]
[1]Pattern Recognition Lab, Friedrich-Alexander-Universitaet Erlangen-Nuernberg, Erlangen, Germany; [2]School of Advanced Optical Technologies, Erlangen, Germany; [3]Siemens AG, Erlangen, Germany; [4]Friedrich-Alexander-University Erlangen-Nürnberg, Erlangen, Germany; [5]MR Application & Workflow Development, Siemens Healthcare, Erlangen, Germany

Computer 69 **3812.** **Motion-Dependent L1 Minimization for Dynamic Cardiac MRI Reconstruction**

Qiu Wang[1], Jun Liu[1], Zhili Yang[1], Nicolas Chesneau[1], Michael O. Zenge[2], Michaela Schmidt[2], Nirmal Janardhanan[1], Edgar Mueller[2], Mariappan S. Nadar[1]
[1]Imaging and Computer Vision, Siemens Corporation, Corporate Technology, Princeton, NJ, United States; [2]MR Application & Workflow Development, Siemens AG, Healthcare Sector, Erlangen, Bavaria, Germany

Computer 70 **3813.** **S-SPIRiT: An Iterative/Shrinkage Approach to SPIRiT for Real-Time Cardiac MRI**

Samuel T. Ting[1], Rizwan Ahmad[1], Yu Ding[1], Hui Xue[2], Lee C. Potter[1], Orlando P. Simonetti[1]
[1]The Ohio State University, Columbus, OH, United States; [2]Siemens Corporate Research, Princeton, NJ, United States

Computer 71 **3814.** **Denoising Image Sequences: Algorithm and Application to Quantitative MR Imaging**

ISMRM MERIT AWARD magna cum laude

Fan Lam[1, 2], Bo Zhao[1, 2], Michael Weiner[3, 4], Norbert Schuff[3, 4], Zhi-Pei Liang[1, 2]
[1]Electrical and Computer Engineering, University of Illinois at Urbana-Champaign, Urbana, IL, United States; [2]Beckman Institute, University of Illinois at Urbana-Champaign, Urbana, IL, United States; [3]Center for Imaging of Neurodegenerative Diseases, Department of Veteran Affairs Medical Center, San Francisco, CA, United States; [4]Department of Radiology and Biomedical Imaging, University of California, San Francisco, CA, United States

Computer 72 **3815.** **From Matrix to Tensor: Compressed Sensing Dynamic MRI Using Tensor Based Sparsity**

Yeyang Yu[1], Jin Jin[2], Feng Liu[2], Stuart Crozier[2], Mingjian Hong[3]
[1]The School of Information Technology and Electrical and Engineering, The University of Queensland, Brisbane, QLD, Australia; [2]The School of Information Technology and Electrical and Engineering, The University of Queensland, Brisbane, QLD, Australia; [3]School of Software Engineering, Chongqing Univeristy, Chongqing, China

Electronic Poster
Non-Cartesian & Parallel Imaging

Exhibition Hall Tuesday 17:00-18:00

Computer 73 **3816. Taming an Ill-Conditioned SPIRiT: Improved Iterative Image Reconstruction for Real-Time Cardiac MRI**
ISMRM MERIT AWARD magna cum laude
Samuel T. Ting[1], Yu Ding[1], Rizwan Ahmad[1], Hui Xue[2], Orlando P. Simonetti[1]
[1]The Ohio State University, Columbus, OH, United States; [2]Siemens Corporate Research, Princeton, NJ, United States

Computer 74 **3817. Suppressing Mulit-Channel Diffusion Te nsor Imaging Noise Using the Data Consistency Constraint**
Ying-Hua Chu[1], Shang-Yueh Tsai[2], Yi-Cheng Hsu[3], Wen-Jui Kuo[4], Fa-Hsuan Lin[1, 5]
[1]Institute of Biomedical Engineering, National Taiwan University, Taipei, Taiwan; [2]Graduate Institute of Applied Physics, National Cheng-Chi University, Taipei, Taiwan; [3]Department of Mathematics, Nnational Taiwan University, Taipei, Taiwan; [4]Institute of Neuroscience, National Yang-Ming University, Taipei, Taiwan; [5]Department of Biomedical Engineering and Computational Science, Aalto University, Espoo, Finland

Computer 75 **3818. TRIPLET: Transmit and Receive Fields Reconstruction from a Single Low-Tip-Angle Gradient-Echo Scan.**
ISMRM MERIT AWARD magna cum laude
Alessandro Sbrizzi[1], Alexander Raaijmakers[1], Cornelis A.T. van den Berg[1], Jan J.W. Lagendijk[1], Peter R. Luijten[1], Hans Hoogduin[1]
[1]Imaging Division, UMC Utrecht, Utrecht, Netherlands

Computer 76 **3819. Efficient Hybrid Parallel Imaging Reconstruction with Rotating Radiofrequency Coil Array**
ISMRM MERIT AWARD magna cum laude
Mingyan Li[1], Jin Jin[1], Feng Liu[1], Adnan Trakic[1], Stuart Crozier[1]
[1]School of Information Technology and Electrical Engineering , The University of Queensland, Brisbane, Queensland, Australia

Computer 77 **3820. Combining Coil Compression and Direct Virtual Coil for Dynamic MRI Using Auto-Calibrating Parallel Imaging**
Kang Wang[1], Tao Zhang[2], Philip J. Beatty[3], Dan W. Rettmann[4], Ersin Bayram[5], James H. Holmes[1]
[1]Global Applied Science Laboratory, GE Healthcare, Madison, WI, United States; [2]Electrical Engineering, Stanford University, Stanford, CA, United States; [3]Sunnybrook Research Institute, Toronto, ON, Canada; [4]Global Applied Science Laboratory, GE Healthcare, Rochester, MN, United States; [5]GE Healthcare, Waukesha, WI, United States

Computer 78 **3821. k-T Accelerated 4D Flow MRI in the Aorta: Effect on Scan Time, Flow Quantification and Analysis of Wall Shear Stress**
Bernd A. Jung[1], Michael Markl[2], Pegah Entezari[2], Riti J. Mahadevia[2], Susanne Schnell[2]
[1]Dept. of Radiology, Medical Physics, University Medical Center, Freiburg, Germany; [2]Dept. of Radiology, Feinberg School of Medicine, Northwestern University, Chicago, IL, United States

Computer 79 **3822. Denoising in Parallel Imaging Via Structured Low-Rank Matrix Approximation**
Derya Gol[1], Lee C. Potter[1]
[1]Electrical & Computer Engineering and Davis Heart & Lung Institute, The Ohio State University, Columbus, OH, United States

Computer 80 **3823. Differential Energy: A K-Space PPI Reconstruction Optimization Metric**
Thomas A. Depew[1], Qing-San Xiang[1, 2]
[1]Physics & Astronomy, University of BC, Vancouver, BC, Canada; [2]Radiology, University of BC, Vancouver, BC, Canada

Computer 81 **3824. Self-Calibrating Stack-Of-Stars (SOS)-CAIPIRINHA for Improved Parallel Imaging**
Felix A. Breuer[1], Simon Bauer[2], Martin Blaimer[1]
[1]Research Center Magnetic Resonance Bavaria, Würzburg, Bavaria, Germany; [2]Siemens Healthcare, Erlangen, Bavaria, Germany

Computer 82 **3825. Accelerated MRI Through Aliased and Sub-Sampled K-Space Acquisitions**
Arjun Arunachalam[1]
[1]Electrical Engineering, Indian Institute of Technology Bombay, Mumbai, Maharashtra, India

Computer 83 **3826. L1-Regularized GRAPPA Kernel Estimate**
Yu Ding[1], Rizwan Ahmad[1], Hui Xue[2], Samuel T. Ting[1], Ning Jin[3], Orlando P. Simonetti[1]
[1]The Ohio State University, Columbus,, OH, United States; [2]Corporate Research, Siemens Corporation, Princeton, NJ, United States; [3]Siemens Healthcare, Columbus,, OH, United States

Computer 84 **3827. Image Reconstruction of Single-Shot North West EPI Data Acquired with PatLoc Gradients Using Magnetic Field Monitoring and Total Generalized Variation – Conjugate Gradient**
Stefan Kroboth[1], Frederik Testud[2], Kristian Bredies[3], Kelvin J. Layton[4], Daniel Gallichan[5], Chris A. Cocosco[2], Gerrit Schultz[2], Florian Knoll[1], Christoph Barmet[6, 7], Klaas P. Pruessmann[8], Maxim Zaitsev[2], Rudolf Stollberger[1]
[1]Institute of Medical Engineering, Graz University of Technology, Graz, Austria; [2]Medical Physics, University Medical Center Freiburg, Freiburg, Germany; [3]Institute for Mathematics and Scientific Computing, University of Graz, Graz, Austria; [4]Department of Electrical and Electronic Engineering, University of Melbourne, Parkville, Victoria, Australia; [5]LIFMET, Ecole Polytéchnique Fédérale de Lausanne, Lausanne, Switzerland; [6]Institute for Biomedical Engineering, University and ETH Zurich, Zürich, Switzerland; [7]Skope Magnetic Resonance Technologies, Zürich, Switzerland; [8]Institute for Biomedical Engineering, University of Zürich and ETH Zürich, Zürich, Switzerland

Computer 85 **3828. Real-Time Cardiac MRI Using a Golden-Ratio-Ordered Spiral Trajectory and Self-Consistent Parallel Imaging**
Holden H. Wu[1, 2], Dwight G. Nishimura[3]
[1]Radiological Sciences, UCLA, Los Angeles, CA, United States; [2]Cardiovascular Medicine, Stanford University, Stanford, CA, United States; [3]Electrical Engineering, Stanford University, Stanford, CA, United States

Computer 86 **3829. How to Stack the Stars: A Variable Center-Dense K-Space Trajectory for 3D MRI**
Benjamin Paul Berman[1], Zhitao Li[2], Maria I. Altbach[3], Jean-Philippe Galons[3], Diego R. Martin[3], Bin Dong, Puneet Sharma[3], Bobby T. Kalb[3], Ali Bilgin, [2,4]
[1]Applied Mathematics, University of Arizona, Tucson, AZ, United States; [2]Electrical and Computer Engineering, University of Arizona, Tucson, AZ, United States; [3]Medical Imaging, University of Arizona, Tucson, AZ, United States; [4]Biomedical Engineering, University of Arizona, Tucson, AZ, United States

Computer 87 **3830. Iterative Auto-Calibrated Reconstruction of 3D Non-Cartesian Trajectories**
Daniel Kopeinigg[1], Murat Aksoy[1], Samantha J. Holdsworth[1], Rafael O'Halloran[1], Roland Bammer[1]
[1]Center for Quantitative Neuroimaging, Department of Radiology, Stanford University, Stanford, CA, United States

Computer 88 **3831. Highly Accelerated Projection Imaging (HAPI) with Coil Sensitivity Encoding**
Ali Ersoz[1], Volkan Emre Arpinar[2], L. Tugan Muftuler[2, 3]
[1]Department of Biophysics, Medical College of Wisconsin, Milwaukee, WI, United States; [2]Department of Neurosurgery, Medical College of Wisconsin, Milwaukee, WI, United States; [3]Center for Imaging Research, Medical College of Wisconsin, Milwaukee, WI, United States

Computer 89 **3832. Direct Virtual Coil (DVC) Coil Combination for Non-Cartesian 4D Flow Imaging**
Kang Wang[1], Ann Shimakawa[2], Kevin M. Johnson[3], Philip J. Beatty[4], Oliver Wieben[3,5], James H. Holmes[1]
[1]Global Applied Science Laboratory, GE Healthcare, Madison, WI, United States; [2]Global Applied Science Laboratory, GE Healthcare, Menlo Park, CA, United States; [3]Medical Physics, University of Wisconsin-Madison, Madison, WI, United States; [4]Sunnybrook Research Institute, Toronto, ON, Canada; [5]Radiology, University of Wisconsin-Madison, Madison, WI, United States

Computer 90 **3833. Super-Resolved Two-Dimensional Spatiotemporally-Encoded Single-Scan MRI with Spiral Sampling**
Jing Li[1], Lin Chen[1], Congbo Cai[2], Shuhui Cai[1], Zhong Chen[1]
[1]Department of Electronic Science, Xiamen University, Xiamen, Fujian, China; [2]Department of Communication Engineering, Xiamen University, Xiamen, Fujian, China

Computer 91 **3834. Golden Angle Through-Time Radial GRAPPA for Real-Time Cardiac MRI**
Xu Han[1], Katherine L. Wright[1], Vikas Gulani[2, 3], Nicole Seiberlich[1]
[1]Dept. of Biomedical Engineering, Case Western Reserve University, Cleveland, OH, United States; [2]Dept. of Radiology, Case Western Reserve University, Cleveland, OH, United States; [3]Dept. of Radiology, University Hospitals, Cleveland, OH, United States

Computer 92 **3835.** **Iterative K-T PCA with Motion Corrected Training Regularization for 3D Myocardial Perfusion Imaging**
ISMRM MERIT AWARD magna cum laude
Johannes F.M. Schmidt[1], Lukas Wissmann[1], Robert Manka[1, 2], Sebastian Kozerke[1, 3]
[1]Institute for Biomedical Engineering, University and ETH Zurich, Zurich, Switzerland; [2]University Hospital Zurich, Zurich, Switzerland; [3]Imaging Sciences and Biomedical Engineering, King's College London, London, United Kingdom

Computer 93 **3836.** **Self-Calibrating Interleaved Reconstruction for Through-Time Non-Cartesian GRAPPA**
Jesse I. Hamilton[1], Katherine L. Wright[1], Mark A. Griswold[2], Nicole Seiberlich[1]
[1]Biomedical Engineering, Case Western Reserve University, Cleveland, OH, United States; [2]Radiology, Case Western Reserve University, Cleveland, OH, United States

Computer 94 **3837.** **Retrospective Self-Gated MRI of the TMJ Dynamics During Mastication**
Stefan Wundrak[1, 2], Jan Paul[1], Johannes Ulrici[2], Erich Hell[2], Volker Rasche[1]
[1]Klinik für Innere Medizin II, Ulm University, Ulm, Germany; [2]Sirona Dental Systems, Bensheim, Germany

Computer 95 **3838.** **A Generic, Multi-Node, Multi-GPU Reconstruction Framework for Online, Real-Time, Low-Latency MRI**
Haris Saybasili[1], Daniel A. Herzka[2], Kestutis Barkauskas[3], Nicole Seiberlich[3], Mark A. Griswold[1]
[1]Radiology, Case Western Reserve University, Cleveland, OH, United States; [2]Biomedical Engineering, Johns Hopkins University, Baltimore, MD, United States; [3]Biomedical Engineering, Case Western Reserve University, Cleveland, OH, United States

Computer 96 **3839.** **Method for Estimating K-T Sensitivity from Under-Sampled Data with No Training Scans**
Hidenori Takeshima[1], Shuhei Nitta[1], Taichiro Shiodera[1], Tomoyuki Takeguchi[1], Masao Yui[2], Shigehide Kuhara[2]
[1]Corporate Research & Development Center, Toshiba Corporation, Kawasaki, Kanagawa, Japan; [2]MRI Systems Division, Toshiba Medical Systems Corporation, Otawara-shi, Tochigi, Japan

Electronic Poster
Susceptibility Contrast

Exhibition Hall Tuesday 16:00-17:00

Computer 73 **3840.** **Regularized Susceptibility Tensor Imaging for Generating White Matter Fiber Color Maps in Human Brain**
Xu Li[1, 2], Issel Anne L. Lim[1, 2], Craig K. Jones[1, 2], Peter C.M. van Zijl[1, 2]
[1]F.M. Kirby Research Center for Functional Brain Imaging, Kennedy Krieger Institute, Baltimore, MD, United States; [2]Radiology, Johns Hopkins University School of Medicine, Baltimore, MD, United States

Computer 74 **3841.** **Measurement Precision of Contrast Agent with R2* (Magnitude) and Quantitative Susceptibility Mapping (Phase)**
Hongchen Wang[1], Xavier Maître[1], Jean-Pierre Ruaud[1], Luc Darrasse[1], Ludovic De Rochefort[2]
[1]Imagerie par Résonance Magnétique Médicale et Multi-Modalités (UMR8081) IR4M, CNRS, Univ. Paris-Sud,, Orsay, France; [2]Univ Paris-Sud, Orsay, France

Computer 75 **3842.** **Multi-Echo Susceptibility-Weighted Imaging Using an Adaptive Frequency Mask**
Junmin Liu[1], David A. Rudko[1, 2], Joseph S. Gati[1], Ravi S. Menon[1, 3], Maria Drangova[1, 2]
[1]Imaging Research Laboratories, Robarts Research Institute, Shulich School of Medicine & Dentistry, University of Western Ontario, London, ONtario, Canada; [2]Department of Medical Biophysics, Shulich School of Medicine & Dentistry, University of Western Ontario, London, Ontario, Canada; [3]Department of Medical Biophysics, Shulich School of Medicine & Dentistry, University of Western Ontario, London , Ontario, Canada

Computer 76 **3843.** **Diffusion-Guided Quantitative Susceptibility Mapping**
ISMRM MERIT AWARD magna cum laude
Amanda C. L. Ng[1, 2], David K. Wright[3, 4], Parnesh Raniga, [25], Stephen Moore[6], Gary F. Egan[2], Leigh A. Johnston, [47]
[1]Dept of Electrical & Electronic Engineering, The University of Melbourne, Melbourne, VIC, Australia; [2]Monash Biomedical Imaging, Monash University, Melbourne, VIC, Australia; [3]Centre for Neuroscience, The University of Melbourne, Melbourne, VIC, Australia; [4]Florey Institute of Neuroscience and Mental Health, The University of Melbourne, VIC, Australia; [5]The Australian e-Health Research Centre-BioMedIA The Australian e-Health Research Centre-BioMedIA, CSIRO Preventative Health National Research Flagship ICTC, Herston, QLD, Australia; [6]IBM Research Collaboratory for Life Sciences-Melbourne, Victorian Life Sciences Computing Initiative, The University of Melbourne, VIC, Australia; [7]NeuroEngineering Laboratory, Dept. Electrical & Electronic Engineering, The University of Melbourne, Melbourne, VIC, Australia

Computer 77 **3844.** ***Anisotropic Magnetic Susceptibility Induced R2* Anisotropy of Human Brain in vivo</i>*** **Wei Li[1], Bing Wu[2], Chunlei Liu[1, 3]**
[1]Brain Imaging & Analysis Center, Duke University, Durham, NC, United States; [2]GE Healthcare China, Beijing, China; [3]Radiology, Duke University, Durham, NC, United States

ISMRM MERIT AWARD magna cum laude

Computer 78 **3845.** **Quantitative Susceptibility Mapping Reconstruction with Spatial Prior: Shortening Reconstruction Time and Choosing Regularization Parameters Automatically**
Hongchen Wang[1], Jean-Sébastien Raynaud[2], Ludovic De Rochefort[3]
[1]Univ. Paris Sud - CNRS, UMR 8081, IR4M, Orsay, France; [2]Experimental Imaging, MRI unit, Research Division, Guerbet, Aulnay-sous-bois, France; [3]Univ Paris-Sud, Orsay, France

Computer 79 **3846.** **Simulations Show Tumor Vascular Morphology Affects the Accuracy of Steady-State Susceptibility Contrast MRI Biomarkers of Angiogenesis**
Eugene Kim[1], B. Douglas Ward[2], Arvind P. Pathak[3]
[1]Department of Biomedical Engineering, Johns Hopkins University, Baltimore, MD, United States; [2]Department of Biophysics, Medical College of Wisconsin, Milwaukee, WI, United States; [3]Russell H. Morgan Department of Radiology and Radiological Science, The Johns Hopkins University School of Medicine, Baltimore, MD, United States

Computer 80 **3847.** **Dynamic Quantitative Susceptibility Mapping for Contrast Agent Concentration**
ISMRM MERIT AWARD magna cum laude
Bo Xu[1], Tian Liu[2], Pascal Spincemaille[2], Nanda Deepa Thimmappa[2], Martin R. Prince[2], Yi Wang[1]
[1]Biomedical Engineering, Cornell University, Ithaca, NY, United States; [2]Weill Cornell Medical College, New York, United States

Computer 81 **3848.** **Magnetic Susceptibility as a Field-Independent MRI Biomarker of Liver Iron Overload**
Diego Hernando[1], Scott B. Reeder[1, 2]
[1]Radiology, University of Wisconsin-Madison, Madison, WI, United States; [2]Medical Physics, University of Wisconsin-Madison, Madison, WI, United States

Computer 82 **3849.** **Quantification of Blood Oxygen-Level Dependent Signal Changes of Rat Brain by Using Quantitative Susceptibility Mapping**
Meng-Chi Hsieh[1, 2], Jyh-Horng Chen[1, 2]
[1]Institute of Biomedical Electronic and Bioinformatics, National Taiwan University, Taipei, Taiwan; [2]Interdisciplinary MRI/MRS Lab, Department of Electrical Engineering, National Taiwan University, Taipei, Taiwan

Computer 83 **3850.** **Intracerebral Microbleed Assessment by Using Quantitative Susceptibility Mapping**
Meng-Chi Hsieh[1, 2], Jyh-Horng Chen[1, 2], Hon-Man Liu[3]
[1]Institute of Biomedical Electronic and Bioinformatics, National Taiwan University, Taipei, Taiwan; [2]Interdisciplinary MRI/MRS Lab, Department of Electrical Engineering, National Taiwan University, Taipei, Taiwan; [3]Department of Medical Imaging, National Taiwan University Hospital and College of Medicine, Taipei, Taiwan

Computer 84 **3851.** **Temporal Susceptibility Variations with Multi-Echo Quantitative Susceptibility Mapping (QSM)**
Sung-Min Gho[1], Yoonho Nam[1], Dongyeob Han[1], Dong-Hyun Kim[1]
[1]Electrical and Electronic Engineering, Yonsei University, Seodaemun-gu, Seoul, Korea

Computer 85 **3852.** **Macroscopic B_0 Inhomogeneity Corrected QSM Based on a Field Mapping Algorithm Using a Single-Scan 3D Z-Shim Multi-Echo GRE.**
Dongyeob Han[1], Yoonho Nam[1], Sung-Min Gho[1], Dong-Hyun Kim[1]
[1]Electrical & Electronic Engineering, Yonsei University, Seoul, Korea

Computer 86 **3853.** **Categorization of Various Methods for Quantititative Susceptibility Mapping (QSM) and Their Noise Properties**
Shuai Wang[1], Tian Liu[2], Weiwei Chen[3], Cynthia Wisnieff[2], Pascal Spincemaille[2], Apostolos John Tsiouris[2], Yi Wang[2]
[1]School of Electronic and Engineering, University of Electronic Science and Technology of China, Chengdu, Sichuan, China; [2]Department of Radiology, Weill Cornell Medical College, New York, United States; [3]Department of Radiology, Tongji Hospital, Tongji Medical College, Huazhong University of Science and Technology, Wuhan, Hubei, China

Computer 87 **3854. Quantitive Proton Resonance Frequency Imaging Using Fast Multi-Echo Gradient-Echo**
Wolfgang Stefan[1], Erol Yeniaras[1], Ken-Pin Hwang[2], Linda Chi[3], Ed Jackson[1], John D. Hazle[1], R. Jason Stafford[1]
[1]Imaging Physics, The University of Texas MD Anderson Cancer Center, Houston, TX, United States; [2]Applied Science Laboratory, Healthcare Technologies,, WI, Hosuton, TX, United States; [3]Diagnostic & Radiology, The University of Texas MD Anderson Cancer Center, Houston, TX, United States

Computer 88 **3855. A Quantitative Susceptibility Mapping (QSM) Analysis in Subjects with Alzheimer's Diseases and Mild Cognitive Impairment**
Eo-Jin Hwang[1], Min-Ji Kim[2], Hyug-gi Kim[3], Kyung-Mi Lee[4], Ji-Seon Park, Wook Jin[2], Dal-Mo Yang[2], Geon-Ho Jahng[2]
[1]Kyung Hee University Hospital at Gangdong, Seoul, Korea; [2]KyungHee University Hospital at GangDong, Seoul, Korea; [3]KyungHee University, YoungIn, Gyeonggi-do, Korea; [4]Department of Radiology, Kyung Hee University Hospital, Seoul, Korea

Computer 89 **3856. SHARP Edges: Recovering Cortical Phase Contrast Through Harmonic Extension**
Ryan Topfer[1, 2], Ferdinand Schweser[3], Andreas Deistung[4], Alan H. Wilman[1, 2], Jürgen R. Reichenbach[3]
[1]Department of Physics, University of Alberta, Edmonton, AB, Canada; [2]Department of Biomedical Engineering, University of Alberta, Edmonton, AB, Canada; [3]Medical Physics Group, Institute of Diagnostic and Interventional Radiology I, Jena University Hospital - Friedrich Schiller University, Jena, Thuringia, Germany; [4]Medical Physics Group, Institute of Diagnostic and Interventional Radiology I, Jena University Hospital - Friedrich Schiller University Jena, Jena, Thuringia, Germany

Computer 90 **3857. Background Field Removal Through Infinite Spherical Mean Value Operation**
Yan Wen[1, 2], Tian Liu[1, 3], Yi Wang[1, 3]
[1]Department of Radiology, Weill Cornell Medical College, New York, NY, United States; [2]Department of Physics and Astronomy , SUNY at Stony Brook, Stony Brook , NY, United States; [3]Department of Biomedical Engineering, Cornell University, Ithaca, NY, United States

Computer 91 **3858. Fat-Constrained QSM for Abdominal Applications**
Debra E. Horng[1, 2], Diego Hernando[1], Samir D. Sharma[1], Scott B. Reeder[1, 2]
[1]Radiology, University of Wisconsin-Madison, Madison, WI, United States; [2]Medical Physics, University of Wisconsin-Madison, Madison, WI, United States

Electronic Poster
Molecular Imaging Techniques & Cell Labeling

Exhibition Hall Wednesday 10:00-11:00

Computer 1 **3859. On the Fate of MRI Gd-Complexes in Cells. Evidence for Extensive Degradation of Linear Complexes.**
Eliana Gianolio[1], Enza Di Gregorio[1], Rachele Stefania[1], Silvio Aime[1]
[1]Molecular Biotechnologies and Health Sciences, University of Torino, Torino, TO, Italy

Computer 2 **3860. Decreased Reticuloendothelial System Clearance and Increased Blood Half-Life and Immune Cell Labeling for Nano- And Micron-Sized MRI Contrast Agents Upon Pre-Treatment with Intralipid**
Li Liu[1], T Kevin Hitchens[1], Qing Ye[1], Yijen Wu[1], Brent D. Barbe[1], Devin E. Prior[1], Wendy Fei Li[1], Lesley M. Foley[1], Frank Fang-Cheng Yeh[1], Daniel J. Bain[2], Chien Ho[1]
[1]Pittsburgh NMR Center for Biomedical Research and Department of Biological Sciences, Carnegie Mellon University, Pittsburgh, PA, United States; [2]Department of Geology and Planetary Science, University of Pittsburgh, Pittsburgh, PA, United States

Computer 3 **3861. Expanding Applications of Cellular MRI by Combining Fluorine-19 and Iron-Oxide Techniques**
T Kevin Hitchens[1, 2], Li Liu[3], Virgil Simplaceanu[3, 4], Lesley M. Foley[3], Eric T. Ahrens[3, 4], Chien Ho[3, 4]
[1]Pittsburgh NMR Center for Biomedical Research, Carnegie Mellon University, Pittsburgh , PA, United States; [2]Department of Biological Science, Carnegie Mellon University, Pittsburgh , PA, United States; [3]Pittsburgh NMR Center for Biomedical Research, Carnegie Mellon University, Pittsburgh, PA, United States; [4]Department of Biological Science, Carnegie Mellon University, Pittsburgh, PA, United States

Computer 4 **3862. *in vivo* Magnetic Resonance Imaging of Activity-Dependent Neural Progenitor Cell Migration**
Nikorn Pothayee[1], Diana Cummings[2], Leonardo Belluscio[2], Alan P. Koretsky[1]
[1]Laboratory of Functional and Molecular Imaging, NINDS/NIH, Bethesda, MD, United States; [2]Developmental Neural Plasticity Section, NINDS/NIH, Bethesda, MD, United States

Computer 5 **3863. Multifunctional Fluorocapsules for ^{19}F MRI, Immunoprotection, and Oxygenation of Transplanted Pancreatic Islet Cells.**

Dian R. Arifin[1, 2], Deepak K. Kadayakkara[1, 2], Jeff W.M. Bulte, [23]
[1]Department of Radiology, Johns Hopkins University School of Medicine, Baltimore, MD, United States; [2]Cellular Imaging Section, Institute for Cell Engineering, Johns Hopkins University School of Medicine, Baltimore, MD, United States; [3]Department of Radiology, Johns Hopkins University, Baltimore, MD, United States

Computer 6 **3864. Tracking of Labelled Stem Cells After Traumatic Brain Injury: A Serial, *in vivo* Magnetic Resonance Imaging Study**

Sushanta Kumar Mishra[1], Gangenahalli U. Gurudutta[2], Rajendra P. Tripathi[1], Subash Khushu[1]
[1]NMR Research Centre, Institute of Nuclear Medicine and Allied Sciences (INMAS), Delhi, India; [2]Stem Cells and Gene Therapy Research Group, Institute of Nuclear Medicine and Allied Sciences (INMAS), Delhi, India

Computer 7 **3865. Labeling of Macrophages with Novel Gadolinium Oxide Nanoparticles for *in vivo* Imaging of Inflammation**

Gary R. Stinnett[1], Minjung Cho[2], Huigang Zhu[2], Pedersen E. Steen[1], Christeen Beeton[1], Vicki L. Colvin[2], Robia G. Pautler[1]
[1]Molecular Physiology and Biophysics, Baylor College of Medicine, Houston, TX, United States; [2]Chemistry, Rice, Houston, TX, United States

Computer 8 **3866. *In Vivo* Tracking of Ferritin Over-Expressing Human Neural Progenitor Cells in the Rat Central Nervous System**

Ksenija Bernau[1], Christina Lewis[2], Anna Petelinsek[3], Masatoshi Suzuki[4], Mary Elizabeth Meyerand, [12], Clive Svendsen[5]
[1]Biomedical Engineering, University of Wisconsin-Madison, Madison, WI, United States; [2]Medical Physics, University of Wisconsin-Madison, Madison, WI, United States; [3]Biochemistry, University of Wisconsin-Madison, Madison, WI, United States; [4]Comparative Biosciences, University of Wisconsin-Madison, Madison, WI, United States; [5]Regenerative Medicine Institute, Cedars-Sinai Medical Center, Los Angeles, CA, United States

Computer 9 **3867. Glioma Cells Transfected with Mms6 Enhance Cellular Iron Oxide Nanoparticles Uptake and Retention in Vitro**

Xiaoyong Zhang[1], Brenda Robledo[1], Jie Song[1], Xiaoping P. Hu[1]
[1]Department of Biomedical Engineering, Emory University, Atlanta, GA, United States

Computer 10 **3868. *in vivo* Magnetic Resonance Tracking of Endothelial Progenitor Cells Trafficking to Sites of Hepatoma Angiogenesis**

Xiao Li Mai[1], Hai Jian Fan[2], Bing Han[3], bin zhu[3]
[1]radiology, Nanjing Drum Tower Hospital,The Affiliated Hospital of Nanjing University Medical School, nanjing, jiangsu, China; [2]Nanjing Drum Tower Hospital, The Affiliated Hospital of Nanjing University Medical School, Nanjing, Jiangsu, China; [3]Nanjing Drum Tower Hospital, the Affiliated Hospital of Nanjing University Medical School, Nanjing, Jiangsu, China

Computer 11 **3869. Fluorinated Gas MR Imaging at Ultra Short Echo Time: Initial Results on a 1.5 T Clinical System**

Pascal Hagot[1], Ludovic De Rochefort[1], Jean-Christophe Ginefri[1], Rose-Marie Dubuisson[1], Marie Poirier-Quinot[1], Jean-Pierre Ruaud[1], Hongchen Wang[1], Xavier Maître[1], Luc Darrasse[1]
[1]IR4M(UMR8081), Univ Paris-Sud, CNRS, Orsay, France

Computer 12 **3870. Evaluation of the Concentration of Lanthanide Ions in *ex vivo* Mouse Tissue Using BMS NMR Spectroscopy**

Sandra I. Gonzalez[1], Dina V. Hingorani[2], Marty Pagel[1, 2]
[1]Biomedical Engineering, University of Arizona, Tucson, AZ, United States; [2]Chemistry & Biochemistry, University of Arizona, Tucson, AZ, United States

Computer 13 **3871. MRI *in Vitro* Setup for Studying Contrast Agent Effect in Inhomogeneous Environment**

Cyril Samuel Lorenzato[1], Chris Oerlemans[2], Frank Nijsen[2], Chrit T.W. Moonen[3], Clemens Bos[3]
[1]Imaging division, University Medical Center Utrecht , Utrecht, Netherlands; [2]Department of Radiology and Nuclear Medicine, University Medical Center Utrecht, Utrecht, Netherlands; [3]Imaging division, University Medical Center Utrecht, Utrecht, Netherlands

Computer 14 **3872. Optimal Field Strength for Molecular MR Imaging : Detection of Targeted Gd-Based Contrast Agents on a Living Cell Monolayer**

Nicolas Gargam[1], Marie Poirier-Quinot[1], Jean-Christophe Ginefri[2], Jean-Sebastien Raynaud[3], Philippe Robert[3], Luc Darrasse[1]

[1]Univ Paris Sud, CNRS, UMR 8081, IR4M, Orsay, France; [2]Univ Paris-Sud, Orsay, France; [3]Guerbet, Research, Roissy CDG cedex, France

Computer 15 **3873. Evaluation of ParaCEST Detection Threshold on Human Stem Cells Under Physiological Constraints**

Wen Ling[1], Francesca Nicholls[1, 2], Silvio Aime[3], Daniela Delli Castelli[3], Michel Modo[1]

[1]Radiology, University of Pittsburgh, Pittsburgh, PA, United States; [2]dept of Neuroscience, King's College London, London, United Kingdom; [3]Dept of Chemistry, University of Torino, Torino, Italy

Computer 16 **3874. Investigation of the CEST Effect in Prostate Metabolites**

Meer Basharat[1], Maysam Jafar[1], Nandita M. deSouza[1], Geoffrey Payne[1]

[1]CRUK & EPSRC Cancer Imaging Centre, Insitute of Cancer Reaserch, Sutton, Surrey, United Kingdom

Computer 17 **3875. Modeling the Brownian Relaxation of Nanoparticle Ferrofluids: Comparison with Experiment**

Michael A. Martens[1], Robert J. Deissler[1], Yong Wu[1], Lisa Bauer[1], Zhen Yao[1], Mark A. Griswold[2], Robert W. Brown[1]

[1]Physics, Case Western Reserve University, Cleveland, OH, United States; [2]Radiology, Case Western Reserve University, Cleveland, OH, United States

Computer 18 **3876. Magnetic Susceptibility Anysotropy of Oriented Single Walled Carbon Nanotubes Suspensions as Measured by SQUID Induces Water Relaxation Anysotropy as Detected by MRI**

Daniel Calle[1], Arisbel Cerpa[2], Viviana Negri, [13], Elisabetta Agostinelli[4], Sebastián Cerdán[5], Sara Laureti[4], Paloma Ballesteros[3], Gaspare Varvaro[4]

[1]Instituto de Investigaciones Biomédicas "Alberto Sols", Madrid, Spain; [2]Universidad Europea de Madrid, Villaviciosa de Odón, Madrid, Spain; [3]Universidad Nacional de Educación a Distancia, Madrid, Spain; [4]Istituto di Struttura della Materia, Monterotondo, Rome, Italy; [5]Instituto de Investigaciones Biomédicas - CSIC, Madrid, Spain

Computer 19 **3877. A Computational Model of the Time – Independent Bloch NMR Flow Equation for Molecular Imaging**

Michael Oluwaseun Dada[1], Bamidele Omotayo Awojoyogbe[1]

[1]Physics, Federal University of Technology, Minna, Nigeria, Minna, Niger State, Nigeria

Computer 20 **3878. Magnetic Field Simulations for SPIOns**

Ricardo Hernandez[1], Miguel Mendez-Rojas[2], Eric Gutierrez[3], Silvia Hidalgo Tobón[4]

[1]Science Faculty, UNAM, DF, Mexico; [2]Nanotechnology, UDLAP, Puebla, Mexico; [3]Medical Physics, UAEM, Toluca, Mexico, Mexico; [4]Imagenology, Children Hospital Federico Gomez, Mexico, Mexico

Computer 21 **3879. Experimental and Simulation Studies on the Behavior of Signal Harmonics in Magnetic Particle Imaging**

Kenya Murase[1], Takashi Konishi[1], Yuki Takeuchi[1], Ruiciao Song[1], Hiroya Suzuki[1], Hiroshige Takata[1], Shigeyoshi Saito[1]

[1]Medical Physics and Engineering, Osaka University, Suita, Osaka, Japan

Computer 22 **3880. MRI Pulse Sequence Optimization for Molecular Imaging of the Brain Aneurysm Wall**

Imramsjah M.J. van der Bom[1], Matthew J. Gounis[1], Shaokuan Zheng[2], Juyu Chueh[1], Anna Luisa Kühn[1], Alexei A. Bogdanov[3]

[1]Radiology/NECStR, University of Massachusetts Medical School, Worcester, MA, United States; [2]Radiology/AMRIC, University of Massachusetts Medical School, Worcester, MA, United States; [3]Radiology/Nuclear Medicine, University of Massachusetts Medical School, Worcester, MA, United States

Computer 23 **3881. Value of Wholebody ^{18}F-FDG PET/MRI in the Diagnosis Liver Metastases in Comparison to PET/CT**

Karsten Beiderwellen[1], Benedikt Gomez[2], Verena Hartung-Knemeyer[2], Christian Buchbender[3], Felix Nensa[1], Hilmar Kuehl[1], Andreas Bockisch[2], Thomas C. Lauenstein[1]

[1]Department of Diagnostic and Interventional Radiology and Neuroradiology, University Hospital Essen, Essen, Germany; [2]Clinic for Nuclear Medicine, University Hospital Essen, Essen, Germany; [3]Department of Diagnostic and Interventional Radiology, University Hospital Dusseldorf, Dusseldorf, Germany

Computer 24 **3882. Phase Contrast MR Imaging to Image Bacterial Translocation in a Mouse Model for Graft Versus Host Disease**
Wilfried Reichardt[1, 2], Nicoleta Baxan[3, 3], Robert Zeiser[4], Franziska Leonhardt[4, 5], Dominik von Elverfeldt[2]
[1]Deutsches Konsortium für translationale Krebsforschung (DKTK), German Cancer Research Center (DKFZ), Heidelberg, Germany; [2]Department of Radiology Medical Physics, University Medical Center Freiburg, Freiburg, Germany; [3]Bruker BioSpin MRI GmBH, Ettlingen, Germany; [4]Division of Hematology and Oncology, Department of Medicine, University Medical Center Freiburg, Freiburg, Germany; [5]Department of Biology, Albert-Ludwigs-University-Freiburg, Freiburg, Germany

Electronic Poster
Novel Agents & Targeting in Molecular Imaging

Exhibition Hall Wednesday 11:00-12:00

Computer 1 **3883. Biological Modifiers of Novel Theranostic Metalloporphyrins**
Talaignair N. Venkatraman[1], Artek Tovmasyan[2], Ines Batinic-Haberle[2], Ivan Spasojevic[2], Christopher D. Lascola[1]
[1]Radiology, Duke University Medical Center, Durham, NC, United States; [2]Radiation Oncology, Duke University Medical Center, Durham, NC, United States

Computer 2 **3884. New Lanthanide Agents for BIRDS and CEST Imaging**
Yuegao Huang[1, 2], Daniel Coman[1, 2], Garry E. Kiefer[3], Fahmeed Hyder[1, 4]
[1]Diagnostic Radiology, Yale University, New Haven, CT, United States; [2]Magnetic Resonance Research Center, Yale University, New Haven, CT, United States; [3]Macrocyclics, Dallas, TX, United States; [4]Biomedical Engineering, Yale University, New Haven, CT, United States

Computer 3 **3885. Dendrimeric Paramagnetic Chelates for BIRDS**
Yuegao Huang[1, 2], Meser M. Ali[3], Daniel Coman[1, 2], Garry E. Kiefer[4], Fahmeed Hyder[1, 5]
[1]Diagnostic Radiology, Yale University, New Haven, CT, United States; [2]Magnetic Resonance Research Center, Yale University, New Haven, CT, United States; [3]Radiology, Henryford Health System, Detroit, MI, United States; [4]Macrocyclics, Dallas, TX, United States; [5]Biomedical Engineering, Yale University, New Haven, CT, United States

Computer 4 **3886. An Anovel Multifunctional Dendrimer-Based Nanoparticles for *in vivo* MRI/CT Dual Modal Molecular Imaging of Breast Cancer**
Kangan Li[1], Shihui Wen[2], Xiangyang Shi[3], Guixiang Zhang[4], Andrew C. Larson[1]
[1]Department of Radiology, Northwestern University, Chicago, IL, United States; [2]Chemical Engineering and Biotechnology, Donghua University, Songjiang, Shanghai, China; [3]Chemical Engineering and Biotechnology, Donghua University , Songjiang, Shanghai, China; [4]Department of Radiology, Shanghai Jiaotong University, Hongkou, Shanghai, China

Computer 5 **3887. D-Glucuronic Acid Coated $DyEuO_3$ and $HoEuO_3$ Nanoparticles for Magnetic Resonance Imaging (MRI) and Fluorescence Imaging (FI)**
Wenlong Xu[1], Krishna Kattel[1], Md. Wasi Ahmad[1], Badrul Alam Bony[1], Tirusew Tegafaw[1], Woo Choul Heo[1], Cho Rong Kim[1], Yongmin Chang[2], Gang Ho Lee[1]
[1]Department of Chemistry, Kyungpook National University, Buk-gu, Daegu, Korea; [2]Department of molecular medicine, Kyungpook National University, Buk-gu, Daegu, Korea

Computer 6 **3888. Biopolymer Coated Gd_2O_3 Nanoparticles for MRI Contrast Agent**
Md. Wasi Ahmad[1], Kattel Krishna[1], Badrul Alam Bony[1], Wenlong Xu[1], Tirusew Tegafaw[1], Woo Choul Heo[1], Yongmin Chang[2], Gang Ho Lee[1]
[1]Chemistry, Kyungpook National University, Daegu, Korea; [2]Molecular Medicine School of Medicine, Kyungpook National University, Daegu, Korea

Computer 7 **3889. Synthesis of CuO Doped Gd_2O_3 Nanoparticles as T_1 MRI Contrast Agent**
Badrul Alam Bony[1], Krishna Kattel[1], Wenlong Xu[1], Woo Choul Heo[1], Tirusew Tegafaw Mengesha[1], Md. Wasi Ahmad[1], Cho Rong KIM[1], Yongmin Chang[2], Gang Ho LEE[1]
[1]Department of Chemistry, Kyungpook National University, Daegu, Korea; [2]School of Medicine, Kyungpook National University, Daegu, Korea

Computer 8 **3890. Preclinical in Vitro and *in vivo* Assessment of a Novel Graphene Based MRI Contrast Agent**
Shruti kanakia[1], Jimmy Toussaint[1], Sayan Mullick Chowdhury[1], Tanuf Tembulkar[1], Terry Button[2], Kenneth Shroyer[3], William Moore[2], Balaji Sitharaman[1]

[1]Biomedical Engineering, Stony Brook Univeristy, Stony Brook, NY, United States; [2]Radiology, Stony Brook Univeristy, Stony Brook, NY, United States; [3]Pathology, Stony Brook Univeristy, Stony Brook, NY, United States

Computer 9 **3891. Visualization of Therapeutic Angiogenesis by a Polymer-Based Magnetic Resonance Contrast Agent**

Jun-ichiro Jo[1, 2], Ichio Aoki[1], Tsuneo Saga[1], Yasuhiko Tabata[3]
[1]Molecular Imaging Center, National Institute of Radiological Sciences, Chiba, Japan; [2]Department of Biomaterials, Institute for Frontier Medical Sciences, Kyoto University , Kyoto, Japan; [3]Department of Biomaterials, Institute for Frontier Medical Sciences, Kyoto University, Kyoto, Japan

Computer 10 **3892. A R2p/R1p Ratiometric Approach with Gd Containing Liposomes for the Imaging of Matrix Metalloproteinases by MRI**

Giuseppe Digilio[1], Valeria Catanzaro[2], Valeria Menchise[3], Sergio Padovan[3], Martina Capozza[4], Linda Chaabane[5], Silvio Aime[4]
[1]Università del Piemonte Orientale "A. Avogadro", Alessandria, AL, Italy; [2]Istituto di Ricerca Diagnostica e Nucleare SDN, Via Gianturco 113, Napoli, 80143, Na, Italy; [3]CNR - IBB, Torino, TO, Italy; [4]Department of Chemisty & Center for Molecular Imaging,, University of Turin, Torino, TO, Italy; [5]Institute for Experimental Neurology - INSpe, San Raffaele Scientific Institute, Milano, MI, Italy

Computer 11 **3893. Super-Relaxive Gd Nanoparticle**

Ananth Annapragada[1], Eric Tanifum[1], Ketan Ghaghada[1], Divya Sabapathy[1]
[1]Pediatric Radiology, Texas Childrens Hospital, Houston, TX, United States

Computer 12 **3894. Long Longitudinal Relaxation Time Silicon Nanoparticles**

Shawn Wagner[1, 2], Denis Avdic[1], Alexander Grunfeld[3], Debiao Li[1, 2]
[1]Biomedical Sciences, Cedars-Sinai Medical Center, Los Angeles, CA, United States; [2]Biomedical Imaging Research Institute, Cedars-Sinai Medical Center, Los Angeles, CA, United States; [3]Life Sciences, UCLA, Los Angeles, CA, United States

Computer 13 **3895. Measuring the Accumulation of Magnetite Labeled Nanoparticles in the Rat Brain**

Naira P. Martinez Vera[1], Klaus Langer[2], Iavor Zlatev[2], Robert Wronski[3], Manfred Windisch[3], Ewald Auer[3], Hagen von Briesen[4], Sylvia Wagner[4], Motti Deutsch[5], Claus Pietrzik[6], Franz Fazekas[1], Reinhold Schmidt[1], Stefan Ropele[1]
[1]Department of Neurology, Medical University of Graz, Graz, Styria, Austria; [2]Institut für Pharmazeutische Technologie und Biopharmazie, Münster, North Rhine-Westphalia, Germany; [3]JSW Life Sciences GmbH, Grambach, Styria, Austria; [4]Department of Cell Biology & Applied Virology, Fraunhofer-Institute for Biomedical Engineering, St. Ingbert, Saarland, Germany; [5]Physics Department, , Schottenstein Center for the Research and Technology of the Cellome, Bar Ilan University, Ramat Gan, Israel; [6]Institute of Pathobiochemistry,, University Medical Center of the Johannes Gutenberg-University Mainz, Mainz, Rhineland-Palatinate, Germany

Computer 14 **3896. T_1 and T_2 Mapping of Superparamagnetic Iron Oxide Nanoparticles for the Detection of Breast and Pancreatic Cancer Cells**

Dirk Krueger[1], Gorka Salas[2], Macarena Calero[2], Silvia Lorrio González[1], Angeles Villanueva[2], María P. Morales[3], René M. Botnar[1]
[1]Division of Imaging Sciences & Biomedical Engineering, King's College London, London, United Kingdom; [2]Instituto IMDEA Nanociencia, Madrid, Spain; [3]Instituto de Ciencia de Materiales de Madrid, CSIC, Madrid, Spain

Computer 15 **3897. High R1 Relaxivity Sub-5 Nm Suprasmall Iron Oxide Nanoparticles (SSIOs) as Intravascular T1-Weighted MRI and Cell Tracking Contrast Agents**

ISMRM MERIT AWARD magna cum laude

Jing Huang[1], Liya Wang[1], Hui Mao[1]
[1]Department of Radiology and Imaging Sciences, Emory University School of Medicine, Atlanta, GA, United States

Computer 16 **3898. Characterization of Fe-Co Ferrite Nanoparticles for Contrast Generation and Heat Therapy in Cancer**

Sheikh Manjura Hoque[1], Yuegao Huang[1], Samuel Maritim[1], Daniel Coman[1], Fahmeed Hyder[1]
[1]Yale University, New Haven, CT, United States

Computer 17 **3899. Multi-Modal Imaging to Evaluate the Effects of Novel TLR Agonist Adjuvants in Vaccine-Mediated Tumor Immunity**

Deepak K. Kadayakkara[1], Hyam I. Levitsky[1], Jeff W.M. Bulte[2, 3]
[1]Department of Oncology, Johns Hopkins School of Medicine, Baltimore, MD, United States; [2]Cellular Imaging Section, Institute for Cell Engineering,, Johns Hopkins University, Baltimore, MD, United States; [3]MRI research division, Johns Hopkins School of Medicine, Baltimore, MD, United States

Computer 18 **3900. Magnetic Resonance Imaging(MRI) and X-Ray Computed Tomography(CT) Dual Functionality of Gadolinium Iodate Dihydrate Nanomaterials**

Cho Rong Kim[1], Eun Jung Lee[1], Woo Choul Heo[2], Yongmin Chang[3], Gang Ho Lee[1]
[1]Chemistry, Kyungpook national university, Daegu, Korea; [2]Chemistry, Kyungpook National University, Daegu, Korea; [3]School of medicine, Kyungpook National University, Daegu, Korea

Computer 19 **3901. MRI and Fluorescence Imaging with Upconverting Nanoparticles: a New Multimodal Approach for Lung Targeting**

Hugo Groult[1, 2], Andrea Bianchi[3], Moreno Zamai[4], Jesus Ruiz-Cabello[1], Yannick Crémillieux[3], Fernando Herranz-Rabanal[1]
[1]Advanced imaging unit, CNIC (centro nacional de investigaciones cardiovasculares), Madrid, Spain; [2]CIBERES (Centro de Investigacíon biomedica en red Enfermedades Respitorias), Bunyola,, Mallorca, Spain; [3]Cardio-thoracic Center of Bordeaux, University of Bordeaux Segalen, Bordeaux, Aquitaine, France; [4]Microscopy and Dynamic imaging Unit, CNIC (centro nacional de investigaciones cardiovasculares), Madrid, Spain

Computer 20 **3902. Magnetic Resonance-Fluorescent Dual Imaging of Fluorescein Coated Gd_2O_3 Nanoparticles**

Tirusew Tegafaw Mengesha[1], Krishna kattel[1], Wenlong Xu[1], Badrul Alam Bony[1], Woo Choul Heo[1], Kim Cho Rong[1], Md. Wasi Ahmad[1], Yong Min Chang[2], Gang Ho Lee[1]
[1]Departement of Chemistry, Kyungpook National University, Daegu, Korea; [2]Departement of molecular medicine, Kyungpook National University, Daegu, Korea

Computer 21 **3903. pH-Triggered 19F MRI for Lung Cancer Cell A549**

Shizhen Chen[1], Yuqi Yang[1], Qi Wang[1], Haidong Li[1], Xin Zhou[1]
[1]Wuhan Center for Magnetic Resonance,Wuhan Institute of Physics and Mathematics,CAS, Wuhan, Hubei, China

Computer 22 **3904. Monitoring Neuroinflammation *in vivo* with MR Spectroscopy and CEST Imaging**

Maria Yanez Lopez[1], Marie-Christine Pardon[2], Dorothee P. Auer[1], Henryk Faas[1]
[1]Radiological and Imaging Sciences, University of Nottingham, Nottingham, Nottinghamshire, United Kingdom; [2]School of Biomedical Sciences, University of Nottingham, Nottingham, Nottinghamshire, United Kingdom

Computer 23 **3905. MR Imaging of *ex-vivo* Mouse Joints on a Clinical 3T System with Diagnostic SPION Imaging Using DUTE in an Arthritis Model.**

Lindsey Alexandra Crowe[1], Frank Tobalem[2], Marije Koenders[3], Eline Vermeij[3], Fons A. van de Loo[3], Azza Gramoun[1], Jatuporn Salaklang[4], Anthony Redgem[4], Alke Petri-Fink[5], Heinrich Hofmann[6], Wim van der Berg[3], Jean-Paul Vallée[1]
[1]Radiology / Faculty of Medicine, Geneva University Hospital, Geneva, Switzerland; [2]Radiology, Centre Hospitalier Universitaire Vaudois, Lausanne, Switzerland; [3]Department of Rheumatology, Rheumatology Research and Advanced Therapeutics,, Radboud University Nijmegen Medical Centre, Nijmegen, Netherlands; [4]Adolphe Merkle Institute, Université de Fribourg, Fribourg, Switzerland; [5]Adolphe Merkle Institute and Chemistry Departement, Université de Fribourg, Fribourg, Switzerland; [6]Institute of Materials, Powder Technology Laboratory, EPFL, Lausanne, Switzerland

Computer 24 **3906. Effect of Moderate Hyperthermia on Inflammation Following Experimental Traumatic Brain Injury in Mice**

Lesley M. Foley[1], Steven L. Shein[2, 3], Vincent A. Vagni[2], T Kevin Hitchens[4, 5], Chien Ho[4, 5], Patrick M. Kochanek[2, 6]
[1]Pittsburgh NMR Center for Biomedical Research, Carnegie Mellon University, Pittsburgh , PA, United States; [2]Safar Center for Resuscitation Research, University of Pittsburgh School of Medicine, Pittsburgh, PA, United States; [3]Critical Care Medicine, University of Pittsburgh School of Medicine, Pittsburgh, PA, United States; [4]Pittsburgh NMR Center for Biomedical Research, Carnegie Mellon University, Pittsburgh, PA, United States; [5]Department of Biological Sciences, Carnegie Mellon University, Pittsburgh, PA, United States; [6]Departments of Critical Care Medicine, Pediatrics and Anesthesiology, University of Pittsburgh School of Medicine, Pittsburgh, PA, United States

Electronic Poster
Hyperpolarized 13C & Metabolism

Exhibition Hall Wednesday 10:00-11:00

Computer 25 **3907.** **Toward a Hyperpolarized C13 Metabolic Imaging of Human Brain at 3T**

ISMRM MERIT AWARD magna cum laude

Ilwoo Park[1], Peder E.Z. Larson[1], Jim Tropp[2], Lucas Carvajal[1], Mark VanCriekinge[1], Robert A. Bok[3], John Bringas[4], Adrian Kells[4], Philip Pivirotto[4], Krystof Bankiewicz[4], Daniel B. Vigneron[4], Sarah J. Nelson[1, 5]

[1]Department of Radiology and Biomedical Imaging, University of California, San Francisco, San Francisco, CA, United States; [2]GE Healthcare, Menlo Park, CA, United States; [3]Department of Radiology and Biomedical Imaging, University of California San Francisco, San Francisco, CA, United States; [4]Department of Neurosurgery, University of California, San Francisco, San Francisco, CA, United States; [5]Department of Bioengineering and Therapeutic Sciences, University of California, San Francisco, San Francisco, CA, United States

Computer 26 **3908.** **Non-Invasive Identification of Functional Brown Adipose Tissue in Rodents Using Hyperpolarized 13C Imaging**

Angus Z. Lau[1, 2], Albert P. Chen[3], Michelle Ladouceur-Wodzak[1], Krishna S. Nayak[4], Charles H. Cunningham[1, 2]

[1]Imaging Research, Sunnybrook Health Sciences Centre, Toronto, Ontario, Canada; [2]Department of Medical Biophysics, University of Toronto, Toronto, Ontario, Canada; [3]GE Healthcare, Toronto, Ontario, Canada; [4]Department of Electrical Engineering, University of Southern California, Los Angeles, CA, United States

Computer 27 **3909.** **Magnetic Resonance Imaging of Tumor Glycolysis Using Hyperpolarized ^{13}C-Labelled Glucose**

Tiago B. Rodrigues[1], Eva M. Serrao[1], Brett W.C. Kennedy[1], De-En Hu[1], Kevin M. Brindle[1], Mikko I. Kettunen[1]

[1]Biochemistry/CRUK, University of Cambridge, Cambridge, United Kingdom

Computer 28 **3910.** **Mapping Changes in Lactate-To-Pyruvate Signal Ratio Using Hyperpolarized ^{13}C-Pyruvate in Early Radiation Induced Lung Injury Post Conformal Radiotherapy of the Lung**

Kundan Thind[1, 2], Elaine Hegarty[1], Albert P. Chen[3], Heeseung Lim[1, 2], Francisco Martinez[1], Michael Jensen[2], Eugene Wong[1, 4], Timothy J. Scholl[1], Giles E. Santyr[1, 5]

[1]Robarts Research Institute, Western University, London, ON, Canada; [2]Dept. of Medical Biophysics, Western University, London, ON, Canada; [3]GE Healthcare, Toronto, ON, Canada; [4]Dept. of Physics and Astronomy, Western University, London, ON, Canada; [5]Dept. of Medical Imaging, Western University, London, ON, Canada

Computer 29 **3911.** **Investigation of Substrate Dose on Rat Cardiac Metabolism in Vivo Using MRS of Hyperpolarized [2-^{13}C]pyruvate**

Sonal Josan[1, 2], Jae Mo Park[2], Yi-Fen Yen[2], Ralph Hurd[3], Adolf Pfefferbaum[1, 2], Daniel Spielman[2], Dirk Mayer[1, 2]

[1]SRI International; [2]Stanford University; [3]GE Healthcare

Computer 30 **3912.** **Hyperpolarised [1-^{13}C]-Pyruvate Metabolism in Brown Fat**

Lanette J. Friesen-Waldner[1, 2], Trevor P. Wade[1, 2], Curtis N. Wiens[3], Kundan Thind[1, 2], Jacqueline K. Harris[1], Kevin J. Sinclair[1], Colin M. McCurdy[1], Albert P. Chen[4], Nica M. Borradaile[5], Charles A. McKenzie[1, 2]

[1]Department of Medical Biophysics, University of Western Ontario, London, Ontario, Canada; [2]Imaging Research Labs, Robarts Research Institute, London, Ontario, Canada; [3]Department of Physics and Astronomy, University of Western Ontario, London, Ontario, Canada; [4]GE Healthcare, Toronto, Ontario, Canada; [5]Department of Physiology and Pharmacology, University of Western Ontario, London, Ontario, Canada

Computer 31 **3913.** **Towards a More Quantitative Physiological Analysis: Comprehensive Kinetic Modeling of Pyruvate Metabolism in Tumors Via Co-Injection of Hyperpolarized ^{13}C Pyruvate and Urea in Combination with Measurement of Arterial Input Functions**

Samira Kazan[1], Steven Reynolds[2], Tooba Alizadeh[1], Adriana Bucur[2], Aneurin Kennerley[3], Vincent Cunningham[4], Martyn Paley[2], Gillian M. Tozer[1]

[1]CR-UK/YCR Sheffield Cancer Research Centre, University of Sheffield, Sheffield, South Yorkshire, United Kingdom; [2]Academic Unit of Radiology, University of Sheffield, Sheffield, South Yorkshire, United Kingdom; [3]Signal Processing in Neuroimaging and Systems Neuroscience, University of Sheffield, Sheffield, South Yorkshire, United Kingdom; [4]Aberdeen Biomedical Imaging Centre, University of Aberdeen, Aberdeen, Scotland, United Kingdom

Computer 32 **3914.** **Metabolic Profiling of Experimental Tumors Using Hyperpolarized [1-^{13}C] Pyruvate: Evaluating Cell Type Specificity and Effects of Tumor Environment.**

Georgios Batsios[1], Divya Vats[1], Catherine Germanier[1], Michael Batel[2], Marcin Krajewski[1], Markus Rudin[1, 3]

[1]Institute for Biomedical Engineering, ETH and University of Zurich, Zurich, Switzerland; [2]Laboratory of Physical Chemistry, ETH Zurich, Zurich, Switzerland; [3]Institute of Pharmacology and Toxicology, University of Zurich, Zurich, Switzerland

Computer 33 **3915. Comparison of Tumor Perfusion Measured by Hyperpolarized ^{13}C Urea with DCE MR Imaging Prior to and Following Radiation Therapy**

Vickie Zhang[1, 2], Robert A. Bok[3], Jessie Lee[2], Subramaniam Sukumar[1], Adam Cunha[4], I-Chow Hsu[4], Jean Pouliot[4], Daniel B. Vigneron[1, 2], John Kurhanewicz[1, 2]

[1]Department of Radiology and Biomedical Imaging, University of California, San Francisco, San Francisco, CA, United States; [2]Graduate Program in Bioengineering, University of California, San Francisco & University of California, Berkeley, Berkeley, CA, United States; [3]Department of Radiology and Biomedical Imaging, University of California San Francisco, San Francisco, CA, United States; [4]Department of Radiation Oncology, University of California, San Francisco, San Francisco, CA, United States

Computer 34 **3916. Reproducibility of 13C Magnetic Resonance Spectroscopy Measurements with Hyperpolarized [1-13C]pyruvate**

Eva M. Serrao[1], Tiago B. Rodrigues[1], Mikko I. Kettunen[1], Ferdia A. Gallagher[1], Brett Kennedy[2], De-En Hu[3], Keith Burling[4], Joan Boren[1], Helen Sladen[1], Kevin M. Brindle[3]

[1]Cambridge Research Institute CRUK, Cambridge, United Kingdom; [2]Biochemistry, Cambridge University, Cambridge, United Kingdom; [3]University of Cambridge, Cambridge, United Kingdom; [4]Clinical Biochemistry, Addenbrook's Hospital, Cambridge, United Kingdom

Computer 35 **3917. Optimized Sampling of Metabolically Labeled [2-13C]Lactate Following Injection of Hyperpolarized [2-13C]Pyruvate**

Ralph Hurd[1], Sonal Josan[2, 3], Jae Mo Park[2, 4], Yi Fen Yen[2], Dirk Mayer[2, 3], Daniel Spielman[2, 4]

[1]GE Healthcare, Menlo Park, CA, United States; [2]Radiology, Stanford University, Stanford, CA, United States; [3]Neuroscience Program, SRI International, Menlo Park, CA, United States; [4]Electrical Engineering, Stanford University, Stanford, CA, United States

Computer 36 **3918. Evaluation of Renal Metabolic Response to Partial Ureteral Obstruction with Hyperpolarized ^{13}C MRI**

David J. Niles[1], Jeremy W. Gordon[2], Gengwen Huang[3], Kevin M. Johnson[1], Arjang Djamali[4], Sean B. Fain[1, 5]

[1]Medical Physics, University of Wisconsin, Madison, WI, United States; [2]Medical Physics, University of Wisconsin-Madison, Madison, WI, United States; [3]Surgery, University of Wisconsin, Madison, WI, United States; [4]Medicine, University of Wisconsin, Madison, WI, United States; [5]Radiology, University of Wisconsin, Madison, WI, United States

Computer 37 **3919. Hyperpolarised ^{13}C MRS on a 3T Clinical Platform: Kinetic Modelling of Pyruvate-Lactate Exchange Provides a Sensitive Measure of Response to Dichloroacetate in HT29 Xenografts**

Deborah K. Hill[1], Jessica K.R. Boult[1], Rafal Panek[1], Harold G. Parkes[1], Matthew R. Orton[1], Anne-Christine L.F. Wong Te Fong[1], Maysam Jafar[1], Simon P. Robinson[1], Martin O. Leach[1], Thomas R. Eykyn[1, 2], Yuen-Li Chung[1]

[1]CR-UK and EPSRC Cancer Imaging Centre, The Institute of Cancer Research and Royal Marsden NHS Trust, Sutton, Surrey, United Kingdom; [2]Division of Imaging Sciences and Biomedical Engineering, Kings College London, St Thomas Hospital, London, United Kingdom

Computer 38 **3920. Preliminary Study of Hypoxic Ischemic Rat Pup Model Using Hyperpolarized 13C Spectroscopy**

Duan Xu[1], Zinaida Vexler[2], Subramaniam Sukumar[1], Robert A. Bok[1], John Kurhanewicz[1], Xiaoliang Zhang[1]

[1]Department of Radiology and Biomedical Imaging, University of California San Francisco, San Francisco, CA, United States; [2]Department of Neurology, University of California San Francisco, San Francisco, CA, United States

Computer 39 **3921. Ratio of Lactate-To-Pyruvate Apparent Diffusion Coefficients Is an Indicator of Necrosis in Tumor Cells**

Franz Schilling[1, 2], Stephan Düwel[1, 2], Ulrich Köllisch[1, 3], Markus Durst[1, 3], Steffen J. Glaser[2], Axel Haase[1], Marion I. Menzel[3], Angela M. Otto[1]

[1]Institute of Medical Engineering, Technische Universität München, Garching, Germany; [2]Department of Chemistry, Technische Universität München, Garching, Germany; [3]GE Global Research, Garching, Germany

Computer 40 **3922. Alternating Acquisition for Quantification of Pyruvate Metabolism in Hyperpolarized 13C Studies**

Seungwook Yang[1], Joonsung Lee[1], Yoonho Nam[1], Eunhae Joe[1], Jae-Eun Suk[2], Ho-Taek Song[2], Dong-Hyun Kim[1]

[1]Electrical and Electronic Engineering, Yonsei University, Seoul, Korea; [2]Department of Radiology, College of Medicine, Yonsei University, Seoul, Korea

Computer 41 **3923. 3D Whole-Heart Cardiac Metabolic Imaging with [1-^{13}C]pyruvate Using IDEAL Spiral CSI**

Ulrich Köllisch[1], Rolf F. Schulte[2], Markus Durst[1], Jan Henrik Ardenkjaer-Larsen[3], Francesca Frijia[4], Luca Menichetti[5], Massimo Lombardi[4], Axel Haase[1], Florian Wiesinger[2]

[1]Institute of Medical Engineering, Technische Universität München, Garching, Germany; [2]GE Global Research, Garching, Germany; [3]GE Healthcare, Brøndby, Denmark; [4]Fondazione CNR-Regione Toscana G.Monasterio, Pisa, Italy; [5]Institute of Clinical Physiology of CNR, Pisa, Italy

Computer 42 **3924. Apparent Rate Constant Mapping Using Hyperpolarized [1-^{13}C]Pyruvate**

Oleksandr Khegai[1, 2], Rolf F. Schulte[2], Martin A. Janich[2], Marion I. Menzel[2], Eliane Farrell[3], Angela M. Otto[4], Jan Henrik Ardenkjaer-Larsen[5, 6], Steffen J. Glaser[1], Axel Haase[4], Markus Schwaiger[3], Florian Wiesinger[2]

[1]Department of Chemistry, Technische Universität München, Munich, Germany; [2]GE Global Research, Munich, Germany; [3]Institute of Nuclear Medicine, Technische Universität München, Munich, Germany; [4]Institute of Medical Engineering, Technische Universität München, Munich, Germany; [5]MST-ASL MR, GE Healthcare, Copenhagen, Denmark; [6]Department of Electrical Engineering, Technical University of Denmark, Copenhagen, Denmark

Computer 43 **3925. A Relationship Between Hyperpolarized ^{13}C Pyruvate Metabolism and Tumour Volume in a Chronic Study of Oral Dichloroacetate Treatment of P22 Bearing BDIX Rat**

Steven Reynolds[1], Tooba Alizadeh[2], Becky Bibby[2], Matthew Fisher[2], Adriana Bucur[1], Samira Kazan[2], Martyn Paley[1], Gillian M. Tozer[2]

[1]Academic Radiology, University of Sheffield, Sheffield, South Yorkshire, United Kingdom; [2]Department of Oncology, University of Sheffield, Sheffield, South Yorkshire, United Kingdom

Computer 44 **3926. Detecting and Characterizing Therapeutic Response to Radio- & Chemotherapies with Hyperpolarized [1-^{13}C] Pyruvate in Rat Glioma Model**

Heeseung Lim[1], Kundan Thind[1], Timothy Pok Chi Yeung[1, 2], Francisco M. Martinez-Santiesteban[1], Timothy J. Scholl[1, 3]

[1]Medical Biophysics, Western University, London, Ontario, Canada; [2]London Regional Cancer Program, LHSC, London, Ontario, Canada; [3]Imaging Research Laboratories, Robarts Research Institute, Western University, London, Ontario, Canada

Computer 45 **3927. Hyperpolarization of Biologically Relevant Compounds Which Are Important in the GABA Metabolism**

Markus Plaumann[1], Ute Bommerich[2], Thomas Trantzschel[1], Denise Lego[2], Sonja Dillenberger[3], Joachim Bargon[4], Gerd Buntkowsky[3], Johannes Bernarding[5]

[1]Department of Biometry and Medical Informatics, Otto-von-Guericke-University Magdeburg, Magdeburg, Saxony-Anhalt, Germany; [2]Special Lab Non-Invasive Brain Imaging, Leibniz Institute for Neurobiology, Magdeburg, Saxony-Anhalt, Germany; [3]Eduard-Zintl-Institute for Inorganic Chemistry, Technical University Darmstadt, Darmstadt, Hesse, Germany; [4]Inst. of Physical and Theoretical Chemistry, University Bonn, Bonn, North Rhine-Westphalia, Germany; [5]Department of Biometry and Medical Informatics, Otto von Guericke University, Magdeburg, Saxony-Anhalt, Germany

Computer 46 **3928. Using [1-13C]lactic Acid for Hyperpolarized 13C Cardiac Studies**

Albert P. Chen[1], Charles H. Cunningham[2, 3]

[1]GE Healthcare, Toronto, ON, Canada; [2]Imaging Research, Sunnybrook Health Sciences Centre, Toronto, ON, Canada; [3]Dept. of Medical Biophysics , University of Toronto, Toronto, ON, Canada

Computer 47 **3929. Towards Real-Time Metabolic and Molecular Imaging of Cancer by Three Different Modalities of Hyperpolarization**

Niki Zacharias[1], Maja Cassidy[2], Mark Lingwood[3], Napapon Sailasuta[4], Nicholas Whiting[1], Jingzhe Hu[5, 6], Song-I Han[3], Brian Ross[4], Charles Marcus[2, 7], Pratip Bhattacharya[8]

[1]Experimental Diagnostic Imaging, The University of Texas, M.D. Anderson Cancer Center, Houston, TX, United States; [2]Harvard University, Cambridge, MA, United States; [3]Department of Chemistry and Biochemistry, University of California, Santa Barbara, Santa Barbara, CA, United States; [4]Enhanced MR Laboratory, Huntington Medical Research Institutes, Pasadena, CA, United States; [5]Experimental Diagnostic Imaging, The University of Texas MD Anderson Cancer Center, Houston, TX, United States; [6]Bioengineering Department, Rice University, Houston , TX, United States; [7]University of Copenhagen, Copenhagen, Denmark; [8]Experimental Diagnostic Imaging, University of Texas, Houston, TX, United States

Computer 48 **3930. Exploring Detection Limits of Cardiac Ischemia Using Dynamic Imaging of Hyperpolarized 13C Pyruvate**

Erika Mariotti[1], Kilian Weiss[2], Sebastian Kozerke[1, 2], Thomas R. Eykyn[1, 3]

[1]Division of Imaging Sciences and Biomedical Engineering, King's College London, London, United Kingdom; [2]Institute for Biomedical Engineering, University and ETH Zurich, Zurich, Switzerland; [3]CRUK and EPSRC Cancer Imaging Centre, Royal Marsden NHS Trust, The Institute of Cancer Research, Sutton, Surrey, United Kingdom

Electronic Poster
Hyperpolarization: New Methods, Probes, & Applications

Exhibition Hall Wednesday 11:00-12:00

Computer 25 **3931.** **Frequency Band-Selective Spiral CSI: Application to Imaging Cardiac Metabolism with Hyperpolarized [2-^{13}C]pyruvate**

Sonal Josan[1, 2], Ralph Hurd[3], Yi-Fen Yen[2], Adolf Pfefferbaum[1, 4], Daniel Spielman[2], Dirk Mayer[1, 2]

[1]SRI International, Menlo Park, CA, United States; [2]Radiology, Stanford University, Stanford, CA, United States; [3]GE Healthcare; [4]Psychiatry and Behavioral Sciences, Stanford University, Stanford, CA, United States

Computer 26 **3932.** **Quantitative Characterization of a Catalyzed PHIP Reaction**

Shawn Wagner[1, 2], Jose Agraz[3], Debiao Li[1, 2]

[1]Biomedical Sciences, Cedars-Sinai Medical Center, Los Angeles, CA, United States; [2]Biomedical Imaging Research Institute, Cedars-Sinai Medical Center, Los Angeles, CA, United States; [3]Bioengineering, UCLA, Los Angeles, CA, United States

Computer 27 **3933.** **Branched-Chain Amino Acid Metabolism in Prostate Cancer: Hyperpolarized [1-13C]-Ketoisocaproate as a Novel Molecular Probe**

Kelvin Billingsley[1], Sonal Josan[1, 2], Jae Mo Park[1, 3], Yi-Fen Yen[1], Ralph Hurd[4], Dirk Mayer[1, 2], Dwight G. Nishimura[3], James Brooks[5], Daniel Spielman[1, 3]

[1]Department of Radiology, Stanford University, Stanford, CA, United States; [2]Neuroscience Program, SRI International, Menlo Park, CA, United States; [3]Department of Electrical Engineering, Stanford University, Stanford, CA, United States; [4]Applied Science Laboratory, GE Healthcare, Menlo Park, CA, United States; [5]Department of Urology, Stanford University, Stanford, CA, United States

Computer 28 **3934.** **Cerebral Perfusion Imaging with Hyperpolarized ^{13}C-Tert-Butanol at 9.4 Tesla: Long Relaxation at High Fields**

Leo L. Tsai[1], Xiaoen Wang[1], Gopal Varma[1], David C. Alsop[1], Aaron K. Grant[1]

[1]Department of Radiology, Beth Israel Deaconess Medical Center, Boston, MA, United States

Computer 29 **3935.** **Hyperpolarized [1,4-13C]-Diethylsuccinate: A Potential DNP Substrate for *in vivo* Metabolic Imaging**

Kelvin Billingsley[1], Sonal Josan[1, 2], Jae Mo Park[1, 3], Sui Seng Tee[1], Yi-Fen Yen[1], Ralph Hurd[4], Dirk Mayer[1, 2], Daniel Spielman[1, 5]

[1]Department of Radiology, Stanford University, Stanford, CA, United States; [2]Neuroscience Program, SRI International, Menlo Park, CA, United States; [3]Department of Electrical Engineering, Stanford University, Stanford , CA, United States; [4]Applied Science Laboratory, GE Healthcare, Menlo Park, CA, United States; [5]Department of Electrical Engineering, Stanford University, Stanford, CA, United States

Computer 30 **3936.** **Simultaneous Imaging of ^{13}C Metabolism and ^{1}H Structure for Improved Co-Registration and Off-Resonance Correction**

Jeremy W. Gordon[1], David J. Niles[1], Kevin M. Johnson[1], Matthew Smith[1], Krishna N. Kurpad[1], Eric Peterson[1], Sean B. Fain[1, 2]

[1]Medical Physics, University of Wisconsin-Madison, Madison, WI, United States; [2]Radiology, University of Wisconsin-Madison, Madison, WI, United States

Computer 31 **3937.** **Hyperpolarized Singlet Lifetimes of Pyruvate in Human Blood and in Mouse**

Irene Marco-Rius[1, 2], Michael C. D. Tayler[3], Mikko I. Kettunen[1, 2], Eva M. Serrao[1, 2], Timothy J. Larkin[1, 2], Tiago B. Rodrigues[2], Kerstin N. Timm[1, 2], Giuseppe Pileio[3], Malcolm H. Levitt[3], Kevin M. Brindle[1, 2]

[1]Biochemistry, University of Cambridge, Cambridge, Cambridgeshire, United Kingdom; [2]Cancer Research UK, Cambridge, Cambridgeshire, United Kingdom; [3]Chemistry, University of Southampton, Southampton, Hampshire, United Kingdom

Computer 32 **3938.** **Fast 3D Spiral Chemical Shift Imaging of Mitochondrial Metabolism in Brain with C6 Glioma Using Hyperpolarized [2-13C]Pyruvate**

Jae Mo Park[1, 2], Sonal Josan, [13], Taichang Jang[4], Milton Merchant[4], Ronald D. Watkins[1], Yi-Fen Yen[1], Ralph Hurd[5], Lawrence Recht[4], Daniel Spielman[1, 2], Dirk Mayer[1, 3]

[1]Radiology, Stanford University, Stanford, CA, United States; [2]Electrical Engineering, Stanford University, Stanford, CA, United States; [3]Neuroscience Program, SRI International, Menlo Park, CA, United States; [4]Neurology and Neurological Science, Stanford University, Stanford, CA, United States; [5]Applied Science Laboratory, GE Healthcare, Menlo Park, CA, United States

Computer 33 **3939. Laplace Inversion for Kinetic Analysis of Hyperpolarized 13C Data Without a Priori Knowledge Using a Hybrid Maximum Entropy Method (MEM)/ Non-Linear Least Square (NLS)**

Erika Mariotti[1], Fiona Shaughnessy[1], Rodolfo A. Medina[1], Joel T. Dunn[1], Richard Southworth[1], Thomas R. Eykyn[1, 2]
[1]Division of Imaging Sciences and Biomedical Engineering, King's College London, London, United Kingdom; [2]CRUK and EPSRC Cancer Imaging Centre, Royal Marsden NHS Trust, The Institute of Cancer Research, Sutton, Surrey, United Kingdom

Computer 34 **3940. Hyperpolarization of Drugs Using Signal Amplification by Reversible Exchange (SABRE)**

Haifeng Zeng[1], Jiadi Xu[2], Joseph Gillen,[12], Michael T. McMahon,[12], Dmitri Artemov[1], Jean-Max Tyburn[3], Joost Lohman[4], Ryan Mewis[5], Kevin Atkinson[5], Simon Duckett[5], Peter C.M. van Zijl,[12]
[1]Department of Radiology, Johns Hopkins University School of Medicine, Baltimore, MD, United States; [2]F.M.Kirby Research Center for Functional Brain Imaging, Kennedy Krieger Institute, Baltimore, MD, United States; [3]Bruker BioSpin GmbH, Silberstreifen, Rheinstetten, Germany; [4]Bruker UK Limited, Banner Lane, Coventry, United Kingdom; [5]Department of Chemistry, University of York, Heslington, York, United Kingdom

Computer 35 **3941. A Flexible Multi-Sample DNP System for Rapid Sequential Dissolutions**

Marcin Krajewski[1], Michael Batel[2], Kilian Weiss[1], Andreas Bjoern Joakim Sigfridsson[1], Georgios Batsios[1], Matthias Ernst[2], Sebastian Kozerke[1]
[1]Institute for Biomedical Engineering, University and ETH Zurich, Zurich, Switzerland; [2]Laboratory of Physical Chemistry, ETH Zurich, Zurich, Switzerland

Computer 36 **3942. Spectroscopically Selective Imaging of Hyperpolarized Pyruvate and Its Metabolites Using a Single-Echo Variable Phase Advance Method in Balanced SSFP**

Gopal Varma[1], Xiaoen Wang[1], David C. Alsop[1], Rupal Bhatt[2], Aaron K. Grant[1]
[1]Radiology, Division of MR Research, Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA, United States; [2]Medicine, Beth Israel Deaconess Medical Center, Boston, MA, United States

Computer 37 **3943. An Extra-Mitochondrial Domain Rich in Carbonic Anhydrase Activity Improves Myocardial Energetics**

Marie A. Schroeder[1], Mohammad Ali[1], Alzbeta Hulikova[1], Claudiu T. Supuran[2], Kieran Clarke[1], Richard D. Vaughan-Jones[1], Damian J. Tyler[1], Pawel Swietach[1]
[1]Physiology, Anatomy and Genetics, University of Oxford, Oxford, Oxon, United Kingdom; [2]University of Florence, Florence, Italy

Computer 38 **3944. Spectrally Interleaved Multi-Echo Sequence for Measurement of Hyperpolarized [1-13C]pyruvate Metabolism**

Jae Mo Park[1, 2], Yi-Fen Yen[1], Priti Balchandani[1, 3], Sonal Josan,[14], Ralph Hurd[5], Dirk Mayer[1, 4], Daniel Spielman[1, 2]
[1]Radiology, Stanford University, Stanford, CA, United States; [2]Electrical Engineering, Stanford University, Stanford, CA, United States; [3]Radiology, Mount Sinai School of Medicine, New York, United States; [4]Neuroscience Program, SRI International, Menlo Park, CA, United States; [5]Applied Science Laboratory, GE Healthcare, Menlo Park, CA, United States

Computer 39 **3945. Optimal Control Singlet State Storage for Clinical MR Systems**

Christoffer Laustsen[1, 2], Sean Bowen[3], Mads Sloth Vinding[4], Niels Christian Nielsen[4], Jan Henrik Ardenkjaer-larsen[3, 5]
[1]The MR Research Centre, Aarhus University, Aarhus, Denmark; [2]Danish Research Centre for Magnetic Resonance,, Hvidovre Hospital, Hvidovre, Denmark; [3]Department of Electrical Engineering,, Technical University of Denmark, Lyngby, Denmark; [4]Center for Insoluble Protein Structures (inSPIN), Interdisciplinary Nanoscience Center (iNANO), Aarhus University, Aarhs, Denmark; [5]GE healthcare, Broendby, Denmark

Computer 40 **3946. Filterable Free Radical Polarizing Agents for Dissolution DNP-NMR Spectroscopy**

Lloyd L. Lumata[1], Matthew E. Merritt[1], Craig R. Malloy[1], A. Dean Sherry[1, 2], Johan van Tol[3], Likai Song[3], Zoltan Kovacs[1]
[1]Advanced Imaging Research Center, UT Southwestern Medical Center, Dallas, TX, United States; [2]Department of Chemistry, University of Texas at Dallas, Richardson, TX, United States; [3]National High Magnetic Field Laboratory, Florida State University, Tallahassee, FL, United States

Computer 41 **3947. A 16 Channel Cardiac Array for Accelerated Hyperpolarised 13C Metabolic Imaging on Pigs at 3T**

Titus Lanz[1], Markus Durst[2, 3], Matthias Müller[1], Francesca Frijia[4], Giulio Govanetti[5], Luca Menichetti[5], Massimo Lombardi[4], Jan Henrik Ardenkjaer-Larsen[6, 7], Rolf F. Schulte[2]
[1]Rapid Biomedical, Rimpar, Germany; [2]GE Global Research, Munich, Germany; [3]Technical University Munich, Munich, Germany; [4]Fondazione G. Monasterio CNR-Regione Toscana, Pisa, Italy; [5]Institute of Clinical Physiology of CNR, Pisa, Italy; [6]GE Healthcare, Copenhagen, Denmark; [7]Danish Technical University, Copenhagen, Denmark

Computer 42 **3948. Projection Acquisitions for Dynamic Hyperpolarized ^{13}C MRI**
Marc S. Ramirez[1], Jaehyuk Lee[1], Vlad Sandulache[2], Christopher M. Walker[1], Yunyun Chen[3], Stephen Y. Lai[3], James A. Bankson[1]
[1]Department of Imaging Physics, The University of Texas M.D. Anderson Cancer Center, Houston, TX, United States; [2]Department of Otolaryngology Head and Neck Surgery, Baylor College of Medicine, Houston, TX, United States; [3]Department of Head and Neck Surgery, The University of Texas M.D. Anderson Cancer Center, Houston, TX, United States

Computer 43 **3949. A Device for Accurate and Automated Injection of Hyperpolarization Substrate with Minimal Dead Time and Arbitrary Volumes**
Steven Reynolds[1], Adriana Bucur[1], Michael Port[2], Tooba Alizadeh[3], Samira Kazan[3], Gillian M. Tozer[3], Martyn Paley[1]
[1]Academic Radiology, University of Sheffield, Sheffield, South Yorkshire, United Kingdom; [2]Biological Services Unit, University of Sheffield, Sheffield, South Yorkshire, United Kingdom; [3]Department of Oncology, University of Sheffield, Sheffield, South Yorkshire, United Kingdom

Computer 44 **3950. Polarization Loss from Magnetic Field Noise**
Shawn Wagner[1, 2], Jose Agraz[3], Alexander Grunfeld[4], Debiao Li[1, 2]
[1]Biomedical Sciences, Cedars-Sinai Medical Center, Los Angeles, CA, United States; [2]Biomedical Imaging Research Institute, Cedars-Sinai Medical Center, Los Angeles, CA, United States; [3]Bioengineering, UCLA, Los Angeles, CA, United States; [4]Life Sciences, UCLA, Los Angeles, CA, United States

Computer 45 **3951. Parallel Acquisition of Hyperpolarized 13C1 Pyruvate Metabolism: Multi-Chamber MR Compatible Bioreactor**
Adriana Bucur[1], Steven Reynolds[1], Samira Kazan[3], Tooba Alizadeh[2], Michael Port[3], Gillian M. Tozer[2], Martyn Paley[1]
[1]Academic Radiology, University of Sheffield, Sheffield, United Kingdom; [2]Department of Oncology, University of Sheffield, Sheffield, United Kingdom; [3]Biological Services Unit, University of Sheffield, Sheffield, United Kingdom

Computer 46 **3952. Xenon DNP in Inhomogeneous Solid-State Mixtures: Elucidation of the Spin-Diffusion Bottleneck**
Mehrdad Pourfathi[1], Nicholas N. Kuzma[1], Rajat Kumar Ghosh[1], Stephen J. Kadlecek[1], Rahim Rizi[1]
[1]Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States

Computer 47 **3953. Continuous Flow 1.5T In-Bore Overhauser DNP for 1H and 13C Hyperpolarization: Quantification of Polarization Build-Up to Optimize the MR-Imaging Efficiency**
Maxim Terekhov[1], Kathrin Gerz[1], Jan Krummenacker[2], Vasyl Denysenkov[2], Thomas Prisner[2], Laura Maria Schreiber[1]
[1]Department of Radiology, Section of Medical Physics, Johannes Gutenberg University Medical Center Mainz, Mainz, Germany; [2]Institute of Physical and Theoretical Chemistry, Center for Bimolecular Magnetic Resonance, Goethe-University Frankfurt-am-Main, Frankfurt-am-Main, Germany

Computer 48 **3954. Multi-Resonance 3D Spin-Echo EPI With Chemical Separation For Fast Hyperpolarized ^{13}C MRI**
Peter J. Shin[1], Peder E.Z. Larson[1], Martin Uecker[2], Michael Lustig[2], Daniel B. Vigneron[1]
[1]Radiology and Biomedical Imaging, UCSF, San Francisco, CA, United States; [2]Electrical Engineering and Computer Science, UC Berkeley, Berkeley, CA, United States

Electronic Poster
Methodology of Spectroscopic Localization & Imaging

Exhibition Hall Wednesday 10:00-11:00

Computer 49 **3955. Diffusion Tensor Spectroscopic Imaging of Multiple Metabolites in Rat Brains**
Yoshitaka Bito[1], Yuko Kawai[2], Koji Hirata[1], Toshihiko Ebisu[3], Yosuke Otake[1], Satoshi Hirata[1], Toru Shirai[1], Yoshihisa Soutome[1], Hisaaki Ochi[1], Masahiro Umeda[2], Toshihiro Higuchi[4], Chuzo Tanaka[4]
[1]Central Research Laboratory, Hitachi, Ltd., Kokubunji-shi, Tokyo, Japan; [2]Medical Informatics, Meiji University of Integrative Medicine, Nantan-shi, Kyoto, Japan; [3]Neurosurgery, Nantan General Hospital, Nantan-shi, Kyoto, Japan; [4]Neurosurgery, Meiji University of Integrative Medicine, Nantan-shi, Kyoto, Japan

Computer 50 **3956. Diffusion Tensor Spectroscopic Imaging in Human Brain**
Stefan Posse[1, 2], Elena Ackley[1], Jingjing Michele Zhang[3], Tongsheng Zhang[1]
[1]Neurology, University of New Mexico, Albuquerque, NM, United States; [2]Electrical and Computer Engineering, University of New Mexico, Albuquerque, NM, United States; [3]Department of Biomedical Physics, David Geffen School of Medicine at UCLA, University of California, Los Angeles, CA, United States

Computer 51 **3957. Impact of Acquisition Orientation on Whole Brain Metabolite Maps Obtained by Short Echo Time Echo Planar Spectroscopy Imaging (EPSI)**

Angèle Lecocq[1], Yann Le Fur[1], Andrew A. Maudsley[2], Sulaiman Sheriff[2], Mohammad Sabati[2], Virginie Callot[3], Monique Bernard[4], Maxime Guye[1], Jean-Philippe Ranjeva[1]
[1]CRMBM, CNRS, Aix-Marseille Univ, MARSEILLE, France; [2]Department of radiology, Miller School of Medicine, University of Miami, MIAMI, FL, United States; [3]Aix-Marseille University, MARSEILLE, France; [4]Aix-Marseille Université, MARSEILLE, France

Computer 52 **3958. Partial Volume SLIM for Separating Water and Lipid Compartmental Signals in Breast MRS**

Patrick J. Bolan[1], Gregory J. Metzger[1], Steen Moeller[1], Michael Garwood[1]
[1]Radiology, CMRR, University of Minnesota, Minneapolis, MN, United States

Computer 53 **3959. Nonuniformly Under-Sampled (NUS) Echo Planar J-Resolved Spectroscopic Imaging (EP-JRESI) of Prostate Cancer Patients and Compressed Sensing Reconstruction**

Rajakumar Nagarajan[1], Daniel J.A. Margolis[1], Stevan S. Raman[1], Nidhi Jain[1], Robert E. Reiter[2], M. Albert Thomas[1]
[1]Radiological Sciences, University of California Los Angeles, Los Angeles, CA, United States; [2]Urology, University of California Los Angeles, LOS ANGELES, CA, United States

Computer 54 **3960. Undersampled Spectroscopic Imaging with Model-Based Reconstruction**

Itthi Chatnuntawech[1], Berkin Bilgic[1], Elfar Adalsteinsson[2, 3]
[1]EECS, Massachusetts Institute of Technology, Cambridge, MA, United States; [2]EECS, MIT, Cambridge, MA, United States; [3]Harvard-MIT Division of Health Sciences and Technology, Cambridge, MA, United States

Computer 55 **3961. Serial Magnetic Resonance Spectroscopy of the Human Brain – Atlas-Based Automated Volume Registration with High Precision and Reproducibility.**

Chris Hanstock[1], Myrlene Gee[1]
[1]Biomedical Engineering, University of Alberta, Edmonton, Alberta, Canada

Computer 56 **3962. Parallel 2D-RF Excitation for Arbitrarily Shaped Region–of-Interest MR Spectroscopy at 16.4 T**

Dinesh K. Deelchand[1], Xiaoping Wu[1], Pierre-Gilles Henry[1], Pierre-Francois Van de Moortele[1]
[1]Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, MN, United States

Computer 57 **3963. Short TE Whole Brain MRSI with High-Bandwidth Adiabatic SLR Refocusing and Echo Planar Readout**

Meng Gu[1], Priti Balchandani[1, 2], Sulaiman Sheriff[3], Mohammad Sabati[3], Daniel Spielman[1], Andrew Maudsley[3]
[1]Radiology, Stanford University, Stanford, CA, United States; [2]Radiology, Mount Sinai School of Medicine, New York, NY, United States; [3]Radiology, University of Miami, Miami, FL, United States

Computer 58 **3964. ^{31}P MR Spectroscopic Imaging of the Human Brain at 7 T with Nuclear Overhauser Enhancement**

Tom W.J. Scheenen[1, 2], Pascal Sati[3], Steve Li[4], Jun Shen[4], Daniel S. Reich[3]
[1]Radiology, Radboud University Nijmegen Medical Center, Nijmegen, Netherlands; [2]Lab of Functional and Molecular Imaging, National Institute of Neurologiocal Disorders and Stroke, National Institutes of Health, Bethesda, MD, United States; [3]Translational Neuroradiology Unit, Neuroimmunology Branch, National Institute of Neurological Disorders and Stroke, National Institutes of Health, Bethesda, MD, United States; [4]MRS Core Facility, National Institute of Mental Health, National Institutes of Health, Bethesda, MD, United States

Computer 59 **3965. 3D TWIRL: A Novel K-Space Trajectory for Imaging of Fast Relaxing Nuclei**

Sandro Romanzetti[1], Daniel P. Fiege[2], Nadim Jon Shah[2, 3]
[1]Institute of Neuroscience and Medicine - 4, Forschungszentrum Jülich, Jülich, Germany; [2]Institute of Neuroscience and Medicine - 4, Forschungszentrum Jülich, Jülich, Germany; [3]JARA - Faculty of Medicine, RWTH Aachen University, Aachen, Germany

Computer 60 **3966. Implications of MRSI Compressed Sensing Reconstruction on Spatial Resolution Using a Modified Technique**

Keith Wachowicz[1, 2], Amr Heikal[3], B. Gino Fallone, [2 4]
[1]Oncology, University of Alberta, Edmonton, Alberta, Canada; [2]Medical Physics, Cross Cancer Institute, Edmonton, Alberta, Canada; [3]Physics, University of Alberta, Edmonton, Alberta, Canada; [4]Physics and Oncology, University of Alberta, Edmonton, Alberta, Canada

Computer 61 **3967. B_0-Adjusted and Sensitivity-Encoded Spectral Localization by Imaging**

Peter Adany[1], Phil Lee[2], In-Young Choi[3]
[1]Hoglund Brain Imaging Center, University of Kansas Medical Center, Kansas City, KS, United States; [2]Department of Molecular & Integrative Physiology, Hoglund Brain Imaging Center, University of Kansas Medical Center, Kansas City, KS, United States; [3]Department of Neurology, Hoglund Brain Imaging Center, University of Kansas Medical Center, Kansas City, KS, United States

Computer 62 **3968. Metabolite Map Estimation from Undersampled Spectroscopic Imaging Data Using N-Compartment Model**

Itthi Chatnuntawech[1], Berkin Bilgic[1], Borjan Gagoski[2], Trina Kok[1], Audrey Peiwen Fan[1], Elfar Adalsteinsson[1, 3]
[1]EECS, Massachusetts Institute of Technology, Cambridge, MA, United States; [2]Fetal-Neonatal Neuroimaging & Developmental Science Center, Boston Children's Hospital, Harvard Medical School, Boston, MA, United States; [3]Harvard-MIT Division of Health Sciences and Technology, Cambridge, MA, United States

Computer 63 **3969. 3D Zero J-Modulation Echo Planar Chemical Shift Imaging (3D ZJ-EPSI)**

Hamed Mojahed[1, 2], Fernando Arias-Mendoza[2], Truman R. Brown[3]
[1]Department of Biomedical Engineering, Columbia University, New York, NY, United States; [2]Department of Radiology, Columbia University, New York, NY, United States; [3]Department of Radiology and Radiological Science, Center for Biomedical Imaging, Medical University of South Carolina, Charleston, SC, United States

Computer 64 **3970. Detection of Lipids in Various Tissues in Calf in One Measurement by 2D CSI with FID and Long Echo Time Acquisition at 7T**

Ivica Just Kukurová[1, 2], Ladislav Valkovic[1, 3], Martin Gajdosik[1], Martin Krssák[4], Stephan Gruber[1], Tibor Liptaj[2], Siegfried Trattnig[1], Marek Chmelík[1]
[1]MR Centre of Excellence, Department of Radiology, Medical University of Vienna, Vienna, Austria; [2]Department of NMR and MS, Faculty of Chemical and Food Technology, Slovak University of Technology, Bratislava, Slovakia; [3]Department of Imaging Methods, Institute of Measurement Science, Slovak Academy of Sciences, Bratislava, Slovakia; [4]Department of Internal Medicine III, Medical University of Vienna, Vienna, Austria

Computer 65 **3971. Increased Intramyocellular Lipids and Decreased Unsaturation Indices and Choline in Diabetes Type 2 and Obesity**

Rajakumar Nagarajan[1], Christian Roberts[2], Cathy C. Lee[3, 4], Theodore Hahn[3, 4], M. Albert Thomas[1]
[1]Radiological Sciences, University of California Los Angeles, Los Angeles, CA, United States; [2]Exercise and Metabolic Disease Research Laboratory, School of Nursing, University of California Los Angeles, Los Angeles, CA, United States; [3]Department of Medicine, University of California Los Angeles, Los Angeles, CA, United States; [4]Geriatrics, Research, Education and Clinical Center (GRECC), VA Greater Los Angeles Healthcare System , Los Angeles, CA, United States

Computer 66 **3972. J-Difference Editing of GABA: Simulated and Experimental Multiplet Patterns**

Richard Anthony Edward Edden[1, 2], Jamie Near[3], C. John Evans[4], Nicolaas A. J. Puts, [25], Peter B. Barker[1, 2]
[1]Russell H. Morgan Department of Radiology and Radiological Science, Johns Hopkins University, Baltimore, MD, United States; [2]F. M. Kirby Center for Functional Brain Imaging, Kennedy Krieger Institute, Baltimore, MD, United States; [3]Douglas Mental Health University Institute and Department of Psychiatry, McGill University, Montreal, Quebec, Canada; [4]CUBRIC, School of Psychology, Cardiff University, Cardiff, Wales, United Kingdom; [5]Russell H. Morgan Department of Radiology and Radiological Science, The Johns Hopkins University School of Medicine, Baltimore, MD, United States

Computer 67 **3973. Localization Errors in MR Spectroscopic Imaging Due to the Drift of the Main Magnetic Field and Their Correction**

Assaf Tal[1], Oded Gonen[2]
[1]Radiology, NYU Langone School of Medicine, New York, NY - New York, United States; [2]Radiology, New York University, New York, NY - New York, United States

Computer 68 **3974. 7T Spectroscopic Imaging of the Human Amygdala and Midbrain**

Jullie W. Pan[1], Hoby P. Hetherington[2]
[1]Neurosurgery, Yale University School of Medicine, New Haven, CT, United States; [2]Yale University, New Haven, CT, United States

Computer 69 **3975. Three Dimensional Multi-Voxel Proton Hadamard Spectroscopic Imaging in the Human Brain at 3T**

Ouri Cohen[1, 2], Assaf Tal[3], Oded Gonen[4]
[1]Center for Biomedical Imaging, NYU , New York, NY, United States; [2]Biomedical Engineering, Columbia University , New York, NY, United States; [3]Center for Biomedical Imaging, NYU, New York, NY, United States; [4]Center for Biomedical Imaging, New York University, New York, NY, United States

Computer 70 **3976.** **Two-Dimensional Semi-LASER Correlated Spectroscopy with Well-Maintained Cross-Peaks**
Meijin Lin[1], Anand Kumar[1], Shaolin Yang[1, 2]
[1]Department of Psychiatry, University of Illinois at Chicago, Chicago, IL, United States; [2]Department of Radiology, University of Illinois at Chicago, Chicago, IL, United States

Computer 71 **3977.** **Double Quantum Magic Angle Sodium MRI of the Human Brain**
ISMRM MERIT AWARD magna cum laude
Adrian Tsang[1], Rob Stobbe[1], Christian Beaulieu[1]
[1]Biomedical Engineering, University of Alberta, Edmonton, Alberta, Canada

Computer 72 **3978.** **The Feasibility of Phosphorus-31 SWIFT and ZTE Dental MRI**
Yi Sun[1, 2], Djaudat Idiyatullin[3], Donald R. Nixdorf[4, 5], X.Frank Walboomers[6], Egbert Oosterwijk[2], Michael Garwood[3], Arend Heerschap[1]
[1]Radiology, Radboud University Medical Center Nijmegen, Nijmegen, Netherlands; [2]Urology, Radboud University Medical Center Nijmegen, Nijmegen, Netherlands; [3]Center for Magnetic Resonance Research, University of Minnesota, Minnespolis, MN, United States; [4]Department of of Diagnostic & Biological Sciences, School of Dentistry, University of Minnesota, Minneapolis, MN, United States; [5]Department of Neurology, Medical School, University of Minnesota, Minneapolis, MN, United States; [6]Dentistry, Radboud University Medical Center Nijmegen, Nijmegen, Netherlands

Electronic Poster
MR Spectroscopic Imaging

Exhibition Hall Wednesday 11:00-12:00

Computer 49 **3979.** **Fast Whole Brain Quantitative Proton Density Mapping to Normalize 1H MR Spectroscopic Imaging**
Angèle Lecocq[1], Yann Le Fur[2], Alexis Amadon[3], Alexandre Vignaud[3], Monique Bernard[4], Maxime Guye[1], Jean-Philippe Ranjeva[1]
[1]CRMBM, CNRS, Aix-Marseille Univ, MARSEILLE, France; [2]CRMBM, CNRS, Aix-Marseille Univ,, MARSEILLE, France; [3]LRMN/NeuroSpin/I2BM/CEA, GIF SUR YVETTE, France; [4]Aix-Marseille Université, MARSEILLE, France

Computer 50 **3980.** **Mapping of Brain Metabolite Distribution by Short Echo Time Echo Planar Spectroscopy Imaging (EPSI)**
Angèle Lecocq[1], Yann Le Fur[1], Andrew A. Maudsley[2], Sulaiman Sheriff[2], Mohammad Sabati[2], Virginie Callot[3], Monique Bernard[4], Maxime Guye[1], Jean-Philippe Ranjeva[1]
[1]CRMBM, CNRS, Aix-Marseille Univ, MARSEILLE, France; [2]Department of radiology, Miller School of Medicine, University of Miami, MIAMI, FL, United States; [3]Aix-Marseille University, MARSEILLE, France; [4]Aix-Marseille Université, MARSEILLE, France

Computer 51 **3981.** **Statistical Strategy to Overcome Estimation Bias in CRLB Threshold Approach for LCModel Analysis of MRS**
Ping-Chang Lin[1], Phil Lee[1, 2], Wen-Tung Wang[1], William Brooks[1, 3], In-Young Choi[1, 2]
[1]Hoglund Brain Imaging Center, University of Kansas Medical Center, Kansas City, KS, United States; [2]Department of Molecular & Integrative Physiology, University of Kansas Medical Center, Kansas City, KS, United States; [3]Department of Neurology, University of Kansas Medical Center, Kansas City, KS, United States

Computer 52 **3982.** **Multi-Center Reproducibility of Short Echo Time Single Voxel ^{1}H MRS of the Human Brain at 7T with Adiabatic Slice-Selective Refocusing Pulses**
B.L. van de Bank[1], Uzay E. Emir[2], Vincent Oltman Boer[3], Jack JA van Asten[1], Jannie P. Wijnen[3, 4], H.E. Kan[4], G. Öz[2], Dennis W. J. Klomp[3], Tom W.J. Scheenen[1, 5]
[1]Radiology, Radboud Nijmegen Nijmegen Medical Center, Nijmegen, Netherlands; [2]Center for Magnetic Resonance Research, Minneapolis, MN, United States; [3]Radiology, University Medical Center Utrecht, Utrecht, Netherlands; [4]Radiology, Leiden University Medical Center, Leiden, Netherlands; [5]Erwin L. Hahn Institute, Essen, Germany

Computer 53 **3983.** **Quantification and Reproducibility of L-COSY in Human Brain at 7T**
Gaurav Verma[1], Hari Hariharan[2], Rajakumar Nagarajan[3], Manoj K. Sarma[3], Ravi Prakash Reddy Nanga[2], Edward James Delikatny[2], M. Albert Thomas[3], Harish Poptani[1]
[1]Department of Radiology and Radiation Oncology, University of Pennsylvania, Philadelphia, PA, United States; [2]Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States; [3]Department of Radiological Sciences, University of California Los Angeles, Los Angeles, CA, United States

Computer 54 **3984. Detection of Glutamate and Glutamine by RF Suppression and TE Optimization at 7T**

Li An[1], Shizhe Li[1], James B. Murdoch[2], Jun Shen[1]
[1]National Institute of Mental Health, National Institutes of Health, Bethesda, MD, United States; [2]Toshiba Medical Research Institute USA, Mayfield Village, OH, United States

Computer 55 **3985. 'Glx' Measured by J-Editing/MEGA-PRESS Is Primarily 'Pure' Glutamate…Or Is It?**

Dikoma C. Shungu[1], Xiangling Mao[1], Meng Gu[2], Matthew S. Milak[3], Nora Weiduschat[1], Dirk Mayer, [24], Daniel Spielman[2], J. John Mann[3], Lawrence S. Kegeles[3]
[1]Radiology, Weill Cornell Medical College, New York, NY, United States; [2]Radiology, Stanford University, Stanford, CA, United States; [3]Psychiatry, Columbia University, New York, NY, United States; [4]SRI International, Menlo Park, CA, United States

Computer 56 **3986. Quantification of High-Resolution 1H[13C] NMR Spectra from Rat Brain Extracts**

Robin A. de Graaf[1], Golam M.I. Chowdhury[1], Kevin L. Behar[1]
[1]Yale University, MRRC, New Haven, CT, United States

Computer 57 **3987. 7 Tesla In-Vivo Short-Echo-Time Single-Voxel ^{1}H SemiLASER Spectroscopy: A Test/Retest Reproducibility Study**

Jacob Penner[1, 2], Andrew T. Curtis[1, 2], Kyle M. Gilbert[1], L. Martyn Klassen[1], Joseph S. Gati[1], Michael Borrie[3, 4], Robert Bartha[1, 2]
[1]Centre for Functional and Metabolic Mapping, Robarts Research Institute, London, Ontario, Canada; [2]Medical Biophysics, Western University, London, Ontario, Canada; [3]Medicine, Western University, London, Ontario, Canada; [4]Division of Aging, Rehabilitation, and Geriatric Care, Lawson Health Research Institute, London, Ontario, Canada

Computer 58 **3988. Quantitative Comparison of Shim Algorithms for *In Vivo* ^{1}H-MRS**

Xiaodong Zhong[1], Yevgeniya M. Lyubich[2], Timothy DeVito[3], Saurabh Shah[4], Jack Knight-Scott[2]
[1]MR R&D Collaborations, Siemens Healthcare, Atlanta, GA, United States; [2]Department of Radiology, Children's Healthcare of Atlanta, Atlanta, GA, United States; [3]Siemens Canada Limited, London, Ontario, Canada; [4]MR R&D Collaborations, Siemens Healthcare, Chicago, IL, United States

Computer 59 **3989. Unsupervised Brain Tumor Tissue Differentiation Based on MRSI with Correction for the Chemical Shift Displacement Artifact**

Diana M. Sima[1, 2], Sofie Van Cauter[3], Yuqian Li[4], Anca R. Croitor-Sava[1, 2], Uwe Himmelreich[5], Sabine Van Huffel[1, 2]
[1]Electrical Engineering / ESAT-SCD, KU Leuven, Heverlee, Leuven, Belgium; [2]Future Health Department, iMinds, Heverlee, Leuven, Belgium; [3]Department of Radiology, University Hospitals Leuven, Leuven, Belgium; [4]School of Electronic Engineering, University of Electronic Science and Technology of China, Chengdu, China; [5]Department of Imaging & Pathology, Biomedical MRI Unit, KU Leuven, Leuven, Belgium

Computer 60 **3990. Glycogen Chemical Exchange Effects in ^{1}H-MRS and Glyco-CEST at 3T and 7T**

Ronald Ouwerkerk[1], Yee Kai Tee[2], Craig K. Jones[3, 4]
[1]Biomedical and Metabolic Imaging Branch, NIH/NIDDK, Bethesda, MD, United States; [2]Department of Engineering Science, Institute of Biomedical Engineering, University of Oxford, Oxford, United Kingdom; [3]F.M. Kirby Research Center for Functional Brain Imaging , Kennedy Krieger Institute, Baltimore, MD, United States; [4]Division of MR Research, The Russell H. Morgan Department of Radiology and Radiological Science, The Johns Hopkins University School of Medicine, Baltimore, MD, United States

Computer 61 **3991. *in-vivo* Detection of GABA Using Short-TE MRS at 3 Tesla**

Jamie Near[1], Phil Cowen[2], Peter Jezzard[3]
[1]Centre d'Imagerie Cérébrale, Douglas Institute, McGill University, Montreal, Quebec, Canada; [2]Department of Psychiatry, University of Oxford, Oxford, OXON, United Kingdom; [3]FMRIB Centre, University of Oxford, Oxford, OXON, United Kingdom

Computer 63 **3992. The Influence of Chemical Shift Displacement on ^{1}H MRS Quantitation at 3T Using a Simulated Basis Set**

Martin Wilson[1, 2], Theodoros N. Arvanitis, [23], Andrew C. Peet[1, 2]
[1]School of Cancer Sciences, Birmingham, West Midlands, United Kingdom; [2]Birmingham Children's Hospital, Birmingham, West Midlands, United Kingdom; [3]School of Electronic, Electrical & Computer Engineering, University of Birmingham, Birmingham, West Midlands, United Kingdom

Computer 64 **3993.** ***in vivo* and Longitudinal Assessment of Brain Metabolism in Hepatic Encephalopathy Using 1H MRS**

Cristina Cudalbu[1], Valérie A. McLin[2], Olivier Braissant[3], Rolf Gruetter[4, 5]

[1]Laboratory for Functional and Metabolic Imaging (LIFMET), Center for Biomedical Imaging (CIBM), Ecole Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Vaud, Switzerland; [2]Département de l'Enfant et de l'Adolescent, Unité de Gastroentérologie, Hépatologie et Nutrition, Hôpitaux Universitaires de Genève (HUG), Geneva, Switzerland; [3]Service of Biomedicine, Lausanne University Hospital, Lausanne, Vaud, Switzerland; [4]Laboratory for Functional and Metabolic Imaging (LIFMET), Center for Biomedical Imaging (CIBM), École Polytechnique Fédérale de Lausanne, Lausanne, Vaud, Switzerland; [5]University of Lausanne, University of Geneva, Lausanne, Geneva, Switzerland

Computer 65 **3994.** **7T MR Spectroscopic Imaging in Localization of Surgically Treated Epilepsy**

Jullie W. Pan[1], R Bradley Duckrow[1], Jason Gerrard[2], Caroline Ong[1], Lawrence Hirsch[3], Stanley Resor, Jr[4], Ognen Petroff[3], Susan S. Spencer[3], Hoby P. Hetherington[5], Dennis D. Spencer[2]

[1]Yale University School of Medicine, New Haven, CT, United States; [2]Neurosurgery, Yale University School of Medicine, New Haven, CT, United States; [3]Neurology, Yale University School of Medicine, New Haven, CT, United States; [4]Neurology, Columbia University School of Medicine, New York, NY, United States; [5]Neurosurgery, Yale University, New Haven, CT, United States

Computer 66 **3995.** **Occipital Lobe Metabolic Aberrations in Alcohol Dependents: An *in-vivo* Proton Magnetic Resonance Spectroscopy Study**

Deepika Bagga[1], Namita Singh[1], Shilpi Modi[1], Pawan Kumar[1], Debajyoti Bhattacharya[2], Mohan Lal Garg[3], subash khushu[1]

[1]NMR Research Centre, INMAS, New Delhi, India; [2]Department of psychiatry, Base Hospital, New Delhi, India; [3]Department of Biophysics, Panjab University, chandigarh, India

Computer 67 **3996.** ***in vivo* MRSI Confirmation of Post Mortem Results for Metabolic Changes in Parkinson's Disease**

Adriane Gröger[1], Rupert Kolb[1], Rita Schäfer[1], Uwe Klose[1]

[1]Department of Diagnostic and Interventional Neuroradiology, Magnetic Resonance Research Group, University Hospital Tübingen, Tübingen, Germany

Computer 68 **3997.** **Interferon-Alpha Induced Metabolic Alterations in Basal Ganglia**

Li Wei[1], Anne Wilson[2], Xiaoping P. Hu[1], Ebrahim Haroon[2]

[1]Department of Biomedical Engineering, Emory University, Atlanta, GA, United States; [2]School of Medicine, Emory University, Atlanta, GA, United States

Computer 69 **3998.** **Neuronal and Astrocytic Metabolites Exhibit Different Diffusion Behavior, as Observed by Diffusion-Weighted Spectroscopy at Ultra-Long Diffusion Times.**

ISMRM MERIT AWARD magna cum laude

Chloé Najac[1, 2], Charlotte Marchadour[1, 2], Martine Guillermier[1, 2], Diane Houitte[1, 2], Philippe Hantraye[1, 2], Vincent Lebon[1, 2], Julien Valette[1, 2]

[1]CEA-MIRCen, Fontenay-aux-Roses, France; [2]CEA-CNRS URA 2210, Fontenay-aux-Roses, France

Computer 70 **3999.** **Brain Metabolites Diffuse "Freely" in White and Grey Matters: New Insights Into Cellular Architecture by Diffusion-Weighted Spectroscopy in the Human Brain.**

Chloé Najac[1, 2], Francesca Branzoli[3], Itamar Ronen[4], Julien Valette[1, 2]

[1]CEA-MIRCen, Fontenay-aux-Roses, France; [2]CEA-CNRS URA 2210, Fontenay-aux-Roses, France; [3]C. J. Gorter Center for High Field MRI, Leiden University Medical Center, Leiden, Netherlands; [4]C. J. Gorter Center for High Field MRI, Department of Radiology, Leiden University Medical Center, Leiden, Netherlands

Computer 71 **4000.** **Baseline Estimation in 1H-MR Spectroscopy Imaging of the Normal Brain; a Correlation Study Between Different Regions**

Reza Rafiei[1], Alireza Madadi[1], Shaghayegh Karimi[1, 2], Hamidreza Saligheh Rad[1, 2]

[1]Quantitative MR Imaging and Spectroscopy Group, Research Center for Cellular and Molecular Imaging, Tehran University of Medical Sciences, Tehran, Iran; [2]Medical Physics and Biomedical Engineering Department, Tehran University of Medical Sciences, Tehran, Iran

Computer 72 **4001.** **Heterogeneity of Phosphorus-Containing Compounds Across Gray and White Matter in the Human Brain**

Jonathan A. Dudley[1, 2], James C. Eliassen[1, 2], Melissa P. DelBello[2], Stephen M. Strakowski, [12], Caleb M. Adler, [12], Wade Weber[2], Martine Lamy[1], Elizabeth M. Fugate[1], Wen-Jang Chu[1, 2], Jing-Huei Lee[1, 2]

[1]Center for Imaging Research, University of Cincinnati, Cincinnati, OH, United States; [2]Department of Psychiatry and Behavioral Neuroscience, University of Cincinnati, Cincinnati, OH, United States

Electronic Poster
MRS Potpourri

Exhibition Hall Wednesday 10:00-11:00

Computer 73 **4002.** ***In Vivo* ^{1}H MRS Metabolic Profiles in *Gad1* Haploinsufficient Mouse Brain**

Su Xu[1, 2], Elizabeth M. Powell[3], Andrew D. Marshall[1, 2], Rolicia F. Martin[3], Rao P. Gullapalli[1, 2]
[1]Department of Diagnostic Radiology and Nuclear Medicine, University of Maryland School of Medicine, Baltimore, MD, United States; [2]Core for Translational Research in Imaging @ Maryland, Baltimore, MD, United States; [3]Department of Anatomy & Neurobiolog, University of Maryland School of Medicine, Baltimore, MD, United States

Computer 74 **4003.** **Evolution of the Hepatic Lipid Profile of the Adult Mouse - *in Vivo* and *in Vitro* ^{1}H MRS Assessments at 14.1T**

Ana Francisca Soares[1], Hongxia Lei[2], Rolf Gruetter[3, 4]
[1]LIFMET, EPFL, Lausanne, Vaud, Switzerland; [2]Department of Radiology, University of Geneva, Geneva, Switzerland; [3]LIFMET, École Polytechnique Fédérale de Lausanne, Lausanne, Vaud, Switzerland; [4]University of Lausanne, Lausanne, Vaud, Switzerland

Computer 75 **4004.** ***In Vivo* ^{1}H MRS at 14.1T for the Accurate Characterization of the Lipid Profile of the Mouse Liver**

Ana Francisca Soares[1], Hongxia Lei[2], Rolf Gruetter[3, 4]
[1]LIFMET, EPFL, Lausanne, Vaud, Switzerland; [2]Department of Radiology, University of Geneva, Geneva, Switzerland; [3]LIFMET, École Polytechnique Fédérale de Lausanne, Lausanne, Vaud, Switzerland; [4]University of Lausanne, Lausanne, Vaud, Switzerland

Computer 76 **4005.** **A Multiparametric MR Approach for Comparative Assessment of Neurometabolites and Brain Microstructural Changes in Mice Model for Cranial and Whole Body Radiation Exposure**

Poonam Rana[1], Mamta Gupta[1], Richa Trivedi[1], B.S.Hemanth Kumar[1], Ravi Soni[2], Ram Kishore Singh Rathore[3], Rajendra P. Tripathi[1], Subash Khushu[1]
[1]NMR Research Centre, Institute of Nuclear Medicine and Allied Sciences, Delhi, India; [2]Division of Radiation Biosciences, Institute of Nuclear Medicine and Allied Sciences, Delhi, India; [3]Department of Mathematics and Statistics, Indian Institute of Technology, Kanpur, Uttar Pradesh, India

Computer 77 **4006.** **Antidepressant Like Effects of Magic 'K' Drug at Subanaesthetic Doses in CMS Rat Model of Depression as Detected by *In Vivo* 1H-MRS at 7T.**

B.S. Hemanth Kumar[1], Neha Sharma[1], Renu Yadav[1], Poonam Rana[1], Rajendra P. Tripathi[1], Subash Khushu[1]
[1]NMR Research Centre, INMAS-DRDO, Newdelhi, India

Computer 78 **4007.** **Whole Body Radiation Exposure Induced Neuometabolic Alteration in Murine Brain: An *in-vivo* Approach of 1H and 31P MR Spectroscopy**

Ahmad Raza Khan[1], Poonam Rana[1], Hemanth BS Kumar[1], Shilpi Modi[1], Saleem Javed[2], Subash Khushu[1]
[1]NMR Research Centre, Institute of nuclear medicine and allied sciences, Delhi, India; [2]Department of Biochemistry, Jamia hamdard, New Delhi, Delhi, India

Computer 79 **4008.** **Comparison of 3D Imaging Sequences for ^{23}Na MRI of in Vivo Kidney at 9.4 T**

Raffi Kalayciyan[1], Sabine Neudecker[2], Norbert Gretz[2], Lothar R. Schad[1]
[1]Computer Assisted Clinical Medicine, Heidelberg University, Mannheim, Germany; [2]Medical Research Center, Heidelberg University, Mannheim, Germany

Computer 80 **4009.** **In Vivo 3D Spectroscopic Imaging of ^{19}F Compounds Using Backprojection**

Muhammed Yildirim[1, 2], Raquel Díaz-López[3], Klaas Nicolay[2], Rolf Lamerichs[3, 4]
[1]MR Development, Advanced Diagnostic Imaging, Philips Healthcare, Best, Netherlands; [2]Biomedical NMR, Eindhoven University of Technology, Eindhoven, Netherlands; [3]Philips Research, Eindhoven, Netherlands; [4]Academic Medical Center, Amsterdam, Netherlands

Computer 81 **4010.** **A 3T Sodium and Proton Breast Array**

ISMRM MERIT AWARD magna cum laude

Joshua D. Kaggie[1, 2], J. Rock Hadley[1], James Badal[3], John R. Campbell[3], Daniel J. Park[3], Dennis L. Parker[1], Glen Morrell[1], Rexford D. Newbould[4], Alexandra F. Wood[3], Neal K. Bangerter, [13]
[1]Utah Center for Advanced Imaging Research, University of Utah, Salt Lake City, UT, United States; [2]Physics, University of Utah, Salt Lake City, UT, United States; [3]Electrical and Computer Engineering, Brigham Young University, Provo, UT, United States; [4]Imanova Centre for Imaging Sciences, London, United Kingdom

Computer 82 **4011. Measurement of Brain Metabolites Using a Lactate Enhanced Detection Chemical Shift Imaging (LED-CSI) Pulse Sequence**

Xian-Feng Shi[1, 2], Andrew Paul Prescot, [23], Young-Hoon Sung[1, 2], Douglas Kondo[1, 2], Seong-Eun Kim[3], Eun-Kee Jeong, [23], Perry F. Renshaw[1, 2]

[1]Department of Psychiatry, University of Utah, Salt Lake City, UT, United States; [2]The Brain Institute, University of Utah, Salt Lake City, UT, United States; [3]Department of Radiology, University of Utah, Salt Lake City, UT, United States

Computer 83 **4012. *In Vivo* Cardiac Cine ^{23}Na MRI in Rats**

Maurits A. Jansen[1], Urte Kägebein[1], Friedrich Wetterling[2], Gillian A. Gray[1], Ian Marshall[1]

[1]Centre for Cardiovascular Science, University of Edinburgh, Edinburgh, Midlothian, United Kingdom; [2]Faculty of Engineering, Trinity College Dublin, Dublin, Leinster, Ireland

Computer 84 **4013. A Novel Method to Obtain High Resolution 2D MRS Through 3D Acquisition Under Large Inhomogeneous Magnetic Fields**

Yanqin Lin[1], Liandi Zhang[1], Shuhui Cai[1], Zhong Chen[1]

[1]Department of Electronic Science, Xiamen University, Xiamen, Fujian, China

Computer 85 **4014. An Optimized Room-Temperature RF-Surface Resonator for *in vivo* Potassium-39 MRI at 9.4 T - Simulation and Measurement Study for Cryogenic Coils**

Ibrahim A. Elabyad[1], Raffi Kalayciyan[1], Nagesh Shanbhag[2], Lothar Schilling[2], Lothar R. Schad[1]

[1]Computer Assisted Clinical Medicine, Medical Faculty Mannheim, Heidelberg University, Mannheim, Germany; [2]Division of Neurosurgical Research, Medical Faculty Mannheim, Heidelberg University, Mannheim, Germany

Computer 86 **4015. Empirical Modeling of B_1 Inhomogeneity Correction for Absolute Quantitation of Hepatic Glycogen Using Non-Localized ^{13}C MRS**

Navin Michael[1], Pola Arunima[2], Sendhil S. Velan[2, 3], Adam Schwarz[4]

[1]Singapore Institute for Clinical Sciences, 30 , Medical Drive, Singapore; [2]Singapore Institute for Clinical Sciences, 30, Medical Drive, Singapore; [3]Clinical Imaging Research Centre, 14, Medical Drive, Singapore; [4]Eli Lilly and Company, Indianapolis, IN, United States

Computer 87 **4016. *In Vivo* 3D ^{31}P MR Spectroscopic Imaging of Human Brain Tumors Growing Orthotopic in the Mouse**

Andor Veltien[1], Morteza Esmaeili[2], Bob C. Hamans[1], Anneke C. Navis[3], Tone Frost Bathen[2], Ingrid Susann Gribbestad[4], William P. Leenders[3], Arend Heerschap[1]

[1]Radiology, Radboud University Nijmegen Medical Centre, Nijmegen, Netherlands; [2]Department of Circulation and Medical Imaging, Norwegian University of Science and Technology (NTNU), Trondheim, Norway; [3]Pathology, Radboud University Nijmegen Medical Centre, Nijmegen, Netherlands; [4]Department of Circulation and Medical Imaging, Norwegian University of Science and Technology, Trondheim, Norway

Computer 88 **4017. Effect of J-Coupling on Lipid Composition Determination *in vivo* Using Proton MRS**

Atiyah Yahya[1, 2]

[1]Department of Medical Physics, Cross Cancer Institute, Edmonton, Alberta, Canada; [2]Department of Oncology, University of Alberta, Edmonton, Alberta, Canada

Computer 89 **4018. Metabolomics of Breast Cancer Serum Using 1H Nuclear Magnetic Resonance Spectroscopy**

Ashish Gupta[1], Pooja Ramakant[2], Pushplata Sankhwar[3], Navneeta Bansal[4]

[1]Centre of Biomedical Magnetic Resonance, SGPGIMS Campus, Lucknow, UP, India; [2]Endocrine and Breast Surgery, Department of Surgery, Christian Medical College,, Vellore, Tamil Nadu, India; [3]Department of Obstetrics & Gynecology, King George's Medical University, Lucknow, UP, India; [4]Department of Biochemistry, King George's Medical University, Lucknow, UP, India

Computer 90 **4019. Differentiation of Cervical Tubercular with Non-Reactive Lymphadenitis Tissues by Proton HR-MAS NMR Spectroscopy**

Raja Roy[1], Shatakshi Srivastava[1], Kushagra Gaurav[2], Surender Kumar[2], Madhu M. Goel, Rajiv Garg, Abhinav A. Sonkar[2]

[1]Centre of Biomedical Magnetic Resonance, Lucknow, Uttar Pradesh, India; [2]General Surgery, King George's Medical University, Lucknow, Uttar Pradesh, India

Computer 91 **4020. Studies on Metabolic Alterations Due to Chronic Cold Stress: An NMR Based Metabonomics Apporach**
Sonia Gandhi[1], Subash Khushu[1], Shubhra Chaturvedi[2], Rajendra P. Tripathi[3]
[1]NMR Research Centre, Institute of Nuclear Medicine & Allied Sciences, Delhi, India; [2]Division and Cyclotron & Radiopharmaceutical Sciences, INMAS, Delhi, India; [3]NMR Research Centre, INMAS, Delhi, India

Computer 92 **4021. Is the Metabolite Profile of a Single Muscle Biopsy Representative for the Tissue Under Investigation? a Reproducibility Study Using HR-MAS**
Gaëlle Diserens[1], Martina Vermathen[2], Nicholas Thomas Broskey[3], Chris Boesch[1], Francesca Amati[1, 3], Peter Vermathen[1]
[1]Depts. Clinical Research and Radiology, University Bern, Bern, Switzerland; [2]Dept. of Chemistry & Biochemistry, University Bern, Bern, Switzerland; [3]Dept. of Physiology, University of Lausanne, Lausanne, Switzerland

Computer 93 **4022. Quantification of 1H NMR Spectra from Human Blood Plasma**
Robin A. de Graaf[1], Cosimo Giannini[1], Sonia Caprio[1], Raimund I. Herzog[1]
[1]Yale University, MRRC, New Haven, CT, United States

Computer 94 **4023. Tungsten Alloy Based Heavy Metals in Ammunition and Armament May Cause Metabolic Disturbances: A Urinary Metabolomic Approach**
Ritu Tyagi[1], Poonam Rana[1], Mamta Gupta[1], Ahmad Raza Khan[1], Deepak Bhatnagar[2], Rajendra P. Tripathi[1], Subash Khushu[1]
[1]NMR Research Centre, Institute of Nuclear Medicine and Allied Sciences (INMAS), Delhi, India; [2]School of Biochemistry, Devi Ahilya University, Indore, Madhya Pradesh, India

Computer 95 **4024. Stress Induced Alterations in the Metabolic Profile of Human Monocytes**
Savita Singh[1], Sujeet R. Mewar[2], Uma Sharma[2], Naranamangalam R. Jagannathan[2], H Krishna Prasad[1]
[1]Department of Biotechnology, All India Institute of Medical Sciences, New Delhi, Delhi, India; [2]Department of NMR & MRI Facility, All India Institute of Medical Sciences, New Delhi, Delhi, India

Computer 96 **4025. Optimizing the MAS Spinning Rate for NMR Studies of Live Spermatazoa**
Jack Pearson[1], Steven Reynolds[2], Adriana Bucur[2], Alan Pacey[1], Martyn Paley[2]
[1]Academic Unit of Reproductive & Developmental Medicine, University of Sheffield, Sheffield, Yorkshire, United Kingdom; [2]Academic Radiology, University of Sheffield, Sheffield, Yorkshire, United Kingdom

Electronic Poster
MRS & Metabolism

Exhibition Hall Wednesday 11:00-12:00

Computer 73 **4026. ^{1}H-MRS with Visual Stimulation in the Study of Brain Bioenergetics and Glu-Gln Dynamics in 3T**
Felipe Rodrigues Barreto[1], Carlos Ernesto Garrido Salmon[1]
[1]Physics Department, University of Sao Paulo, Ribeirao Preto, SP, Brazil

Computer 74 **4027. *Intracellular Redox State Revealed by ^{31}P MR Spectroscopy Measurement of NAD^{+} and NADH Contents In Vivo</I>*ng Lu[1, 2], Xiao-Hong Zhu[1, 2], Yi Zhang[1, 2], Wei Chen, [23]**
[1]Center for Magnetic Resonance Research, University of Minnesota Medical School, Minneapolis, MN, United States; [2]Department of Radiology, University of Minnesota Medical School, Minneapolis, MN, United States; [3]Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, MN, United States

Computer 75 **4028. Fast & Localized ^{31}P Saturation Transfer at 7T Reveals Slower Hepatic Metabolic Rates in NASH Patients**
Ladislav Valkovic[1, 2], Martin Gajdosik[1], Stefan Traussnigg[3], Marek Chmelik[1], Ivan Frollo[2], Michael Trauner[3], Siegfried Trattnig[1], Martin Krssák[1, 3]
[1]MR Centre of Excellence, Department of Radiology, Medical University of Vienna, Vienna, Austria; [2]Department of Imaging Methods, Institute of Measurement Science, Slovak Academy of Sciences, Bratislava, Slovakia; [3]Department of Internal Medicine III, Medical University of Vienna, Vienna, Austria

Computer 76 **4029. Quantification of Phosphoenolpyruvate in the Human Liver and Its Application in a Meal Study Employing ^{31}P MRS**

Alessandra Laufs[1], Roshan Livingstone[2], Maria Fritsch[3], Julia Szendroedi[4], Juergen Bunke[5], Michael Roden[1, 6], Jong-Hee Hwang[1]

[1]Institute for Clinical Diabetology, German Diabetes Center, Düsseldorf, Germany; [2]Department of Radiology, Christian Medical College, Vellore, India; [3]Medical University of Vienna, Vienna, Austria; [4]Institute for Energy Metabolism, German Diabetes Center, Düsseldorf, Germany; [5]Philips Healthcare, Hamburg, Germany; [6]Department of Metabolic Deseases, University Clinics Düsseldorf, Düsseldorf, Germany

Computer 77 **4030. Metastatic Breast Cancer Cells Have Higher Mitochondrial Function Than Isogenic Non-Metastatic Cells**

Rui V. Simoes[1], Ellen Ackestaff[1], Inna Serganova[2], Alexander A. Shestov[3], Natalia Kruchevsky[1], George Sukenick[4], Ronald G. Blasberg[2, 5], Jason A. Koutcher[1, 6]

[1]Medical Physics, Memorial Sloan Kettering Cancer Center, New York, NY, United States; [2]Neurology, Memorial Sloan Kettering Cancer Center, New York, NY, United States; [3]Division of Nutritional Sciences, Cornell University, Ithaca, NY, United States; [4]NMR Core Facility, Memorial Sloan Kettering Cancer Center, New York, NY, United States; [5]Radiology, Memorial Sloan Kettering Cancer Center, New York, NY, United States; [6]Weill Cornell Medical College, Cornell University, New York, NY, United States

Computer 78 **4031. Comprehensive Spectroscopic Investigation of Liver Metabolism – a Feasibility Study**

Andreas Boss[1], Ayse Sila Dokumaci[1], Tania Buehler[1, 2], Roland Kreis[1], Chris Boesch[1]

[1]Depts Clinical Research and Radiology, University Bern, Bern, Switzerland; [2]Institute of Myology, AIM and CEA, Paris, France

Computer 79 **4032. Editing Cancer Biomarker, 2-Hydroxyglutarate, with a Novel Proton Magnetic Resonance Spectroscopy**

Napapon Sailasuta[1], Jackson Hamilton[2], Edward F. Jackson[2], Pratip Bhattacharya[2], William Perman[3], Niki Zacharias[2], Brian D. Ross[1], Ralph Noeske[4]

[1]HMRI, Pasadena, CA, United States; [2]MD Anderson Cancer Center, University of Texas, Houston, TX, United States; [3]Radiology, Saint Louis University, St. Louis, MO, United States; [4]GEHealthcare, Berlin, Germany, Germany

Computer 80 **4033. Left-Right Bias in Triglyceride Composition of Adipose Tissue Measured by ^{1}H MRS**

Gavin Hamilton[1], Michael S. Middleton[1], Claude B. Sirlin[1]

[1]Department of Radiology, University of California, San Diego, San Diego, CA, United States

Computer 81 **4034. Assessment of Nonalcoholic Fatty Liver Disease by 1H-MRS Hepatic Lipid Profiling; a Preliminary Animal Study at 9.4T**

Yunjung Lee[1], Hyeonjin Kim[1, 2]

[1]Radiology, Seoul National University Hospital, Seoul, Korea; [2]Medical Sciences, Seoul National University, Seoul, Korea

Computer 82 **4035. Quantitative 31P Magnetic Resonance Spectroscopy Stratifies Treatment Response to a PI3K/mTOR Inhibitor in Two Distinct Breast Cancer Xenografts**

Morteza Esmaeili[1], Tone Frost Bathen[1], Olav Engebråthen[2, 3], Gunhild Maelandsmo[2], Ingrid Susann Gribbestad[4], Siver A. Moestue[1]

[1]Department of Circulation and Medical Imaging, Norwegian University of Science and Technology (NTNU), Trondheim, Norway; [2]Institute for Clinical Medicine, Faculty of Medicine, University of Oslo, Oslo, Norway; [3]Department of Tumor Biology, Institute for Cancer Research, Oslo University Hospital Radiumhospital, Oslo, Norway; [4]Department of Circulation and Medical Imaging, Norwegian University of Science and Technology, Trondheim, Norway

Computer 83 **4036. 31P MRS Shows Low Phosphocholine/Glycerophosphocholine in Paediatric Optic Pathway Gliomas**

Jan Novak[1, 2], Martin Wilson[1, 2], Nigel Davies[1, 2], Theodoros N. Arvanitis,[23], Andrew C. Peet[1, 2]

[1]Cancer Sciences, University of Birmingham, Birmingham, West Midlands, United Kingdom; [2]Birmingham Children's Hospital, Birmingham, West Midlands, United Kingdom; [3]School of Electronic, Electrical and Computer Engineering, University of Birmingham, Birmingham, West Midlands, United Kingdom

Computer 84 **4037. Sex-Linked Difference of Metabolic Concentrations in Hippocampus in Sprague-Dawley Rats: A High Resolution *in Vivo* Proton MRS Study at 7 Tesla**

Su Xu[1, 2], Andrew D. Marshall[1, 2], Nicholas Hilker[1, 2], Rao P. Gullapalli[1, 2]

[1]Department of Diagnostic Radiology and Nuclear Medicine, University of Maryland School of Medicine, Baltimore, MD, United States; [2]Core for Translational Research in Imaging @ Maryland, Baltimore, MD, United States

Computer 85 **4038. Spatial Dependence of Metabolite Concentrations in Wild Type and *Apc*$^{Min/+}$ Mouse GI Tissues: An *ex-Vivo* HR-MAS ^{1}H NMR Spectroscopic Study**

Basetti Madhu[1], Uribe-Lewis Santiago[1], Murrell Adele[1], Griffiths R. John[1], Griffiths R. John[1]
[1]Cancer Research UK Cambridge Institute, Cambridge, United Kingdom

Computer 86 **4039. Quantitative Two-Dimensional Correlated Spectroscopy in Gliomas with IDH Gene Mutation**

Hyeon-Man Baek[1], Yun-Ju Lee[1], Eun-Hee Kim[1], Chaejoon Cheong[1], Seung-Ho Yang[2]
[1]Division of Magnetic Resonance, Korea Basic Science Institute, Ochang, Chungbuk, Korea; [2]Neurosurgery St. Vincent's Hospital, Catholic University, Suwon, Gyeonggi-do, Korea

Computer 87 **4040. Glutamate, GABA and NAAG in Medicated Patients with Obsessive-Compulsive Disorder**

Mona A. Mohamed[1], Nicolaas A. J. Puts[1], James Robert Brasic[2], Manuel O. Uy[3], Jarunee Intrapiromkul[1], Gerald Nestadt[4], Richard Anthony Edward Edden[5], Peter B. Barker[5]
[1]The Russell H. Morgan Department of Radiology and Radiological Science, Johns Hopkins Medical Institutions, Baltimore, MD, United States; [2]Radiology, Johns Hopkins Medical Institutions, Baltimore, MD, United States; [3]Applied Physics Laboratory, JHU, Laurel, MD, United States; [4]Psychiatry, Johns Hopkins Medical Institutions, Baltimore, MD, United States; [5]The Russell H. Morgan Department of Radiology and Radiological Science, Johns Hopkins University, Baltimore, MD, United States

Computer 88 **4041. Environmental Stimulation During Development Modulates Individual Behavioural and Neurochemical Responses to Cannabinoid Agonists in Mice: A 1H MRS Study**

Luisa Altabella[1], Chiara Ceci[1], Simone Macri'[1], Rossella Canese[2], Giovanni Laviola[1]
[1]Cell Biology and Neuroscience, Istituto Superiore di Sanita', Rome, Italy; [2]Cell Biology and Neuroscience, Istituto Superiore di Sanità, Rome, Italy

Computer 89 **4042. High-Resolution Localized ^{1}H Magnetic Resonance Spectroscopy of Red Bone Marrow Via IDQC Technique at 7T**

Jianfeng Bao[1], Congbo Cai[2], Shuhui Cai[1], Xiaohong Cui[1], Zhong Chen[1]
[1]Department of Electronic Science, Xiamen University, Xiamen, Fujian, China; [2]Department of Communication Engineering, Xiamen University, Xiamen, Fujian, China

Computer 90 **4043. 13C-NMR Spectroscopy in the Detection of 2-Hydroxyglutarate as a Novel Biomarker of IDH Mutation Status in Glioma**

Hyeon-Man Baek[1], Yun-Ju Lee[1], Eun-Hee Kim[1], Chaejoon Cheong[1], Seung-Ho Yang[2]
[1]Division of Magnetic Resonance, Korea Basic Science Institute, Ochang, Chungbuk, Korea; [2]Neurosurgery St. Vincent's Hospital, Catholic University, Suwon, Gyeonggi-do, Korea

Computer 91 **4044. 31P MRS Indicates Possible Effects of Transcranial Laser Therapy in an Animal Model**

Dionyssios Mintzopoulos[1], Clark E. Tedford[2], Timothy E. Gillis[1], Marc J. Kaufman[1]
[1]McLean Imaging Center, McLean Hospital, Harvard Medical School, Belmont, MA, United States; [2]PhotoThera Corporation, Carlsbad, CA, United States

Computer 92 **4045. Water Exchange Kinetics in the Isolated Heart Correlate with Na^{+}/K^{+} ATPase Activity: Potentially High Saptiotemporal Resolution *in Vivo* MR Access to Cellular Metabolic Actiivity**

Yajie Zhang[1], James A. Balschi[1]
[1]Medicine, Brigham and Women's Hospital, Boston, MA, United States

Computer 93 **4046. Single Voxel MEGA-Edited GABA and Short TE 1H MRS in Hippocampus and Other Brain Regions Implicated in Bruxism**

Shalmali Dharmadhikari[1, 2], Ulrike Dydak[1, 2], Mario Dzemidzic[2, 3], Laura Romito[4], Kenneth Byrd[4, 5]
[1]School of Health Sciences, Purdue University, West Lafayette, IN, United States; [2]Department of Radiology and Imaging Sciences, Indiana University School of Medicine, Indianapolis, IN, United States; [3]Department of Neurology, Indiana University School of Medicine, Indianapolis, IN, United States; [4]Department of Oral Biology, Indiana University School of Dentistry, Indianapolis, IN, United States; [5]Department of Anatomy and Cell Biology, Indiana University School of Medicine, Indianapolis, IN, United States

Computer 94 **4047.** **Effect of Withania Somnifera on Seminal Plasma Metabolites of Infertile Males: A Proton NMR Study**

Ashish Gupta[1], Abbas Ali Mahdi[2], Mohammad K. Ahmad[2], Navneeta Bansal[2], Pushplata Sankhwar[3], Satya Narain Sankhwar[4]

[1]Centre of Biomedical Magnetic Resonance, SGPGIMS Campus, Lucknow, UP, India; [2]Department of Biochemistry, King George's Medical University, Lucknow, UP, India; [3]Department of Obstetrics & Gynecology, King George's Medical University, Lucknow, UP, India; [4]Department of Urology, King George's Medical University, Lucknow, UP, India

Computer 95 **4048.** **Mitochondria-Targeted Antioxidant Promotes Recovery of Skeletal Muscle Mitochondrial Function After Burn Trauma**

ISMRM MERIT AWARD summa cum laude

Valeria Righi[1, 2], Caterina Constantinou[1, 3], Dionyssios Mintzopoulos[1, 2], Laurence G. Rahme[3], Hazel H. Szeto[4], Ronald G. Tompkins, Aria A. Tzika[1, 2]

[1]NMR Surgical Laboratory, Department of Surgery, Massachusetts General Hospital and Shriners Burn Institute, Harvard Medical School, Boston, MA, United States; [2]Department of Radiology, Athinoula A. Martinos Center of Biomedical Imaging, Boston, MA, United States; [3]Molecular Surgery Laboratory, Department of Surgery, Massachusetts General Hospital and Shriners Burn Institute, Harvard Medical School, Boston, MA, United States; [4]Department of Pharmacology, Joan and Sanford I, Weill Medical College of Cornell University, New York, NY, United States

Computer 96 **4049.** **Cerebral Metabolic Changes in Diabetes Type 2 Studied Using *in-vivo* Proton MRS**

Meera Ekka[1], Uma Sharma[2], Sanjiv Sinha[1], Naranamangalam R. Jagannathan[2]

[1]Department of Medicine, All India Institute of Medical Sciences, New Delhi, Delhi, India; [2]Department of NMR & MRI Facility, All India Institute of Medical Sciences, New Delhi, Delhi, India

Electronic Poster
Diabetes, Metabolism & Gastrointestinal

Exhibition Hall Wednesday 13:30-14:30

Computer 1 **4050.** **Water-Fat Imaging of Supraclavicular Brown and White Adipose Tissue at 1.5T: Initial Results in Healthy Volunteers**

Elin Lundström[1], Johan Berglund[1], Lars Johansson[1, 2], Peter Bergsten[3], Håkan Ahlström[1], Joel Kullberg[1]

[1]Radiology, Uppsala University, Uppsala, Sweden; [2]AstraZeneca R&D, Mölndal, Sweden; [3]Department of Medical Cell Biology, Uppsala University, Uppsala, Sweden

Computer 2 **4051.** ***in vivo* MRI/MRS Characterization of Brown and White Adipose Tissues in Mice: Plasticity Due to High Fat Diet and Pharmacological Treatments**

Rossella Canese[1], Francesca Cinti[2], Andrea Armani[2], Vincenzo Marzolla[2], Fabio Ginnari Satriani[3], Giulia Carpinelli[3], Massimiliano Caprio[2]

[1]Cell Biology and Neuroscience, Istituto Superiore di Sanità, Rome, Italy; [2]Laboratory of Cardiovascular Endocrinology, IRCCS San Raffaele Pisana, Rome, Italy; [3]Cell Biology and Neuroscience, Istituto Superiore di Sanita', Rome, Italy

Computer 3 **4052.** **Identification of Brown Adipose Tissue Using Dixon Imaging in a Human Adult with Histological Confirmation.**

Sarah C. Wayte[1], Narendra L. Reddy[2], Terence A. Jones[2], Oludolapo Adesanya[3], Yen C. Yoe[4], Harpal S. Randeva[2], Sudhesh Kumar[2], Charles E. Hutchinson[2, 3], Thomas M. Barber[2]

[1]Department of Medical Physics, University Hospitals Coventry and Warwickshire, Coventry, West Midlands, United Kingdom; [2]Warwick Medical School, University Hospitals Coventry and Warwickshire, Coventry, West Midlands, United Kingdom; [3]Department of Radiology, University Hospitals Coventry and Warwickshire, Coventry, West Midlands, United Kingdom; [4]Department of Histopathology, University Hospitals Coventry and Warwickshire, Coventry, West Midlands, United Kingdom

Computer 4 **4053.** **Estimation of Gastric Secretions After a Nutrient Test Meal Using T_1 Mapping MRI.**

Caroline L. Hoad[1], Helen Parker[2], Emily Tucker[2], Carolyn Costigan[1], Eleanor F. Cox[1], Luca Marciani[2], Mark R. Fox[2], Penelope A. Gowland[1]

[1]Sir Peter Mansfield Magnetic Resonance Centre, School of Physics and Astronomy, University of Nottingham, Nottingham, Nottinghamshire, United Kingdom; [2]Biomedical Research Unit in Gastrointestinal and Liver Diseases, Nottingham University Hospital NHS Trust and University of Nottingham, Nottingham, Nottinghamshire, United Kingdom

Computer 5 **4054. MRI and MRS Measurements of Intragastric Fat Spatial Distribution**
Mahamoud Omar Hussein[1], Luca Marciani[2], Caroline L. Hoad[1], Eleanor F. Cox[1], Mary C. Stephenson[1], Susan Pritchard[1], Carolyn Costigan[1], Pip Rayment[3], Elisabetta Ciampi[4], Asish Nandi[3], Nick Hedges[3], Paul Sanderson[3], Harry P. F Peters[5], Robin C. Spiller[2], Penelope A. Gowland[1]
[1]Sir Peter Mansfield MR Centre, School of Physics & Astronomy, University of Nottingham, Nottingham, Nottinghamshire, United Kingdom; [2]Nottingham Digestive Diseases Cetre, University of Nottingham, Nottingham, Nottinghamshire, United Kingdom; [3]Unilever Discover, Unilever, Shambrook, Bedfordshire, United Kingdom; [4]Unilever Discover, Unilever Discover, Shambrook, Bedfordshire, United Kingdom; [5]Unilever R&D Vlaardingen Research, Nutrition & Health, Vlaardingen, Netherlands

Computer 6 **4055. 3T MR Imaging with Diffusion-Weighted Imaging and Dynamic MR Imaging for Evaluation of Preoperative T and N Staging of Gastric Cancer: Comparison with Multi-Detector Row Computed Tomography**
Ijin Joo[1], Jeong Min Lee[1], Jung Hoon Kim[1], Cheong-Il Shin[1], Joon Koo Han[1], Byung Ihn Choi[1]
[1]Radiology, Seoul National University Hospital, Seoul, Korea

Computer 7 **4056. Spatially Constrained Model of Body Diffusion-Weighted MRI Signal Decay Increases Precision of Parameter Estimates**
Moti Freiman[1], Jeannette M. Perez-Rossello[1], Michael J. Callahan[1], Robert V. Mulkern[1], Stephan D. Voss[1], Simon K. Warfield[1]
[1]Radiology, Harvard Medical School/Boston Children's Hospital, Boston, MA, United States

Computer 8 **4057. Clinical Application of 3D VIBE CAIPIRINHA-DIXON for Non-Enhanced Imaging of the Pancreas Compared to a Standard 2D Fat-Saturated FLASH**
Stefan Haneder[1], Katrin Koziel[1], John N. Morelli[2], Philipp Riffel[1], Stefan O. Schoenberg[1], Henrik J. Michaely[1]
[1]Institute of Clinical Radiology and Nuclear Medicine, University Medical Center Mannheim, Mannheim, Baden-Württemberg, Germany; [2]Scott and White Memorial Hospital and Clinic, Texas A&M University Health Sciences Center, Temple, TX, United States

Computer 9 **4058. Effect of Mesenchymal Stem Cells on the Vascularization of the Artificial Cavity Used as a Site for Islet Transplantation**
Daniel Jirak[1], Jan Kriz[1], Peter Girman[1], Eva Vodraskova[1], Klara Zacharovova[1], Eva Dovolilova[1], Vit Herynek[1], Frantisek Saudek[1], Milan Hajek[1]
[1]Institute for Clinical and Experimental Medicine, Prague, Czech Republic

Computer 10 **4059. Longitudinal Follow Up of Pancreatic Islets by MRI Using Labeling with Magnetoliposomes**
Ashwini Ketkar-Atre[1], Karim Louchami[2], Ting Yin[1], Tom Struys[1], Willy Malaisse[2], Uwe Himmelreich[3]
[1]KULeuven Campus Gasthuisberg, Leuven, Vlaams Brabant, Belgium; [2]Laboratory of Experimental Hormonology- CP 626, Université Libre de Bruxelles, Brussels, Belgium; [3]KU Leuven, Leuven, Vlaams Brabant, Belgium

Computer 11 **4060. Pancreatic Iron Load Measured with MRI R2*: Distribution Within the Organ in Comparison with Cardiac and Hepatic Iron**
Jin Yamamura[1], Björn P. Schönnagel[1], Moritz Brehmer[1], Christoph Berliner[1], Sarah Keller[1], Charlotte Pfeifer[2], Gerhard Adam[1], Roland Fischer[3, 4]
[1]Diagnostic and Interventional Radiology, University Medical Center-Hamburg, Hamburg, Germany; [2]Center of Oral & Dental Surgery - Department of Radiology, University Medical Center-Hamburg, Hamburg, Germany; [3]Pediatric Hematology, University Medical Center-Hamburg, Hamburg, Germany; [4]Children's Hospital and Research Center Oakland, Oakland, CA, United States

Computer 12 **4061. Diffusion Tensor Imaging of the Pancreas**
Noam Nissan[1], Talia Golan[2], Edna Furman Haran[3], Sara Apter[4], Yael Inbar[4], Dov Grobgeld[1], Hadassa Degani[5]
[1]Department of Biological Regulation , Weizmann Institue of Science, Rehovot, Israel; [2]Oncology Institute, Sheba Medical Center, Tel Hashomer, Israel; [3]Biological Services, Weizmann Institute of Science, Rehovot, Israel; [4]The Division of Diagnostic Imaging, Sheba Medical Center, Tel Hashomer, Israel; [5]Department of Biological Regulation, Weizmann Institue of Science, Rehovot, Israel

Computer 13 **4062. MRI-Based Measurement of the Pancreatic Extracellular Volume Detects Immune Cell Infiltration in a Mouse Model of Type 1 Diabetes**
Patrick Antkowiak[1], Brian Stevens[1], Marcia McDuffie[1], Frederick H. Epstein[1]
[1]University of Virginia, Charlottesville, VA, United States

Computer 14 **4063. MRI Guided Dielectric Barrier Discharge Plasma *in vivo*: A Preliminary Study for Rectal Wall of Rabbit**
Ruixue Wang[1], Hongyang Yuan[2], Wenchao Cai[3], Jue Zhang[1, 4], Jing Fang[2, 5]
[1]Academy for Advanced Interdisciplinary Studies, Peking University, Beijing, China; [2]College of Engineering, Peking University, Beijing, China; [3]Department of Radiology, Peking University First Hospital, Beijing, China; [4]College of Engineering, Peking University , Beijing , China; [5]Academy for Advanced Interdisciplinary Studies, Peking University , Beijing , China

Computer 15 **4064. MR Imaging and Spectroscopic Investigation of Exercise and Calorie Restriction in High Fat Diet Fed Obese Rats**
Venkatesh Gopalan[1], S. Ishino[2], S.S. Lee[1], Y.A. Yang[3], Bhanu Prakash KN[1], Z. Zhou[3], M. Kaneko[2], Y. Nakano[2], M. Watanabe[2], T. Horiguchi[2], B. Zhu[3], Sendhil S. Velan[1]
[1]Laboratory of molecular Imaging, Singapore Bioimaging Consortium, Singapore, Singapore; [2]Takeda Pharmaceutical Company Limited, Fujisawa, Kanagawa, Japan; [3]Takeda Singapore Pte. Limited, Singapore, Singapore

Computer 16 **4065. Non-Invasive Identification of Biomarkers for Chronic Liver Complications of Diabetes Mellitus Using Chemical Shift and IVIM-DWI Imaging**
Sonia Isabel Goncalves[1, 2], Filipe Caseiro Alves[1, 2], Miguel Castelo Branco[1, 3]
[1]Medical Faculty, University Coimbra, Coimbra, Portugal; [2]Radiology, University Hospital Coimbra, Coimbra, Portugal; [3]Biomedical Institute for Research in Light and Image, University of Coimbra, Coimbra, Portugal

Computer 17 **4066. A Metabolomics Approach to Biomarker Discovery for Non-Alcoholic Steatohepatitis**
Brittany Ann Lee[1], Keisaku Sato[2], Celine Baligand[1], Huadong Zeng[3], Parvesh Sharma[1], Krista Vandenborne[4], Arthur Edison[5], Angela Dolganiuc[2], Glenn A. Walter[1]
[1]Department of Physiology, University of Florida, Gainesville, FL, United States; [2]Department of Internal Medicine, University of Florida, Gainesville, FL, United States; [3]AMRIS, University of Florida, Gainesville, FL, United States; [4]Department of Physical Therapy, University of Florida, Gainesville, FL, United States; [5]Department of Biochemistry, University of Florida, Gainesville, FL, United States

Computer 18 **4067. MR Elastography of Liver for Clinical Follow Up and Assessment of Treatment Response in Chronic Liver Diseases**
Sudhakar K. Venkatesh[1], Meng Yin[1], Jayant A. Talwalkar[2], Jeff Fidler[1], David M. Hough[1], Richard Leroy Ehman
[1]Radiology, Mayo Clinic, Rochester, MN, United States; [2]Gastroenterology and Hepatology, Mayo Clinic, Rochester, MN, United States

Computer 19 **4068. Hepatic Hemangiomas and Other Hemangiomatous Lesions: MR Imaging Manifestations, Pitfalls and Problem-Solving MR Techniques**
Kenji Matsuzaki[1], Mayumi Takeuchi[1], Masafumi Harada[1]
[1]Department of Radiology, University of Tokushima, Tokushima, Japan

Computer 20 **4069. MRI Characteristics of Primary Biliary Tract Malignancies and Its Mimics**
ISMRM MERIT AWARD magna cum laude
Sajeev Ezhapilli[1], Jianhai Li[2], John Chenevey[2], William C. Small[2], Volkan Adsay[2], Pardeep Mittal[2]
[1]Radiology, Emory university, Atlanta,, GA, United States; [2]Radiology, Emory university, Atlanta, GA, United States

Computer 21 **4070. Autoimmune Pancreatitis Revisted : MR Imaging Characteristics and Differentiating Features from Pancreatic Carcinoma**
Hina Arif-Tiwari[1], Bobby T. Kalb[1], Diego R. Martin[1]
[1]Medical Imaging, University of Arizona, College of Medicine, Tucson, AZ, United States

Computer 22 **4071. Implementation of a Comprehensive MR Safety Course for Medical Students**
ISMRM MERIT AWARD summa cum laude
Steffen Sammet[1]
[1]Department of Radiology, University of Chicago, Chicago, IL, United States

Computer 23 **4072. MRI Characterization of Neoplastic and Non Neoplastic Mesenteric Masses**
ISMRM MERIT AWARD magna cum laude
Sajeev Ezhapilli[1], Jianhai Li[2], John Chenevey[2], William C. Small[2], Volkan Adsay[3], Pardeep Mittal[2]
[1]Radiology, Emory university, Atlanta,, GA, United States; [2]Radiology, Emory university, Atlanta, GA, United States; [3]Pathology, Emory university, Atlanta, GA, United States

Computer 24 **4073. Benign Cystic Lesions of the Ovary: Diagnosis with MR Imaging**
Laura Miller[1], Josephina Vossen[2], G. Marrinan[2]
[1]Radiology, Bridgeport Hospital , Bridgeport, CT, United States; [2]Radiology, Bridgeport Hospital, Bridgeport, CT, United States

Electronic Poster
Hepatobiliary MRI

Exhibition Hall Wednesday 14:30-15:30

Computer 1 **4074. Parameter Optimization for Liver MR Elastography at 3 T**
Johannes Strasser[1], Jörg Roland[2], Gert Reiter[3], Rudolf Stollberger[1]
[1]Institute of Medical Engineering, Graz University of Technology, Graz, Austria; [2]Siemens Healthcare, Erlangen, Germany; [3]Siemens Healthcare, Graz, Austria

Computer 2 **4075. Separate Assessment of Fibrosis, Steatosis and Inflammation: Multi-Parametric Imaging of Chronic Liver Diseases**
Sabrina Doblas[1], Helena S. Leitao[1, 2], Philippe Garteiser[1], Gaspard d'Assignies[1, 3], Feryel Mouri[4], Valérie Vilgrain[1, 3], Ralph Sinkus[1], Carlos F.G.C. Geraldes[2], Bernard E. Van Beers[1, 3]
[1]U773-CRB3, INSERM, Paris, France; [2]Center for Neuroscience and Cell Biology, University of Coimbra, Coimbra, Portugal; [3]Radiology Department, Beaujon University Hospital, Clichy, France; [4]Hepatology Department, Beaujon University Hospital, Clichy, France

Computer 3 **4076. Sensitivity of Intrahepatic Volumetric Strain Measured by MR Elastography to the Alteration of Portal Pressure in Patients with Transjugular Intrahepatic Portosystemic Shunt (TIPPS)**
Sebastian Hirsch[1], Thomas J. Kroencke[1], Jing Guo[2], Rolf Reiter[1], Sebastian Papazoglou[1], Patrick Asbach[1], Juergen Braun[3], Ingolf Sack[1]
[1]Department of Radiology, Charité - Universitätsmedizin Berlin, Berlin, Germany; [2]Department of Radiology, Charite - University Medicine Berlin, Berlin, Germany; [3]Institute of Medical Informatics, Charite - University Medicine Berlin, Berlin, Germany

Computer 4 **4077. Measurement of Liver and Splenic Stiffness with MR Elastography Using Single or Double Acoustic Excitation.**
Hadrien A. Dyvorne[1], Guido H. Jajamovich[1], Richard Leroy Ehman[2], Ersin Bayram[3], Bachir Taouli[1], Richard Leroy Ehman[2]
[1]Mount Sinai School of Medicine, New York, NY, United States; [2]Department of Radiology, Mayo Clinic, Rochester, MN, United States; [3]GE Healthcare, Waukesha, WI, United States

Computer 5 **4078. Grading of Chronic Liver Inflammation Quantified by Shear Wave Dispersion MR Elastography: Initial Clinical Results on 26 Patients**
Philippe Garteiser[1], Gaspard D'Assignies[1, 2], Helena S. Leitao[1, 3], Ramin S. Sahebjavaher[4], Simon Auguste Lambert[1], Feryel Mouri[5], Valérie Vilgrain, [12], Bernard E. Van Beers, [12], Ralph Sinkus[1]
[1]U773-CRB3, INSERM, Universite Sorbonne Paris-Cite, Paris, 75018, France; [2]Service de Radiologie, AP-HP Hopital Beaujon, Clichy, 92110, France; [3]Center for Neuroscience and Cell Biology, University of Coimbra, Coimbra, 3004-517, Portugal; [4]University of British Columbia, Vancouver, BC, Canada; [5]Service d'hepatologie, AP-HP Hopital Beaujon, Clichy, 92110, France

Computer 6 **4079. A Novel Approach for Hepatic Viscoelastic Characterization Using Magnetization-Tagged MRI and Single-Degree-Of-Freedom (SDOF) Viscoelastic Model**
Sohae Chung[1], Leon Axel[1]
[1]Radiology Department, Center for Biomedical Imaging, NYU Langone Medical Center, New York, NY, United States

Computer 7 **4080. Intravoxel Incoherent Motion Diffusion-Weighted Imaging in Liver Fibrosis of Rat with Bile Duct Ligation**
Bin Yang[1], Li Wang[1], Chunmei Xia[2], Lixia Yang[3], Zhongwei Qiao[1], Ed X. Wu[4]
[1]Department of Radiology, Children Hospital of Fudan University, Shanghai, China; [2]Department of Physiology and Pathophysiology, Fudan University, Shanghai, China; [3]Department of Radiology, Xuhui Center Hospital, Shanghai, China; [4]Department of Electrical and Electronic Engineering, The University of Hong Kong, Hong Kong, China

Computer 8 **4081. Intravoxel Incoherent Motion MR Imaging Showed Lower Pure Molecular Diffusion in Fibrotic Livers: A Report of Preliminary Results**
Pu-Xuan Lu[1], Hua Huang[1], Jing Yuan[2], Feng Zhao[2], Yi-Xiang Wang[2]
[1]Department of Radiology, the Shenzhen Third People's Hospital, Shenzhen, Guangdong, China; [2]Department of Imaging and Interventional Radiology, The Chinese University of Hong Kong, Shatin, N.T., Hong Kong

Computer 9 **4082. Prospective Comparison of IVIM DWI, MR Elastography and Transient Elastography for the Detection of Liver Fibrosis in HCV. Initial Results.**

Hadrien A. Dyvorne[1], Guido H. Jajamovich[1], M. Isabel Fiel[2], Douglas Dieterich[2], Valerie Martel-Laferriere[2], Scott Friedman[2], Claudia Donnerhack[1], Richard Leroy Ehman[3], Bachir Taouli[1]

[1]Mount Sinai School of Medicine, New York, NY, United States; [2]Department of Medicine/Liver Disease, Mount Sinai School of Medicine, New York, NY, United States; [3]Department of Radiology, Mayo Clinic, Rochester, MN, United States

Computer 10 **4083. Quantitative Self-Gated Free Breathing 4D DCE MRI of the Liver with Retrospectively Selectable Temporal Resolution**

Gregory R. Lee[1, 2], Yong Chen[3, 4], Nicole Seiberlich[5], Mark A. Griswold[3, 4], Vikas Gulani, [4 6]

[1]Radiology, Cincinnati Children's Hospital Medical Center, Cincinnati, OH, United States; [2]Radiology, University of Cincinnati, Cincinnati, OH, United States; [3]Radiology, Case Western Reserve University, Cleveland, OH, United States; [4]Radiology, University Hospitals of Cleveland, Cleveland, OH, United States; [5]Biomedical Engineering, Case Western Reserve University, Cleveland, OH, United States; [6]Radiology, University Hospitals Case Medical Center, Cleveland, OH, United States

Computer 11 **4084. Free-Breathing Dynamic Contrast Enhanced Compressed-Sensing Imaging for Reliable Estimation of Liver Perfusion**

Hersh Chandarana[1], Kai Tobias Block[1], Henry Rusinek[1], Matthew B. Greenberg[1], Li Feng[2], Daniel K. Sodickson[1], Ricardo Otazo[1]

[1]Radiology; Center for Biomedical Imaging, NYU Langone Medical Center, New York, NY, United States; [2]Radiology; Center for Biomedical Imaging, New York University Langone Medical Center, New York, NY, United States

Computer 12 **4085. Free Breathing Abdominal DCEMRI with High Spatio-Temporal Resolution**

Manojkumar Saranathan[1], Dan W. Rettmann[2], Brian Andrew Hargreaves[1], Andreas Loening[1], Anja C.S Brau[3], KyungHyun Sung[1], Shreyas S. Vasanawala[1]

[1]Dept. of Radiology, Stanford University, Stanford, CA, United States; [2]Applied Science Laboratory, GE Healthcare, Rochester, MN, United States; [3]GE Healthcare, Menlo Park, CA, United States

Computer 13 **4086. Improvement of Gadoxetate Arterial Phase Capture with a High Spatio-Temporal Resolution Multiphase 3D SPGR-Dixon Sequence**

Thomas A. Hope[1], Manojkumar Saranathan[1], Iva Petkovska[1], Brian Andrew Hargreaves[1], Robert J. Herfkens[1], Shreyas S. Vasanawala[1]

[1]Department of Radiology, Stanford University, Stanford, CA, United States

Computer 14 **4087. Dynamic Hepatospecific Contrast Enhanced-MRI with Gd-EOB-DTPA: Correlation Between MR Quantitative Parameters and Hepatocyte Transporter Expression**

Matthieu Lagadec[1], Sabrina Doblas[1], Celine Giraudeau[1], Jean-Luc Daire[1], Simon Auguste Lambert[1], Magali Fasseu[1], Valerie Paradis[1], Richard Moreau[1], Bernard E. Van Beers[1]

[1]INSERM Centre de recherche Biomédicale Bichat Beaujon, CRB3 U773, Université Paris Diderot, Sorbonne Paris Cité, Paris, Ile de France, France

Computer 15 **4088. Robustness of a Hybrid Magnitude/complex Method for Liver Fat Quantification in the Presence of a Hepatobiliary Contrast Agent**

Lauren M.B. Burke[1], Xiaodong Zhong[2], Ghaneh Fananapazir[1], Brian M. Dale[3], Dominik Nickel[4], Stephan A.R. Kannengiesser[4], Mustafa R. Bashir[1]

[1]Radiology, Duke University Medical Center, Durham, NC, United States; [2]MR R&D Collaborations Siemens Healthcare, Atlanta, GA, United States; [3]MR R&D Collaborations, Siemens Healthcare, Morrisville, NC, United States; [4]Healthcare Sector Imaging & Therapy Division, Siemens AG, Erlangen, Germany, Germany

Computer 16 **4089. Evaluation of a Screening Dixon Sequence for Detecting Presence of Iron/ Fat in Patients with Chronic Liver Disease**

Liana Rocha[1], Caroline Amoedo[2], Fernanda Magão[2], Marcio Reis[2], Ralph Strecker[3], Xiadong Zhong[4], Stephan A.R. Kannengiesser[5], Ronaldo Baroni[2]

[1]Imaging Department , Hospital Israelita Albert Einstein, São Paulo, Brazil; [2]Imaging Department, Hospital Israelita Albert Einstein, São Paulo, Brazil; [3]Healthcare MR, Siemens Ltda, São Paulo, Brazil; [4]MR R&D Collaborations, Siemens Healthcare , Atlanta, Geogia, United States; [5]Healthcare MR, Siemens, Erlangen, Bavaria, Germany

Computer 17 **4090. Human Bile Phosphatidylcholine Contributes to ^{31}P MRS Hepatic Signal at 2.06 Ppm.**

Marek Chmelík[1], Ladislav Valkovic[1, 2], Peter Wolf[3], Wolfgang Bogner[1, 4], Martin Gajdosik[1], Stephan Gruber[1], Michael Krebs[3], Siegfried Trattnig[1], Martin Krssák, [13]

[1]MR Centre of Excellence, Department of Radiology, Medical University of Vienna, Vienna, Austria; [2]Department of Imaging Methods, Institute of Measurement Science, Slovak Academy of Sciences, Bratislava, Slovakia; [3]Department of Internal Medicine III, Medical University of Vienna, Vienna, Austria; [4]Athinoula A. Martinos Center for Biomedical Imaging, Department of Radiology, Massachusetts General , Boston, MA, United States

Computer 18 **4091. Hemodynamic Changes in Healthy and Cirrhotic Liver Measured Using a Breath-Hold High Resolution, Highly Accelerated K-T SPARSE-SENSE Phase Contrast Sequence.**

Hadrien A. Dyvorne[1], Ashley Knight-Greenfield[1], Nancy Cooper[1], Cecilia Besa[1], Ricardo Otazo[2], Daniel K. Sodickson[2], Bachir Taouli[1]

[1]Mount Sinai School of Medicine, New York, NY, United States; [2]New York University Langone Medical Center, New York, NY, United States

Computer 19 **4092. Further Exploration of MRI Techniques for Liver T1rho Quantification**

Feng Zhao[1], Jing Yuan[1], Min Deng[1], Yi-Xiang Wang[1]

[1]Department of Imaging and Interventional Radiology, The Chinese University of Hong Kong, Shatin, N.T., Hong Kong

Computer 20 **4093. Adiabatic Spin Locking T1rho Imaging for Estimation of Liver Function**

Tomoyuki Okuaki[1], Yukihisa Takayama[2], Akihiko Nishie[3], Makoto Obara[4], Tetsuo Ogino[4], Hiroshi Honda[3], Marc Van Cauteren[1]

[1]Philips Healthcare Asia Pacific, Minato-ku, Tokyo, Japan; [2]Department of Molecular Imaging and Diagnosis, Kyushu University, Graduate School of Medical Science, Fukuoka, Japan; [3]Department of clinical Radiology, Kyushu University, Graduate School of Medical Sciences, Fukuoka, Japan; [4]Philips Electronics Japan, Minato-ku, Tokyo, Japan

Computer 21 **4094. Liver T_1 Increases with Fibrosis and Is Correlated with Liver Stiffness and ELF Score**

Eleanor F. Cox[1], Antonella Ghezzi[2], Andrea Bennet[2], Mina Patel[2], Andrew Jackson[2], David Harman[2], Carolyn Costigan[1], Martin W. James[2], Stephen D. Ryder[2], Penelope A. Gowland[1], Guru P. Aithal[2], I. Neil Guha[2], Susan T. Francis[1]

[1]Sir Peter Mansfield Magnetic Resonance Centre, University of Nottingham, Nottingham, Nottinghamshire, United Kingdom; [2]NIHR Biomedical Research Unit in Gastrointestinal and Liver Diseases, Nottingham University Hospitals NHS Trust and the University of Nottingham, Nottingham, Nottinghamshire, United Kingdom

Computer 22 **4095. Quantitative T2 and Proton Density Mapping of a Murine Model of Hepatic Fibrosis Progression: An Application of Adaptive Iterative PD and T2 QMRI Algorithms**

Hernan Jara[1], Yu Sakai[1], Stephan Anderson[1]

[1]Boston University Medical Center, Boston, MA, United States

Computer 23 **4096. Toward an Improved Quantification of Adipose Tissue Components: T1 Assessment in Morbidly Obese, Non-Obese NAFLD and Healthy Lean Subjects at 1.5 T**

ISMRM MERIT AWARD magna cum laude

Nikita Garnov[1], Henriette Bertram[1], Gregor Thörmer[1], Thomas Karlas[2], Tatjana Schütz[3], Thomas Kahn[1], Harald Busse[1]

[1]Diagnostic and Interventional Radiology, Leipzig University Hospital, Leipzig, Germany; [2]Internal Medicine, Neurology and Dermatology, Leipzig University Hospital, Leipzig, Germany; [3]Visceral, Transplantation, Thoracic and Vascular Surgery, Leipzig University Hospital, Leipzig, Germany

Computer 24 **4097. Dynamic Sincalide (Cholecystokinin)-Enhanced Magnetic Resonance Imaging of the Gallbladder and Biliary Tree: Initial Results in Healthy Volunteers**

Bahar Mansoori[1], Karin Anna Herrmann[1], Pablo Riera Ros[1], Raj Mohan Paspulati[1]

[1]Radiology, Case Western Reserve University, Cleveland, OH, United States

Electronic Poster
Pulmonary & Airway Imaging: Methods & Applications

Exhibition Hall Wednesday 13:30-14:30

Computer 25 **4098.** **Prevalence and Significance of Non-Thrombotic Findings on Pulmonary Magnetic Resonance Angiography Performed to Evaluate for Acute Pulmonary Embolism**

Mark L. Schiebler[1], Jitesh Ahuja[1], Christopher J. François[2], Harald Kramer[1], Scott B. Reeder[1], Thomas M. Grist[2], Michael Repplinger[3], Scott K. Nagle[1]

[1]Radiology, UW-Madison, Madison, WI, United States; [2]Radiology, University of Wisconsin-Madison, Madison, WI, United States; [3]Medicine, UW-Madison, Madison, WI, United States

Computer 26 **4099.** **Ultrashort Echo Time (UTE) 3D MRI of Lungs in Healthy Subjects at 3 Tesla: Assessment of Lung Tissue Density**

Yannick Crémillieux[1], Mathieu Lederlin[2]

[1]CRCTB, University of Bordeaux Segalen, Bordeaux, France; [2]CRCTB, Université de Bordeaux, Bordeaux, France

Computer 27 **4100.** **Pulmonary 3T MR Imaging with Ultra-Short TEs: Influence of Ultra-Short Echo Time on Pulmonary Functional and Clinical Stage Assessments of Smokers**

Yoshiharu Ohno[1, 2], Shinichiro Seki[3], Mizuho Nishio[1, 2], Hisanobu Koyama[3], Takeshi Yoshikawa[1, 2], Sumiaki Matsumoto[1, 2], Nobukazu Aoyama[4], Katsusuke Kyotani[4], Makoto Obara[5], Marc van Cauteren[5], Masaya Takahashi[6], Hideaki Kawamitsu[4], Satoru Takahashi[4], Kazuro Sugimura[3]

[1]Advanced Biomedical Imaging Research Center, Kobe University Graduate School of Medicine, Kobe, Hyogo, Japan; [2]Division of Functional and Diagnostic Imaging Research, Department of Radiology, Kobe University Graduate School of Medicine, Kobe, Hyogo, Japan; [3]Division of Radiology, Department of Radiology, Kobe University Graduate School of Medicine, Kobe, Hyogo, Japan; [4]Center forRadiology and Radiation Oncology, Kobe University Hospital, Kobe, Hyogo, Japan; [5]Philips Healthcare, Tokyo, Japan; [6]Advanced Imaging Research Center, University of Texas Southwestern Medical Center, Dallas, TX, United States

Computer 28 **4101.** **Simultaneous Single Breath-Hold MR Imaging of Lung Perfusion and Structure Using 3D Radial UTE**

Laura C. Bell[1], Kevin M. Johnson[1, 2], Sean B. Fain[1, 2], Randi Drees[3], Scott K. Nagle[1, 2]

[1]Medical Physics, University of Wisconsin - Madison, Madison, WI, United States; [2]Radiology, University of Wisconsin - Madison, Madison, WI, United States; [3]Veterinary Medicine, University of Wisconsin - Madison, Madison, WI, United States

Computer 29 **4102.** **Absolute Concentration, Biodistribution and Pharmacokinetics of Gd-Based Contrast Agents in Lungs Using UTE MRI**

Andrea Bianchi[1], Sandrine Dufort[2, 3], François Lux[4], Jean-Luc Coll[2], Olivier Tillement[4], Yannick Crémillieux[1]

[1]Cardio-Thoracic Center of Bordeaux, University of Bordeaux Segalen, Bordeaux, France, France; [2]University Joseph Fourier, Saint-Martin-d'Hères, France, France; [3]Nano-H, Saint Quentin - Fallavier, France, France; [4]Laboratoire de Physico-Chimie des Matériaux Luminescents, University Claude Bernard, Villeurbanne, France, France

Computer 30 **4103.** **High Resolution UTE-MR Imaging in Lung Disease in Children and Young Adults**

Karl-Heinz Herrmann[1], Martin Krämer[1], Martin Stenzel[2], Hans-Joachim Mentzel[2], Jürgen R. Reichenbach[1]

[1]Medical Physics Group, Institute of Diagnostic and Interventional Radiology I, Jena University Hospital - Friedrich Schiller University Jena, Jena, Germany; [2]Pediatric Radiology, Institute of Diagnostic and Interventional Radiology I, Jena University Hospital - Friedrich Schiller University Jena, Jena, Germany

Computer 31 **4104.** **Oxygen-Enhanced MRI Vs. Thin-Section CT: Capability for Pulmonary Functional and Disease Severity Assessments in Patients with Connective Tissue Diseases**

Yoshiharu Ohno[1, 2], Shinichiro Seki[3], Mizuho Nishio[1, 2], Hisanobu Koyama[3], Takeshi Yoshikawa[1, 2], Sumiaki Matsumoto[1, 2], Nobukazu Aoyama[4], Katsusuke Kyotani[4], Makoto Obara[5], Marc van Cauteren[5], Hideaki Kawamitsu[4], Satoru Takahashi, [34], Kazuro Sugimura[3]

[1]Advanced Biomedical Imaging Research Center, Kobe University Graduate School of Medicine, Kobe, Hyogo, Japan; [2]Division of Functional and Diagnostic Imaging Research, Department of Radiology, Kobe University Graduate School of Medicine, Kobe, Hyogo, Japan; [3]Division of Radiology, Department of Radiology, Kobe University Graduate School of Medicine, Kobe, Hyogo, Japan; [4]Center forRadiology and Radiation Oncology, Kobe University Hospital, Kobe, Hyogo, Japan; [5]Philips Healthcare, Tokyo, Japan

Computer 32 **4105. Normalized T1 Relaxation Time Mapping for Improved Lung Imaging in Cystic Fibrosis Patients**
Lan Lu[1], Elliott C. Dasenbrook[2], David Weaver[2], Peter M. Jakob[3], Mitchell L. Drumm[2], Michael W. Konstan[2], Chris A. Flask[1]
[1]Department of Radiology, Case Western Reserve University, Cleveland, OH, United States; [2]Department of Pediatrics, Case Western Reserve University, Cleveland, OH, United States; [3]Department of Physics, University of Wurzburg, Wurzburg, Germany

Computer 33 **4106. Evaluation of Optimal Timing for Diffusion Weighted MR Imaging to Assess Early Tumor Response of Lung Cancer After Stereotactic Body Radiotherapy**
Shigeaki Umeoka[1], Yukinori Matsuo[2], Tomohisa Okada[1], Aki Kido[1], Yusuke Iizuka[2], Masahiro Hiraoka[2], Kaori Togashi[1]
[1]Department of Diagnostic Imaging and Nuclear Medicine, Graduate School of Medicine, Kyoto University, Kyoto, Japan; [2]Department of Radiation Oncology and Image-applied Therapy, Graduate School of Medicine, Kyoto University, Kyoto, Japan

Computer 34 **4107. Correlation of ADC Values with Histopathology of Lung Masses: Preliminary Results**
Christine U. Lee[1], Peter D. Kollasch[1], Darin White[1], Schmitz J. John[1], James F. Glockner[1], Anne-Marie G. Sykes[1]
[1]Radiology, Mayo Clinic, Rochester, MN, United States

Computer 35 **4108. Free-Breathing Radial 3D Fat-Suppressed T1-Weighted Gradient Echo Sequence for Pulmonary Nodule Detection in Patients Undergoing PET/CT Followed by Simultaneous PET/MR Examination**
Hersh Chandarana[1], Laura Heacock[1], Rajan Rakheja[1], Linda DeMello[1], John Bonavita[1], Kai Tobias Block[1], Christian Geppert[2], Kent Friedman[1]
[1]Radiology, NYU Langone Medical Center, New York, NY, United States; [2]Siemens Medical Systems, New York, NY, United States

Computer 36 **4109. Regional Ventilation Assessed by Conventional MRI in Health and Pathology**
Francesca Pennati[1], James D. Quirk[2], Yulin V. Chang[3], Dmitriy A. Yablonskiy[2], Richard A. Pierce[4], Mario Castro[4], Andrea Aliverti[1], Jason C. Woods[2]
[1]Bioingegneria, Politecnico di Milano, Milano, Italy; [2]Radiology, Washington University, St Louis, MO, United States; [3]Radiology, Washington University in Saint Louis, St Louis, MO, United States; [4]Internal Medicine, Washington University, St Louis, MO, United States

Computer 37 **4110. Respiratory 3D Cine MRI of Upper Airway Dynamics in Obstructive Sleep Apnea**
Mark E. Wagshul[1], Sanghun Sin[2], David M. Wootton[3], Michael L. Lipton[1, 4], Keivan Shifteh[4], Raanan Arens[2]
[1]Radiology, Gruss MRRC, Albert Einstein College of Medicine, Bronx, NY, United States; [2]Pediatrics, Montefiore Medical Center, Bronx, NY, United States; [3]Mechnical Engineering, The Cooper Union for the Advancement of Science and Art, New York, NY, United States; [4]Radiology, Montefiore Medical Center, Bronx, NY, United States

Computer 38 **4111. Dynamics of Pulmonary Ventilation Distribution at Steady State Via 19Fluorine-Enhanced MRI: Initial Experiences and Future Developments**
Ahmed F. Halaweish[1, 2], William Michael Foster[3], Richard E. Moon[4], Neil R. MacIntyre[3], James R. MacFall[1], H. Cecil Charles[1, 2]
[1]Radiology, Duke University School of Medicine, Durham, NC, United States; [2]Duke Image Analysis Laboratory - Radiology, Duke University School of Medicine, Durham, NC, United States; [3]Medicine - Pulmonary, Duke University School of Medicine, Durham, NC, United States; [4]Anesthesiology - GTVU Divison, Duke University School of Medicine, Durham, NC, United States

Computer 39 **4112. Comparison of the Utility of Whole-Body MRI with and Without Quick 3D and Double RF Fat Suppression Techniques, PET/CT and Conventional Examination for Assessment of Recurrence in NSCLC Patients**
Yoshiharu Ohno[1, 2], Mizuho Nishio[1, 2], Hisanobu Koyama[3], Takeshi Yoshikawa[1, 2], Sumiaki Matsumoto[1, 2], Nobukazu Aoyama[4], Katsusuke Kyotani[4], Saori Satou[5], Hideaki Kawamitsu[4], Satoru Takahashi, [3,4], Kazuro Sugimura[3]
[1]Advanced Biomedical Imaging Research Center, Kobe University Graduate School of Medicine, Kobe, Hyogo, Japan; [2]Division of Functional and Diagnostic Imaging Research, Department of Radiology, Kobe University Graduate School of Medicine, Kobe, Hyogo, Japan; [3]Division of Radiology, Department of Radiology, Kobe University Graduate School of Medicine, Kobe, Hyogo, Japan; [4]Center forRadiology and Radiation Oncology, Kobe University Hospital, Kobe, Hyogo, Japan; [5]Toshiba Medical Systems, Ohtawara, Tochigi, Japan

Computer 40 **4113. Comparison of Assessment of Preoperative Pulmonary Vasculature in NSCLC Patients by Non-Contrast-Enhanced and 4D Contrast-Enhanced MR Angiography at 3T and by Contrast-Enhanced MDCT Using a 64-Detector Row System**

Yoshiharu Ohno[1, 2], Mizuho Nishio[1, 2], Hisanobu Koyama[3], Takeshi Yoshikawa[1, 2], Sumiaki Matsumoto[1, 2], Nobukazu Aoyama[4], Katsusuke Kyotani[4], Saori Satou[5], Hideaki Kawamitsu[4], Satoru Takahashi, [3 4], Kazuro Sugimura[3]
[1]Advanced Biomedical Imaging Research Center, Kobe University Graduate School of Medicine, Kobe, Hyogo, Japan; [2]Division of Functional and Diagnostic Imaging Research, Department of Radiology, Kobe University Graduate School of Medicine, Kobe, Hyogo, Japan; [3]Division of Radiology, Department of Radiology, Kobe University Graduate School of Medicine, Kobe, Hyogo, Japan; [4]Center forRadiology and Radiation Oncology, Kobe University Hospital, Kobe, Hyogo, Japan; [5]Toshiba Medical Systems, Ohtawara, Tochigi, Japan

Computer 41 **4114. Evaluation of Signal-To-Noise Ratio, T2, and T2* for Hyperpolarized Helium-3 MRI of the Human Lung at Three Magnetic Field Strengths**

Peter Komlosi[1], Talissa A. Altes[1], Kun Qing[1], Karen E. Mooney[2], G. Wilson Miller[1], Jaime F. Mata[1], Eduard E. De Lange[1], William A. Tobias[2], Gordon D. Cates Jr.[2], John P. Mugler, III[1]
[1]Department Radiology and Medical Imaging, University of Virginia, Charlottesville, VA, United States; [2]Department of Physics, University of Virginia, Charlottesville, VA, United States

Computer 42 **4115. Short- And Long-Time-Scale Hyperpolarized ^{3}He Diffusion MRI in Healthy, Second-Hand Smoking, COPD and Asthma Subjects**

Chengbo Wang[1], John P. Mugler, III[2], Eduard E. De Lange[2], G Wilson Miller[2], Talissa A. Altes[2]
[1]Faculty of Science and Engineering, University of Nottingham Ningbo China, Ningbo, Zhejiang, China; [2]Radiology and Medical Imaging, University of Virginia, CHARLOTTESVLE, VA, United States

Computer 43 **4116. Increased Anisotropy in the Subpleural Lung as Assessed with Hyperpolarized He3 Imaging**

Peter Komlosi[1], Talissa A. Altes[1], Kun Qing[1], G. Wilson Miller[1], Jaime F. Mata[1], Gordon D. Cates Jr.[2], Eduard E. De Lange[1], John P. Mugler, III[1]
[1]Department Radiology and Medical Imaging, University of Virginia, Charlottesville, VA, United States; [2]Department of Physics, University of Virginia, Charlottesville, VA, United States

Computer 44 **4117. *in vivo* Helium-3 MR-Elastography: Assessment in Small Animal and Human Lungs**

Roberta Santarelli[1], Marion Tardieu[1], Ralph Sinkus[2], Pierre-Yves Brillet[3], Luc Darrasse[1], Xavier Maître[1]
[1]IR4M, Université Paris sud-XI, Orsay, Ile de France, France; [2]Centre de Recherches Biomédicales Bichat-Beaujon, Paris, Ile de France, France; [3]3Réponses Cellulaires et Fonctionnelles à l'Hypoxie, Bobigny, Ile de France, France

Computer 45 **4118. Dynamic Ventilation 3He MRI of Human Lung: Correlations and Reproducibility Study Using Free-Breath Administration with Volumetric Bolus Monitoring**

Maxim Terekhov[1], Klaus Gast[2], Manuela Gueldner[3], Julien Rivoire[1], Ursula Wolf[2], Janet Friedrich[1], Sergej Karpuk[3], Laura Maria Schreiber[1]
[1]Department Radiology, Section of Medical Physics, Johannes Gutenberg University Medical Center Mainz, Mainz, Germany; [2]Department of Radiology, Johannes Gutenberg University Medical Center Mainz, Mainz, Germany; [3]Institute of Physics, Johannes Gutenberg University, Mainz, Germany

Computer 46 **4119. T_2^* Measurements of Dissolved-Phase ^{129}Xe in the Human Lungs at 1.5 T and 3 T**

Xiaojun Xu[1], General Leung[1], Graham Norquay[1], Helen Marshall[1], Juan Parra-Robles[1], Jim M. Wild[1]
[1]Academic Radiology, University of Sheffield, Sheffield, South Yorkshire, United Kingdom

Computer 47 **4120. Voxelwise Comparison of Hyperpolarized He-3 and Xe-129 Lung Ventilation MR Imaging in Cystic Fibrosis**

Nicholas J. Tustison[1], Alicia Muratore[1], Benjamin Contrella[1], John P. Mugler, III[1], Eduard E. De Lange[1], Talissa A. Altes[1]
[1]Department of Radiology and Medical Imaging, University of Virginia, Charlottesville, VA, United States

Computer 48 **4121. Quantification of Human Lung Function and Structure Using Dissolved-Phase Hyperpolarized ^{129}Xe**

Yulin V. Chang[1], James D. Quirk[2], Iulian C. Ruset[3], Jeffrey J. Atkinson[4], F. William Hersman[3], Jason C. Woods[2]
[1]Radiology, Washington University in Saint Louis, St. Louis, MO, United States; [2]Radiology, Washington University, St. Louis, MO, United States; [3]Xemed LLC, Durham, NH, United States; [4]Department of Medicine, Washington University, St. Louis, MO, United States

Electronic Poster
Genitourinary / Fetal

Exhibition Hall Wednesday 14:30-15:30

Computer 25 **4122.** **Placental MR Imaging in Fetuses with Placental Insufficiency**
Yoshimitsu Ohgiya[1], Hiroshi Nobusawa[2], Noritaka Seino[1], Makoto Saiki[1], Yui Onoda[1], Jumpei Suyama[1], Masanori Hirose[1], Takehiko Gokan[1]
[1]Department of Radiology, Showa University School of Medicine, Tokyo, Japan; [2]Department of Radiology, Kawasaki saiwai hospital, Kawasaki-shi, Kanagawa-ken, Japan

Computer 26 **4123.** **Amide Proton Transfer (APT) Imaging of Uterine Tumors: A Preliminary Clinical Study**
Yukihisa Takayama[1], Akihiro Nishie[2], Osamu Togao[1], Yoshiki Asayama[2], Yasuhiro Ushijima[2], Nobuhiro Fujita[2], Takashi Yoshiura[2], Makoto Obara[3], Jochen Keupp[4], Hiroshi Honda[2]
[1]Department of Molecular Imaging and Diagnosis, Graduate School of Medical Sciences, Kyushu University, Fukuoka, Japan; [2]Department of Clinical Radiology, Graduate School of Medical Sciences, Kyushu University, Fukuoka, Japan; [3]Philips Electronics Japan, Tokyo, Japan; [4]Philips Technologie GmbH Forschungslaboratorien, Hamburg, Germany

Computer 27 **4124.** **Diffusion-Weighted MR Imaging and MR Spectroscopy in the Assessment of Tumor Grade and Depth of Myometrial Invasion in Malignant Endometrial Tumors**
Mayumi Takeuchi[1], Kenji Matsuzaki[1], Masafumi Harada[1]
[1]Department of Radiology, University of Tokushima, Tokushima, Japan

Computer 28 **4125.** **Role of Intravoxel Incoherent Motion MR Imaging in Evaluating Different Types of Uterine Fibroids in Patient Selection Before MR-Guided Focused Ultrasound Ablation**
Rong Rong[1], Juan Wei[2], Xuedong Yang[1], Jing Liu[1], Ying Zhu[1], Bilgin Keserci[3], Xiaoying Wang[1]
[1]Radiology Department, Peking University First Hospital, Beijing, China; [2]Philips Research Asia, Shanghai, China; [3]Philips Healthcare South Korea, Seoul, Korea

Computer 29 **4126.** **Quantitative Phase Imaging in Mouse Pregnancy**
Uday Krishnamurthy[1], Yimin Shen[2], Gabor Szalai[3], Jaladhar Neelavalli[2], Bing Wang[3], Tinnakorn Chaiworapongsa[3, 4], Edgar Hernandez-Andrade[3, 4], Nandor Gabor Than[3, 4], Ewart Mark Haacke[2], Roberto Romero[3]
[1]Department of Biomedical Engineering, Wayne State University, Detroit, MI, United States; [2]Department of Radiology, Wayne State University, Detroit, MI, United States; [3]Perinatology Research Branch, NICHD, NIH, DHHS, Wayne State University, Detroit, MI, United States; [4]Department of Obstetrics and Gynecology, Wayne State University, Detroit, MI, United States

Computer 30 **4127.** **In-Utero Blood Flow Quantification by Phase-Contrast MRI Using a New Triggering Method: Comparison with Doppler Ultrasound Measurements in a Sheep Model**
Jin Yamamura[1], Chressen K. Much[1], Manuela Tavares de Sousa[2], Friedrich Ueberle[3], Hendrik Kooijman[4], Gerhard Adam[1], Ulrike Wedegärtner[1], Björn P. Schönnagel[1]
[1]Diagnostic and Interventional Radiology, University Medical Center-Hamburg, Hamburg, Germany; [2]Obstetrics and Fetal Medicine, University Medical Center-Hamburg, Hamburg, Germany; [3]Hamburg University of Applied Sciences, Hamburg, Germany; [4]Philips Medical Systems, Hamburg, Germany

Computer 31 **4128.** **MR Manifestations of Ovarian Thecomas/fibrothecomas: Conventional and Diffusion-Weighted MR Imaging**
Mayumi Takeuchi[1], Kenji Matsuzaki[1], Masafumi Harada[1]
[1]Department of Radiology, University of Tokushima, Tokushima, Japan

Computer 32 **4129.** **Assessment of Late-Onset Fetal Growth Restriction by Phase Contrast MR**
Joshua F. P. van Amerom[1, 2], Christopher W. Roy[3], Milan Prsa[2], John C. Kingdom[4], Christopher K. Macgowan, [2,3], Mike Seed[1, 2]
[1]Labatt Family Heart Centre, Div. of Cardiology, Dept. of Paediatrics, Hospital for Sick Children, Toronto, ON, Canada; [2]Dept. of Diagnostic Imaging, Hospital for Sick Children, Toronto, ON, Canada; [3]Dept. of Medical Biophysics, University of Toronto, Toronto, ON, Canada; [4]Dept. of Obstetrics and Gynaecology, Maternal-Fetal Medicine Div., Mount Sinai Hospital, Toronto, ON, Canada

Computer 33 **4130. The Effect of Maternal Smoking on Placental Blood Flow Assessed Using IVIM**

Devasuda Anblagan[1], Nia W. Jones[2], Carolyn Costigan[1], Ruta Deshpande[2], Nick Raine-Fenning[3], George Bugg[2], Zdenka Pausova[4, 5], Tomas Paus[6, 7], Penelope A. Gowland[1]

[1]Sir Peter Mansfield Magnetic Resonance Centre, University of Nottingham, Nottingham, Nottinghamshire, United Kingdom; [2]Nottingham University Hospitals NHS Trust, Nottingham, Nottinghamshire, United Kingdom; [3]Division of Obstetrics & Gynaecology, School of Clinical Sciences, University of Nottingham, Nottingham, Nottinghamshire, United Kingdom; [4]Research Institute of the Hospital for Sick Children, University of Toronto, Toronto, Ontario, Canada; [5]Universite de Montreal, Montreal, Quebec, Canada; [6]Rotman Research Institute, University of Toronto, Toronto, Ontario, Canada; [7]School of Psychology, University of Nottingham, Nottingham, Nottinghamshire, United Kingdom

Computer 34 **4131. Endometrial Carcinoma: Staging Accuracy of Diffusion Weighted Images**

Shaza AlSharif[1], Stephanie Nougaret[1], Helen Addley[2], Jocelyne Arseneau[1], Evis Sala[2], Caroline Reinhold[1]

[1]Radiology, McGill University, Montreal, QC, Canada; [2]Radiology, University of Cambridge, Cambridge, United Kingdom

Computer 35 **4132. Evaluation of Uterine Peristalsis at Coronal Plane of Cine MRI: Comparison with Sagittal Plane and Correlation with Ovulation Side**

Fuki Shitano[1], Aki Kido[1], Masako Kataoka[1], Koji Fujimoto[2], Kayo Kiguchi[1], Kyoko Takakura[1], Yuki Himoto[2], Kaori Togashi[1]

[1]Department of Diagnostic Imaging and Nuclear Medicine, Graduate School of Medicine, Kyoto University, Kyoto, Japan; [2]Department of Diagnostic Imaging and Nuclear Medicine, Kyoto University, Kyoto, Japan

Computer 36 **4133. Measuring Venous Blood Oxygenation in Fetal Brain Using Susceptibility Weighted Imaging**

Pavan Kumar Jella[1], Jaladhar Neelavali[2], Uday Krishnamurthy[3], Swati Mody[2], Lami Yeo[4, 5], Yashwanth Katkuri[2], Ray O. Bahado-Singh[6], Sonia Hassan[4, 5], Haacke Mark Ewart[2], Robert Romero[5], Moriah Thomason[5, 7]

[1]Biomedical Engineering , Wayne state university, Detroit, MI, United States; [2]Department of Radiology, Wayne State University, Detorit, MI, United States; [3]Biomedical Engineering, Wayne state university, Detroit, MI, United States; [4]Department of Obstetrics and Gynecology, Wayne state university, Detroit, MI, United States; [5]Perinatology Research Branch, Wayne State University, Detroit, MI, United States; [6]Department of Obstetrics and Gynecology, Wayne state university, Detorit, MI, United States; [7]Department of Pediatrics, Wayne State University, Detroit, MI, United States

Computer 37 **4134. Characterizing Unilateral Ureter Obstruction of Mouse Kidney with Chemical Exchange Saturation Transfer and Magnetization Transfer Methods**

ISMRM MERIT AWARD magna cum laude

Feng Wang[1, 2], Zhongliang Zu[1, 2], Keiko Takahashi[3], John C. Gore[1, 2], Raymond C. Harris[3], Takamune Takahashi[3], Christopher C. Quarles[1, 2]

[1]Institute of Imaging Science, Vanderbilt University, Nashville, TN, United States; [2]Radiology and Radiological Sciences, Vanderbilt University, Nashville, TN, United States; [3]O'Brien Mouse Kidney Physiology and Disease Center, Vanderbilt University, Nashville, TN, United States

Computer 38 **4135. Intra-Renal Oxygenation Measurement by BOLD MRI in Contrast Induced Nephropathy Model: Effect of Interventions**

Lu-Ping Li[1], Jon Thacker[2], Tammy Franklin[2], Hongyan Du[3], Anindya Sen[2], Maria Papadopulou-Rosenzweig[4], Richard Solomon[5], Pottumarthi Vara Prasad[2]

[1]Radiology, Northshore University Healthsystem, Evanston, IL , United States; [2]Radiology, Northshore University Healthsystem, Evanston, IL, United States; [3]Center for Clinical & Research Informatics, Northshore University Healthsystem, Evanston, IL, United States; [4]Radiation Medicine, Northshore University Healthsystem, Evanston, IL, United States; [5]Nephrology, University of Vermont, Burlington,, VT, United States

Computer 39 **4136. Single Breath-Hold Renal T1 Imaging at 7T**

Xiufeng Li[1], Patrick J. Bolan[1], Kamil Ugurbil[1], Gregory J. Metzger[1]

[1]Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, MN, United States

Computer 40 **4137. Optimization of QBOLD Methods for the Assessment of Mouse Renal Oxygenation**

Feng Wang[1, 2], David A. Hormuth, II[1, 3], Keiko Takahashi[4], John C. Gore[1, 2], Raymond C. Harris[4], Takamune Takahashi[4], Christopher C. Quarles[1, 2]

[1]Institute of Imaging Science, Vanderbilt University, Nashville, TN, United States; [2]Radiology and Radiological Sciences, Vanderbilt University, Nashville, TN, United States; [3]Biomedical Engineering, Vanderbilt University, Nashville, TN, United States; [4]O'Brien Mouse Kidney Physiology and Disease Center, Vanderbilt University, Nashville, TN, United States

Computer 41 **4138. Cisterna Chyli in Autosomal Dominant Polycystic Kidney Disease**
Nanda Deepa Thimmappa[1], Michelle Ann C. Cerilles[1], Allison Dunning[2], Stephanie Donahue[3], Honglei Zhang[1], Jon D. Blumenfeld[3, 4], Martin R. Prince[1]
[1]Radiology, Weill Cornell Medical College, New York, NY, United States; [2]Dept of Statistics, Weill Cornell Medical College, New York, NY, United States; [3]Nephrology, The Rogosin Institute,, New York, NY, United States; [4]Nephrology, Weill Cornell Medical College, New York, NY, United States

Computer 42 **4139. Reproducibility of Renal Artery Flow and BOLD (R2*) in Renal Impaired Patients**
Dinah S. Khatir[1], Niels H. Buus[1], Michael Pedersen[2]
[1]Department of Nephrology, Aarhus University Hospital, Aarhus, Denmark; [2]MR Research Center, Aarhus University Hospital, Aarhus, Denmark

Computer 43 **4140. *In Vivo* Functional Sodium MR Imaging of the Human Kidneys at 7 Tesla**
Stefan Zbýn[1], Vladimir Juras[1], Henrik J. Michaely[2], Xeni Deligianni[3], Oliver Bieri[3], Stefan O. Schoenberg[2], Siegfried Trattnig[1], Stefan Haneder[2]
[1]MR Center of Excellence, Department of Radiology, Medical University of Vienna, Vienna, Austria; [2]Institute of Clinical Radiology and Nuclear Medicine, University Medical Center Mannheim, Heidelberg University, Mannheim, Germany; [3]Division of Radiological Physics, Department of Radiology, University of Basel Hospital, Basel, Switzerland

Computer 44 **4141. Single Slice Vs. Whole Organ MR-Renography**
KS Winter[1], Michael Ingrisch[1], Michael Staehler[1], Andreas D. Helck[1], Margarita Braunagel[1], Maximilian F. Reiser[1], Konstantin Nikolaou[1], Mike Notohamiprodjo[1]
[1]University Hospitals Munich, Munich, Bavaria, Germany

Computer 45 **4142. Sodium T_2* Mapping of the Human Kidneys *in Vivo* at 7 Tesla**
Stefan Zbýn[1], Vladimir Juras[1], Henrik J. Michaely[2], Xeni Deligianni[3], Oliver Bieri[3], Stefan O. Schoenberg[2], Siegfried Trattnig[1], Stefan Haneder[2]
[1]MR Center of Excellence, Department of Radiology, Medical University of Vienna, Vienna, Austria; [2]Institute of Clinical Radiology and Nuclear Medicine, University Medical Center Mannheim, Heidelberg University, Mannheim, Germany; [3]Division of Radiological Physics, Department of Radiology, University of Basel Hospital, Basel, Switzerland

Computer 46 **4143. Noninvasive Assessment of Acute Kidney Injury with Diffusion Weighted MR Imaging: A Prospective Study**
Jian Dong[1], Li Yang[2], Tao Su[2], Xiaoying Wang[1], Xuexiang Jiang[1]
[1]Radiology, Peking University First Hospital, Beijing, China; [2]Nephrology, Peking University First Hospital, Beijing, China

Computer 47 **4144. MR GFR Measures Vs MDRD Estimates of Renal Function in Cirrhotics**
Marta E. Heilbrun[1], Kathryn A. Morton[2], Lei Zhang[3], Christopher C. Conlin[4], Pierre-Hughes Vivier[5], Vivian S. Lee
[1]Radiology, University of Utah, Salt Lake City, UT, United States; [2]Univ of Utah, Salt Lake City, UT, United States; [3]UCAIR, Univ of Utah, Salt Lake City, UT, United States; [4]UCAIR, University of Utah, Salt Lake City, UT, United States; [5]Department of Radiology, Rouen University Hospital, Rouen, France

Computer 48 **4145. DTI and Tractography of the Kidney in Children: Feasibility and Correlation with Functional MR Urography**
Camilo James[1], Kassa Darge[1, 2], Dmitry Khirchenko[1], Rob Carson[1], Jeffrey I. Berman[1, 2]
[1]Radiology, Children's Hospital of Philadelphia, Philadelphia, PA, United States; [2]Radiology, University of Pennsylvania, Philadelphia, PA, United States

Electronic Poster
Whole Body DWI

Exhibition Hall Wednesday 13:30-14:30

Computer 49 **4146. Assessment of Whole-Body DWI Combined Size and ADC Criteria for Determination of Nodal Disease Status in Paediatric Hodgkin's Lymphoma**

ISMRM MERIT AWARD magna cum laude

Arash Latifoltojar[1], Paul Humphries[1], Ananth Shankar, Stephen Daw, Stuart Taylor[1], Shonit Punwani[1]
[1]Centre for Medical Imaging, UCL, London, United Kingdom

Computer 50 **4147. Whole-Body Diffusion-Weighted MRI: Spectrum of Pitfalls, Unusual Cases, Unexpected Findings and Artifacts**
Anwar R. Padhani[1], Hemmy K. Sokhi[1], Andres Gogbashian[1]
[1]Paul Strickland Scanner Centre, Mount Vernon Cancer Centre, Northwood, Middlesex, United Kingdom

Computer 51 **4148. More Accurate Volume and ADC Measurements of Heterogeneous Tumor in Diffusion-Weighted MR Imaging: With Correlation to PET/CT**
ISMRM MERIT AWARD magna cum laude
Nan-Jie Gong[1], Chun-Sing Wong[1], Yiu-Ching Chu[2], Bingsheng Huang[1], Queenie Chan[3]
[1]Diagnostic Radiology, Li Ka Shing Faculty of Medicine, The University of Hong Kong, Hong Kong, China; [2]Radiology, Kwong Wah Hospital, Hong Kong, China; [3]Philips Healthcare, Hong Kong, China

Computer 52 **4149. The Effects of Region of Interest Errors on Estimates of Whole-Body Tumour Volume and ADC in Patients with Bone Metastases.**
Matthew D. Blackledge[1], Nina Tunariu[1], David John Collins[1], Anwar R. Padhani[2], Martin O. Leach[1], Dow M. Koh[1]
[1]CRUK and EPSRC Cancer Imaging Centre, Institute of Cancer Research, Sutton, Surrey, United Kingdom; [2]Paul Strickland Scanner Centre, Mount Vernon Hospital, Northwood, Middlesex, United Kingdom

Computer 53 **4150. Whole Skeleton ADC Histogram Characteristics of Normal Marrow and Myeloma Infiltrated Marrow in Patients with Low and High Disease Burden**
Christina Messiou[1], Sharon L. Giles[1], David John Collins[1, 2], Faith E. Davies[3, 4], Gareth Morgan[3, 4], Nandita M. deSouza, [12]
[1]MRI Department, Royal Marsden Hospital, Sutton, Surrey, United Kingdom; [2]Clinical Magnetic Resonance, Institute of Cancer Research, Sutton, Surrey, United Kingdom; [3]Haemato-oncology Department, Royal Marsden Hospital, Sutton, Surrey, United Kingdom; [4]Molecular Pathology, Institute of Cancer Research, Sutton, Surrey, United Kingdom

Computer 54 **4151. *in vivo* High Resolution Renal Diffusion MRI: Diffusion-Prepared Balanced Steady State Free Precession (Diffu-Prep BSSFP)**
Christopher Nguyen[1, 2], Zhaoyang Fan[1], Behzad Sharif[1], Rohan Dharmakumar[1], Rola Saouaf[3], Hyung L. Kim[4], Debiao Li[1, 2]
[1]Biomedical Imaging Research Institute, Cedars Sinai Medical Center, Los Angeles, CA, United States; [2]Bioengineering, University of California, Los Angeles, Los Angeles, CA, United States; [3]Radiology, Cedars Sinai Medical Center, Los Angeles, CA, United States; [4]Urology, Cedars Sinai Medical Center, Los Angeles, CA, United States

Computer 55 **4152. DTI of the Human Kidney: Does Image Co-Registration Permit Non-Triggered Scanning?**
Maryam Seif[1], Huanxiang Lu[2], Chris Boesch[1], Mauricio Reyes[2], Peter Vermathen[1]
[1]Depts Clinical Research and Radiology, University Bern, Bern, Switzerland; [2]Institute for Surgical Technology and Biomechanics, University Bern, Bern, Switzerland

Computer 56 **4153. Reproducibility, Intra- And Inter-Observer Variability of ADC Measurement by Volumetric Segmentation of Bone Marrow in Whole Body Diffusion-Weighted Imaging (WB-DWI)**
Sharon L. Giles[1], Catherine J. Simpkin[1], David John Collins[1, 2], Christina Messiou[1], Nandita M. deSouza, [12]
[1]MRI Department, Royal Marsden Hospital, Sutton, Surrey, United Kingdom; [2]Clinical Magnetic Resonance, Institute of Cancer Research, Sutton, Surrey, United Kingdom

Computer 57 **4154. Uniform and Reproducible ADC Measurement on Liver**
Tetsuo Ogino[1, 2], Toshiaki Miyati, Marc Van Cauteren[3], Tomohiko Horie[4], Yutaka Imai[5]
[1]Healthcare department, Philips Electronics Japan, LTD, Minato-ku, Tokyo, Japan; [2]Division of Health Sciences, Kanazawa University, Kanazawa, Ishikawa, Japan; [3]Philips Healthcare LTD, Minato-ku, Tokyo, Japan; [4]Dept. of Radiology, Tokai University Hospital, Isehara, Kanagawa, Japan; [5]Radiology, Tokai University, Isehara, Kanagawa, Japan

Computer 58 **4155. Large-Field-Of-View Test-Object for Assessment of Fat Suppression in Body DW-MRI**
Jessica M. Winfield[1], Naomi H. M. Douglas[1], David John Collins[1], Nandita M. deSouza[1]
[1]Institute of Cancer Research, Sutton, Surrey, United Kingdom

Computer 59 **4156. Correlation Study of Quantitative Diffusional Kurtosis Imaging with Serum Indicators in Liver Fibrosis**
He Wang[1], Naiyi Zhu[2], Fuhua Yan[2], Guang Cao, Xu Yan[3]
[1]MR Research China, GE Healthcare, Shanghai, China; [2]Department of Radiology, Ruijin Hospital, Shanghai, China; [3]East China Normal University, Shanghai, China

Computer 60 **4157. Robust Data Fitting for IVIM Imaging of Thoracic Lesions**
Gaspar Delso[1], Sangwoo Lee[2], Miguel Porto[1], Patrick Veit-Haibach[1]
[1]UniversitätsSpital Zürich, Zürich, Switzerland; [2]GE Healthcare, Seoul, Korea

Computer 61 **4158. Quality Assurance of Diffusion-Weighted MRI for Multicentre Clinical Trials**
Naomi H. M. Douglas[1], Jessica M. Winfield[1], Nandita M. deSouza[1], David John Collins[1], Matthew R. Orton[1]
[1]Radiotherapy and Imaging, Institute of Cancer Research, Sutton, Surrey, United Kingdom

Computer 62 **4159. The Influence of Perfusion Regime and T2 Relaxation on IVIM Imaging Parameter Estimation**
Sonia Isabel Goncalves[1, 2], Filipe Caseiro Alves[1, 2], Miguel Castelo Branco[1, 3]
[1]Medical Faculty, University Coimbra, Coimbra, Portugal; [2]Radiology, University Hospital Coimbra, Coimbra, Portugal; [3]Biomedical Institute for Research in Light and Image, University of Coimbra, Coimbra, Portugal

Computer 63 **4160. Diffusion-Weighted Imaging in Body Applications Using the Sliding Multislice Concept with Continuously Moving Table Acquisition**
Jochen G. Hirsch[1, 2], Alto Stemmer[3], Berthold Kiefer[3], Matthias Guenther[1, 2]
[1]University of Bremen, Bremen, Germany; [2]Fraunhofer MEVIS, Bremen, Germany; [3]SIEMENS AG Healthcare Sector, Erlangen, Bavaria, Germany

Computer 64 **4161. Intravoxel Incoherent Motion Diffusion-Weighted Imaging in Pediatric Abdominal Tumor**
Yanqing Xu[1], Li Wang[1], Zhongwei Qiao[1], Ed X. Wu[2]
[1]Department of Radiology, Children Hospital of Fudan University, Shanghai, China; [2]EEE of Department, Hong Kong University, Hong Kong, China

Computer 65 **4162. Diffusion-Weighted MRI for Differentiation of Thoracoabdominal Neuroblastic Tumors: Preliminary Results**
Yang Wen[1], Guangheng Yin[1], Yue Zhang[1], Yun Peng[1]
[1]Imaging Center, Beijing Children's Hospital, Capital Medical University, Beijing, China

Computer 66 **4163. B-Value Sampling Optimization for IVIM Diffusion Quantification in the Liver and Kidney at 1.5T and 3T**
Hadrien A. Dyvorne[1], Guido H. Jajamovich[1], Niels Oesingmann[2], Thorsten Feiweier[3], Ersin Bayram[4], Bachir Taouli[1]
[1]Mount Sinai School of Medicine, New York, NY, United States; [2]Siemens Medical Solutions USA, New York, NY, United States; [3]Siemens AG, Erlangen, Germany; [4]GE Healthcare, Waukesha, WI, United States

Computer 67 **4164. Fat Confounds the Observed Apparent Diffusion Coefficient in Patients with Hepatic Steatosis**
Jan Hansmann[1, 2], Diego Hernando[3, 4], Scott B. Reeder, [45]
[1]Institute of Clinical Radiology and Nuclear Medicine, University Medical Center Mannheim, Mannheim, BW, Germany; [2]Radiology, University of Wisconsin , Madison, WI, United States; [3]Radiology, University of Wisconsin-Madison, Madison, WI, United States; [4]Medical Physics, University of Wisconsin, Madison, WI, United States; [5]Radiology, University of Wisconsin, Madison, WI, United States

Computer 68 **4165. Reproducibility Improvement of ADC Measurement on Left Lobe of Liver**
Tetsuo Ogino[1], Toshiaki Miyati[2], Marc Van Cauteren[3], Tomohiko Horie[4], Yutaka Imai[5]
[1]Healthcare department, Philips Electronics Japan, LTD, Minato-ku, Tokyo, Japan; [2]Kanazawa University, Kanazawa, Ishikawa, Japan; [3]Philips Healthcare LTD, Minato-ku, Tokyo, Japan; [4]Dept. of Radiology, Tokai University Hospital, Isehara, Kanagawa, Japan; [5]Radiology, Tokai University, Isehara, Kanagawa, Japan

Computer 69 **4166. Evaluation of Hepatic Focal Lesions Using Diffusion-Weighted MR Imaging: Comparison of Apparent Diffusion Coefficient and Intravoxel Incoherent Motion Derived Parameters**
Jeong Hee Yoon[1], Jeong Min Lee[1]
[1]Seoul National University Hospital, Seoul, Korea

Computer 70 **4167. The Repeatability of ADC and IVIM Metrics in the Liver: A Comparison of Free Breathing, Respiratory Triggered, and Breathhold Techniques**
Alexander D. Cohen[1], Moira F. Schieke[2], Kathleen M. Schmainda[2]
[1]Biophysics, Medical College of Wisconsin, Milwaukee, WI, United States; [2]Radiology, Medical College of Wisconsin, Milwaukee, WI, United States

Computer 71 **4168. Synthesized Diffusion Weighted Imaging in Liver: Comparison Between Conventional ADC and IVIM Fitting Models**
Tetsuya Wakayama[1], Utaroh Motosugi[2], Shintaro Ichikawa[2], Hiroyuki Morisaka[2], Hiroyuki Kabasawa[1]
[1]Global Applied Science Laboratory, GE Healthcare, Hino, Tokyo, Japan; [2]Radiology, University of Yamanashi, Chuo, Yamanashi, Japan

Computer 72 **4169. Comparing the Results of Intravoxel Incoherent Motion Diffusion-Weighted Imaging Calculated by Different Estimation Methods**
Utaroh Motosugi[1], Tetsuya Wakayama[2], Tomoaki Ichikawa[1], Tsutomu Araki[1], Suguru Kakite[3], Hadrien A. Dyvorne[3]
[1]Radiology, University of Yamanashi, Japan; [2]Advanced Application Center, GE Healthcare, Japan; [3]Radiology, Mount Sinai School of Medicine, New York, United States

Electronic Poster
Contrast Mechanisms: Electromagnetic Property Mapping

Exhibition Hall Wednesday 16:00-17:00

Computer 1 **4170. MREIT Conductivity Imaging of Pneumonic Canine Lung: Preliminary Feasibility Study**
Woo Chul Jeong[1], Munish Chauhan[1], Hyung Joong Kim[1], Hee Myung Park[2], Oh In Kwon[2], Eung Je Woo[1]
[1]Kyung Hee University, Yongin, Gyeonggi, Korea; [2]Konkuk University, Seoul, Korea

Computer 2 **4171. Comparison of Data Approximation Methods Used in MR-Based Tissue Electrical Property Mapping – a Simulation Study**
Selaka Bandara Bulumulla[1], Seung-kyun Lee[1], Ileana Hancu[1]
[1]GE Global Research, Niskayuna, NY, United States

Computer 3 **4172. Experimental Evaluation of Frequency-Dependent Conductivity Using a Simultaneous Imaging of MREIT and MREPT**
Munish Chauhan[1], Min Oh Kim[2], Woo Chul Jeong[1], Hyung Joong Kim[1], Oh In Kwon[3], Eung Je Woo[1], Dong Hyun Kim[2]
[1]Kyung Hee University, Yongin, Gyeonggi, Korea; [2]Yonsei University, Seoul, Korea; [3]Konkuk University, Seoul, Korea

Computer 4 **4173. Phase Unbanding in BSSFP for Liver Conductivity Imaging at 3.0T**
Min-Oh Kim[1], Narae Choi[1], Jaewook Shin[1], Joonsung Lee[1], Dong-Hyun Kim[1]
[1]Electrical and Electronic Engineering, Yonsei University, Seoul, Korea

Computer 5 **4174. How Well Can Magnetic Susceptibility Anisotropy Be Estimated? an Error Analysis of Cylindrically Symmetric Susceptibility Tensor Reconstructions from Few Orientations**
Cynthia Wisnieff[1], Pascal Spincemaille[2], Tian Liu[3], Yi Wang[1]
[1]Cornell Univerisity, New York, United States; [2]Weill Cornell Medical College, New York, United States; [3]Medimagemetric, New York, United States

Computer 6 **4175. Generalized Local Maxwell Tomography for Mapping of Electrical Property Gradients and Tensors**
Daniel K. Sodickson[1, 2], Leeor Alon[1, 2], Cem Murat Deniz,[23], Noam Ben-Eliezer[1], Martijn A. Cloos[1], Lester A. Sodickson[4], Christopher Michael Collins[1, 2], Graham C. Wiggins[1], Dmitry S. Novikov[1]
[1]Bernard and Irene Schwartz Center for Biomedical Imaging, Department of Radiology, New York University School of Medicine, New York, NY, United States; [2]Sackler Institute of Graduate Biomedical Sciences, New York University School of Medicine, New York, NY, United States; [3]Bernard and Irene Schwartz Center for Biomedical Imaging, Department of Radiology, New York University, New York, NY, United States; [4]Cambridge Research Associates, Newton, MA, United States

Computer 7 **4176. Characterization of Prostate Tissues Using MREIT Conductivity Imaging: *In Vivo* Canine Study**
Hyung Joong Kim[1], Woo Chul Jeong[1], Munish Chauhan[1], Hee Myung Park[2], Oh In Kwon[2], Eung Je Woo[1]
[1]Kyung Hee University, Yongin, Gyeonggi, Korea; [2]Konkuk University, Seoul, Korea

Computer 8 **4177. Localized Electrical Property Retrieval – Theories and Numerical Examples**
Shao Ying Huang[1], Elfar Adalsteinsson[2], Berkin Bilgic[2], Shaohui Foong[1], Lawrence L. Wald[3]
[1]Singapore University of Technology and Design, Singapore, Singapore; [2]Massachusetts Institute of Technology, Cambridge, MA, United States; [3]Massachusetts General Hospital, Charlestown, MA, United States

Computer 9 **4178. Determining the Patient-Specific Conductivity of Pelvic Tumours for Use in Hyperthermia Treatment Planning**
E. Balidemaj[1], A.L van Lier[2], J. Crezee[1], R.F. Remis[3], Aart J. Nederveen[4], L.J.A. Stalpers[1], C.A.T. van den Berg[2]
[1]Radiotherapy, Academic Medical Center, Amsterdam, Netherlands; [2]Radiotherapy, UMC Utrecht, Utrecht, Netherlands; [3]Faculty of Electrical Engineering, TU Delft, Delft, Netherlands; [4]Radiology, Academic Medical Center, Amsterdam, Netherlands

Computer 10 **4179. Optimal Combination of a Multi-Receive Coil for Conductivity Mapping Using Phase Based MREPT**
Joonsung Lee[1], Narae Choi[1], Jaewook Shin[1], Dong-Hyun Kim[1]
[1]Electrical & Electronic Engineering, Yonsei University, Seoul, Korea

Computer 11 **4180. Coil Combine for Conductivity Mapping of Breast Cancer**
Jaewook Shin[1], Min Jung Kim[2], Joonsung Lee[1], Minoh Kim[1], Narae Choi[1], Yoonho Nam[1], Dong-Hyun Kim[1]
[1]Electrical and Electronic Engineering, Yonsei University, Seoul, Seodaemun-gu, Korea; [2]Research Institute of Radiological Science, Yonsei University College of Medicine, Seoul, Seodaemun-gu, Korea

Computer 12 **4181. Evaluation of Effective Regions in Deep Brain Stimulation Using MR-Based Current Density Imaging (MRCDI): *In Vivo* Canine Brain Study**
Munish Chauhan[1], Saurav ZK Sajib[1], Woo Chul Jeong[1], Hyung Joong Kim[1], Oh In Kwon[2], Eung Je Woo[1]
[1]Kyung Hee University, Yongin, Gyeonggi, Korea; [2]Konkuk University, Seoul, Korea

Computer 13 **4182. Detection of Neural Activity Using Magnetic Resonance Electrical Impedance Tomography**
Rosalind J. Sadleir[1, 2], Corey A. Falgas[3, 4], Samuel C. Grant[3, 4], Eung Je Woo[2]
[1]J. Crayton Pruitt Department of Biomedical Engineering, University of Florida, Gainesville, FL, United States; [2]Biomedical Engineering, Kyung Hee University, Yongin, Gyeonggi-do, Korea; [3]Dept. of Chemical & Biomedical Engineering, The Florida State University, Tallahassee, FL, United States; [4]The National High Magnetic Field Laboratory, Tallahassee, FL, United States

Computer 14 **4183. Reduction of Boundary Artifact in Electrical Property Mapping Using MREPT**
ISMRM MERIT AWARD magna cum laude
Joonsung Lee[1], Narae Choi[1], Jin Keun Seo[2], Dong-Hyun Kim[1]
[1]Electrical & Electronic Engineering, Yonsei University, Seoul, Korea; [2]Computational Science & Engineering, Yonsei University, Seoul, Korea

Computer 15 **4184. Evaluation of Liver Radiofrequency Ablation Lesions Using MREIT Conductivity Imaging**
Hyung Joong Kim[1], Munish Chauhan[1], Woo Chul Jeong[1], Oh In Kwon[2], Eung Je Woo[1]
[1]Kyung Hee University, Yongin, Gyeonggi, Korea; [2]Konkuk University, Seoul, Korea

Computer 16 **4185. CSI-EPT: A Novel Contrast Source Inversion Approach to EPT and Patient-Specific SAR Based on B_1+ Maps**
ISMRM MERIT AWARD magna cum laude
E. Balidemaj[1], R.F. Remis[2], A.L van Lier[3], J. Crezee[1], Aart J. Nederveen[4], Alessandro Sbrizzi[3], L.J.A. Stalpers[1], C.A.T. van den Berg[3]
[1]Radiotherapy, Academic Medical Center, Amsterdam, Netherlands; [2]Faculty of Electrical Engineering, TU Delft, Delft, Netherlands; [3]Radiotherapy, UMC Utrecht, Utrecht, Netherlands; [4]Radiology, Academic Medical Center, Amsterdam, Netherlands

Computer 17 **4186. Investigating the Effect of Image Resolution on Susceptibility Values Inside the Vessels for Venous Oxygen Saturation Quantification**
Jin Tang[1], Thomas Stewart Denney[2], Nouha Salibi[3], Sagar Buch[4], Yongquan Ye[5], Ewart Mark Haacke[1, 5]
[1]Magnetic Resonance Innovations, Detroit, MI, United States; [2]MRI Research Center, Department of Electrical and Computer Engineering, Auburn University, Auburn, AL, United States; [3]Siemens Healthcare USA, Malvern, PA, United States; [4]School of Biomedical Engineering, McMaster University, Hamilton, ON, Canada; [5]Academic Radiology, Wayne State University, Detroit, MI, United States

Computer 18 **4187. Magnetic Resonance Electrical Properties Tomography (MREPT) Based on the Solution of the Convection-Reaction Equation**
ISMRM MERIT AWARD magna cum laude
Fatih Suleyman Hafalir[1], Omer Faruk Oran[1], Necip Gurler[1], Yusuf Ziya Ider[1]
[1]Electrical and Electronics Engineering, Bilkent University, Ankara, Turkey

Computer 19 **4188.** **Convection-Reaction Equation Based Low-Frequency Conductivity Imaging Using Readout Gradient Induced Eddy Currents**

ISMRM MERIT AWARD magna cum laude

Omer Faruk Oran[1], Fatih Suleyman Hafalir[1], Necip Gurler[1], Yusuf Ziya Ider[1]
[1]Electrical and Electronics Engineering, Bilkent University, Ankara, Turkey

Computer 20 **4189.** **Single Acquisition Electrical Property Mapping**

José P. Marques[1], Daniel K. Sodickson[2], Christopher Michael Collins[2], Rolf Gruetter[3, 4]
[1]CIBM, University of Lausanne, Lausanne, Vaud, Switzerland; [2]Bernard and Irene Schwartz Center for Biomedical Imaging, Department of Radiology, New York University School of Medicine, New York, NY, United States; [3]LIFMET - Laboratory for Functional and Metabolic Imaging, École Polytechnique Fédérale de Lausanne, Lausanne, Vaud, Switzerland; [4]Department of Radiology, Universities of Geneva and Lausanne, Lausanne, VD, Switzerland

Computer 21 **4190.** **Conductivity Mapping Using Ultrashort Echo Time (UTE) Imaging**

Ferdinand Schweser[1, 2], Li Huang, [13], Karl-Heinz Herrmann[1], Martin Krämer[1], Andreas Deistung[1], Jürgen R. Reichenbach[1]
[1]Medical Physics Group, Institute of Diagnostic and Interventional Radiology I, Jena University Hospital - Friedrich Schiller University Jena, Jena, Germany; [2]School of Medicine, Friedrich Schiller University Jena, Jena, Germany; [3]Abbe School of Photonics, Faculty for Physics and Astronomy, Friedrich Schiller University Jena, Jena, Germany

Computer 22 **4191.** **Determining Electrical Properties Based on Complex B_1-Fields Measured in an MR Scanner Using a Multiple Transmit/Receive Coil: A General Approach**

Jiaen Liu[1], Xiaotong Zhang[1], Pierre-Francois Van de Moortele[2], Sebastian Schmitter[2], Bin He[1, 3]
[1]Biomedical Engineering, University of Minnesota, Minneapolis, MN, United States; [2]Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, MN, United States; [3]Institute for Engineering in Medicine, University of Minnesota, Minneapolis, MN, United States

Computer 23 **4192.** **Minimum Squared Error Estimate of Electrical Properties from B_1 Maps**

Selaka Bandara Bulumulla[1], Seung-Kyun Lee[1], Ileana Hancu[1]
[1]GE Global Research, Niskayuna, NY, United States

Computer 24 **4193.** **Nonlinear Estimation of Cylindrically Symmetric Magnetic Susceptibility Anisotropy in Image Space Without a Rigid DTI Prior**

Cynthia Wisnieff[1], Pascal Spincemaille[2], Yi Wang[1]
[1]Cornell Univerisity, New York, United States; [2]Weill Cornell Medical College, New York, United States

Electronic Poster
Contrast Mechanism: Relaxometry - T2* & Iron Quantification

Exhibition Hall Wednesday 17:00-18:00

Computer 1 **4194.** **Calibration of Confounder-Corrected R2* for Liver Iron Quantification at 1.5T and 3T: Preliminary Results**

Diego Hernando[1], Naila Qazi[1], Scott B. Reeder[1, 2]
[1]Radiology, University of Wisconsin-Madison, Madison, WI, United States; [2]Medical Physics, University of Wisconsin-Madison, Madison, WI, United States

Computer 2 **4195.** **Can We Use Simple Linear Model for the Relaxometry to Represent the Concentration of Metal Ions?**

Chih-Ching Lai[1], Fu-Nien Wang[1]
[1]Department of Biomedical Engineering and Environmental Sciences, National Tsing Hua University, Hsinchu, Taiwan

Computer 3 **4196.** **The Use of Appropriate Calibration Curves Can Correct the Systematic Differences Between Softwares in Hepatic R2* Estimation**

Antonella Meloni[1], Hugh Young Rienhoff[2], Amber Jones[2], Aessia Pepe[1], Massimo Lombardi[1], John C. Wood[3]
[1]CMR Unit, Fondazione G. Monasterio CNR-Regione Toscana and Institute of Clinical Physiology, Pisa, Italy; [2]FerroKin BioSciences, Inc, San Carlo, CA, United States; [3]Division of Cardiology, Children's Hospital Los Angeles, Los Angeles, CA, United States

Computer 4 **4197. Systematic Investigation of Various Strategies for T2* Mapping for Liver Iron Quantification in the Presence of Noise**

Takeshi Yokoo[1, 2], Qing Yuan[1], Ivan E. Dimitrov[2, 3]
[1]Radiology, UT Southwestern Medical Center, Dallas, TX, United States; [2]Advanced Imaging Research Center, UT Southwestern Medical Center, Dallas, TX, United States; [3]Philips Medical Systems, Highland Heights, OH, United States

Computer 5 **4198. Evaluation of Correction Methods for Errors in T2* Quantification Caused by Background Gradients**

Ruitian Song[1], Travis Bevington[1], Brian Allen Taylor[1], Axel J. Krafft[1], Ralf B. Loeffler[1], Claudia M. Hillenbrand[1]
[1]Radiological Sciences, St Jude Children's Research Hospital, Memphis, TN, United States

Computer 6 **4199. Enhanced Contrast of Superparamagnetic Iron Oxide Contrast Agents by Spin-Lock MR**

Rik P.M. Moonen[1], Pieternel van der Tol[1], Stefanie J.C.G. Hectors[1], Klaas Nicolay[1], Gustav J. Strijkers[1]
[1]Biomedical Engineering/ Biomedical NMR, Eindhoven University of Technology, Eindhoven, Netherlands

Computer 7 **4200. Value of High Field Dependent Transverse Relaxation Increase for Increasing Iron Specificity in Human Brain**

Md Nasir Uddin[1], R. Marc Lebel[1], Alan H. Wilman[1]
[1]Biomedical Engineering, University of Alberta, Edmonton, Alberta, Canada

Computer 8 **4201. An Automatic Parenchyma Extraction Method for MRI R2* Relaxoemtry of Iron Loaded Liver**

Meiyan Feng[1], Huashuai Gao[1], Xinyuan Zhang[1], Yanqiu Feng[1], Wufan Chen[1], Xuegang Xin[1], Taigang He[2, 3]
[1]School of Biomedical Engineering, Southern Medical University, Guangzhou, China; [2]Cardiovascular Biomedical Research Unit, Royal Brompton Hospital, London, United Kingdom; [3]National Heart and Lung Institute, Imperial College, London, United Kingdom

Computer 9 **4202. Effect of Nanoparticle-Protein Interaction on Relaxivity and MRI Contrast Efficiency of Superparamagnetic Iron Oxide Nanoparticles**

Houshang Amiri[1, 2], Morteza Mahmoudi[3, 4], Jolanda de Vries[2], Arend Heerschap[1], Alessandro Lascialfari[5]
[1]Radiology Department, Radboud University Nijmegen Medical Centre, Nijmegen, Gelderland, Netherlands; [2]Tumor Immunology Department, Nijmegen Centre for Molecular Life Sciences, Nijmegen, Gelderland, Netherlands; [3]Nanotechnology Research Centre, Faculty of Pharmacy, Tehran University of Medical Sciences, Tehran, Iran; [4]Pasteur Institute of Iran, Tehran, Iran; [5]Physics Department, Milan University, Milan, Lombardia, Italy

Computer 10 **4203. On the Influence of Particle Size in MR Iron Quantification**

Jan Sedlacik[1], Jürgen R. Reichenbach[2], Ferdinand Schweser[2]
[1]Neuroradiology, University Medical Center Hamburg-Eppendorf, Hamburg, Germany; [2]Medical Physics Group, Institute of Diagnostic and Interventional Radiology I, University Hospital-Friedrich Schiller University Jena, Jena, Germany

Computer 11 **4204. Robustness of R2* Mapping for Liver Iron Assessment at 1.5T and 3T**

Naila Qazi[1], Scott B. Reeder[1, 2], Diego Hernando[1]
[1]Radiology, University of Wisconsin-Madison, Madison, WI, United States; [2]Medical Physics, University of Wisconsin-Madison, Madison, WI, United States

Computer 12 **4205. Iron and Myelin Induced Contrast Variations in the Corpus Callosum**

Christian Langkammer[1], Nikolaus Krebs[2], Walter Goessler[3], Eva Scheurer[2], Franz Fazekas[1], Stefan Ropele[1]
[1]Department of Neurology, Medical University of Graz, Graz, Austria; [2]Ludwig Boltzmann Institute for Clinical-Forensic Imaging, Graz, Austria; [3]Institute of Analytical Chemistry, University of Graz, Graz, Austria

Computer 13 **4206. B_1+ Inhomogeneity Effects on Clinical Liver Iron Quanitification at 1.5T and 3T**

Eamon Doyle[1], Nilesh R. Ghugre[2], Krishna S. Nayak[3], John Wood[4]
[1]University of Southern California, Los Angeles, CA, United States; [2]Imaging Research, Sunnybrook Health Sciences Centre, Toronto, ON, Canada; [3]Electrical Engineering, University of Southern California, Los Angeles, CA, United States; [4]Cardiology, Children's Hospital of Los Angeles, Los Angeles, CA, United States

Electronic Poster
Contrast Mechanisms: Relaxometry - Novel Sequences & Quantification Methods

Exhibition Hall Wednesday 17:00-18:00

Computer 14 **4207.** **Multi-Slice Myelin Water Imaging for Practical Clinical Applications at 3.0 T**
Junyu Guo[1], Qing Ji[1], Wilburn E. Reddick[1]
[1]Division of Translational Imaging Research, St Jude Children Research Hospital, Memphis, TN, United States

Computer 15 **4208.** **T1 Based Myelin Water Detection at 3 Tesla Using Phased-Array Adaptive Reconstruction and Long Range TI Sampling**
Christian Labadie[1], Monique Aubert-Frécon[1], Stefan Hetzer[2], Harald E. Möller[3]
[1]Laboratoire de Spectrométrie Ionique et Moléculaire, Université Claude Bernard, Lyon, France; [2]Bernstein Center for Computational Neuroscience, Berlin, Germany; [3]Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany

Computer 16 **4209.** **Simulation of Myelin Water Imaging**
Junyu Guo[1], Wilburn E. Reddick[1]
[1]Division of Translational Imaging Research, St Jude Children Research Hospital, Memphis, TN, United States

Computer 17 **4210.** **A Constrained Estimator of Myelin Water Fraction from Steady-State Data**
John M. Ollinger[1], Samuel A. Hurley[2], Andrew L. Alexander[3], Gerard Riedy[1]
[1]NICoE, Walter Reed National Military Medical Center, Bethesda, MD, United States; [2]Medical Physics, University of Wisconsin-Madison, Madison, WI, United States; [3]Medical Physics, University of Wisconsin, Madison, WI, United States

Computer 18 **4211.** **Fast 3D T_2 Measurement with a Magnetization Prepared TrueFISP Sequence**
Philipp Krämer[1], Lothar R. Schad[1]
[1]Computer Assisted Clinical Medicine, Medical Faculty Mannheim, Heidelberg University, Mannheim, Germany

Computer 19 **4212.** **TOWERS: T-One with Enhanced Robustness and Speed**
Cihat Eldeniz[1], Weili Lin[1, 2], Hongyu An[2]
[1]Biomedical Engineering, University of North Carolina at Chapel Hill, Chapel Hill, NC, United States; [2]Radiology, University of North Carolina at Chapel Hill, Chapel Hill, NC, United States

Computer 20 **4213.** **MR Parameter Quantification (T1, T2, PD) with Integrated Fat Water Separation Using a Multi-Echo - Phase Cycled BSSFP-Sequence**
Thomas Benkert[1], Martin Ott[1], Riad Ababneh[2], Martin Blaimer[1], Peter M. Jakob[1, 3], Felix A. Breuer[1]
[1]Research Center Magnetic Resonance Bavaria, Würzburg, Bavaria, Germany; [2]Yarmouk University, Irbid, Jordan; [3]Experimental Physics 5, University Würzburg, Würzburg, Bavaria, Germany

Computer 21 **4214.** **3D T_2 Mapping of Human Brain with High Accuracy by 3D Turbo-Flash Imaging Prepared by Multiecho Adiabatic Spin Echo**
Hidehiro Watanabe[1], Nobuhiro Takaya[1], Fumiyuki Mitsumori[1]
[1]Center for Environmental Measurement and Analysis, National Institute for Environmental Studies, Tsukuba, Ibaraki, Japan

Computer 22 **4215.** **Acceleration of Spin-Locked 3D GRE Acquisitions for Rapid T1rho Mapping of the Brain**
Casey P. Johnson[1], Daniel R. Thedens[1], Vincent A. Magnotta[1, 2]
[1]Radiology, University of Iowa, Iowa City, IA, United States; [2]Psychiatry, University of Iowa, Iowa City, IA, United States

Computer 23 **4216.** **Simultaneous Relaxometry and Susceptibility Imaging in the Brain**
ISMRM MERIT AWARD magna cum laude
Cheng-Chieh Cheng[1, 2], Tzu-Cheng Chao[3], Hsiao-Wen Chung[1], Bruno Madore[2], Lawrence P. Panych[2]
[1]Graduate Institute of Biomedical Electronics and Bioinformatics, National Taiwan University, Taipei, Taiwan; [2]Radiology, Brigham and Women's Hospital, Harvard Medical School, Boston, MA, United States; [3]Department of Computer Science and Information Engineering, National Cheng-Kung University, Tainan, Taiwan

Computer 24 **4217. Rapid Field-Cycling Relaxometric Imaging Using Fast Spin-Echo**
Peter J. Ross[1], Lionel M. Broche[1], Kerrin J. Pine[1], David J. Lurie[1]
[1]Aberdeen Biomedical Imaging Centre, University of Aberdeen, Aberdeen, Scotland, United Kingdom

Electronic Poster
All Flavors of Saturation Transfer Floors

Exhibition Hall Wednesday 16:00-17:00

Computer 25 **4218. Multivalent Imaging with a Cocktail of PARACEST Agents: Utility of BIRDS for CEST Imaging**
Yuegao Huang[1, 2], Daniel Coman[1, 2], Garry E. Kiefer[3], Sara Samuel[4], Fahmeed Hyder[1, 4]
[1]Diagnostic Radiology, Yale University, New Haven, CT, United States; [2]Magnetic Resonance Research Center, Yale University, New Haven, CT, United States; [3]Macrocyclics, Dallas, TX, United States; [4]Biomedical Engineering, Yale University, New Haven, CT, United States

Computer 26 **4219. ParaCEST: Imaging pH with High μ_{eff} Ln(III) Complexes on a 1T Permanent Magnet.**
Giaime Rancan[1], Daniela Delli Castelli[2], Silvio Aime[3, 4]
[1]Technische Universität München, München, Bayern, Germany; [2]University of Torino, Torino, Piemonte, Italy; [3]Universitá di Torino, Torino, Piemonte, Italy; [4]Institute for Advanced Study, Technische Universität München, Garching, Bayern, Germany

Computer 27 **4220. Iopamidol CEST for PH Measurements on a Clinical 3T Scanner: Phantom and First Human *in vivo* Study**
Anja Müller-Lutz[1], Nadia Khalil[1], Rotem S. Lanzman[1], Georg Oeltzschner[1], Gael Pentang[1], Vladimir Jellus[2], Benjamin Schmitt[2], Gerald Antoch[1], Hans-Jörg Wittsack[1]
[1]University Dusseldorf, Medical Faculty, Department of Diagnostic and Interventional Radiology, Dusseldorf, NRW, Germany; [2]Siemens, Healthcare Sector, Imaging & Therapy Division, Erlangen, BY, Germany

Computer 28 **4221. *In Vivo* Detection of ParaCEST Contrast Agents at 9.4T**
Nevin McVicar[1], Alex Li[2], Mojmir Suchy, [23], Robert H.E Hudson[3], Robert Bartha, [12]
[1]Medical Biophysics, University of Western Ontario, London, ON, Canada; [2]Imaging Research Group, Robarts Research Insitute, London, ON, Canada; [3]Chemistry, University of Western Ontario, London, ON, Canada

Computer 29 **4222. Intervertebral Disc CEST Imaging with Improved Reliability Using Reduced-FOV TSE**
Qi Liu[1, 2], Ning Jin[3], Zhaoyang Fan[1], Yutaka Natsuaki[4], Wafa Tawackoli[1], Dan Gazit[1], Gadi Pelled[1], Debiao Li[1, 5]
[1]Biomedical Imaging Research Institute, Cedars-Sinai Medical Center, Los Angeles, CA, United States; [2]Biomedical Engineering, Northwestern University, Chicago, IL, United States; [3]Siemens Medical Solutions, Columbus, OH, United States; [4]Siemens Healthcare, Los Angeles, CA, United States; [5]University of California, Los Angeles, los angeles, CA, United States

Computer 30 **4223. Toward Rapid Macromolecular Pool Size Mapping Via Selective Inversion Recovery**
ISMRM MERIT AWARD magna cum laude
Richard D. Dortch[1, 2], Ke Li[1, 2], Daniel F. Gochberg[1, 2], John C. Gore[1, 2], Seth A. Smith[1, 2]
[1]Radiology and Radiological Sciences, Vanderbilt University, Nashville, TN, United States; [2]Vanderbilt University Institute of Imaging Science, Vanderbilt University, Nashville, TN, United States

Computer 31 **4224. 3D Acquisition of the Inhomogeneous Magnetization Transfer Effect for Greater White Matter Contrast**
Gopal Varma[1], Gottfried Schlaug[2], David C. Alsop[1]
[1]Radiology, Division of MR Research, Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA, United States; [2]Neurology, Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA, United States

Computer 32 **4225. Quantitative Magnetization Transfer Imaging with Non-Exchanging Compartment Modeling: from CSF Partial Volume Correction to More Accurate Characterization of White Matter?**
Pouria Mossahebi[1], Andrew L. Alexander[2, 3], Aaron S. Field, [14], Alexey A. Samsonov[4]
[1]Biomedical Engineering, University of Wisconsin, Madison, WI, United States; [2]Medical Physics, University of Wisconsin, Madison, WI, United States; [3]Waisman Lab for Brain Imaging and Behavior, University of Wisconsin, Madison, WI, United States; [4]Radiology, University of Wisconsin, Madison, WI, United States

Computer 33 **4226. Amine/Amide Concentration Independent Detection (AACID) of Intracellular pH by CEST MRI at 9.4T**

ISMRM MERIT AWARD magna cum laude

Nevin McVicar[1], Alex Li[2], Robert Bartha[2], Daniela F. Goncalves[3, 4], Susan Meakin[2], Marco A. Prado[2]
[1]Medical Biophysics, University of Western Ontario (UWO), London, ON, Canada; [2]Robarts Research Institute, London, ON, Canada; [3]Physiology and Pharmacology, UWO, London, ON, Canada; [4]Graduate Program in Physiology and Biophysics, Federal University of Minas Gerais, Belo Horizonte, Minas Gerais, Brazil

Computer 34 **4227. Biochemical MRI with GagCEST (Glycosaminoglycan Chemical Exchange Saturation Transfer Imaging) of Finger Joint Cartilage in Rheumatoid Arthritis**

Anja Müller-Lutz[1], Benedikt Ostendorf[1], Christoph Schleich[1], Nadia Khalil[1], Benjamin Schmitt[2], Vladimir Jellus[2], Philipp Sewerin[1], Axel Scherer[1], Georg Oeltzschner[1], Gael Pentang[1], Matthias Schneider[1], Gerald Antoch[1], Hans-Jörg Wittsack[1], Falk Miese[1]
[1]University Dusseldorf, Medical Faculty, Department of Diagnostic and Interventional Radiology, Dusseldorf, NRW, Germany; [2]Siemens, Healthcare Sector, Imaging & Therapy Division, Erlangen, BY, Germany

Computer 35 **4228. Uniform-MT CEST to Isolate GagCEST Contrast from Asymmetric MT Effects: First *in vivo* Study on Human Knees at 7 T**

Jae-Seung Lee[1, 2], Prodromos Parasoglou[1], Ding Xia[1], Alexej Jerschow[2], Ravinder R. Regatte[1]
[1]Radiology, New York University, New York, NY, United States; [2]Chemistry, New York University, New York, NY, United States

Computer 36 **4229. Creatine Imaging Using Chemical Exchange Filter Imaging**

ISMRM MERIT AWARD magna cum laude

Zhongliang Zu[1], Junzhong Xu[1], Vaibhav Janve[1], Christopher C. Quarles[1], Mark D. Does[1], John C. Gore[1], Daniel F. Gochberg[1]
[1]Institue of Imaging Science, Vanderbilt University, Nashville, TN, United States

Computer 37 **4230. Chemical Exchange Saturation Transfer Angiography - CESTA**

Shaokuan Zheng[1], Imramsjah M.J. van der Bom[1], Zhongliang Zu[2], Guoxing Lin[3], Matthew J. Gounis[1], Yansong Zhao[4]
[1]Radiology, UMASS Medical School, Worcester, MA, United States; [2]Institute of Imaging Science, Vanderbilt University, Nashville, TN, United States; [3]Gustav H. Carlson School of Chemistry, Clark University, Worcester, MA, United States; [4]Philips Healthcare, Cleveland, OH, United States

Computer 38 **4231. A Free Breathing, Retrospectively Gated, Saturation Transfer Encoded Steady State Cardiac Cine Method for Preclinical Chemical Exchange Saturation Transfer Imaging in the Heart**

Moriel Vandsburger[1], Avigdor Leftin[1], Senzeni Mpofu[1], Michal Neeman[1]
[1]Weizmann Institute of Science, Rehovot, None, Israel

Computer 39 **4232. Towards the Contrast Mechanism of Chemical Exchange Saturation Transfer (CEST) in Tumors at 9.4T**

Junzhong Xu[1], Zhongliang Zu[1], Jingping Xie[1], Daniel F. Gochberg[1], John C. Gore[1]
[1]Institute of Imaging Science, Vanderbilt University, Nashville, TN, United States

Computer 40 **4233. Comparison of 3D Acquisition Techniques for Amide Proton Transfer in Brain Tumor Applications**

Mariya Doneva[1], Jochen Keupp[1], Silke Hey[2], Osamu Togao[3], Takashi Yoshiura[3]
[1]Philips Research Europe, Hamburg, Germany; [2]Philips Healthcare, Best, Netherlands; [3]Department of Clinical Radiology, Kyushu University, Fukuoka, Japan

Computer 41 **4234. Does It Affect the Quantification If Amide Proton Transfer Imaging Is Performed Pre- Or Post-Gadolinium Contrast Agent Administration?**

Yee Kai Tee[1], Manus J. Donahue[2], Stephen J. Payne[1], Michael A. Chappell[1]
[1]Department of Engineering Science, University of Oxford, Oxford, Oxfordshire, United Kingdom; [2]Department of Radiology and Radiological Sciences, Vanderbilt University, Nashville, TN, United States

Computer 42 **4235. Two-Frequency Irradiation of the pH-Dependent Amide Proton Transfer Effect in a Clinical Scanner:simulation and Experiment**

Chao Xu[1], Christian Labadie[1], André Pampel[1], Samer Salamekh[1], Harald E. Möller[1]
[1]Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany

Computer 43 **4236. Characterization of Tissue Acidosis Response in Transient Acute Ischemic Stroke with pH-Sensitive APT MRI**
Phillip Zhe Sun[1], Jerry S. Cheung[1], Enfeng Wang[1], Xiaoan Zhang[2]
[1]Radiology, Martinos Center for Biomedical Imaging, Charlestown, MA, United States; [2]Radiology, 3rd Affiliated Hospital, Zhengzhou, Henan, China

Computer 44 **4237. 3D Fast Spin Echo Acquisition for Combined Amide Proton Transfer and Elecric Properties Tomography**
ISMRM MERIT AWARD magna cum laude
Mariya Doneva[1], Ulrich Katscher[1], Christian Stehning[1], Osamu Togao[2], Jochen Keupp[1]
[1]Philips Research Europe, Hamburg, Germany; [2]Department of Clinical Radiology, Kyushu University, Fukuoka, Japan

Computer 45 **4238. Detection of Protein Accumulation by Amide Proton Transfer (APT) in the Spinal Cord of SOD1 Mice Using Exchange-Modulated PRESS**
ISMRM MERIT AWARD magna cum laude
Marilena Rega[1], Francisco Torrealdea[1], Phillip Smethurst[1], James Dick[1], Anna Gray[1], Linda Greensmith[1], Katie Sidle[1], Simon Walker-Samuel[2], David L. Thomas[1], Xavier Golay[3]
[1]Institute of Neurology, UCL, London, Greater London, United Kingdom; [2]Centre for Advance Biomedical Imaging, UCL, London, Greater London, United Kingdom; [3]Institute of Neurology, University College London, London, Greater London, United Kingdom

Computer 46 **4239. Estimation of Parameters from Sparsely Sampled *in-vivo* Magnetization Transfer Data Using Artificial Neural Networks**
Henrik Marschner[1], Dirk K. Müller[1], André Pampel[1], Jane Neumann[1], Harald E. Möller[1]
[1]Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany

Computer 47 **4240. T2 Relaxation Dispersion Technique to Detect Intermediate and Fast Exchanging Protons in Metabolites and Proteins**
Jiadi Xu[1, 2], Nirbhay N. Yadav[1, 2], Kannie W.Y. Chan[1, 2], Amnon Bar-Shir[2], Qin Qin[1, 2], Guanshu Liu[1, 2], Michael T. McMahon[1, 2], Peter C.M. van Zijl[1, 2]
[1]F. M. Kirby Center, Kennedy Krieger Institute, Baltimore, MD, United States; [2]Russell H. Morgan Department of Radiology and Radiological Science, Johns Hopkins University, Baltimore, MD, United States

Computer 48 **4241. Imaging of Amide Proton Transfer (APT) and Nuclear Overhauser Effect (NOE) Using Chemical Exchange Rotation Transfer (CERT)**
Zhongliang Zu[1], Junzhong Xu[1], Hua Li[1], Christopher C. Quarles[1], Mark D. Does[1], John C. Gore[1], Daniel F. Gochberg[1]
[1]Institue of Imaging Science, Vanderbilt University, Nashville, TN, United States

Electronic Poster
RF Pulse Design 2

Exhibition Hall Wednesday 17:00-18:00

Computer 25 **4242. Multidimensional Shinnar-Le Roux RF Pulse Design**
Chao Ma[1, 2], Zhi-Pei Liang, [2,3]
[1]Department of Electrical and Computer Engineering , University of Illinois at Urbana-Champaign, Urbana, IL, United States; [2]Beckman Institute, University of Illinois at Urbana-Champaign, Urbana, IL, United States; [3]Department of Electrical and Computer Engineering, University of Illinois at Urbana-Champaign, Urbana, IL, United States

Computer 26 **4243. Direct Design of 2D Pulses Using Matrix Inversion**
Rolf F. Schulte[1], Florian Wiesinger[1]
[1]GE Global Research, Munich, Germany

Computer 27 **4244. Spatially Selective Excitation Applied to Aortic Vessel Wall Imaging**
Ronald Mooiweer[1], Alessandro Sbrizzi[1], Hamza el Aidi[1], Cornelis A.T. van den Berg[1], Fredy Visser[1, 2], Tim Leiner[1], Peter R. Luijten[1], Hans Hoogduin[1]
[1]UMC Utrecht, Utrecht, Netherlands; [2]Philips Healthcare, Best, Noord-Brabant, Netherlands

Computer 28 **4245. 2D Compensating RF Pulse with Uniform Image Contrast in Combination with an Internal Transceiver at 7T.**
ISMRM MERIT AWARD magna cum laude
Irene M.L. van Kalleveen[1], Hugo Kroeze[1], Alessandro Sbrizzi[1], Vincent Oltman Boer[2], Reerink Onne[1], Marielle E.P. Philippens[1], Cornelis A.T. van den Berg[1], Peter R. Luijten[1], Dennis W.J. Klomp[1]
[1]Radiology, UMC Utrecht, Utrecht, Netherlands; [2]Radiology, University Medical Center Utrecht, Utrecht, Netherlands

Computer 29 **4246. Fast Monotonic Convergent Optimal Control Algorithm for 2D RF Pulses Mitigating B_0 and B_1 Inhomogeneities**
Mads Sloth Vinding[1], Ivan I. Maximov[2], Zdenek Tosner[3], Niels Christian Nielsen[1]
[1]iNANO, inSPIN, Aarhus University, Aarhus, Jutland, Denmark; [2]Institute of Neuroscience and Medicine 4, Juelich, Germany; [3]Charles University, Prague, Czech Republic

Computer 30 **4247. Mitigate B_1+ Inhomogeneity by Slice-Selective Composite Excitation Pulses**
Yi-Cheng Hsu[1], Ying-Hua Chu[2], Thomas Witzel[3], I-Liang Chern[4], Fa-Hsuan Lin[2]
[1]Department of Mathematics, Nnational Taiwan University, Taipei, Taiwan; [2]Institute of Biomedical Engineering, National Taiwan University, Taipei, Taiwan; [3]A. A. Martinos Center, Massachusetts General Hospital, Charlestown, MA, United States; [4]Department of Mathematics, National Taiwan University, Taipei, Taiwan

Computer 31 **4248. Local Shape Adaptation for Curved Slice Selection**
Hans Weber[1], Martin Haas[1], Denis Kokorin[1, 2], Jürgen Hennig[1], Maxim Zaitsev[1]
[1]Department of Radiology, Medical Physics, University Medical Center Freiburg, Freiburg, Germany; [2]International Tomography Center, Novosibirsk, Russian Federation

Computer 32 **4249. Spin Echo Formation with a Phase Pre-Winding Pulse**
Jakob Assländer[1], Jürgen Hennig[1]
[1]Dept. of Radiology - Medical Physics, University Medical Center Freiburg, Freiburg, Germany

Computer 33 **4250. Inner Volume Imaging of the Kidney *in vivo* Using Parallel Transmit**
Martin Haas[1], Denis Kokorin[1], Stefanie Buchenau[1], Ara K. Yeramian[1], Hans-Peter Fautz[2], Tobias Wichmann[3], Jürgen Hennig[1], Michael Bock[1], Maxim Zaitsev[1]
[1]Medical Physics, Department of Radiology, University Medical Center Freiburg, Freiburg, Germany; [2]Siemens Healthcare, Erlangen, Germany; [3]RAPID Biomedical GmbH, Rimpar, Germany

Computer 34 **4251. Is a 2D-Spiral Excitation Trajectory Sufficient for 3D Inner Volume Imaging ?**
Alexis Amadon[1], Alexandre Vignaud[1], Aurélien Massire[1], Michel Bottlaender[1], Nicolas Boulant[1]
[1]CEA, DSV, I2BM, Neurospin, LRMN, Gif-sur-Yvette, France, France

Computer 35 **4252. Spatial Selective Excitation Performance of Parallel Transmission Using a 3x8 Z-Stacked RF Coil Array at 3T**
Rainer Schneider[1, 2], Bastien Guérin[3], Michael Hamm[1], Jens Haueisen[2], Elfar Adalsteinsson[4, 5], Lawrence L. Wald, [5, 6], Josef Pfeuffer[1]
[1]Siemens Healthcare, MR Application Development, Erlangen, Germany; [2]Institute of Biomedical Engineering and Informatics, Ilmenau University of Technology, Ilmenau, Germany; [3]Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Charlestown, MA, United States; [4]Dept of Electrical Engineering and Computer Science, Massachusetts Institute of Technology, Cambridge, MA, United States; [5]Harvard-MIT Division of Health Sciences Technology, Cambridge, MA, United States; [6]Martinos Center for Biomedical Imaging, Dept. of Radiology, Massachusetts General Hospital, Charlestown, MA, United States

Computer 36 **4253. Peak RF Power Constrained Pulse Design for Multi-Band Parallel Excitation**
Xiaoping Wu[1], Kamil Ugurbil[1], Pierre-Francois Van de Moortele[1]
[1]CMRR, Radiology, University of Minnesota, Minneapolis, MN, United States

Computer 37 **4254. Optimization of 1D RF Pulses with Parallel Transmission**
Ulrich Katscher[1], Kay Nehrke[1], Peter Boernert[1]
[1]Philips Research Europe, Hamburg, Germany

Computer 38 **4255. An Algorithm for Fast Parallel Excitation Pulse Design**
Shuo Feng[1], Jim X. Ji[1]
[1]Electrical and Computer Engineering, Texas A&M University, College Station, TX, United States

Computer 39 **4256. First Implementation of Quantum Process Tomography in MRI**
Nicolas Boulant[1], Aurelien Massire[1], Alexis Amadon[1]
[1]Neurospin, CEA, Saclay, Ile de France, France

Computer 40 **4257. Design of Non-Selective Refocusing Pulses with Phase-Free Rotation Axis by Gradient Ascent Algorithm in Parallel Transmission at 7 T**
Aurélien Massire[1], Martijn A. Cloos[2], Alexandre Vignaud[1], Denis Le Bihan[1], Alexis Amadon[1], Nicolas Boulant[1]
[1]CEA DSV I2BM NEUROSPIN LRMN, Gif-sur-Yvette, France; [2]Bernard and Irene Schwartz Center for Biomedical Imaging, New York University School of Medicine, New York, NY, United States

Computer 41 **4258. Asymmetric Spokes: A Demonstration of Free-Breathing PTX in the Human Torso at 7T**
Martijn A. Cloos[1], Wonje Lee[2], Graham C. Wiggins[2], Daniel Sodickson[2, 3]
[1]Radiology, New York University School of Medicine, New York, NY, United States; [2]Radiology, New York University Langone Medical Center, New York, NY, United States; [3]The Sackler Institute of Graduate Biomedical Sciences, New York University School of Medicine, New York, NY, United States

Computer 42 **4259. Improved Off-Resonance Correction for *segmented* Spatially Selective Excitation Pulses to Achieve Large Excitation Bandwidth**
Patrick Waxmann[1], Tomasz Dawid Lindel[1], Frank Seifert[1], Bernd Ittermann[1], Ralf Mekle[1]
[1]Physikalisch-Technische Bundesanstalt, Berlin, Germany, Germany

Computer 43 **4260. Ultra-Fast Selective RF Pulse Design for Parallel Transmission Using Pre-Calculated Base Pulses**
Ingmar Graesslin[1], Annighoefer Bjoern[1], Ulrich Katscher[1], Peter Börnert[2]
[1]Philips Research, Hamburg, Germany; [2]Philips Research Laboratory, Hamburg, Germany

Computer 44 **4261. Target-Pattern-Informed Variable-Density Trajectory Design for Low-SAR Pulse Design in Parallel Transmission**
Rainer Schneider[1, 2], Matthias Gebhardt[1], Jens Haueisen[2], Josef Pfeuffer[1]
[1]Siemens Healthcare, MR Application Development, Erlangen, Germany; [2]Institute of Biomedical Engineering and Informatics, Ilmenau University of Technology, Ilmenau, Germany

Computer 45 **4262. Multi-Channel Implementation of Semi-Adiabatic Excitation Pulses**
Marcin Jankiewicz[1], Jay Moore[2]
[1]MRC/UCT Medical Imaging Research Unit, Department of Human Biology, University of Cape Town, Observatory, Western Cape, South Africa; [2]Department of Radiology and Radiological Sciences, Vanderbilt University, Nashville, TN, United States

Computer 46 **4263. Steady-State SR-EPG Optimization of Pseudo-Steady-State Sequences**
Shaihan J. Malik[1], Joseph V. Hajnal[1]
[1]Division of Imaging Sciences and Biomedical Engineering, Kings College London, London, United Kingdom

Computer 47 **4264. Designing a Hyperbolic Secant Excitation Pulse to Reduce Signal Dropout in GE-EPI**
Stephen James Wastling[1], Gareth John Barker[1]
[1]Department of Neuroimaging, King's College London, London, United Kingdom

Computer 48 **4265. Large Tip Angle K_1-Points Based on a Linearization of the Bloch Equations**
Florent Eggenschwiler[1], Rolf Gruetter[2], José P. Marques[3]
[1]EPFL, Laboratory for Functional and Metabolic Imaging, Lausanne, Vaud, Switzerland; [2]Universities of Geneva and Lausanne, École Polytechnique Fédérale de Lausanne, Lausanne, Vaud, Switzerland; [3]University of Lausanne, Department of Radiology, Lausanne, Vaud, Switzerland

Electronic Poster
B_1 Mapping, Water/Fat & Contrasts: B_1 Mapping

Exhibition Hall Wednesday 16:00-17:00

Computer 49 **4266. Fast B_1 Mapping Using Transient Phase Signals of &[alpha]/3 Prepared BSSFP**
Min-Oh Kim[1], Jaewook Shin[1], Narae Choi[1], Joonsung Lee[1], Dong-Hyun Kim[1]
[1]Electrical and Electronic Engineering, Yonsei University, Seoul, Korea

Computer 50 **4267. Optimum RF Pulse Width for Adiabatic Bloch-Siegert B_1^+ Mapping**
Mohammad Mehdi Khalighi[1], Adam B. Kerr[2], Brian K. Rutt[3]
[1]Applied Science Lab, GE Healthcare, Menlo Park, CA, United States; [2]Department of Electrical Engineering, Stanford University, Stanford, CA, United States; [3]Department of Radiology, Stanford University, Stanford, CA, United States

Computer 51 **4268. Three Dimensional Fast Spin Echo Bloch-Siegert B_1 Mapping with Navigator Based Phase Correction at 11.7T**
Xiaoying Cai[1], Wu Dan[2], Jiangyang Zhang[3]
[1]Biomedical Engineering, Tsinghua University, Beijing, China; [2]Biomedical Engineering, Johns Hopkins University School of Medicine, Baltimore, MD, United States; [3]Radiology, Johns Hopkins University School of Medicine, Baltimore, MD, United States

Computer 52 **4269. Fourier Domain Approximation for Bloch Siegert Shift**
Esra Abaci Turk[1, 2], Yusuf Ziya Ider[1], Arif Sanli Ergun[3], Ergin Atalar[1, 2]
[1]Electrical and Electronics Engineering Department, Bilkent University, Ankara, Turkey; [2]National Magnetic Resonance Research Center (UMRAM), Ankara, Turkey; [3]Electrical and Electronics Engineering Department, TOBB-University of Economics and Technology, Ankara, Turkey

Computer 53 **4270. Fast Isotropic Volumetric B_1^+ Calibration Improves RF Shimming in Abdominal MRI at 3T**
Alois M. Sprinkart[1, 2], Georg Schmitz[2], Frank Träber[1], Wolfgang Block[1], Jürgen Gieseke[3], Winfried A. Willinek[1], Hans H. Schild[1], Peter Börnert[4], Kay Nehrke[4]
[1]Dept. of Radiology, University of Bonn, Bonn, Germany; [2]Institute of Medical Engineering, Ruhr-University Bochum, Bochum, Germany; [3]Philips Healthcare, Hamburg, Germany; [4]Philips Research Laboratory, Hamburg, Germany

Computer 54 **4271. Fast B_1^+ Mapping for Cardiac MR Using a Black Blood DREAM Sequence**
Kay Nehrke[1], Alois M. Sprinkart[2, 3], Hans H. Schild[2], Peter Börnert[1]
[1]Philips Research Laboratory, Hamburg, Germany; [2]Department of Radiology, University of Bonn, Bonn, Germany; [3]Institute of Medical Engineering, Ruhr-University Bochum , Bochum, Germany

Electronic Poster
B_1 Mapping, Water/Fat & Contrasts: Water/Fat

Exhibition Hall Wednesday 16:00-17:00

Computer 55 **4272. Chemical Shift Correction in Fat-Water Separation Using Two-Point Dixon SSFP**
Yi Wang[1, 2], Glen Morrell[2], Dennis L. Parker[2]
[1]Neurology, University of California, Los Angeles, Los Angeles, CA, United States; [2]Utah Center for Advanced Imaging Research, University of Utah, Salt Lake City, UT, United States

Computer 56 **4273. Single Acquisition Fat Water Separation Using a Golden Ratio Radial BSSFP Sequence with Dynamic Echotime Shifting**
Thomas Benkert[1], Riad Ababneh[2], Martin Blaimer[1], Peter M. Jakob[1, 3], Felix A. Breuer[1]
[1]Research Center Magnetic Resonance Bavaria, Würzburg, Bavaria, Germany; [2]Yarmouk University, Irbid, Jordan; [3]Experimental Physics 5, University Würzburg, Würzburg, Bavaria, Germany

Computer 57 **4274. Water-Fat Separation Using Time Series Correlation**
Markus Florian Untenberger[1], Martin Uecker[2], Dirk Voit[1], Jens Frahm[3]
[1]Biomedizinische NMR Forschungs GmbH, Max-Planck Insitut fuer biophysikalische Chemie, Goettingen, Niedersachsen, Germany; [2]Dept. of Electrical Engineering and Computer Sciences, University of California, Berkeley, CA, United States; [3]Biomedizinische NMR Forschungs GmbH, Max Planck Institute, Goettingen, Niedersachsen, Germany

Computer 58 **4275. Real-Time Water-Fat Separation**
Markus Florian Untenberger[1], Martin Uecker[2], Sebastian Schaetz[1], Dirk Voit[1], Jens Frahm[3]
[1]Biomedizinische NMR Forschungs GmbH, Max-Planck Insitut fuer biophysikalische Chemie, Goettingen, Niedersachsen, Germany; [2]Dept. of Electrical Engineering and Computer Sciences, University of California, Berkeley, CA, United States; [3]Biomedizinische NMR Forschungs GmbH, Max Planck Institute, Goettingen, Niedersachsen, Germany

Computer 59 **4276. Robust High Resolution Fat-Water Separation in the Abdomen During Free-Breathing by Self-Gated 2D Radial TrueFISP Imaging**
Riad Ababneh[1], Thomas Benkert[2], Martin Blaimer[2], Felix A. Breuer[2]
[1]Physics, Yarmouk University, Irbid, Jordan; [2]Research Center Magnetic Resonance Bavaria, Würzburg, Bavaria, Germany

Computer 60 **4277. 3D Mapping of T2* and B_0 Inhomogeneities for Water/Fat Separation**
Abraam S. Soliman[1, 2], Jing Yuan[2], Terry M. Peters[1, 2], Charles A. McKenzie[1, 3]
[1]Biomedical Engineering, University of Western Ontario, London, Ontario, Canada; [2]Imaging Research Laboratories, Robarts Research Institute, London, Ontario, Canada; [3]Medical Biophysics, University of Western Ontario, London, Ontario, Canada

Computer 61 **4278. Towards Clinical Robustness in 3D Abdominal Water/Fat Imaging**
Nadine Gdaniec[1], Tim Nielsen[2], Peter Börnert[3], Holger Eggers[2], Mariya Doneva[4], Alfred Mertins[1]
[1]University of Lübeck, Lübeck, Germany; [2]Philips Research Laboratories, Hamburg, Germany; [3]Philips Research Laboratory, Hamburg, Germany; [4]Philips Research Europe, Hamburg, Germany

Computer 62 **4279. Breast Implant MRI with an Extended 4-Point Ideal Method**
Jedrzej Burakiewicz[1], Annette Jones[2], Sarah McWilliams[2], Jyoti Parikh[2], Hema Verma[2], Tobias Schaeffter[1], Geoffrey David Charles-Edwards[1, 2]
[1]Biomedical Engineering, King's College London, London, United Kingdom; [2]Guy's and St. Thomas' NHS Trust, London, United Kingdom

Computer 63 **4280. Multiecho Water-Fat Separation with Navigated Free-Breathing 3D Spoiled Gradient-Recalled Echo Sequence**
Yuji Iwadate[1], Anja C.S. Brau[2], Yoshihiro Tomoda[3], Kenji Asano[3], Hiroyuki Kabasawa[1]
[1]Global Applied Science Laboratory, GE Healthcare Japan, Hino, Tokyo, Japan; [2]Global Applied Science Laboratory, GE Healthcare, Munich, DE, Germany; [3]MR Engineering, GE Healthcare Japan, Hino, Tokyo, Japan

Computer 64 **4281. Hiding Your Fat: Comparison of Fat Saturation Techniques for Single-Shot Fast Spin Echo Sequences for 7T Body Imaging**
Sören Johst[1, 2], Stephan Orzada[1, 2], Anja Fischer[1, 2], Lale Umutlu[1, 2], Mark E. Ladd[1, 2], Stefan Maderwald[1]
[1]Erwin L. Hahn Institute for Magnetic Resonance Imaging, University Duisburg-Essen, Essen, Germany; [2]Diagnostic and Interventional Radiology and Neuroradiology, University Hospital Essen, Essen, Germany

Electronic Poster
B_1 Mapping, Water/Fat & Contrasts: Contrast

Exhibition Hall Wednesday 16:00-17:00

Computer 65 **4282. What Is Really Causing the Contrast in Spin-Echo Imaging at 7T?**
Robert Trampel[1], Robert Turner[1]
[1]Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany

Computer 66 **4283. Application of a Non-CPMG Single-Shot Turbo Spin Echo Sequence to Multi-Contrast Imaging of the Human Lung at 1.5T**
Flavio Carinci[1, 2], Morwan Choli, [23], Felix A. Breuer[3], Peter M. Jakob, [23]
[1]MRB Research Center, Wuerzburg, Germany; [2]Department of Experimental Physics 5, University of Wuerzburg, Wuerzburg, Germany; [3]Research Center Magnetic Resonance Bavaria e. V. (MRB), Wuerzburg, Germany

Computer 67 **4284. Comparison of SSFP and GRE Sequences for QMT Acquisition**
Nicholas G. Dowell[1], Hannah van den Boomen[2], Mara Cercignani[3]
[1]CISC, Brighton and Sussex Medical School, Brighton, East Sussex, United Kingdom; [2]Life Sciences, University of Sussex, Brighton, East Sussex, United Kingdom; [3]CISC, Brighton & Sussex Medical School, Brighton, East Sussex, United Kingdom

Computer 68 **4285. Respiratory Self-Gating for Free-Breathing Magnetization Transfer MRI of the Abdomen**
Weiguo Li[1], Ning Jin[2], Tianjing Zhang[1], Andrew C. Larson[1]
[1]Radiology, Northwestern University, Chicago, IL, United States; [2]Siemens Healthcare, Columbus, OH, United States

Computer 69 **4286. Side Effects of the Spoiler Gradient in Gradient Echo Sequences: Diffusion Attenuation of the Signal from Nuclei in Thermal Equilibrium and in Hyperpolarised State**
Sebastien Bär[1], Matthias Weigel[2], Valerij G. Kiselev[2], Jochen Leupold[2]
[1]Medical Physics Department of Radiology , University Hospital Freiburg, Freiburg, Germany; [2]Medical Physics Department of Radiology, University Hospital Freiburg, Freiburg, Germany

Computer 70 **4287. Localization of US Focal Spot in *in vivo* Tissue Using 3D Acoustic Radiation Force Impulse Imaging**
Joshua de Bever[1, 2], Nick Todd[2], Mahamadou Diakite, [2,3], Dennis Parker[2]
[1]School of Computing, University of Utah, Salt Lake City, UT, United States; [2]Utah Center for Advanced Imaging Research, Salt Lake City, UT, United States; [3]Physics Department, University of Utah, Salt Lake City, UT, United States

Computer 71 **4288. Ultrafast High-Resolution NMR Spectroscopy Through Indirect Zero-Quantum Coherence Detection in Inhomogeneous Fields**
Hanping Ke[1], Hao Chen[1], Zhiyong Zhang[1], Yanqin Lin[1], Zhong Chen[1], Shuhui Cai[1]
[1]Department of Electronic Science, Xiamen University, Xiamen, Fujian, China

Computer 72 **4289. Ex Vivo ^{1}H Magnetic Resonance Spectroscopy of Intact Salmon Muscle Via Hadamard-Encoded Intermolecular Multiple-Quantum Coherence Technique**
Honghao Cai[1], Xiaohong Cui[1], Shuhui Cai[1], Zhong Chen[1]
[1]Department of Electronic Science, Xiamen University, Xiamen, Fujian, China

Electronic Poster
Thermotherapy & Thermometry A

Exhibition Hall Thursday 10:30-11:30

Computer 1 **4290. Simultaneous Thermometry and T2 Mapping, to Detect Tissue Damage During Thermal Therapies**
Chang-Sheng Mei[1], Cheng-Chieh Cheng[1, 2], Lawrence P. Panych[1], Bruno Madore[1]
[1]Radiology, Harvard Medical School, Brigham and Women's Hospital, Boston, MA, United States; [2]National Taiwan University, Taipei, Taiwan

Computer 2 **4291. Simultaneous PRF and T_1-Mapping Based MR Thermometry for Monitoring High-Intensity Focused Ultrasound Ablation of Primary Bone Tumors**
Adam C. Waspe[1], Charles Mougenot[2], Samuel Pichardo[3], Thomas Looi[1], Joao Amaral[4], Michael Temple[4], Hai-Ling Margaret Cheng[5], James M. Drake[1]
[1]Division of Neurosurgery, Hospital for Sick Children, Toronto, Ontario, Canada; [2]Philips Healthcare Canada, Markham, Ontario, Canada; [3]Thunder Bay Regional Research Institute, Thunder Bay, Ontario, Canada; [4]Department of Medical Imaging, Hospital for Sick Children, Toronto, Ontario, Canada; [5]Department of Physiology & Experimental Medicine, The Hospital for Sick Children, Toronto, Ontario, Canada

Computer 3 **4292. Improving the Temperature Accuracy of Referenceless MR Thermometry in the Presense of Susceptibility Artifact**
Mengyue He[1], Chao Zou[1], Changjun Tie[1], Wensha Guo[1], Yiu-Cho Chung[1], Xin Liu[1]
[1]Paul C Lauterbur Research Centre for Biomedical Imaging, Shenzhen Key Laboratory for MRI, Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences, Shenzhen, Guangdong, China

Computer 4 **4293. Referenceless Thermometry Using Bloch-Siegert Phase Shift and Auto Regressive Model**
Manivannan Jayapalan[1]
[1]MR Pulse Sequence Applications and System Tools Engineering, GE Healthcare, Bangalore, Karnataka, India

Computer 5 **4294. Robust Phase Unwrapping Using a Sorted List, Multi-Clustering Algorithm**
Florian Maier[1], David T. A. Fuentes[1], Jeffrey S. Weinberg[2], John D. Hazle[1], R. Jason Stafford[1]
[1]Department of Imaging Physics, The University of Texas M. D. Anderson Cancer Center, Houston, TX, United States; [2]Department of Neurosurgery, The University of Texas M. D. Anderson Cancer Center, Houston, TX, United States

Computer 6 **4295. Non-Invasive Temperature Mapping Using Temperature-Responsive Water Saturation Shift Referencing (T-WASSR) MRI**

Guanshu Liu[1, 2], Qin Qin[2], Kannie W.Y. Chan[3, 4], Jeff W.M. Bulte[3, 4], Michael T. McMahon[1, 2], Peter C.M. van Zijl[1, 2], Assaf A. Gilad[3, 4]

[1]F.M. Kirby Research Center for Functional Brain Imaging, Kennedy Krieger Institute, Baltimore, MD, United States; [2]Department of Radiology, Johns Hopkins University School of Medicine, Baltimore, MD, United States; [3]Department of Radiology, Johns Hopkins University, Baltimore, MD, United States; [4]Cellular Imaging Section, Institute for Cell Engineering, Johns Hopkins University School of Medicine, Baltimore, MD, United States

Computer 7 **4296. Assessment of Temperature Induced Changes of T1 and T2 Relaxation Times in the Human Brain**

Christoph Birkl[1], Christian Langkammer[1], Johannes Haybaeck[2], Christina Ernst[2], Rudolf Stollberger[3], Franz Fazekas[1], Stefan Ropele[1]

[1]Department of Neurology, Medical University of Graz, Graz, Austria; [2]Department of Neuropathology, Institute of Pathology, Medical University of Graz, Graz, Austria; [3]Institute of Medical Engineering, Graz University of Technology, Graz, Austria

Computer 8 **4297. Volumetric Brain Temperature Monitoring with the MASTER Sequence: Multiple Adjacent Slice Thermometry with Excitation Refocusing**

Michael Marx[1], Juan C. Plata[2], Kim Butts Pauly[3]

[1]Electrical Engineering, Stanford University, Stanford, CA, United States; [2]Bioengineering, Stanford University, Stanford, CA, United States; [3]Radiology, Stanford University, Stanford, CA, United States

Computer 9 **4298. *Automated Treatment of 3D Tumor Volume with Adaptive Model-Predictive Controller in vivo</i>*shua de Bever[1], [2], Nick Todd[2], Allison Payne, [23], Robert Roemer[4]**

[1]School of Computing, University of Utah, Salt Lake City, UT, United States; [2]Utah Center for Advanced Imaging Research, Salt Lake City, UT, United States; [3]Department of Radiology, University of Utah, Salt Lake City, UT, United States; [4]Department of Mechanical Engineering, University of Utah, Salt Lake City, UT, United States

Computer 10 **4299. Novel PRF Thermometry Method Using Spatially Selective 2DRF Excitations and a Parametric Model**

Ashvin Kurian George[1], Nelly A. Volland[1, 2], Nassir F. Marrouche[1]

[1]CARMA Center, University of Utah, Salt Lake City, UT, United States; [2]UCAIR, University of Utah, Salt Lake City, UT, United States

Computer 11 **4300. Optimization of Dual-Pathway Unbalanced Steady-State Sequences for Robust Temperature Imaging**

Lawrence P. Panych[1], Renxin Chu[1], Chang-Sheng Mei[1], Guangyi Wang[1, 2], W. Scott Hoge[1], Matthew Toews[1], Bruno Madore[1]

[1]Department of Radiology, Harvard Medical School, Brigham and Women's Hospital, Boston, MA, United States; [2]Department of Radiology, Guangdong General Hospital, Guangdong Academy of Medical Sciences, Guangzhou, Guangdong, China

Computer 12 **4301. The Impact of Uncertainty in Nonlinear Temperature Dependent Constitutive Parameters on Predictive Computer Modeling of MRgLITT Procedures**

David T. A. Fuentes[1], Samuel J. Fahrenholtz[2], Anil Shetty[3], Roger J. McNichols[3], Jeffrey S. Weinberg[2], John D. Hazle[2], Jason Stafford[2]

[1]The University of Texas M.D. Anderson Cancer Center, Houston, TX, United States; [2]MD Anderson, Houston, TX, United States; [3]Visualase Inc., Houston, Tx, United States

Computer 13 **4302. Predictive Magnetic Resonance Temperature Imaging with Machine Learning**

Joshua P. Yung[1, 2], Christopher J. MacLellan[1, 2], Anil Shetty[3], Roger J. McNichols[3], John D. Hazle[1, 2], R. Jason Stafford[1, 2], David T. A. Fuentes[1, 2]

[1]Imaging Physics, The University of Texas M.D. Anderson Cancer Center, Houston, TX, United States; [2]The University of Texas Graduate School of Biomedical Sciences, Houston, TX, United States; [3]Visualase, Inc, Houston, TX, United States

Computer 14 **4303. Arbitrary Region of Interest Definition for Referenceless Magnetic Resonance Temperature Imaging**

Florian Maier[1], David T. A. Fuentes[1], Joshua P. Yung[1, 2], Kamran Ahrar[3], John D. Hazle[1], R. Jason Stafford[1]

[1]Department of Imaging Physics, The University of Texas M. D. Anderson Cancer Center, Houston, TX, United States; [2]The University of Texas Graduate School of Biomedical Sciences, Houston, TX, United States; [3]Department of Interventional Radiology, The University of Texas M. D. Anderson Cancer Center, Houston, TX, United States

Computer 15 **4304. Magnetic Resonance Properties of Gd-Conjugated Microbubbles for Use in MRI-Guided Focused Ultrasound: Distinguishing Intact and Fragmented Microbubbles by Relaxivity**

ISMRM MERIT AWARD magna cum laude

Michael A. Boss[1], Jameel A. Feshitan[2], Mark A. Borden[2]
[1]National Instiute of Standards and Technology, Boulder, CO, United States; [2]Mechanical Engineering, University of Colorado, Boulder, Boulder, CO, United States

Computer 16 **4305. Analysis of MR Thermometry Methods Using Tm-DOTMA and Water Proton : Experimental and Numerical Results**

Bu S. Park[1], Martin J. Lizak[2], Leonardo M. Angelone[1], Sunder S. Rajan[1]
[1]CDRH/DP, FDA, Silver Spring, MD, United States; [2]NIH, Bethesda, MD, United States

Computer 17 **4306. Improved Calibration of Tm-Chleates for Use in MR Thermometry**

Michael A. Boss[1]
[1]National Instiute of Standards and Technology, Boulder, CO, United States

Computer 18 **4307. Prediction of Hypothermia During Radical Prostatectomy by Using an Endorectal Cooling Balloon: A Bioheat Simulation Based on 3D Pelvic Structure Segmented on Prostate MRI**

Peter T. Fwu[1, 2], Jeon-Hor Chen[3], Yuting Lin[1], Wei-Ching Lin[4], Po-Jung Tseng[1], Eddie Lin[1], Min-Ying Su[1, 2]
[1]Center for Functional Onco-Imaging, Department of Radiological Sciences, University of California, Irvine, CA, United States; [2]Department of Physics and Astronomy, University of California, Irvine, CA, United States; [3]Center for Functional Onco-Imaging, Department of Radiological Sciences, University of California Irvine, Irvine, CA, United States; [4]Department of Radiology, China Medical University Hospital, Taichung, Taiwan

Computer 19 **4308. Utility of Intra-Procedural Gadoxetate Disodium Administration During MRI-Guided Laser Ablation of Hepatic Metastases: Experience with 47 Treated Lesions**

Sherif G. Nour[1, 2], David A. Kooby[3, 4], Shishir K. Maithel[3, 4], Charles A. Staley[3, 4], Hiroumi D. Kitajims[1, 2], William C. Small[1, 4], William E. Torres[1, 4]
[1]Radiology and Imaging Sciences, Emory University, Atlanta, GA, United States; [2]Interventional MRI Program, Emory University, Atlanta, GA, United States; [3]Surgical Oncology, Emory University, Atlanta, GA, United States; [4]School of Medicine, Emory University, Atlanta, GA, United States

Computer 20 **4309. Combined Use of MR-HIFU and Intra-Arterial Embolization to Reduce Heat Sink: Quantification in a Porcine Liver Model**

Joost W. Wijlemans[1], Mario Ries[2], Martijn de Greef[2], Gerald Schubert[3], Max Köhler[3], Mika Ylihautala[3], Lambertus W. Bartels[2], Chrit T.W. Moonen[2], Maurice A.A.J. van den Bosch[1]
[1]Department of Radiology, University Medical Center Utrecht, Utrecht, Netherlands; [2]Image Sciences Institute, University Medical Center Utrecht, Utrecht, Netherlands; [3]Philips Medical Systems MR, Vantaa, Finland

Computer 21 **4310. MR Guided High Intensity Focused Ultrasound Bone Ablation Assessed with MR, PET, and MDCT Imaging**

Matthew Bucknor[1], Viola Rieke[1], Youngho Seo[1], Randall Hawkins[1], Mark Wilson[1], Sharmila Majumdar[1], Thomas M. Link[1], Maythem Saeed[1]
[1]Radiology & Biomedical Imaging, University of California, San Francisco, San Francisco, CA, United States

Computer 22 **4311. Evaluation of a Clinically Feasible Treatment Protocol for MR-HIFU Liver Tumor Ablation in a Porcine Liver Model**

Joost W. Wijlemans[1], Mario Ries[2], Martijn de Greef[2], Gerald Schubert[3], Max Köhler[3], Mika Ylihautala[3], Lambertus W. Bartels[2], Maurice A.A.J. van den Bosch[1], Chrit T.W. Moonen[2]
[1]Department of Radiology, University Medical Center Utrecht, Utrecht, Netherlands; [2]Image Sciences Institute, University Medical Center Utrecht, Utrecht, Netherlands; [3]Philips Medical Systems MR, Vantaa, Finland

Computer 23 **4312. The Oxygenation in Different Funaki Types of Uterine Fibroids and Their Change After MR-HIFU Treatment: Evaluation with T2***

Ying Zhu[1], Juan Wei[2], Bilgin Keserci[3], Xuedong Yang[1], Rong Rong[1], Jing Liu[1], Xiaoying Wang[1]
[1]Radiology, Peking University First Hospital, Beijing, China; [2]Philips Research Asia, Shanghai, China; [3]Philips Healthcare South Korea, Seoul,, Korea

Computer 24 **4313. High-Resolution MRI of Temporal Evolution of Thermal Ablation Lesions**
Benu Sethi[1], Andriy Shmatukha[1], Mohammed Shurrab[2], Jennifer Barry[3], Eugene Crystal[2]
[1]Sunnybrook Research Institute, Sunnybrook Health Sciences Centre, Toronto, Ontario, Canada; [2]Arrhythmia Services, Schulich Heart Centre, Sunnybrook Health Sciences Centre, Toronto, Ontario, Canada; [3]Sunnybrook Research Institute, Sunnybrook Research Institute, Toronto, Ontario, Canada

Electronic Poster
Intravascular & Percutaneous MR-Guided Interventions B

Exhibition Hall Thursday 11:30-12:30

Computer 1 **4314. Transendocardial Therapeutic-Delivery Using Real-Time MRI Guidance**
Shashank Sathyanarayana Hegde[1], Steven M. Shea, [12], Li Pan, [12], Parag Karmarkar[3], Julien Barbot[4], Klaus J. Kirchberg[4], Fijoy Vadakkumpadan[5], Jeremy Maurer[1], Judy Cook[1], Natalia Trayanova[5], Meiyappan Solaiyappan[1], Peter V. Johnston[6], Dara L. Kraitchman[1]
[1]Radiology, Johns Hopkins University, Baltimore, MD, United States; [2]Center for Applied Medical Imaging, Siemens Corporation, Corporate Technology, Baltimore, MD, United States; [3]MRI Interventions, Inc., Memphis, Tennesse, United States; [4]Center for Applied Medical Imaging, Siemens Corporation, Corporate Technology, Princeton, NJ, United States; [5]Biomedical Engineering, Johns Hopkins University, Baltimore, MD, United States; [6]Cardiology, Johns Hopkins University, Baltimore, MD, United States

Computer 2 **4315. Real-Time Monitoring for Systematic Investigation of Catheter Design and Infusion Protocol Effect on CED Performance**
ISMRM MERIT AWARD summa cum laude
Benjamin Grabow[1], Raghu Raghavan[2], Martin Brady[2], Ken Kubota[3], Chris Ross[4], Samuel A. Hurley[5], Ethan K. Brodsky[1], James Raschke[3], Andrew L. Alexander[6], Walter F. Block[5]
[1]Medical Physics, University of Wisconsin - Madison, Madison, WI, United States; [2]Therataxis LLC, Baltimore, MD, United States; [3]Kinetics Foundation, Los Altos, CA, United States; [4]Engineering Resources Group, Inc, Hialeah, FL, United States; [5]Medical Physics, University of Wisconsin-Madison, Madison, WI, United States; [6]Medical Physics, University of Wisconsin, Madison, WI, United States

Computer 3 **4316. Conspicuous MRI Guidewire with an Embedded Temperature Probe to Enhance RF Safety**
Merdim Sonmez[1, 2], Dominique N. Franson[1], Christina E. Saikus[1], Majdi Halabi[1], Anthony Z. Faranesh[1], Robert J. Lederman[1], Ozgur Kocaturk[1, 2]
[1]National Institutes of Health, Bethesda, MD, United States; [2]Bogazici University, Istanbul, Turkey

Computer 4 **4317. An Accurate Electromagnetic Field Model for Optimization and Selection of Intravascular Multimode Coil Geometry**
Madhav Venkateswaran[1], Samuel A. Hurley[2], Alexey Samsanov[3], Peng Wang[3], Orhan Unal[3], Krishna N. Kurpad[4]
[1]Electrical and Computer Engineering, University of Wisconsin, Madison, WI, United States; [2]Medical Physics, University of Wisconsin-Madison, Madison, WI, United States; [3]Medical Physics, University of Wisconsin, Madison, WI, United States; [4]Radiology, University of Wisconsin, Madison, WI, United States

Computer 5 **4318. Intra-Arterial MRA Based Roadmapping for Magnetically-Assisted Remote Control Catheter Tracking**
Alastair Martin[1], Prasheel Lillaney[1], Maythem Saeed[1], Fabio Settlecase[2], Leland Evans[3], Mark Wilson[1], Steven W. Hetts[3]
[1]Radiology and Biomedical Imaging, UCSF, San Francisco, CA, United States; [2]Dept of Medical Imaging, Sunnybrook Health Sciences Centre, Toronto, ON, Canada; [3]Radiology and Biomedical Imaging, University of California San Francisco, San Francisco, CA, United States

Computer 6 **4319. Passive Tracking Device with a Controllable Susceptibility Effect: Demonstration with Catheter *in vivo*.**
William Dominguez-Viqueira[1], Hirad Karimi[1, 2], Jennifer Barry[1], Charles H. Cunningham[1, 2]
[1]Imaging Research, Sunnybrook Research Institute, Toronto, Ontario, Canada; [2]Medical Biophysics, University of Toronto, Toronto, Ontario, Canada

Computer 7 **4320. MRI-Based Computations of Flow Following Endovascular Interventions**
Vitaliy L. Rayz[1], Gabriel Acevedo-Bolton[1], Alastair J. Martin[1], Van Halbach[2], David A. Saloner[1]
[1]Radiology and Biomedical Imaging, University of California San Francisco, San Francisco, CA, United States; [2]Neurointerventional Radiology, University of California San Francisco, San Francisco, CA, United States

Computer 8 **4321. Non-Linear Bayesian Suppression of Magnetohydrodynamic Effect for Accurate Electrocardiogram Analysis During MRI.**
Julien Oster[1], Matthieu Geist[2], Zion Tse[3], Ehud J. Schmidt[3], Olivier Pietquin[2], Gari D. Clifford[1]
[1]Department of Engineering Science, University of Oxford, Oxford, United Kingdom; [2]MaLIS group, Supelec, Metz, France; [3]Department of Radiology, Brigham & Women's Hospital, Harvard Medical School, Boston, MA, United States

Computer 9 **4322. A Dual Plane Co-RASOR Technique for Accurate and Rapid Tracking and Position Verification of an Ir-192 Source for Single Fraction HDR Brachytherapy**
Hendrik de Leeuw[1], Marinus A. Moerland[2], Marco van Vulpen[2], Peter R. Seevinck[1], Chris J.G. Bakker[1]
[1]Beeld, University Medical Center, Utrecht, Netherlands; [2]Radiotherapy, University Medical Center, Utrecht, Netherlands

Computer 10 **4323. Dynamic 3D Localization in Real Time Using Spatial Phase-Contrast MRI**
Klaus-Dietmar Merboldt[1], Dirk Voit[1], Martin Uecker[1, 2], Jens Frahm[3]
[1]Biomed. NMR Forschung, Goettingen, Germany; [2]Electrical Engineering and Computer Sciences, University of California, Berkeley, CA, United States; [3]Biomedizinische NMR Forschungs GmbH am Max-Planck-Institut für biophysikalische Chemie, Goettingen, Germany

Computer 11 **4324. MR-Guidance Method for Needle Procedures Using a Dedicated Interventional MRI Suite and Device-Independent Active Tracking Markers**
Peter Koken[1], Daniel Wirtz[1], Ronald Holthuizen[2], Steffen Weiss[1], Sascha Krueger[1]
[1]Philips Research Laboratories, Hamburg, Germany; [2]Philips Healthcare, Best, Netherlands

Computer 12 **4325. Optical Flow Analysis on Undersampled Radial Acquisitions for Real-Time Tracking of the Pancreas in MR Guided Radiotherapy**
Bjorn Stemkens[1, 2], Rob H. N. Tijssen[2], Cornelis A.T. van den Berg[2], Jan J.W. Lagendijk[2], Chrit T.W. Moonen[3], Mario Ries[3], Baudouin Denis de Senneville[3, 4]
[1]Department of Biomedical Engineering, Eindhoven University of Technology, Eindhoven, Netherlands; [2]Department of Radiotherapy, UMC Utrecht, Utrecht, Netherlands; [3]Image Science Institute, UMC Utrecht, Utrecht, Netherlands; [4]IMB, UMR 5251 CNRS/University Bordeaux 1/INRIA, Bordeaux, France

Computer 13 **4326. Hand Gesture Control for Interventional MRI**
Florian Maier[1], Renjie He[1], Alexander Brunner[2], Kamran Ahrar[3], John D. Hazle[1], R. Jason Stafford[1]
[1]Department of Imaging Physics, The University of Texas M. D. Anderson Cancer Center, Houston, TX, United States; [2]Department of Medical Physics in Radiology, German Cancer Research Center (DKFZ), Heidelberg, Germany; [3]Department of Interventional Radiology, The University of Texas M. D. Anderson Cancer Center, Houston, TX, United States

Computer 14 **4327. Real-Time Image Guided Targeting of MRI Compatible Robotic Assisted Breast Biopsy & Therapeutic System**
Steven Roys[1], Bo Yang[2], Mathew Philip[3], Jaydev Desai[2], Rao Gaullapalli[1]
[1]Diagnostic Radiology and Nuclear Medicine, University of Maryland School of Medicine, Baltimore, MD, United States; [2]Mechanical Engineering, University of Maryland, College Park, College Park, MD, United States; [3]Robin Medical, Inc., Baltimore, MD, United States

Computer 15 **4328. Remote Detection of Implanted Neurostimulator in MRI Scanner**
Pallab K. Bhattacharyya[1], Erik B. Beall[1], Michael D. Phillips[1], Mark J. Lowe[1]
[1]Cleveland Clinic, Cleveland, OH, United States

Computer 16 **4329. Development of a Wireless Intra-Operative MR Geometry Planning System**
Martyn Paley[1], Minty Ledger[2], Martin O. Leach[3], Ray Hughes[4], Ali Akgun[4]
[1]Academic Radiology, University of Sheffield, Sheffield, Yorkshire, United Kingdom; [2]Division of Radiotherapy and Imaging, Institute of Cancer Research, Sutton, Surrey, United Kingdom; [3]Division of Radiotherapy and Imaging, Institute of Cancer Research, Sutton, Surrey , United Kingdom; [4]Imaging, Specialty Magnetics Ltd., Northolt, Middlesex, United Kingdom

Computer 17 **4330. Low-Profile Remote Targeting Alignment Tool for Use in MR-Guided Rigid Device Insertion**
Benjamin Grabow[1], Chris Ross[2], Ethan K. Brodsky[1], Ken Kubota[3], Walter F. Block[4]
[1]Medical Physics, University of Wisconsin - Madison, Madison, WI, United States; [2]Engineering Resources Group, Inc, Hialeah, FL, United States; [3]Kinetics Foundation, Los Altos, CA, United States; [4]Medical Physics, University of Wisconsin-Madison, Madison, WI, United States

Computer 18 **4331. Dynamic Tracking During Interactive MRI: Implementation of an Open-Source Middleware**
Felix Guettler[1], Andreas Heinrich[1], Peter Krauss[1], Jonathan Guntermann[1], Ulf Teichgraeber[1]
[1]Department of Radiology, University Hospital Jena, Jena, Thuringia, Germany

Computer 19 **4332. High Accuracy Position Estimation of Interventional Devices Using a Controllable Passive Tracking Device**
Hirad Karimi[1], William Dominguez-Viqueira[2], Charles H. Cunningham, [12]
[1]Medical Biophysics, University of Toronto, Toronto, Ontario, Canada; [2]Imaging Research, Sunnybrook Research Institute, Toronto, Ontario, Canada

Computer 20 **4333. Combined Pre- And Intra-Operative fMRI for Neurosurgical Guidance: Data Alignment and Bayesian Analysis.**
Joerg Magerkurth[1], Laura Mancini[1], William Penny[2], Guillaume Flandin[2], John Ashburner[2], Caroline Micallef[1], Enrico De Vita[1], Tarek A. Yousry[1], John Thornton[1], Nikolaus Weiskopf[2]
[1]Department for Brain Repair and Rehabilitation, UCL Institute of Neurology, London, United Kingdom; [2]Wellcome Trust Centre for Neuroimaging, University College London, London, United Kingdom

Computer 21 **4334. Modeling the Electric Field Distribution Within the Brain for the Treatment of Glioblastomas**
Pedro C. Miranda[1], Abeye Mekonnen[1], Ricardo Salvador[1], Peter J. Basser[2]
[1]IBEB, Faculty of Science, University of Lisbon, Lisbon, Portugal; [2]STBB, Eunice Kennedy Shriver NICHD, NIH, Bethesda, MD, United States

Computer 22 **4335. Thermal Ablation Using Resistive Heating by MRI Steerable Catheter**
Ricky Tong[1], Kanti Pallav Kolli[1], Maythem Saeed[1], Viola Rieke[1], Leland Evans[2], Steven W. Hetts[2], Mark Wilson[1]
[1]Radiology and Biomedical Imaging, UCSF, San Francisco, CA, United States; [2]Radiology and Biomedical Imaging, University of California San Francisco, San Francisco, CA, United States

Computer 23 **4336. MR Guided RF Hyperthermia for Head and Neck Tumors: Simulation Guided Design of an MR Compatible RF Heating Array**
Jurriaan Bakker[1], Maarten Paulides[1], Lorne Hofstetter[2], Wouter Numan[1], Gyula Kotek[1], Ruben Pellicer[1], Rene Verhaart[1], Paolo Togni[1], Gavin Houston[3], Eric Fiveland[4], Matthew Tarasek[2], Gerard van Rhoon[1], Desmond Yeo[2]
[1]Erasmus Medical Center, Rotterdam, Netherlands; [2]General Electric Global Research, Niskayuna, NY, United States; [3]GE Healthcare, 's Hertogenbosch, Netherlands; [4]GE Global Research Center, Niskayuna, NY, United States

Computer 24 **4337. Pulsatile Flow Phantom for MR-Guided Focused Ultrasound (MRgFUS) Vascular Thrombolysis and Occlusion**
Thomas Hudson[1], Thomas Looi[1], Adam C. Waspe[1], James M. Drake[1]
[1]Neurosurgery, Hospital for Sick Children, Toronto, Ontario, Canada

Electronic Poster
MR Systems Engineering

Exhibition Hall Thursday 10:30-11:30

Computer 25 **4338. NIST/ISMRM MRI System Phantom T1 Measurements on Multiple MRI Systems**
ISMRM MERIT AWARD magna cum laude
Kathryn E. Keenan[1], Michael A. Boss[1], Edward F. Jackson[2], Seon-joo Kown[3], Dominique L. Jennings[3], Stephen Russek[1]
[1]National Institute of Standards and Technology, Boulder, CO, United States; [2]Imaging Physics, The University of Texas M.D. Anderson Cancer Center, Houston, TX, United States; [3]Massachusetts General Hospital, Boston, MA, United States

Computer 26 **4339. A Novel fMRI-Compatible Device to Quantify the Cortical Response to Walking-Related Foot Sole Pressures**
Ying Hao[1, 2], Kai Zhang[1], Ye Wang[1], Xiaoying Wang, [13], Jing Fang[1, 4], Jue Zhang[1, 4], Brad Manor[1, 2]
[1]Academy for Advanced Interdisciplinary Studies, Peking University, Beijing, China; [2]Gerontology Department, Beth Israel Deaconess Medical Center, Boston, MA, United States; [3]Radiology Department, Peking University First Hospital, Beijing, China; [4]College of Engineering, Peking University, Beijing, China

Computer 27 **4340. Motion Phantom for Real-Time MRI**
Sebastian Schaetz[1], Markus Untenberger[1], Aaron Niebergall[1], Jens Frahm[2]
[1]Biomedizinische NMR Forschungs GmbH, Max Planck Institute for Biophysical Chemistry, Göttingen, Lower Saxony, Germany; [2]Biomedizinische NMR Forschungs GmbH, Max Planck Institute, Göttingen, Lower Saxony, Germany

Computer 28 **4341.** **A Single-Magnet Fast Field-Cycling Whole-Body MRI System with Detection at 0.2 T**
Gareth R. Davies[1], Kerrin J. Pine[1], David J. Lurie[1]
[1]Aberdeen Biomedical Imaging Centre, University of Aberdeen, Aberdeen, Scotland, United Kingdom

Computer 29 **4342.** **Construction of a 1.5 T Cryogen Free MRI System**
ISMRM MERIT AWARD magna cum laude
Sergei Obruchkov[1], Robin Dykstra[1]
[1]Victoria University, Wellington, New Zealand

Computer 30 **4343.** **PNS Safety of the Composite Gradient System**
K Craig Goodrich[1], Seong-Eun Kim[1], Joshua D. Kaggie[1], J. Rock Hadley[1], William B. Handler[2], Blaine A. Chronik[3], Dennis L. Parker[1]
[1]UCAIR, University of Utah, Salt Lake City, UT, United States; [2]Physics and Astronomy, Univ of Western Ontario, London, Ontario, Canada; [3]Physics and Astronomy, Western University, London, Ontario, Canada

Computer 31 **4344.** **Design Study for Making Split Gradient Coils More Robust**
Michael S. Poole[1], Nadim Jon Shah[1, 2], Rob Hawkes[3]
[1]INM-4, Forschungszentrum Juelich, Juelich, Nordrhein-Westfalen, Germany; [2]Neurologische Klinik, Universitaetsklinikum Aachen, Aachen, Nordrhein-Westfalen, Germany; [3]Wolfson Brain Imaging Centre, Addenbrookes Hospital, Cambridge, Cambridgeshire, United Kingdom

Computer 32 **4345.** **Simple, Accurate and Efficient Multilayer Integral Method for Eddy Current Simulation in Thin Volumes of Arbitrary Geometry Produced by MRI Gradient Coils**
Hector Sanchez Lopez[1], Fabio Freschi[2], Adnan Trakic[1], Elliot Smith[1], Jeremy Herbert[1], Miguel Fuentes[1], Stephen Wilson[1], Limei Liu[1], Maurizio Repetto[2], Stuart Crozier[1]
[1]ITEE, The University of Queensland, Brisbane, QLD, Australia; [2]Department of Energy, Politecnico di Torino, Torino, Italy

Computer 33 **4346.** **Theoretical Design of Shim Arrays with Irregular Coil Geometry**
Peter T. While[1], Jan G. Korvink[1, 2]
[1]Department of Microsystems Engineering (IMTEK), Laboratory for Simulation, University of Freiburg, Freiburg im Breisgau, Baden-Württemberg, Germany; [2]Freiburg Institute for Advanced Studies (FRIAS), University of Freiburg, Freiburg im Breisgau, Baden-Württemberg, Germany

Computer 34 **4347.** **Flanged-Edge Transverse Gradient Coil Design for a Hybrid LINAC-MRI System**
ISMRM MERIT AWARD magna cum laude
Limei Liu[1], Hector Sanchez-Lopez[1], Feng Liu[1], Stuart Crozier[1]
[1]The University of Queensland, Brisbane, Queensland, Australia

Computer 35 **4348.** **Very Low Field MRI with Giant Magnetoresistance Based Sensors**
Quentin Herreros[1], Hadrien A. Dyvorne[2], Paolo Campiglio[1], Amala Demonti[1], Guenaelle Jasmin-Lebras[1], Myriam Pannetier-Lecoeur[1], Claude Fermon[1]
[1]CEA, Gif-sur-Yvette, France; [2]Mount Sinai School of Medicine, New York, NY, United States

Computer 36 **4349.** **Low Acoustic RF Coil Design**
Saikat Saha[1], Washington De Lima[2]
[1]GE, Waukesha, WI, United States; [2]GE, Florence, SC, United States

Electronic Poster
RF Array Coil Coupling & RF Coils for Multinuclear & Hybrid Systems

Exhibition Hall Thursday 10:30-11:30

Computer 37 **4350.** **Comparison of Arrays with Various Mutual Impedances: Noise Correlation, SNR and Parallel Imaging Performance**
Adam Maunder[1], Mojgan Daneshmand[1], Pedram Mousavi[1], B. Gino Fallone[2], Nicola De Zanche[2]
[1]Electrical and Computer Engineering, University of Alberta, Edmonton, Alberta, Canada; [2]Oncology, University of Alberta, Edmonton, Alberta, Canada

Computer 38 **4351. Evaluation of Capacitive and Transformer Decoupling Methods Using in Non-Overlapped Array at 7.0T**
Hongbae Jeong[1], Kyoung-Nam Kim[1], Suk-Min Hong[1], Joshua Haekyun Park[1], Myung-Kyun Woo[1], Young-Bo Kim[1], Zang-Hee Cho[1]
[1]Neuroscience Research Institute, Gachon University, Incheon, Korea

Computer 39 **4352. Analysis of Imaged Object's Permittivity, Conductivity, Size and Position Effects on Optimal Capacitive, Inductive and Transformer Decoupling Schemes in RF Coil Arrays**
Volkan Emre Arpinar[1], L. Tugan Muftuler[1, 2]
[1]Department of Neurosurgery, Medical College of Wisconsin, Milwaukee, WI, United States; [2]Center for Imaging Research, Medical College of Wisconsin, Milwaukee, WI, United States

Computer 40 **4353. Mutual Coupling Study Using a Pair of Fractal Loop RF Coils**
Seunghoon Ha[1], Orhan Nalcioglu[1, 2]
[1]Tu & Yuen Center for Functional Onco-Imaging, University of California Irvine, Irvine, CA, United States; [2]Department of Cogno-Mechatronics Engineering, Pusan National University, Pusan, Korea

Computer 41 **4354. A Five Channel Receive Array for Cardiac Imaging Using Hyperpolarized ^{13}C at 3T.**
ISMRM MERIT AWARD magna cum laude
William Dominguez-Viqueira[1], Angus Z. Lau[1], Albert P. Chen[2], Charles H. Cunningham[1, 3]
[1]Imaging, Sunnybrook Research Institute, Toronto, Ontario, Canada; [2]GE Healthcare, Toronto, Ontario, Canada; [3]Medical Biophysics, University of Toronto, Toronto, Ontario, Canada

Computer 42 **4355. ^{23}Na/1H *In-Vivo* Renal MRI of Rodent Kidney at 3T by Using a Double-Tuned Transceiver Resonator System**
ISMRM MERIT AWARD magna cum laude
Raffi Kalayciyan[1], Matthias Malzacher[1], Sabine Neudecker[2], Norbert Gretz[2], Lothar R. Schad[1]
[1]Computer Assisted Clinical Medicine, Heidelberg University, Mannheim, Germany; [2]Medical Research Center, Heidelberg University, Mannheim, Germany

Computer 43 **4356. An Improved Surface Coil Design for Proton Decoupled Carbon-13 Magnetic Resonance Spectroscopy**
ISMRM MERIT AWARD magna cum laude
Eulalia Serés Roig[1], Guillaume Donati[1], Martin Meyerspeer[2], Lijing Xin[1, 3], Rolf Gruetter[4, 5], Arthur W. Magill[1, 3]
[1]Laboratory of Functional and Metabolic Imaging, Ecole Polytechnique Fédérale de Lausanne, Lausanne, Vaud, Switzerland; [2]Center for Medical Physics and Biomedical Engineering, Medical University of Vienna, Vienna, Austria; [3]Department of Radiology, University of Lausanne, Lausanne, Vaud, Switzerland; [4]École Polytechnique Fédérale de Lausanne, Lausanne, Vaud, Switzerland; [5]Department of Radiology, Universities of Lausanne and Geneva, Lausanne, Geneva, Switzerland

Computer 44 **4357. Numerical Optimization of a 3-Channel Array Coil for ^{31}P Functional Spectroscopy at 7T**
Andre Kuehne[1, 2], Ewald Moser[1, 2], Elmar Laistler[1, 2]
[1]Center for Medical Physics and Biomedical Engineering, Medical University of Vienna, Vienna, Austria; [2]MR Centre of Excellence, Medical University of Vienna, Vienna, Austria

Computer 45 **4358. Analysis of Tissue Properties and MRI Signals in the Head for PET/MRI Attenuation Correction**
H. Michael Gach[1], Julie C. Price[2], Denise K. Davis[2], Sungkyu Jung[3], Jonathan P. Carney[2], James A. Ruszkiewicz[2], Brian J. Lopresti[2], Charles M. Laymon[2], Chester A. Mathis[2]
[1]Radiology & Bioengineering, University of Pittsburgh, Pittsburgh, PA, United States; [2]Radiology, University of Pittsburgh, Pittsburgh, PA, United States; [3]Statistics, University of Pittsburgh, Pittsburgh, PA, United States

Computer 46 **4359. Novel and Compact PET Insert for Simultaneous PET/MR Imaging of Small Animals**
Konrad Lankes[1], Hans Post[1], Hans Wehrl[2], Chih-Chieh Liu[2], Mosaddek Hossain[2], Bernd Pichler[2], Sven Junge[1]
[1]Bruker BioSpin MRI, Ettlingen, Germany; [2]Preclinical Imaging and Radiopharmacy, University of Tuebingen, Tuebingen, Germany

Computer 47 **4360. Development of a Novel RF Body Coil Integrated with MR-Compatible PET Detector**
Gary H. Glover[1], Craig S. Levin[1], Anton Linz[2], William T. Peterson[2], Sri Harsha Maramraju[2]
[1]Stanford University School of Medicine, Stanford, CA, United States; [2]GE Healthcare, Waukesha, WI, United States

Computer 48 **4361. MRI Compatible Orthotopic Breast Cancer Window Chamber Model for Multi-Modality Imaging**
Arthur F. Gmitro[1], Rachel L. Schafer[2], Huimin Leung[3]
[1]Medical Imaging, University of Arizona, Tucson, AZ, United States; [2]Biomedical Engineering, University of Arizona, Tucson, AZ, United States; [3]College of Optical Sciences, University of Arizona, Tucson, AZ, United States

Electronic Poster
RF Coils & Concepts

Exhibition Hall Thursday 11:30-12:30

Computer 25 **4362.** **Distribution of RF Traps to Reduce RF Heating with Endoluminal Coils: An Experimental Study**
Jean-Marie Verret[1], Frank Pilleul[2], Olivier Beuf[3], Cecile Rabrait[4]
[1]CREATIS, Villeurbanne, France, Metropolitan; [2]Hospices Civils de Lyon, Lyon, France, Metropolitan; [3]CREATIS, Lyon, France, Metropolitan; [4]General Electric Healthcare, Velizy, France, Metropolitan

Computer 26 **4363.** **Investigation of the Transition from Travelling Wave to Near Field Excitation Using Crossed Dipole Antennas**
Karthik Lakshmanan[1], Martijn A. Cloos[2], Graham C. Wiggins[1]
[1]NYU, Newyork, United States; [2]New York University School of Medicine, Newyork, United States

Computer 27 **4364.** **A Numerical Approach to the Development of MRI Radiofrequency Coils**
Gemma R. Cook[1], Martin John Graves[1], David J. Lomas[1]
[1]Department of Radiology, University of Cambridge, Cambridge, United Kingdom

Computer 28 **4365.** **3T Transceiver Quadrature Surface Coil Design for Cervical Spine Spectroscopy**
Wonje Lee[1], Oded Gonen[2], Daniel Sodickson[1], Graham Wiggins[1]
[1]Radiology, NYUMC, New York, NY, United States; [2]Radiology, New York University, New York, NY, United States

Computer 29 **4366.** **A Transceive RF Coil for Imaging Tissue Specimen at 3T Based on PCB Design**
Roland Müller[1], André Pampel[1], Toralf Mildner[1], Henrik Marschner[1], Harald E. Möller[1]
[1]Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany

Computer 30 **4367.** **A New UHF Transceiver Antenna Design: Modified Folded Dipole**
Wonje Lee[1], Daniel Sodickson[1], Graham Wiggins[1]
[1]Radiology, NYUMC, New York, NY, United States

Computer 31 **4368.** **7T Tx Body Coil with Rx-Only Insert: Primarily Results**
Shailesh B. Raval[1], Yujuan Zhao[1], Tiejun Zhao[2], Narayanan Krishnamurthy[1], Sossena Wood[1], Tamer S. Ibrahim[1]
[1]University of Pittsburgh, Pittsburgh, PA, United States; [2]Siemens Medical Solutions, Pittsburgh, PA, United States

Computer 32 **4369.** **Transmit-Only Receive-Only Operation of a Switch-Tuned ^{13}C-^{1}H Radiofrequency Coil for Improved in Vivo ^{13}C Spectroscopy**
Heeseung Lim[1], Kundan Thind[1], Francisco M. Martinez-Santiesteban[1], Timothy J. Scholl[1, 2]
[1]Medical Biophysics, Western University, London, Ontario, Canada; [2]Imaging Research Laboratories, Robarts Research Institute, Western University, London, Ontario, Canada

Computer 33 **4370.** **Development of Cross-Pole RF Tx Array for Breast Imaging at 7T**
Junghwan Kim[1], Narayan Krishnamurthy[1], Yujuan Zhao[1], Tiejun Zhao[2], Kyongtae Ty Bae[1], Tamer S. Ibrahim[1]
[1]University of Pittsurgh, pittsburgh, PA, United States; [2]Siemens Medical Solutions, pittsburgh, PA, United States

Computer 34 **4371.** **Feasibility Numerical Study of the Travelling Wave MRI at 3T**
Fabian Vazquez[1], Alfredo O. Rodriguez[2]
[1]Fac Ciencias, UNAM, Mexico, DF, Mexico; [2]Dep Ing. Elec, UAM Iztapalapa, Mexico, DF, Mexico

Computer 35 **4372.** **Characterizing Bazooka Baluns**
M. Arcan Erturk[1, 2], AbdEl-Monem M. El-Sharkawy[2]
[1]Department of Electrical & Computer Engineering, Johns Hopkins University, Baltimore, MD, United States; [2]Russell H. Morgan Department of Radiology and Radiological Sciences, Johns Hopkins University, Baltimore, MD, United States

Computer 36 **4373. Demonstration of High Efficiency on Coil RF Amplifier for 7 Tesla MRI**
Hugo Kroeze[1], Jeroen Stroeve[1], Michel Italiaander[1], Ingmar Voogt[1], Giel Mens[1], Peter R. Luijten[1], Dennis W. J. Klomp[1]
[1]Radiology, UMC Utrecht, Utrecht, Netherlands

Electronic Poster
Dielectrics & Novel RF Concepts

Exhibition Hall Thursday 11:30-12:30

Computer 37 **4374. Near-Field Wave Impedance Matching with High-Permittivity Dielectric Materials for Optimum Transmittance in MRI Systems**
Giuseppe Carluccio[1], Sukhoon Oh[1], Qing Yang[2], Danilo Erricolo[3], Ray Weiluo[2], Christopher Michael Collins[1]
[1]Radiology, New York University, New York, United States; [2]Radiology, Pennsylvania State University, Hershey, PA, United States; [3]Electrical and Computer Engineering, University of Illinois at Chicago, Chicago, IL, United States

Computer 38 **4375. Electromagnetic Analysis of Dielectric Shimming Using High Permittivity Materials**
Wyger M. Brink[1], Andrew Webb[1]
[1]Radiology, Leiden University Medical Center, Leiden, Netherlands, Zuid-Holland, Netherlands

Computer 39 **4376. A Novel 7T Transmit Array Using TE 01&[delta] Mode Dielectric Resonators**
Jonathan Y. Lu[1], Xiaoliang Zhang[2, 3], Brian K. Rutt[4]
[1]Electrical Engineering Department, Stanford University, Stanford, CA, United States; [2]Department of Radiology and Biomedical Imaging, University of California-San Francisco, San Francisco, CA, United States; [3]UC Berkeley/UCSF joint graduate group in Bioengineering, San Francisco, CA, United States; [4]Radiology Department, Stanford University, Stanford, CA, United States

Computer 40 **4377. In-Vivo Evaluation of a New High Dielectric Constant Material for Local Enhancement of B_1^+ and SNR at 3T**
Christopher T. Sica[1], Sebastian Rupprecht[1], Ray Luo[2], Zhipeng Cao[2], Raffi Sahul[3], Seongtae Kwon[3], Michael T. Lanagan[4], Christopher Collins[5], Qing Yang[1, 6]
[1]Radiology, Penn State College of Medicine, Hershey, PA, United States; [2]Bioengineering, Pennsylvania State University, University Park, PA, United States; [3]TRS Technologies Inc, State College, PA, United States; [4]Engineering Science and Mechanics, Pennsylvania State University, University Park, PA, United States; [5]Radiology, New York University, New York, United States; [6]Neurosurgery, Penn State College of Medicine, Hershey, Pennslyvania, United States

Computer 41 **4378. Analytical Study on the Effects of High Dielectric Material Surrounding Spherical Sample with Coil Array for Parallel Imaging**
Wei Luo[1, 2], Giuseppe Carluccio[3], Zhipeng Cao[4, 5], Yang X. Qing[1], Christopher Michael Collins, [13]
[1]Radiology, The Pennsylvania State University, Hershey, PA, United States; [2]Engineering Science & Mechanics, The Pennsylvania State University, University Park, PA, United States; [3]Radiology, New York University, New York, NY, United States; [4]Radiology, Pennsylvania State University, Hershey, PA, United States; [5]Bioengineering, The Pennsylvania State University, University Park, PA, United States

Computer 42 **4379. Manipulating B_1 Spatial Distribution at 7 Tesla with Dielectric Pads at a Distance from a Transmit Surface Coil**
Manushka V. Vaidya[1, 2], Sukhoon Oh[1], Christopher Michael Collins[1, 2], Daniel K. Sodickson[1, 2], Riccardo Lattanzi[1, 2]
[1]Bernard and Irene Schwartz Center for Biomedical Imaging,, New York University School of Medicine, New York, NY, United States; [2]Sackler Institute of Graduate Biomedical Sciences, New York University School of Medicine, New York, NY, United States

Computer 43 **4380. Analysis of the Effect of an External High Dielectric Sleeve on the Performance of a Head Coil at 128 MHz**
Bu S. Park[1], Joshua W. Guag[1], Leonardo M. Angelone[1], Sunder S. Rajan[1]
[1]CDRH/DP, FDA, Silver Spring, MD, United States

Computer 44 **4381. Maximized Local B_1+ Using Optimized Dielectric Pad at 7 T: Numerical Optimization and Experimental Validation**
Sukhoon Oh[1], Wei Luo[2], Bei Zhang[1], Cem Murat Deniz, Michael T. Lanagan[3], Graham C. Wiggins[1], Christopher Michael Collins[1]
[1]Center for Biomedical Imaging, School of Medicine, New York University, New York, United States; [2]Center for NMR Research, Radiology, College of Medicine, The Pennsylvania State University, Hershey, PA, United States; [3]Engineering Science and Mechanics, The Pennsylvania State University, University Park, PA, United States

Computer 45 **4382. Dipole Antenna Without Ceramic Substrate and Still Low SAR: The Fractionated Dipole Antenna.**
Alexander Raaijmakers[1], Ingmar Voogt[1], Dennis W. J. Klomp[1], Peter R. Luijten[1], Nico van den Berg[1]
[1]Imaging Division, UMC Utrecht, Utrecht, Netherlands

Computer 46 **4383. A 16-Element Highly Flexible RF Array Coil for 3T MRI**
Yunsuo Duan[1], Bradley S. Peterson[1], Feng Liu[1], Alayar Kangarlu[1]
[1]MRI Research, Department of Psychiatry, NYSPI/Columbia University, New York, NY, United States

Computer 47 **4384. A Novel Alternating Impedance Transceiver Coil for 7T MRI**
James F. Stack, Jr. [1]
[1]Remcom, Inc., State College, PA, United States

Computer 48 **4385. Current-Line Solution for Understanding and Predicting B_1 / B_1^+ Behavior and Investigating Central Focusing**
Gianluigi Tiberi[1], Mauro Costagli[1], Riccardo Stara, [12], James Tropp[3], Michela Tosetti, [14]
[1]Fondazione Imago7, Pisa, PI, Italy; [2]Univerisity of Pisa, Pisa, PI, Italy; [3]GE Healthcare Technologies, Fremont, CA, United States; [4]Stella Maris Scientific Institute, Pisa, Pi, Italy

Electronic Poster
Receive Arrays

Exhibition Hall Thursday 10:30-11:30

Computer 49 **4386. Brain Arrays for Neonatal and Premature Neonatal Imaging at 3T**
Azma Mareyam[1], Duan Xu[2], Jonathan R. Polimeni[1, 3], Eli Siskind[1], Vijay Alagappan[4], James N. Blau[1], Boris Keil[1, 3], Nan Tian[2], Wei Zhao[1, 3], Lawrence L. Wald[1, 3]
[1]A.A. Martinos Center for Biomedical Imaging, Department of Radiology, Charlestown, MA, United States; [2]UCSF School of Medicine, San Francisco, CA, United States; [3]Harvard Medical School, Boston, MA, United States; [4]GE Healthcare, Cleveland, OH, United States

Computer 50 **4387. The Dual Purpose CAPTAIN (Cardiac Adult / Pediatric Torso Assembly for *in-vivo* Imaging)**
Modhurin Banerjee[1], Clyve Konrad Follante[1], Aleksey Zemskov[1], Rodney Bills[1], Kolman Juhasz[1], Steven G. Lee[1], Victor Taracila[1], Fraser Robb[1]
[1]MRI, GE Healthcare, Aurora, OH, United States

Computer 51 **4388. A Scalable Constellation Coil Design for 3T Body Imaging**
Xing Yang[1], CemMurat Deniz[2], Ye Li[2], Ryan Brown[2], Yudong Zhu[2]
[1]Center for Biomedical Imaging, Department of Radiology,, NYU School of Medicine, New York, NY, United States; [2]Center for Biomedical Imaging, Department of Radiology, NYU School of Medicine, New York, NY, United States

Computer 52 **4389. 8 Channel Transmit and 16 Channel Receive Constellation Coil for 7T MRI**
Ye Li[1], Xing Yang[1], Cem Murat Deniz[2], Yudong Zhu[1]
[1]NYU School of Medicine, New York, United States; [2]New York University, New York, United States

Computer 53 **4390. High Filling Factor Vs. High Channel Count: Which One Wins in 3T Breast Imaging?**
Luca Marinelli[1], Eric Fiveland[1], Keith Park[1], Kenneth Rohling[1], Ileana Hancu[2]
[1]GE Global Research Center, Niskayuna, NY, United States; [2]GE Global Research, Niskayuna, NY, United States

Computer 54 **4391. 31 Channel, Flexible Breast Coil for 3T Imaging**
Ileana Hancu[1], Eric Fiveland[2], Keith Park[2], Kenneth Rohling[2], Seung-Kyun Lee[2], Luca Marinelli[2]
[1]GE Global Research, Niskayuna, NY, United States; [2]GE Global Research Center, Niskayuna, NY, United States

Computer 55 **4392. A Dedicated 8-Channel Flexible Array Coil for Ocular fMRI**
Marcos Alonso Lopez Terrones[1, 2], Markus Düring, [13], Daniel Gareis[1], Peter M. Jakob[3, 4]
[1]NORAS MRI products, Höchberg, Bavaria, Germany; [2]Health Services of Durango, Durango, Mexico; [3]Experimental Physics 5, University of Wuerzburg, Wuerzburg, Bavaria, Germany; [4]Research Center Magnetic Resonance Bavaria, Wuerzburg, Bavaria, Germany

Computer 56 **4393. A 12-Channel Dorsal Receive-Only Body Array for 7 Tesla.**
Ria Pradhan[1], Andreas K. Bitz[1], Stefan Maderwald[1], Oliver Kraff[1], Mark E. Ladd[1], Stephan Orzada[1]
[1]The Erwin L. Hahn Institute for Magnetic Resonance Imaging, Universität Duisburg - Essen, Essen, Nord Rhein Westfalen, Germany

Computer 57 **4394. MR Spectroscopic Imaging (MRSI) Study Using the Diaper Shaped RF Coil Array.**
Seunghoon Ha[1], Orhan Nalcioglu[1, 2]
[1]Tu & Yuen Center for Functional Onco-Imaging, University of California Irvine, Irvine, CA, United States; [2]Department of Cogno-Mechatronics Engineering, Pusan National University, Pusan, Korea

Computer 58 **4395. Unilateral 8ch Receiver Array for Ultra High Resolution Time-Resolved 3D CE-MRA of the Hand**
Paul T. Weavers[1], Thomas C. Hulshizer[1], Phillip J. Rossman[1], Phillip M. Young[2], Stephen J. Riederer[1]
[1]MR Research Laboratory, Mayo Clinic, Rochester, MN, United States; [2]Radiology, Mayo Clinic, Rochester, MN, United States

Computer 59 **4396. High Temporal and Spatial Resolution Breast MR Imaging at 7T; Feasibility Study Using 8-To-1 Channel Tx-Only Array Combined with 8 Channel Rx-Only Insert**
Junghwan Kim[1], Yujuan Zhao[1], Narayan Krishnamurthy[1], Tiejun Zhao[2], Kyongtae Ty Bae[1], Tamer S. Ibrahim[1]
[1]University of Pittsurgh, pittsburgh, PA, United States; [2]Siemens Medical Solutions, pittsburgh, PA, United States

Computer 60 **4397. 7-Channel Half-Cylinder Shaped Transmit Coil with 32-Channel Receiver Array for Multipurpose Head Imaging at 7T**
Johanna J. Bluemink[1], Martijn Lunenburg[2], Wouter Koning[2], Ingmar J. Voogt[2], Michel Italiaander[2], Peter R. Luijten[2], Natalia Petridou[2], Dennis W.J. Klomp[2]
[1]Radiotherapy, UMC Utrecht, Utrecht, Netherlands; [2]Radiology, UMC Utrecht, Utrecht, Netherlands

Electronic Poster
Transmit Arrays

Exhibition Hall Thursday 11:30-12:30

Computer 61 **4398. Z-Shim RF Coil Design Enhances Parallel Transmit Performance in Body Imaging at 3T**
Xiaoping Wu[1], Jinfeng Tian[1], Sebastian Schmitter[1], Brian Hanna[1], Joseph Pfeuffer[2], Michael Hamm[2], Juergen Nistler[2], University of Minnesota University of Minnesota Vaughan[1], Kamil Ugurbil[1], Pierre-Francois Van de Moortele[1]
[1]CMRR, Radiology, University of Minnesota, Minneapolis, MN, United States; [2]Siemens Healthcare, Erlangen, Germany

Computer 62 **4399. Simultaneous Excitation of Distinct Electromagnetic Modes Using a Tx Array**
Yujuan Zhao[1], Sossena Wood[1], Tiejun Zhao[2], Narayanan Krishnamurthy[1], Tamer S. Ibrahim[1]
[1]University of Pittsburgh, Pittsburgh, PA, United States; [2]Siemens Medical Solutions, Pittsburgh, PA, United States

Computer 63 **4400. Densely-Populated Transceiver Surface Coil Array for the Human Brain Studies at 7 T.**
Nikolai I. Avdievich[1], Jullie W. Pan[1], Hoby P. Hetherington[1]
[1]Neurosurgery, Yale University, New Haven, CT, United States

Computer 64 **4401. Construction of a 4-Channel Transmit Neck Array for PCASL Tagging at 7 Tesla and Comparison with a Head Coil.**
Konstantinos Papoutsis[1], James A. Meakin[1], Aaron T. Hess[2], Jamie Near[3], Stephen J. Payne[4], David Edwards[4], Peter Jezzard[1]
[1]FMRIB Centre, University of Oxford, Oxford, Oxfordshire, United Kingdom; [2]Department of Cardiovascular Medicine , University of Oxford, Oxford, Oxfordshire, United Kingdom; [3]McGill Univeristy, Montreal, Quebec, Canada; [4]Department of Engineering Science, University of Oxford, Oxford, Oxfordshire, United Kingdom

Computer 65 **4402. An Algorithm for Automatic Optimisation of Transmit Array Coil Tune and Match Applied in a Cardiac TEM Coil at 7T**
Christopher T. Rodgers[1], Graeme A. Keith[1], Aaron T. Hess[2], Carl Snyder[3], University of Minnesota University of Minnesota Vaughan[3], Matthew D. Robson[1]
[1]Univ Oxford, Oxford, United Kingdom; [2]University of Oxford, Oxford, United Kingdom; [3]CMRR, Univ Minnesota, Minneapolis, MN, United States

Computer 66 **4403. Imaging the Kidneys at 7T Using 8Tx/32Rx Abdominal Coil and RF Shimming of Individual Slices**
Niravkumar Darji[1], Martin Haas[2], Gopesh Patel[1], Oliver Speck[1], Inge Brinkmann[2], Michael Bock[2]
[1]Department for Biomedical Magnetic Resonance, magdeburg, Sachsen anhalt, Germany; [2]Department of Radiology, Freiburg, Baden-Württemberg., Germany

Computer 67 **4404. Parallel Transmission Experiments Using an Extensible RF Pulse Generator**
Andre Kuehne[1, 2], Patrick Waxmann[2], Werner Hoffmann[2], Harald Pfeiffer[2], Reiner Seemann[2], Frank Seifert[2], Bernd Ittermann[2]
[1]Medical University of Vienna, Vienna, Austria; [2]Department for Medical Metrology, Physikalisch-Technische Bundesanstalt, Berlin, Germany

Computer 68 **4405. New Results for Digital Beamforming in MRI**
Emad Ebbini[1], Lance DelaBarre[2], University of Minnesota University of Minnesota Vaughan[3], Anand Gopinath[4]
[1]University of Minnesota, Minneapolis, MN, United States; [2]Radiology, University of Minnesota, Minneapolis, MN, United States; [3]CMRR, Radiology, University of Minnesota, Minneapolis, MN, United States; [4]ECE, University of Minnesota, Minneapolis, MN, United States

Computer 69 **4406. Effect of Shielding on Surface Coil Loops at 7T**
Gillian Haemer[1], Graham Wiggins[1]
[1]The Bernard and Irene Schwartz Center for Biomedical Imaging, NYU Medical Center, New York, NY, United States

Computer 70 **4407. Integration of 2-Channel Parallel Transmission with Forced Current Excitation for Improved B_1 Homogeneity in Breast Imaging at 7T**
Sergey Cheshkov[1, 2], Ivan E. Dimitrov[1, 3], Wouter Koning[4], Joseph Rispoli[5], Mary P. McDougall[5, 6], Steve Wright, [5, 6], Craig R. Malloy[1, 2]
[1]Advanced Imaging Research Center, University of Texas Southwestern Medical Center, Dallas, TX, United States; [2]Radiology, University of Texas Southwestern Medical Center, Dallas, TX, United States; [3]Philips Medical Systems, Cleaveland, OH, United States; [4]UMC Utrecht, Utrecht, CX, Netherlands; [5]Biomedical Engineering, Texas A&M University, College Station, TX, United States; [6]Electrical Engineering, Texas A&M University, College Station, TX, United States

Computer 71 **4408. 20-To-8 Channel Tx Array with 32-Channel Adjustable Receive-Only Insert for 7T Head Imaging**
Tamer S. Ibrahim[1], Yujuan Zhao[1], Narayanan Krishnamurthy[1], Shailesh B. Raval[1], Tiejun Zhao[2], Sossena Wood[1], Junghwan Kim[1]
[1]University of Pittsburgh, Pittsburgh, PA, United States; [2]Siemens Medical Solutions, Pittsburgh, PA, United States

Computer 72 **4409. A Shielded 8 Channel TxRx Head Array with Triangular Elements and Second Order Decoupling**
Gang Chen[1], Martijn A. Cloos[2], Karthik Lakshmanan[3], Daniel Sodickson[3], Graham Wiggins[3]
[1]The Sackler Institute of Graduate Biomedical Sciences, New York University School of Medicine, New York, NY, United States; [2]The Bernard and Irene Schwartz Center for Biomedical Imaging, New York University School of Medicine, New York, NY, United States; [3]The Bernard and Irene Schwartz Center for Biomedical Imaging, New York University Langone Medical Center, New York, NY, United States

Electronic Poster
MRI Safety 1

Exhibition Hall Thursday 10:30-11:30

Computer 73 **4410. Improving B_1-Based SAR Determination Via Iterative Determination of Missing Field Components**
Ulrich Katscher[1], Karim Djamshidi[1]
[1]Philips Research Europe, Hamburg, Germany

Computer 74 **4411. A Low-Power, Offline Prescreen to Detect and Suppress Dangerous Currents**
Christopher W. Ellenor[1], Pascal P. Stang[1], John M. Pauly[1], Greig C. Scott[1]
[1]Electrical Engineering, Stanford University, Stanford, CA, United States

Computer 75 **4412. Parallel Transmit Pulse Design with Implant-Friendly Modes**
Yigitcan Eryaman[1, 2], Bastien Guérin[3], Elfar Adalsteinsson[4, 5], Lawrence L. Wald[2, 5]
[1]Research Laboratory of Electronics, Massachusetts Institute of Technology, Cambridge, MA, United States; [2]Martinos Center for Biomedical Imaging, Dept. of Radiology, MGH, Charlestown, MA, United States; [3]Martinos Center for Biomedical Imaging, Dept. of Radiology, Massachusetts General Hospital, Charlestown, MA, United States; [4]Dept. of Electrical Engineering and Computer Science, Massachusetts Institute of Technology, Cambridge, MA, United States; [5]Harvard-MIT Health Sciences and Technology, Cambridge, MA, United States

Computer 76 **4413. Reference-Free Detection of RF Unsafe Conditions and Countermeasures for Implantable MR-Conditional Devices**
Ingmar Graesslin[1], Johannes Achtzehn[1], Sascha Krueger[1], Peter Vernickel[1], Kay Nehrke[1], Steffen Weiss[1]
[1]Philips Research, Hamburg, Germany

Computer 77 **4414. Evaluation of Virtual Observation Points for Local SAR Monitoring of Multi-Channel Transmit RF Coils at 7 Tesla**
Andreas K. Bitz[1], Rene Gumbrecht[2, 3], Stephan Orzada[1], Hans-Peter Fautz[2], Mark E. Ladd[1, 4]
[1]Erwin L. Hahn Institute for MRI, University of Duisburg-Essen, Essen, Germany; [2]Siemens Healthcare, Erlangen, Germany; [3]Department of Physics, Friedrich-Alexander University, Erlangen, Germany; [4]Department of Diagnostic and Interventional Radiology and Neuroradiology, University Hospital Essen, Essen, Germany

Computer 78 **4415. Imaging Healthy Volunteers and Patients with Tattoos or Permanent Make-Up at 7T: A Retrospective Study**
Yacine Noureddine[1, 2], Andreas K. Bitz[1, 3], Markus Thürling[1, 4], Gregor Schaefers[2], Mark E. Ladd[1, 3], Oliver Kraff[1, 3]
[1]Erwin L.Hahn Institute for MRI, University Duisburg-Essen, Essen, NRW, Germany; [2]MR:comp GmbH, MR Safety Testing Laboratory, Gelsenkirchen, NRW, Germany; [3]Department of Diagnostic and Interventional Radiology and Neuroradiology, University Hospital Essen, Essen, NRW, Germany; [4]Department of Neurology, University Duisburg-Essen, Essen, NRW, Germany

Computer 79 **4416. In Silico and in Vitro Investigation of Temperature Elevation Close to an Aneurysm Clip at 7T**
Yacine Noureddine[1, 2], Oliver Kraff[1, 3], Mark E. Ladd[1, 3], Karsten Wrede[4], Gregor Schaefers[2], Andreas K. Bitz[1, 3]
[1]Erwin L.Hahn Institute for MRI, University Duisburg-Essen, Essen, NRW, Germany; [2]MR:comp GmbH, MR Safety Testing Laboratory, Gelsenkirchen, NRW, Germany; [3]Department of Diagnostic and Interventional Radiology and Neuroradiology, University Hospital Essen, Essen, NRW, Germany; [4]Clinic for Neurosurgery, University Hospital Essen, Essen, NRW, Germany

Computer 80 **4417. Circuit Model for Implant Electrode and Lead-Electrode Impedance Matching**
Volkan Acikel[1, 2], Ergin Atalar,[2, 3]
[1]Electrical and Electronics Engineering, Bilkent University , Ankara, Turkey; [2]National Magnetic Resonance Research Center (UMRAM), Ankara, Turkey; [3]Electrical and Electronics Engineering, Bilkent University, Ankara, Turkey

Computer 81 **4418. Application of Rotating RF Coil Array in B_1 Shimming with Strict Local SAR Constraints**
Jin Jin[1], Feng Liu[1], Adnan Trakic[1], Ewald Weber[1], Stuart Crozier[2]
[1]University of Queensland, St Lucia, Queensland, Australia; [2]The University of Queensland, St Lucia, Queensland, Australia

Computer 82 **4419. Safety Evaluation of Algorithms to Optimize Transmit Efficiency for Local Excitation with a Transmit Array**
Giuseppe Carluccio[1], Christopher Michael Collins[1]
[1]Radiology, New York University, New York, United States

Computer 83 **4420. Online Local SAR Supervision for Transmit Arrays at 7T**
Rene Gumbrecht[1, 2], Ulrich Fontius[1], Holger Adolf[1], Thomas Benner[1], Franz Schmitt[1], Elfar Adalsteinsson[3, 4], Lawrence L. Wald,[4, 5], Hans-Peter Fautz[1]
[1]Siemens Healthcare, Erlangen, Germany; [2]Department of Physics, University of Erlangen, Erlangen, Germany; [3]Electrical Engineering and Computer Science, Massachusetts Institute of Technology, Cambridge, MA, United States; [4]Harvard-MIT Division of Health Sciences and Technology, Massachusetts Institute of Technology, Cambridge, MA, United States; [5]Department of Radiology, A. A. Martinos Center for Biomedical Imaging, Charlestown, MA, United States

Computer 84 **4421. On Patient-Specific Models for Accurate SAR Estimations at 7 T**
ISMRM MERIT AWARD summa cum laude
Jin Jin[1], Feng Liu[1], Ewald Weber[1], Stuart Crozier[2]
[1]University of Queensland, St Lucia, Queensland, Australia; [2]The University of Queensland, St Lucia, Queensland, Australia

Electronic Poster
MRI Safety 2

Exhibition Hall Thursday 11:30-12:30

Computer 85 **4422.** **Functional MRI Using Implanted Stereotactic EEG Electrodes --- Heating Investigation for Safety**
Pallab K. Bhattacharyya[1], Jorge A. Gonzalez-Martinez[2], Mark J. Lowe[1], Dileep Nair[1], Richard Prayson[1], Myron Zhang[1], Stephen E. Jones[1]
[1]Cleveland Clinic, Cleveland, OH, United States; [2]Cleveland Clinic Foundation, Cleveland, OH, United States

Computer 86 **4423.** **Safe Online Local SAR Calculation for Transmit Arrays Using Asynchron Data Processing**
Rene Gumbrecht[1, 2], Thomas Benner[1], Ulrich Fontius[1], Holger Adolf[4], Andreas K. Bitz[3], Hans-Peter Fautz[1]
[1]Siemens Healthcare, Erlangen, Germany; [2]Department of Physics, Friedrich-Alexander University, Erlangen, Germany; [3]Erwin L. Hahn Institute for Magnetic Resonance Imaging, University Duisburg-Essen, Essen, Germany

Computer 87 **4424.** **A Novel Method for Experimental Assessment of Antenna Safety Using MR Thermometry**
Cem Murat Deniz[1, 2], Leeor Alon,[23], Xing Yang[3], Gene Young Cho[1, 2], Christopher Michael Collins,[23], Daniel K. Sodickson,[23], Yudong Zhu,[23]
[1]Department of Radiology, Bernard and Irene Schwartz Center for Biomedical Imaging, New York University, New York, NY, United States; [2]Sackler Institute of Graduate Biomedical Sciences, New York University School of Medicine, New York, NY, United States; [3]Department of Radiology, Bernard and Irene Schwartz Center for Biomedical Imaging, New York University School of Medicine, New York, NY, United States

Computer 88 **4425.** **Predicting Long-Term Temperature Increase from Time-Dependent SAR Levels with a Single Short-Term Temperature Response**
Giuseppe Carluccio[1], Zhipeng Cao[2], Christopher Michael Collins[1]
[1]Radiology, New York University, New York, United States; [2]Bioengineering, Pennsylvania State University, Hershey, PA, United States

Computer 89 **4426.** **Safely Assessing RF Heating Potential of Conductive Devices Using Image-Based Current Measurements**
Greg Griffin[1], Kevan Anderson[2], Graham A. Wright[1, 2]
[1]Medical Biophysics, University of Toronto, Toronto, Ontario, Canada; [2]Imaging Research, Sunnybrook Research Institute, Toronto, Ontario, Canada

Computer 90 **4427.** **Scanner Specific Relationship Between Displayed SAR and Heating Adjacent to Deep Brain Stimulation Leads: An in Vitro Study**
Robert Dawe[1], Leo Verhagen Metman[1]
[1]Rush University Medical Center, Chicago, IL, United States

Computer 91 **4428.** **Mobile Phone RF Safety Testing Using Magnetic Resonance Imaging**
Leeor Alon[1, 2], Cem Murat Deniz[1, 2], Gene Young Cho[1, 2], Xing Yang[1], Christopher Collins[1], Yudong Zhu[1, 2], Daniel Sodickson[1, 2]
[1]Department of Radiology, Bernard and Irene Schwartz Center for Biomedical Imaging, New York University, New York, NY, United States; [2]Sackler Institute of Graduate Biomedical Sciences, New York University, New York, NY, United States

Computer 92 **4429.** **B_1-Based SAR Estimation for Human Brain Imaging with Average Brain Property Values Substitution**
Xiaotong Zhang[1], Jiaen Liu[1], Sebastian Schmitter[2], Pierre-Francois Van de Moortele[2], Bin He[1]
[1]Department of Biomedical Engineering, University of Minnesota, Minneapolis, MN, United States; [2]Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, MN, United States

Computer 93 **4430.** **A Novel MRI Based Electrical Properties Measurement Technique**
Volkan Acikel[1, 2], Oytun Ulutan[3], Ali Caglar Ozen,[23], Burak Akin[2], Yigitcan Eryaman[4, 5], Ergin Atalar,[23]
[1]Electrical and Electronics Engineering, Bilkent University , Ankara, Turkey; [2]National Magnetic Resonance Research Center (UMRAM), Ankara, Turkey; [3]Electrical and Electronics Engineering, Bilkent University, Ankara, Turkey; [4]Research Laboratory of Electronics, Massachusetts Institute of Technology, Cambridge, MA, United States; [5]Martinos Center for Biomedical Imaging, MGH, Charlestown, MA, United States

Computer 94 **4431. Efficient Method to Evaluate the Heating Risk of Coils**
Lin Liu[1], Liang Xuan[2], Qiong Zhang[3]
[1]MR, GE Company, Beijing, China; [2]MR, GE company, Waukesha, WI, United States; [3]MR, GE company, Beijing, China

Computer 95 **4432. Development of a Patient-Specific, Three-Dimensional, Heterogeneous, Radio Frequency Thorax Phantom**
Clifton Haider[1], David Holmes[1], Robert Sainati[1], Daniel Schwab[1], Daniel V. Litwiller[2], Desmond Yeo[3], Barry Gilbert[1]
[1]Biomedical Engineering, Mayo Clinic, Rochester, MN, United States; [2]Global Applied Science Laboratory, GE Healthcare, Rochester, MN, United States; [3]GE Global Research, GE, Niskayuna, NY, United States

Computer 96 **4433. A Simple and Conservative Method to Include Variation of Core Blood Temperature with Pennes' Bioheat Equation**
Giuseppe Carluccio[1], Christopher Michael Collins[1]
[1]Radiology, New York University, New York, United States

Electronic Poster
Flow Quantification

Exhibition Hall Thursday 13:30-14:30

Computer 1 **4434. Flow-Encode Only Phase Contrast Magnetic Resonance Imaging**
Erik J. Offerman[1], Christopher B. Glielmi[2], Michael Markl[3], Ioannis Koktzoglou[1, 4], Robert R. Edelman[1, 3]
[1]Radiology, NorthShore University HealthSystem, Evanston, IL, United States; [2]Siemens Healthcare, Chicago, IL, United States; [3]Radiology, Feinberg School of Medicine, Northwestern Univeresity, Chicago, IL, United States; [4]Radiology, Pritzker School of Medicine, University of Chicago, Chicago, IL, United States

Computer 2 **4435. 4D MRI Flow Analysis in an In-Vitro System Modelling Continuous Left Ventricular Support: Effect of Cannula Position in the Thoracic Aorta**
Christoph Benk[1], Alexander Mauch[1], Friedhelm Beyersdorf[1], Rolf Klemm[1], Jan G. Korvink[2], Michael Markl[3], Bernd A. Jung[4]
[1]Dept. of Cardiovascular Surgery, University Medical Center, Freiburg, Germany; [2]IMTEK – Department of Microsystems Engineering, Laboratory for Simulation, Albert-Ludwigs University, Freiburg, Germany; [3]Dept. of Radiology, Feinberg School of Medicine, Northwestern University, Chicago, IL, United States; [4]Dept. of Radiology, Medical Physics, University Medical Center, Freiburg, Germany

Computer 3 **4436. Analysis of Gradient Spoiling in Phase Contrast MRI**
Yunpeng Zou[1, 2], Matthew J. Middione[3, 4], Subashini Srinivasan[3], Daniel B. Ennis, [15]
[1]Department of Bioengineering, University of California, Los Angeles, CA, United States; [2]Sino-Dutch Biomedical and Information Engineering School, Northeastern University, Shenyang, China; [3]Department of Radiological Sciences, University of California, Los Angeles, CA, United States; [4]Biomedical Physics Interdepartmental Program, University of California, Los Angeles, CA, United States; [5]Department of Radiological Sciences, University of California Los Angeles, Los Angeles, CA, United States

Computer 4 **4437. Hemodynamic Forces in the Progression of Intracranial Aneurysm Change as Assessed Using MR-Based Methods**
David A. Saloner[1], Evan Kao[2], Gabriel Acevedo-Bolton[2], Andrew Lee[2], Petter Dyverfeldt[2], Vitaliy L. Rayz[2]
[1]Radiology and Biomedical Imaging, VA/UCSF, San Francisco, CA, United States; [2]Radiology and Biomedical Imaging, UCSF, San Francisco, CA, United States

Computer 5 **4438. Reproducibility of Flow Measurements in Serial Studies of Patients with Untreated Aneurysms**
Gabriel Acevedo-Bolton[1], Andrew Lee[1], Vitaliy L. Rayz[1], Alastair Martin[1], David A. Saloner[2]
[1]Radiology and Biomedical Imaging, UCSF, San Francisco, CA, United States; [2]Radiology and Biomedical Imaging, VAMC/UCSF, San Francisco, CA, United States

Computer 6 **4439. A Novel Approach to Phase-Contrast Velocity Offset Correction by *in-vivo* High-SNR Acquisitions**
Merlin Fair[1], Peter David Gatehouse[1], Peter Drivas[1], David N. Firmin[1]
[1]Royal Brompton Hospital, London, UK, United Kingdom

Computer 7 **4440. Real-Time, Free-Breathing Measurement of In-Plane Velocities: A Comparison with ECG-Triggered, Segmented, Breath-Hold Acquisition.**

Ning Jin[1], Juliana Serafim da Silveira[2], Orlando P. Simonetti[2, 3]
[1]Siemens Healthcare, Columbus, OH, United States; [2]Department of Radiology, Ohio State University, Columbus, OH, United States; [3]Department of Internal Medicine, Ohio State University, Columbus, OH, United States

Computer 8 **4441. Real-Time Cardiovascular Phase-Contrast Flow MRI During Valsalva Maneuver**

Arun Antony Joseph[1], Jan Sohns[2], Johannes Kowallick[2], Klaus-Dietmar Merboldt[1], Joachim Lotz[2], Jens Frahm[1]
[1]Biomedizinische NMR Forschungs GmbH am Max-Planck-Institut für biophysikalische Chemie, Göttingen, Niedersachsen, Germany; [2]University Medical Center Georg-August-University, Göttingen, Niedersachsen, Germany

Computer 9 **4442. Respiratory-Resolved Flow Effects in the Chest Assessed with Double-Gated 4D Flow MRI**

Eric Mathew Schrauben[1], Ashley Anderson[1], Kevin M. Johnson[1], Oliver Wieben[1, 2]
[1]Medical Physics, University of Wisconsin - Madison, Madison, WI, United States; [2]Radiology, University of Wisconsin - Madison, Madison, WI, United States

Computer 10 **4443. Improved Visualization and Quantification of 4D Flow MRI Data Using Divergence-Free Wavelet Denoising**

Frank Ong[1], Martin Uecker[1], Umar Tariq[2], Albert Hsiao[2], Marcus T. Alley[2], Shreyas S. Vasanawala[2], Michael Lustig[1]
[1]University of California, Berkeley, Berkeley, CA, United States; [2]Stanford University, Palo Alto, CA, United States

Computer 11 **4444. Sparse Sampling Phase Contrast Imaging of the Aorta**

Zhiyue J. Wang[1, 2], Jonathan M. Chia[3], David M. Higgins[4], Youngseob Seo[2, 5], Nancy K. Rollins[1, 2]
[1]Childrens Medical Center, Dallas, TX, United States; [2]Univeristy of Texas Southwestern, Dallas, TX, United States; [3]Philips Healthcare, Cleveland, OH, United States; [4]Philips Healthcare, Guildford, Surrey, United Kingdom; [5]Division of Convergence Technology, Korea Research Institute of Standards and Science, Daejeon, Korea

Computer 12 **4445. A Fast Reduced TE 4D Spiral PC MRI Sequence for Assessment of Flow and Hemodynamics**

Mo Kadbi[1], M.J. Negahdar[1], Melanie S. Traughber[2], Peter Martin[2], Amir A. Amini[1]
[1]Elect. and Comp. Eng., University of Louisville, Louisville, KY, United States; [2]Philips healthcare, Cleveland, OH, United States

Computer 13 **4446. 4D Flow Measurements in the Superior Cerebellar Artery at 7 Tesla: Feasibility and Potential for Applications in Patients with Trigeminal Neuralgia**

Sebastian Schmitter[1], Bharathi D. Jagadeesan[2], Andrew W. Grande[3], Julien Sein[1], Kamil Ugurbil[1], Pierre-Francois Van de Moortele[1]
[1]Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, MN, United States; [2]Departments of Radiology and Neurosurgery, University of Minnesota, Minneapolis, MN, United States; [3]Departments of Radiology, Neurosurgery and Neurology, University of Minnesota, Minneapolis, MN, United States

Computer 14 **4447. 4D MR Pressure Difference Mapping: Comparison with Echocardiography and Invasive Catheter Measurements**

Jelena Bock[1], Julia Geiger[1], Raoul Arnold[2], Daniel Hirtler[1], Hans Burkhardt[1], Michael Markl[3]
[1]University of Freiburg, Freiburg, Germany; [2]University of Heidelberg, Heidelberg, Germany; [3]Northwestern University, Chicago, IL, United States

Computer 15 **4448. Hemodynamic Outcome in Patients After Bicuspid and Tricuspid Valve Sparing Aortic Root Repair: A 4D Flow MRI Study**

Edouard Michel Semaan[1], Michael Markl[1], Bradley D. Allen[1], Alex Baker[1], Chris Malaisrie[2], Patrick McCarthy[3], James C. Carr[4], Jeremy D. Collins[4]
[1]Radiology Department, Feinberg School of Medicine, Northwestern University, Chicago, IL, United States; [2]Surgery Department, Feinberg School of Medicine, Northwestern University, Chicago, IL, United States; [3]Surgery-Cardiac Surgery Department, Feinberg School of Medicine, Northwestern University, Chicago, IL, United States; [4]Radiology Department, Northwestern University, Chicago, IL, United States

Computer 16 **4449. Stress-Strain Characterization of a Dynamically-Controlled Cardiac Phantom with Fluid and Structural Dynamics**

Nicolas Charalambous[1], Kristis Michaelides[1], Elias Psimolofitis[2], Vasilis Tzangarakis[3], Demos Michaelides[3], Stelios Angeli[4], Christakis Constantinides[4]

[1]Hydrus Ltd, Limassol, Cyprus; [2]CNE Limited, Nicosia, Cyprus; [3]α-Evresis Diagnostic Center, Nicosia, Cyprus; [4]U. of Cyprus, Nicosia, Cyprus

Computer 17 **4450. Vessel Segmentation with 4D Flow MRI for the Characterization of Blood Mixing in Single Ventricle Patients After the Fontan Procedure**

Kelly Jarvis[1], Susanne Schnell[1], Ramona Lorenz[2], Alejandro Roldán-Alzate[3], Kevin M. Johnson[3], Maya Gabbour[4], Joshua D. Robinson, [45], Cynthia K. Rigsby, [14], Michael Markl[1]

[1]Radiology, Northwestern University Feinberg School of Medicine, Chicago, IL, United States; [2]Radiology, University Medical Center Freiburg, Freiburg, Germany; [3]Radiology and Medical Physics, University of Wisconsin School of Medicine and Public Health, Madison, WI, United States; [4]Medical Imaging and Cardiology, Ann & Robert H. Lurie Children's Hospital of Chicago, Chicago, IL, United States; [5]Pediatrics, Northwestern University Feinberg School of Medicine, Chicago, IL, United States

Computer 18 **4451. On the Use of K-T Accelerated 4D Flow MRI in the Portal System**

Zoran Stankovic[1, 2], Jury Fink[1], Maximilian Russe[1], Michael Markl[2], Bernd A. Jung[3]

[1]Dept. of Radioloy, University Medical Center, Freiburg, Germany; [2]Dept. of Radiology, Feinberg School of Medicine, Northwestern University, Chicago, IL, United States; [3]Dept. of Radiology, Medical Physics, University Medical Center, Freiburg, Germany

Computer 19 **4452. Relative Pressure Measurement in Thoracic Aorta and Pulmonary Artery of Healthy Volunteers and Repaired Tetralogy of Fallot Patients Using the 4D Flow Sequence of Cardiac Magnetic Resonance**

Jesús Urbina[1, 2], Julio Sotelo[2, 3], Marcelo Andía[2, 4], Cristián Tejos, [35], Daniel Hurtado[5], Pablo Irarrázabal, [35], Sergio Uribe, [45]

[1]Medical School, Pontificia Universidad Católica de Chile, Santiago, Chile; [2]Biomedical Imaging Center , Pontificia Universidad Católica de Chile, Macul, Santiago, Chile; [3]Electrical Engineering Department, Pontificia Universidad Católica de Chile, Macul, Santiago, Chile; [4]Radiology Department, Pontificia Universidad Católica de Chile, Santiago, Chile; [5]Biomedical Imaging Center, Pontificia Universidad Católica de Chile, Macul, Santiago, Chile

Computer 20 **4453. Improved Efficiency for Respiratory Motion Compensation in 3D Flow Measurements**

Mehmet Akçakaya[1], Praveen Gulaka[2], Tamer A. Basha[1], Warren J. Manning[1], Reza Nezafat[1]

[1]Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA, United States; [2]Samsung Electronics Co., Suwon, Korea

Computer 21 **4454. 4D Flow MRI Assessment of Cerebral Blood Flow After Extracranial-Intracranial Bypass**

Tetsuro Sekine[1], Yasuo Amano[1], Ryo Takagi[1], Yasuo Murai[2], Yuriko Suzuki[3], Shinichiro Kumita[1]

[1]Radiology, Nippon Medical School, Tokyo, Japan; [2]Neurosurgery, Nippon Medical School, Tokyo, Japan; [3]Philips Electronics Japan, Tokyo, Japan

Computer 22 **4455. Validation of 4D Flow Shunt Fractions (Qp/Qs) with 2D-PC in Patients with Partial Anomalous Pulmonary Venous Return**

Mark L. Schiebler[1], Phillip Kilgas[1], Elizabeth Janus Nett[2], Oliver Wieben[2], Shardha Srinivasen[3], Petros Anagnostopoulos[4], Scott K. Nagle[1, 2], Scott B. Reeder[1, 5], Christopher J. François[6]

[1]Radiology, UW-Madison, Madison, WI, United States; [2]Medical Physics, UW-Madison, Madison, WI, United States; [3]Pediatric Cardiology, UW-Madison, Madison, WI, United States; [4]Cardiothoracic Surgery, UW-Madison, Madison, WI, United States; [5]Biomedical Engineering, UW-Madison, Madison, WI, United States; [6]Radiology, University of Wisconsin-Madison, Madison, WI, United States

Computer 23 **4456. Quantification of Aortic Pulse Wave Velocity in Preterm Infants Using 4D Phase Contrast MRI**

Kathryn M. Broadhouse[1, 2], Anthony N. Price[1, 2], Giuliana Durighel[1], Anna E. Finnemore[1, 2], David J. Cox[1, 2], A. David Edwards[1, 2], Joseph V. Hajnal[1, 2], Alan M. Groves[1, 2]

[1]Imaging Sciences Department, MRC Clinical Sciences Centre, Imperial College, London, United Kingdom; [2]The Centre for the Developing Brain, Imaging Sciences & Biomedical Engineering Division, King's College, London, United Kingdom

Computer 24 **4457. Aortic Stenosis Peak Velocity Assessment by Breath-Hold Fourier Velocity Imaging**

Yanqiu Feng[1], Kenneth Gilmour[2], Taigang He[2], Peter Drivas[2], Isabelle Roussin[2], Raad Mohiaddin[2], David N. Firmin[2]

[1]Southern Medical University, Guangzhou, China; [2]Royal Brompton Hospital, London, UK, United Kingdom

Electronic Poster
MRA

Exhibition Hall Thursday 14:30-15:30

Computer 1 **4458. SNR and CNR Performance Comparison in Dixon- Vs. Subtraction-Type Contrast Enhanced MR Angiography**

Eric G. Stinson[1], Joshua D. Trzasko[1], Stephen J. Riederer[1]
[1]Mayo Clinic, Rochester, MN, United States

Computer 2 **4459. High Concentration Relaxivities of Four Gadolinium-Based Contrast Reagents in *ex Vivo* Physiologic Whole Blood and Plasma at 1.5 and 3.0T**

Gregory J. Wilson[1], Charles S. Springer, Jr.[2], Mark Woods[2], [3], Sarah Bastawrous, [14], Puneet Bhargava, [14], Jeffrey H. Maki[1]
[1]Radiology, University of Washington, Seattle, WA, United States; [2]Advanced Imaging Research Center, Oregon Health and Science University, Portland, OR, United States; [3]Chemistry, Portland State University, Portland, OR, United States; [4]Radiology, Puget Sound VAHCS, Seattle, WA, United States

Computer 3 **4460. Dynamic and Static MR Angiography of the Supraaortic Vessels at 3.0 T: Intraindividual Comparison of Gd-Based Contrast Agents at Single Dose**

Harald Kramer[1], Elisabeth Arnoldi[1], Christopher J. Francois[2], Andrew L. Wentland[3], Konstantin Nikolaou[1], Bernd J. Wintersperger[4], Maximilian F. Reiser[1], Thomas M. Grist[2]
[1]Institute for Clinical Radiology, Ludwig-Maximilians-University Munich, Munich, Bavaria, Germany; [2]Department of Radiology, University of Wisconsin-Madison, Madison, WI, United States; [3]Department of Radiology, University of Wisconsin - Madison, Madison, WI, United States; [4]Department of Medical Imaging, University of Toronto, Toronto, Ontario, Canada

Computer 4 **4461. The Flexible Triggered Segmentation Optimizes Thoracic ECG-Gated Contrast Enhanced MR Angiography**

Yutaka Natsuaki[1], Randall Kroeker[2], J. Paul Finn[3], Peter Schmitt[4], Gerhard Laub[5]
[1]Siemens Healthcare, Los Angeles, CA, United States; [2]Siemens Healthcare, Winnipeg, MB, Canada; [3]Radiology, University of California Los Angeles, Los Angeles, CA, United States; [4]Siemens AG Healthcare, Erlangen, Germany; [5]Siemens Healthcare, San Francisco, CA, United States

Computer 5 **4462. A Novel ECG-Gated MRA for Simultaneous Imaging of the Left Atrium and Esophagus in Patients with Atrial Fibrillation**

Eugene G. Kholmovski[1], [2], Sathya Vijayakumar[1], [2], Douglas Sheffer[3], Lowell Chang, [23], Krishna N. Velagapudi, [23], Christopher J. McGann, [23], Nassir F. Marrouche[2], [3]
[1]UCAIR, Department of Radiology, University of Utah, Salt Lake City, UT, United States; [2]CARMA Center, University of Utah, Salt Lake City, UT, United States; [3]Department of Cardiology, University of Utah, Salt Lake City, UT, United States

Computer 6 **4463. Equilibrium-Phase Thoracic MR Angiography with Gadofosveset in Healthy Volunteers: Feasibility and Minimal Practical Dose**

Charles Y. Kim[1], Tobias J. Heye[1], Mustafa R. Bashir[1], Thomas Gebhard[1], Bjorn I. Engstrom[1], Elmar M. Merkle[2]
[1]Radiology, Duke University, Durham, NC, United States; [2]Radiology, University of Basel Hospital, Basel, CH-4031, Switzerland

Computer 7 **4464. Identification of the Artery of Adamkiewicz Artery: The Role of High Spatial and Temporal Resolution MR Angiography in Patients with Indistinct Depiction by MDCT Angiography.**

Hideki Ota[1], Kei Takase[1], Yoshikatsu Saiki[2], Hidenobu Sasaki[1], Kazuomi Yamanaka[1], Shoki Takahashi[1]
[1]Diagnostic Radiology, Tohoku University Hospital, Sendai, Miyagi, Japan; [2]Cardiovascular Surgery, Tohoku University Hospital, Sendai, Miyagi, Japan

Computer 8 **4465. Pre-Operative Perforator Flap MRA for Autologous Breast Reconstruction**

ISMRM MERIT AWARD magna cum laude

Nanda Deepa Thimmappa[1], Silvina P. Dutruel[1], Mengchao Pei[1], Joshua L. Levine[2], Julie Vasile[3], David Greenspun[3], Constance Chen[3], Christina Rhode[4], Christina Y. Ahn[5], Robert Allen[3], Martin R. Prince[1]
[1]Radiology, Weill Cornell Medical College, New York, NY, United States; [2]Plastic surgery, The Center for the Advancement of Breast Reconstruction at NYEE, New York, NY, United States; [3]Plastic & Reconstructive Surgery, New York, NY, United States; [4]NewYork-Presbyterian Hospital/Columbia, New York, NY, United States; [5]Plastic surgery, NYU Langone Medical Center, New York, NY, United States

Computer 9 **4466. High Frame Rate CINEMA: An Improvement of Temporal Resolution in Non-Contrast-Enhanced Time-Resolved MR Angiography**

Masanobu Nakamura[1], Masami Yoneyama[1], Takashi Tabuchi[1], Atsushi Takahara[2], Makoto Obara[2], Taro Takahara[3], Satoshi Tatsuno[1]

[1]Yaesu clinic, Tokyo, Japan, Japan; [2]Philips Electronics Japan, Tokyo, Japan; [3]Tokai University School of Engineering, Kanagawa, Japan

Computer 10 **4467. MR Portography Using Non-Contrast-Enhanced Time-Spatial Labeling Inversion Pulse (Time-SLIP) - Comparison Between 3T and 1.5T-**

Hiroki Matoba[1], Katsumi Nakamura[1, 2], Akiyoshi Yamamoto[1], Masafumi Ueda[1], Daiji Uchiyama[1], Mitsue Miyazaki[3]

[1]Radiology, Tobata Kyoritsu Hospital, Kitakyushu, Fukuoka, Japan; [2]Radiology, Hikari Central Hospital, Hikari, Yamaguchi, Japan; [3]Toshiba Medical Research Institute USA, Vernon Hills, IL, United States

Computer 11 **4468. Feasibility of 3D Balanced SSFP-ASL of the Kidneys at 3.0T**

Koji Fujimoto[1], Aki Kido[2], Kyoko Takakura[2], Hajime Sagawa[2], Shigeaki Umeoka[2], Naotaka Sakashita[3], Tokunori Kimura[3], Yasutaka Fushimi[2], Kaori Togashi[2]

[1]Department of Diagnostic Imaging and Nuclear Medicine, Kyoto University, Kyoto, Japan; [2]Department of Diagnostic Imaging and Nuclear Medicine, Kyoto University Graduate School of Medicine, Kyoto, Japan; [3]Toshiba Medical Systems Corporation, Otawara, Tochigi, Japan

Computer 12 **4469. Adaptive Efficiency-Optimized Self Navigation (ADIOS) for Free-Breathing Non-Contrast Abdominal MRA**

ISMRM MERIT AWARD magna cum laude

Yibin Xie[1, 2], Zhaoyang Fan[1], Yutaka Natsuaki[3], Gerhard Laub[4], Rola Saouaf[1], Debiao Li[1]

[1]Cedars-Sinai Medical Center, Los Angeles, CA, United States; [2]University of California, Los Angeles, Los Angeles, CA, United States; [3]Siemens Medical Solutions, Los Angeles, CA, United States; [4]Siemens Healthcare, Los Angeles, CA, United States

Computer 13 **4470. Non-Contrast-Enhanced Abdominal MRA Using Velocity-Selective Saturation and Multiple Inversion Recovery**

Hattie Z. Dong[1], Taehoon Shin[1], Dwight G. Nishimura[1]

[1]Electrical Engineering, Stanford University, Stanford, CA, United States

Computer 14 **4471. Non-Contrast MR Hepatic Arteriography Using 3T-MRI and Time-SLIP: Initial Experiences**

Naoki Kanata[1], Takeshi Yoshikawa[2, 3], Nobukazu Aoyama[4], Yoshiharu Ohno[2, 3], Yasusuke Kyotani[4], Saori Satou[5], Tomonori Kanda[1], Hisanobu Koyama[1], Mizuho Nishio[2, 3], Kazuro Sugimura[1]

[1]Division of Radiology, Department of Radiology, Kobe University Graduate School of Medicine, Kobe, Hyogo, Japan; [2]Advanced Biomedical Imaging Research Center, Kobe University Graduate School of Medicine, Kobe, Hyogo, Japan; [3]Division of Functional and Diagnostic Imaging Research, Department of Radiology, Kobe University Graduate School of Medicine, Kobe, Hyogo, Japan; [4]Center of Radiology and Radiation Oncology, Kobe University Hospital, Kobe, Hyogo, Japan; [5]Toshiba Medical Systems Corporation, Otawara, Tochigi, Japan

Computer 15 **4472. Evaluation of a Novel Non-Contrast-Enhanced MRI Imaging Technique for Diagnosis and Characterisation of Deep Venous Thrombosis (DVT).**

David J. Bowden[1], Andrew N. Priest[1], Claire Smith[1], Ilse Joubert[1], Sally Hunter[1], Martin John Graves[1], Trevor Baglin[2], David J. Lomas[1]

[1]Radiology, Cambridge University Hospitals NHS Foundation Trust, Cambridge, Cambs, United Kingdom; [2]Haematology, Cambridge University Hospitals NHS Foundation Trust, Cambridge, Cambs, United Kingdom

Computer 16 **4473. Fresh Blood Imaging (FBI) of Peripheral Arteries at 3T MRI - Comparison with 1.5T -**

Akiyoshi Yamamoto[1], Katsumi Nakamura[1, 2], Hiroki Matoba[1], Masafumi Ueda[1], Daiji Uchiyama[1], Mitsue Miyazaki[3]

[1]Radiology, Tobata Kyoritsu Hospital, Kitakyushu, Fukuoka, Japan; [2]Radiology, Hikari Central Hospital, Hikari, Yamaguchi, Japan; [3]Toshiba Medical Research Institute USA, Vernon Hills, IL, United States

Computer 17 **4474. Non-Enhanced T1w Imaging of the Lower Extremity Arteries at 7 Tesla**

Anja Fischer[1, 2], Sören Johst[1, 2], Stephan Orzada[1, 2], Mark E. Ladd[1, 2], Kai Nassenstein[1], Thomas C. Lauenstein[1], Stefan Maderwald[1, 2]

[1]Department of Diagnostic and Interventional Radiology and Neuroradiology, Essen, Nordrhein-Westfalen, Germany; [2]Erwin L. Hahn Institute for Magnetic Resonance Imaging, Essen, Nordrhein-Westfalen, Germany

Computer 18 **4475. Non-Contrast High Resolution MR Venography of Lower Extremity Perforating Veins**
Jun Isogai[1], Takashi Yamada[2], Tomoko Miyata[3], Mitsue Miyazaki[4]
[1]Shuwa General Hospital, Kasukabe, Saitama, Japan; [2]Hasuda Hospital, Hasuda, Saitama, Japan; [3]Toshiba Medical Systems Corp., Saitama, Japan; [4]Toshiba Medical Research Institute, Vernon Hills, IL, United States

Computer 19 **4476. Non-Contrast Enhanced MR Angiography (NCE-MRA) of the Foot Using Flow Sensitive Dephasing (FSD) Prepared Steady-State Free Precession (SSFP) in Patients with Diabetes**
ISMRM MERIT AWARD magna cum laude
Zhaoyang Fan[1], Xin Liu[2], Na Zhang[2], Qi Yang[3], Fei Feng[4], Pengcheng Liu[4], Dehe Weng[5], Debiao Li[1]
[1]Cedars-Sinai Medical Center, Los Angeles, CA, United States; [2]Shenzhen Institutes of Advanced Technology,Chinese Academy of Sciences, Shenzhen, Guangdong, China; [3]Xuanwu Hospital, Capital Medical University, Beijing, China; [4]Peking University Shenzhen Hospital, Shenzhen, Guangdong, China; [5]Siemens Shenzhen, Shenzhen, China

Computer 20 **4477. High-Resolution MR Imaging and Angiography of Fingers Using a Dedicated Phased Array Coil at 3T**
Wingchi Edmund Kwok[1, 2], Zhigang You[1], Gwysuk Seo[3], Johnny Monu[3]
[1]Imaging Sciences, University of Rochester, Rochester, NY, United States; [2]Rochester Center for Brain Imaging, University of Rochester, Rochester, NY, United States; [3]Department of Imaging Sciences, University of Rochester, Rochester, NY, United States

Computer 21 **4478. Three-Dimensional Cine Phase Contrast Image Can Replace Two-Dimensional Cine Phase Contrast MR Imaging for the Assessments of Pulmonary Artery Velocities and Their Related Parameters.**
Masaki Terada[1], Yasuo Takehara[2], Haruo Isoda[3], Tuyoshi Shimizu[4], Tetsuya Wakayama[5], Marcus T. Alley[6]
[1]Radiology, Iwata City Hospital, Iwata-shi, Shizuoka, Japan; [2]Radiology, Hamamatsu Univ. Hospital, Hamamatsu, Shizuoka, Japan; [3]Radiological Sciences, Nagoya University Graduate School of Medicine, Nagoya, Aichi, Japan; [4]R tech, Hamamatsu, Shizuoka, Japan; [5]GE Healthcare, Hino, Tokyo, Japan; [6]stanford university, Stanford, CA, United States

Computer 22 **4479. Influence of Slice-Selective Tag Thickness for Non-Contrast-Enhanced Pulmonary MR Venography Based on ECG-Gated 3D Time-Spatial Labeling Inversion Pulse (Time-SLIP) Technique**
Nobukazu Aoyama[1], Yoshiharu Ohno[2, 3], Mizuho Nishio[2, 3], Hisanobu Koyama[4], Takeshi Yoshikawa[2, 3], Sumiaki Matsumoto[2, 3], Katsusuke Kyotani[1], Saori Satou[5], Hideaki Kawamitsu[1], Satoru Takahashi[1, 4], Kazuro Sugimura[4]
[1]Center forRadiology and Radiation Oncology, Kobe University Hospital, Kobe, Hyogo, Japan; [2]Advanced Biomedical Imaging Research Center, Kobe University Graduate School of Medicine, Kobe, Hyogo, Japan; [3]Division of Functional and Diagnostic Imaging Research, Department of Radiology, Kobe University Graduate School of Medicine, Kobe, Hyogo, Japan; [4]Division of Radiology, Department of Radiology, Kobe University Graduate School of Medicine, Kobe, Hyogo, Japan; [5]Toshiba Medical Systems, Ohtawara, Tochigi, Japan

Computer 23 **4480. Accelerated Supra-Aortic Artery Imaging Without Contrast Agent Using Combined Compressed Sensing and Parallel Imaging**
Naoyuki Takei[1], Kevin F. King[2], Masayoshi Sugimura[3], Koji Yoneyama[3], Takayuki Masui[3], Hiroyuki Kabasawa[1]
[1]GE Healthcare, Hino, Tokyo, Japan; [2]GE Healthcare, Waukesha, WI, United States; [3]Seirei Hamamatsu General Hospital, Hamamatsu, Shizuoka, Japan

Computer 24 **4481. Application of PLS-DA Method in Separation of Venous and Arterial Phase in 4D CE-MRA Data**
Siamak Salari Sharif[1], Ewart Mark Haacke[1], Joseph J. Hewett[2], Michael Arata[2]
[1]MR Innovations Inc., Detroit, MI, United States; [2]Synergy Health Concepts, Newport Beach, CA, United States

Electronic Poster
Cardiac Function & Diffusion

Exhibition Hall Thursday 13:30-14:30

Computer 25 **4482. Full-Cycle Cine DENSE for Assessment of Systolic and Diastolic Myocardial Function**
Bhairav B. Mehta[1], Andrew D. Gilliam[2], Michael Salerno[1, 3], Frederick H. Epstein[1, 4]
[1]Department of Biomedical Engineering, University of Virginia, Charlottesville, VA, United States; [2]A.D. Gilliam Consulting, Providence, RI, United States; [3]Department of Medicine, Cardiology Division University of Virginia, Charlottesville, VA, United States; [4]Department of Radiology, University of Virginia, Charlottesville, VA, United States

Computer 26 **4483. Segmental Tissue Phase Mapping Analysis of Biventricular Heart Function**
Marius Menza[1], Bernd Jung[1], Adriana Komancsek[1], Jeff Snyder[1], Daniela Föll[2]
[1]University Hospital Freiburg, Medical Physics, Freiburg, Baden Württemberg, Germany; [2]University Heart Center Freiburg, Cardiology and Angiology I, Freiburg, Baden Württemberg, Germany

Computer 27 **4484. Evaluation of Highly-Accelerated Non-Gated Cardiac Cine MRI in Tachycardia**

Elwin Clark Bassett[1], Edward V.R. DiBella[2, 3], Eugene G. Kholmovski[2, 3], Brent Donald Wilson[3], Christopher J. McGann[3], Nassir F. Marrouche,[3 4], Daniel Kim,[2 3]

[1]Physics, University of Utah, Salt Lake City, UT, United States; [2]UCAIR, University of Utah, Salt Lake City, UT, United States; [3]CARMA, University of Utah, Salt Lake City, UT, United States; [4]Internal Medicine, University of Utah, Salt Lake City, UT, United States

Computer 28 **4485. Movement Abnormalities in the Left Ventricle of Thalassemia Major Patients**

Antonella Meloni[1], Vincenzo Positano[1], Pier Paolo Bitti[2], Antonella Carollo[3], Letizia Gulino[1], Antonino Vallone[4], Chiara Tudisca[5], Elisabetta Chiodi[6], Massimo Lombardi[1], Alessia Pepe[1]

[1]CMR Unit, Fondazione G. Monasterio CNR-Regione Toscana and Institute of Clinical Physiology, Pisa, Italy; [2]Servizio Immunoematologia e Medicina Trasfusionale, O. San Francesco, Nuoro, Italy; [3]Servizio Talassemia-U.O. Pediatria Talassemia, Az. Osp. "Sant'Antonio abate", Trapani, Italy; [4]Istituto di Radiologia Az. Osp. "Garibaldi", Presidio Ospedaliero Nesima, Catania, Italy; [5]Istituto di Radiologia, Policlinico "Paolo Giaccone", Palermo, Italy; [6]Servizio Radiologia Ospedaliera-Universitaria, Arcispedale "S. Anna" di Ferrara, Ferrara, Italy

Computer 29 **4486. Quantification of Left Ventricular Twist During Free-Breathing with SPAtial Modulation of Magnetization (SPAMM) and Fourier Analysis of STimulated Echoes (FAST)**

Meral L. Reyhan[1, 2], Hyun Grace Kim[1], Daniel B. Ennis[1, 2]

[1]Department of Radiological Sciences, University of California Los Angeles, Los Angeles, CA, United States; [2]Biomedical Physics Interdepartmental Program, University of California Los Angeles, Los Angeles, CA, United States

Computer 30 **4487. Analysis of Neonatal Cardiac Function in Infants with and Without Patent Ductus Arteriosus**

Kathryn M. Broadhouse[1, 2], Anthony N. Price[1, 2], Giuliana Durighel[1], Anna E. Finnemore[1, 2], David J. Cox[1], A. David Edwards[1, 2], Joseph V. Hajnal[1, 2], Alan M. Groves[1, 2]

[1]Imaging Sciences Department, MRC Clinical Sciences Centre, Imperial College, London, United Kingdom; [2]The Centre for the Developing Brain, Imaging Sciences & Biomedical Engineering Division, King's College, London, United Kingdom

Computer 31 **4488. Left Ventricular Function in a Single Breathhold with 3D Radial CINE BSSFP and 3D Through-Time Radial GRAPPA**

Kestutis Barkauskas[1], Vidya Nadig[2], Bruce S. Spottiswoode[3], Sven Zuehlsdorff[3], Nicole Seiberlich[1]

[1]Biomedical Engineering, Case Western Reserve University, Cleveland, OH, United States; [2]Heart and Vascular Center, Metro Health Hospital, Cleveland, OH, United States; [3]Cardiovascular MR R&D, Siemens Medical Solutions, Chicago, IL, United States

Computer 32 **4489. Assessing Cardiac Kinetics Using Highly Accelerated Free Breathing 2D Through-Time Radial GRAPPA Compared to Cartesian Real-Time and Segmented Cine Imaging**

Jeremy D. Collins[1], Bruce S. Spottiswoode[2], Haris Saybasili[3], Mark A. Griswold[3, 4], Nicole Seiberlich[3], L. Cort Sommerville[5], Keyur Parekh[1], Michael Markl[6, 7], James C. Carr[5]

[1]Radiology, Northwestern University, Chicago, IL, United States; [2]Cardiovascular MR R&D, Siemens Healthcare, Chicago, IL, United States; [3]Biomedical Engineering, Case Western Reserve University, Cleveland, OH, United States; [4]Radiology, Case Western Reserve University, Cleveland, OH, United States; [5]Radiology, Northwestern University, Chicago, Il, United States; [6]Radiology, Northwestern University, Chiago, IL, United States; [7]Biomedical Engineering, Northwestern University, Chicago, IL, United States

Computer 33 **4490. Reference Ranges for Biventricular Volumes and Ejection Fraction and for Left Ventricular Mass in Adult Thalassemia Intermedia Patients Without Myocardial Iron Overload**

Antonella Meloni[1], Vincenzo Positano[1], Daniele De Marchi[1], Cristina Salvatori[2], Gaetano Giuffrida[3], Angelo Peluso[4], Gianluca Valeri[5], Gennaro Restaino[6], Letizia Gulino[1], Massimo Lombardi[1], Alessia Pepe[1]

[1]CMR Unit, Fondazione G. Monasterio CNR-Regione Toscana and Institute of Clinical Physiology, Pisa, Italy; [2]Fondazione G. Monasterio CNR-Regione Toscana, Pisa, Italy; [3]Ospedale "Ferrarotto", Divis. Clinicizzata di Ematologia, Catania, Italy; [4]Microcitemia - Azienda Unità Sanitaria Locale TA/1, Presidio Ospedaliero Centrale, Taranto, Italy; [5]Dipartimento di Radiologia, Azienda Ospedaliero-Universitaria Ospedali Riuniti "Umberto I-Lancisi-Salesi", Ancona, Italy; [6]Department of Radiology, Catholic University of the Sacred Heart, Campobasso, Italy

Computer 34 **4491. A Qualitative and Quantitative Assessment of Real-Time Cardiac Functional Imaging Using Through-Time Radial GRAPPA**

Vidya Nadig[1], Victoria Yeh[2], Gunhild Erstad Aandal[3], Prabhakar Rajiah[3], Trevor Jenkins[4], Abdus Sattar[5], Mark A. Griswold[3, 6], Vikas Gulani, [6,7], Robert Chapman Gilkeson[3], Nicole Seiberlich[6]

[1]Cardiology, MetroHealth Medical Center at Case Western University, Cleveland, OH, United States; [2]Case Western Reserve University School of Medicine, Cleveland, OH, United States; [3]Dept. of Radiology, Case Western Reserve University and University Hospitals of Cleveland, Cleveland, OH, United States; [4]Cardiology, University Hospitals of Cleveland, Cleveland, OH, United States; [5]Epidemiology and Biostatistics, Case Western Reserve University, Cleveland, OH, United States; [6]Biomedical Engineering, Case Western Reserve University, Cleveland, OH, United States; [7]Dept. of Radiology, Case Western Reserve University, Cleveland, OH, United States

Computer 35 **4492. Quantification of Left Ventricular Twist in Patients with Becker and Duchenne Muscular Dystrophy**

Meral L. Reyhan[1, 2], Nancy Halnon[3], J. Paul Finn[1], Daniel B. Ennis[1, 2]

[1]Department of Radiological Sciences, University of California Los Angeles, Los Angeles, CA, United States; [2]Biomedical Physics Interdepartmental Program, University of California Los Angeles, Los Angeles, CA, United States; [3]Department of Pediatrics , David Geffen School of Medicine, Los Angeles, CA, United States

Computer 36 **4493. High Resolution 3D Imaging of Post-Mortem Human Fetal Hearts**

Eleftheria Pervolaraki[1], Steven Reynolds[2], Adriana Bucur[2], Alejandro Frangi[3], Richard Anderson[4], Martyn Paley[2], Arun Holden[1]

[1]Faculty of Biological Sciences, University of Leeds, Leeds, Yorkshire, United Kingdom; [2]Academic Radiology, University of Sheffield, Sheffield, Yorkshire, United Kingdom; [3]Mechanical Engineering, University of Sheffield, Sheffield, Yorkshire, United Kingdom; [4]MRC Centre for Reproductive Health, Universityy of Edinburgh, Edinburgh, East Lothian, United Kingdom

Computer 37 **4494. 3D High-Resolution Diffusion Tensor Imaging of Heart *ex-vivo* After Myocardial Infarction in Porcine Model**

Farhad Pashakhanloo[1], Michael Schär[2], Roy Beinart[3], M. Muz Zviman[3], Henry Halperin[4], Susumu Mori[5], Neville D. Gai[6], David A. Bluemke[6], Elliot R. McVeigh[1], Daniel A. Herzka[7]

[1]Department of Biomedical Engineering, Johns Hopkins School of Medicine, Baltimore, MD, United States; [2]Philips Healthcare, Cleveland, OH, United States; [3]Department of Medicine, Cardiology, Johns Hopkins University, School of medicine, Baltimore, MD, United States; [4]Department of Medicine, Cardiology, Johns Hopkins University, Baltimore, MD, United States; [5]Russell H. Morgan Department of Radiology and Radiological Science, Johns Hopkins University, School of Medicine, Baltimore, MD, United States; [6]Radiology & Imaging Sciences, National Institutes of Health, Bethesda, MD, United States; [7]Department of Biomedical Engineering, Johns Hopkins University, Baltimore, MD, United States

Computer 38 **4495. Improved Tractography of the Human Heart *in vivo* by Motion Correction of Multi-Breathold Diffusion Tensor MRI**

Choukri Mekkaoui[1], Sonia Nielles-Vallespin[2], Marcel Parolin Jackowski[3], Timothy G. Reese[4], Peter David Gatehouse[2], David N. Firmin[2], David E. Sosnovik[4]

[1]Harvard Medical School - Massachusetts General Hospital - Athinoula A Martinos center for Biomedical, Boston, MA, United States; [2]CMR Unit, Royal Brompton Hospital, London, United Kingdom; [3]University of São Paulo, São Paulo, Brazil; [4]Harvard Medical School - Massachusetts General Hospital - Athinoula A Martinos center for Biomedical, Charlestown, MA, United States

Computer 39 **4496. Sheet Tractography Provides a Multi-Dimensional Representation of Architecture in Normal and Infarcted Hearts**

Choukri Mekkaoui[1], Marcel Parolin Jackowski[2], Timothy G. Reese[3], David E. Sosnovik[3]

[1]Harvard Medical School - Massachusetts General Hospital - Athinoula A Martinos center for Biomedical, Boston, MA, United States; [2]University of São Paulo, São Paulo, Brazil; [3]Harvard Medical School - Massachusetts General Hospital - Athinoula A Martinos center for Biomedical, Charlestown, MA, United States

Computer 40 **4497. Fast-Track Cardiac Diffusion Tensor Imaging with Compressed Sensing Based on a Novel Circular Cartesian Undersampling**

Archontis Giannakidis[1], Gerd Melkus[2], Jing Liu[2], David A. Saloner[2], Sharmila Majumdar[2], Grant T. Gullberg[1, 2]

[1]Radiotracer Development and Imaging Technology, Lawrence Berkeley National Laboratory, Berkeley, CA, United States; [2]Radiology and Biomedical Imaging, University California San Francisco, San Francisco, CA, United States

Computer 41 **4498. Model Based Automated 4D Analysis for Real-Time Free-Breathing Cardiac MRI**

Bogdan Georgescu[1], Nicole Seiberlich[2], Tommaso Mansi[1], Xiaoguang Lu[1], Ali Kamen[1], Vidya Nadig[3], Dorin Comaniciu[1], Mark A. Griswold[2]

[1]Imaging and Computer Vision, Siemens Corporation, Corporate Technology, Princeton, NJ, United States; [2]Biomedical Engineering, Case Western Reserve University, Cleveland, OH, United States; [3]MetroHealth Heart and Vascular Center, Case Western Reserve University, Cleveland, OH, United States

Computer 42 **4499. An Efficient Approach for Analysis of Real-Time Cine for LV Function Quantification**

Yin Wu[1], Na Zhang[1], Fan Yang[1], Yucheng Chen[2], Yiu-Cho Chung[1]

[1]Paul C. Lauterbur Research Center for Biomedical Imaging, Shenzhen Key Laboratory for MRI, Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences, Shenzhen, Guangdong, China; [2]Cardiology Division, West China Hospital, Sichuan University, Chengdu, Sichuan, China

Computer 43 **4500. Computer Assisted Branch Cut Placement for Computing 3D+t Biventricular Strain from Tagged MRI**

Ming Li[1, 2], Bharath Ambale Venkatesh[3], Himanshu Gupta[4], Steve G. Lloyd[4], Louis J. Dell'Italia[4], Thomas Stewart Denney Jr[1, 2]

[1]AU MRI Research Center, Auburn University, Auburn, AL, United States; [2]Electrical and Computer Engineering Department, Auburn University, Auburn, AL, United States; [3]Johns Hopkins University, Baltimore, MD, United States; [4]Department of Medicine, Division of Cardiovascular Disease, University of Alabama at Birmingham, Birmingham, AL, United States

Computer 44 **4501. Semi-Automated Segmentation of the Entire Left Ventricle from 3D Cine DENSE MRI Using Guide-Point Modeling**

Daniel Alejandro Auger[1], Xiaodong Zhong[2], Frederick H. Epstein[3], Ernesta M. Meintjes[1], Bruce S. Spottiswoode[4]

[1]MRC/UCT Medical Imaging Research Unit, Department of Human Biology, University of Cape Town, Cape Town, Western Cape, South Africa; [2]MR R&D Collaborations, Siemens Medical Solutions, Atlanta, GA, United States; [3]Departments of Radiology and Biomedical Engineering, University of Virginia, Charlottesville, VA, United States; [4]Cardiovascular MR R&D, Siemens Medical Solutions, Chicago, IL, United States

Computer 45 **4502. Helix Angle (HA) Healthy Statistical Average Technique for HA Quantification *in vivo* Cardiac Diffusion Tensor Imaging**

Pedro Ferreira[1], Sonia Nielles-Vallespin[2], Peter David Gatehouse[1], Ranil de Silva[1], Jennifer Keegan[1], Peter Speier[3], Thorsten Feiweier[4], Timothy G. Reese[5], Tevfik Ismail[1], Andrew Scott[1], Choukri Mekkaoui[5], David E. Sosnovik[5], David N. Firmin[1]

[1]BRU, Royal Brompton Hospital, London, United Kingdom; [2]National Heart Lung and Blood Institute (NHLBI), National Institutes of Health (NIH), Bethesda, MD, United States; [3]MR Application & Workflow Development, Siemens, Erlangen, Germany; [4]MR Application & Workflow Development, Siemens AG, Erlangen, Germany; [5]Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Charlestown, MA, United States

Computer 46 **4503. Virtual Short Axis: A Novel Method for Computing Left Atrial Volumes from Two and Four Chamber MRI**

Nikhil Jha[1, 2], Chun Schiros[3], Nouha Salibi[4], Himanshu Gupta[3], Steven Lloyd[3], Louis J. Dell'Italia[5], Thomas Stewart Denney[1, 2]

[1]AU MRI Research Center, Auburn University, Auburn, AL, United States; [2]Electrical and Computer Engineering, Auburn University, Auburn, AL, United States; [3]Division of Cardiology, University of Alabama Birmingham, Birmingham, AL, United States; [4]MR R&D, Siemens Healthcare, Malvern, PA, United States; [5]Division of Cardiology, University of Alabama at Birmingham, Birmingham, AL, United States

Computer 47 **4504. *Improved Navigator Based Diffusion Tensor MRI of the Human Heart in vivo</i>*dro Ferreira[1], Sonia Nielles-Vallespin[2], Peter David Gatehouse[1], Ranil de Silva[1], Jennifer Keegan[1], Peter Speier[3], Thorsten Feiweier[4], Timothy G. Reese[5], Tevfik Ismail[1], Andrew Scott[1], Choukri Mekkaoui[5], David E. Sosnovik[5], David N. Firmin[1]**

[1]BRU, Royal Brompton Hospital, London, United Kingdom; [2]National Heart Lung and Blood Institute (NHLBI), National Institutes of Health (NIH), Bethesda, MD, United States; [3]MR Application & Workflow Development, Siemens, Erlangen, Germany; [4]MR Application & Workflow Development, Siemens AG, Erlangen, Germany; [5]Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Charlestown, MA, United States

Electronic Poster
Myocardial Tissue Characterisation

Exhibition Hall Thursday 14:30-15:30

Computer 25 **4505.** **Late Gadolinium Enhancement Imaging Using Spiral Readouts at 3T**

Iain Thomas Pierce[1, 2], Jennifer Keegan[1, 2], Peter Drivas[3], Peter David Gatehouse[1, 2], David N. Firmin[1, 2]

[1]NHLI, Imperial College London, London, United Kingdom; [2]NIHR Royal Brompton Cardiovascular Biomedical Research Unit, Royal Bromton Hospital, London, United Kingdom; [3]NIHR Royal Brompton Cardiovascular Biomedical Research Unit, Royal Brompton Hospital, London, United Kingdom

Computer 26 **4506.** **MR Diffusion Estimation of Intramyocellular Lipid Droplets in Myocardium**

Victor B. Xie[1, 2], Peng Cao[1, 2], Shu-Juan J. Fan[1, 2], Ed X. Wu[1, 2]

[1]Laboratory of Biomedical Imaging and Signal Processing, The University of Hong Kong, Hong Kong SAR, China; [2]Department of Electrical and Electronic Engineering, The University of Hong Kong, Hong Kong SAR, China

Computer 27 **4507.** **Magnetization Transfer Encoded Steady State Cardiac Imaging of Fibrotic Development in Mice**

Moriel Vandsburger[1], Katrien Vandoorne[1], Michal Neeman[1]

[1]Weizmann Institute of Science, Rehovot, None, Israel

Computer 28 **4508.** **Measurement of Spin-Spin Relaxation of Myocardial Lipids and Water at 3T by Optimized Clinical ^{1}H MRS Protocol.**

Martin Krssák[1, 2], Veronika Rackayova[3], Gert Reiter[4], Marek Chmelik[5], Yvonne Winnhofer[1], Siegfried Trattnig[5], Anton Luger[1], Michael Krebs[1]

[1]Division of Endocrinology and Metabolism, Department of Intrenal Medicine III, Medical University of Vienna, Wien, Austria; [2]Centre of Excellence High Field MR, Department of Radiology, Medical University of V ienna, Wien, Azerbaijan; [3]Comenius University, Bratislava, Slovakia; [4]Siemens Healthcare, Graz, Austria; [5]Centre of Excellence High Field MR, Department of Radiology, Medical University of Vienna, Wien, Austria

Computer 29 **4509.** **A Comparative Study of Myocardial T1 Maps and PSIR Images in Measuring Extracellular Volume Fraction at 3T**

Mao-Yuan Marine Su[1], Lian-Yu Lin[2], Chin-Cheng Chang[3], Jiunn-Lee Lin[2], Wen-Yih Isaac Tseng[1, 4]

[1]Department of Medical Imaging, National Taiwan University Hospital, Taipei, Taiwan; [2]Department of Internal Medicine, National Taiwan University Hospital, Taipei, Taiwan; [3]Department of Internal Medicine, National Taiwn University Hospital, Taipei, Taiwan; [4]Center for Optoelectronic Biomedicine, National Taiwan University College of Medicine, Taipei, Taiwan

Computer 30 **4510.** **Quantitative MRI Assessment of LV Structural Remodeling and Fibrosis Formation in Canine Models of Chronic Atrial Fibrillation**

Kyungpyo Hong[1, 2], Matthias Koopmann[1], Ravi Ranjan[1, 3], Eric C. Huang[4], Eugene G. Kholmovski[1, 5], Sathya Vijayakumar[1, 5], Christopher J. McGann[1, 3], Derek J. Dosdall[1, 3], Nassir F. Marrouche[1, 3], Daniel Kim[1, 5]

[1]CARMA Center, University of Utah, Salt Lake City, UT, United States; [2]Department of Bioengineering, University of Utah, Salt Lake City, UT, United States; [3]Internal Medicine, University of Utah, Salt Lake City, UT, United States; [4]Department of Pathology, University of California, Davis Medical Center, Sacramento, CA, United States; [5]UCAIR, Department of Radiology, University of Utah, Salt Lake City, UT, United States

Computer 31 **4511.** **Investigation of Cardiac Malate-Aspartate Shuttle at High Workload Using Hyperpolarized [1,2-13C2]pyruvate**

Albert P. Chen[1], Angus Z. Lau[2, 3], Yi-ping Gu[2], Marie A. Schroeder[4], Jennifer Barry[5], Charles H. Cunningham[2, 3]

[1]GE Healthcare, Toronto, ON, Canada; [2]Imaging Research, Sunnybrook Health Sciences Centre, Toronto, ON, Canada; [3]Dept. of Medical Biophysics , University of Toronto, Toronto, ON, Canada; [4]Dept. of Physiology, Anatomy and Genetics, University of Oxford, Oxford, United Kingdom; [5]Imaging Research, Sunnybrook Research Institute, Toronto, ON, Canada

Computer 32 **4512.** **Fusion of T_1-Mapping and Semi Quantitative Perfusion (T_1Per-Fusion) Imaging Provides Additional Insight Into Myocardial Tissue Viability**

Matthias Alexander Dieringer[1, 2], Marcel Prothmann[2], Florian von Knobelsdorff-Brenkenhoff[1, 2], Andreas Greiser[3], Christina Eichhorn, Thoralf Niendorf[1, 4], Jeanette Schulz-Menger[1, 2]

[1]Berlin Ultrahigh Field Facility (B.U.F.F.), Max-Delbrueck Center for Molecular Medicine, Berlin, Germany; [2]Working Group on Cardiovascular Magnetic Resonance, Experimental and Clinical Research Center (ECRC), Berlin, Germany; [3]Siemens AG, Erlangen, Germany; [4]Experimental and Clinical Research Center (ECRC), a cooperation of the Charité Medical Faculty and the Max-Delbrueck Center for Molecular Medicine, Berlin, Germany

Computer 33 **4513. Conductive Channel Identified by Contrast-Enhanced Magnetic Resonance Imaging Predicts Ventricular Tachyarrhythmia in Patients with Systolic Heart Failure**

Lian-Yu Lin[1], Mao-Yuan Marine Su[2], Jien-Jiun Chen[3], Juey-Jen Hwang[1], Chuen-Den Tseng[1], Yih-Sharng Chen[4], Hsi-Yu Yu[4], Jiunn-Lee Lin[1], Wen-Yih Isaac Tseng[2]

[1]Department of Internal Medicine, National Taiwan University Hospital, Taipei, Taiwan; [2]Department of Medical Imaging, National Taiwan University Hospital, Taipei, Taiwan; [3]Cardiovascular center, National Taiwan University Hospital Yun-Lin Branch, Douliu, Taiwan; [4]Department of Surgery, National Taiwan University Hospital, Taipei, Taiwan

Computer 34 **4514. Changes of Myocardial Lipid Content and Left Ventricular Function in the Course of Acute Hypoglycemia and Inhibition of Lipolysis.**

Martin Krssák[1, 2], Yvonne Winnhofer[1], Peter Wolf[1], Drazenka Jankovic[1], Sabina Baumgartner-Parzer[1], Rodrig Marculescu[3], Michael Wolzt[4], Siegfried Trattnig[2], Anton Luger[1], Michael Krebs[1]

[1]Division of Endocrinology and Metabolism, Department of Intrenal Medicine III, Medical University of Vienna, Wien, Austria; [2]Centre of Excellence High Field MR, Department of Radiology, Medical University of Vienna, Wien, Austria; [3]Department of Laboratory Diagnostics, Medical University of Vienna, Wien, Austria; [4]Department of Clinical Pharmacology, Medical University of Vienna, Wien, Austria

Computer 35 **4515. Assessment of Lesion Characteristics Post RF Ablation Procedure in a Chronic Canine Model of Atrial Fibrillation**

Sathya Vijayakumar[1, 2], Ravi Ranjan[2], Derek J. Dosdall[2], Kyungpyo Hong[2, 3], Daniel Kim[1, 2], Nassir F. Marrouche[2], Eugene G. Kholmovski[1, 2]

[1]UCAIR, Dept. of Radiology, University of Utah, Salt Lake City, UT, United States; [2]CARMA, Dept. of Cardiology, University of Utah, Salt Lake City, UT, United States; [3]BioEngineering, University of Utah, Salt Lake City, UT, United States

Computer 36 **4516. Myocardial and LV Blood T1 Measurement Using 3.0T MOLLI: Importance of Heart Rate Correction**

Shinichi Takase[1], Masaki Ishida[1], Shiho Isoshima[1], Tsunehiro Yamahata[1], Akira Kamigiri[1], Hajime Sakuma[1]

[1]Department of Radiology, Mie University Hospital, Tsu, Mie, Japan

Computer 37 **4517. Novel Detection of Intramyocardial Hemorrhage Following Acute Myocardial Infarction by T2 Mapping**

Nilesh R. Ghugre[1, 2], Venkat Ramanan[1], Mihaela Pop[1], Jennifer Barry[1], Kim A. Connelly[3], Graham A. Wright[1, 2]

[1]Physical Sciences Platform, Sunnybrook Research Institute, Toronto, ON, Canada; [2]Medical Biophysics, University of Toronto, Toronto, ON, Canada; [3]Division of Cardiology, St. Michaels Hospital, Toronto, ON, Canada

Computer 38 **4518. Radiofrequency Ablation Characterization: Comparison of Multi-Contrast Late Enhancement and Late Gadolinium Enhancement Sequences**

Haydar Celik[1], Venkat Ramanan[1], Jennifer Barry[1], Sudip Ghate[1], Vivian Leber[1], Mohammed Shurrab[2], Samuel Oduneye[1], Nilesh R. Ghugre[1], Eugene Crystal[2], Graham A. Wright[1]

[1]Imaging Research, Sunnybrook Research Institute, Toronto, ON, Canada; [2]Arrhythmia Services, Sunnybrook Research Institute, Toronto, ON, Canada

Computer 39 **4519. Comparison of Instant Thrombolysis Plus Early PCI and Primary PCI in STEMI Patients, View of CMR Early After Reperfusion Therapy**

Heng Ge[1], Jun Bo[1], Haiyan Ding[2], Robert Manka[3], Zheng Li[1], Jianrong Xu[1], Ben He[1]

[1]Cardiology, Renji Hospital, School of Medicine, Shanghai Jiaotong University, Shanghai, China; [2]Center for Biomedical Imaging Research, Tsinghua University, Bei Jing, China; [3]Cardiology, University hospital Zurich, Zurich, Switzerland

Computer 40 **4520. 3D Saturation Recovery Imaging for Free Breathing Myocardial T_1 Mapping**

Markus Henningsson[1], Rene M. Botnar[1], Tobias Voigt[2]

[1]Division of Imaging Sciences and Biomedical Engineering, King's College London, London, United Kingdom; [2]Clinical Research Europe, Philips Research, London, United Kingdom

Computer 41 **4521. Analysis of T_1, T_2 and $T_{1\&[rho]}$ Spin Lock Field Dependency in Myocardial Infarction Tissue Using HRMAS Spectroscopy at 11.7 T**

Joep van Oorschot[1], Mohammed Kaplan[2], Marc Baldus[2], Peter R. Luijten[1], Jaco J.M. Zwanenburg[1]

[1]Radiology, UMC Utrecht, Utrecht, Netherlands; [2]Bijvoet Center, Utrecht University, Utrecht, Netherlands

Computer 42 **4522. Assessment of Non-Linearities in Cardiac Perfusion Measurements Using Low-TI AIF Images**
Felix Schwab[1], Lena Vomacka[1], Daniel Theisen[1], Maximilian F. Reiser[1], Olaf Dietrich[1]
[1]Institute for Clinical Radiology, Ludwig-Maximilian-University Hospital Munich, Munich, Bavaria, Germany

Computer 43 **4523. Quantitative Myocardial Perfusion Imaging: Comparison of SR-TurboFLASH and SR-TrueFISP at 1.5T and 3.0T**
Stefan Weber[1], Inci Davulcu[1], Christoph Düber[2], Karl Friedrich Kreitner[2], Laura Maria Schreiber[1]
[1]Department of Radiology, Section of Medical Physics, Mainz University Medical Center, Mainz, Germany; [2]Department of Radiology, Mainz University Medical Center, Mainz, Germany

Computer 44 **4524. MRI Perfusion Indices During the Evolution of Microembolized Myocardial Infarct**
Maythem Saeed[1], Jessica Murayama[1], Carol Stillson[1], Loi Do[1], Steven W. Hetts[2], Mark W. Wilson[1]
[1]Radiology and Biomedical Imaging, UC San Francisco, San Francisco, Ca, United States; [2]Radiology and Biomedical Imaging, University of California San Francisco, San Francisco, Ca, United States

Computer 45 **4525. *In Vivo* Performance of Myocardial Background Suppression**
Terrence Jao[1], Hung Phi Do[2], Krishna S. Nayak[3]
[1]Biomedical Engineering, University of Southern California, Los Angeles, CA, United States; [2]Department of Physics, University of Southern California, Los Angeles, CA, United States; [3]Electrical Engineering, University of Southern California, Los Angeles, CA, United States

Computer 46 **4526. Accurate Quantitative Myocardial Perfusion Using Single Cycle T1 Mapping**
David Chen[1], Behzad Sharif[1], Debiao Li[1]
[1]Cedars Sinai Medical Center, Los Angeles, CA, United States

Computer 47 **4527. Comparison of Fully Quantitative and Semi-Quantitative Measure of Women's Myocardial Perfusion Reserve for Detection of Microvascular Coronary Dysfunction**
David Chen[1], Behzad Sharif[1], Afsaneh Haftbaradaran[1], Melody Zaya[1], Chrisandra Shufelt[1], Puja Mehta[1], Daniel S. Berman[1], Louis EJ Thomson[1], Debiao Li[1], Noel Bairey Merz[1]
[1]Cedars Sinai Medical Center, Los Angeles, CA, United States

Electronic Poster
Vessel Wall & Coronary Angiography

Exhibition Hall Thursday 13:30-14:30

Computer 49 **4528. Free-Breathing Whole-Heart Coronary MRI: An Image-Based Motion Compensation Integrated Into Compressed-Sensing Reconstruction**
ISMRM MERIT AWARD magna cum laude
Christoph Forman[1, 2], Robert Grimm[3], Jana Hutter, [23], Jakob Wasza[3], Martin Kraus, [23], Joachim Hornegger, [23], Michael O. Zenge[4]
[1]Pattern Recognition Lab, Friedrich-Alexander-University Erlangen-Nürnberg, Erlangen, Germany; [2]Erlangen Graduate School in Advanced Optical Technologies (SAOT), Friedrich-Alexander-Universität Erlangen-Nürnberg, Erlangen, Germany; [3]Pattern Recognition Lab, Department of Computer Science, Friedrich-Alexander-Universität Erlangen-Nürnberg, Erlangen, Germany; [4]Healthcare Sector, Siemens AG, Erlangen, Germany

Computer 50 **4529. Computer-Aided Diagnosis Scheme for Detecting Significant Stenosis on Whole Heart Coronary MR Angiography Based on Signal Intensity and Luminal Diameter**
Ryohei Nakayama[1], Masaki Ishida[1], Nobuo Nakako[1], Motonori Nagata[1], Kakuya Kitagawa[1], Hajime Sakuma[1]
[1]Department of Radiology, Mie University School of Medicine, Tsu, Mie, Japan

Computer 51 **4530. Coronary MRA at 3 Tesla – a Qualitative Comparison of a Novel Adiabatic T2-Preparation with Classic MLEV4**
Wolfgang G. Rehwald[1, 2], Christoph Jensen[2], Elizabeth R. Jenista[2], David C. Wendell[2], Enn-Ling Chen[2], Raymond J. Kim[2]
[1]Cardiovascular MR R&D, Siemens Healthcare, Durham, NC, United States; [2]Cardiology, Duke University, Durham, NC, United States

Computer 52 **4531. Gadofosveset Optimization for Self-Navigated Coronary MR Angiography**
Mark A. Ahlman[1], Scott Penzak[2], Fabio Raman[1], Jianing Pang[3], Songtao Liu[1], Debiao Li[3], David A. Bluemke[1]
[1]Radiology and Imaging Sciences, National Institutes of Health, Bethesda, MD, United States; [2]Pharmacy, National Institutes of Health, Bethesda, MD, United States; [3]Bioengineering, Cedars-Sinai Medical Center, Los Angeles, CA, United States

Computer 53 **4532. Preventing Unwanted Blurring Due to Incomplete Breath-Hold at Long Breath-Hold Coronary MRA; Usefulness of New Elliptical Centric Acquisition(CENTRA Plus)**
Hideo Ono[1], Masami Yoneyama[1], Taro Takahara[2], Thomas C. Kwee[3], Masanobu Nakamura[1], Takashi Tabuchi[1], Masaharu Hirano[4]
[1]Yaesu Clinic, Tokyo, Japan; [2]Tokai University School of Engineering, Kanagawa, Japan; [3]University Medical Center Untrecht, Utrecht, Netherlands; [4]Tokyo Medical University Hospital, Tokyo, Japan

Computer 54 **4533. Highly Accelerated Multi-Contrast Carotid Imaging Using Sharable Information**
Wenchuan Wu[1], Hua Guo[1], Chun Yuan[1, 2], George Randy Duensing[3], Feng Huang[4]
[1]Center for Biomedical Imaging Research, Department of Biomedical Engineering,School of Medicine, Tsinghua University, Beijing, China; [2]Department of Radiology, University of Washington, Seattle, WA, United States; [3]Philips Healthcare, Gainesville, FL, United States; [4]Philips Healthcare, Beijing, China

Computer 55 **4534. Dynamic Fast Spin Echo Imaging of the Carotid Arteries**
Mari Elyse Boesen[1, 2], Jerome Yerly, [23], Michel Louis Lauzon, [24], Robert Marc Lebel, [25], Richard Frayne, [24]
[1]Physics & Astronomy, University of Calgary, Calgary, AB, Canada; [2]Seaman Family MR Research Centre, Foothills Medical Centre, Calgary, AB, Canada; [3]Electrical and Computer Engineering, University of Calgary, Calgary, AB, Canada; [4]Radiology and Clinical Neurosciences,, University of Calgary, Calgary, AB, Canada; [5]Applied Sciences Laboratory, General Electric Healthcare, Calgary, AB, Canada

Computer 56 **4535. Comparison of Carotid Plaque Characteristics Between Japanese and Midwest American Caucasian Patients with Coronary Artery Disease: A 3.0T MRI Study.**
Hideki Ota[1], J. Kevin DeMarco[2], Minako Wakayama[3], David C. Zhu[2], Kei Takase[1], Shoki Takahashi[1]
[1]Diagnostic Radiology, Tohoku University Hospital, Sendai, Miyagi, Japan; [2]Radiology, Michigan State University, East Lansing, MI, United States; [3]Cardiology, Sendai Red Cross Hospital, Sendai, Miyagi, Japan

Computer 57 **4536. Detection of Thoracic Aorta Atherosclerotic Disease Using Simultaneous Non-Contrast Angiography and IntraPlaque Hemorrhage (SNAP) MR Imaging Technique**
Le He[1], Xihai Zhao[1], Rui Li[1], Jinnan Wang[2], Chun Yuan, [13]
[1]Center for Biomedical Imaging Research, Department of Biomedical Engineering, Tsinghua University, Beijing, China; [2]Philips Research North America, Briarcliff Manor, NY, United States; [3]Department of radiology, University of Washington, Seattle, WA, United States

Computer 58 **4537. High Resolution Three Dimensional Intracranial Arterial Wall Imaging at 3T Using SNR-Optimized T1 Weighted SPACE**
Lei Zhang[1, 2], Qing Zhai[3], Na Zhang[1, 2], XiaoXin Tong[3], Xin Liu[1, 2], Yiu-cho Chung[1, 2]
[1]Paul C. Lauterbur Research Center for Biomedical Imaging, Shenzhen Institution of Advanced Technology, Chinese Academy of Sciences, Shenzhen, Guangdong, China; [2]Shenzhen Key Laboratory for MRI, Shenzhen, Guangdong, China; [3]Department of Neurology, Peking University Shenzhen Hospital, Shenzhen, Guangdong, China

Computer 59 **4538. Quantitative Evaluation of the Current Status of Carotid Artery Imaging at 7T with Respect to 3T**
Wouter Koning[1], Hanneke Bluemink[1], Tijl A. van der Velden[1], Michel Italiaander[1], Peter R. Luijten[1], Jaco J.M. Zwanenburg[1], Dennis W. J. Klomp[1]
[1]University Medical Center, Utrecht, Netherlands

Computer 60 **4539. Diffusion Weighted Imaging (DWI) in the Rabbit Model of Atherosclerosis: Characterization and Quantification of Water Diffusion in Six-Month Old Aortic Plaque**
Philip M. Robson[1, 2], Claudia Calcagno[1, 2], Sarayu Ramachandran[1, 2], Venkatesh Mani[1, 2], Zahi A. Fayad[1, 2]
[1]Translational and Molecular Imaging Institute, Mount Sinai School of Medicine, New York, United States; [2]Radiology, Mount Sinai School of Medicine, New York, United States

Computer 61 **4540. Multisequence Whole-Brain Intracranial Vessel Wall Imaging at 7.0 Tesla MRI**
Anja G. van der Kolk[1], Jeroen Hendrikse[1], Manon Brundel[2], Geert Jan Biessels[2], Ewoud J. Smit[1], Fredy Visser[1, 3], Peter R. Luijten[1], Jaco J.M. Zwanenburg[1, 4]
[1]Department of Radiology, University Medical Center Utrecht, Utrecht, Netherlands; [2]Department of Neurology, University Medical Center Utrecht, Utrecht, Netherlands; [3]Philips Healthcare, Best, Netherlands; [4]Image Sciences Institute, University Medical Center Utrecht, Utrecht, Netherlands

Computer 62 **4541. Fast Relaxation Time Mapping in Human Carotid Artery Wall Using Black Blood DANTE 2D Turbo Spin Echo**
Linqing Li[1], Luca Biasiolli[2], Matthew D. Robson[2], Karla L. Miller[1], Peter Jezzard[1]
[1]FMRIB Centre, Nuffield Department of Clinical Neurosciences, University of Oxford, Oxford, United Kingdom; [2]Department of Cardiovascular Medicine, University of Oxford, Oxford, United Kingdom

Computer 63 **4542. Numerical Simulations of Carotid MRI: How Accurately Can We Quantify Atherosclerotic Plaque Components *in vivo*?**
Harm Nieuwstadt[1], Tom Geraedts[2], Martine Truijman[3], Eline Kooi[3], Aad van der Lugt[1], Ton van der Steen[1], Jolanda Wentzel[1], Marcel Breeuwer[2], Frank Gijsen[1]
[1]Erasmus MC, Rotterdam, Zuid Holland, Netherlands; [2]Philips Healthcare, Best, Noord Brabant, Netherlands; [3]Maastricht University Medical Centre, Maastricht, Limburg, Netherlands

Computer 64 **4543. Correlation Between Inflammation as Assessed with 18F-FDG PET and Microvasculature as Assessed with Dynamic Contrast-Enhanced MRI in Carotid Atherosclerotic Plaques**
Martine Truijman[1, 2], Robert Kwee[1], Michaela Gaens[1, 3], Raf van Hoof[1, 3], Evelien Hermeling[1, 3], Stefan Vöö, [34], Rob van der Geest[5], Tobien Schreuder[6], Narender van Orshoven[7], Be Meems[8], Felix Mottaghy[4], Robert J. van Oostenbrugge, [39], Werner Mess[2], Joachim E. Wildberger[1], Walter H. Backes[1], M.J.A.P. Daemen[10], Jan Bucerius, [34], Eline Kooi[1, 11]
[1]Radiology, MUMC, Maastricht, Netherlands; [2]Clinical Neurophysiology, MUMC, Maastricht, Netherlands; [3]Cardiovascular Research Institute Maastricht, MUMC, Maastricht, Netherlands; [4]Nuclear Medicine, MUMC, Maastricht, Netherlands; [5]Radiology, Leiden University Medical Center, Leiden, Netherlands; [6]Neurology, Atrium Medical Center, Heerlen, Netherlands; [7]Neurology, Orbis Medical Center, Sittard, Netherlands; [8]Neurology, Viecuri, Venlo, Netherlands; [9]Neurology, MUMC, Maastricht, Netherlands; [10]Pathology, Amsterdam Medical Center, Amsterdam, Netherlands; [11]Cardiovascular Research Institute Maastricht, MUMC, Maastricht , Netherlands

Computer 65 **4544. COCOA and Its Combination with Prospective Motion Compensation for Robust Carotid MRI**
Feng Huang[1], Xihai Zhao[2], Le He[2], George Randy Duensing[3], Chun Yuan[2, 4]
[1]Philips Healthcare, Beijing, China; [2]Center for Biomedical Imaging Research, TsingHua University, Beijing, China; [3]Philips Healthcare, Gainesville, FL, United States; [4]University of Washington, Seattle, WA, United States

Computer 66 **4545. Characterization of Coronary Plaque Using MPRAGE at 3T MRI : Comparison with MDCT and IVUS Findings**
Yoshiaki Morita[1], Naoaki Yamada[1], Reiko Fujiwara[2], Yasuhide Asaumi[2], Hiroki Sakamoto[2], Teruo Noguchi[2], Suzu Kanzaki[1], Masahiro Higashi[1], Hiroaki Naito[1]
[1]Department of Radiology, National Cerebral and Cardiovascular Center, Suita, Osaka, Japan; [2]Division of Cardiology, National Cerebral and Cardiovascular Center, Suita, Osaka, Japan

Electronic Poster
Cardiovascular MAI Education

Exhibition Hall Thursday 14:30-15:30

Computer 49 **4546. Non Invasive Imaging of Pulmonary Arterial Hypertension and Other Causes of Pulmonary Hypertension: Clinical State of the Art**
Venkata Meduri[1], Dheeraj Gopireddy[1], Naila Qazi[2], Chris Francoise[1], Mark L. Schiebler[1]
[1]Radiology, University of Wisconsin-Madison, Madison, WI, United States; [2]Radiology, University of Wisconsin-Madion, Madison, WI, United States

Computer 50 **4547. Magnetic Resonance Guidance of Cardiac Resynchronization Therapy**
Peter Bernhardt[1], Daniel Walcher[1], Ludwig Binner[1], Axel Bornstedt[1], Wolfgang Rottbauer[1], Volker Rasche[1]
[1]University of Ulm, Ulm, BW, Germany

Computer 51 **4548. "Electrocardiogram (ECG) Made Easy for Radiologists ": A Correlation Between Cardiac MRI Findings and Corresponding ECG Findings in Various Cardiac Diseases.**
Dheeraj Reddy Gopireddy[1], Venkata Meduri[1], Naila Qazi[1], Christopher Francois[1], Scott B. Reeder[1]
[1]Radiology, University of Wisconsin, Madison, WI, United States

Computer 52 **4549. MRI Evaluation of Diffuse Myocardial Diseases**
Yasuo Amano[1], Masaki Tachi[1], Hitomi Tani[1], Tadashi Machida[1], Minako Takeda[1], Makoto Obara[2]
[1]Nippon Medical School, Tokyo, Japan; [2]Philips Healthcare Asia Pacific, Tokyo, Japan

Computer 53 **4550. The Genealogy of ARVD - A Review of the Development of Guidelines for the Diagnosis of Arrhythmogenic Right Ventricular Dysplasia**
Tessa Sundaram Cook[1], Francisco Contijoch[2], Saurabh Jha[1]
[1]Radiology, Hospital of the University of Pennsylvania, Philadelphia, PA, United States; [2]University of Pennsylvania School of Engineering and Applied Sciences

Computer 54 **4551. Cardiac MRI in the Diagnosis and Management of Asymptomatic Cardiac Involvements in Rheumatic Diseases.**
Yasuyuki Kobayashi[1], Hitomi Kobayashi[2], Masaharu Hirano[3]
[1]Radiology, yasukoba2@gmail.com, Kawasaki, Kanagawa, Japan; [2]Itabashi Chuo Medical Center, Itabashi-ku, Tokyo, Japan; [3]Cardiaology, Tokyo Medical College, Sinjyuku-ku, Tokyo, Japan

Electronic Poster
CV Imaging Technology & Methodology

Exhibition Hall Thursday 13:30-14:30

Computer 73 **4552. Implementation of a Robust Method to Derive Unbiased T1 Maps from MOLLI Sequence and Bloch Equations Simulations.**
Benjamin Marty[1, 2], Alexandre Vignaud[3], Andreas Greiser[4], Pierre G. Carlier[1, 2]
[1]NMR Laboratory, Institute of Myology, Paris, France; [2]NMR Laboratory, CEA, I2BM, MIRCen, Fontenay-aux-Roses, France; [3]CEA, I2BM, NeuroSpin, Gif-sur-Yvette, France; [4]Siemens AG, Erlangen, Germany

Computer 74 **4553. *in vivo* Detection of Cardiac Fibrotic Tissue Without Contrast Agent**
Xeni Deligianni[1], Nadine Kawel-Boehm[2], Theresa Dellas Buser[2], Jens Bremerich[2], Oliver Bieri[1], Francesco Santini[1]
[1]Department of Radiology, Division of Radiological Physics, University of Basel Hospital, Basel, NA, Switzerland; [2]Department of Radiology and Nuclear Medicine, University of Basel Hospital, Basel, NA, Switzerland

Computer 75 **4554. Right Ventricular Velocities Over the Entire Cardiac Cycle Measured with High Resolution Spiral Phase Velocity Mapping: Results, Reproducibility and Comparison with the Left Ventricle**
Robin Simpson[1, 2], Jennifer Keegan[1, 2], David N. Firmin[1, 2]
[1]Imperial College London, London, England, United Kingdom; [2]Royal Brompton Hospital, London, England, United Kingdom

Computer 76 **4555. Block LOw-Rank Sparsity with Motion Guidance (BLOSM) for Accelerated Dynamic MRI**
Xiao Chen[1], Michael Salerno[2, 3], Craig H. Meyer[1], Frederick H. Epstein[1]
[1]Biomedical Engineering, University of Virginia, Charlottesville, VA, United States; [2]Medicine, University of Virginia, Charlottesville, VA, United States; [3]Radiology, University of Virginia, Charlottesville, VA, United States

Computer 77 **4556. Single-Shot Spiral First-Pass Perfusion Imaging: Full Heart Coverage with High Temporal Resolution**
Yang Yang[1], Craig Meyer[1, 2], Frederick H. Epstein[1, 2], Christopher Kramer,[23], Michael Salerno,[13]
[1]Biomedical Engineering, University of Virginia, Charlottesville, VA, United States; [2]Radiology, University of Virginia, Charlottesville, VA, United States; [3]Medicine, University of Virginia, Charlottesville, VA, United States

Computer 78 **4557. Navigator Artefact Reduction in 3D Late Gadolinium Enhancement Imaging**
Jennifer Keegan[1], Peter Drivas[2], David N. Firmin[1, 3]
[1]Cardiovascular Biomedical Research Unit, Royal Brompton and Harefield NHS Trust, London, United Kingdom; [2]Cardiovascular Biomedical Research Unit, Royal Brompton Hospital, London, United Kingdom; [3]Imperial College, London, United Kingdom

Computer 79 **4558. Optimized Three Dimensional Sodium Imaging of the Human Heart on a Clinical 3T Scanner**
Neville D. Gai[1], Carlos Rochitte[2], Marcelo Nacif[3], David A. Bluemke[1]
[1]Radiology & Imaging Sciences, National Institutes of Health, Bethesda, MD, United States; [2]Heart Institute - InCor - University of São Paulo Medical School, São Paulo, SP, Brazil; [3]Radiology Department of Faculdade de Medicina, Universidade Federal Fluminense, Niterói, RJ, Brazil

Computer 80 **4559. Precision in T1-Mapping and Estimation of Quality Maps**
Peter Kellman[1], Andrew E. Arai[1], Hui Xue[2]
[1]NHLBI, NIH, Bethesda, MD, United States; [2]Siemens Corporate Research, Princeton, NJ, United States

Computer 81 **4560. Improved Late Gadolinium Enhancement Cardiac MRI for Patients with Implanted Cardiac Devices**
Shams Rashid[1], Stanislas Rapacchi[1], Kyung H. Sung[1], Marmar Vaseghi[2], Kalyanam Shivkumar[2], J. Paul Finn[1], Peng Hu[1]
[1]Radiological Sciences, University of California Los Angeles, Los Angeles, CA, United States; [2]Cardiac Arrhythmia Center, University of California Los Angeles, Los Angeles, CA, United States

Computer 82 **4561. Fast Simultaneous T_1 and T_2 Mapping of the Heart**
Francesco Santini[1], Nadine Kawel-Boehm[2], Jens Bremerich[2], Oliver Bieri[1]
[1]Division of Radiological Physics, University of Basel Hospital, Basel, BS, Switzerland; [2]Department of Radiology and Nuclear Medicine, University of Basel Hospital, Basel, BS, Switzerland

Computer 83 **4562. Calculation of Optimal TI Value for 3D LGE-MRI of the Left Atrium**
Eugene G. Kholmovski[1, 2], Sathya Vijayakumar[1, 2], Nassir F. Marrouche[2, 3]
[1]UCAIR, Department of Radiology, University of Utah, Salt Lake City, UT, United States; [2]CARMA Center, University of Utah, Salt Lake City, UT, United States; [3]Department of Cardiology, University of Utah, Salt Lake City, UT, United States

Computer 84 **4563. How Different Data Acquisition Techniques Impact to the Selected Curve Fitting Models and the Cardiac T2* Measurements**
Suwit Saekho[1, 2], Uten Yarach
[1]Radiological Technology, Chiang Mai university, Muang, Chiang Mai, Thailand; [2]Biomedical Engineering Center, Chiang Mai university, Muang, Chiang Mai, Thailand

Computer 85 **4564. 3D Late Gadolinium Enhancement Imaging with Dynamic-TI in Patients with Atrial Fibrillation**
Jennifer Keegan[1], Peter David Gatehouse[1], Sonya V. Babu-Narayan[1, 2], Ricardo Wage[1], Shouvik Haldar[3], David N. Firmin[1, 2]
[1]Cardiovascular Biomedical Research Unit, Royal Brompton and Harefield NHS Trust, London, United Kingdom; [2]Imperial College, London, United Kingdom; [3]Cardiology, Royal Brompton and Harefield NHS Trust, London, United Kingdom

Computer 86 **4565. Self-Navigated Three-Dimensional Cardiac T_2 Mapping at 3T**
Ruud B. van Heeswijk[1, 2], Davide Piccini[3, 4], Hélène Feliciano[1, 2], Juerg Schwitter[5], Matthias Stuber[1, 2]
[1]Department of Radiology, University Hospital (CHUV) and University (UNIL) of Lausanne, Lausanne, Switzerland; [2]Center for Biomedical Imaging (CIBM), Lausanne, Switzerland; [3]Department of Radiology, University Hospital (CHUV) and University of Lausanne (UNIL) / Center for Biomedical Imaging (CIBM), Lausanne, Switzerland; [4]Advanced Clinical Imaging Technology, Siemens Healthcare IM S AW, Lausanne, Switzerland; [5]Center for Cardiac Magnetic Resonance and Cardiology Service, University Hospital of Lausanne (CHUV), Lausanne, Switzerland

Computer 87 **4566. Interleaved PET Data Sorting for Improved Image Quality in Combined PET/MR**
Richard Laforest[1], Ju-Chieh Cheng[1], Agus Priatna[2], Man Chun Jeffrey Lau[1], Shivak Sharma[1], Pamela K. Woodard[1]
[1]Radiology, Washington University Medical School, St.Louis, MO, United States; [2]Siemens, St.Louis, MO, United States

Computer 88 **4567. Towards Real-Time 3D Phase-Contrast Flow MRI**
Arun Antony Joseph[1], Dirk Voit[1], Sebastian Schätz[1], Klaus-Dietmar Merboldt[1], Jens Frahm[1]
[1]Biomedizinische NMR Forschungs GmbH am Max-Planck-Institut für biophysikalische Chemie, Göttingen, Niedersachsen, Germany

Computer 89 **4568. High Throughput Cardiac MRI Using Interleaved Breath-Hold Cardiac Cine and Free-Breathing Coronary MR Angiography: Initial Results**

Markus Henningsson[1], Reza Nezafat[2], Peter Koken[3], Giel Mens[4], Rene M. Botnar[1]
[1]Division of Imaging Sciences and Biomedical Engineering, King's College London, London, United Kingdom; [2]Harvard Medical School, Boston, MA, United States; [3]Philips Research, Hamburg, Germany; [4]Philips Healthcare, Best, Netherlands

Computer 90 **4569. Arrhythmia Insensitive Rapid Cardiac T1 Mapping Pulse Sequence: *in vivo* Study**

Michelle Fitts[1, 2], Elodie Breton[3], Eugene G. Kholmovski,[24], Derek J. Dosdall[2, 5], Sathya Vijayakumar,[24], Kyung P. Hong[1, 2], Ravi Ranjan[2, 5], Nassir F. Marrouche[2, 5], Leon Axel[6], Daniel Kim[2, 4]
[1]Bioengineering, University of Utah, Salt Lake City, UT, United States; [2]CARMA Center, University of Utah, Salt Lake City, UT, United States; [3]ICube, Strasbourg University, Strasbourg, Alsance, France; [4]UCAIR, Department of Radiology, University of Utah, Salt Lake City, UT, United States; [5]Internal Medicine, University of Utah, Salt Lake City, UT, United States; [6]Department of Radiology, New York University, New York, United States

Computer 91 **4570. High Resolution Cardiac T1 Mapping Using an Adaptive Data Acquisition Algorithm Combining Navigator Gating and Compressed Sensing**

Bhairav B. Mehta[1], Xiao Chen[1], Christopher M. Kramer[2, 3], Michael Salerno[1, 2], Frederick H. Epstein[1, 3]
[1]Department of Biomedical Engineering, University of Virginia, Charlottesville, VA, United States; [2]Department of Medicine, Cardiology Division University of Virginia, Charlottesville, VA, United States; [3]Department of Radiology, University of Virginia, Charlottesville, VA, United States

Computer 92 **4571. Improved Signal-To-Noise Ratio in Late Gadolinium Enhancement Imaging by Using Respiratory-Navigator-Rejected K-Space Lines**

Mehmet Akçakaya[1], Jaime L. Shaw[2], Thomas H. Hauser[1], Reza Nezafat[1]
[1]Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA, United States; [2]Cedars-Sinai Medical Center, University of California, Los Angeles, CA, United States

Computer 93 **4572. Influence of Off-Resonance in Myocardial T1-Mapping Using SSFP Based MOLLI Method**

Peter Kellman[1], Daniel A. Herzka[2], Andrew E. Arai[1], Michael Schacht Hansen[3]
[1]NHLBI, NIH, Bethesda, MD, United States; [2]Biomedical Engineering, Johns Hopkins University, Baltimore, MD, United States; [3]NHLBI, National Institutes of Health, Bethesda, MD, United States

Computer 94 **4573. Whole-Heart Quantification of Myocardial Perfusion with Spiral Pulse Sequences**

Yang Yang[1], Sujith Kuruvilla[2], Christopher Kramer[2, 3], Craig Meyer[1, 3], Michael Salerno[2, 3]
[1]Biomedical Engineering, University of Virginia, Charlottesville, VA, United States; [2]Medicine, University of Virginia, Charlottesville, VA, United States; [3]Radiology, University of Virginia, Charlottesville, VA, United States

Computer 95 **4574. Optimal Flip Angle for Balanced SSFP Cardiac Cine Imaging**

Subashini Srinivasan[1, 2], Daniel B. Ennis,[13]
[1]Department of Bioengineering, University of California, Los Angeles, CA, United States; [2]Department of Radiological Sciences, University of California, Los Angeles, CA, United States; [3]Department of Radiological Sciences, University of California Los Angeles, Los Angeles, CA, United States

Computer 96 **4575. Centric and Reverse-Centric Trajectories for Undersampled 3D Saturation Recovery Cardiac Perfusion Imaging**

Haonan Wang[1], Ganesh Adluru[2], Eugene G. Kholmovski[2], Jian Xu[3], Neal K. Bangerter[1], Edward V.R. DiBella[2]
[1]Electrical & Computer Engineering, Brigham Young University, Provo, UT, United States; [2]Utah Center for Advanced Imaging Research, University of Utah, Salt Lake City, UT, United States; [3]Siemens Healthcare, New York, NY, United States

A

Aandal, Erstad 1589
Aandal, Gunhild Erstad 4491
Ababneh, Riad 3762, 4213, 4273, 4276
Abaei, Maryam 1167
Abaza, Ronney 2531
Abbas, Kausar 3303
Abbasi, Nadia 2863, 2869
Abboud, Hanna E. 344
Abdel-Aziz, Khaled 1111
Abdel-Fahim, Rasha 3602
Abd-Elmoniem, Khaled Z ... 21, 881
Abdelnour, Farras 2253
Abdelsalam, Mohamed E ... 277
Abdul-Ghani, Muhammad 1247
Abduljalil, Amir 3295
Abdullah, Osama 1379
Abdurrachim, Desiree 117, 2011
Abe, Hiroyuki 3371, 3372
Abe, Mitushi 2710
Abe, Yoshifumi 1945
Abel, Ted 1046, 1053
Abele, Travis A. 1221
Abernethy, Laurence .. 915, 916
Abi-Dargham, Anissa 1206
Abidov, Aiden 1420
Abou-Khousa, Mohamed A 724
Aboussouan, Eric ……73, 369, 2044, 2061, 2084, 3210
Abramson, Richard G. 199, 1740, 3384
Abramson, Vandana G. ... 1730, 1740, 3384
Absinta, Martina42, 1121, 2963
Abuhashem, Obaidah A.... 2077
Acevedo-Bolton, Gabriel . 1345, 4320, 4437, 4438
Achawal, Shailendra 976
Acher, Charles W. 63
Achtzehn, Johannes 4413
Acikel, Volkan 4417, 4430
Ackerley, Rochelle 753
Ackerman, Joseph J. H. … 1, 84, 535, 1720, 2937
Ackerstaff, Ellen 806, 813, 3415, 4030
Ackley, Elena 3956
Acosta-Cabronero, Julio 997, 3664
Adachi, Toshiki 1542
Adalsteinsson, Elfar. …58, 168, 290, 393, 882, 2019, 2077, 2603, 2722, 2724, 2740, 2741, 2804, 2831, 3039, 3606, 3721, 3960, 3968, 4177, 4252, 4412, 4420
Adam, Gerhard .. …1421, 3057, 4060, 4127
Adam, Octavian 2894
Adamiak, Zbigniew 562
Adams, Matthew 2987
Adamson, Christopher 2972, 3203
Adany, Peter 3967
Addadi, Yoseph 439
Addley, Helen 4131
Addy, Nii Okai 189, 1293
Adele, Murrell 4038
Adema, Gosse 1832
Adesanya, Oludolapo 4052
Adinoff, Bryon 738
Adkins, DeAnna L. 2916
Adler, Caleb M. 3589, 3591, 4001
Adler, Douglas 672
Adluru, Ganesh.. 187, 318, 319, 2607, 2617, 4575
Adluru, Nagesh 452, 2141, 2928
Adolf, Holger 4420, 4423
Adriani, Walter 3240
Adriany, Gregor.. ….863, 2734, 2758
Adsay, Volkan 4069, 4072
Afacan, Onur .. 311, 2587, 3135
Afzal, Aneela 504, 3453
Aganj, Iman 59
Agarwal, Harsh K. 1782
Agbanlog, Kenard 1661
Agerholm-Larsen, Birgit .. 2931
Aggabao, Patricia 403
Aggarwal, Manisha 264, 838
Aggarwal, Namita 3728
Aghayev, Ayaz 108, 1568
Aghel, Arash 719
Agni, Rashmi 282
Agosta, Federica …1030, 1173, 1179
Agostinelli, Elisabetta 3876
Agrawal, Ramesh Kumar . 3728
Agrawal, Smriti 1062
Agraz, Jose 3932, 3950
Aguor, Eissa 1376
Ahlgren, André 2198
Ahlman, Mark A. 4531
Ahlskog, Matthew 1939
Ahlström, Håkan …1625, 1820, 2413, 4050
Ahmad, Md. Wasi ..... …3887, 3888, 3889, 3902
Ahmad, Mohammad K. 4047
Ahmad, Rizwan..... ….66, 534, 1336, 2523, 3734, 3813, 3816, 3826
Ahmed, Asia 677
Ahmed, Shaheen 2254, 2273
Ahn, Christina Y. ... 3456, 4465
Ahn, Kook-Jin 1138
Ahn, Sinyeob 2699
Aho, Olli-Matti 434, 3551
Ahoar, Majid Haghighat... 2986
Ahola, Susanna 1887
Ahrar, Kamran 4303, 4326
Ahrens, Eric T. . 243, 577, 3861
Ahuja, Anil T. .. ….2552, 3218, 3478
Ahuja, Jitesh 4098
Ahveninen, Jyrki 41
AI, Tao 3488
Aida, Noriko 910, 3097
Aime, Silvio . ….157, 160, 421, 1692, 1854, 1861, 1876, 1894, 3859, 3873, 3892, 4219
Airan, Raag D. 426, 2270, 2484
Aithal, Guru P. 276, 1958, 4094
Aitken, Andrew Peter769, 2576
Aizenstein, Orna 978
Ajilore, Olusola 3586
Ak, Fikri 2109
Akahane, Masaaki 1290
Akai, Hiroyuki 3477
Akashi, Toshiaki 2935, 2985
Akazawa, Kentaro 3116
Akbari, Alireza… .. 1632, 1636, 1637
Akçakaya, Mehmet.... 188, 257, 1358, 1373, 1406, 1411, 1427, 2457, 4453, 4571
Akens, Margarete K. 354
Akgun, Ali 4329
Akhbardeh, Alireza 1710, 1734
Akhondi-Asl, Alireza 794, 3535
Akhtar, Zaheer 1567
Akin, Burak 4430
Akin, Oguz 3396
Akisik, Fatih 743
Akiyama, Yuji 3479
Aklan, Bassim 830, 2813, 2814
Akoka, Serge 1950
Akram, Md. Shahadat H... 3779
Aksenov, Daniil 3239
Aksoy, Didem 1144
Aksoy, Murat .. …73, 121, 305, 369, 842, 2061, 2084, 3195, 3210, 3744, 3756, 3830
Alagappan, Vijay 4386
Alajarín, Ramón 1883
Alam, Ahsan 677
Alam, Shirjel 1317
Alavarado-Alanis,Patricia 3593, 3597
Alazeez, Mohamed Abd 93
Al-Bachari, Sarah 1142
Alberati, Daniela 331
Albert, Mitchell S. 1483
Alberts, Eveline 3667
Albuquerque, Edson X. 85
Alcauter, Sarael 912
Aldebasi, Bader 2344
Aldenkamp, Albert P. 1166, 1187, 1944, 2288
Alderliesten, Thomas 2967
Alessandrini, Franco 2873, 2913
Alexander, Andrew L.452, 636, 1655, 2141, 2928, 4210, 4225, 4315
Alexander, Daniel. ….491, 773, 784, 796, 1798, 2065, 2095, 2105, 3126, 3128, 3139, 3140, 3187
Alexander, Gene 1012
Alger, Jeffry R. 205, 3052
Al-Gizawiy, Mona.... 977, 1725
Alhamud, A. 2585, 3272
Ali, Meser M. 1875, 3885
Ali, Mohammad 3943
Ali, Yousuf 1069
Alia, A. 2881, 2882
Alicata, Daniel 2949
Aliverti, Andrea 4109
Alizadeh, Tooba 3427, 3913, 3925, 3949, 3951
Aljabar, Paul..... 176, 899, 3754
Allaïli, Najib 737
Allan, Thomas 34, 3279
Allemang-Grand, Rylan 892
Allen, Bradley D. .. 1337, 1349, 4448
Allen, David 402
Allen, John S. 483, 559
Allen, Robert 4465
Allen, Steven 1729, 1831
Alley, Marcus T. 312, 686, 1664, 2084, 2624, 4443, 4478
Allievi, Alessandro 888

Allouche-Arnon, Hyla 1915
Allsop, Joanna M. 918, 924
Ally, Brandon 844, 3286
Alon, Leeor..... 76, 2519, 4175, 4424, 4428
Alonso-Basanta, Michelle 3632
Alperin, Noam 453
Alrwaili, Amgad 563
Alsaid, Hasan..... 1712, 1768
Alshareef, Fawaz 626
AlSharif, Shaza..... 4131
Alshuft, Hamza..... 931
Alsop, David C…. ... 350, 1120, 2147, 2192, 2235, 2506, 2534, 2535, 2536, 2538, 2977, 3049, 3089, 3934, 3942, 4224
Alsop, Richard J. 90
Altabella, Luisa……. 807, 3240, 4041
Altbach, Maria I…... 246, 1420, 1528, 2462, 3797, 3829
Alterman, Ron 2846
Altes, Talissa A. 6, 817, 822, 1228, 1447, 1448, 1450, 1453, 1455, 1465, 1473, 1827, 4114, 4115, 4116, 4120
Altherr, Lena 1614
Altiok, Soner 1762
Alvarez, Alexander..... 1012
Álvarez-Builla, Julio..... 1883
Álvarez-Linera, Juan 2886
Alves, Filipe Caseiro 4065, 4159
Alvey, Cory 809, 1727
Amado, Luciano 573
Amadon, Alexis..... 3979, 4251, 4256, 4257
Amann, Gabriele..... 1678
Amann, Michael 2903, 3618
Amano, Yasuo 1368, 1374, 1375, 4454, 4549
Amaral, David G. 3670
Amaral, Joao..... 4291
Amarosa, Alana 3364
Amati, Francesca 362, 4021
Amato, Maria Pia..... 42
Ambati, Srinath..... 1200
Ambwani, Sonal 3720
Amemiya, Shiori..... 1170
Ames, David..... 620
Amet, Sabine 1574
Amin, Parag.... 544, 1285, 1291
Amini, Amir A..... 67, 1346, 1430, 4445
Amiri, Houshang 3674, 4202
Amitay, Shani Ben..... 834, 926
Amlani, Ashik 3447
Amm, Bruce C..... 2711
Ammini, Ariachery. 1523, 1525
Amoedo, Caroline 4089
Amort, Laura 3650
Amour, Dave Saint..... 1246
An, Hongyu 361, 936, 2942, 2943, 4212
An, Li 858, 3984
Anaby, Debbie..... 2068
Anagnostopoulos, Petros .. 4455
Anazodo, Udunna..... 3038
Anblagan, Devasuda..... 900, 2959, 4130
Ances, Beau M. 1156
Andal, Ricardo 207
Andary, Michael..... 3557
Andelova, Michaela..... 1101, 2903, 3618
Andersen, Asger 1424
Anderson, Adam W.2120, 3078
Anderson, Ashley ... 3500, 4442
Anderson, Christian..... 3500
Anderson, Kevan 474, 4426
Anderson, Kevan J. T. 1837
Anderson, Morgan..... 207
Anderson, Peter J..... 905, 2972
Anderson, Richard..... 4493
Anderson, Robert..... 2026
Anderson, Robert James..... 75, 2396, 2400, 3314, 3327
Anderson, Stephan.. 3146, 4095
Anderson, Valerie C. 994
Andersson, Jesper L. .. 52, 2122
Andia, Marcelo..... 1347,1429, 4452
Ando, Hiroki..... 942
Andrade, Kristine E. 1644
André, Elodie 3199
Andre, Jalal..... 211, 2197, 3636
Andreasen, Niels 2865
Andreotti, Jennifer.. 3046, 3168
Andrews, Peter J..... 2907
Andrews, Trevor..... 715,995, 1089, 1250
Andreychenko, Anna 390, 2014
Andreyeva, Ksenia 2138
Andrieux, Annie 343
Andronesi, Ovidiu C..... 855, 2019, 2029, 2369, 2511
Ang, Jooern 508
Ang, Kai Keng..... 210
Angeli, Stelios 3157, 4449
Angelone, Leonardo M.... 4305, 4380
Angelsen, Anders ... 1785, 1788
Angle, John..... 1827
Aniskiewicz, Albert..... 3557
Annapragada, Ananth..... 3893
Annese, David 1313
Anon, Leoor 286
Anraku, Yasutaka..... 1869
Ansari, Sameer A. . 8, 582, 629, 2994
Ansell, Stephen 1748
Ansorge, Heather..... 1442
Ansorge, Richard E. 997
Anstee, Quentin..... 1383
Anteraper, Sheeba Arnold 3598
Anthwal, Shalini..... 1529
Antic, Tatjana..... 96, 1772
Antkowiak, Patrick.. 324, 1442, 4062
Antoch, Gerald 4220, 4227
Antonucci, Michael U. 211
Antuono, Piero G..... 996, 2883, 3300
Anwander, Alfred..... 53, 384
Anyamene, Nicola..... 3447
Aoki, Chikashi..... 1405
Aoki, Ichio .. 1713, 1869, 1872, 3198, 3891
Aoki, Ikuo 3386
Aoki, Shigeki..... 2850, 2866, 3477, 3637, 3669, 3672
Aoyama, Nobukazu..... 4100, 4104, 4112, 4113, 4471, 4479
Appaix, Florence..... 83
Applebee, Angela..... 1089
Apprich, Sebastian ..... …688, 1605, 1663, 2473, 3465, 3466, 3471, 3472, 3475
Apter, Sara 4061
Arabasz, Grae..... 3449
Arai, Andrew E. ... ….184, 479, 1402, 4559, 4572
Arakelyan, Karen 25, 28, 29
Araki, Tsutomu 1507, 4169
Arata, Michael..... 4481
Araujo, Daviad..... 47
Araya, Yonathan 560
Arbab, Ali S. 1875, 3058
Arbini, Arnaldo A. 745
Ardekani, Babak A.. 932, 1002
Ardenkjaer-Larsen, Jan Henrik ...654, 1930, 1928, 1935, 2103, 3923, 3924, 3945, 3947
Arena, Claudio 1371
Arendt, Elizabeth..... 1658
Arens, Raanan 4110
Arenson, Ronald..... 472
Arentsen, Luke 406
Arfanakis, Konstantinos 998, 1004, 2128, 2129, 2879
Argiles, Josep M..... 3518
Arheart, Kristopher. 1940, 2860
Arias, Ana Claudia 133
Arias-Mendoza, Fernando 3969
Arichi, Tomoki... 888, 899, 924
Arienzo, Donatello 2945, 3594, 3595
Arifin, Dian R. 426, 3863
Arif-Tiwari, Hina ... 1573, 4070
Arima, Yasunobu 1048
Arlauckas, Sean..... 1723
Arlinghaus, Lori R. 199, 983, 1730, 1740, 3376, 3384
Arm, Jameen 1587
Armani, Andrea..... 4051
Armour, Micheal..... 561
Armspach, Jean-Paul..... 170
Armstrong, Brandon Dean .....…20, 137, 1922, 2361
Armstrong, Gregory T..... 613
Armstrong, Nicole..... 2855
Arnaiz, Javier 1281
Arnold, Douglas 47, 2247 2694
Arnold, Jennifer 2873, 2913
Arnold, Raoul..... 4447
Arnold, Robert J. 3664
Arnoldi, Elisabeth 4460
Arnoux, Pierre-Jean..... 346
Arnulf, Isabelle..... 1027
Arolt, Volker 1165
Aronen, Hannu J..... 3398
Aronhime, Shimon 2212
Aronow, Ashley 1765
Arpinar, Volkan Emre 3215, 3831, 4352
Arrieta, Cristobal..... 1429
Arrigoni, Filippo 3133
Arsanjani, Reza 1295, 1401
Arseneau, Jocelyne..... 4131
Arslan, Fatih..... 1376
Arteaga de Castro, Catalina 97, 554, 1789, 1791, 2014
Artemov, Dmitri……236, 238, 442, 447, 561, 3419, 3940
Artru, Alan A. 3158
Artz, Nathan S..... 558, 2556
Artzi, Moran..... 978
Arujuna, Aruna..... 260
Arunachalam, Arjun..... 3825
Arunima, Pola 4015
Arvanitis, Theodoros N. 533, 970, 980, 2009, 3992, 4036
Aryal, Madhava P..... 2209
Asano, Eishi 2971
Asano, Kenji..... 4280
Asaumi, Yasuhide 4545
Asayama, Yoshiki 4123
Asbach, Patrick 2430, 4076
Ascani, Daniele 634
Aschauer, Manuela..... 1281
Aschwanden, Markus..... 1283
Ashburner, John 4333

Asher, Dean 2894
Asher, Kambiz A. 3537
Ashman, Teresa A. 1938
Ashoori, Ida 922
Ashwell, Zachary 3482
Asllani, Iris 2991
Asman, Andrew J. 1104
Assaf, Yaniv… .. 711, 796, 834, 839, 843, 926, 949, 2055, 2110, 3125, 3155, 3651
Assecondi, Sara 2764
Assländer, Jakob….. 411, 2379, 3277, 4249
Astary, Garrett W. 2557
Astrakas, Loukas 2999, 3294
Atalar, Ergin ..... ….12, 15, 767, 4269, 4417, 4430
Atanasijevic, Tatjana 1859
Atar, Ori 225
Atassi, Nazem..... 353, 1018
Athayde, Luciana..... 1538
Atkins, Charity 1768
Atkinson, David……..... 93, 677, 2080, 2099, 2576, 2705, 3098, 3206, 3780
Atkinson, Ian C..... 2820, 2874, 3625, 3742
Atkinson, Jeffrey J..... 4121
Atkinson, Kevin..... 3940
Atlas, Scott 3023
Atsumi, Hideki 1213
Attard, Gerhardt..... 499
Attenberger, Ulrike I..... 400
Atthe, Bharath 1125
Attygalle, A. D. 594
Atuegwu, A. C. 1697
Atuegwu, Nkiruka 1740
Aubert, Isabelle..... 354
Aubert-Frécon, Monique .. 4208
Auboiraux, Vincent 233
Auchus, E. P. 1619
Audoin, Bertrand 50
Auer, C. P. 931, 953
Auer, Ewald..... 3895
Auer, J. P. 1167, 3012
Auer, K. P. 2848
Auer, Matthias 1973
Auer, R. P. 256, 3309, 3904
Auerbach, T. J..... 52, 74, 244, 2661, 3275
Auff, Eduard..... 163
Auger, T. Alejandro..... 4501
Auranen, Toni..... 3353
Aussenhofer, I. A..... 398
Aussenhofer, M. A. 115
Aussenhofer, S. A..... 2801
Autio, G. Arttu..... 2313
Avants, G. B. 1011, 3044
Avci, Ali..... 3029
Avdic, Denis..... 3894
Avdievich, A. I. 2784, 4400
Avdievich, G. I. 2016, 2739
Avendaño, Carlos 114
Avinash, Gopal..... 2886
Avison, A. J. 2324
Avison, G. J. 1524
Avison, H. J. 1618
Avison, K. J. 2294
Avison, S. J. 2413
Avison, T. J. 1520
Avitsian, Rafi 752
Avram, A. V. 2067, 2072
Avritscher, Rony 277
Avula, Shivaram..... 916
Awad, Issam 2497
Awai, Kazuo..... 3479
Awasthi, Rishi 3640
Awate, K. P. 3800
Awojoyogbe, S. Omotayo 3877
Awwad, D. S. 2961
Axel, Leon…. 606, 1395, 2636, 4079, 4569
Aydin, Semiha..... 893
Ayers, V. D..... 3384
Aznarez-Sanado, Maite 1599
Azuma, Takashi..... 1848, 2559, 3520
Azzabou, Noura..... 1674, 2700
Azziz, Ania..... 3367

B

Baba, Tsukasa..... 3450
Babayeva, Maryna..... 306
Babb, A. S. 638, 993
Babb, I. S. 221
Babb, L. S. 94
Babb, M. S. 1938
Babb, P. S. 634
Babourina-Brooks, Ben 533, 980, 3393
Babu-Narayan, J. V. 4564
Bach, Michael..... 2092, 3028
Bachert, Peter 1992, 1993, 2546, 2548
Bachevalier, Jocelyne 3685, 3691
Bächler, Pablo 1347
Bachoo, Robert509, 2030, 3646
Bachschmidt, Theresa..... 2561
Backer, A. M. 236
Backer, A. V. 236
Bäcker, Sandra 1552
Backes, S. H. 589
Backes, Walter H... 1022, 1166, 1187, 1944, 2218, 2288, 4543
Backes, Y. H. 990
Badal, James..... 4010
Baddeley, Roland John..... 3663
Bade, Aditya N..... 1264, 1270
Badea, Alexandra 2939
Bae, Karen..... 2106
Bae, Kyongtae Ty..... 108, 687, 1568, 2159, 2356, 2358, 2537, 3337, 3524, 4370, 4396
Bae, Won C. . ….142, 145, 437, 763, 3457, 3458, 3468, 3469, 3470
Baeck, Jong Su. ….1884, 2333, 2345, 3656
Baek, Hyeon-Man ... 965, 4039, 4043
Baek, Jee Hyun..... 3452
Baek, Jongsu 1155, 1172
Baek, Junga 3467
Baer, Sebastien..... 1924
Baete, Steven…363, 690, 2076, 3373
Bagga, Deepika 3019, 3995
Bagga, Puneet..... 1976, 1980
Bagher-Ebadian, Hassan . 2209, 3058, 3297, 3444
Baglin, Trevor ... …1280, 1287, 4472
Bagnato, Francesca. 2539, 3605
Bagnoli, Marina..... 807
Bagshaw, Andrew P. ..... …38, 2262, 2329, 2342
Bahado-Singh, Ray O..... 166, 4133
Bahnson, Robert R. 2531
Bahri, Dara 2657
Bahri, Shadfar 201, 3365
Bai, Feng 1194
Bai, Renyuan..... 565
Bai, Xue 1234
Bai, Yan 3638
Baig, Tanvir..... 2769
Bain, Daniel J. 3860
Bainbridge, Alan …1509, 2190, 2948, 3117
Bains, Lauren J. 1778
Baishya, Bikash..... 2639
Bajaj, Nin 1167, 2848, 3012
Bakalova, Rumiana 1713
Baker, Alex 4448
Baker, Jennifer H.E. 153
Baker, Lauren C.J. 1716
Bakermans, Adrianus J. 2011
Bakhtiary, Morteza..... 2013
Bakker, Chris J.G. . 1815, 1849, 2683, 4322
Bakker, Jurriaan 1819, 4336
Bakshi, Rohit..... 1096
Balaban, Robert S..... 287
Balakrishnan, V. Ragu 2603
Balasubramanian, Mukund 418, 3361
Balchandani, Priti .. 2051, 3944, 3963
Baldelomar, Edwin J. 1563
Baldeweg, Torsten..... 802
Baldi, Jacopo 1635
Balducci, Anthony..... 577
Baldus, Marc 4521
Baledent, Olivier 1214, 2910
Bales, Kelly R. 82
Balidemaj, E..... 4178, 4185
Baligand, Celine..... 3519, 4066
Balkin, Thomas J.... 2702, 3731
Ball, Gareth .176, 884, 899, 924
Ball, Iain K. 1483
Ball, Juliane..... 740, 1942
Balla, Dávid Z. 300
Ballesteros, Paloma 1883, 1886, 3876
Ballon, Douglas..... 1021
Balschi, James A. ... 1626, 4045
Balteau, Evelyne 3199
Baltzer, Pascal..... 3374, 3381
Balu, Niranjan 875, 1309
Bamber, Jeffery C. ... 448, 1749
Bammer, Roland . 73, 121, 211, 305, 369, 588, 842, 1144, 1146, 2044, 2061, 2083, 2084, 2197, 2615, 2867, 2880, 3023, 3167, 3182, 3195, 3210, 3628, 3636, 3744, 3756, 3830
Bancroft, Elizabeth. 3395, 3397
Bandettini, Peter A. 2230, 2276, 2318, 2331, 3318
Bandi, Krishna C. 62
Bandula, Steve 1582
Bane, Octavia..... 1333, 1362
Banerjee, Debabrata 806
Banerjee, Modhurin..... 4387
Banerjee, Suchandrima.... …57, 202, 247, 683, 982, 1779, 2974, 3202, 3642
Bang, Won-Chul 1842
Bangerter, Neal K….. 436, 956, 1690, 4010, 4575
Bani-baker, Kamil..... 197
Bankiewicz, Krystof..... 3907
Banks, Tina 2170
Bankson, James A. . 1933, 3948
Bannier, Elise 50, 625, 1131
Bansal, Navneeta.... 4018, 4047

Banwell, Brenda 1331
Banypersad, Sanjay 1582
Bao, Jianfeng 4042
Bär, Karl-Jürgen 1952
Bar, Leah 3136, 3137
Bär, Oliver 3645
Bär, Sebastien 4286
Barabasch, Alexandra 680, 1588
Barakat, Nadia 1116, 2114
Barazany, Daniel 711, 926, 949, 3125
Barbe, Brent D. 1386, 1446, 3860
Barber, Anita 1175
Barber, Thomas M. 4052
Barbier, Emmanuel Luc 81, 209, 343, 1047, 1267, 1753, 2176, 2225, 2492, 3122
Barbosa, Jeam Haroldo Oliveira 2502
Barbot, Julien 4314
Barck, Kai H. 1037
Bardinet, Éric 737
Bardouille, Tim 2275
Barefield, Maria 2894
Barendse, Evelien M. 1944
Barentsz, Jelle O. 1818
Barere, Aaron 1442
Bargalló, Nuria 2873, 2913
Bargon, Joachim 3927
Barillot, Christian 50, 3037, 3260
Barkauskas, Kestutis 185, 320, 2631, 3838, 4488
Barker, Alex J. 62, 631, 1329, 1337, 1349
Barker, Gareth John 893, 1093, 1117, 3326, 4264
Barker, Jeffrey William ... 2356, 2358, 2537
Barker, Peter B. . 457, 585, 854, 921, 1941, 2021, 2041, 3596, 3972, 4040
Barkhof, Frederik ... 1110, 2179
Barkovich, A. James 890
Barmet, Christoph 69, 293, 304, 466, 529, 552, 553, 669, 671, 1410, 2569, 2663, 2716, 3332, 3827
Barnes, Carol 1012
Barnes, David G. 2667
Barnes, Lisa L. 1004
Barnes, Stephanie ... 2692, 3106
Barnes, Yolanda 2894
Barnhill, Eric 1620
Barnum, Christopher 2699
Baron, Corey Allan 61, 2075
Baron, Paul 230, 1815
Baroni, Ronaldo 4089
Barr, Tomoe 1420, 2462
Barreto, Andrew D. 1444
Barreto, Felipe Rodrigues . 4026
Barrett, Tristan 3387
Barrick, Thomas Richard .. 1967
Barry, Jennifer 474, 660, 4313, 4319, 4511, 4517, 4518
Barry, Robert L. 2237, 2278, 2292, 2324
Bar-Shir, Amnon 152, 159, 426, 1851, 1852, 1903, 1911, 2555, 4240
Bart, Christopher M. 1004
Barta, Radim 1227
Bartels, Lambertus W. 230, 1814, 1815, 1829, 4309, 4311
Barth, Markus 2045, 2238, 3327, 3704, 3707
Bartha, Robert 1907, 3987, 4221, 4226
Barthel, Henryk 2884
Bartneck, Matthias 1279
Bartolomei, Fabrice 455
Barton, D. P. 594
Bartrés-Faz, David .. 2873, 2913
Bartsch, Andreas J. 3331, 3715, 3789
Bas, Jean-François Le 209, 1753, 2225, 3118
Basak, Chandramallika 2286
Basha, Tamer A. 188, 1319, 1323, 1373, 4453
Basharat, Meer 3874
Bashat, Dafna Ben 978
Bashir, Adil 361
Bashir, Mustafa R. 283, 401, 1275, 1755, 4088, 4463
Bashoor-Zadeh, Mahdieh 1594, 1599
Basile, Barbara 3223
Basse-Lüsebrink, Thomas. . 371
Basser, Peter J. 496, 710, 2058, 2067, 2072, 2516, 4334
Bassett, Elwin Clark 4484
Bassi, Andrea 3223
Bastawrous, Sarah . 1272, 3066, 4459
Bastiaansen, Jessica A. M. 120, 1936
Bastiani, Matteo 2124
Bastin, Mark E. 900, 2138, 2139, 2140, 2959
Batchelor, Tracy T. .. 516, 1154, 3061
Batel, Michael 3914, 3941
Batenburg, Kees Joost 2662
Bates, David 1828
Bates, Matthew G.D. 1385
Bathen, Tone Frost 500, 804, 805, 1785, 4016, 4035
Batinic-Haberle, Ines 3883
Batjer, Hunt 8, 629, 2994
Batra, Marion 1176
Batrachenko, Anastasia 868
Batrachenko, Anastasiya 906
Batrice, Anja 576
Batsios, Georgios ... 3914, 3941
Battistoni, Valentina 1016
Baudewig, Jürgen 2929
Baudin, Pierre-Yves 2700
Bauer, Adam 330
Bauer, Jan S. 144, 3460
Bauer, Jochen 1165
Bauer, Lisa 3875
Bauer, Simon 829, 2368, 3749, 3824
Bauer, Wolfgang Rudolf . 1340, 1366, 2185
Bauleo, Armando 2279
Baum, Karl 3485
Baum, Thomas 144, 3460
Bauman, Grzegorz 602, 651, 1415, 1481
Baumann, Pia 1686
Baumer, Fiona M. 909
Bäumer, Philipp 515
Baumgartner-Parzer, Sabina 4514
Bause, Jonas 1135
Bawden, S. 1958
Bax, Noortje A.M. 1360
Baxan, Nicoleta 2718, 2908, 3882
Baxter, Gregory T. 3141
Bayram, Ersin 1508, 1533, 2406, 3820, 4077, 4163
Bazarian, Jeffray 789
Bazin, Pierre-Louis 267, 270, 935, 3759
Beal, Kathryn 3625
Beall, Erik B 1107, 2142, 2159, 2303, 2575, 2670, 2678, 3770, 4328
Beard, Daniel A. 1965
Beare, Richard 3203
Bearer, Elaine L. 1257
Beasley, Timothy 721, 1751
Beaton, Melanie 1510
Beatty, Philip J. 1274, 3820, 3832
Beaudoin, Gilles 79, 1742
Beaule, Paul E. 3487
Beaulieu, Christian 61, 2075, 3544, 3610, 3977
Beaumont, Helen 991
Beaumont, Marine 1378
Becker, Bryce 2687, 2969
Becker-Weidman, David .. 1573
Beckett, Katrina 3437
Beckmann, Christian F. 2238, 2316
Bednarik, Petr 1961
Beedle, Aaron M. 356, 1638
Beek, Leon Ter 2447
Beeman, Scott Charles 1563, 1564, 1565
Beeton, Christeen 3865
Befera, Nicholas 3157
Befroy, Douglas E. ... 119, 1622
Begovatz, Paul 1963, 2419
Beham, Alexander 676
Behar, Kevin L. 862, 1706, 3242, 3986
Behari, Madhuri 2843, 2844, 2845, 3728
Behari, Sanjay 3640
Behrens, Timothy E.J. 52, 835, 2122
Behrouz, Gamzegul M. 1887
Beiderwellen, Karsten 241, 574, 3881
Beinart, Roy 255, 259, 4494
Bekke, Susanne Lise 204
Belch, Jill 1277
Belegu, Visar 2261
Bell, Jordan C. 1066
Bell, Laura C. 1274, 1422, 1492, 4101
Bellec, Jesse 138
Bellec, Pierre 2872
Belliveau, John W. 41
Bells, Sonya 843
Belluscio, Leonardo 1035, 3862
Beltramello, Alberto 2873, 2913
Ben-Abraham, Ephraim I .. 149, 1596
Benali, Habib 1027
Ben-Avi, Emma 799
Bencardino, Jenny 363
Bencsik, Martin 563
Bendahan, David 407
Bendel, Peter 2390
Bender, Benjamin 1176
Benders, Manon J.N.L. 172, 2967
Bendlin, Barbara 1840
Bendok, Bernard R. 8, 582, 629, 2994
Bendszus, Martin 167, 515, 2983
Benefield, Brandon C. 1362

Ben-Eliezer, Noam 2453, 2639, 2681, 4175
Bengel, Frank 744
Benitez, Andreana 993
Benjamini, Dan..... 496
Benk, Christoph..... 4435
Benkert, Thomas.... 2475, 3762, 4213, 4273, 4276
Benkhedah, Nadia... 1992, 1993
Benner, Thomas..... 2646, 4420, 4423
Bennet, Andrea..... 276, 4094
Bennett, David A.….998, 1004, 2879
Bennett, Jeff..... 3670
Bennett, Kevin M. ..... ….155, 1563, 1564, 1565, 2933
Bennett, Maxwell R..... 1197
Bennewitz, Margaret F. 1864
Benninghoff, Jens ... 2873, 2913
Benozzo, Danilo 2215
Benson, Michael 429, 1658
Benson, Randall..... 1162, 2897, 3561
Benzinger, Tammie 3056
Berding, Georg 744
Berenstein, Moran 711
Beretta, Elena 2963
Berg, Eric..... 2816
Berg, Sebastian 631
Berg, Sophie J..... …257, 1318, 1319, 1373
Bergeles, Christos..... 2766
Berger, Francois 83, 3118, 3414
Berger, Moritz 3455
Berger-Roscher, Nikolaus. 1616
Bergey, Gregory 457
Berglund, Johan ….1520, 1524, 1618, 2413, 4050
Bergman, Elad..... 2669
Bergsland, Niels P. . 1003, 3014
Bergsten, Peter..... 4050
Beriwal, Sushil 596
Berker, Yannick..... 218, 1786
Berliner, Christoph 4060
Berlow, Yosef A..... 3603
Berman, Avery J.L. 851
Berman, Benjamin Paul ... 3797, 3829
Berman, Daniel S..... 876, 1295, 1320, 1401, 1419, 4527
Berman, Jeffrey I. .. 1195, 3169, 4145
Bermel, Robert A... 1107, 2133, 2143
Bernard, Monique..... 317, 323, 3957, 3979, 3980
Bernarding, Johannes 2439, 2782, 3927
Bernardo, Marcelino..... 1782
Bernau, Ksenija 3866
Bernet, Vera 2966
Bernhardt, Anthony 472
Bernhardt, Peter..... 1324, 1367, 4547
Bernicks, Charles..... 788
Bernstein, Adam..... 1012
Bernstein, Jeffrey D..... 248
Bernstein, Matthew A..... 2708, 2711, 3216, 3703, 3810
Beroukhim, Koroush 3388
Berry, Isabelle 50
Berry, James 1018
Berry, John F..... 2471
Bersch, Jennifer..... 2045, 3704, 3707
Berthel, Dominik 1984, 2790
Bertilsson, Helena .. 1785, 1788
Bertoldo, Alessandra 2172, 2215, 3133
Bertram, Henriette 4096
Bertram, John F. 1564, 1565
Berwick, Jason 757
Besa, Cecilia..... 3439, 4091
Besle, Julien 297
Besseling, René M.H..... 1166, 1187, 2288
Bettegowda, Chetan..... 565
Betz, Randal 1116
Betzel, Richard 2134
Beuf, Olivier..... 281, 407, 742, 1532, 1585, 1650, 1660, 2777, 4362
Bevington, Travis 4198
Beyea, Steven..... 2275, 2293
Beyer, Frauke 2440
Beyers, Ronald J.... 1075, 1076, 1077, 1216, 2787
Beyersdorf, Friedhelm..... 4435
Bhadelia, Rafeeque A..... 1254
Bhagat, Yusuf A. 141, 1594
Bhagavatheeshwaran, Govind 1098
Bhargava, Puneet... 1272, 3066, 4459
Bhargava, Valmik..... 681
Bhat, Himanshu ... 53, 410, 593, 882, 2511, 2646, 3030, 3183, 3315, 3721
Bhatia, Mona 487
Bhatia, Sahil 825, 827
Bhatia, Sanjay..... 2986
Bhatia, Tripish 3559
Bhatnagar, Deepak 4023
Bhatt, Om 2240
Bhatt, Rupal..... 3942
Bhattacharya, Debajyoti .. 3019, 3995
Bhattacharya, Pratip 151, 1923, 1933, 3929, 4032
Bhattacharyya, Pallab K.... 752, 4328, 4422
Bhave, Sampada 2613
Bhave, Sandeep R. 3384
Bherer, Louis..... 2871, 2872
Bhogal, Alex 852
Bhujwalla, Zaver M.…..... 239, 442, 561, 1059, 1704, 1710, 1714, 1734, 3431, 3433
Bhushan, Chitresh 55, 1951, 2691
Bi, Xiaoming 1292
Bi, Zhongyuan..... 2584
Bian, Wei 122, 247, 2799, 3006, 3642
Bianchi, Andrea..... 643, 3901, 4102
Bianciardi, Marta.... 3254, 3348
Biasiolli, Luca 4541
Bibby, Becky..... 3925
Biber, Stephan 1210, 2810, 2829
Bibic, Adnan 1913
Bickel, Hubert 3381
Bidinosti, Christopher P. ... 138, 2721
Biedermann, Sarah 1973
Biegon, Anat 1157
Bienek, Carsten 477
Bieri, Oliver.. ….233, 467, 688, 1101, 1137, 1605, 2450, 2473, 2989, 3465, 3466, 3471, 3532, 3618, 4140, 4142, 4553, 4561
Biessels, Geert Jan.... 627, 4540
Bifone, Angelo 494
Bigot, Christian 1052
Bihan, Denis Le. 416, 490, 779, 1263, 2905, 3103, 3142, 3153, 3154, 3155, 3181, 3383, 4257
Bijsterbosch, Janine D..... 3275
Bilgic, Berkin …58, 168, 2077, 2603, 3721, 3960, 3968, 4177
Bilgin, Ali..... 246, 604, 1420, 1528, 2462, 3797, 3829
Bilingsly, Kelvin 655
Biller, Armin 1983
Billich, Christian 1653
Billiet, Thibo 3654
Billingsley, Kelvin . 3933, 3935
Bills, Rodney..... 4387
Bilston, Lynne E..... 2438, 2447
Biman, Birubi..... 1483
Bimmler, Marion..... 616
Bini, Jason..... 1912
Binner, Ludwig 4547
Binter, Christian.... 1339, 2647, 2651
Birbaumer, Adrien..... 3336
Birch, Malcolm 250
Birkbeck, Neil 1586
Birkl, Christoph..... 4296
Birn, Henrik 1928
Bischof, John..... 3418
Bisdas, Sotirios..... 961, 1171
Bishop, Daryl 2816
Bishop, Jonathan ... 1070, 1118, 2572
Bishop, Phillip D..... 2789
Bissonnette, Marc..... 154
Biswas, Labonny 474
Biswas, Reni..... 142, 145, 437, 3468, 3469
Bito, Yoshitaka..... 2006, 2066, 2091, 2480, 2750, 2756, 3955
Bitti, Pier Paolo 4485
Bittman, Mark E..... 1535
Bittsansky, Michal..... 2893
Bitz, Andreas K..... 538, 1790, 2759, 3403, 4393, 4414, 4415, 4416, 4423
Bjoern, Annighoefer..... 4260
Bjork, James..... 3576
Bjørkøy, Geir 500
Bjørnerud, Atle..... 590, 3061
Björnsdotter, Malin 2291
Black, Sandra E..... 2936, 3250
Blackledge, Matthew D.... 592, 4149
Blackman, Eric..... 789
Blaimer, Martin ….2475, 3762, 3824, 4213, 4273, 4276
Blake, Michael 3449
Blamire, Andrew M. 1361, 1383, 1385
Blangero, John 2263
Blanken, Niels..... 3667
Blankenberg, Francis..... 1237, 3358
Blasberg, Ronald G. . 813, 4030
Blaskey, Lisa..... 1195
Blaszczyk, Lukasz..... 1393
Blau, James N. 665, 2724, 4386
Blazejewska, Anna I.. 265, 953, 3012
Bleijenberg, G. 3445
Blemker, Silvia..... 1228
Blevins, Gregg 1081
Bley, Anna 1117

Bley, Thorsten 1304
Blicher, Jakob 427, 1127
Bloch, B.Nicolas 1809
Bloch, Karin Markenroth. 2198, 2504
Bloch, Lars Ølgaard 469
Block, Kai Tobias 200, 606, 696, 829, 2453, 2558, 2636, 3364, 3530, 3749, 3786, 3809, 4084, 4108
Block, Walter F. 431, 636, 1607, 1655, 1676, 1677, 1840, 1841, 2373, 2402, 2704, 2993, 3545, 4315, 4330
Block, Wolfgang 4270
Blockley, Nicholas P. 853, 2347, 3338
Bluemink, Hanneke 4538
Bluemink, Johanna J. 2594, 3442, 4397
Bluemke, David A. 4494, 4531, 4558
Blüher, Matthias 384
Blume, Ulrike A. 2562, 3486
Blumenfeld, Hal 299, 3242
Blumenfeld, Jon D. 4138
Blumensath, Thomas 3274, 3792
Blumenthal, Deborah T. 978
Blüml, Stefan 920,922, 1951,1954,2965
Blystad, I. 1106
Bo, Jun 4519
Boada, Fernando Emilio 438, 685, 1651, 2369, 3177
Boardman, James P. 900
Boas, David A. 3244, 3254, 3348
Bock, Jelena 4447
Bock, Michael 1797, 1835, 1985, 2485, 2794, 2819, 2821, 4250, 4403
Bock, Nicholas A. 930
Bockhorst, Kurt Hermann. 1067
Bockisch, Andreas 241, 3881
Bodde, Nynke M. 1187
Bodi, Istvan 704, 2090
Bodurka, Jerzy. 521, 732, 1160, 1161, 1185, 2241, 3024, 3347, 3350, 3569
Boecker, Henning 952
Boeker, Heinz 739
Boer, Vincent Oltman 554, 599, 2008, 2014, 2387, 2573, 2594, 2729, 3368, 3982, 4245
Boesch, Chris. 362,1630, 4021, 4031, 4152
Boesen, Mari Elyse. 3807, 4534
Boesiger, Peter 1113, 1959, 2042, 2589
Bogdanov, Alexei A. 3880
Boger, Heather A. 3084
Bogner, Wolfgang 196, 217, 855, 1737, 1738, 2018, 2022, 2029, 2785, 3374, 3381, 4090
Bogorodzki, Piotr 941, 3572, 3575
Bohic, Sylvain 343, 1267
Bohra, Kushal 3290
Bohraus, Yvette 2341
Bok, Robert A. 215, 537, 1935, 3420, 3907, 3915, 3920
Bokacheva, Louisa 717
Bokde, Arun 893
Bokkers, Reinoud P. H 102
Bokstein, Felix 978
Bokura, Kiminori 1233
Bolan, Patrick J. 406, 3378, 3767, 3958, 4136
Bolar, Div S. 3039
Boldt, Julian 2395
Boll, Daniel T. 283, 1755
Bollgrün, Patrick 2794
Bolliger, Christine Sandra 1630
Bollmann, Steffen 740, 1942
Bolster, Bradley D. 2567
Bomers, Joyce GR 1818
Bommerich, Ute 3927
Bonanno, Gabriele. 1308, 1316, 1417
Bonavita, John 4108
Bondesson, Eva 1480
Bonekamp, David 280, 457, 585, 1537, 1538
Bonekamp, Susanne 280, 1537, 1538, 3596
Bongers, Andre 1792, 3081
Bonilha, Leonardo 786
Bonini, Marcelo G. 566
Bonmassar, Giorgio 2841
Bonnemann, Carsten G. 3519
Bonnier, Guillaume 3615
Bonow, Robert O. 1349
Bonsanto, Matteo 973
Bony, Badrul Alam 3887, 3888, 3889, 3902
Boon, Paul A. 458, 1187
Boothman, David 721
Bora, Girdhar 98
Borden, Mark A. 4304
Bordet, Regis 2873, 2913
Boren, Joan 3916
Boretius, Susann 2929, 3677
Borga, Magnus 1682, 2416
Borgan, Eldrid 804
Borhani, Amir A. 596
Borich, Michael 51
Borisch, Eric A. 126, 2640
Börnert, Peter 310, 365, 1129, 1413, 2468, 2592, 2748, 3714, 4260, 4270, 4271, 4254, 4278
Bornstedt, Axel 1608, 4547
Boros, Eszter 1900
Borowiak, Robert 1985
Borowitz, Kathleen 1228
Borra, Ronald. 595, 3398, 3449
Borradaile, Nica M. 3729, 3912
Borradori-Tolsa, Cristina... 896, 903
Børresen-Dale, Anne Lise .. 804
Borri, Marco 505, 1729
Borrie, Michael 3987
Borromeo, Susana 3035
Borroni, Edilio 331
Borthakur, Arijitt 1007
Bos, Clemens 2562, 3486, 3871
Bos, Koen 146
Boschewitz, Jack 748
Boska, Michael Douglas.. 1055, 1264, 1268, 1270
Boskamp, Ed B. 2751
Bosnyak, Daniel J. 3248
Boss, Andreas 362, 4031
Boss, Michael A. ... 2768, 4304, 4306, 4338
Bosshard, John C. 2445
Botnar, Rene M. 258, 260, 545, 546, 1279, 3896, 4520, 4568
Bottlaender, Michel 4251
Bottomley, Paul A. 473, 530, 572, 579, 1833, 2823
Botvinik, Rotem 2110
Bötzel, Kai 2482
Boubertakh, Redha 250
Bouchard, Maryse 1246
Bouchet, Audrey 3413
Boudes, Elodie 914
Boudreau, Mathieu 2479
Bouix, Sylvain 2899
Boulant, Nicolas 4251, 4256, 4257
Bouldi, Mélina 2832
Bouley, Donna 227
Boult, Jessica K.R. .. 448, 1749, 3919
Bourassa-Moreau, Benoît 79
Bourdette, Dennis 3603
Bourekas, Eric 870
Bourne, Roger 1792, 1798, 3081, 3090
Bousvaros, Athos 1535
Boutelier, Timothe 3002
Boutin, Robert D. 3482
Bouvier, Julien ... ….209, 1753, 2175, 2225, 2492
Bouwman, Job G. ... 1815, 2683
Bouzat, Pierre 713
Bouzerar, Roger 1214
Bouzon, Leandro 3023
Bovens, Sandra 883
Bowden, David J. .. 1280, 1287, 4472
Bowen, Chris.. 502, 2281, 3324
Bowen, James D. 45, 3613
Bowen, Michael A. 1817
Bowen, Sean 3945
Bowtell, Richard W. 38, 265, 297, 300, 450, 753, 953, 2342, 2344, 2487, 2490, 2491, 2763, 3012, 3251
Box, Carol 1716
Box, Gary 499, 1716
Boxerman, Jerry 2216
Boyacioglu, Rasim 2045, 2238, 3704, 3707
Boyd, Lara 51
Boyd, Roslyn 2131, 2968
Boylan, Emma 3647
Bozza, Fernando 1873
Bozzali, Marco 328, 612, 1000, 1014, 1016, 1099, 2847, 2857, 2887, 3223
Braakman, Niels 2882
Bradbury, Allison M. 1075, 1076, 1077
Bradbury, Michelle 3625
Bradley, William G. 1327
Brady, Martin 4315
Braissant, Olivier 1975, 3993
Braithwaite, Victoria 2954
Branca, Rosa Tamara . 404, 814
Branch, Craig A. ... 2167, 2861, 2899
Branco, Miguel Castelo ... 4065, 4159
Brandeis, Daniel 740, 1942
Brandner, Sebastian 424
Brandt, Alexander U. 1085
Brandt, Kathleen 1733, 1736
Branislava, Janic 1875
Branzoli, Francesca 1996, 3245, 3999
Braren, Rickmer 656, 1931
Brasic, James Robert 4040
Brat, Daniel 969
Bratasz, Anna 1695, 3726
Bratzke, Hansjürgen 2124
Brau, Anja C.S. 128, 3795, 4085, 4280

Bräuer-Krisch, Elke.....3413
Braun, Allen 2702, 3731
Braun, Harald 830, 2812, 2813, 2814, 2815, 2817, 2818
Braun, Juergen..... ….341, 380, 872, 873, 973, 2424, 2428, 2430, 2435, 2439, 2440, 4076
Braun, Steve 2779
Braunagel, Margarita 4141
Braund, Victoria 2869
Breault, Steven R.....1755
Bredies, Kristian....2078, 2615, 2636, 3182, 3827
Breedlove, Evan 2346, 3303
Breedlove, Katherine.....3303
Breeuwer, Marcel 95, 4542
Brefczynski-Lewis, Julie ..2332
Brehmer, Moritz 4060
Breidthardt, Tobias 22
Breithaupt, Mathies 3455
Breitkreutz, Dylan 2466
Brem, Steven 3632
Bremer, Christoph 157
Bremerich, Jens 4553, 4561
Brendle, Cornelia.....1230
Brennan, Nicole.....3562
Brennan, Sandra B.....3379
Brenner, Daniel..... …80, 249, 2124, 2600, 3709
Brenowitz, Noah.....2230
Brereton, Ian.....3393
Bresnen, Andrew.....1972
Breton, Elodie..... 1395, 3409, 4569
Bretthorst, G. Larry 2937
Breu, Markus 2940
Breuer, Felix A.…. ... 647, 1489, 1498, 2475, 2651, 3710, 3762, 3824, 4213, 4273, 4276, 4283
Brewer, Kimberly 502
Brex, Peter A. 1093, 1117
Brey, William W. 3412
Bridges, Thomas M. 2324
Brier, Matthew R.....1156
Briggs, Richard W. . 2852, 2904
Bright, Molly G. 2349, 3345
Brillet, Pierre-Yves.....4117
Brindle, Kevin M..... 160, 661, 3909, 3916, 3937
Bringas, John 3907
Brink, Wyger M..... 1225, 1400, 2592, 2800, 4375
Brinkmann, Inge 4403
Bristela, Margit.....3541
Brittain, Jean H..... 1273, 1274, 1541, 2556
Brix, Martin .. 1653, 1663, 3532
Broadhouse, Kathryn M. . 4456, 4487
Broche, Lionel M. 4217
Brocke, Burkhard 109
Brocker, Kerstin 2485
Brockmann, Knut 1080
Brod, Staley A. 1444
Brodkin, Edward S. 1046, 1053
Brodsky, Ethan K. . 1840, 1841, 2704, 4315, 4330
Brody, David L..... 1025, 2894, 3564
Broersen, Laus M. 3687
Bron, Esther.....146
Bronzlik, Paul.....1092
Brookeman, James R. 1473
Brookes, Matthew J. .. 34, 1205, 3221, 3279
Brooks, James..... 3405, 3933
Brooks, Simon.....1049
Brooks, William 3981
Broskey, Nicholas Thomas 362, 4021
Brost, Alexander..... 842, 1146, 2197, 2867, 2880, 3195, 3628
Brotman, David 1308
Brown, Anna M.....1211
Brown, Colin 1620
Brown, Diane 207
Brown, E. 2359
Brown, Gregory.....736
Brown, Lenora.....3027
Brown, Mark S. 1610
Brown, Peter B. 667
Brown, Robert Allan 2694
Brown, Robert W. .. 2769, 3875
Brown, Ryan.... 76, 1739, 2754, 3462, 4388
Brown, Stephen 2209
Brown, Truman R.…... 464,756 3969
Bruce, Anthony 1442
Bruce, Iain P. 2229, 2285, 2733
Bruckner-Tudermann, Leena 2908
Bruggink, Caroline 99
Brühl, Rüdiger 893
Brujic, Djordje.....2730
Brundel, Manon..... 627, 4540
Brunecker, Peter 586
Brunetto, Andre 508
Brunner, Alexander 1835, 4326
Brunner, David Otto 78, 293, 304, 391, 529, 553, 669, 730, 761, 2569, 2632, 2716
Brunner, Romuald 3588
Bruno, Mary 3809
Bruns, Andreas..... 331, 1583
Brusa, Livia 2847
Bruvold, Morten..... 1625, 3486
Bryant, Nathan D.....3508
Brydges, Nichola M. 1389
Bubalo, Gordana 28
Bucerius, Jan 4543
Buch, Sagar .. 2483, 2496, 4186
Buchbender, Christian..... 241, 3881
Büchel, Christian.....2277
Buchenau, Stefanie.....4250
Buchenberg, Waltraud B 477
Bucher, Hans Ulrich..... 2977
Buchthal, Steven 2949
Buck, Amanda K.W. 1647, 3508, 3511
Buckley, David L. 1547
Buckley, Erin..... 917
Buckner, Randy..... 947
Bucknor, Matthew.....4310
Bucur, Adriana 3427, 3913, 3925, 3949, 3951, 4025, 4493
Budaj, John..... 3297, 3682
Budde, Juliane 414, 2389
Budde, Matthew D. .. 496, 3678
Budde, Thomas 1262
Budesheim, Eric G. 2708
Budjan, Johannes.....400
Buehler, Tania 4031
Buehrer, Martin 307, 1323
Bueler, Elliott 3572
Buerger, Christian .. 2588, 3745
Bugg, George 4130
Buhner, David M.... 2852, 2904
Buhrman, Jason S. 158
Bui, Marilyn M.....1756
Buijs, Mathijs 458
Buist, Richard.....3147
Bukshpun, Polina 178, 3169
Bulacio, Juan 752
Bullmore, Ed 2230, 2318
Bulte, Daniel P. 853, 2283, 2347, 3255
Bulte, Jeff W.M. 152, 156, 159, 422, 426, 447, 562, 565, 1061, 1851, 1852, 1903, 1904, 2545, 3863, 3899, 4295
Bultman, Eric M.....2704
Bulumulla, Selaka B 462, 1995, 4171, 4192
Bunke, Juergen..... 1963, 2419, 4029
Buntkowsky, Gerd.....3927
Buonincontri, Guido1364, 1381
Buonocore, Michael H. ... 3482, 3670
Burakiewicz, Jedrzej 4279
Burcaw, Lauren..... 495
Burdet, Etienne..... 888
Burdumy, Michael..... 1229
Burge, Alissa J. 640
Burgelea, Diana..... 1876
Burgess, Alison 2915
Burgmans, Saartje 990, 2218
Burgon, Nathan 2607
Burke, Lauren M.B. . 283, 4088
Burkhardt, Hans 4447
Burling, Keith..... 3916
Burns, Brian L..... 2004, 2010, 2043
Burrel, Marta..... 1281
Burren, Yuliya..... 1143
Burrowes, Delilah 3647
Burtea, Carmen 237
Busatto, Geraldo..... 3587
Busch, Julia 69
Buser, Theresa Dellas..... 4553
Bush, Emily C. 1647
Bushara, Khalaf O. 2858
Bushnik, Tamara 1938
Busquets, Silvia..... 3518
Buss, Claudia 3576
Busse, Franziska..... 384
Busse, Harald 1777, 1843, 3389, 3399, 4096
Bustillo, Juan..... 736
Butler, James P..... 1254
Butler, John 3038
Butman, John Anthony.... 1149, 2501, 3706
Butowski, Nicholas 974
Button, Terry..... 3890
Butts Pauly, Kim 227, 232, 1822, 2509, 4297
Butzbach, Britta 1279
Buus, Niels H. 4139
Buxton, Richard B. 2297, 3244, 3338
By, Samantha 2728, 2752
Bydder, Graeme M.... 142, 145, 763, 1611, 2909, 3457, 3458, 3464, 3468, 3470, 3473, 3496
Byrd, Kenneth 4046
Byrne, Barry..... 689, 1633
Byrne, James V. 1128, 1137, 2989
Byun, Nellie E..... 2324

C

Caballero, Jose 3806
Cabeen, Ryan P. 2138
Cabral-Goncalves, Ines 2846

Cadena, Samuel 408
Cadman, Robert 1492
Caers, Sarah 3694
Caffes, Caterina 3171
Caffo, Brian S. ... …1175, 2261, 2270, 3257
Cahill, Lindsay S…. 945, 1118, 2326
Cai, Congbo.. 3735, 3833, 4042
Cai, Honghao 4289
Cai, Huajian 3292
Cai, Jianming 1300
Cai, Kejia.. ….420, 1006, 1192, 1438, 1718, 2541, 2543, 2554, 2697
Cai, Shuhui ..... …2035, 3735, 3833, 4013, 4042, 4288, 4289
Cai, Wenchao ….92, 132, 1549, 1550, 1775, 1796, 2194, 3400, 3404, 3407, 4063
Cai, Xiaoying..... …707, 1437, 1804, 4268
Cai, Youquan 1300
Cain, Charles A. 1831
Caine, Diana 3011
Calabrese, Evan 1057, 2939
Calamante, Fernando 772, 2135, 2173, 2258, 3069, 3070, 3163
Calcagnini, Giovanni 3223
Calcagno, Claudia.. 1912, 2212, 4539
Caldas, Carlos 3730
Caldas-Magalhaes, Joanna 3666
Caldera, Jorge Chacon 1562
Calero, Macarena 3896
Calhoun, Vince D. 37, 3225, 3585
Callaghan, Martina F. 3008, 3017
Callahan, Michael J. 1535, 4056
Calle, Daniel 3876
Callot, Virginie….27, 346, 349, 964, 1112, 2506, 2535, 3957, 3980
Caltagirone, Carlo. ….328, 612, 1000, 1016, 2847, 2857, 2887, 3223
Calvo, Andrea 1173
Cameron, Donnie.... 1359, 1369
Cameron, Ian G. …1522, 2200, 3487
Campanella, Martina 967
Campbell, Jennifer ..... …1109, 2136
Campbell, John R. 4010
Campbell-Washburn, Adrienne E. 9, 506, 2188, 2190, 3780
Campeau, Norbert 3671
Campiglio, Paolo 4348
Candidus, Yvonne 2810
Canese, Rossella 807, 3240, 4041, 4051
Canevari, Silvana 807
Cannon, Dara 1200
Canteras, Jaime 3663
Cantor, Diego 1249
Cantow, Kathleen 25, 28, 29
Cantrell, Charles G. . 584, 2352, 2997
Canu, Elisa ... 1030, 1173, 1179
Cao, Guang..... …1617, 2876, 2890, 2979, 4156
Cao, Hongmei 1028
Cao, Ida 1021
Cao, Peng . 360, 412, 432, 4506
Cao, Shujing 3761
Cao, Wei 3076
Cao, Ya 984
Cao, Ye 879
Cao, Yue 514, 3644
Cao, Zhenbin 548
Cao, Zhipeng ..... …2802, 2805, 2806, 4377, 4378, 4425
Cao, Ziyu 1074
Capel, Cyrille 1214
Capener, David 1348
Caplan, Michael 1666
Capoulade, Romain 64, 1328
Capozza, Martina 3892
Cappa, Stefano Francesco 1179
Cappel, Cyrile 2910
Cappelletti, Marinella 3017
Cappiello, Marcus 2097
Caprihan, Arvind 3585
Caprio, Massimiliano 4051
Caprio, Sonia 4022
Capron, Thibaut 317, 323
Capuani, Silvia 143, 494, 1063, 1601, 1635, 3099, 3144
Caputo, Domenico 1121
Cara, Mihai 2769
Carano, Richard A. D. 501, 1037, 1042
Carapezza, Michael 756
Caravan, Peter…. 642, 1885, 1899, 1900, 2511
Carballido-Gamio, Julio ... 3461
Card, Dallas 887
Cardenas, Damon P. ..... …894, 2308, 2309, 2310
Cardenas-Blanco, Arturo ... 989, 3487
Cardenes, Higinia 3441
Cardoso, Manuel Jorge 49, 802, 2948, 3679
Carin, Lawrence 2621
Carinci, Flavio 1498, 2788, 3549, 4283
Carl, Ellen 1003
Carl, Michael. 763, 1683, 2635, 2909, 3464
Carlier, Pierre G. ... 1674, 2700, 4552
Carlin, Sean D. 3415
Carlson, Cathy 429
Carlson, Paul 1184
Carluccio, Giuseppe 2519, 2802, 2806, 4374, 4378, 4419, 4425, 4433
Carney, Jonathan P. 4358
Carney, Paul R. 2557
Carollo, Antonella 4485
Carpenter, Adam 1091
Carpenter, David ... 2304, 3269, 3298, 3311
Carpenter, Jeff S. 2986
Carpenter, Nicholas R. 659
Carpenter, Philip M. 201
Carpenter, T. Adrian..... 1364, 1381, 2690
Carpinelli, Giulia 4051
Carr, James C. 8, 62, 1285, 1329, 1333, 1349, 1362, 4448, 4489
Carr, Maria 8, 1285
Carrino, John A. 2735, 3483
Carrizales, Jorge 1584
Carroll, Timothy J. 8, 582, 584, 629, 1333, 1362, 2352, 2994, 2996, 2997, 3790
Carson, Rob 4145
Carson, William K. 1444
Carswell, Chris 3011
Carter, Jori 406
Caruthers, Shelton D.… 483, 559, 3077
Carvajal, Lucas 3907
Carvalho, Joao L. A. ..... …68, 1334, 1335, 1352
Casali, Stefano 3574
Cascella, Nicola 3596
Cases, Olivier 1058
Casey, B.J. 3576
Casey, Linda 3378
Cash, Diana 1043, 2301
Caso, Francesca 1030
Cassidy, Deirdre B. 1325
Cassidy, Maja 151, 1923, 1933, 3929
Castellani, Sebastien 2492
Castellaro, Marco 2172
Castellazzi, Gloria .. 3163, 3574
Castelli, Daniela Delli ..... .157, 421, 1854, 1861, 3873, 4219
Castelli, Diana 2887
Castro, Elena 3395, 3397
Castro, Mario 4109
Casula, Victor 1662
Catalano, Onofrio 595
Catana, Ciprian.. 571, 595, 760, 770, 2684, 3449
Catani, Marco 704
Catanzaro, Valeria 3892
Catelas, Isabelle 3487
Cates, Jeremy 84, 1720
Cates, Gordon D, Jr.. ..... 1473, 4114, 4116, 1465
Catherwood, Tess E. 3730
Catz, Ingrid 1081
Cauley, Stephen F. 58, 593, 2077, 2603, 3183, 3315
Cauley, Steven F. 53
Caulfield, Anna K. Finley 1144
Cavalieri, Marco 494
Cavallo, Federica 1692
Cave, Gareth 563
Cavusoglu, Mustafa.. 293, 2594
Cawley, Niamh 2393
Cazzagon, Monica 2963
Cebral, Juan 1346
Cebulla, Jana 500
Ceci, Chiara 4041
Cecil, Kim M. 2760
Celi, Monica 1635
Celicanin, Zarko 233
Celik, A. Avdo 2124, 3164
Celik, Haydar 4518
Cercignani, Mara.. ….328, 612, 1000, 1016, 1251, 2847, 4284
Cerdán, Sebastián.... 114, 1883, 1886, 3241, 3684, 3876
Cereda, Maurizio..... 823, 1467
Cerilles, Michelle Ann C.. 4138
Cernohorsky, Paul 3542
Cerpa, Arisbel 3876
Cerqueira, Bianca G 2307
Ceschin, Rafael C….180, 1954, 2965
Cevasco, Juan 593
Cha, Jang Gyu 1689
Cha, JungWon 1346
Cha, Soonmee 960, 3643
Chaabane, Linda 3892
Chaarani, Bader 2910
Chacko, Vadappuram 1059
Chacon, Marcus 3306
Chaddock, Gemma Louise . 679
Chadzynski, Grzegorz L …961, 2025
Chai, Jyh-Wen... …3015, 3060, 3422

Chai, Xiaoyu..... 3385
Chaim, Tiffany Moukbel .. 3587
Chaiworapongsa, Tinnakorn 1581, 4126
Chakraborty, Santanu 989
Chakravarthy, A. Bapsi ... 1730, 1740, 3384
Chakravarty, Mallar..... 1191
Chalak, Lina 175, 2958
Chalfin, Steven 714
Chamberlain, Jeffrey 1646
Chamberland, Maxime 2137
Chan, Anthony W.S..... 1036
Chan, Chun-Chung..... 2889
Chan, Deva 1681
Chan, Henry..... 151, 1923
Chan, Kannie W.Y. ... 152, 156, 422, 447, 565, 1852, 1903, 1904, 2555, 4240, 4295
Chan, Katherine..... 1331
Chan, Kevin C. 87, 273, 336, 3474, 3655
Chan, Koon-Ho..... 1087
Chan, Queenie 1023, 1087, 1223, 1546, 2533, 2875, 2889, 3005, 3102, 3270, 3273, 3400, 4148
Chan, Rachel W.... 2099, 3098, 3206
Chan, Rachel Wai-chung.. 2576
Chan, Raymond H. 188
Chan, Russell W .. 32, 298, 334, 1258, 3267, 3268, 3270, 3271, 3273, 3312
Chan, Wing P 1672, 2925, 3000, 3227
Chandarana, Hersh 94, 1554, 1570, 3390, 3737, 3809, 4084, 4108
Chandra, Abhijit 1948
Chandra, Sarat P. ... 3565, 3566, 3567
Chandra, Saurav 408
Chang, Catie 39, 754, 2242, 2252
Chang, Chein-I 3015
Chang, Chen 1858, 2924
Chang, Che-Wei 3194
Chang, Chin-Cheng 4509
Chang, Chin-Yu..... 1733, 3362
Chang, Chun-Yen 3227
Chang, Daniel H.-E. 3662
Chang, Edward 3406
Chang, Eric..... 145, 437, 763, 3457, 3458, 3464, 3468
Chang, Eric Y. 3470
Chang, Gregory 358, 3462, 3521, 3523
Chang, Hing-Chiu 56, 1218, 1232, 2056, 2353, 2671, 3320
Chang, Linda 2859, 2949
Chang, Ling-Chuan 1733, 3362
Chang, Lowell 4462
Chang, Michelle 2969
Chang, Ming-Ching 2199, 3075
Chang, R.S.K..... 1023
Chang, Ruey-Feng..... 1743
Chang, Silvia 2429
Chang, Susan M. 247, 510, 960, 974, 3006, 3643
Chang, Ting-Ting 2219
Chang, Yao-Wen 2289
Chang, Yeun-Chung1743, 3424
Chang, Yong Min 3902
Chang, Yongmin …1155, 1172, 1245, 1260, 1877, 1879, 1881, 1884, 1895, 2272, 2333, 2345, 3656, 3887, 3888, 3889, 3900
Chang, Youjin 1669
Chang, Youngseop 3494
Chang, Yuchou..... 2653, 2659
Chang, Yulin V. 4109, 4121
Chang, Zheng 1731
Channual, Stephanie..... 3437
Chanoine, Valérie... 2873, 2913
Chao, Tzu-Cheng..... …2063, 2256, 3178, 4216
Chao, Tzu-Hao 2311
Chapman, Christopher H. . 3644
Chappell, Michael A..... …102, 623, 1128, 1137, 2172, 2182, 2989, 3048, 3068, 3069, 3070, 3727, 4234
Chaptinel, Jerome 1417
Charalambous, Nicolas..... 4449
Charbel, Fady T..... 1327, 1341
Chard, Declan T. ... …49, 1095, 2540, 3163
Charles, H. Cecil 1491, 4111
Charles-Edwards, Geoffrey David 2094, 2104, 4279
Charleswell, Cherise..... 2888
Charlton, Jennifer R. 1564, 1565
Charlton, Rebecca A..... 3586
Charrier, Benoit..... 1950
Charyasc, Edyta..... 1171
Chatelin, Simon..... 2421, 2447
Chatnuntawech, Itthi ... 58, 168, 2077, 3960, 3968
Chatterjee, Neil R. 1362
Chaturvedi, Shubhra..... 4020
Chaudhari, Abhijit J. 3482
Chaudhari, Ajit..... 1657
Chaudhary, Kapil .. 3565, 3566, 3567
Chaudhary, Rajeev ... 431, 1655
Chaudhuri, Joydeep..... 1159
Chauhan, Anjali..... 338
Chauhan, Munish .. 4170, 4172, 4176, 4181, 4184
Chauhan, S. S. 3430
Chaumeil, Myriam M 658, 3432
Chauvel, Patrick 455
Chavez, Sofia 2476
Chawla, Sanjeev 968, 3632
Chebrolu, Venkata Veerendranadh 2984, 3211, 3216, 3723
Chechin, David209, 1753, 3118
Chelikani, Prasanth K..... 3238
Chen, Albert P. 660, 3908, 3910, 3912, 3928, 4354, 4511
Chen, Bin 1549, 1550, 2194
Chen, Charlie..... 835
Chen, Cheng-Yu..... 2924
Chen, Chiao-Chi..... 2925
Chen, Chia-Yuen..... 3000
Chen, Chih-Feng 2221
Chen, Chih-Lung..... 1858
Chen, Chi-Ming..... 1206
Chen, Chin-I..... 3000
Chen, Chuan-Han..... 3422
Chen, Chung-Ming..... 3422
Chen, Chun-Wei..... 1825
Chen, Clayton Chi-Chang3015, 3060
Chen, Clayton Chi-Cheng 3422
Chen, Constance..... 4465
Chen, Daniel..... 359
Chen, David..... 4526, 4527
Chen, Der-Yow 294, 1561
Chen, Dongping 1546
Chen, Enn-Ling 4530
Chen, Fei 904, 1008, 1164
Chen, Feiyu . 1437, 1804, 1806, 1813
Chen, Fu..... 2881
Chen, Gang..... 286, 2737, 4409
Chen, Guangyu. … 2228, 2883, 3300, 3319
Chen, Guan-Ming..... 1269
Chen, Hao..... 4288
Chen, Henry Szu-Meng.... 1114
Chen, Hongwei..... 3101
Chen, Hsian-Min 3015
Chen, Hua..... 1580
Chen, HuiChun..... 2990
Chen, Huijun 1299, 1302, 1310, 1350, 1413, 1763, 1784, 3059
Chen, I-Jung..... 2256
Chen, I-Wei..... 1726
Chen, I-Wen Evan..... 347
Chen, J. Jean 2227, 2233, 2234, 2240, 3346
Chen, Jasper 1061
Chen, Jeon-Hor 195, 201, 1733, 1743, 3362, 3365, 3366, 4307
Chen, Jie..... 1571
Chen, Jien-Jiun..... 4513
Chen, Jing 1803
Chen, Jingyuan..... 2252
Chen, Jun..... 149, 279, 1596, 1736, 1748, 2422, 2441, 2443, 2446
Chen, Junjie..... 483, 3077
Chen, Jyh-Horng ... 1124, 2257, 2311, 2767, 3194, 3424, 3717, 3849, 3850
Chen, Kevin T. 770
Chen, Kewei..... 1012
Chen, Kuan-Lin..... 2184
Chen, Li Min..... 1115, 3288
Chen, Lin..... 3735, 3833
Chen, Lingyun..... 3036, 3621
Chen, Liu Qi..... 441, 1908
Chen, Liyong. 303, 2365, 3316, 3321
Chen, Lizhou..... 3579
Chen, Michael C..... 2242
Chen, Min 383
Chen, Nan-Kuei 1617, 3287, 3320, 3753, 3765
Chen, Nan-kuei 56
Chen, Pin-Yu..... 3293
Chen, Po-Tsun..... 2353
Chen, Qingshan..... 1596
Chen, Qunzhi 132
Chen, Sharon Chia-Ju Chen 1168
Chen, Shen-Hsing Annabel 523
Chen, Shi Yue 274
Chen, Shiyue 1503, 1504
Chen, Shizhen 3903
Chen, Shuo.. 1299, 1804, 1806, 1813
Chen, Taolin..... 734
Chen, Tao-Tao 3683
Chen, Tongbing..... 1571
Chen, Way Cherng..... 705
Chen, Wei ..517, 848, 859, 861, 2002, 2033, 4027
Chen, Weibo 1008, 1223, 1546, 3005, 3102
Chen, Weitian 436, 3489, 3548, 3716
Chen, Weiwei..... 692, 3853

Chen, Wen-Pin 201
Chen, Wen-Shiang..... 1825
Chen, Wufan..... 2460, 4201
Chen, Xiangchuan .. 2699, 2849
Chen, Xiao..... 324, 1407, 2157, 4555, 4570
Chen, Xin 3094
Chen, Xing..... 1959
Chen, Xiuyu..... 1278
Chen, Xuanli..... 3579
Chen, Ya..... 322
Chen, Yanping..... 1013
Chen, Yasheng 936, 2942, 2943
Chen, Yi Fang..... 3424
Chen, Yih-Sharng..... 4513
Chen, Ying-Jr 1039
Chen, Yiyi 504, 3453
Chen, Yong..... 600, 601, 1543, 1556, 3752, 4083
Chen, Yucheng 4499
Chen, Yufen.... 106, 2350, 3170
Chen, Yu-Hao..... 568
Chen, YuJen 1870
Chen, Yu-Jen 2130
Chen, Yunmei..... 2638
Chen, Yunyun..... 3948
Chen, Zhang 3610
Chen, Zhaolin 2385
Chen, Zhensen 1350
Chen, Zhihang 239, 442
Chen, Zhiye 3291
Chen, Zhiyu..... 534
Chen, Zhong .. 260, 1513, 2035, 3735, 3833, 4013, 4042, 4288, 4289
Chen, Zhongwei 3323
Chen, Zunqiu..... 504
Chenevert, Thomas L. 3202, 3217
Chenevey, John..... 4069, 4072
Cheng, Bochao 734, 3600
Cheng, Cheng-Chieh 4216, 4290
Cheng, Chia-Hsien 3424
Cheng, Chou-Ming..... 1232
Cheng, Hai-Ling Margaret. 203, 1855, 1880, 4291
Cheng, Hu..... 3208, 3249
Cheng, Hua..... 3568
Cheng, Jian 2117
Cheng, Joe S. 32, 298, 302, 3233, 3235, 3268, 3270, 3271, 3273, 3312
Cheng, John Y.S. 3227
Cheng, Joseph Y. 189, 312, 2577
Cheng, Ju-Chieh 4566
Cheng, Leo L. . 218, 1786, 1787
Cheng, Ning 1035
Cheng, Tian 1936
Cheng, Weiran..... 1880
Cheng, Xi 3351
Cheng, Ya-Jian 3077
Cheng, Yen-Hsiang 2256
Cheng, Yen-Wei..... 2085
Cheng, Yu-Chung N..... 2483
Cheong, Benjamin 1357
Cheong, Benjamin Y. 1371
Cheong, Chaejoon ..... …965, 4039, 4043
Cheong, Dennis Lai H 2210, 3063
Cheong, Jeannie L.Y. 905
Chereul, Emmanuel..... 1650
Chern, I-Liang 4247
Cherneva, Mariya 1003
Cherrington, Alan D. 1618
Cheshkov, Sergey..... …2727, 2728, 2753, 3370, 4407
Chesler, Naomi C. 1356
Chesneau, Nicolas 3812
Cheung, Jerry S. 4236
Cheung, Matthew M. 3233
Chew, Andrew..... 924
Chew, Effie..... 210
Chi, Linda..... 3854
Chi, Tzehping L..... 2505
Chia, Jonathan M..... 403, 922, 1641, 1644, 3799, 4444
Chiang, Chia-Wen 492, 1039
Chiang, Chih-Ming..... 3060
Chiang, Cing-Sui 1168
Chiavazza, Enrico..... 1919
Chiew, Mark..... 3274, 3792
Childress, Anna Rose 1181, 2259
Childs, Benjamin T..... 1647
Childs, C..... 1054, 2015
Chin, Cynthia 982
Chin, Shy-Chyi..... 1215, 1754
Chinnery, Patrick F..... 1385
Chinot, Olivier..... 964
Chiò, Adriano 1173
Chiodi, Elisabetta ... 1440, 4485
Chiou, Jr-Yuan 2063, 3178
Chirico, Erica 1344
Chirinos, Julio 1405
Chishti, Muhammad H 2835
Chitambar, Christopher R. 1725
Chiu, Yen-Yu 1168
Chiueh, Tzi-Dar..... 1124, 3717
Chmelík, Marek..... 217, 1737, 1969, 2022, 3970, 4028, 4090, 4508
Cho, Eun-Suk 3440
Cho, Gene..... 690, 2076
Cho, Gene Young.. 3373, 4424, 4428
Cho, Hsiao Mei 2768
Cho, Kua-Hung 3424
Cho, Minjung 3865
Cho, Yong Won 3656
Cho, Youngki 2803
Cho, Zang-Hee 2153, 2725, 2726, 2773, 4351
Chodosh, Lewis A. 3428
Choe, Ann S. 2261, 3078
Choe, Bo-Young 1946, 1979
Choe, Myong-Sun 799
Choi, Byung Ihn 4055
Choi, Byung-Ihn..... 3452
Choi, Changho. 214, 509, 1017, 1997, 2005, 2030, 3646
Choi, David 1126
Choi, Eugene K. 3435
Choi, Hoon 1726
Choi, Hye Jin..... 225
Choi, Hyun Seok 1138
Choi, In-Young 3967, 3981
Choi, Ja-Young 145, 3468, 3469, 3502, 3540
Choi, Jeunghwan 3418
Choi, Jinyoung 2803
Choi, Joonsung..... 2629
Choi, Ki Sueng..... 1183
Choi, Ko-Eun 2919
Choi, Narae ... 231, 4173, 4179, 4180, 4183, 4266
Choi, Seongjin..... 2098, 2100, 2431
Choi, Seung Hong 3410
Choi, Soyoung..... 1951, 2691
Choi, Sunseob 3517
Choli, Morwan 4283
Chonde, Daniel B. 770
Chong, Daniel 1778
Chong, Daniel Guo Quae . 3209
Chong, J. 2332
Chong, Shin-Tai 3692
Choong, Xun 1126
Chopp, Michael 3297, 3649, 3681, 3682
Chou, Cheng-Hung..... 1858
Chou, Joanne..... 3562
Chou, Ming-Chung 2056, 2085, 2086, 3207
Chou, Peter Cheng-Te 82
Chou, Ying-Hui..... 3287, 3320
Choudhury, Lubna..... 1349
Choudhury, Samiul Hayder 526
Chouhan, Manil..... 1509, 2190, 3117
Choukroun, Gabriel..... 1574
Choupan, Jeiran..... 2048, 2049, 3304
Chow, Kelvin 1377
Chowdhury, Golam M.I. ... 862, 3986
Chowdhury, Muhammad . 2763
Chowdhury, Sayan M..... 3890
Choyke, Peter L..... 1782
Christen, Thomas .. …415, 451, 588, 2222, 2236, 2239, 2266, 2902, 3121, 3122, 3123, 3357
Christensen, Dale J..... 3067
Christiani, David C..... 218
Christodoulou, Anthony . 1408, 2455
Chronik, Blaine A. 11, 560, 2822, 4343
Chrysochou, Constantina . 1547
Chu, Alan 3317
Chu, Constance R..... 639, 1651
Chu, Jonathan..... 1029
Chu, Mei-Lan..... 3287, 3753
Chu, Renxin ... 478, 2063, 4300
Chu, Wen-Jang.. …3589, 3591, 4001
Chu, Ying-Hua …41, 532, 668, 3817, 4247
Chu, Yiu-Ching..... 4148
Chu, Zhengtao..... 242
Chuang, Kai-Hsiang .. 210, 332, 2220, 2306, 2917, 3689
Chuang, Tzu-Chao 1365, 2353, 2671
Chuanxi, Hao 1203
Chueh, Juyu..... 3880
Chugani, Anup Nirmal 1976, 1980
Chugani, Carla D..... 3581
Chugani, Diane C.. 2971, 3581
Chugani, Harry T. . 2971, 2973, 3581
Chughtai, Kamila 811
Chui, Stephen..... 3380
Chui, Stephen Y.-C. 504
Chun, Il Yong..... 2608, 2655, 2656, 3661
Chung, Benjamin..... 3405
Chung, Christine 142, 145, 437, 763, 3457, 3458, 3464, 3468
Chung, Christine B.1611, 3469, 3470
Chung, Gyung-Ho..... 3560
Chung, Hans..... 91
Chung, Hsiao-Wen..... …1232, 1365, 1672, 2085, 2467, 2924, 3000, 4216
Chung, Sohae 4079
Chung, Yiu-Cho 229, 245, 2354, 2510, 4292, 4499, 4537

Chung, Yongmann..... 1458
Chung, Yuen-Li..... 1926, 3919
Church, Joseph A..... 2859
Chuzel, Thomas..... 1650
Chwang, Wilson B..... 3058
Ciampi, Elisabetta... 1958, 4054
Ciapaite, Jolita..... 117
Ciccarelli, Olga.. ….1111, 1126, 2095, 2393, 3126
Ciccia, Angela 1169
Cinti, Francesca 4051
Ciobanu, Luisa... 416, 444, 490, 1263, 2905, 3083, 3103, 3181
Ciris, Pelin Aksit 3234
Ciritsis, Alexander 680, 1588
Claassen, Dan 207
Clark, Christopher A.. 212, 979, 1747, 2065, 2132, 2139, 2140, 2170
Clark, David 1409
Clark, John..... 2410
Clarke, David..... 2275, 2293
Clarke, Geoffrey 1972, 2001
Clarke, Kieran 3943
Clarke, Sharon 3405
Clarke, William T. 578, 2027
Claud, Erika..... 678
Claussen, Claus D..... 1230
Clayden, Jonathan D.. 212, 900, 979, 2065, 2132, 2139, 2140
Clayton, David... ….2211, 2247, 3299
Clemence, Matthew .. 644, 1475
Clément, Olivier 1574
Clément-Schatlo, Virginie 1063, 1703, 1974
Clemmons, Paul..... 207
Clemons, Mark 1667
Cleppien, Dirk Ernst..... 943
Cleve, Marianne 1952
Cleveland, Zackary I.. 815, 818, 1452, 1454
Clevenger, Tony 3441
Clifford, Gari D. 4321
Cloonan, Lisa..... 2938
Cloos, Martijn A.... ….286, 292, 2737, 2749, 2754, 4175, 4257, 4258, 4363, 4409
Clouchoux, Cedric 794
Cloughesy, Timothy F. 513, 808, 3631
Cloyd, James 1939
Cluitmans, Pierre J..... 1187
Clymer, Bradley Dean 2100, 2431, 2432, 3726
Coate, Katie C. 1618
Cocchi, Luca..... 3304
Cochran, Elizabeth 977
Cocosco, Chris A..... 16, 289, 1304, 2663, 3827
Coenegrachts, Kenneth..... 2206
Coenen, Volker A..... 3193
Cofer, Gary..... 709, 3157
Cofield, Stacy S..... 48, 1083
Coggan, Andrew..... 361
Cohen, Alexander D.. 446, 957, 959, 977, 1534, 2203, 4167
Cohen, Allan M. 1444
Cohen, Batya 439, 1853
Cohen, Bruce..... 219
Cohen, Caroline..... 89
Cohen, Ouri 3975
Cohen, Yoram ... ….2068, 3136, 3137
Cohen-Adad, Julien . 353, 1086, 1119, 1210, 2077, 2125, 3608
Coimbra, Alexandre 2211, 2247, 3299, 3358
Cointepas, Yann 3155
Cokic, Ivan 254
Colak, Errol 1529
Colditz, Paul 798
Cole, Brian J. 3529
Coleman, Paul 1012
Coles, Lisa..... 1939
Colgan, Niall 3679
Coll, Jean-Luc 4102
Collier, Guilhem Jean..... 1348, 1458, 1459
Colliez, Florence ... 1139, 1700, 1750
Collinge, John..... 386, 3011
Collins, Barbara..... 989
Collins, Christopher..... 2519, 4377, 4428
Collins, Christopher Michael 389, 2797, 2802, 2805, 2806, 2824, 4175, 4189, 4374, 4378, 4379, 4381, 4419, 4424, 4425, 4433
Collins, D. Louis 47, 1119
Collins, David John ... 508, 592, 720, 1488, 1495, 1761, 2201, 2205, 2217, 3114, 3434, 3448, 4149, 4150, 4153, 4155, 4158
Collins, Douglas 2917
Collins, E. Catherine 3679
Collins, Heather..... 2096
Collins, Jeremy D.. 1285, 1333, 1349, 4448, 4489
Collura, Lynn 2917
Colombo, Bruno 44
Colon, Albert..... 458
Colonna, Emily..... 863
Colon-Perez, Luis..... 3189
Colvin, Daniel 3288
Colvin, Vicki L..... 3865
Coman, Daniel. 118, 228, 1901, 3411, 3884, 3885, 3898, 4218
Comaniciu, Dorin..... 4498
Combes, Anna..... 1093
Comi, Giancarlo 42, 44, 803, 1173, 1179, 3553, 3611
Comment, Arnaud 20, 120, 1703, 1936
Comunale, Joseph..... 692
Conant, Emily F. 194, 1732
Condon, Barrie 1133
Condon, Laura..... 931
Confort-Gouny, Sylviane ... 455
Conlin, Christopher C. 1551, 4144
Conn, Jeff..... 2324
Connelley, Jennifer.... 957, 977, 2203
Connelly, Alan .. 772, 787, 797, 841, 905, 2135, 2173, 2258
Connelly, Jennifer 512
Connelly, Kim A. ... 1418, 4517
Connor, Ellen Lacon 402
Connor, James R. 1882
Connors, John..... 207
Conolly, Steven M.... 140, 1857
Consolino, Lorena 1692
Constable, Robert Todd. 12, 13, 454, 2268, 2384, 2388, 2611, 2713, 2906, 3234, 3712
Constantinescu, Cris..... 2344
Constantinides, Christakis 3157, 4449
Constantinou, Caterina 3518, 4048
Contamin, Hugues..... 1650
Contijoch, Francisco..... 1405, 1438, 4550
Contrella, Benjamin 4120
Conus, Philippe 2134
Convit, Antonio..... 208, 358
Conze, Joachim 680, 1588
Conzen, Suzanne..... 1702
Cook, Gemma R..... 4364
Cook, Judy 1871, 4314
Cook, Martin 1988
Cook, Philip A..... 1011
Cook, Tessa Sundaram..... 4550
Cooke, John..... 235
Coolen, Bram F. 880
Cooley, Clarissa Z..... 137
Cooper, Alissa 219
Cooper, Dana..... 2894
Cooper, Mitchell A... 262, 2591
Cooper, Mitchell Anthony 2474
Cooper, Nancy 4091
Cooper, Nancy A..... 3439
Cootes, Tim F..... 2693
Copetti, Massimiliano 1121
Coppo, Simone..... 1315, 1417
Coppola, Tiziana T... 933, 1071
Coquery, Nicolas….. 81, 1047, 1753
Corby, Patricia 180
Corcos, Amanda R. 2471
Cordes, Dietmar 1610
Corea, Joseph R..... 133
Coristine, Andrew J..... 1311
Cormack, Robert A. 1847
Cormode, David P..... 1892
Corn, Benjamin W. 978
Cornejo, Daniela 1567
Cornfeld, Daniel..... 593
Corona-Villalobos, Celia Pamela..... 280, 1537, 1538
Corot, Claire..... 746, 1868
Corrales, Rene..... 1908
Corrigan, Neva M..... 3158
Cortes, Daniel H..... 148
Corteville, Dominique..... 2360, 3119
Corum, Curtis Andrew 17, 465, 1684, 2382, 3369, 3446
Cosottini, Mirco 2508
Costa, Marcia 1827
Costagli, Mauro..... 2508, 4385
Costanzi-Porrino, S. 2857
Costello, Fiona 526, 2351
Costigan, Carolyn …276, 4053, 4054, 4094, 4130
Cotofana, Sebastian..... 1659
Couch, Marcus J..... 1483
Coughlin, Jennifer M. 3596
Couls, Vincent Le..... 1131
Coulthard, Elizabeth..... 3663
Counsell, Serena J. …176, 797, 884, 888, 899, 924, 2108
Coutts, Glyn 1409
Coutu, Jean-Philippe 2912
Cowan, Brett R..... 1431
Cowen, Phil..... 3991
Cowin, Gary..... 3393
Cox, David J..... 4456, 4487
Cox, Eleanor F. ..... ….22, 276, 4053, 4054, 4094
Cox, Kay 620
Cox, Nancy .. 1075, 1076, 1077
Cox, Robert W. 3285
Coxson, Harvey..... 1460
Cozzone, Patrick J.…... 27, 317, 323, 349, 407, 455, 1112, 2506,

2535
Crain, Barbara 264
Crainiceanu, Ciprian M. ... 3257
Cramer, Avilash..... 826
Crane, David E. ... …715, 2936, 3068, 3069, 3070, 3250
Craveiro, Mélanie 1974
Crelier, Gerard..... 1347
Cremers, Daniel..... 2053
Crémillieux, Yannick..... 643, 3901, 4099, 4102
Crescenzi, Rachelle 1006, 1007
Cretti, Fabiola..... 2279
Crezee, J. 4178, 4185
Crnalic, Sead 3486
Croal, Paula L..... 3251, 3253
Croft, Laura R..... 140, 1857
Croisille, Pierre..... 482, 575
Croitor-Sava, Anca R. 3989
Crompton, Jeff..... 2836
Cron, Greg O. ... ….1522, 2200, 3363, 3487, 3501
Cronin, Matthew..... 2487, 2491
Crooijmans, Hendrikus Joseph Alphons 2450
Crosbie-Staunton, Kieran . 1856
Cross, Anne H. .. 342, 417, 492, 776, 1039, 3622, 3624
Crow, Desiree..... 1860
Crowe, Lindsey A... 2698, 3905
Crozier, Stuart 727, 1612, 2601, 2780, 3533, 3701, 3815, 3819, 4345, 4347, 4418, 4421
Crum, William R. 1043
Crystal, Eugene..... 4313, 4518
Crystal, Ronald..... 1021
Cuadra, Anai..... 2860
Cuadra, Meritxell Bach..... 898, 948
Cubitt, Christopher L..... 1756
Cudalbu, Cristina…. 111, 1703, 1974, 1975, 3993
Cudkowicz, Merit 353, 1018
Cui, Cailian..... 2340
Cui, Chen..... 2411
Cui, Jiaming..... 2727, 2728
Cui, Weina..... 863
Cui, Xiaohong 4042, 4289
Cullum, Munro 619
Culver, Joseph 330
Cumar, Sindhu..... 1528
Cummings, Craig..... 448, 1749
Cummings, Diana..... 3862
Cunha, Adam..... 3915
Cunha, Guilherme M. 1516
Cunningham, Charles H. ... 660, 1418, 3908, 3928, 4319, 4332, 4354, 4511
Cunningham, Vincent..... 3913
Curci, John 3527
Curiel, Laura..... 1828
Curnier, Daniel..... 3528
Curry, Kenneth..... 153
Curtis, Andrew T..... …2231, 3349, 3987
Cusick, Matthew..... 3112
Cutrin, Juan Carlos 1876
Cutter, Gary R. 48, 1083
Cuttica, Michael J..... 1333
Cutting, Laurie E. 2120
Cyarto, Elizabeth 620
Cygan, Szymon 1393
Czarnota, Gregory J..... 203
Czerny, Christian..... 1678
Czisch, Michael..... 2092, 3328
Czum, Julianna..... 3801

D

D'Almeida, Vera 3583
da Silveira, Juliana S 4440
Daar, Dagane..... 1782
Dabaghyan, Mikayel 1499, 1500, 2762
Dabek, Juhani..... 3743
Dada, Michael Oluwaseun 3877
Dadakova, Tetiana..... 1797
Daducci, Alessandro..... 2934
Daemen, M.J.A.P. 589, 4543
Dafni, Hagit..... 1897
Daga, Pankaj..... 1095
Dager, Stephen R..... 3158
Dahan, Albert 3045
Dai, Guangping ..... …481, 642, 882, 1065
Dai, Rui 2331
Dai, Weiying 2147, 2192, 2235
Dai, Yongming..... 1571
Dai, Zhuozhi..... 2357
Daido, Sayaka..... 1578, 1579
Daire, Jean-Luc 4087
Dakpe, Stephanie..... 1214
Dal-Bianco, Assunta. 163, 1088
Dale, Anders M. …3088, 3244, 3391
Dale, Brian M. ... 283, 401, 743, 1755, 3375, 4088
Dalrymple-Alford, John .. 1090
Daly, Mark J..... 218
Damasio, Hanna 180, 920, 1951
Damen, Frederick C. 2980
Damen, Frederick William 780, 939
Damiano, Diane L. 177
Damjanovic, Dusan 3607
Damji, Al-Karim A..... 2723
Damon, Bruce M.... 1647, 3508, 3510, 3511
Damon, Stephen M..... 2324
Damughatla, Aniurdh 2433
Dan, Wu 4268
Dan, Xu 3777
Dan, Yock Young..... 2220
D'Anastasi, Melvin 2082
Daneshmand, Mojgan..... 2720, 4350
Dang, Jingxia..... 1015
Dang, Yi..... 2155, 2156
D'Angelica, Michael..... 1514, 1515
D'Angelo, Egidio Ugo 3163, 3574
Daniel, Adler..... 1046
Daniel, Bruce..... 3405, 3794
Daniel, Bruce L. 2597
Daniel, Luca . 2722, 2804, 2831
Daniels, Barret R. 923, 2760
Daniels, Mike 1633
Danish, Shabbar 1248, 1809
Danishad, K.A. 3755
Dannels, Wayne R. 551
Dannlowski, Udo..... 1165
Daoust, Alexia..... 343, 1267
D'Arceuil, Helen Erica 1237, 3358
D'Arco, Felice 3654
d'Arcy, James A. 720, 2201, 2217, 3434
D'Arcy, Ryan..... 2275, 2293
Darge, Kassa 4145
Dariotis, Jacinda K. 715
Darji, Niravkumar 4403
Darkner, Sune..... 3026
Darrasse, Luc. 135, 2426, 2434, 2796, 3841, 3869, 3872, 4117
Daryaei, Iman..... 1910
Das, Rupam Kumar 2837
Das, S. N. 3430
Das, Sandhitsu..... 617
Dasenbrook, Elliott C. 4105
Dash, Prasanta K. 1055
Dash, Rajesh..... 235
Dash, Ranjan 1965
Dashdorj, Nara 1167
Dashdorj, Naranjargal 3309
D'Assignies, Gaspard 4075, 4078
Dastru, Walter 1692, 1876
Date, Shuji..... 3479
Datta, Sushmita 48, 1083, 3621
Daun, Mitchell. 957, 971, 2203, 3635
Dautry, Raphaël..... 626
Davatzikos, Christos..... 2978, 3018
Davenport, David 1995
Davenport, Matthew S..... 1755
David, Anthony..... 2126
Davies, Andrew..... 3126
Davies, Faith E. 499, 3448, 4150
Davies, Gareth R. 4341
Davies, John 818, 1451
Davies, Nathan 1509, 2190, 3117
Davies, Nigel Paul. …533, 970, 980, 2009, 4036
Davis, Andrew D.... 1640, 1648
Davis, Christa..... 502
Davis, Denise K. 4358
Davis, Michael D. 2263
Davis, Nicole..... 2120
Davoodi-Bojd, Esmaeil 3649
Davulcu, Inci..... 4523
Daw, Stephen 4146
Dawe, Robert 2879, 4427
Dawson, Dana 1359, 1369
Day, Chris P. 1383
Dayan, Michael 1000, 1014, 1099
Dayao, Zoneddy Ruiz..... 3378
Daye, Dania..... 3428
Dazai, Jun..... 945
de Beer, Ron..... 2032
de Bever, Joshua 4287, 4298
De Bondt, Timo..... 1243, 3095
de Bono, Johann S..... 499, 508, 592
de Bruin, Paul W. 115
de Celis Alonso, Benito... 2328, 3307
De Cocker, Laurens J. 1271
de Crespigny, Alex…1237, 2211, 2247, 3299
de Galan, Bastiaan E. de..... 222
de Graaf, Larry..... 1360
de Graaf, Robin A. .. …97, 599, 667, 862, 1706, 2008, 2387, 3986, 4022
de Greef, Martijn. …230, 1814, 1815, 4309, 4311
de Groot, Huub J. 2881
de Guzman, A. Elizabeth... 271, 1070
de Heer, Paul..... 1589
de Kaa, Christina Hulsbergen-Van..... 99
de la Fuente-Sandoval, Camilo 3593, 3597
De La Garza, Bryan H..... 344, 2181
De La Garza, H. Bryan….2308,

2309, 2310
de la Rosa Guzmán, Heidi 3307
De Lange, Eduard E. 822, 1465, 1473, 4114, 4115, 4116, 4120
De Langhe, Ellen 1721
de Leeuw, Hendrik . 1849, 4322
De Lima, Washington 4349
de Louw, Anton 1166, 2288
De Marchi, Daniele 4490
De Martino, Federico 295
de Muinck, Ebo 2416
de Oliveira, Marcus F 1873
De Pasquale, Francesco 3240
de Ribaupierre, Sandrine .. 2689
De Rochefort, Ludovic 170, 2796, 3841, 3845, 3869
De Rotte, A.A.J. 966
De Santis, Silvia 843, 2055
de Senneville, Baudouin .. 1807, 1810, 1830, 4325
de Silva, Ranil 479, 4502, 4504
de Sousa, Manuela T. 4127
de Sousa, Paulo Loureiro 170
De Souza, Nandita M. 508, 1761, 3434
De Souza, Patricia C. 1874
De Stefano, Nicola 1109
De Ven, Vincent Van 2287
de Villa, Flordeliza 2917
de Ville, Dimitri Van 2246, 2290, 2666
De Vis, Jill Britt 172, 2146, 2967, 3001
De Vita, Enrico 386, 3011, 4333
De Vos, Soren 3519
de Vries, Jolanda 3674, 4202
de Vries, Linda S. 172
De Zanche, Nicola . 2720, 2723, 4350
de Zubicaray, Greig 2119
De Zwart, Jacco A. 459, 708, 754, 2248
Dean, Dana D. 933, 1071
Dean, III, Douglas C.. 801, 911, 2955
Deane, Leslie 1783
Deardorff, Rachael L. 993
Dearnaley, David 100
Deasy, Joseph O. 507, 1209
Debacker, Clément S. 81, 2176, 2492
Debasi, Bader Al 753
Debbins, Josef P. 2933
Debeir, Thomas 89
DeBerardinis, Ralph 509, 2030, 3646
Debernard, Laetitia 1090
Deblois, Jacob 1622
DeBrosse, Catherine 420, 1007, 2543, 2554
Decelle, Emily 218, 1786, 1787
Dechent, Jan Falk ... 1927, 1937
Dechent, Peter 1080
Deckers, Roel 230, 1815, 1829, 1830
Deelchand, Dinesh K. 1961, 3962
DeFranco, Anthony 373
DeFronzo, Ralph 1247
Degani, Hadassa 198, 2101, 4061
Degnan, Andrew J. 1954
Dehaes, Mathieu 2687, 2969
Deichmann, Ralf 1105, 2513
Deissler, Robert J. 3875
Deistung, Andreas ….460, 695, 1003, 1952, 2371, 2472, 2488, 2495, 2499, 3856, 4190
Dekaban, Gregory A. 1694
Del Grande, Filippo 2735
del Pozo, Francisco 3035
Del Rio, Alejandro M 282, 1398, 1501
del Rosario Lopez Gonzalez, Maria 1133
DelaBarre, Lance. 71, 131, 726, 731, 2746, 4405
Delaney, Gary W. 2216
Delattre, Benedicte M.A. 482, 575
Delaveau, Pauline 737
DelBello, Melissa P. 3589, 3591, 4001
DeLeo, Michael J., III 194
Delgado-Hernandez, Rosa 3492
Deligianni, Xeni 688, 1605, 2473, 3465, 3466, 3532, 4140, 4142, 4553
Delikatny, Edward J. 1723, 1878, 2517, 3421, 3983
Dell, Katherine MacRae ... 1556
Dell'Acqua, Flavio 704, 2090
Dellani, Paulo 1092
Dell'Italia, Louis J. 488, 4500, 4503
Delmas, Antoine 1378
Deloulme, Jean-Chritophe .. 343
Delso, Gaspar 3720, 4157
Delzescaux, Thierry 89
DeMarco, J. Kevin. 1301, 3557, 4535
DeMartino, Federico 2734
DeMello, Linda 3737, 4108
Demir, Taner 15
Demonti, Amala 4348
den Adel, Brigit 237, 883
den Brok, Martijn 1832
den Harder, Chiel 3486
den Harder, Chiel J. 2562
Deng, Fang-ming 94
Deng, Jie 3647
Deng, Lingli 1513
Deng, Min 4092
Deng, Qunli 14
Deng, Weiran 75, 3772
Deng, Xiang-Hua 1606
Denison, Fiona 2959
Deniz, Cem Murat 76, 389, 4175, 4381, 4389, 4424, 4428
Deniz, CemMurat 4388
Denney, Thomas S, Jr. 488, 1075, 1076, 1077, 1216, 2787, 4500, 4186, 4503
d'Entremont, Agnes G. 1661
Denvir, Martin A. 1387
Denysenkov, Vasyl 3953
Deoni, Sean C. L. 636, 801, 843, 911, 1655, 2955, 3583, 3604
Depew, Thomas A.. 3732, 3823
Deppe, Martin 1470
Deprez, Sabine 3654
der Grond, Jeroen 458
der Sanden, Boudewijn van .. 83
Derakhshan, Mishkin 47
Deray, Gilbert 1574
Dermek, Tomáš 2795
Desai, Arati 3632
Desai, Jaydev 4327
Desai, Shivani 782
Desai, Tina 878
Desai, Virendra 2921
DeSalvo, Matthew 785
Desco, Manuel 882
Descoteaux, Maxime 775, 2121, 2137
Deshpande, Gopikrishna 36, 37, 520, 1010, 3225, 3247, 3256, 3261, 3283, 3301, 3558, 3578
Deshpande, Hrishikesh 520
Deshpande, Ruta 4130
Deshpande, Smita N. 3559
Deshpande, Vibhas 244, 584, 2677
Desjardins-Crépeau, Laurence 2871, 2872
Desmet, Celine M. 2525
Desmond, John 715
Desmond, Patricia M.. 620, 621
deSouza, Nandita M. . 100, 594, 1495, 1729, 1776, 1994, 2730, 3114, 3395, 3397, 3448, 3874, 4150, 4153, 4155, 4158
Detante, Olivier 209
Detert, Markus 1836
Detlef, Anne- Mieke 1372
Detre, John A…. 40, 617, 1192, 1353, 2153, 2162, 2259, 2554, 2978, 3033
Dettmann, Eike 3530
Deutsch, Motti 3895
Deutschman, Clifford 823, 1467
Devashayam, Nallathamby 2524
Devauchelle, Bernard 1214
deVeber, Gabrielle 3571
Deville, Jaime 2859
DeVito, Timothy 3988
Devor, Anna 3244
DeVos, Soren 689, 1633
Dewal, Rahul 3773
Dewdney, Andrew 16, 2379, 2611, 2713
DeZanche, Nicola 2451
Dharmadhikari, Shalmali . 4046
Dharmakumar, Rohan 254, 1314, 1320, 1401, 1419, 1439, 4151
Dharssi, Shazia 2991
Dheel, Christina 1018
Dhenain, Marc 89
Dhollander, Thijs 774, 1242
Diakite, Mahamadou 1802, 1811, 1812, 4287
Diamant, Michaela 2179
Diao, Yanjun 2274
Diaz, Allan 3661
Díaz-López, Raquel 4009
Dibb, Russell 23, 709
DiBella, Edward V.R. 187, 318, 319, 956, 2607, 2617, 2622, 2634, 3800, 4484, 4575
DiCamillo, Paul A... 471, 1611, 3473, 3496
Dick, James 4238
Dick, Rachel 1189, 1193
Didic, Mira 2873, 2913
Diederich, Chris J. 227
Dieleman, Nikki 172, 1271
Dieringer, Babette 616
Dieringer, Matthias A 580, 928, 1370, 1412, 4512
Dierks, Thomas 2267, 3046, 3168, 3246, 3308
Dieterich, Douglas 4082
Dietrich, Benjamin 78, 293,

466, 529, 552, 553, 669, 671, 761, 1410, 2569, 2715, 2716, 3332
Dietrich, Olaf. 591, 2082, 2452, 2482, 3105, 4522
Dietzel, Douglas 3557
DiFrancesco, Mark William 908
Dighe, Manjiri 3351
Digilio, Giuseppe 3892
Dijkhuizen, Rick M. 700
Dikaios, Nikolaos 93, 2080
Dikranian, Krikor 835
Dillenberger, Sonja 3927
Dillon, Alexander B. 430
Dillon, Christopher ... 226, 1824
Dimitrov, Ivan E. ...715, 1125, 1624, 2412, 2532, 2727, 2728, 2753, 3049, 3370, 4197, 4407
Dimov, Alexey 2566
Dincer, Alp 3029
Dineen, Robert 931
Ding, Bei 2876
Ding, Guangliang 3649, 3681, 3682
Ding, Haiyan 72, 255, 259, 2457, 4519
Ding, Jiule 1571
Ding, Kai 1487
Ding, Lei 2241
Ding, Weina 1201
Ding, Yao 1794
Ding, Yu 66, 1336, 1402, 2836, 3734, 3813, 3816, 3826
Ding, Zhaohua 2269
Dinkel, Julien 1481
Dinse, Juliane 267, 270
Dion, Laurie Anne 1246
DiPrimio, Gina 3501
DiPrimio, Matthew R. 2776
Dirks, Holly 801, 911, 2955
Diserens, Gaëlle 4021
Distelmaier, Martina 680
Dittman, Isabel 218
Diwadkar, Vaibhav A. 1193
Diwakar, Mithun 2244
Diwanji, Tejan 1744
Diwoky, Clemens 765, 2420, 2636
Dixit, Sanjay 976
Dixon, Aisling L. 2301
Dixon, Jennifer 931
Dixon, Katherine 277
Djamali, Arjang 1567, 3918
Djamshidi, Karim ... 3372, 4410
Djemai, Boucif 416, 2905, 3103
D'Lima, Darryl D. 142, 145, 3468, 3469
Do, Hung Phi 4525
Do, Kim Q. 2134
Do, Kinh Gian 1514, 1515
Do, Loi 4524
Do, Minh Hoang 3389
Do, Richard Kinh Gian 3438
Doblas, Sabrina 3423, 4075, 4087
Dobre, Mircea C. 1146
Dobrota, Dusan 2893
Dodd, Stephen . 294, 758, 1561, 1902
Doel, Tom 2426
Doerschuk, Peter 697
Does, Mark D. 1056, 1595, 1603, 2399, 2461, 3508, 4229, 4241
Doevendans, Pieter A.F.M 1376
Doganay, Ozkan 1479
Dohata, Masayoshi 2750
Doig, David A. 2987
Dokumaci, Ayse Sila 4031
Dolganiuc, Angela 4066
Doll, David 2769
Domchek, Susan M. 194
Dominguez, Sara 1037
Dominguez-Viqueira, William 4319, 4332, 4354
Dominkus, Martin 1678
Donahue, Manus J. 206, 207, 427, 844, 3048, 3265, 3286, 3325, 3341, 4234
Donahue, Paula 3048
Donahue, Stephanie 4138
Donaldson, D. 3272
Donaldson, Jeffrey 783
Donati, Guillaume 4356
Doneva, Mariya . 546, 609, 955, 3714, 4233, 4237, 4278
Dong, Bin 3797, 3829
Dong, Hattie Z. 4470
Dong, Jian 1549, 1550, 4143
Dong, Jiyang 1513, 3735
Dong, Li 1297
Dong, Xuebin 1279
Dong, Zhengchao ... 3004, 3722
Donnerhack, Claudia 1508, 1533, 4082
Doong, Ruey-An 1889
Doorenweerd, Nathalie 2960
Doraiswamy, Murali 2870
Dorey, Frederick 3406
Dörr, Jan 1085
Dortch, Richard D 199, 352, 2539, 3508, 3510, 3511, 3605, 4223
Dosdall, Derek J. ... 1395, 4510, 4515, 4569
Doshi, Hardik 2897
Dougherty, Darin D. 760
Dougherty, Lawrence 2660
Dougherty, Margaret 3358
Dougherty, Urszula 154
Douglas, Naomi H. M. 3114, 4155, 4158
Douw, Linda 785, 3305
Dovolilova, Eva 4058
Dowdy, Alice 1302
Dowell, Nicholas G. 1251, 2864, 4284
Dowling, Claire 612
Downey, K. 594
Downs, Levi S. 406
Doyle, Eamon 4206
Doyle, Lex W. 905, 2972
Doyle, Scarlett 3557
Draenkow, Christopher 651
Draganski, Bogdan 3017
Drage, Nicholas 778, 3148
Dragneva, Galina 355
Dragonu, Iulius 2718
Dragun, Duska 28
Drake, Christopher L. 3297
Drake, James M. 4291, 4337
Drakesmith, Mark 2126
Drangova, Maria 2409, 3842
Drees, Randi 1398, 4101
Dregely, Isabel 824, 829
Dreha-Kulaczewski, Steffi 1080
Dresselaers, Tom …1496, 1505, 1721, 3690, 3694
Drevets, Wayne C. 1160, 1161, 3024
Driehuys, Bastiaan 815, 818, 1451, 1452, 1454, 1476
Driessen, Juliette 3666
Drießle, Toni 371
Drinkwine, Benjamin 2894
Drivas, Peter ..... …4439, 4457, 4505, 4557
Driver, Ian D. . 301, 3251, 3253
Drottar, Marie 799, 2969
Drulovic, Jelena 3607
Drumm, Mitchell L. 4105
Drzymala, RE 84
Drzymala, Robert E. 1720
D'Sa, Heathcliffe 1669
D'Sa, Shirley 3447
D'Souza, Dany 331
D'Souza, Warren D. 1744
Du, Fang .. 337, 340, 944, 1972, 2323, 2922
Du, Fei 219, 741
Du, Hongyan 2862, 2863, 3612, 4135
Du, Huarui 984, 1796, 3407
Du, Jiang …142, 145, 437, 763, 3457, 3458, 3464, 3468, 3469, 3470, 3808
Du, Mingying 2895
Du, Minyi 1020
Du, Xinjian 1327, 1341
Du, Yiping P. 1102
Duan, Chaijie 1746
Duan, Qi 372, 754
Duan, Qing 548
Duan, Xiujie 2979
Duan, Yunsuo 4383
Duarte, Audrey 2260
Duarte, Joao M.N. 111, 120
Duarte-Carvajalino, Julio . 2621
Düber, Christoph 4523
Dubinsky, Janet 863
Dubowitz, David J.. 2348, 3310
Dubuisson, Rose-Marie 3869
Duck, Kari A. 1882
Duckett, Simon 1937, 3940
Duckrow, R. Bradley 3994
Duckworth, Josh 2894
Duclap, Delphine 779, 3153, 3154, 3155
Duda, Jeffrey T. 1046, 3044
Dude, Iulia 502
Dudley, Jonathan A. 4001
Duensing, George Randy 2376, 2610, 2637, 3750, 3751, 4533, 4544
Duerk, Jeffrey 18
Duerst, Yolanda 529, 669, 2569
Duff, Eugene P. 3275
Dufort, Sandrine 4102
Duhamel, Guillaume …27, 346, 349, 1112, 2506, 2535
Dula, Adrienne N. … . 199, 983, 2539, 3605
Dulaney, Caleb Robert 1619
Dumas, Eve M. 2960
Dumas, Julie 715
Dumez, Jean-Nicolas 536, 2070, 2397, 2407
Dumont, Erik 1797, 1832
Dumortier, Jerome. …281, 742, 1532
Dumoulin, Charles L. 923, 1847, 2760
Duncan, Ian D. 2068
Duncan, John S. 784
Dunkle, Eugene 1291
Dunn, Jeffrey F. 1050, 1062
Dunn, Joel T. 3939
Dunn, Matthew C. 1044
Dunn, Michael 598
Dunning, Allison 4138
Duong, Timothy O. ... 337, 340, 344, 449, 714, 894, 944, 1220,

1247, 1972, 2001, 2181, 2263, 2307, 2308, 2309, 2310, 2323, 2335, 2336, 2921, 2922
Dupont, Pierre E. 2766
Duprez, Thierry 1139
Durek, Jeffrey 19
Duricki, Denise 1043
Durighel, Giuliana .. 4456, 4487
Düring, Markus 4392
Dürselen, Lutz 1608
Durst, Markus 656, 1919, 1930, 1931, 3921, 3923, 3947
Dutruel, Silvina P. ... 747, 1577, 4465
Dutta, Joyita 2684
Dutta, Prasanta 1760
Düwel, Stephan 656, 1919, 1931, 3921
Duyn, Jeff H. ... 39, 372, 459, 708, 754, 1082, 2242, 2248, 2251, 2833
Dweck, Mark 1317
Dwinell, Melinda R. 2264, 2317
Dwivedi, Durgesh Kumar 98
Dwyer, Michael G. . 1003, 3014
Dydak, Ulrike 387, 2851, 2892, 3441, 4046
Dyke, Jonathan P. .. 1021, 1531, 1598, 1679, 2207
Dykstra, Robin 4342
Dyrby, Tim B. 2071, 2073
Dyverfeldt, Petter 190, 4437
Dyvorne, Hadrien A. 1508, 1533, 2212, 4077, 4082, 4091, 4163, 4169, 4348
Dzemidzic, Mario 4046
Dzyubak, Bogdan 2427

E

Eagle, Jane 1090
Eames, Matt 1827
Earl, Helena 3730
Eastham, James 3394
Eastham-Anderson, Jeffrey. 501
Ebbini, Emad 4405
Eberhardt, Steven 3378
Eberly, Lynn E. ..... …113, 2858, 3369
Ebinger, Martin 586
Ebisu, Toshihiko 3955
Ebner, Franz 840, 2665
Ebus, Saskia 1166
Eccles, Suzanne A. ... 499, 1716
Echternach, Matthias 1229
Eckstein, Felix ... …1659, 2698, 3550
Edan, Gilles 50
Edden, Richard Anthony
Edward ..... …428, 921, 1941, 1942, 1953, 2021, 2041, 2393, 3596, 3972, 4040
Eddleman, Christopher S. ... 629
Edelman, Robert R. . 544, 1285, 1291, 2497, 2863, 3612, 4434
Edelstein, William A. 1845, 2823
Edison, Arthur 4066
Edjlali, Myriam 1136
Edjlali-Goujon, Myriam 626
Edwards, A. David… 176, 797, 884, 888, 899, 924, 4456, 4487
Edwards, David 4401
Edwards, Jonathan C. 786
Edwards, Michael 2751
Eeles, Rosalind 3395, 3397
Egan, Gary F. . 107, 2972, 3843
Eggener, Scott 1772
Eggenschwiler, Florent 77, 4265
Eggers, Holger…..... 310, 1436, 3714, 4278
Eguchi, Yawara 942
Ehammer, Thomas 929, 1217
Ehman, Richard Leroy 149, 278, 279, 645, 1506, 1508, 1596, 1736, 1748, 2422, 2427, 2441, 2446, 2878, 4067, 4077, 4077, 4082
Ehrenshaft, Marilyn I. 566, 1584, 1873, 1874
Ehses, Philipp 249, 414
Ehtiati, Tina 1845
Eich-Höchli, Dominique 740, 1942
Eichhorn, Christina ... 616, 4512
Eichner, Cornelius 53
Eida, Sato 3130
Eidelberg, David 1163
Eijkel, Gert 811
Eisendrath, Stuart ... 3592, 3599
Eisenring, Lukas 2007
Ekholm, Sven 2901, 3573, 3633
Ekka, Meera 4049
Eklund, Anders 2291
el Aidi, Hamza 4244
El Fakhri, Georges 2684
Elabyad, Ibrahim A. 4014
Elad, Michael 2668
El-atifi, Michelle 3414
Elbes, Delphine 1823
Eldehni, Mohamed Tarek 22
Eldeniz, Cihat 4212
Eldor, Roy 1247
Elefteriades, John A. 228
Elias, Saba N. 2531
Eliassen, James C. 4001
Eliav, Uzi 425, 2516
Elkhaled, Adam 510, 960, 3643
El-Koussy, Marwan 1143
Ellegood, Jacob 1041
Ellenor, Christopher W. ... 2840, 4411
Ellermann, Jutta Maria 429, 434, 764, 1658, 3551
Ellingson, Benjamin 513, 3003, 3631
Elliott, Dawn M. 148
Elliott, Mark A. 2024, 2028, 2162
Ellis, Kathryn 620
El-Nahal, Walid 1228
Eloyan, Ani 1175
El-Sharkawy, AbdEl-Monem M. 579, 1845, 2823, 4372
Elst, Luce Vander 746
Eltawell, Hazem 3146
Elton, Amanda 912
Elverfeldt, Dominik v. 1924
Elzibak, Alyaa H. 3506
Emami, Kiarash 821, 823, 1461, 1463, 1466, 1468
Emberton, Mark 93
Emblem, Kyrre E. 3061
Emerich, Philipp 3127
Emery, Derek 1081
Emir, Uzay E. 1961, 2858, 3982
Emmanuel, Anton 677
Emoto, Miho C. 1986, 1987
Emsell, Louise 774, 3654
Emsley, Hedley 1142
Enatsu, Rei 752
Ende, Gabriele 943, 1973, 2321
Endo, Kazuyuki 3172
Eng, John 1537
Engebråten, Olav 804, 4035
Engelbach, John A. 84, 1720
Engelbrecht, Marc 95
Englander, Zoe A. 906, 2970
Englund, Erin K. 1307, 1344, 1354, 2161, 2186, 2554
Engstrom, Bjorn I. 4463
Engstrom, Craig 1612, 3533
Engström, Mathias 1106, 2060, 2579
Ennis, Daniel B. 193, 488, 608, 1403, 3713, 4436, 4486, 4492, 4574
Ennis, Kathleen 1981
Ensor, Joe 277
Entezari, Pegah 1329
Entezaril, Pegah 3821
Enzinger, Christian 999
Epel, Boris 1989
Epperson, C. Neill 1192
Epstein, Adrian A. 1055
Epstein, Frederick H. 324, 1407, 1442, 1865, 4062, 4482, 4501, 4555, 4556, 4570
Epstein, Jeff 3576
Epstein, Leon 2862
Erb, Michael 1171
Erbil, Nurhan 37, 3225, 3247
Ercan, Ece 1996, 2468
Erdmann, Christian 973
Ergun, Arif Sanli 15, 4269
Erickson, Robert P. 1064
Eriksson, Stefanie 2504
Ernemann, Ulrike 1171
Erni, Daniel 2775
Ernst, Christina 4296
Ernst, Matthias 3941
Ernst, Thomas 409, 2580, 2949
Erokwu, Bernadette O. 1556
Erricolo, Danilo 4374
Ersoz, Ali 3215, 3831
Ertl-Wagner, Birgit 2482, 3105
Erturk, M. Arcan 1833, 4372
Eryaman, Yigitcan. …290, 393, 2740, 4412, 4430
Escartin, Carole 112
Eslinger, Paul 3228
Eslinger, Paul J. 517
Esmaeili, Morteza …805, 4016, 4035
Espejel, Manuel Obregon 2328, 3307
Essig, Marco 635
Essock-Burns, Emma 3643
Esteban, Oscar 948
Estes, Annette 3158
Estève, François 713
Estrin, Georgia Lockwood 2108
Estroff, Judy A. 794, 3746
Etezadi-Amoli, Maryam 723
Euwe, Froukje E. 390
Evangelou, Nikos 3602
Evans, C. John 895, 1953, 2041, 3972
Evans, John 2126
Evans, Karleyton C. 3254, 3348
Evans, Leland. 472, 4318, 4335
Evans, Simon L. 2864
Evans, Stephen 563
Everson, Lenore 3369
Everts, Regula 1143
Evertz, Loribeth Q. 2441
Ewart, Haacke Mark. 166, 4133

Ewenczyk, Claire.....1027
Ewing, James R.… 1875, 2209, 3058
Eyal, Erez 198
Eykyn, Thomas R. ..... …1905, 1926, 3919, 3930, 3939
Eyngorn, Irina.....1144
Eytan, Danielle F. 1867
Ezhapilli, Sajeev 4069, 4072

F

Faas, Henryk.....3904
Faber, Cornelius…. .157, 1262, 1404, 1767, 1866
Facciuto, Marcelo 3439
Fadda, Lucia 2887
Fadiga, Luciano 967
Fahrenholtz, Samuel J.....1839, 4301
Fain, Sean B. ... …10, 646, 653, 1422, 1492, 1567, 3918, 3936, 4101
Fair, Merlin.....4439
Fairhurst, David.....563
Falahpour, Maryam 3347
Falangola, Maria F... 993, 2096, 2916, 3084
Falfán-Melgoza, Claudia ... 943, 1973
Falgas, Corey A. 4182
Falini, Andrea 44, 803, 1173, 1179, 2963, 3553
Falkovskiy, Pavel 3703
Fallah-Rad, Mehran 2732
Faller, Kiterie M. 1361
Fallone, B. Gino 2451, 2720, 3966, 4350
Fan, Audrey 1086
Fan, Audrey Peiwen… 168, 3606, 3721, 3968
Fan, Bing 984
Fan, Hai Jian.....3868
Fan, Qiuyun 2120
Fan, Shu-Juan J..... 32, 87, 360, 1255, 1256, 1258, 4506
Fan, Xiaobing ..... …678, 1702, 1758, 3054
Fan, Yang 326
Fan, Yong 946, 1009
Fan, Zhan Ming 1132
Fan, Zhaoyang…541, 876, 1419, 1613, 3527, 4151, 4222, 4469, 4476
Fananapazir, Ghaneh283, 1275, 4088
Fanchon, Louise 2225
Fang, Jing .... …132, 984, 1020, 1297, 1549, 1550, 1560, 1775, 1796, 2194, 2224, 2340, 4063, 4339
Fang, Qianqian 3244
Fang, Raymond 2894
Fang, Sheng.. 2586, 2606, 2612
Fang, Wenxue.....1020
Fang, Zhongnan.....313
Fang, Zhuo 40, 3292
Farag, Adam 1457
Farahani, Sahar J. 2735
Faraji, Farshid..... 2247, 3299
Faranesh, Anthony Z.287, 4316
Farber, Joshua..... 1687, 3486
Faria, Andreia V. 177, 2484, 3013
Faria-Neto, Hugo C. 1873
Farion, Régine 81, 1047
Farjam, Reza.....514
Farley, Jaime 1730, 3384
Farmer, Ashish 3259
Faro, Scott 1116, 2114
Farrar, Christian Thomas... 158, 2926
Farrar-Edwards, Dorothy.. 2990
Farrell, Eliane 3924
Farrell, Peter M.....2456
Farrher, Ezequiel ... 3083, 3124, 3159, 3164, 3199
Farshad-Amacker, Nadja Alexandra 1679
Fasanati, Charles 593
Fasseu, Magali.....4087
Fatemi, Ali.....2940
Fatemi, Seyed Ali 1073
Fauchere, Jean-Claude..... 2977
Faul, David 197, 2810
Faulenbach, Cornelia.....650
Fautz, Hans-Peter .. 4250, 4414, 4420, 4423
Fauvelle, Florence .. 1047, 1267
Favila, Rafael 3593, 3597
Fay, Jessica..... 1622
Fayad, Zahi A. 874, 1912, 4539
Fazekas, Franz..... ….929, 999, 3895, 4205, 4296
Fazlollahi, Amir.....621
Fechner, Mandy.....28
Federau, Christian .. 3107, 3336
Federspiel, Andrea..... …1143, 2267, 3046, 3168, 3246, 3308
Fedorov, Andriy .. …475, 1770, 1799
Fehlner, Andreas ... …380, 873, 2428, 2439
Feinberg, David. 52, 303, 3316, 3321
Feinberg, David A. .2364, 2365
Feinberg-Shapiro, Myra 198
Feiweier, Thorsten..... 249, 479, 2201, 2646, 3131, 3383, 3764, 4163, 4502, 4504
Felblinger, Jacques..... 1378
Felder, Jörg... 2124, 2600, 3709
Feldman, Michael..... 1795
Feldman, Rebecca Emily.. 3544
Feldmann, Daniel 1482
Feliciano, Hélène.... 1380, 4565
Fellah, Slim 964
Felmlee, Joel P. 2422, 2878
Fenchel, Michael 3392
Feng, Fei..... 4476
Feng, Felix Y..... 514
Feng, Feng..... 1031
Feng, Guoping..... 1034
Feng, Li 606, 696, 3484, 3493, 3809, 4084
Feng, Meiyan..... 4201
Feng, Shu 359
Feng, Shuo 4255
Feng, Wei 2381, 2500
Feng, Xue 1228
Feng, Yanqiu 2460, 4201, 4457
Feng, Zhan 1202
Feng, Zhen 2601
Fennessy, Fiona..... 1770, 1799, 2199
Ferizi, Uran 3128
Ferl, Gregory 2211
Fermon, Claude 4348
Fernandes, Carolina 1450, 1827
Fernandez, Brice 2092, 3328
Fernández, Porfirio I. 2328, 3307
Fernandez-Friera, Leticia ... 256
Fernandez-Jimenez, Rodrigo 256
Fernandez-Seara, Maria ... 2193
Ferral, Eliane 1934
Ferral, Hector 3612
Ferrari, Paolo..... 2764
Ferrari, Victor A..... 1405, 1438
Ferrauto, Giuseppe .. 421, 1854, 1861
Ferré, Jean-Christophe 50, 3037, 3260
Ferreira, Pedro 479, 4502, 4504
Ferreiro, Myriam 1347
Ferriero, Donna M..... 890
Feshitan, Jameel A. 4304
Fessler, Jeffrey A... 2362, 2403, 2507, 2602, 2623, 2654, 3333
Feuerlein, Sebastian 1755
Feyter, Henk M. De1706, 1956, 3411
Fidler, Florian..... 371, 1366
Fidler, Jeff..... 4067
Fidone, Carmelo..... 1440
Fiebach, Jochen B. 586
Fiedler, Georg Bernd..... 1628, 1971, 2187
Fiege, Daniel P. 3965
Fiehler, Jens . 1435, 2923, 3039
Fiel, Isabel I..... 3439
Fiel, M. Isabel 4082
Field, Aaron 583, 622
Field, Aaron S. 4225
Fielden, Samuel..... 1284, 1865, 2157, 3032
Fieremans, Els…363, 489, 495, 993, 2116
Figueroa, David J. 1768
Filbey, Francesca..... 738
Filippi, Christopher G. 995, 1089
Filippi, Massimo… 42, 44, 803, 1030, 1121, 1173, 1179, 2963, 3553, 3607, 3611
Filippini, Nicola 3275
Fillmer, Ariane 1359, 1369
Filss, Christian 109
Findeklee, Christian . 828, 2748
Fink, Jury 4451
Finkel, Richard..... 689, 1633
Finkle, David..... 501
Finn, Emily S. 2268
Finn, J. Paul..... 487, 542, 1403, 4461, 4492, 4560
Finnemore, Anna E. 4456, 4487
Finnerty, Matthew . 2735, 2785, 2838
Finnilä, Mikko A.J. .. 434, 3551
Finsterbusch, Jürgen 893, 1116, 2069, 2114, 2277, 3322
Fiorino, Agnese..... 42
Firmin, David N. 479, 486, 581, 2460, 4439, 4457, 4495, 4502, 4504, 4505, 4554, 4557, 4564
Fischbein, Nancy J. . 211, 1144, 1146, 2867, 2880, 3628
Fischer, André..... 649, 3119
Fischer, Anja 4281, 4474
Fischer, Dirk..... 1642
Fischer, Elmar 728, 1985
Fischer, Roland 4060
Fischer, Stefan..... 1590, 2731
Fischer, Thomas 109
Fischi-Gomez, Elda.. 896, 2964
Fischl, Bruce 947
Fischmann, Arne 314, 1642
Fishbein, Kenneth W..... 433
Fisher, Andrew..... 750
Fisher, Charles R..... 2557

Fisher, Elizabeth 3679
Fisher, Joe 852
Fisher, Matthew 3925
Fisher, Robert 3023
Fitts, Michelle 1395, 4569
Fitzgerald, Thomas 3017
Fitzhugh, Megan 1012
Fitzke, Heather 1793
Fitzpatrick, Kaitlin M. 2938
Fiveland, Eric 1819, 4336, 4390, 4391
Flaherty, Stephen 2894
Flanagan, Steven 1938
Flandin, Guillaume 4333
Flanigan, David 1657
Flannery, Michael P. 1341
Flask, Chris A. 1556, 4105
Fleck, David E. 3589, 3591
Fleischman, Debra A. 1004
Fleming, William H. 3453
Flemming, Bert 25, 28, 29
Fleysher, Lazar 3298
Fleysher, Roman 2167, 2169, 2861
Floca, Ralf 515, 2983
Flood, Samantha 1510
Flores, Saul 1388
Floyd, Thomas F. 2186
Fluckiger, Jacob 321
Flugstad, Nicholas 2315
Flynn, Anita 122, 133
Fodil, Redouane 2426
Foerster, Bradley R. 385
Fogtmann, Mads 3351
Fokdal, Lars 1752, 1757
Foley, Lesley M. 1867, 3860, 3861, 3906
Folkerth, Rebecca D. 2941, 2956
Föll, Daniela 4483
Follante, Clyve Konrad 4387
Follmer, Robin 733
Foltz, Steven J. 356, 1638
Foltz, Warren D. 1855
Fonarow, Gregg C. 3658
Fong, Yuman 1514, 1515
Foniok, Tad 1050
Foniok, Tadeusz 2920
Fonov, Vladimir S. 1119
Fontes De Oliveira, Cibely Cristine 3518
Fontius, Ulrich 4420, 4423
Foo, Sin Yee 1133
Foo, Thomas K. 2708, 2711
Foong, Shaohui 4177
Foppa, Murilo 1318, 1373
Forbes, Aaron 1064
Forbes, Kirsten 1133
Forbes, Sean C. 689, 1633, 3519
Forbess, Lindsy J. 541
Ford, John Chetley 1487
Ford, Judith 736
Foreman, Oded 1037
Forester, Brent 741
Forkert, Nils Daniel 1435, 3057
Forman, Christoph… 696, 1294, 3764, 3786, 3811, 4528
Formisano, Elia 295, 2734
Foroutan, Parastou. 1756, 1760, 1762
Forrest, Lauren 1184
Forster, Henrik 676
Förster, Katharina 2226
Fortunato, Marisa J… 356, 1638
Foss, Alexander J. E 450
Fossati, Philippe 737
Foster, Michael C. 1452
Foster, Paula 1694
Foster, William Michael 818, 1451, 1491, 4111
Foulis, Steve 1622
Fourie, Emily 782
Fox, Christopher R. 750
Fox, Mark R. 4053
Fox, Matthew J. 918
Fox, Matthew S. 1483
Fox, Peter T. 2263
Fox, Robert 1125
Foxley, Sean 705, 3022
Fradet, Léo 346
Frahm, Jens.. …272, 676, 3615, 3696, 3700, 3776, 4274, 4275, 4323, 4340, 4441, 4567
Francès, Camille 1574
Francesca, Bagnato 1082
Francis, Franto 1794
Francis, Susan T…. . 22, 34, 38, 276, 297, 300, 301, 450, 753, 2342, 2344, 3251, 3253, 3279, 4094
Francois, Christopher . 63, 399, 1356, 1398, 1422, 1432, 1501, 3760, 4098, 4455, 4460, 4548
François, Olivier 81, 1753
Francoise, Chris 4546
Franco-Watkins, Ana Maria 3225
Franczak, Malgorzata 2883, 3300
Frangi, Alejandro 4493
Frank, Joseph A. 933, 1071
Frank, Lawrence R. 3141
Franklin, Tammy 4135
Franson, Dominique N. 4316
Franzoni, María Belén 1921
Frauenrath, Tobias 3504
Frayne, Richard 192, 1834, 2351, 3807, 4534
Frazier, Marsha 1933
Frederick, Blaise 206
Frederick, Eric 2762
Fredericson, Michael 3500
Fredrickson, Jill 2211
Fredriksson, Sarah 1913
Freed, Melanie 200, 1691, 3364
Freeman, Matthew S. 815, 818, 1451
Freidlin, Raisa Z. 2058, 2067
Freiermuth, Maximilian 2452
Freiman, Moti 1535, 4056
Freimann, Florian B. 341
Freitag, Martin T. ... 3455, 3588
French, Brent 1865
Frenkel, Hanne 1261
Frenneaux, Michael P. 1359, 1369
Freschi, Fabio 4345
Freund, Patrick 3017
Freutel, Maren 1608
Friboulet, Denis 2039
Frick, Michael 186
Friedman, Eric J. 3152
Friedman, John D. 1295
Friedman, Kent 3737, 4108
Friedman, Robert M. 2294
Friedman, Scott 4082
Friedmann, Naama 839
Friedrich, Janet 1472, 1474, 1482, 1590, 4118
Friedrich, Klaus 1653, 3475, 3472
Friedrich, Matthias G. 254
Friel, Harry 2783
Frieling, Helge 1372
Friesen-Waldner, Lanette 1510, 1915, 3729, 3912
Frijia, Francesca 1930, 3923, 3947
Frijns, Catharina J.M. 1271
Fripp, Jurgen 1612, 2119, 3533
Frisby, Melisa 2898
Frisoni, Giovanni 2873, 2913
Fritsch, Maria 4029
Fritsche, Andreas 1511
Fritzsch, Dominik 2854
Fritzsche, Klaus Hermann . 614, 790, 3028, 3151, 3162, 3166, 3588
Frobell, Richard B. . 1659, 3550
Froehlich, Johannes M. 1778
Froehlich, Juerg 391
Froelich, Jerry 406
Froeling, Martijn 3495
Frohman, Elliot 1125
Frohman, Teresa 1125
Frollo, Ivan 2795, 4028
Frost, Robert 54, 3176
Frouin, Frédérique 2871
Fry, Charles W. 3379
Frydman, Lucio .... ….536, 654, 2062, 2070, 2101, 2390, 2397, 2407, 2639, 2680, 2681, 2682
Frydrychowicz, Alex 191
Fu, Maojing 607
Fu, Yingli 1871
Fual, David 2813
Fuchs, Alexander 739, 2038, 2042
Fuchs, Bryan 642
Fuchs, Katharina…. .. 394, 395, 864, 928, 1296, 1384, 1412
Fuentes, David T. A. 1839, 3733, 4294, 4301, 4302, 4303
Fuentes, Miguel 4345
Fugate, Elizabeth M. 2784, 3589, 3591, 4001
Fugiwara, Keiichi 1759
Fujihara, Shuya 3509
Fujii, Hirofumi 1945
Fujii, Hirotada G. ... 1986, 1987
Fujii, Shogo 2091
Fujima, Noriyuki 1208, 2150
Fujimoto, Koji 1578, 1579, 2102, 3450, 4132, 4468
Fujimoto, Kyoko 950, 1097
Fujimoto, Lillian 2949
Fujimoto, Masahiro 2751
Fujinaga, Yasunari 1685
Fujinami, Masanori 1872
Fujinami, Robert S. 3112
Fujioka, Masayuki 2935
Fujisaki, Natsuko 1065
Fujita, Akiko 3110
Fujita, Hiroyuki 2735, 2785, 2838
Fujita, Nobuhiro 4123
Fujiwara, Reiko 4545
Fujiwara, Taiki 93
Fujiwara, Yasuhiro 1542, 3043, 3634
Fukuda, Mitsuhiro 2299
Fukunaga, Issei 2866, 3637, 3669, 3672
Fulci, Giulia 158
Fullard, Anna 1200
Fülle, Nicolas 2826
Fullerton, Gary D. 1610

Fulton, Sandra M. 160
Funahashi, Yasuhiro 1719
Fung, Maggie..... 128
Funovics, Philipp..... 1678
Fur, Yann Le.. 407, 3957, 3979, 3980
Furenlid, Lars R..... 1064
Furie, Karen L. 2938
Furman-Haran, Edna 198
Fürst, Sebastian..... 824, 829
Furth, Susan..... 2978
Furukawa, Akira..... 1945
Furuyama, Jonathan..... 856
Fushimi, Yasutaka 4468
Fuss, Johannes..... 1973
Fuster, Valentin 256
Fütterer, Jurgen J. .. 1554, 1769, 1773, 1818, 1832
Fuwa, Nobukazu..... 3436
Fwu, Peter T. 1733, 3362, 3365, 3366, 4307

G

Gaab, Nadine 2687, 2969, 3007
Gaass, Thomas 602, 1415, 1481
Gabbour, Maya..... 1337, 4450
Gaber, M. Waleed..... 1123
Gabr, Refaat E. 530, 579
Gabrieli, John 3598
Gabrielli, Andrea 494, 3144
Gabrielson, Katheleen 561
Gach, H. Michael..... 4358
Gaddam, Samson Kujit..... 1067
Gadian, David G..... 1917, 1920
Gadjeva, Veselina..... 1713
Gaens, Michaela 4543
Gagnon, Louis O. .. 2429, 3244, 3721
Gagnon, Yann..... 2355
Gagoski, Borjan..... 855, 3030, 3968
Gahramanov, Seymur..... 716, 1722, 3072
Gai, Neville D..... 3706, 4494, 4558
Gailloud, Philippe..... 562
Gajdosik, Martin.... 1969, 3970, 4028, 4090
Gajjar, Amar..... 382, 2961
Galaburda, Albert M..... 1065, 2956
Galanaud, Damien 50
Galassi, Francesca 2730
Galbusera, Fabio..... 1608
Gale, John T. 2303
Galiana, Gigi ... 13, 2384, 2388, 2611, 2713, 3712
Galinovic, Ivana 586
Galizia, Mauricio..... 1291
Gall, Peter.... 1576, 1755, 2169, 2226
Gallagher, Ferdia A. 3387, 3916
Gallagher, Joseph J. 1257
Gallagher, Lindsay 1389
Gallea, Cecile 1027
Gallez, Bernard..... 1139, 1700, 1750, 1988, 2525
Gallichan, Daniel..... 124, 309, 2663, 3702, 3705, 3827
Gallinat, Jürgen 893, 1241
Galons, Jean-Philippe 246, 604, 3797, 3829
Galuske, Ralf..... 2124
Gam, Jeremy..... 1844
Gambhir, Sanjiv S. 569
Gamcsik, Michael P. 598
Gamliel, Ayelet 1915
Gamlin, Paul..... 1216
Gamst, Anthony 3470
Ganda, Anoop..... 2936
Gandham, Vineela..... 1037
Gandhi, Nishant..... 561
Gandhi, Sonia 3688, 3695, 4020
Gandy, Stephen J.... 1277, 1325
Gangadharan, Beena... 45, 3613
Gangi, Afshin 3409
Ganin, Hagai..... 1327
Ganji, Sandeep 214, 509, 1997, 2005, 2030, 3646
Gans, Bradley..... 870
Ganter, Carl 467
Gao, Erhe..... 1382
Gao, Fabao 1764, 3425
Gao, Ge 92
Gao, Hao 610, 2046, 2605, 2626
Gao, Huashuai 4201
Gao, Jia-Hong. 326, 2520, 3783
Gao, Jie… 173, 795, 897, 2950, 2962, 2975
Gao, Katherine C. 3055
Gao, Lifeng..... 1074
Gao, Patrick P..... 32, 298, 302, 3268, 3270, 3271, 3273, 3312
Gao, Wei 912, 2952
Gao, Yabiao..... 3474
Gao, Yi 2863
Gao, Ying 1556
Gao, Yurui..... 3078
Gaonkar, Bilwaj..... 2204
Garbera, David 2104
Garbow, Joel R. 84, 1720
Garcia, Julio 62, 64, 1328, 1329, 1337
Garcia, Meritxell 623, 1101, 1128, 1137, 2989
Garcia, Robert 1067
Garcia-Alvarez, Roberto .. 2886
Garcia-Frank, Daniel..... 2886
García-Lorenzo, Daniel.... 1027
Garcia-Polo, Pablo . 2696, 2886
García-Polo, Pablo 3035
García-Rodríguez, Sylvana 1332
Gardener, Alexander G..... 110
Gardner, Vance O..... 150
Gareis, Daniel..... 4392
Garello, Francesca..... 1861
Garg, Mohan Lal 3019, 3995
Garg, Rajiv 4019
Gargam, Nicolas..... 3872
Garnon, Julien 3409
Garnov, Nikita..... 1777, 1843, 3389, 3399, 4096
Garpebring, Anders 1665, 2625
Garrepalli, Nikhil 3578
Garteiser, Philippe. 1873, 2421, 2447, 3423, 4075, 4078
Gärtner, Jutta..... 1080
Garwood, Michael 17, 366, 465, 764, 869, 1091, 1684, 2366, 2382, 3369, 3446, 3958, 3978
Garyfallidis, Eleftherios ... 2123
Gass, Natalia 2305
Gass, Peter..... 1973
Gast, Klaus 4118
Gatehouse, Peter David 479, 581, 2460, 4439, 4495, 4502, 4504, 4505, 4564
Gatenby, Chris..... 3351
Gati, Joseph S.. 162, 724, 1108, 3842, 3987
Gattu, Ramtilak 2897, 3561
Gaudes, Cesar Caballero .. 2290
Gaughan, John..... 1116
Gaullapalli, Rao..... 4327
Gaur, Pooja... 1805, 3287, 3320
Gaurav, Kushagra..... 4019
Gauthier, Claudine Joëlle 2871, 2872, 3339
Gauthier, Susan A. .. 692, 1024, 1097, 3617, 3619, 3620
Gauvrit, Jean-Yves .. 625, 1131, 1574
Gayed, Bishoy A. 1794
Gazdzinski, Lisa M. ... 90, 1070
Gazit, Dan 1613, 4222
Gdaniec, Nadine..... 3714, 4278
Ge, Heng 4519
Ge, Xiaohu 235
Ge, YongXin 2627
Ge, Yulin. …43, 527, 846, 940, 1094, 2688, 3601
Gean, Alisa..... 1144
Gebhard, Thomas 4463
Gebhardt, Matthias. 2741, 4261
Gebker, Rolf..... 186
Gee, James C. 1011, 1046, 3044
Gee, Myrlene..... 3961
Geethanath, Sairam 3801
Geffroy, Françoise…. 444, 490, 3103
Gehl, Julie 2931
Geibel, Magrit-Ann 3503
Geiger, Julia 1304, 4447
Geist, Matthieu..... 4321
Gelbard, Harris A. 1055
Gelin, Sebastien 948
Gelman, Neil 2355
Gemmink, Anne 1977
Gendelman, Howard E. ... 1055, 1264, 1268, 1270
Geng, Guangqiang..... 2438
Geninatti, Simonetta..... 1876
Gensler, Daniel..... 1366
George, Ajax 3582
George, Ashvin Kurian 4299
George, Elijah 1943, 2383
George, Elijah O..... 329
Georgescu, Bogdan 4498
Georgiadis, John G. 2423, 2425, 2442
Georgieff, Michael K. 1981
Geppert, Christian 94, 197, 1739, 1741, 2558, 2813, 3021, 3375, 3390, 3737, 3809, 4108
Geraci, Stefania..... 1562
Geraedts, Tom..... 2468, 4542
Geraldes, Carlos F.G.C. ... 4075
Germanier, Catherine 3914
Germuska, Michael 2283, 3255
Gerrard, Jason 3994
Gerstner, Elizabeth R. ..... .516, 971, 1154, 3061, 3197, 3635
Gerum, Scott 2096
Gervino, Ernest V..... 1318
Gerz, Kathrin..... 3953
Gerzanich, Vladimir V. 3680
Geschewski, Frank .2600, 3709
Geschwind, Jean Francois 1537, 1538
Geshnizjani, Nahal 2380
Geurts, Alexander C..... 1634
Geva, Tal..... 1313
Geyer, Stefan..... 270
Ghaghada, Ketan..... 3893
Ghanem, Ghanem..... 1988
Gharib, Ahmed M. 21, 881
Ghariq, Eidrees..... 101, 105
Ghatak, Somenath .. 1512, 1525
Ghate, Sudip..... 4518

Ghazi, Badih 2019
Ghebre, Rahel 406
Ghezzi, Angelo 42
Ghezzi, Antonella 276, 4094
Ghisleni, Carmen 740, 1942
Gho, Sung-Min 3851, 3852
Gholipour, Ali ..... …311, 794, 2587, 3746
Ghosh, Karthik 1736
Ghosh, Rajat Kumar 1916, 1925, 3952
Ghosh-Ray, Subhadip 3447
Ghugre, Nilesh R. …660, 1418, 4206, 4517, 4518
Giacanelli, M. 2857
Giancardo, Luca 621
Giangarra, Cristen 3456
Giani, Guido 2419
Giannakidis, Archontis 4497
Giannini, Cosimo 4022
Giano, Michael 1904
Gianolio, Eliana 1854, 1894, 3859
Giaquinto, Randy O. . 923, 2760
Gibbons, Eric K. 2512
Gibbs, Peter 1735
Gibbs, Wende N. 2582
Gibson, Adam 3129
Gibson, Eli 3729
Giers, Morgan 1666
Giese, Armin 2482
Giese, Daniel .. 307, 2099, 2576
Gieseke, Jürgen 1150, 4270
Giezendanner, Stéphanie .. 3046
Gifford, Aliya 1520, 1524, 1618
Giger, Maryellen L. 1772
Gijsen, Frank 4542
Gilad, Assaf A. ..... …152, 158, 159, 426, 565, 1851, 1852, 1903, 4295
Gilbert, Barry 4432
Gilbert, Fiona J. 3730
Gilbert, Guillaume 79, 715, 914, 1246, 1742
Gilbert, Jeremy 3250
Gilbert, Kyle M. … .. 670, 2776, 3987
Giles, Sharon L. 100, 1495, 1776, 3395, 3397, 3434, 3448, 4150, 4153
Gilkeson, Robert C 4491
Gill, Edward 1302
Gill, Harachan 3405
Gill, Jaswinder 260
Gill, Ritu R. 1499
Gill, Simrandip 970
Gillard, Jonathan H. 1280, 1303, 1305
Gillen, Joseph 3940
Gilles, Alina 1993
Gilles, Floyd 920
Gillespie, Yancey 1717
Gillet, Pierre 1660, 2777
Gilliam, Andrew D. 4482
Gillies, Robert J. 1756, 1760, 1762, 3446
Gillis, Timothy E. ... 1034, 4044
Gillung, Erin 3592, 3599
Gilmore, John 2943
Gilmour, Kenneth 4457
Gilsanz, Vicente 403, 1641, 1644
Gilson, Wesley D. 471, 865
Gimenez, Ulysse 83
Gimi, Barjor 3207, 3801
Ginami, Giulia 1316
Ginefri, Jean-Christophe 135, 3869, 3872
Giniatullin, Rashid 2313
Giorgio, Antonio 1109
Girard, Gabriel 775
Girard, Nadine 964, 3002
Girard, Olivier M. …..... .27, 346, 349, 1112, 2506, 2535
Giraudeau, Celine 4087
Giraudeau, Patrick 1950
Giri, Shivraman 544, 1291, 2503
Girman, Peter 4058
Giskeødegård, Guro F. 1785
Gissel, Hanne 2931
Giuffrida, Gaetano 4490
Giuliani, Fabrizio 3610
Giulietti, Giovanni .. 1000, 1016
Giustetto, Pierangela 1861
Glahn, David C. 2263
Glaser, Christian 435
Glaser, Kevin J. ..... …278, 279, 645, 1596, 1736, 1748, 2422, 2427, 2878
Glaser, Steffen J. . …656, 3921, 3924
Glasier, Charles M. …..... 174, 2107, 2269
Glass, Hannah C. 890
Glass, John O. ..... …382, 613, 2961, 3165
Glasser, Matthew F. .…52, 780, 835
Glatz, Jan F. 1977
Gleave, Jacqueline A. 271
Glenn, George Russell 3183
Glenn, Orit A. 2974
Glenn, Russell 2079
Glenn, Thomas C. 1947
Glickson, Jerry D. …809, 1705, 1718, 1726, 1727, 3067, 3426
Glielmi, Christopher B. 197, 1739, 2340, 3021, 3737, 4434
Gliwa, Ewa 633
Globinsky, Ronen 1864
Glockner, James F. …1286, 1591, 4107
Glod, John W. 806
Gloor, Monika 1101, 1137, 1642, 2989
Glover, Gary H. ... …736, 2236, 2252, 2676, 3358, 4360
Glover, Paul M. ..... …392, 753, 1475, 2344
Gluckman, Peter 1526, 2701
Glunde, Kristine 811, 1704, 1708, 1710, 1734, 3433
Gmitro, Arthur F. 4361
Gnanapragasam, Vincent . 3387
Gnanavel, Sundar 1207
Go, Vay Liang W. 568
Gobbi, Claudio 3611
Gobbo, Oliviero 1856
Göbel, Katharina 2908
Gochberg, Daniel F. 1115, 1595, 1603, 3508, 4223, 4229, 4232, 4241
Göd, Sabine 1653
Godar, Jared A. 1647
Goddu, Beth .. 257, 1318, 1319, 1373
Godechal, Quentin 1988
Goebel, Jean-Christophe . 1660, 2777
Goebel, Rainer 295, 2124, 3138
Goebell, Einar 1435
Goed, Sabine 981, 3630
Goel, Madhu M. 4019
Goel, Priya 48, 1083
Goense, Jozien 847, 2341
Goerke, Steffen 2548
Goerke, Ute 2282
Goerner, Frank F. 3488
Goertz, David 2915
Goertzen, Andrew L. 2816
Goessler, Walter 4205
Goette, Matthew J. 559
Goga, Andrei 215
Gogbashian, Andres 4147
Gogola, Daniel 2795
Gogoll, Karsten 1590
Goh, Kelvin 1917
Gokan, Takehiko 4122
Gol, Derya 3822
Golak, Tom 998
Golan, Talia 4061
Golay, Xavier… 351, 424, 691, 2000, 2151, 2172, 2177, 2987, 3727, 4238
Gold, Garry E. …436, 557, 686, 1615, 1664, 1671, 1690, 3489, 3537, 3548, 3716
Gold, Jacquelyn 178
Gold, Stephanie 640
Goldberg, Ari D. 1878
Goldenberg, Larry 2429
Goldfarb, James William ... 261, 1399
Goldhaber, David M. 825
Goldin, Michael 3500
Goldman, Debra 3394
Goldman, Robin 756
Goldstein, Evan 1169
Golestani, Ali-Mohammad ..3258, 3530, 3556, 3580, 3590
Golfam, Mohammad 3501
Golkov, Vladimir ..... …2053, 2054, 2092
Gollub, Randy L. 760
Golnari, Pedram 437
Golub, Frank 2523
Goluch, Sigrun .. …1971, 2782, 2786
Gomez, Arnold David 1379
Gomez, Benedikt 3881
Gomez, Christopher M. 2858
Gomez, Elda Fischi 898
Gomez-Mejiba, Sandra E .. 566, 1873, 1874
Gomori, J. Moshe 1915
Goncalves, Daniela F. 4226
Gonçalves, M. R. 1698, 1701
Goncalves, Sonia Isabel .. 4065, 4159
Gondry-Jouet, Catherine .. 2910
Gonen, Mithat 507, 1514, 1515
Gonen, Oded . …86, 221, 1938, 3582, 3973, 3975, 4365
Gong, Enhao. 1437, 1804, 1806, 2376, 2610
Gong, Gaolang 3568
Gong, Nan-Jie 2889, 4148
Gong, Qiyong .. 734, 735, 1005, 1196, 2895, 3555, 3579, 3600
Gong, Xiping 630, 1129
Gonoi, Wataru 3477
Gonyea, Jay 995, 1089, 1250
Gonzales, Aaron 1257
Gonzalez, Ramon Gilberto ... 86
Gonzalez, Sandra I. 3870
González, Silvia Lorrio 3896
Gonzalez-Castillo, Javier 2276,

2331
Gonzalez-Lima, Francisco 2323
Gonzalez-Martinez, Jorge .752, 2142, 4422
Gonzalgo, Mark.....3405
Goodman, James A.....82
Goodpaster, Bret.....3524
Goodrich, James A. 228
Goodrich, K. Craig .4343, 1221
Goodwill, Patrick W. 140, 1857
Goodwin, Jonathan.....…1141, 3660, 3787
Goodyear, Bradley.....526
Gopalan, V.....2015
Gopalan, Venkatesh 1527, 4064
Gopinath, Anand.....731, 4405
Gopinath, Kaundinya.....…88, 2254, 2273
Gopireddy, Dheeraj 4546, 4548
Gorad, Saurabh S.....804
Goradia, Dhruman ..1189, 1193
Gorantla, Santhi.....1264, 1270
Gordon, Jeremy W.....10, 653, 3918, 3936
Gore, John C.....461, 844, 1115, 2237, 2278, 2292, 2324, 2363, 2470, 2486, 2539, 2578, 2593, 3048, 3143, 3265, 3283, 3286, 3288, 3376, 3605, 3763, 4134, 4137, 4223, 4229, 4232, 4241
Gor'kov, Petr L. 3412
Gorman, Grainne S.....1385
Gorman, Joseph 1405, 1438
Gorman, Robert C. .1405, 1438
Gorodezky, Margarita.....1084
Görtz, Wolfgang.....2826
Goto, Takao 3725
Gotts, Stephen J. 3285
Goubran, Maged.....162, 2689
Goudreau, Sally 3370
Goulding, Krista Anne.....1669
Gounis, Matthew J..3880, 4230
Gousias, Ioannis S. 176
Govaerts, Kristof 3690
Govanetti, Giulio 3947
Govenkar, Ambey.....2574
Govind, Varan 1940, 2860
Govindarajan, Koushik .48, 891
Govindarajan, Sindhuja T 1086, 3606, 3608
Gower-Winter, Shannon ...3412
Gowland, Penelope A. .34, 265, 276, 297, 301, 893, 934, 953, 1219, 1958, 2491, 2553, 2848, 3012, 3251, 3253, 3279, 3602, 4053, 4054, 4094, 4130
Goyal, Satnam 3559
Goyal, Vinay 2844, 2845
Gozzi, Alessandro 494
Graafen, Dirk 1423, 1921, 1927
Grabau, Michelle.....684
Graber, Kevin.....3023
Grabner, Günther..... 163, 981, 1088, 3630
Grabow, Benjamin. 1840, 4315, 4330
Graca, Anna.....2393
Grad, Sharon.....930
Graedel, Nadine N. 552
Graessl, Andreas..... 395, 580, 833, 1412, 2747, 2839
Graesslin, Ingmar ..2825, 4260, 4413
Graf, Markus 515, 2983
Graff, Christian G. 701
Graff-Guerrero, Ariel 3593, 3597
Graham, Charlotte 1090
Graham, S. 1054, 2015
Graham, Timothy James.....499
Gramoun, Azza..... 2698, 3905
Granata, Anna.....807
Grand, Sylvie. 209, 1753, 2225, 3118
Grande, Andrew W... 954, 4446
Grandjean, Joanes..... 333, 2300
Graner, J. 3302
Graner, John . 2891, 3020, 3614
Granholm-Bentley, Ann-Charlotte E.....3084
Granlund, Kristin.... 3489, 3716
Grannan, Michael D. 2324
Granot, Dorit 1853, 1863
Grant, Aaron K. 3934, 3942
Grant, Andrea 1961
Grant, Kathleen A. 3693
Grant, Kinzya 1782
Grant, Merida M. 3558
Grant, Patricia Ellen .. 799, 885, 909, 1065, 2687, 2941, 2956, 2969, 3007, 3652, 3738
Grant, Samuel C. 4182
Granziera, Cristina... 948, 2934, 3615
Graser, Anno 2082
Grassegger, Sabine . 1217, 1686
Grassie, Cairsty 2954
Grau, Ana M. 3384
Graves, Martin John 1280, 1287, 1303, 1305, 3730, 4364, 4472
Gray, Anna 4238
Gray, Calum 1317
Gray, Gillian A. 4012
Gray-Edwards, Heather L 1075, 1076, 1077
Graziani, Dominic M..... 2707
Grech-Sollars, Matthew..... 979
Green, Adam 1044
Green, Gary G. R. 1937
Green, Michael 2438
Green, Sarah 1717
Greenberg, Matthew B. 4084
Greensmith, Linda 4238
Greenspun, David 4465
Greenwald, Mark.....3259
Greenwood, Tiffany . 811, 1708
Greer, Peter 1587
Gregan, Darren 827
Gregorio, Enza Di …421, 1854, 3859
Greiser, Andreas.…... 71, 1370, 1434, 3811, 4512, 4552
Greiwe, Michael.....1687
Grenier, Denis 1650, 1660, 2039, 2777
Grenier, Nicolas 1574
Gretz, Norbert 1552, 1562, 4008, 4355
Greve, Douglas..... 736
Greve, Joan..... 1042
Gribbestad, Ingrid S… 500, 804, 805, 1769, 1785, 1788, 4016, 4035
Griffa, Alessandra 898, 2134
Griffeth, Valerie E. M 853, 2297, 2347, 3338
Griffin, Greg..... 4426
Griffith, James F.... 3459, 3476, 3478
Griffiths, John 1211
Griffiths, Paul..... 644
Grimm, Robert ..... ….696, 829, 3749, 3786, 3809, 3811, 4528
Grimm, Roger C..... 1736, 2446
Grimm, Simone 739
Grinberg, Farida ….3083, 3124, 3159, 3164, 3199, 3214
Grinde, Maria T..... 804
Grinevich, Valery 2321
Gringeri, Concetta V. 656, 1919, 1931
Grinstead, John..... 716, 1224
Grippo, Paul J. 1709
Grisot, Giorgia..... 1004
Grissom, William A. …73, 367, 369, 1805, 2044, 2061, 2396, 2399, 2593, 2744, 3325
Grist, Thomas M. .. 63, 65, 399, 4098, 4460
Griswold, Mark A. 18, 19, 139, 185, 253, 287, 320, 600, 601, 719, 725, 1543, 1589, 2380, 2648, 2738, 3483, 3710, 3752, 3836, 3838, 3875, 4083, 4489, 4491, 4498
Gritsenko, Artem..... 1586
Grobgeld, Dov..... 198, 4061
Grodzki, David Manuel..... 253, 456
Groebner, Jens.. ….1797, 1985, 2485, 2819, 2821
Groenendaal, Floris 172
Gröger, Adriane 3996
Gröhn, Olli ..... …60, 355, 869, 1038, 2298, 2313
Grolman, Wilko 3666
Grøndal, Anne Krogh..... 469
Gropler, Robert J. 361, 573
Gros-Dagnac, Hélène 2873, 2913
Grosdemange, Kerstin..... 2698
Gross, Claudia..... 656, 1931
Gross, David..... 2836
Gross, Simon…. 466, 552, 553, 1410, 2715, 3332
Grosse-Wortmann, Lars 7
Grossman, Murray..... 1011
Grossman, Robert I…. 43, 527, 940, 1094, 1938, 2688, 3601
Grossman, Stuart A. 1059
Grossmann, Jan 2893
Grossmann, Udo..... 2884
Groth, John..... 1783
Groult, Hugo 3901
Groves, Alan M. 4456, 4487
Grubbs, Clinton..... 1751
Gruber, Katharina..... 2665
Gruber, Stephan .... …196, 217, 1737, 1738, 2018, 2022, 3374, 3970, 4090
Gruell, Holger 421
Gruetter, Rolf .. …77, 111, 120, 266, 269, 306, 309, 1063, 1261, 1703, 1936, 1955, 1974, 1975, 2191, 2493, 2515, 3009, 3675, 3705, 3993, 4003, 4004, 4189, 4265, 4356
Grujic, Zoran..... 2869
Grundlehner, Paul 1147
Grundy, John..... 2667
Grunfeld, Alexander3894, 3950
Gruschke, Oliver G. 2908
Gruslys, Audrunas..... 997
Grussu, Francesco 2095
Gsell, W. 1204
Gu, Hong..... 519, 1180
Gu, Meng 854, 3640, 3963, 3985
Gu, Quanquan 1032
Gu, Xiaohuan 2919
Gu, Yiping..... 660

Gu, Yi-ping.....4511
Guag, Joshua W.....4380
Guan, Cuntai.....210
Gudino, Natalia..139, 287, 725, 2738
Gudwani, Sunita.....2843
Guehring, Jens.....1586
Gueldner, Manuela.....4118
Gueler, Faikah.....31, 1548
Guellmar, Daniel.....777, 2127
Guennec, Adrien Le.....1950
Guenther, Matthias.....4160
Guérin, Bastien..75, 393, 2722, 2731, 2740, 2741, 4252, 4412
Guetter, Christoph...575, 1333, 1402
Guettler, Felix.....4331
Guevara, Pamela.....779, 3153, 3154, 3155
Guglielmetti, Caroline.....3313
Guha, Aditi.....3543
Guha, I. Neil.....276, 4094
Guhaniyogi, Shayan.....3765
Gui, Laura.....896, 903
Guidon, Arnaud...56, 161, 836, 2870, 3758
Guilfoyle, David.....2096
Guillaud, Olivier.....281, 742, 1532
Guillermier, Martine.....3998
Guimaraes, Alexander R....516, 595, 3449
Gulaka, Praveen.....4453
Gulani, Vikas.....…18, 19, 253, 600, 601, 719, 1543, 1589, 2631, 3752, 3834, 4083, 4491
Gulino, Letizia...…1440, 4485, 4490
Gullapalli, Rao P. ....…85, 329, 1026, 1152, 1943, 2280, 2320, 2383, 2896, 3673, 3680, 4002, 4037
Gullberg, Grant T. 4497
Güllmar, Daniel.....3205, 3491
Gulsun, Mehmet.....1342
Gulsun, Mehmet Akif.....1434
Gultekin, David H. 3438
Gumbrecht, Rene.....…4414, 4420, 4423
Gumenyuk, Valentina.....3297
Gumus, Cagil.....2017
Gumus, Serter. 108, 1568, 3524
Gundapuneedi, Tejasvi....3577, 3616
Gungl, Daniel 765
Guntermann, Jonathan.....4331
Günther, Matthias....205, 2166, 2169
Günther, Peter.....2854
Guo, He 2601
Guo, Hua. …1299, 1784, 2586, 2606, 2612, 2637, 3204, 3273, 4533
Guo, Jia .....…103, 2149, 2155, 2156, 3318
Guo, Jing…380, 872, 873, 973, 2428, 2430, 2439, 2440, 4076
Guo, Junyu 4207, 4209
Guo, Lanting.....3555
Guo, Li 1763
Guo, Liheng.....2377, 3483
Guo, Wensha....229, 245, 4292
Guo, Yang 476
Guo, Ying.....969
Guo, Youmin.....173
Gupta, Ajay 692, 3334
Gupta, Ashish.....4018, 4047
Gupta, Gaorav 507
Gupta, Hari Om.....1948
Gupta, Himanshu. …488, 4500, 4503
Gupta, Lalit.....2288
Gupta, Mamta.....4005, 4023
Gupta, NavYash 878
Gupta, Neilesh.....3628
Gupta, Rakesh K.....3640
Gupta, Sandeep Narendra 1770, 2199, 3075
Gupta, Siddhartha D. 98
Gupta, Y. K. 338
Gur, Raquel E. 2162
Gur, Ruben C.....2162
Gurler, Necip 2807, 4187, 4188
Gurudutta, Gangenahalli ..3864
Gussew, Alexander..... …1952, 3491, 3505, 3512
Gustafson, Christina. 809, 1727
Gutberlet, Marcel. 31, 650, 744, 1372, 1497, 1548, 2633, 2649, 3331, 3715
Gutierrez, Eric 3878
Gutjahr, Fabian Tobias.....2185
Guye, Maxime 455, 964, 3957, 3979, 3980
Guyen, Do Kien N.....2225
Guzina, Bojan.....2447
Gwilliam, Matthew. 1761, 2205

H

Ha, Dong-Ho 3517
Ha, Jenny.....208
Ha, Seunghoon.... …831, 2783, 2791, 4353, 4394
Haack, Søren 1752, 1757
Haacke, Ewart Mark 443, 1162, 1238, 1338, 1571, 1581, 2381, 2483, 2496, 2500, 2502, 2897, 3252, 3276, 3296, 3561, 4126, 4186, 4481
Haas, Martin..... …289, 4248, 4250, 4403
Haas, Tanja.....1283
Haase, Axel ... …602, 656, 824, 1415, 1481, 1930, 1931, 1934, 2092, 3921, 3923, 3924
Haast, Roy.....3687
Habara, Hideta.....2756
Häberlin, Maximilian 2715
Habich, Aleksandra 562
Hacker, Timothy A.....1390
Hackett, Neil 1021
Hackney, David.....350, 1120, 2846, 3089
Haddad, Daniel.. …1489, 1600, 2394, 2395, 2788, 3549
Haddock, Bryan.....3335
Hadizadeh, Dariusch R.. …748, 1150
Hadley, J. Rock…. 134, 832, 1221, 2583, 2736, 4010, 4343
Haeberlin, Maximilian.....304, 3332
Haeck, Tom.....1242
Haedicke, Inga E. 1880
Haemer, Gillian.... 2737, 2749, 4406
Haeublein, Benjamin.....3766
Hafalir, Fatih S.. …2807, 4187, 4188
Hafez, Omeed.....1567
Haftbaradaran, Afsaneh....4527
Hagberg, Gisela E. 300, 961, 1135, 1891
Hagemeier, Jesper 1003
Hagmann, Cornelia. 2966, 2977
Hagmann, Patric…. 898, 2134, 3107, 3336
Hagot, Pascal..... 2426, 3869
Hähn, Daniel 3738
Hahn, Dietbert. 129, 649, 2454, 2614, 3331, 3715, 3771
Hahn, Theodore.....3971
Haider, Clifton.....4432
Haider, Masoom A. 91, 1769
Haik, Yousef 1888
Haim, Lucile Ben 112
Hajek, Milan.....4058
Hajnal, Jo 176
Hajnal, Joseph V. .. …797, 884, 918, 2108, 3768, 3806, 4263, 4456, 4487
Hakata, Setsuo.....2338
Hakimi, Parvin 1388
Hakkarainen, Hanne.. 355, 869, 1382
Hakyemez, Bahattin 2017
Halabi, Majdi 4316
Halama, Kathrin 1866
Halappa, Vivek Gowdra.. 1537, 1538
Halaweish, Ahmed. 1491, 4111
Halbach, Van.....4320
Hald, John K. 987
Haldar, Justin P.. 55, 771, 2691
Haldar, Shouvik 4564
Hales, Patrick W..... 1747, 2170
Haley, Robert W..... 2852, 2904
Halgren, Eric 2271
Halgunset, Jostein 1785
Hall, Emma Louise 1205, 2034, 3253
Hall, Judith E..... 345, 2182
Hall, Lynsey S.....1389
Hall, Matt G. 3140
Hall, Timothy L.....1831
Hallac, Rami R..... 1699, 1794
Hallahan, D.E. 84
Haller, Hermann..... 31, 1548
Halligan, Steve.....677
Hallscheidt, Peter 2485
Hallsworth, Kate 1383
Halnon, Nancy 4492
Halovanic, Cathy.....2958
Halperin, Henry 255, 259, 4494
Halpern, Howard J. 1989
Hamada, Hidetoshi. 1656, 3547
Hamada, Kenichi.....2559
Hamaguchi, Hiroyuki.....2111
Hamaguchi, Takashi.....3509
Hamamura, Mark Jason..... 831, 2791
Hamans, Bob C. 805, 4016
Hamasaki, Nozomi.....3669
Hamböck, Martina.....1663
Hamedani, Hooman. 821, 1461, 1463, 1466, 1468
Hametner, Simon... 1082, 1088, 2539
Hamik, Anne 719
Hamilton, Amanda M.....3729
Hamilton, Gavin.... 1516, 1517, 4033
Hamilton, Jackson.....4032
Hamilton, Jesse 320
Hamilton, Jesse I. ... 2631, 3836
Hamm, Michael..... 2741, 2746, 4252, 4398

Hammer, Bruce.....429
Hammersley, Jayne.....160
Hamou, Marie-France.....1063
Hamy, Valentin.....1793, 2080, 2705
Han, Biao.....821, 823, 1463, 1467, 1468
Han, Bing 3868
Han, Dongyeob.....3851, 3852
Han, Fei 485, 542
Han, Gyu Cheol.....2725, 2726
Han, Hao.....1746
Han, Hui 161, 664
Han, Jianghong..173, 795, 897, 2962, 2975
Han, Jing.....1399
Han, Jisheng 2340
Han, Joon Koo.....3452, 4055
Han, Kihwan.....1025
Han, Michelle 801, 911
Han, Misung ...683, 1609, 3033
Han, Moon...1155, 1172, 1245, 1884, 2272, 2333, 2345, 3656
Han, Mun.....1260
Han, Paul Kyu 3781
Han, Song-I 3929
Han, Wenwen A. 87, 1255
Han, Xu 1300, 1350, 3834
Han, Yeji 2050, 2401, 2629, 2808, 2809
Han, Zhaoying 842, 1146, 2867, 2880, 3195, 3628
Hananel, Arik 1827
Hanby, Martha.....1142
Hancu, Ileana 462, 2574, 4171, 4192, 4390, 4391
Handa, Hiroshi.....3198
Handa, Shinya 2735, 2785, 2838
Handels, Heinz 1435
Handler, William B. 11, 560, 2822, 4343
Handwerker, Daniel A.....2276
Haneder, Stefan 4057, 4140, 4142
Hanes, Justin S.....422
Hangel, Gilbert 2018, 2022
Hanig, Joseph 2932
Hankins, Jane.....1147
Hankov, Georges 2211
Hanna, Brian.....4398
Hanna, Michael G.....314, 691
Hanrahan, Christopher J. .1621, 3047
Hansen, Adam E.....3335
Hansen, Brian 699
Hansen, Michael Ryan.....1927
Hansen, Michael Schacht...184, 287, 1394, 1396, 2672, 4572
Hansen, Nienke Lynn 680, 1588
Hansen, Rasmus H. 2931
Hansmann, Jan 4164
Hanson, Richard 1388
Hansson, Oskar.....615
Hanstock, Chris 3610, 3961
Hantraye, Philippe 3998
Hao, Eric Khoo Yin 1526, 2701
Hao, Ying 4339
Hapuarachchige, Sudath....238, 3419
Harada, Masafumi . 4068, 4124, 4128
Harada, Tokiko.....2337
Haraldsson, Henrik.....1345
Haran, Edna Furman.....4061
Hardley, J. Rock 1222
Hardy, Caitlin.....3582
Hardy, Christopher J.....2053, 2054, 2092, 3774
Hare, Hannah.....3255
Harel, Noam 2364
Hargreaves, Brian Andrew 436, 557, 686, 1539, 1557, 2597, 3405, 3718, 3793, 3794, 4085, 4086
Hariharan, Hari... ….420, 1006, 1007, 1192, 1438, 2037, 2541, 2543, 2554, 2697, 3983
Haris, Mohammad..... ….420, 1006, 1192, 1438, 2541, 2543, 2554, 2697
Haris, Mohammed 1007
Harkins, Kevin D.....1603
Harloff, Andreas.....631
Harman, David 276, 4094
Harmelin, Alon.....1853
Harmer, Jack 2099, 2576, 3098, 3206
Harmoush, Samer 277
Harms, Lutz.....1085
Harnish, Phillip.....235
Harnof, Sagi 1157
Haroon, Ebrahim 3997
Harouni, Ahmed A. 21
Harper, Jamie 2891, 3020, 3614
Harper, Mary-Ellen 1522
Harper, Ronald M...3657, 3658
Harrel, Waverly.....2970
Harreld, Julie H. 2961
Harrington, Deborah L. 2853
Harris, Ashley D.....345, 849, 2182, 3342, 3343, 3344
Harris, Bridget.....2907
Harris, Chad 11, 560, 2822
Harris, Jacqueline K. 3729, 3912
Harris, Julia 782
Harris, Kathleen R.....1362
Harris, Lisa Maria 1994
Harris, Raymond C. 4134, 4137
Harris, Robert J. 513, 3631
Harrison, Alexis 319
Harrison, David.....1049
Harrison, James .. 260, 469, 470
Harrison, Joseph.....714
Harrison, Neil A. 1251
Harsan, Laura-Adela 2265, 2322
Hart, Corey..... 1621, 3047
Harteveld, Anita A. 1271
Harth, Maurice 3645
Hartjes, Martijn 3667
Hartkamp, Nolan S. 102
Hartono, Septian..... 1693, 2220
Hartung, Dagmar..... 31, 1372, 1548
Hartung-Knemeyer, Verena 241, 3881
Hartwig, Axel..... 308, 3757
Has, Arzu Ceylan 2109
Has, Cristina.....2908
Hasan, Khader M.…..2585, 2898, 3096, 3659
Hasan, Usama.....1399
Hasegawa, Yuichi.....1576
Hashida, Masahiro.....2463
Hashim, Eyesha.....930
Hashoian, Ralph 1483
Hassan, Sonia 166, 4133
Hassanieh, Haitham.....2019
Hassler, Eva..... 2420, 3499
Hasting, Mary K..... 361, 3527
Hata, Junichi..... 2437, 3477
Hata, Nobuhiko 475, 1770
Hatay, Gokce H. 2017
Hatsukami, Thomas..... 875
Hattingen, Elke..... 1105, 2513, 3645
Hatton, Sean Nicholas 1197
Hattori, Nobutaka ... 2866, 3672
Hattori, Takaaki.....2850
Hatzigeorgiou, Xanthy 798
Haueisen, Jens 4252, 4261
Hauf, Martinus 1143, 2267
Hauser, Thomas H.....4571
Haut, Marc W.....2332
Havlicek, Martin 3261
Hawkes, Rob 4344
Hawkins, Randall 4310
Hayashi, Emiko 2941
Haybaeck, Johannes 4296
Hayes, Carmel 576
Hayes, Judy 2859
Hayes, Kerrie 992
Hazell, S. 594
Hazle, John D. 1839, 2406, 2410, 2414, 2505, 3733, 3854, 4294, 4301, 4302, 4303, 4326
He, Ben 4519
He, Bin 288, 463, 4191, 4429
He, Le….630, 877, 1129, 1350, 4536, 4544
He, Mengyue..... 229, 4292
He, Mu 1451
He, Ning.....3555
He, Pan.....333
He, Renjie 3733, 4326
He, Taigang.. 2460, 4201, 4457
He, Ting 814
He, Xiang 108, 1568, 3524
He, Yi.....876
He, Yong....46, 519, 735, 1005, 2958
Heacock, Laura 4108
Healey, Robert 3469
Heberlein, Keith A.…584, 593, 1210, 2646, 3030, 3183, 3329
Hectors, Stefanie J.C.G. 423, 1826, 4199
Hedehus, Maj 501, 1037
Hedges, Nick.....4054
Heemskerk, Mattijs 1960
Heeren, Ron 811
Heerkens, Hanne D. 1830
Heerschap, Arend.... …99, 222, 538, 673, 805, 986, 1631, 1634, 1788, 1832, 2020, 2316, 3403, 3408, 3445, 3674, 3687, 3978, 4016, 4202
Heesen, Christoph 2923
Hegarty, Elaine.....3910
Hegde, Shashank S..... …473, 1833, 4314
Hegi, Monika E. 1063
Hehir, Sarah 1200
Heidemann, Robin M.… 53, 2339, 3788
Heidinger, Michael.....1379
Heier, Linda 919, 1021
Heijtel, Dennis F.R..... 712, 880
Heikal, Amr.....3966
Heiland, Sabine 167, 515, 2983
Heilbrun, Marta E... 1551, 4144
Heilmeier, Ursula 683
Heimbigner, Jared H. 1444
Heindel, Walter 1165
Heinen, Klaartje 2246
Heininen-Brown, Mari 1003
Heinrich, Andreas 4331
Heis, Forest 1687
Heismann, Bjoern..... 253, 456

Hekmatyar, Khan ….356, 1638, 2521
Helbich, Thomas.....196, 217, 1737, 3374, 3381
Helck, Andreas D. 4141
Helfer, Brooke 577
Hell, Erich 3503, 3837
Helle, Michael… 102, 768, 2152, 2811, 3626
Hellem, Tracy L.....1184
Helluy, Xavier 371, 2185
Helmer, Karl G. 3207
Helms, Gunther.....1080
Helpern, Joseph A. 498, 786, 993, 2096, 2916, 3084, 3139, 3183
Helquist, Paul 1064
Helton, Kathleen.....1147
Hemberger, Kathrin.....1489, 1600, 3549
Hempel, Petra 616
Hendren, Nicholas S. 1390
Hendriks, Marc P.H. 1944
Hendrikse, Jeroen 102, 172, 368, 627, 966, 1271, 2146, 2967, 2982, 3001, 3667, 4540
Hendriksen, Jos G.M. 2960
Henkelman, R. Mark 1041, 2572, 1118
Hennel, Franek 2718
Henn-Haase, Clare..1198, 1199
Hennig, Jürgen..... …5, 16, 124, 289, 306, 411, 522, 666, 728, 1229, 1304, 1924, 2265, 2322, 2379, 2384, 2590, 2663, 2718, 2908, 3277, 3702, 3711, 3736, 4248, 4249, 4250
Henning, Anke..... …739, 1113, 1359, 1369, 1959, 2007, 2038, 2042, 2464, 2589, 2594
Henning, Erica C. 408, 1765
Henningsson, Markus .... ….258, 545, 1313, 4520, 4568
Henry, Leah 1874
Henry, Pierre-Gilles.....3962
Henry, Roland G.....2438
Henseler, Ilona.....2472, 3339
Hensley, Kenneth 566
Henson, Lily K. Jung..45, 3613
Hentel, Keith 1598
Hentschel, Jan.....25, 28, 29
Henze Bancroft, Leah C. .1676, 2402, 3545
Henze, Romy 3588
Heo, Hye-Young..... ….3220, 3243, 3266
Heo, Phil.....2725, 2726
Heo, Woo Choul.... 3887, 3888, 3889, 3900, 3902
Herard, Anne-Sophie.....89
Herbert, Jeremy 4345
Herbert, Joseph.. 43, 221, 1094, 3601
Herbst, Michael306, 637, 3755, 3759, 3766
Herczak, Joseph..... 2735, 2785
Heredia, J. Gabe 987
Herfkens, Robert J. 4086
Herijgers, Paul..... 3690, 3694
Herman, Peter... 299, 667, 3242
Hermann, Lisa 207
Hermann, Sven 1767
Hermeling, Evelien... 589, 4543
Hermens, Daniel F.....1197
Hermes, Dora 755, 2284
Hernandez, Antonette.....2949
Hernandez, Daniel 2793
Hernandez, Larry.... 1676, 3545
Hernandez, Ricardo 3878
Hernandez-Andrade, Edgar 1581, 4126
Hernandez-Garcia, Luis… 1831, 1844, 3051, 3259
Hernández-Tamames, Juan Antonio..... 2696, 2886, 3035
Hernandez-Torres, Enedino 347,1100
Hernando, Diego .. ….399, 402, 597, 1398, 1607, 2402, 2449, 2471, 2556, 3848, 3858, 4164, 4194, 4204
Herndon, James G. 1060
Herold, Volker.....1340
Herranz-Rabanal, Fernando 3901
Herrera, Sheryl L. 3147
Herreros, Quentin 4348
Herrmann, Karin Anna 4097
Herrmann, Karl-Heinz.....2370, 2371, 2765, 3010, 3785, 4103, 4190
Herrmann, Lutz 2765
Herrmann, Tim 2782
Hersman, F. William . …6, 817, 1447, 1448, 1450, 1453, 1455, 4121
Hervo, Patrice2984, 3211, 3723
Herynek, Vit 4058
Herz, Jasmin 1859
Herzberg, Yoni 232
Herzka, Daniel A.... …72, 185, 255, 259, 471, 865, 1059, 1396, 2377, 2457, 3483, 3838, 4494, 4572
Herzog, Hans..... 109
Herzog, Raimund I. 4022
Hesketh, Robin..... 160
Hess, Aaron T.. 131, 855, 2029, 2596, 2743, 2745, 4401, 4402
Hess, Christopher P. ..... …890, 3006, 3642
Hesselink, Matthijs K.C. .. 1977
Hesterman, Jacob 1719
Hetherington, Hoby P..... 2016, 2739, 2784, 3974, 3994, 4400
Hettinger, Patrick 2315
Hettrich, Carolyn..... 1598
Hetts, Steven W..... 472, 1391, 1392, 4318, 4335, 4524
Hetzer, Stefan..... 4208
Heule, Rahel..... 467
Heusch, Philipp 574
Heussel, Claus-Peter..... 651
Heverhagen, Johannes T... 2779
Hewett, Joseph J. 4481
Hey, Silke..... 2385, 2532, 4233
Heye, Tobias 1755
Heye, Tobias J. 4463
Hezel, Fabian..... 395, 580, 864, 928, 1296, 1384, 1412
Hickie, Ian B. 1197
Hiepe, Patrick..... 1952, 3491, 3505, 3512
Higaki, Atsushi..... 1530, 1555, 1558, 1566
Higashi, Hiroki..... 1530
Higashi, Masahiro .. 2981, 4545
Higashida, Randall 2995
Higgins, David M.. 1495, 2616, 4444
Highchi, Toshihiro 2343
Highton, Louise A. R. 1937
Higuchi, Satomi..... 3660, 3787
Higuchi, Toshihiro 1579, 1643, 2338, 3955
Hilborne, Sarah 1280, 1287
Hilker, Nicholas 4037
Hill, Deborah K. 1926, 3919
Hill, Susanna 782
Hillenbrand, Claudia M. 374, 388, 1147, 2408, 4198
Hillis, Argye..... 3013
Hilton, Gene C. 2768
Hilton, Joan 632
Himanshu, Bhat..... 244
Himmelreich, Uwe ..... …518, 1139, 1496, 1505, 1721, 3690, 3694, 3989, 4059
Himoto, Yuki 1578, 3450, 4132
Hindman, Nicole 94
Hingorani, Dina V.. 1906, 3870
Hinks, R. Scott 3741
Hinrichs, Jan..... 650, 744, 1497
Hintze, Christian 1481
Hipko, Scott ... 995, 1089, 1250
Hippe, Daniel S. 875, 879, 3636
Hirad, Adnan..... 1878
Hirano, Masaharu... 4532, 4551
Hirano, Yoji 1188
Hirano, Yuji 3086
Hiraoka, Masahiro..... 4106
Hirata, Hiroshi..... 1986
Hirata, Koji..... 3955
Hirata, Satoshi..... 2006, 3955
Hiratsuka, Yoshiyasu 2992
Hirayama, Akihiro..... 1213
Hirose, Masanori 4122
Hirotani, Makoto 2111
Hirsch, Jochen G. 4160
Hirsch, Lawrence 3994
Hirsch, Sebastian…... 380, 872, 873, 2424, 2428, 2430, 2439, 2440, 4076
Hirtler, Daniel 4447
Hirvasniemi, Jukka... 641, 1662
Hisatsune, Tatsuhiro..... 1945
Hitchens, T. Kevin ..... …1862, 1867, 2455, 3860, 3861, 3906, 1386, 1408, 1446
Hitt, Dave Michael . 3534, 3538
Hiwatashi, Akio 213, 955
Hnilicova, Petra..... 2893
Ho, Andrew M. 809, 1705, 1727
Ho, Charles 3533
Ho, Chien…. 1386, 1408, 1446, 1862, 1867, 2455, 3860, 3861, 3906
Ho, Chien-Chang..... 3194
Ho, Leon C. 298, 334
Ho, Pei-Shan 3227
Ho, Yi-Ching Lynn 1127
Hoad, Caroline L.... 4053, 4054
Hoang, Bao 1712
Hochman, Amit..... 2804, 2831
Hock, Andreas..... 1113, 1359, 2589
Hocke, Carsten 2817
Hocking, Julia 3304
Hockings, Paul D. 1490
Hoeger, Simone..... 1545
Hoehr, Cornelia..... 1265
Hoeks, Joris..... 1977
Hoelscher, Uvo C. 371
Hoeper, Marius..... 744
Hoerr, Verena..... 1404, 1866
Hoff, Michael Nicholas... 2563, 2564

Hoff, Uwe 28, 29
Höfflin, Jens 728
Hoffman, Chen 1157
Hoffmann, Christian 1472, 1474
Hoffmann, Jens 291, 1982, 2013, 2529
Hoffmann, Karl-Titus 2854
Hoffmann, Lukas 2250
Hoffmann, Stefan H. . 216, 1983
Hoffmann, Werner. ... 395, 833, 3504, 4404
Hofman, Paul A.M. ... 458, 990, 1022, 1166, 1187, 1944, 2218, 2288
Hofmann, Heinrich . 2698, 3905
Hofmann, Nicole Anette 765
Hofstaetter, Jochen 3532
Hofstetter, Lorne 1819, 4336
Hofstetter, Shir 839, 3651
Hoge, Richard D. 851, 2871, 2872, 3340
Hoge, W. Scott 478, 3329, 4300
Hohlfeld, Jens 650
Hokamura, Kazuya 1868
Holahan, John M. 2268
Holak, Piotr 562
Holbrook, Andrew B. 227
Holbrook, Natalie M. 3592, 3599
Holden, Arun 4493
Holder, Chad A. 969
Holdsworth, David W. 2409
Holdsworth, Samantha J. 73, 121, 211, 369, 842, 2044, 2061, 2084, 3023, 3167, 3195, 3830
Holiga, Stefan 379, 524
Holladay, Bruce 1687
Holland, Scott 2946, 3051
Holland, Scott K. 908
Hollingsworth, Kieren G . 1383, 1385, 2616
Hollingsworth, Neal 2744
Hollmann, Charleen 1021
Holm, Sverre 2447
Holmay, Mary 1939
Holmes, David 4432
Holmes, Holly Elizabeth ... 3679
Holmes, James H. .. 1273, 1274, 1286, 1422, 1541, 1683, 2635, 3820, 3832
Holmes, Nathan 1114
Holmes, William M. 1133, 1387, 1389
Holodny, Andrei 3562
Holthuizen, Ronald ... 469, 4324
Höltke, Carsten 157
Holtorf, Megan L. 504
Holtrop, Joseph 607
Holtrop, Joseph L. .. 2064, 2442
Holtzclaw, Lynne A. 496
Holtzheimer, Paul E. 1183
Homagk, Ann-Kathrin 3455
Homma, Akihiro 1208
Homma, Kazuhiro 2437
Honarvar, Mohammad 2429
Honda, Hiroshi 213, 955, 4093, 4123
Hong, CheolPyo 3515
Hong, Helen 3467
Hong, Keum-Shik 2791
Hong, Kwan Soo 1260
Hong, Kyung P. 1395, 4569
Hong, Kyungpyo 4510, 4515
Hong, MingJian 2627, 3815
Hong, Suk-Min 2725, 2726, 2773, 4351
Hong, Sung Hwan .. 3502, 3540
Hong, Sungtak 862
Hong, Tan Mui 1068
Hong, Xiaohua 2527, 3676
Hong, Xin 210, 2120
Honig, Stephen 405, 3462
Honkanen, Sanna 1382
Hoogduin, Hans 755, 852, 2284, 3016, 3443, 3818, 4244
Hoogduin, Johannes J. 2594
Hoogenboom, Martijn 1832
Hooker, Jacob M. 759, 760, 3449
Hoon, Alexander 177
Hope, Michael 190, 1345
Hope, Thomas A. 1539, 4086
Hopfgartner, Andreas J. 2395
Hoppel, Charles L. 322
Hopson, Christopher 1712
Hopson, Ryan D. 2162
Hoque, Majura 1901
Hoque, Sheikh Manjura 3898
Hor, Pei-Herng 1371
Horacio, Soto 808
Horch, R. Adam 1595, 1603
Horev, Judith 425
Horger, Wilhelm 1488, 2059
Hori, Masaaki 2866, 3477, 3637, 3669, 3672
Hori, Saeka 2935, 2985
Horie, Tomohiko ... 3172, 4154, 4165
Horiga, Masabumi 2712
Horiguchi, T. 4064
Horkay, Ferenc 496
Horlick, Simon 1661
Hormuth, David A. , II 1697, 1715, 4137
Horn, Felix 1470
Horn, Lars-Christian 1777, 3389, 3399
Horn, Paul 3490
Hornegger, Joachim .. 696, 829, 1146, 1294, 2815, 3749, 3786, 3811, 4528
Horng, Debra E. 2704, 3858
Horowitz, Assaf 711, 3125
Horsewill, Anthony J. 1917, 1920
Horsfield, Mark A. 1179
Horssen, Remco V. 805
Horstmann, Annette 384
Horton, Janet 1731
Horvath, Jeff J. 1755
Hoshi, Yoko 2319
Hoshida, Toru 2112
Hoshikawa, Atsuto 3513
Hossain, Mosaddek 4359
Hossann, Martin 1816, 1896
Hosseinzadeh, Keyanoosh . 275, 596
Hotokezaka, Yuka 3130
Hou, Bo 1031
Hou, Bob 2332
Hou, Bob L. 2986
Houenou, Josselin 779
Hough, David M. 4067
Houitte, Diane 3998
Houston, Gavin 1819, 3328, 4336
Houston, J. Graeme 1325
Houston, John 1277
Houten, Sander M. 117
Hövener, Jan-Bernd 1924
Howe, Franklyn A. 1967
Howell, Leonard 88, 339
Howes, Stuart 3085
Howison, Christy M. 441
Hoy, Colin 2276
Hricak, Hedvig 3394, 3396
Hrovat, Alan 2762
Hrovat, Michael 2762
Hrovat, Mirko I. 1500, 2762
Hsia, Connie C.W. 1494
Hsiang, David J. B. 201
Hsiao, Albert 4443
Hsieh, Hsin-Long 3293
Hsieh, Jen-Chuen 1232
Hsieh, Meng-Chi 3849, 3850
Hsieh, Tsyh-Jyi 2056
Hsieh, Wen-Yuan 1858
Hsu, Chaohsiung 568
Hsu, Christine 195, 3365
Hsu, Edward 1379
Hsu, I-Chow 3915
Hsu, Jee-Ching 1330, 3686
Hsu, Johnny T.C. 2484
Hsu, Shirley 3449
Hsu, Yi-Cheng 532, 668, 3743, 3817, 4247
Hsu, Yi-Hua 2925
Hsu, Yung-Chin 2130, 3161
Hu, Bob S. ..... …189, 543, 555, 694, 1282, 2619
Hu, Caixia 2096
Hu, De-En 160, 661, 3909, 3916
Hu, Houchun Harry… 403, 1641, 1644
Hu, Jiani 443, 1571, 2381
Hu, Jingzhe .. 1923, 1933, 3929
Hu, Juan 92, 1775
Hu, Junmei 3579
Hu, Lingyun 1765
Hu, Lingzhi 483
Hu, Peng…. 193, 485, 542, 608, 2626, 4560
Hu, Rui 789
Hu, Simon 2003
Hu, Siyuan 40, 3292
Hu, Xiaoping P. 36, 325, 610, 780, 939, 969, 1010, 1020, 1183, 1850, 2046, 2208, 2260, 2340, 2605, 2699, 2849, 3284, 3685, 3691, 3867, 3997
Hu, Xinyu 3579, 3600
Hu, Yong 3267
Hu, Yue 2618
Hu, Yuzheng 519, 1180
Hua, Chia-ho 3639
Hua, Jun 381, 413, 428, 845, 2544, 3257, 3648
Hua, Yihe 2708
Huan, Yi 548
Huang, Alan 428
Huang, Amanda W. 2324
Huang, Bingsheng 4148
Huang, Bo-Rong 1518
Huang, Chien-Hsiang 2925
Huang, Chiun-Sheng 1743
Huang, Chuan 1420, 2462, 2684
Huang, Eric C. 4510
Huang, Feng 1306, 1806, 2376, 2610, 2637, 2638, 2642, 2685, 3761, 4533, 4544
Huang, Gengwen 3918
Huang, Hailiang 218
Huang, Hao 171, 175, 800, 2957, 2958, 3190, 3568, 3577, 3616
Huang, Hsuan-Hung 2671
Huang, Hua 4081
Huang, Jessie 823, 1467
Huang, Jiaoti 3391, 3406
Huang, Jie 3359
Huang, Jinbai 685

Huang, Jing.....234, 3897
Huang, Juebin.....1619
Huang, Kuo-Lun.....2223
Huang, Li.....2371, 4190
Huang, Manli.....1202
Huang, Ming-Xiong 2244
Huang, Ngan.....235
Huang, Peiyu 1032
Huang, Pin-Hsun 1145, 2223
Huang, Qiuju 1005
Huang, Shao Ying 4177
Huang, Sheng-Fang 2086
Huang, Sheng-Min . 2547, 3686
Huang, Shiliang 337, 894, 2181, 2323, 2922
Huang, Steven Y.....277
Huang, Su-Chun 3158
Huang, Susie Y.....531
Huang, Teng-Ti 1365
Huang, Teng-Yi. …1218, 1414, 1672, 2289
Huang, Wei.. …504, 717, 1074, 3067, 3380, 3453
Huang, William C.....1570
Huang, Xiaoqi .... …734, 2895, 3555, 3579, 3600
Huang, Yan-Hao.....1743
Huang, Yuegao… 228, 1901, 3411, 3884, 3885, 3898, 4218
Huang, Yuexi.....224, 2915
Huang, Yu-Jie.....2221
Huang, Yun-An 1124, 3717
Huang, Yuqing 2035
Huang, Zirui 2331
Hubbard, Nicholas.....3616
Hubbard, Penny L.….....648, 1480, 1484, 3201
Huber, Klaus M. 2829
Huber, Laurentius 107, 757, 847, 2339, 3339
Hubert, Alexander 3789
Hübner, Neele.....2265
Hübner, Neele Saskia 2322
Huddleston, Daniel . 2699, 2849
Hudelmaier, Martin 1659, 3550
Hudetz, Anthony G.....2249
Hudson, Melissa 388
Hudson, Melissa M.....613
Hudson, Robert H.E 1907, 4221
Hudson, Thomas.....4337
Huentelman, Matt.....1012
Hueper, Katja… 31, 1372, 1548
Huerta, Claudia..... 1247, 2335, 2336
Huerta, Samuel Flores 2328
Huettner, James E. 535
Hugg, James W.....831
Hughes, Ivan.....2780
Hughes, John 284, 2828
Hughes, Ray 4329
Hughes, Sarah.....2776
Hughes-Riley, Theodore... 1456
Hugo, Geoffrey D. 1487
Huhndorf, Monika. . 3626, 3677
Hui, Edward S 498, 786, 2096, 2916, 3084
Hui, Susanta K.....406
Huisman, Marc C. 2179
Hulikova, Alzbeta.....3943
Hulsey, Keith M. 214
Hulshizer, Thomas C. 4395
Humbert-Claude, Marie....2421
Humphries, Kenneth.....1584
Humphries, Paul 4146
Hung, Wei-Feng 2353
Hunter, Jill V. 2898
Hunter, K. 1958
Hunter, Sally. 1280, 1287, 4472
Huo, Donglai 3489, 3716
Hupf, Jonathan 2855
Huppert, Ted.....3524
Hüppi, Petra Susan 796, 896, 903, 2515, 2964, 3675
Hurd, Ralph…655, 3911, 3917, 3931, 3933, 3935, 3938, 3944
Hurley, Michael..... 8, 582
Hurley, Samuel A.….. 452, 636, 1655, 2465, 4210, 4315, 4317
Hurtado, Daniel 1429, 4452
Hurwit, Daniel.....2995
Hussain, Ali.....3573
Hussain, Nuzhat.....3640
Hussein, Mahamoud O 4054
Hussey, Erin 844, 3286
Hussey, Kristen 3529
Husso, Tiia 1382
Huston, Jason 622, 1840
Huston, John, III..... 3216, 3810
Huston, John 2422, 2708, 2711, 2878
Hutchinson, Charles E. 4052
Hutchison, Joanna 3616
Hutchison, R. Matthew.....2231
Hutten, Ryan..... ….2497, 2863, 2869, 3612
Hutter, Diane 2858, 3369
Hutter, Jana.... 696, 3786, 3811, 4528
Hutton, Chloe 3196
Huttunen, Joanna K. 2298
Huuse, Else Marie 500
Huynh, The Hung 1693
Hwang, Dosik..... 1102, 2628
Hwang, Eo-Jin..... …618, 3226, 3263, 3855
Hwang, Jong-Hee ..... …1963, 2419, 4029
Hwang, Juey-Jen 4513
Hwang, Ken-Pin 277, 2406, 2505, 3854
Hwang, Lian-Pin 568
Hwang, Moonjung.....2272
Hwang, Scott N. 969
Hwang, Youngkyoo 1842
Hwu, Hai-Gwo 523
Hyare, Harpreet..... 386, 3011
Hyde, James S. 123, 2315, 2789
Hyder, Fahmeed 118, 228, 299, 1706, 1901, 3242, 3411, 3884, 3885, 3898, 4218
Hylton, Nola M 202, 3202, 3367
Hynynen, Kullervo 224, 354, 2915

I

Iacono, Maria Ida 2841
Iannaccone, Sandro 1173
Iannotti, Joseph 1995
Ibach, Kevin 3363
Ibañez, Borja 256
Ibaraki, Masanobu.....1140
Ibrahim, Tamer S…. 373, 4368, 4370, 4396, 4399, 4408
Ibrahim, Tareq.....576
Ibsen, Per.....2931
Ichikawa, Shintaro.. 1507, 4168
Ichikawa, Tomoaki. 1507, 4169
Ida, Masahiro.....988
Ida, Ryoji.....3436
Iddawela, Mahesh.....3730
Idema, A.J. 986
Ider, Yusuf Ziya 15, 2807, 4187, 4188, 4269
Idiyatullin, Djaudat.... 465, 764, 869, 1684, 2382, 3369, 3446, 3978
Iguchi, Yoshinobu.....2319
Ihlenfeld, Albrecht 893
Iidaka, Tetsuya 2334, 2337
Iihara, Koji 2981
Iima, Mami..... 3103, 3383
Iizuka, Yusuke.....4106
IJsselstijn, Hanneke.....1464
IJzerman, Richard G.....2179
Ikeda, Hajime 2436
Ikenaga, Satoshi 1507
Ikeno, Fumiaki 235
Ikonomidou, Vasiliki N.... 3025
Ikuye, Katharina.....1324
Ileva, Lilia 1696
Illies, Till.....1435
Illing, Rowland.....1800
Ilmoniemi, Risto J. 3743
Ilovska, Veronika.....2893
Iltis, Isabelle.....3418
Im, Kiho 2687, 3007, 3652
Im, Michael..... 145, 3468
Imai, Hirohiko.....1962
Imai, Yutaka..... …910, 3097, 3172, 4154, 4165
Imakita, Takuma 3383
Imamura, Naho.....3740
Imamura, Yukinobu 2710
Immer, Christopher 2708
Immerman, Igor 3482
In, Myung-Ho2575, 3212, 3770
Inage, Kazuhide 942
Inamura, Shinya 1685, 2761
Inati, Souheil J..... 2230, 2646, 2658, 2672, 3055
Inbar, Yael.....4061
Ind, T. E. 594
Indelicato, Daniel J.....3639
Inder, Terrie E. 2972
Ingalhalikar, Madhura 2088, 2089, 2204
Ingle, R. Reeve189, 1293, 2581
Inglese, Matilde.....3298
Inglis, Ben 3352
Ingo, Carson 3189
Ingram, Pier.....1064
Ingrisch, Michael..... 591, 3105, 4141
Inoue, Taeko.....2930
Inoue, Takashi 1244
Inoue, Yusuke 3262
Inouye, Josh 1228
Intrapiromkul, Jarunee 4040
Inuggi, Alberto 1030, 1173
Iordanescu, George 1709, 3239
Iorio, Egidio 807
Ipek, Ozlem.....1791
Iraji, Armin.....1162
Irarrázabal, Pablo .. 1347, 1429, 2704, 4452
Irfanoglu, Mustafa Okan 710
Irigoyen, Jaione.....2193
Irwin, Kent D. 2768
Isaac, Gamaliel.....2660
Ishibashi-Ueda, Hatsue..... 2981
Ishida, Masaki 4516, 4529
Ishii, Masaru.. 821, 1461, 1463, 1466, 1468
Ishikawa, Kinya 2850
Ishikawa, Miho.....3479
Ishimori, Mariko L. 541

Ishimura, Rieko 1397, 1425, 1428
Ishino, S. 4064
Ishizaka, Kinya 2111
Ishizawa, Kazunori 1685, 2712, 2761
Iskander, A.S.M. 3058
Ismail, Tevfik . 479, 4502, 4504
Isobe, Tomonori 1968, 3086, 3108, 3526
Isoda, Haruo 4478
Isogai, Jun 4475
Isoshima, Shiho 4516
Issa, Bashar 1888
Issels, Rolf D. 1816, 1896
Itagaki, Koji 2551
Italiaander, Michel ..... …1789, 2729, 3368, 4373, 4397, 4538
Ito, Hiroshi 3198
Ito, Katsuyoshi 1530, 1555, 1558, 1566
Ito, Ken 1719
Ito, Kenji 2066, 3660, 3787
Ito, Kosuke 2598, 2599
Ito, Satoshi 2604, 2675
Ittermann, Bernd 893, 1241, 2827, 3504, 4259, 4404
Ittyerah, Ranjit 1046, 1053, 1723, 2541, 2697, 3421
Ius, Tamara 967
IV, Jacques Machol 2315
Ivancevic, Marko 96
Ivancevic, Marko K. 1742, 3371, 3372
Ivanov, Dimo .. 847, 2472, 3339
Ivkovic, Milos 3619
Iwadate, Yuji 1502, 3180, 4280
Iwata, Hiroo 2559, 3520
Iyer, Srikant Kamesh 2607
Izadpanah, Kaywan 637
Izzillo, Reynald 1281

J

Jaberi, Arash 1667
Jabourian, Maritza 737
Jack, Clifford R. 2422, 2477, 2878
Jackowski, Marcel Parolin . 481, 581, 3587, 4495, 4496
Jackson, Alan 3071
Jackson, Andrew 276, 4094
Jackson, Edward ... 2505, 3854, 4032, 4338
Jackson, Graeme 787
Jackson, Kimberly 197
Jackson, Sonya 1490
Jackson, Steve 3221
Jacob, Augustinus Ludwig 1283
Jacob, Mathews 2411, 2613, 2618, 2622, 3802
Jacobs, Andreas H. 1767
Jacobs, Igor 423, 1826, 1894
Jacobs, Julia 522
Jacobs, Russell E. … 1257, 1860, 2927
Jacobson, Joseph L. 886
Jacobson, Sandra W. 886
Jacquemyn, Yves 1243, 3095
Jacquier, Alexis 317
Jaeschke, Sven 3788, 3789
Jafar, M. 594
Jafar, Maysam ... …3395, 3397, 3874, 3919
Jafari-Khouzani, Kouros …516, 971, 3061, 3635
Jagadeesan, Bharathi D. 954, 4446
Jagannathan, Naranamangalam R. 98, 223, 338, 2947, 3229, 3232, 3377, 3382, 4024, 4049
Jagannathan, Shridhar R ... 1187
Jager, Rolf H. 2987, 3011
Jaggi, Hina 43, 1094, 3601
Jahani, Jeiran 3073
Jahanian, Hesamoddin 2266
Jahng, Geon-Ho 618, 2911, 3226, 3263, 3855
Jain, Apar 2321
Jain, Nidhi 3959
Jain, Nimit 119
Jain, Rajan 3058, 3444
Jain, Varsha 917, 1351, 2953
Jajamovich, Guido H. 1508, 2212, 4077, 4082, 4163
Jakary, Angela 974, 3592, 3599
Jakob, Peter M ... 371, 647, 650, 1340, 1366, 1489, 1497, 1498, 1600, 2185, 2394, 2395, 2475, 2561, 2788, 3549, 3710, 4105, 4213, 4273, 4283, 4392
Jakovljevic, Djordje G. 1383, 1385
Jalan, Rajiv 1509, 3117
Jalbert, Llewellyn E. 510
Jalbert, Trey 2003
Jambor, Ivan 3398
James, Camilo 4145
James, George Andrew 2269
James, Jija S. 2900
James, Judy R. 357, 1619
James, Martin W 276, 4094
Jameson, Charlie 1776
Jamil, Saad 2874, 3625
Jamin, Yann 448, 1749, 1905
Jan, Ning-Jiun 273
Janardhanan, Nirmal 2674, 3805, 3812
Jang, Albert 263
Jang, Hyungseok 2522, 2524
Jang, Jinhee 1138
Jang, Kyung-Eun 1155, 1172
Jang, Ming-Kuei 1069
Jang, Taichang 3938
Jani, Piyush 1211
Janich, Martin A. 656, 1934, 2103, 2966, 3924
Janiczek, Robert L. 691
Janik, Rafal 1159, 1855
Janke, Jutta 3079
Jankiewicz, Marcin ... 367, 4262
Jankovic, Drazenka 4514
Jann, Kay 1143, 2267, 3046, 3168, 3246, 3308
Janowich, Jacqueline 1943
Janowski, Miroslaw .. 562, 1061
Jansen, Diane 2316, 3687
Jansen, Jacobus F.A. . 507, 990, 1022, 1166, 1187, 1944, 2218, 2288, 3104
Jansen, Maurits A. 4012
Jansen, Olav 3626, 3677
Jansen, Sanaz 1696
Janssen, Barbara H. 1631, 1634
Janssen, Henk 1894
Janssen, Luuk M. 3666
Janssens, Sharon M. 1957, 1960, 1964
Janus, Nicolas 1574
Janve, Vaibhav 4229
Jao, Terrence 4525
Jara, Hernan 3146, 4095
Jarjour, Nizar 1492
Jarnagin, William ... 1514, 1515
Jarraya, Béchir 2905
Järvinen, Jukka 3398
Jarvis, Kelly 4450
Jasinski, Krzysztof 2392
Jasmin-Lebras, Guenaelle 4348
Javed, Saleem 4007
Jaw, Fu-Shan 3293
Jawad, Abbas 2978
Jayakumar, Vasumathi 522
Jayapalan, Manivannan 4293
Jayasundar, Rama .. 1512, 1523, 1525, 3430
Jayatilake, Mohan L. 504, 3067, 3380, 3453
Jayson, Gordon C. 2693
Jbabdi, Saad 52, 835, 2074, 2122, 3022
Jech, Robert 379, 524
Jeffery, Justin J. 441
Jehna, Margit 840
Jeibmann, Astrid 1866
Jelenik, Tomas 2419
Jelescu, Ileana Ozana 490, 1263, 3181
Jella, Pavan 166, 4133
Jellus, Vladimir 635, 3513, 4220, 4227
Jelsone-Swain, Laura 889
Jeneson, Jeroen A. 1965
Jenista, Elizabeth R. 4530
Jenkins, Trevor 4491
Jennings, Dominique L. .. 1154, 4338
Jensen, Christoph 4530
Jensen, Jens H. .. 489, 498, 786, 993, 2079, 2096, 2916, 3084, 3139, 3183
Jensen, Matthew 3306
Jensen, Michael 3910
Jentarra, Garilyn M. 1045
Jeon, Bong-sik 1276
Jeon, Eun-Young ... 1877, 1879, 1881, 1895
Jeon, Tina ..171, 175, 800, 2957
Jeong, Annie 1021
Jeong, Dayae 1050
Jeong, Eun-Kee 1184, 1222, 1569, 2736, 2781, 4011
Jeong, Gwang-Woo 3224, 3560, 3584
Jeong, Ha-Kyu 2120, 3511
Jeong, Hongbae 2725, 2726, 4351
Jeong, Jeong-Won . 2971, 2973, 3581
Jeong, Woo Chul …2518, 4170, 4172, 4176, 4181, 4184
Jeong, Yong 582, 3790
Jerdee, Theodore 1615
Jerecic, Renate 19
Jerome, Neil P. 2201
Jerschow, Alexej . …419, 3521, 4228
Jerskey, Beth A. 801, 911, 2955
Jesmanowicz, Andrzej 123, 2673, 2789
Jespersen, Sune N. ... 699, 1757, 2071
Jessen, Frank 952
Jeukens, Cecile RLPN 990, 2218
Jeurissen, Ben 2047, 3149, 3186
Jeyaratnam, Ram 1529
Jezzard, Peter .. …54, 110, 348, 623, 853, 1128, 1137, 2148, 2347, 2989, 3176, 3991, 4401, 4541
Jha, Nikhil 4503

Jha, Saurabh....4550
Ji, Jim....2357
Ji, Jim X....4255
Ji, Min....24
Ji, Qing....3165, 4207
Ji, Xunming....2918
Jia, Feng ... 16, 666, 2384, 2709
Jia, Guang.. …503, 1657, 2531, 2532, 3451
Jia, Hao....36
Jia, Xun....3808
Jian, Yang....901, 907
Jian, Zhijie....897
Jiang, Bo....1031
Jiang, Chunxiang…1013, 2274, 2868, 2885
Jiang, Dengrong....2584, 2642
Jiang, Hangyi....3150
Jiang, Jie....1036
Jiang, Jing....1338
Jiang, Jingting....1571
Jiang, Ke....3525
Jiang, Li....1350
Jiang, Lihong....118
Jiang, Lu....811, 1708
Jiang, Quan 3297, 3649, 3681, 3682
Jiang, Tao....3102
Jiang, Wenwen....1914
Jiang, X....84
Jiang, Xia....2520
Jiang, Xuexiang....1020, 3400, 3404, 3407, 4143
Jiang, Yin....2340
Jiang, Yue-Ming....387, 2851
Jiang, Yulei....96, 1772
Jiang, Yun....6, 19, 1447
Jie, Gao....901
Jimenez-Borreguero, Luis Jesus....256
Jin, Chenwang....1177, 3222
Jin, Hantao....1546
Jin, Jeong Hye....902, 927
Jin, Jiaoting....1015
Jin, Jin.... 727, 3701, 3815, 3819, 4418, 4421
Jin, Lixin....548
Jin, Ning .. 66, 876, 1336, 1613, 2405, 2433, 3734, 3826, 4222, 4285, 4440
Jin, Ruyun....3641
Jin, Seong-Uk....1155, 1172, 1245, 1260, 1884, 2272, 2333, 2345, 3656
Jin, Tao2528, 2530, 2542, 2550
Jin, Wook 618, 3226, 3263, 3855
Jin, Yun-Jang....3661
Jin, Zhen....2327
Jing, An....1803
Jirak, Daniel....4058
Jo, Hang Joon....3285
Jo, Jun-ichiro....3891
Jochimsen, Thies H.2472, 2884
Joe, Bonnie N. 3367
Joe, Eunhae....3922
Joehrens, Korinna....2428
Joel, Suresh E. 2261, 2984, 3075, 3257
Joel, Suresh Emmanuel 3281
Jog, Mayank A. 2953
Jogiya, Roy....186
Joh, Shigeharu....1244
Johansen, Heather....2949
Johansson, Adam....1665
Johansson, Lars 4050
John, Griffiths R. 4038
John, Schmitz J.....4107
Johnson, Aime K. ... 1075, 1076
Johnson, Amy....1793
Johnson, Ann....2894
Johnson, Brian....1239
Johnson, Casey P.....733, 2613, 3220, 3243, 3266, 4215
Johnson, Curtis L....2425, 2442
Johnson, David H. 534
Johnson, Edward 1081
Johnson, Ethan M. .. 1822, 2509
Johnson, G. Allan… .. 23, 1057, 2939, 3076, 3157, 3416
Johnson, Glyn....3073
Johnson, Kevin M.. 10, 70, 622, 626, 646, 653, 1136, 1332, 1432, 1492, 1607, 1676, 1677, 2402, 2449, 2993, 3832, 3918, 3936, 4101, 4442, 4450
Johnson, Micah....2970
Johnson, Peter....2105
Johnson, Rebecca 1398
Johnson, Sean Peter. 506, 1698, 1701, 2188
Johnson, Sterling 1840
Johnston, Leigh A.. 2456, 2667, 3843
Johnston, Megan E. 2154, 2163
Johnston, Michael V.....1073
Johnston, Peter V.....4314
Johst, Sören . 2759, 3772, 4281, 4474
Jolly, Marie-Pierre....575, 1434
Jonathan, Sumeeth Vijay…582, 2352, 3790
Jonckers, Elisabeth 3313
Jones, Amber....4196
Jones, Annette 4279
Jones, Blaise V. 923
Jones, Carrie K. 2324
Jones, Craig 413, 428, 845, 1019, 2261, 2544, 2555, 3257, 3648, 3840, 3990
Jones, David T.....2878
Jones, Derek K. . 778, 843, 895, 1049, 2055, 2126, 3148, 3663
Jones, Edward C.....2429
Jones, Ella 3367
Jones, Jennifer L..... 2883, 3300
Jones, John G. 673
Jones, Kristen L.....1044
Jones, Melina....1061
Jones, Nia W. 4130
Jones, Peter....227
Jones, Scott....3441
Jones, Stephen 752, 2142, 4422
Jones, Terence A. 4052
Jong-Hwan, Lee 927
Jong-Yeon, Lee 927
Jonhson, Curtis....2423
Jonkers, Richard AM..... 1960, 1964
Joo, Bio 225
Joo, Ijin....4055
Joon-Sup, Jeong 902
Jorda, Merce....1771
Jordan, Bénédicte F. 1139, 1700,1750, 1760
Jordan, Caroline 436, 1671, 1690
Jordan, Lori 207
Jordan, Maria Veronica C . 155, 1563
Jordanova, Kalina V. 370
Josan, Sonal... 655, 3911, 3917, 3931, 3933, 3935, 3938, 3944
Joseph, Antoine....1058
Joseph, Arun... 676, 4441, 4567
Joseph, Jesuchristopher 886
Josephs, Oliver 3196, 3780
Joshi, Anand A. 55, 1951, 2691
Jost, Gregor 748
Jou, Tiffany 2281
Joubert, Ilse .. 1280, 1287, 4472
Jovicich, Jorge... …2764, 2873, 2913, 3280, 3554
Joy, David 1149
Ju, Anes....1979
Ju, Shenghong 26, 357, 564
Juan, Chun-Jung....1218
Juang, Chi-Long....1711
Juchem, Christoph....667
Jucker, Beat M. 1712, 1768
Juge, Lauriane 2447
Juhasz, Csaba 2973
Juhasz, Kolman 4387
Julian, Maclaren 842
Juluru, Krishna..... 1531, 2207
Jun, Li Xian....901
Jun, Zhang Zeng....901
Jung, Bernd …477, 1304, 2647, 2651, 3821, 4435, 4451, 4483
Jung, Jinyoung 1946
Jung, Ki-Hye 1877, 1879, 1881, 1895
Jung, Kwan-Jin..... 3145, 3192
Jung, Rex....3585
Jung, So-Lyung....1138
Jung, Sungkyu....4358
Jung, Youngkyoo 583, 2154, 2163
Junge, Sven 2780, 4359
Junichi, Hata....3514
Juras, Vladimir... ….688, 1605, 2473, 2795,3465, 3466, 3471, 3475, 3532, 3539, 4140, 4142
Jurcoane, Alina..... 1105, 2513
Jurkat-Rott, Karin....116
Jurvelin, Jukka S. 641, 3546
Just, Nathalie....1261
Jutras, Jean-David 2451
Jyo, John 3562

K

Kabasawa, Hiroyuki..... 1134, 1502, 2998, 3109, 3180, 3725, 4168, 4280, 4480
Kabisch, Stefan 2472
Kabolizadeh, Peyman..... 596
Kachramanoglou, Carolina 1126
Kaczmarczyk, Tomasz 3264
Kadashevich, Ilja....3755
Kadayakkara, Deepak K… 426, 3863, 3899
Kadbi, Mo 67, 1346, 4445
Kaddoum, Roland N.....2961
Kadem, Lyes 64, 1328
Kadlecek, Stephen J. . 821, 823, 1461, 1463, 1466, 1467, 1468, 1916, 1925,1932, 3426, 3952
Kägebein, Urte 1836, 4012
Kaggie, Joshua D. . 1221, 2736, 2781, 4010, 4343
Kahl, Kai G. 1372
Kahl, Sabine....1963
Kahn, Thomas 1777, 1843, 3389, 3399, 4096
Kaichi, Yoko 3479
Kailavasan, Mithun 3427

Kaiser, Jeffrey R. 174, 2107, 2269
Kaiser, Mandy 1836
Kaiser, Sven..... 3115
Kajdacsy-Balla, Andre A.. 1783
Kaji, Tatsumi 1781
Kakite, Suguru..... 1533, 4169
Kakkad, Samata..... 1710, 1734
Kalantari, Saeed..... 1226, 1227
Kalayciyan, Raffi... 1562, 4008, 4014, 4355
Kalb, Bobby T. 1528, 1573, 3829, 4070
Kali, Avinash..... 254
Kalin, Ned 2141, 2928
Kalinina, Juliya..... 511
Kalita, Katarzyna..... 2392
Kalk, Nicola..... 1953
Kallehauge, Jesper F..... 1752, 1757
Kalnin, Andrew 3295
Kalpathy-Cramer, Jayashree 516, 3061, 3197
Kalra, Philip A..... 1547
Kalra, Sanjay 1017
Kaluza, Owen L..... 2667
Kamagata, Koji..... 2866, 3669, 3672
Kamath, Amita 3439
Kamath, Amith J..... 59
Kamel, Alaaeldin..... 641, 1662
Kamel, Ihab R. 280, 1537, 1538
Kamen, Ali 4498
Kamigiri, Akira..... 4516
Kaminsky, Stephen..... 1021
Kämmer, Stefan..... 3205
Kampf, Thomas..... 371, 2185
Kamphues, Carsten..... 2428
Kan, Enci Mary 1054, 1068, 1072, 2015
Kan, H.E. 3982
Kan, Hermien E. 2008, 2960
Kana, Rajesk K..... 520
Kanakia, Shruti..... 3890
Kanakis, Allison 2938
Kanal, Emanuel 2842
Kanamoto, Masayuki..... 3436
Kanao, Shotaro 3383
Kanata, Naoki 4471
Kanbara, Yoshiyuki..... 1244
Kancherla, Swarupa..... 336
Kanda, Kenichi..... 3784
Kanda, Tomonori..... 4471
Kandasamy, Sivakumar.... 3085
Kanekar, Sangam..... 1029
Kaneko, M. 4064
Kaneko, Yukio..... 2756
Kanemitsu, Izumi 1576
Kang, Byung Chul..... 1575
Kang, Heoung-Keun..... 3224, 3560, 3584
Kang, Hyunseok 234
Kang, Min-Kyoung 1877, 1879, 1881, 1895
Kang, Shih-Tsung..... 1825
Kang, Sung Eun..... 3502
Kangarlu, Alayar 4383
Kanki, Akihiko.. …1530, 1555, 1558, 1566
Kannengiesser, Stephan 401, 4088, 4089
Kanno, Iwao 3198
Kano, Mitsunobu R. 1869
Kanowski, Martin..... 3264
Kantarci, Kejal 2477
Kanzaki, Suzu..... 4545
Kao, Chris 335
Kao, Evan..... 4437
Kao, Yu-Chieh Jill..... …335, 2312, 3236, 3237
Kapilamoorthy, T. R..... 2900
Kaplan, Lindsay..... 1018
Kaplan, Mohammed..... 4521
Kaplitt, Michael..... 1021
Kapoor, Raj 1212
Kapoor, V. 3430
Kappos, Ludwig …1101, 2903, 3618
Kapur, Tina..... 1847
Kapusta, Christopher..... 1995
Kara, Firat 2881, 2882
Karademir, Ibrahim 96
Karahanoglu, Fikret Isik... 2290
Karaman, M. Muge 2232, 2285
Karampinos, Dimitrios C.. 144, 684, 3460, 3461
Karas, Vasili..... 3529
Karczewski, Peter..... 616
Karczmar, Gregory S... 96, 154, 678, 1702, 1758, 3054, 3371
Karimi, Hirad 4319, 4332
Karimi, Shaghayegh 4000
Karis, John P. 2582
Kariyasu, Toshiya..... 1397
Karkada, Mohan..... 502
Karkowski, Philipp..... 3372
Karlas, Thomas..... 4096
Karlsson, Anette..... 1682
Karmarkar, Parag..... 4314
Karow, David 3391
Karpitschka, Martina..... 2082
Karpuk, Sergej..... 1472, 4118
Karr, Lindsay..... 1089
Kartäusch, Ralf..... 371
Kartmann, René..... 830
Karunanayaka, Prasanna.... 908, 1153, 3228
Kaspar, Selina 1642
Kasper, Johnathan D. 1639
Kasper, Lars 304, 552, 2715, 3332
Kassner, Andrea 3571
Kassubek, Jan..... 3080
Kasten, Jeffrey Adam..... 2666
Katabi, Dina 2019
Katahira, Kei 3436
Kataoka, Kazunori..... 1869
Kataoka, Masako…1579, 3383, 4132
Katayama, Ikuo 3130
Katayama, Motoyuki..... 1134, 1288, 1502, 2998
Kates, Brian S..... 1837
Katkuri, Yashwanth.. 166, 4133
Kato, Naoki 1868
Kato, Roberta 251
Kato, Tomomi 1759
Kato, Yoshinori . 159, 236, 238, 561, 3419
Katscher, Ulrich …3372, 3626, 4237, 4254, 4260, 4410
Katsikatsos, Giorgos..... 2742
Katsura, Masaki..... 3477, 3637
Kattel, Krishna 3887, 3889
Kattel, Krishna 3902
Katwal, Santosh..... 3283
Katz, Seth S..... 3438
Katz-Brull, Rachel..... 1915
Kauczor, Hans-Ulrich. 647, 651
Kaufman, David 3557
Kaufman, Marc J. ... 1034, 4044
Kauko, Tommi 3398
Kaulisch, Thomas..... 2790
Kaur, Prabhjot 3019
Kaur, Ramneek..... 979, 2170
Kaur, Tanzeer..... 3688, 3695
Kaushik, Sandeep..... 3720
Kaushik, Suryanarayanan . 818, 1451, 1452
Kavanagh, Brian..... 823
Kaveh, Razieh 487
Kawadler, Jamie M. 212
Kawahara, Takashi..... 3513
Kawai, Hisashi 1233
Kawai, Yuko . ……1643, 2338, 2343, 3955
Kawaji, Keigo 2591
Kawakami, Fumi..... 3386
Kawamitsu, Hideaki..... 4100, 4104, 4112, 4113, 4479
Kawel-Boehm, Nadine 4553, 4561
Kay, Kendrick 3160
Kaye, Elena 232
Kaye, Jeffrey A. 994
Kaye, Stan 508
Kaza, Evangelia 1488
Kazan, Samira… ... 3427, 3913, 3925, 3949, 3951
Kazerooni, Anahita Fathi 2703, 2703, 3087
Kazuhiro, Homma..... 3514
Kazuo, Yagi 3514
Kazuya, Yasokawa..... 1555
Kazuyuki, Mizuhara..... 3514
Ke, Hanping 4288
Keall, Paul..... 1587
Kearney, Hugh 2095
Keating, Brian Robert 2580
Keavney, Bernard D..... 1385
Kecskemeti, Steven..... 452
Keegan, Jennifer…... 479, 486, 4502, 4504, 4505, 4554, 4557, 4564
Keenan, Kathryn E..... 4338
Keenan, Kelly A..... 2209
Keerthivasan, Mahesh B 246
Kegeles, Lawrence S..... 1206, 3985
Keichi, Yano 3514
Keil, Boris… ... 665, 826, 1018, 1210, 2724, 2731, 2841, 3254, 3305, 3348, 3354, 4386
Keiley, John 2713
Keilholz, Shella..... 2243, 2250, 2255, 2302, 3278
Keith, Brian D. 810
Keith, Graeme A. .. 2596, 2743, 2745, 4402
Keith, Lauren A..... 1273
Keizer, Henk 1894
Kelcz, Frederick 2402
Keledjian, Kaspar M. 3680
Keliris, Aneta 1891
Keller, Margaret 2859
Keller, Sarah..... 4060
Keller, Timothy 3192
Kelley, Douglas A.C. 1654, 2508, 3642
Kelley, Mark C..... 3384
Kellihan, Heidi B. 1356
Kellman, Peter.... ….184, 1296, 1384, 1394, 1396, 1402, 2672, 4559, 4572
Kellner, Elias…..... 703, 2169, 2213, 2226, 3065
Kellner-Weldon, Frauke... 1143
Kells, Adrian..... 3907
Kelly, Claire E..... 905
Kelly, Douglas A.C. 247
Kelly, Michael E. 3275
Kelm, Nathaniel D. 2324

Kelsch, Wolfgang 2321
Kemeny, Nancy 1514, 1515
Kemp, Graham J. 1968, 3108, 3526
Kendall, Giles 2948
Kendrick, Keith Maurice 734
Kennedy, Brett W.C… 661, 3909, 3916
Kennedy, Cheryl 1003
Kennedy, Fiona 2987
Kennedy, James 1191
Kennedy, Paul 1620
Kennerley, Aneurin .. 757, 3913
Kenney, Joanne 1200
Kenning, Lawrence 962, 975, 976
Kent-Braun, Jane 1622
Kenul, Damon 940, 1094, 2688, 3601
Keogh, Bart P. 45, 3613
Keough, Michael B. 1050
Kerchner, Geoff A. 248
Kern, Johannes S. 2908
Kernert, Miriam 2321
Kerr, Adam 125, 248, 723
Kerr, Adam B. . 215, 370, 537, 555, 652, 2398, 2512, 4267
Kerr, D. 2332
Kersbergen, Karina J. 172
Kershaw, Jeff 3198
Kershaw, Lucy 900, 1317
Kersting, Anette 1165
Kerwin, William….1301, 1302, 3059
Kesavadas, Chandrasekharan 2900
Keserci, Bilgin 4125, 4312
Keshari, Kayvan R. 567, 812, 3429
Keshavan, Matcheri 1196
Kessels, Roy PC 1944
Ketkar-Atre, Ashwini 4059
Kettunen, Mikko I. …160, 661, 3909, 3916, 3937
Keupp, Jochen ..... ….213, 559, 828, 955, 1782, 2532, 4123, 4233, 4237
Keutzer, Kurt 2630
Khabipova, Diana 2493
Khalafvand, Seyed Saeid .. 1326
Khalighi, Mohammad M . 2595, 4267
Khalil, Nadia 4220, 4227
Khan, Ahmad Raza. 4007, 4023
Khan, Ali 162, 1249, 2689
Khan, M. Ayaz 1238, 1253
Khan, Sarah N. 487
Khan, Stephanie 1331
Khandelwal, Sudhir 1207
Khanicheh, Azadeh 2999, 3294
Khatamian, Yasha 2234
Khatib, Dalal 1189, 1193
Khatir, Dinah S. 4139
Khegai, Oleksandr .. 1934, 3924
Khemtong, Chalermchai 659
Khin, Htwe K. 3388
Khirchenko, Dmitry 4145
Kholmovski, Eugene G. .. 1395, 1445, 4462, 4484, 4510, 4515, 4562, 4569, 4575
Khong, Pek Lan 3270, 3273
Khoo, ChinMeng 1526, 2701
Khoo, Michael C.K. ..... ….251, 1235, 2714
Khushu, Subash. …3019, 3559, 3688, 3695, 3864, 3995, 4005, 4006, 4007, 4020, 4023
Kichikawa, Kimihiko 2935, 2985
Kickhefel, Antje 3789
Kida, Ikuhiro 2319
Kido, Aki. 1…578, 1579, 2102, 3450, 4106, 4132, 4468
Kiefer, Berthold… 283, 401, 696, 829, 1769, 2059, 2368, 3749, 3786, 4160
Kiefer, Garry E. …3884, 3885, 4218
Kiel, Jeffrey W. 2308, 2309, 2310
Kielar, Ania 1667
Kiely, David 1348
Kierans, Andrea S. 940, 1570
Kiguchi, Kayo ... ….1578, 3450, 4132
Kijowski, Richard.. …431, 636, 1607, 1655, 1676, 1677, 2373, 3545
Kikinis, Ron 937
Kikuchi, Kazufumi 213, 955
Kikuchi, Keiichi 2992
Kikuta, Kennichi 3043
Kilgas, Phillip 1432, 4455
Kiliaan, Amanda J. . 2316, 3687
Kilian, Wolfgang 1476, 1478
Kilmartin, Liam 1200
Kilroy, Emily.. 106, 2953, 3044
Kim, Ahryum 2803
Kim, Alice 2106
Kim, Boklye 550, 2570
Kim, Bum-soo 1138
Kim, Charles Y. 1275, 4463
Kim, Cho Rong 3887, 3889, 3900
Kim, Dae-Shik 3245
Kim, Daeun 3033
Kim, Dai-Jin 1946, 1979
Kim, Daniel ... 319, 1395, 3803, 4484, 4510, 4515, 4569
Kim, Dong Chan 2401
Kim, Dong Hyun 4172
Kim, Dong-Hyun 231, 1236, 2514, 3851, 3852, 3922, 4173, 4179, 4180, 4183, 4266
Kim, Dongmin 3262
Kim, Eugene 1689, 3846
Kim, Eui Jong 2911
Kim, Eung Yeop 1236
Kim, Eung-Gyu 1276
Kim, Eun-Hee 965, 4039, 4043
Kim, Gwang-Won 3560
Kim, Hahnsung 2514
Kim, Hee-Kyung ... 1877, 1879, 1881, 1884, 1895, 2333, 2345, 3490
Kim, Hwi-Yool 1979
Kim, Hyeonjin 1426, 3540, 4034
Kim, Hyug-Gi 618, 3226, 3263, 3855
Kim, Hyun Grace 488, 4486
Kim, Hyung Joong 2518, 4170, 4172, 4176, 4181, 4184
Kim, Hyung L. 4151
Kim, Hyunki 721, 1751
Kim, InSeong 3516
Kim, Jae-Hwa 1946
Kim, Jeong Kon 528, 2926
Kim, Jinsuh 2613
Kim, Ji-Young 1155, 1172
Kim, Joo-Hyun 1877, 1879, 1881, 1895
Kim, Joonsoo 2401
Kim, Jung Hoon 4055
Kim, Jung Young 1898
Kim, Jung-Bae 1842
Kim, Junghwan 4370, 4396, 4408
Kim, Jung-Hwan 687, 3524
Kim, Junseok 3571
Kim, Kyeong Min 1898
Kim, Kyoung-Nam 2153, 2725, 2726, 4351
Kim, Kyung Sang 3803
Kim, Mi Young 1689
Kim, Min Jung 4180
Kim, Min Oh 4172
Kim, Mina 2533
Kim, Min-Ji… 618, 2911, 3226, 3263, 3855
Kim, Minoh 4180
Kim, Min-Oh.. 231, 4173, 4266
Kim, Misun 3245
Kim, Pan-ki 1276, 1426
Kim, Paul 235
Kim, Raymond J. 4530
Kim, Sang Joon 3641
Kim, Sang-Young .. 1946, 1979
Kim, Seok-Kwun 3584
Kim, Seong-Eun …1184, 1221, 1222, 2567, 4011, 4343
Kim, Seong-Gi 273, 296, 1148, 2299, 2528, 2530, 2542, 2550, 3337
Kim, Si Seung 3515
Kim, SoYoung 3221
Kim, Sungheon.. 197, 200, 968, 1691, 1741, 3364, 3373, 3632, 3641
Kim, Sungjun 1649
Kim, Sun-Mi 618
Kim, Tae 1148, 2159, 3337
Kim, Taeho 1587
Kim, Tae-Hoon 3584
Kim, Tae-Jeong. …1877, 1879, 1881, 1895
Kim, Yeo Ju 1689
Kim, Yoon-Chul 251, 1235, 2714
Kim, Youn Jeong 1689
Kim, Young 528
Kim, Young Ro 2926
Kim, Young-Bo 2153, 2725, 2726, 2773, 4351
Kim, Young-Jo 3535
Kimura, Atsuomi 2551
Kimura, Fumiko 1759
Kimura, Hirohiko .. 1542, 3043, 3634
Kimura, Keisaku 1643
Kimura, Tokunori ..... …3386, 3740, 4468
Kindgen, Sarah 1590
King, Ann D. 3218
King, Jace B. 3575
King, Kevin 1670
King, Kevin F.. …. 1680, 2053, 2054, 2092, 3741, 3777, 3784, 4480
King, Kevin S. 850
King, Martin D. 2139
King, Robert M, ... 2660
King, Sarah L. 2864
King, Scott B. 14, 138, 2721
King, Tricia 3627
Kingdom, John C. 4129
Kini, Lohith 1351
Kinkel, R. Philip 3606, 3608

Kinoshita, Toshibumi 1140
Kinugasa, Ryuta 364
Kinzler, Kenneth W. 565
Kipfer, Hal D. 3375
Kir, Albert 2280
Kiraly, Attila 1755
Kirby, Miranda ... …819, 1457, 1460, 1462, 1471
Kirchberg, Klaus J. 4314
Kircher, Karl 163
Kirchin, Miles A. 1272
Kirchner, Thomas ... 2007, 2464
Kirkham, Alex 1800
Kirkham, Fenella J. 212
Kirov, Ivan I. .. 221, 1938, 3582
Kirpalani, Anish 1529
Kirsch, David G. 3416
Kirsch, Stefan 1614
Kirsch, Thorsten 435
Kirshner, Howard 207
Kirton, Adam 2920
Kiruluta, Andrew J.M. 2792, 2798
Kiselev, Valerij G. .. 703, 2116, 2169, 2213, 2226, 3065, 3073, 3127, 4286
Kish, Stephen 2476
Kishimoto, Riwa 2436
Kishimura, Akihiro 1869
Kiss, Jozsef 3675
Kissinger, Kraig V. .. 257, 1313, 1318, 1319, 1358, 1373
Kister, Ilya 43, 1094, 3601
Kitagawa, Kakuya 4529
Kitajima, Hiroumi 1817
Kitajima, Kazuhiro . 1780, 3386
Kitajima, Mika 2463
Kitajims, Hiroumi D. 4308
Kitamura, Masayuki 1576
Kitamura, Mitsunobu 1368
Kitzler, Hagen H. 3604
Kiyama, Sachiko 2330, 2334
Kjørstad, Åsmund ... 2360, 3119
Klarhöfer, Markus 1283
Klassen, L. Martyn .. 670, 3739, 3987
Klatt, Dieter 380, 871, 2444
Klaver, Peter 740, 1942
Klein, Saskia 2715
Klein, Stefan 146
Kleine, Philip 1498
Kleinhans, Natalia M. 3158
Kleinman, Jonathan 1144
Kleinnijenhuis, Michiel 837
Klemm, Rolf 4435
Kleppestø, Magne 590
Klibanov, Alexander 1865
Klifa, Catherine 3367
Kline-Fath, Beth M. .. 923, 2760
Klinger, Craig 1598
Kliot, Michel 982
Klix, Sabrina 864
Klomp, Dennis W. J. …97, 390, 554, 599, 1708, 1789, 1791, 1970, 2008, 2014, 2387, 2391, 2573, 2729, 3042, 3368, 3401, 3542, 4245, 3982, 4373, 4382, 4397, 4538
Klose, Uwe …961, 1135, 1171, 1176, 2025, 3996
Klostranec, Jesse 1845
Klotz, Laurence 91
Klotz, Sarah 1545
Klüppelholz, Birgit 2419
Kmicikewycz, Alexander 2945, 3594, 3595
KN, Bhanu Prakash 1054, 1072, 1527, 4064
Knight, Robert A. 1875
Knight-Greenfield, Ashle 1533, 4091
Knight-Scott, Jack 3988
Knoblaugh, Sue 1646
Knobloch, Verena 1339
Knoll, Florian .... …2078, 2615, 2636, 2665, 3182, 3827
Knop, Richard 1709
Knopp, Michael V. .. 503, 1657, 2098, 2531, 2532, 3295, 3451
Knox, Katherine 1100
Knudsen, Gitte M. 760
Knutsson, Hans 3179, 3185
Knutsson, Linda 1913, 2198
Ko, Cheng-Wen …. 2086, 2467, 3178
Ko, In Ok 1898
Koay, Cheng Guan 710, 987
Kobayashi, Hitomi 4551
Kobayashi, Masakazu 3660
Kobayashi, Naoharu ..... …366, 2366, 2382
Kobayashi, Tetsuo 2719
Kobayashi, Yasuyuki 4551
Kober, Frank 317, 323, 1321
Kober, Tobias ..... …306, 948, 3009, 3703, 3764
Kobus, Thiele …99, 538, 2020, 3403, 3408
Kocaturk, Ozgur 4316
Koch, Giacomo 328, 2847
Koch, Jill M. 1390
Koch, Kevin ..... …683, 1670, 1673, 2568, 2717
Koch, Kevin M. 558, 2560
Kochanek, Patrick M. 3906
Kochunov, Peter 2263
Kockenberger, Walter 1920
Kodama, Tomonobu 2559
Koegler, Carsten 2757
Koelsch, Bertram 537
Koelsch, Bertram L. 567
Koenders, Marije 3905
Koenig, Alexander M. 2779
Koenig, Katherine …951, 1107, 1240, 2133, 2143, 2853
Koenig, Thomas 3246
Koenigkam-Santos, Marcel 651
Koestner, Simon C. 547
Koff, Matthew F. ..... ……640, 1606, 1670, 1673, 1679, 2560
Kogan, Feliks ..... …420, 1006, 1192, 1438, 2543, 2554
Koh, Dow M. 592, 4149
Koh, Dow-Mu ..... …505, 720, 2201, 2217
Koh, Jason 633
Koh, Tong San 1693, 2220
Kohen, Fortune 1897
Kohichi, Takamoto 3514
Köhler, Max ..... …230, 1829, 4309, 4311
Kohli, Nidhi 3192
Kohli, Rohit 1521
Koji, Takahiro 2988
Kojima, Masatoshi 942
Kok, Trina 2031, 3968
Koken, Peter …469, 470, 2588, 3714, 4324, 4568
Kokeny, Paul 1338
Kokorin, Denis 4248, 4250
Koktzoglou, Ioannis .. 544, 878, 1291, 2189, 4434
Kokuryo, Daisuke ... 1713, 1869
Kolandaivelu, Aravindan 259
Kolasinski, James 2956
Kolb, Rupert ... 961, 2025, 3996
Kolbitsch, Christoph ..... …769, 3745, 3747
Kolind, Shannon H. 1084, 1093, 1103, 1117
Kolipaka, Arunark ..... ….870, 2098, 2100, 2431, 2432, 2433
Kollasch, Peter D. 244, 4107
Koller, Brigitte 2977
Kolli, Kanti Pallav 4335
Kollias, Spyros S. ... 1113, 2589
Köllisch, Ulrich 1930, 3921, 3923
Kolster, Hauke 1505
Komancsek, Adriana 1304, 4483
Komatz, Gerlinde 929, 1217
Komeilizadeh, Nazanin ... 1226, 1227
Komery, Amelia 1060
Komi, Masanori 2463
Komlosh, Michal E. ..... …496, 710, 2058, 2516
Komlosi, Peter 4114, 4116
Komoroski, Richard A. 1991
Kompatsiari, Kyveli 95
Konar, Amaresha Sridhar . 3801
Kondo, Douglas 1184, 4011
Kondo, Hiroki 1597
Kondo, Norihiro 1405
Kong, Jian 760
Kong, Xiangquan 548
Kong, Yazhuo 348
Koning, Wouter ... …390, 2391, 3042, 3442, 4397, 4407, 4538
Konishi, Ikuo 1579, 3450
Konishi, Takashi 3879
Konkle, Justin J. 140
Kono, Saki 1685
Konrad, Kerstin 3650
Konstan, Michael W. 4105
Kontos, Despina 194, 1732
Konyer, Norman B. ..... …930, 2792, 2798
Kooby, David A. 4308
Kooi, Eline 4542, 4543
Kooi, M.E. 589
Kooi, Marianne Eline 1977
Kooijman, Hendrik . 1421, 4127
Koon, Kevin Tse Ve 1650
Koonen, Jos 2385
Koons, Karen 743
Koopman, Mariët J. 1769
Koopmann, Matthias 4510
Koopmans, Peter J. …53, 2045, 2238, 3274, 3704, 3707, 3792
Kopanoglu, Emre 12
Kopeinigg, Daniel 121, 3830
Korchak, Sergey 1476, 1478
Korczykowski, Marc .. 40, 3292
Kording, Fabian 1421, 3057
Koretsky, Alan P. .. …294, 758, 1035, 1561, 1859, 1902, 2833, 3862
Korhonen, Rami K. 3546
Koriakin, Taylor 921
Korn, Natalie 1779
Korosec, Frank R. …. 1273, 1274, 1286, 1541
Korpisalo-Pirinen, Petra 355
Korten, A.G.G.C. 589
Korteweg, Mies A. 3542
Korvink, Jan G. ..... …289, 662, 663, 728, 1229, 2794, 2908, 3766, 4346, 4435
Kos, Sebastian 1283
Kosaka, Nobuyuki 1542

Kosanke, Yvonne 656, 1931
Koschutnig, Karl.....840
Kose, Katsumi 136, 1597, 1685, 2712, 2761, 2771, 3779
Koshy, Matthew 3625
Kosior, Robert 393
Kosofsky, Barry.....1021
Kostic, Vladimir S.....1030
Kostis, William.....481
Köstler, Herbert.....129, 649, 1321, 2454, 2614, 2633, 2649, 3331, 3715, 3771
Kotari, Vikas 3025
Kotecha, Mrignayani 1990
Kotedia, Khushali 1123
Kotek, Gyula .. 146, 1819, 4336
Kotrotsou, Aikaterini.....998
Kotys-Traughber, Melanie2811
Kötz, Kristin 2929
Kou, Zhifeng 1162, 2897, 3561
Koundal, Sunil.....3688, 3695
Kourtelidis, Fotini.....2536
Koush, Yury . 2024, 2028, 2246
Koutcher, Jason A. ...717, 806, 813, 1514, 1515, 3415, 4030
Kovach, Tracy 1228
Kovacs, Zoltan 659, 1909, 3946
Kovacsovics, Tibor J. 3453
Kovanlikaya, Arzu.....919
Kowallick, Johannes.....4441
Kown, Seon-joo.....4338
Koyama, Atsuhisa.....2436
Koyama, Hisanobu.1486, 4100, 4104, 4112, 4113, 4471, 4479
Kozawa, Eito 1759
Kozerke, Sebastian 69, 186, 307, 480, 484, 1318, 1322, 1339, 1355, 1363, 1430, 1918, 2099, 2576, 2643, 2647, 2651, 3098, 3206, 3748, 3835, 3930, 3941
Koziel, Katrin 400, 4057
Kozlov, Mikhail.....2830
Kozlowski, Piotr.....347, 1078, 1114, 1265, 2429, 2448, 2816, 3074
Kozyraki, Renata 1058
Kraemer, Nils Andreas 680, 1588
Kraff, Oliver . 4393, 4415, 4416
Krafft, Axel J. . 374, 2408, 4198
Kraft, Andrew.....330
Kraiger, Markus.....1668
Krainik, Alexandre 209, 713, 1753, 2175, 2225, 2492
Kraitchman, Dara L.1871, 4314
Krajewski, Marcin .. 3914, 3941
Kramer, Christopher.....1284, 1298, 4556, 4573
Kramer, Christopher M. 316, 4570
Kramer, Harald..... 1286, 1501, 2471, 4098, 4460
Kramer, Harald J. 1273
Kramer, Larry A. 1444, 3659
Krämer, Martin..... 2370, 2371, 2499, 2571, 3010, 3785, 4103, 4190
Krämer, Philipp 1562, 4211
Kramme, Johanna.....2166
Kraus, Martin 4528
Kraus, Oliver . 580, 1296, 1384, 1412
Kraus, Rebekka 824
Krause, Andrew C. 2691
Krause, Denis 1281
Krauss, Peter.....4331
Kreahling, Jenny M. 1762
Krebs, Michael 4090, 4508, 4514
Krebs, Nikolaus..... 929, 4205
Kreis, Roland. 362, 1113, 1630, 4031
Kreitner, Karl Friedrich....4523
Kremenchutzky, Marcelo . 1108
Kremer, Niclas 1767
Krenkel, Lars.....1482
Krestin, Gabriel 146
Kreutner, Jakob 2394, 2395
Krieg, Thomas.....1364
Krieger, Steffen N. 107, 847, 3339
Krishna, Kattel 3888
Krishna, Murali C... 2522, 2524
Krishnamachary, Balaji 239, 561, 3433
Krishnamurthy, Lisa . 675, 846, 2178
Krishnamurthy, Narayan . 4370, 4396
Krishnamurthy, Narayanan 4368, 4399, 4408
Krishnamurthy, Ramkumar 1357, 1371
Krishnamurthy, Uday 1581, 4126, 4133
Kristian, Alexandr 804
Kriz, Jan 4058
Kroboth, Stefan 3702, 3827
Kroeker, Randall 542, 3375, 4461
Kroencke, Thomas.. 2430, 4076
Kroenke, Christopher D...2097, 3678, 3693
Kroeze, Hugo . 390, 4245, 4373
Kronhaus, Dina 3664
Kronnerwetter, Claudia 163, 3466
Kroop, Susan F. 3510
Krssák, Martin..... 1678, 1969, 3970, 4028, 4090, 4508, 4514
Kruchevsky, Natalia .. 806, 813, 3415, 4030
Krueger, Christian G. 65
Krueger, Dirk 3896
Krueger, Gunnar 269, 306, 547, 2934, 3009, 3615, 3703, 3764
Krueger, Paul-Christian....2747
Krueger, Sascha..... 469, 470, 4324, 4413
Krug, Norbert 650
Krug, Roland... 144, 683, 1609, 1654, 1675, 3460, 3461
Krüger, Gunnar 948
Kruger, Stanley 1492
Kruiskamp, Marijn 2783
Kruisz, Julia.....2469
Krull, Kevin R. 388, 613
Krumbein, Ines.....2765
Krummenacker, Jan.....3953
Kruse, Scott A. 2446
Kruttwig, Klaus 215
Krzyzanowska, Agnieszka . 114
Kubala, Eugen 1919
Kubicki, Marek 937
Kubo, Yoshitaka.....2988
Kubota, Go 942
Kubota, Ken 4315, 4330
Kuceyeski, Amy 3665
Kuder, Tristan Anselm 2113, 3175
Kudo, Kohsuke..... 972, 1141, 2066, 2992, 3660, 3787
Kuehl, Hilmar..... 241, 3881
Kuehn, David 607
Kuehne, Andre 2782, 4357, 4404
Kuehnert, Nicolas..... 680, 1588
Kuennecke, Basil.....331
Kuentzel, Jeffrey 3581
Kugel, Harald 1165
Kugel, Jennifer 1736
Kugel, Jennifer L. 2441
Kuhara, Shigehide . 1397, 1425, 1428, 3839
Kuhl, Christiane 1588
Kuhl, Christiane K..... 183, 680
Kuhlmann, Olaf.....1583
Kühn, Anna Luisa 3880
Kühn, Simone..... 893, 1241
Kühne, André 2786, 3504
Kuijer, Joost P. A. .. 1380, 2179
Küker, Wilhelm..... 623
Kukurová, Ivica Just..... 3970
Kullberg, Joel..... 1520, 1524, 1618, 2413, 4050
Kulmala, Katariina A.M..... 641
Kumagai, Fumitaka..... 3637
Kumagai, Hiroshi 1507
Kumagai, Humitaka 2866, 3672
Kumamoto, Etsuko..... 1846
Kumar, Anand... ..... 715, 857, 3586, 3976
Kumar, Andreas 254
Kumar, Anjali..... 113
Kumar, B.S.Hemanth 4005, 4006
Kumar, Deepak 3531
Kumar, Dushyant 2923
Kumar, Hemanth BS 4007
Kumar, Krishan Prem..... 1844
Kumar, M. Suresh 1976
Kumar, Manoj 1046, 1053, 1723, 3421
Kumar, Pawan.. ....2947, 3559, 3995
Kumar, Rajeev 98
Kumar, Rajesh 856, 3657, 3658
Kumar, Rakesh..... 1768
Kumar, Sudhesh 4052
Kumar, Surender 4019
Kumar, Vivek..... 2947
Kumaran, S. Senthil 2843, 2844, 2845, 3229, 3230, 3231, 3232, 3565, 3566, 3567, 3728
Kumbhare, Dinesh A..... 1632, 1636, 1637
Kumita, Shinichiro 1368, 1375, 4454
Kumon, Yoshiaki 2992
Kun, Larry E. 613
Kundu, Prantik 2230, 2318, 3318
Kung, Andrew L..... 1044
Kuni, Ohtomo..... 3514
Kunimatsu, Akira .. 1170, 3477, 3637
Kunimi, Mitsunobu 2330, 2334
Künnecke, Basil 1583
Kunz, Nicolas..... 796, 2515
Kunze, Rudolf 616
Kuo, Duen-Pang..... 2924
Kuo, Wen-Jui 41, 532, 668, 3817
Kuosmanen, Suvi 1382
Kuraoka, Akiko..... 2463
Kurca, Egon 2893
Kurhanewicz, John.... 215, 537,

567, 812, 1774, 1779, 1801, 1935, 2003, 3420, 3429, 3915, 3920
Kurland, Brenda F. 3385
Kurniawan, Nyoman D.... 2048, 2087, 3173
Kuroda, Kagayaki.. 1213, 1846, 1848, 3172
Kuroda, Yoshiaki..... 3479
Kurome, Akira..... 2710
Kurpad, Krishna N.. 3936, 4317
Kurth, Johannes 1787
Kurtzberg, Joanne..... 906
Kuru, Timur H. 3392
Kuruvilla, Sujith 316, 4573
Kusagiri, Koki 3097
Kusahara, Hiroshi 1578
Kushmerick, Martin.. 359, 1645
Kushnir, Tammar..... 1157
Kushwaha, Jitendra..... 1948
Küsters, Benno 837
Kut, Carmen 1059
Kutsumi, Hiromu..... 1848
Kuwert, Torsten..... 2815, 2817
Kuzma, Nicholas N. 823, 1916, 1925, 3952
Kwee, Robert..... 4543
Kwee, Thomas C. .. 3172, 3629, 4532
Kwok, Anthony 3459
Kwok, Wingchi E…2618, 4477
Kwon, Kie Tae.. 555, 694, 1282
Kwon, Oh In 4170, 4172, 4176, 4181, 4184
Kwon, Seongtae..... 396, 4377
Kyathanahally, Sreenath P... 37, 3225
Kyotani, Katsusuke..... …4100, 4104, 4112, 4113, 4479
Kyotani, Yasusuke..... 4471
Kypraios, Theodore 3309

L

Labadie, Christian..... ….2367, 4208, 4235
Labarge, Don 2894
Labeyrie, Marc-Antoine .. 2984, 3211, 3723
LaBounty, Troy 1320
Lacadie, Cheryl..... 2268
Lacey, Simon..... 2254, 2273
LaConte, Stephen 2291
Lad, Shilpa..... 3363
Ladd, Mark E..... …1366, 2759, 3772, 4281, 4393, 4414, 4415, 4416, 4474
Ladebeck, Ralf..... 2810
Ladouceur-Wodzak, Michelle 3908
Ladwig, Mechthild 25, 29
Laforest, Richard..... 573, 4566
LaFrancois, John 2096
Lagadec, Matthieu 4087
Lagae, Lieven..... 1182
Lagemaat, Miriam W..... 538, 1790, 3403
Lagendijk, Jan J.W. ..... ….115, 285, 390, 3818, 4325
Lagopoulos, Jim 1197
Lagore, Russell..... 2723
Lagos, Rachel..... 2986
Lagrou, Katrien 1496
Lahrech, Hana .. 83, 3118, 3414
Lai, Albert 513, 808, 3631
Lai, Andrew..... 3461
Lai, Chih-Ching..... 4195
Lai, Chih-Wei..... 568
Lai, Hsin-Yi ….335, 751, 2312, 3236, 3237
Lai, Peng 128, 1664, 3795
Lai, Ping-Hong..... 2086, 2256
Lai, Stephen Y..... 3948
Lai, V..... 1023
Lai, Vincent..... 1745
Lai, Yongchuan……556, 2386, 2404, 3698, 3699
Laidinen, Svetlana..... 1382
Laidlaw, David H. 2138
Laird, Angela R. 2263
Laissue, Jean A..... 3413
Laistler, Elmar..... 1628, 2782, 2786, 4357
Laitinen, Teemu..... 60, 1038
Lake, Evelyn..... 1159
Lakke, Egbert A.J.F..... 1266
Lakshmanan, Karthik 2737, 2754, 4363, 4409
Lal, Bachchu..... 447, 2545
Laliberté, Christine L..... 945, 1118
Lam, Adrian 1312
Lam, Fan 2036, 2455, 2459, 2620, 3814
Lam, Michael 3639
Lam, Mie Kee..... 1814
Lam, Shing Chun Benny ... 141, 1604
Lam, Wilfred..... 2074, 3022
Lamain, Emeline 2426, 2434
Lamalle, Laurent 713, 2175
Lamar, Melissa..... 3586
Lambert, Simon Auguste... 135, 2447, 2796, 3423, 4078, 4087
Lambrichts, Ivo 3690, 3694
Lamerichs, Rolf..... 4009
Lammentausta, Eveliina …641, 1662, 1887, 3546
Lammertsma, Adriaan A.. 2179
Lampinen, Björn 497
Lamy, Martine..... 4001
Lanagan, Michael T..... …389, 396, 4377, 4381
Lanctot, Anthony C. 1610
Landeras, Luis 1589
Landgraf, Ben Ray 63
Landini, Luigi..... 1440
Landman, Bennett A. 1104
Landtblom, A-M..... 1106
Lane, J. 1958
Lane, Scott D..... 3659
Laney, Nina..... 2978
Lanfermann, Heinrich 1092
Lang, Herve..... 3409
Lang, Ning 718
Langard, Emilie..... 83
Lange, Dale J..... 2856
Lange, Nicholas..... 895
Lange, Thomas..... 637
Langer, Klaus 3895
Langereis, Geert R..... 1187
Langguth, Peter 1590
Langham, Michael C. 1307, 1344, 1351, 1353, 1354, 2161, 2186
Langkammer, Christian..... 840, 868, 929, 999, 4205, 4296
Langley, Jason..... 2699, 2849
Langner, Soenke..... 2747
Langwieser, Nicolas 576
Lankes, Konrad 4359
Lankford, Christopher L... 2461
Lansberg, Maarten.. 1237, 3358
Lanuti, Michael 642
Lanz, Bernard..... 1975
Lanz, Titus 824, 1930, 1984, 2790, 3947
Lanza, Gregory M. 483, 559
Lanza, Matthew R. 1195
Lanzardo, Stefania..... 1692
Lanzman, Rotem S. 4220
Lao, Yi 1246
LaPierre, Cristen D..... 2772
Laredo, Judith..... 737
Larkin, John..... 1687
Larkin, Timothy J. 3937
Larose, Eric 64, 1328
Larsen, Ryan 2036
Larson, Andrew C. ..... …476, 2405, 3886, 4285
Larson, Peder 215, 537, 567, 652, 658, 766, 1609,1675, 1914, 2003, 2398, 3907, 3954
Larson, Steve M. 3394
Larsson, Christopher 590
Larsson, Henrik B.W..... 3335
LaRuffa, Angela A. 923
Lascialfari, Alessandro..... 4202
Lascola, Christopher D..... 749, 3883
Lassmann, Hans . ….163, 1082, 1088, 2539
Laterra, John..... 447, 2545
Lathrop, Becky..... 1657
Latifoltojar, Arash…..... 1793, 1800, 4146
Lätt, Jimmy 497, 615, 781
Lattanzi, Riccardo ... 634, 2737, 3484, 4379
Lau, Angus Z. 660, 3908, 4354, 4511
Lau, Condon... 302, 3233, 3235
Lau, Jeffrey MC 573
Lau, Man Chun Jeffrey..... 4566
Laub, Gerhard 542, 4461, 4469
Laudy, Peter 477
Lauenstein, Thomas C..... 241, 3881, 4474
Laufs, Alessandra..... 4029
Laughlin, Suzanne..... 1331
Laughton, B..... 2585
Laugwitz, Karl-Ludwig..... 576
Laule, Cornelia..... 51, 1078
Laun, Frederik B. ..... …2113, 3028, 3079, 3111, 3162, 3175
Launay-Vacher, Vincent .. 1574
Laurent, Sophie 237
Laureti, Sara 3876
Lauridsen, Henrik..... 1424
Laustsen, Christoffer 654, 1928, 3945
Lautenschlager, Nicola T. .. 620
Lauzon, Michel Louis 3807, 4534
Laville, Maurice 1574
Laviola, Giovanni... 3240, 4041
LaViolette, Peter S. ... 446, 512, 957, 959, 971, 977, 2203, 3635
Law, Christine..... 3356
Lawley, Justin Stevan..... 453, 1252
Lawrence, Edward M. 3387
Lawrence, Theodore S..... 514, 3644
Lawrenz, Marco 2069
Lawrie, Craig I. 2735, 2785, 2838
Lawson, Robert..... 1018
Lawton, Michael 2995
Lay, Nathan..... 1586
Layec, Gwenael..... 1621, 3047
Laymon, Charles M..... 4358

Layton, Kelvin J. ... 2456, 2663, 3827
Lazar, Mariana..... 783, 1198, 1199, 3258, 3556, 3580, 3590
Lazar, Ronald L. 2991
Lazaridou, Asimina 2999, 3294
Lazaro, Lionel E. 1598, 1679
Lazarus, Martin..... 633
Lazeron, Richard H..... 1187
Lazeyras, François 269, 796, 896, 903, 2290, 2666, 2964, 3009
Lazovic, Jelena 808
Le Duc, Géraldine 3413
le Graverand, Marie-Pierre Hellio..... 1652
Le Pichon, Claire E. 1037, 1042
Le, Mai T. 2654
Le, Thomas..... 1766
Le, Yuan 743, 3375
Leach, Martin O. 505, 508, 592, 720, 1488, 1729, 1761, 1926, 1994, 2201, 2205, 2217, 3919, 4149, 4329
Leahy, Richard M. ..... ……55, 771, 1951, 2691
Leavitt, Blair R. 220
Lebel, R. Marc..... 192, 1081, 1834, 2075, 2466, 4200
Lebel, Robert Marc..... 4534
Leber, Alex..... 1418
Leber, Vivian..... 4518
Lebhardt, Philipp 2321
Lebois, Alice ..... ….779, 3153, 3154, 3155
Lebon, Vincent 3998
Lechner-Greite, Silke M .. 2708, 2711
Lecocq, Angèle. ….3957, 3979, 3980
Lecoeur, Jérémy 2089
Lederlin, Mathieu 4099
Lederman, Robert J. . 287, 4316
Ledger, Araminta E. W..... 1729
Ledger, Minty 4329
Ledgerwood, Melissa..... 681
Lee, Young-Hwan ..... …1155, 1172, 1884
Lee, Andrew .. ……1570, 2995, 4437, 4438
Lee, Andrew S. 3529
Lee, Brittany Ann 4066
Lee, Byeong-Yeul..... 517, 859, 2033
Lee, Cathy C. 3971
Lee, Christine U..... 1591, 4107
Lee, Chu-Yu 2933
Lee, Daniel 321, 1362, 1431
Lee, Daniel James..... 392, 450, 1475
Lee, Danny 1587
Lee, Donghoon ……359, 1645, 1646, 1766, 3515
Lee, Dong-Kyun..... 3226
Lee, Do-Wan 1946, 1979
Lee, Elaine Yuen Phin..... 1745, 2533
Lee, Eun Jung..... 3900
Lee, Frank Y..... 87
Lee, Gang Ho 3887, 3888, 3889, 3900, 3902
Lee, Gregory.... 600, 601, 3051, 3752, 4083
Lee, Hsin-Yun 1168
Lee, Hsu-Lei. 2265, 2322, 3277
Lee, Hyunyeol 2518
Lee, Jaehyuk..... 3948
Lee, Jae-Jun..... 1260
Lee, Jae-Seung 419, 3521, 4228
Lee, Jeong Min..... ……3109, 3452, 4055, 4166
Lee, Jessie 3915
Lee, Jin Hyung 313
Lee, Jing-Huei …….242, 2784, 3589, 3591, 4001
Lee, Jin-Moo 330
Lee, Jongho ….164, 867, 2153, 2489, 2773, 3033
Lee, Jong-Min 3226
Lee, Joonsung 231, 3922, 4173, 4179, 4180, 4183, 4266
Lee, Karen M..... 1533
Lee, Keumsil 3662
Lee, Kyle..... 721
Lee, Kyung-Mi…… 618, 2911, 3226, 3263, 3855
Lee, Megan H. 3564
Lee, Moo-Suk..... 3224, 3560
Lee, Namgyun 3184
Lee, Nancy 507
Lee, Oliver..... 3644
Lee, Patricia N. 890
Lee, Phil 3967, 3981
Lee, Puor Sherng 1693, 2220
Lee, Ray 3183
Lee, Roland 2244
Lee, S.S. 4064
Lee, Sang H. 453
Lee, Sangwoo 3109, 4157
Lee, San-Kan..... 3015
Lee, Sarah..... 1768
Lee, Se-Ho..... 2791
Lee, Seungcheol 1718
Lee, Seung-Kyun..... 462, 2574, 2707, 2708, 2711, 3216
Lee, Seung-Kyun... 4171, 4192, 4391
Lee, Sonia..... 683, 3461
Lee, Soo Chin..... 2210
Lee, Soo Hyun..... 225
Lee, Soo Yeol..... 2793, 3263
Lee, Steven G. 4387
Lee, Swee Shean 1527
Lee, Taehyeong 1979
Lee, Tsong-Hai..... ……1145, 2223, 3062
Lee, Vincent ... 685, 1954, 3655
Lee, Virginia M. Y. 1007
Lee, Vivian S..... 1551, 1569, 1621, 3047, 4144
Lee, Whal 1276, 1426
Lee, Wonho..... 1898
Lee, Wonje 292, 4258, 4365, 4367
Lee, Yi-Hsiung..... 1218
Lee, Yoojin..... 2401
Lee, You Jin 435
Lee, Young Han 1649, 3516
Lee, Young-Hwan 2345
Lee, Yun-Ju 965, 4039, 4043
Lee, Yunjung..... 4034
Leemans, Alexander..... ….700, 781, 842, 2047, 2081, 3028, 3095, 3149, 3195
Leenders, William P. 805, 3674, 4016
Leeper, Dennis B..... 809, 1705, 1726, 1727
Leewood, Alan 2836
Lefebvre, Alban..... 2652
Lefort, Muriel..... 2871
Lefort, Thibaud 281, 742, 1532
Leftin, Avigdor..... 2390, 4231
Leggio, Maria..... 1014, 1099
Legius, Eric 3654
Lego, Denise 3927
Lehenkari, Petri 434, 641, 1662, 3551
Lehéricy, Stéphane .. 737, 1027, 1058, 2318
Lehman, Constance D. 181, 3092, 3385
Lehman, Katie .. 801, 911, 2955
Lehmann, Britta..... 3034, 3041
Lehmann, Mick 739
Lehmann-Horn, Frank..... 116
Lehrman, Evan 542
Lei, Chen..... 1203
Lei, Hao.946, 1009, 1074, 1186
Lei, Hongxia…… 111, 2191, 4003, 4004
Lei, Hulong 3525
Leibfritz, Dieter..... 1710, 1734
Leigh, Richard..... 585, 1130
Leigland, Lindsey A..... 2097, 3678
Leiner, Tim.... 310, 1436, 3667, 4244
Leinhard, Olof Dahlqvist. 1682, 2416
Leitao, Helena S. 4075, 4078
Leite, Ana Paula Klautau . 200, 3364, 3373
Leithner, Doris 3374
LeJay, Hubert..... 3485
Lell, Michael 1281
Leloup, Gaetane 2525
Lemasson, Benjamin 3122
Lemberskiy, Gregory 489
Lemmers, Petra M.A. 2967
Lencer, Rebekka..... 1165
Lenglet, Christophe.... …….52, 59, 2621, 2661
Lenkei, Zsolt 2421
Lenz, Jenny 1973
Leon, Christine..... 215, 537
Leonard, Gabriel 47
Leonhardt, Franziska..... 3882
Leow, Melvin K-S.. 1526, 2701
Lepine, Francois..... 3518
Lepor, Herbert..... 1773
Lepore, Mario..... 1261, 1975
Lepore, Natasha 1246
Leporq, Benjamin..... 281, 407, 742, 1532
Leppert, Ilana Ruth..... 914
Lepsien, Jöran 384, 1001
Lerch, Jason P. 892, 945, 1041, 3571
Leroi, Ira 1142
Leroux, Jean-Maxime..... 715
Leroy, Melanie 2873, 2913
Lesage, Frederic 3244
Lescher, Jacob D. 933, 1071
Lesmeister, Nicholas 1658
Letson, Douglas G..... 1756
Leu, Kevin..... 3631
Leung, Esther 1078
Leung, General…….816, 1449, 1929, 1998, 4119
Leung, Huimin 4361
Leung, Jackie 3571
Leung, Lam-Ming 2889
Leung, Ping-Chung 3459
Leupold, Jochen 2908, 4286
Leurgans, Sue..... 2879
Leu-Semenescu, Smaranda 1027

Leussler, Christoph..... ….828, 2748, 2825
Leuze, Christoph.....3198
Levack, Melissa.....1405
Levan, Pierre 522, 3277
Levenson, Cathy W. 3412
Leveque, Philippe.....2525
Leverenz, Larry 2346, 2892, 3303, 3661
Levesque, Ives R. 2458
Levin, Craig S.....4360
Levin, David L.....645
Levin, Harvey S.....2898
Levin, Johannes 2482
Levine, Benjamin 619
Levine, Evan.....3794
Levine, Joshua L..... 3456, 4465
Levine, Michael A.....3197
Levitsky, Hyam I. 3899
Levitt, Malcolm H. 3937
Levy, Michael.....1061
Levy, Patrick 713
Lewek, Daniel 1995
Lewin, Jonathan S. 471, 865
Lewis, Christina.....3866
Lewis, Jason S. 3415
Lewis, Sara 3439
Li, Alex..... 1907, 4221, 4226
Li, Alvin FW 3459
Li, Bo..... 1297, 2194
Li, Cheng141, 762, 1307, 1594, 1599, 1602, 1604, 2161, 2186
Li, Chia-Wei.....2257
Li, Chunmei.....383
Li, Chunxia..... 339, 1036
Li, Chun-Xia..... 1060, 2183
Li, Cong.....239
Li, David.....1100
Li, David K.B. 51, 1078
Li, Debiao…….541, 876, 1295, 1314, 1320, 1401, 1419, 1613, 3894, 3932, 3950, 4151, 4222, 4469, 4476, 4526, 4527, 4531
Li, Fei 1196, 3555
Li, Feiyu 1310, 1784, 3400, 3404, 3407
Li, Gang..... 2951, 2952
Li, Guang... …344, 2181, 2308, 2309, 2310
Li, Guobin 2590, 3711, 3736
Li, Haidong.....3903
Li, Hong 443
Li, Hua..... 2470, 4241
Li, Jenny 856, 3421
Li, Jianhai 4069, 4072
Li, Jin..... 448, 1749
Li, Jinfeng.....3291
Li, Jing..... 3735, 3833
Li, Jing-Rebecca..... 3103, 3142
Li, Jinqi 1220
Li, John.....2336
Li, Jun.....1297
LI, Kaiming.....3284
Li, Ka-Loh.....3071
Li, Kangan.....3886
Li, Ke 1115, 3508, 3510, 3511, 4223
Li, Kuncheng..... 46, 548, 1010
Li, Lian..... 3681, 3682
Li, Lihong.....1746
Li, Lili 3005
Li, Limin 3239
Li, Lin Z. 3426
Li, Lingjiang.....1194
Li, Linqing..... 348, 4541
Li, Longchuan ... 610,721, 780, 939, 2046, 2605, 3685, 3691
Li, Luca Y. 2351
Li, Lu-Ping 4135
LI, Min 2327
Li, Ming 488, 904, 1008, 1164, 4500
Li, Ming Yan.....3701
Li, Mingyan..... 727, 3819
Li, Mingyi 951, 1240
Li, Muwei.....3150
Li, Ningzhi 1149, 2501
Li, Qianqian.....443
Li, Qingjiang 3681, 3682
Li, Qinxiang 3053
Li, Quanzheng 2684
Li, Rui …630, 877, 1350, 1763, 3761, 4536
Li, Rupeng..... 2315, 2789
Li, Shiguang 734, 3600
Li, Shihong….763, 3457, 3458, 3464
Li, Shi-Jiang 1158, 1194, 2228, 2249, 2883, 3300, 3319
Li, Shizhe 858, 3984
Li, Shurong..... 548
Li, Sichen 808
Li, Steve 3964
Li, Tao.....1483
Li, Tie-Qiang.....2865
Li, Wei …….23, 161, 633, 693, 706, 709, 766, 868, 3076, 3844
Li, Weiguo..... 476, 2405, 4285
Li, Wendy Fei.....3860
Li, Wenjun..... 2883, 3300
Li, X. 1023
Li, Xia 1730, 1740, 3078, 3384
Li, Xiang-Rong..... 387, 2851
Li, Xianjun 173, 795, 1028, 2950, 2975
Li, Xiaodong..... 2624, 3661
Li, Xiaojuan. …430, 632, 1654, 1680, 3497, 3531
Li, Xiaoming 3488
Li, Xiaozhen.....2865
Li, Xin …504, 716, 1224, 3067, 3072, 3380, 3453
Li, Xingde 1059
Li, Xiufeng. ….30, 1292, 1540, 2852, 2904, 3402, 3767, 4136
Li, Xu 585, 1019, 2484, 3840
Li, Ya 2375
Li, Yan 274, 1504, 2012, 3592, 3599
Li, Ye 122, 4388, 4389
Li, Yimei 382, 2961
Li, Ying 3126
Li, Yi-Ou..... 178, 3152
Li, Yu 2780
Li, Yuanyuan.....3555
Li, Yuhua 2979, 2980
Li, Yuqian 3989
Li, Zhao..... 531, 568
Li, Zheng.....4519
Li, Zhen-Hui.....3683
Li, Zhihao.....1010
Li, Zhitao..... 3797, 3829
Li, Zhixin 2264, 2317
Liachenko, Serguei..... 2932
Liang, Changhong 3094
Liang, Ching-Chung..... 3062
Liang, Dong.. 2158, 2644, 2659
Liang, Fei 632
Liang, Hsiao-Fang.. 1051, 3082
Liang, Lia 1180
Liang, Peipeng.....1010
Liang, Sayuan.....1505
Liang, Xia.....519
Liang, Xiaoyun..... 2173, 2258
Liang, Y. X..... 32, 3267, 3268
Liang, Yajie.....1851
Liang, Zhengrong.....1746
Liang, Zhifeng.....327
Liang, Zhi-Pei 607, 1408, 2036, 2455, 2459, 2620, 3814, 4242
Liangsuo, MA 3659
Liao, Chih-Ping.....1518
Liao, Dongyi 3301
Liao, Hui Jun.....1626
Liao, Huijun 1096, 1188
Liao, Wei.....2895
Liao, Weiqi…….1013, 2274, 2868, 2885
Liao, Yen-Hsiu.....3366
Liao, Yen-Peng 1754
Liao, Yi 3579
Liau, Linda 808
Licht, Daniel.....917
Lichtinghagen, Ralf..... 1372
Lickert, Thomas 1924
Liddle, Elizabeth B..... 1205
Liddle, Peter 3301
Liddle, Peter F..... 1205
Liebeskind, David S. 205
Liebl, Hans..... 683
Lierfeld, Marco 748
Lifshits, Shlomi……949, 3125, 3651
Ligon, Keith 1044
Liimatainen, Timo ….355, 869, 1091, 1382
Likhite, Devavrat..... 318
Lilburn, David M.L. 1456
Liliac, Ludmila..... 807
Lilja, Anders..... 3697, 3708
Liljeroth, Maria 1452
Lillaney, Prasheel..... 472, 4318
Lim, Daekeon..... 1649, 3516
Lim, Heeseung…. 3910, 3926, 4369
Lim, Hyerin..... 3245
Lim, Issel Anne L.. 1019, 2484, 3840
Lim, Myung Kwan 1689
Lim, Sang Moo 1898
Lim, Sehoon..... 2628
Lim, Su Wei 1547
Limmer, Simone..... 1816
Limperopoulos, Catherine.. 794
Lin, Ai-Ling 118
Lin, Alexander 968, 1096, 1626
Lin, Alexander Peter 1188
Lin, Chen..... 743, 3375
Lin, Chen-Hsuan 1858
Lin, Chin-Ho 1743
Lin, Chuan-Yi 1711
Lin, Eddie..... 4307
Lin, Fa-Hsuan..... 41, 532, 668, 3353, 3743, 3817, 4247
Lin, Fang-Hsin 1889
Lin, Fuchun 1009, 1186
Lin, Guoxing 4230
Lin, Han 1042
Lin, Hannah..... 2408
Lin, In-Tsang..... 2767
Lin, Jian…… 951, 1107, 1240, 2708, 2853
Lin, Jiunn-Lee 4509, 4513
Lin, Kant 1228
Lin, Leanne Y. 3564
Lin, Liang-Chun..... 1269
Lin, Lian-Yu..... 4509, 4513
Lin, Meijin 857, 3976
Lin, Muqing…….. 195, 718, 3362, 3365, 3366
Lin, Pan..... 3280, 3563
Lin, Ping-Chang..... 433, 3981

Lin, Run.....234, 511
Lin, Sharon 1860
Lin, Shih-Chieh 1825
Lin, Shing-Jong 1232
Lin, Shu-Chi 2184
Lin, Sih-Yu.....3093
Lin, Stephanie.....3435
Lin, Tsen-Hsuan 417, 2314
Lin, Tsen-Hsuen 1039
Lin, Wei.....3750, 3751
Lin, Wei-Ching.....4307
Lin, Weili..... 2942, 2943, 2951, 2952, 4212
Lin, Xia.....2344
Lin, Ya-Ling.....2056
Lin, Yan.....1949
Lin, Yanqin.....4013, 4288
Lin, Ying-Chia.....2934
Lin, Yi-Ru 1414, 1518
Lin, Yu-Chun.....1231, 3091
Lin, Yung-Ya.....531, 568
Lin, Yu-Shi... 1215, 1754, 2219
Lin, Yuting 4307
Lin, Zhongmin.....2886
Lincoln, John A. 48
Linde, Angel J. Perez.....1920
Lindegaard, Jacob... 1752, 1757
Lindel, Tomasz Dawid 4259
Lindemeyer, Johannes 2494
Lindgren, Emelie 2198, 2504
Lindner, Christian.....1165
Lindner, Lars H. 1816, 1896
Lindquist, Diana 1991, 3490
Lindquist, Martin A. 3257
Lindsey, Kim 206
Lindsey, Michael 2888
Lindsley, Craig W. 2324
Ling, Hua-Wei.....2876
Ling, Wen.....3873
Lingala, Sajan Goud2622, 3802
Lingford-Hughes, Anne....1953
Lingwood, Mark 3929
Link, Thomas M.…….430, 632, 683, 1652, 1675, 3531, 4310
Linz, Anton.....4360
Lipp, Axel.....380
Lippus, Florian 2485
Lipsman, Nir.....224
Liptaj, Tibor.....3970
Lipton, Michael L. .....…2167, 2899, 4110
Liptrot, Matthew George ..3026
Lispi, L. 2857
Liszewski, Christine 3557
Litjens, Geert J.S. 1769
Littin, Sebastian……16, 666, 2379, 2384, 2709
Littlefield, Shalyn L. 1483
Littmann, Arne 547, 1316
Litwiller, Daniel V 1286, 1288, 4432
Liu, Bilan.....3213
Liu, ChengKang 1949
Liu, Cheng-Liang 202
Liu, Chen-Yi... 138, 1754, 2816
Liu, Chih-Chieh.....4359
Liu, Chih-Min.....523
Liu, Chunlei …….23, 161, 693, 706, 709, 766, 868, 2870, 3076, 3844
Liu, Chunming 3004
Liu, Collin 106
Liu, Danqing.....1300
Liu, Dawei.....2853
Liu, Fang 636, 1655, 2373
Liu, Feng…… 727, 2601, 2627, 3701, 3815, 3819, 4347, 4383, 4418, 4421
Liu, Gin-Chung 2056
Liu, Guanshu ..... ……152, 156, 158, 422, 426, 447, 565, 1852, 4240, 4295
Liu, Guanzhong…… 1341, 1783, 2980
Liu, Guoxiang.....2160
Liu, H.H. 3653
Liu, Ho-Ling 1145, 1215, 1754, 2165, 2171, 2219, 2221, 2223, 3062, 3227
Liu, Hon-Man.....3850
Liu, Hua-Shan 2978, 3033
Liu, Hui 3101
Liu, I. Chi 3062
Liu, Jason 1124
Liu, Jia.....1559
Liu, Jiaen 288, 463, 4191, 4429
Liu, Jianmei.....3579
Liu, Jianyu.....3113
Liu, Jie..... 347, 1238, 1253
Liu, Jing 190, 606, 1020, 3796, 4125, 4312, 4497
Liu, Jun ……2652, 2674, 3004, 3805, 3812
Liu, June.....2888
Liu, Junmin..... 2409, 3842
Liu, Kecheng 253, 363, 3200
Liu, Li 1386, 1446, 1862, 1867, 3860, 3861
Liu, Limei..... 4345, 4347
Liu, Lin.....4431
Liu, Manju.....2502
Liu, Meng.....2638
Liu, Min.....3610
Liu, Peiying..... 175, 619, 715, 738, 846, 850, 1253, 2178, 2286
Liu, Pengcheng.....4476
Liu, Qi..... 1613, 4222
Liu, Qingwei 1045, 1066, 1666
Liu, Qiong 1278
Liu, Saifeng……. 1238, 2483, 2496, 2502
Liu, Sheng-Ching 1711
Liu, Shiyuan 1546
Liu, Shi-Yuan.....3102
Liu, Shuwei 171
Liu, Songtao 4531
Liu, Thomas 33, 736, 2245, 2271, 3318
Liu, Thomas T……2165, 2180, 2244
Liu, Tian 165, 692, 2378, 2498, 2566, 2856, 2891, 3334, 3612, 3614, 3847, 3853, 3857, 4174
Liu, Tim X.....2227
Liu, Ting.....1726
Liu, W. 3302
Liu, Wei 2891, 3020, 3174, 3614
Liu, Wentao.....3783
Liu, Xiang 2901, 3633
Liu, Xiao 39, 2242, 2251
Liu, Xiaoli 1882
Liu, Xiaolin 2249
Liu, Xiaosheng 879
Liu, Xin …….229, 245, 2354, 2510, 2644, 4292, 4476, 4537
Liu, Xinyang 1821
Liu, Xue Jun 1118
Liu, Xuening 2376
Liu, Yaou 46
Liu, Yi-Jui 1218
Liu, Yinan 2620, 3289
Liu, Yube 1234
Liu, Yuchi 1388
Liu, Yutong .. 1264, 1268, 1270
Liu, Yuzhen.....648
Liu, Zaiyi.....3094
Liu, Zhe.....2586
Liu, Zhonglin.....1064
Liu, Zhongming..... 754, 2242
Livingstone, Roshan.....4029
Livny-Ezer, Abigail.....1157
Lizak, Martin J. 496, 4305
Lizarbe, Blanca 3241, 3684
Lladó, Xavier.....1095
Lloyd, Mark C. 1762
Lloyd, Michael 1312
Lloyd, Steve G. 488, 4500, 4503
Lo, Eng H. 2918, 3244
Lo, Huan-Chu.....2924
Lo, Kai-ming.....2713
Lo, Pei-Hua 3015
Lo, Wei-Ching 3497
Lo, Yu-Chun 2130
Loai, Yasir.....1855
Loayza, Francis 2193
Lobatto, Mark.....1912
Lobaugh, Nancy 2476
Loblaw, Andrew..... 91
Lobo, Merryl R. 1717, 3067
LoCastro, Eve..... 1097, 3620
Locca, Didier..... 547, 1315
Loecher, Michael..... 70, 1355
Loeffler, Ralf B. 374, 388, 1147, 2408, 4198
Loening, Andreas 4085
Loew, Wolfgang..... 923, 2760
Loewe, Axel 2652
Loewe, Christian 1281
Logothetis, Nikos K. 1891, 2341
Lohman, Joost 3940
Lohmander, Stefan . 1659, 3550
Lohmann, Gabriele... 524, 2339
Loizou, Louiza 160
Loloyan, Shirleen 251
Lomas, David J 1280, 1287, 4364, 4472
Lombardi, Massimo 1281, 1433, 1440, 1930, 3923, 3947, 4196, 4485, 4490
Lomo, Lesley Carol.....3378
Londarskiy, Dmitriy.....827
Londraville, Nicole 408
Long, Joseph B.....1057
Long, Li-Ling..... 387, 2851
Long, Suzanne.....3463
Long, Xiaojing 1013, 2274, 2868, 2885
Long, Zaiyang 387, 2851
Longa, Catherine.....2860
Longo Dos Santos, Clarisse 1027, 3153, 3154
Longo, Dario Livio. 1692, 1876
Longoni, Giulia 44
Looi, Thomas 4291, 4337
Loparo, Kenneth A. 2380
Lopez, Hector Sanchez.....4345
Lopez, Maria Yanez 3904
Lopez, Susan 3378
Lopez-Chavez, Ariel 504
López-Larrubia, Pilar 114, 1883, 1886, 3241,3417, 3684
Lopez-Larson, Melissa 941, 3575

Lopez-Soriano, Francisco 3518
Lopresti, Brian J. 4358
Lorenz, Kathrin..... 2168
Lorenz, Ramona 477, 4450
Lorenzato, Cyril Samuel... 3871
Lorich, Dean..... 1598, 1679
Lories, Rik..... 1721
Lott, Donovan J. 1633, 3519
Lotz, Joachim 4441
Lou, Bin..... 756
Lou, Haiyan..... 985
Lou, Xin 3291
Lou, Yifei 3808
Louchami, Karim.... 1505, 4059
Louin, Gaelle..... 746
Lövblad, Karl-Olof..... 929
Lovell-Smith, Cris ... 637, 3755, 3766
Lovering, Richard M. 3507
Loving, Galen S..... 1885
Lovis, Jordan A. 1483
Lowe, James 265, 3012
Lowe, Mark J... 788, 951, 1107, 1169, 1240, 2133, 2143, 2159, 2303, 2575, 2670, 2678, 2853, 3200, 3770, 4328, 4422
Lowry, Martin ……962, 975, 976, 1728, 1735
Lozano, Andres M. 224
Lozen, Andrew 1724, 1725
Lu, Aiming ... 2874, 3625, 3742
Lu, Chin-Tien 3120
Lu, David..... 3437
Lu, David S.K..... 3435
Lu, David Y..... 3388
Lu, Guangming..... 3570
Lu, Hai..... 2787
Lu, Hanbing..... 2520
Lu, Hanzhang 43, 105, 175, 619, 675, 715, 738, 846, 850, 1094, 1253, 2178, 2286, 3601
Lu, Huanxiang..... 4152
Lu, Hui-Chen..... 1069
Lu, Jia . 1054, 1068, 1072, 2015
Lu, Jian Ping..... 274
Lu, Jianping.. 1503, 1504, 1617
Lu, Jian-Qiang..... 1081
Lu, Jie..... 2918
Lu, Jonathan Y..... 4376
Lu, Kuan..... 140
Lu, Lan 1556, 4105
Lu, Lisa..... 2945, 3594, 3595
Lu, Lucy 1696
Lu, Ming..... 859, 861, 4027
Lu, Minjie..... 1278
Lu, Pu-Xuan 3476, 4081
Lu, Shilong 963, 2526
Lu, Wenmiao 2459
Lu, Xia..... 1548
Lu, Xiaoguang..... 4498
Lu, Xin 3680
Lu, Yangqing..... 2521
Lu, Yi-Chien..... 3424
Lu, Yi-Tzu..... 1889
Lu, Yonggang. 507, 1209, 3104
Lu, Zheng-Rong 445
Lu, Zhong Kang 210
Lublin, Fred D. 48, 1083
Lucas, Erin 3533
Ludewig, Peter 2923
Ludolph, Albert 3080
Ludwig, Ute..... 1304
Luger, Anton 4508, 4514
Luhach, Ihor 3446
Lui, Fausta..... 2279
Lui, Su.. 735, 1196, 2895, 3555
Lui, Wei..... 3184
Lui, Yvonne W. 527, 940, 2688
Luijten, Peter R.... 97, 115, 368, 390, 554, 599, 627, 755, 852, 966, 1271, 1789, 1791, 1970, 2008, 2014, 2284, 2387, 2391, 2573, 2594, 2729, 2982, 3016, 3042, 3368, 3401, 3442, 3495, 3542, 3818, 4244, 4245, 4373, 4382, 4397, 4521, 4538, 4540
Lukas, Scott..... 219
Lukas, Vanessa A. 433
Lukic, Ana..... 3011
Lukomska, Barbara 562
Luks, Tracy L. 3592, 3599
Lumata, Lloyd L..... 659, 3946
Lund, Torben E..... 699
Lundberg, P. 1106
Lundell, Henrik 2071, 2073
Lundström, Elin..... 4050
Lunenburg, Martijn 4397
Luo, Jiangtao 1264
Luo, Jieying..... 2581, 2619
Luo, Jing..... 275
Luo, Ray 4377
Luo, Wei. ….2802, 2805, 4378, 4381
Luo, Xue 173, 795, 1028, 2950, 2975
Luou, Florea 566
Lupo, Janine M. 247, 974, 3006
Lupu, Florea 1584, 1873, 1874
Lurie, David J. 4217, 4341
Lustig, Michael..... ……127, 133, 312, 1664, 1914, 2577, 2584, 2624, 2630, 2645, 2657, 2668, 3795, 3954, 4443
Lutti, Antoine ..... ……691, 2478, 3008, 3017
Luttje, Mariska P 97, 554, 1789, 1791
Lutz, Amelie M. 1615
Lutz, Kira 515
Lützkendorf, Ralf 53, 2439
Lux, François..... 4102
Lv, Haiyan..... 3459
Lygate, Craig A. 1361
Lykowsky, Gunthard..... 2788, 3549
Lyman, Stephen..... 640
Lynch, Conor..... 3446
Lynch, Jennifer..... 917
Lynne, Charles 1771
Lyons, Jennifer..... 235
Lyons, Jeri-Anne 996
Lyons, Scott K..... 160
Lyra-Leite, Davi Marco.... 1352
Lysiak, Darius 2747, 3264
Lythgoe, David J. ... 2706, 3326
Lythgoe, Mark F.... 9, 491, 506, 1509, 1698, 1701, 2105, 2190, 3117, 3679, 3780
Lythgoe, Mark F..... 2188
Lyu, Jingyuan..... 2653
Lyubich, Yevgeniya M..... 3988

M

Ma, C. Benjamin 632
Ma, Chao……274, 1503, 1504, 1617, 2036, 4242
Ma, Da..... 3679
Ma, Dan..... 18, 19, 2380
Ma, Grace..... 1162
Ma, Heather T. 3459
Ma, Jingfei ... 2406, 2410, 2414
Ma, Lin..... 1300, 3291
Ma, Richard..... 1606
Ma, Samantha J. 87
Ma, Shaohui 3222
Ma, Xiaodong 2637, 2638, 3204
Ma, Xiaomin 862
Ma, Yajun..... 3783
Ma, Yuanye..... 946
Maarouf, Adil..... 50
Maas, Mario 3542
Maas, Marnix C.. ….538, 1769, 1790, 2020, 3403
Mabuchi, Keiko..... 1502
Mac Donald, Christine L.. 1025
Macairan, Maria Luz..... 3406
Macaluso, Emiliano..... 3223
MacDonald, Christine 2894, 3564
MacDonald, I..... 1958
MacDonald, Angus, III..... 2282
Macdonald, Jamie 453, 1252
MacDonald, M. Ethan..... 1834
Macey, Paul M. 856, 3657, 3658
MacFall, James R.. 1491, 3416, 4111
MacGillivray, Tom..... 1317
Macgowan, Christopher K….7, 1331, 1443, 2326, 4129
MacGowan, Guy A. 1383, 1385
Machan, Lindsay 1100
Machann, Jürgen 1511
Machida, Tadashi 4549
Macias, Virgilia..... 1783
MacIntosh, Bradley .715, 2936, 3068, 3069, 3070, 3250
MacIntyre, Neil R... 1491, 4111
MacKay, Alex L.51, 220, 1103, 1226, 1227, 3609, 3623, 3724
Mackel, Julie 2778
Mackenzie, Joyce 989
Maclaren, Julian R……..... 73, 305, 369, 637, 1146, 2061, 2867, 2880, 3195, 3628, 3755, 3756, 3759, 3766
MacLellan, Christopher J. 4302
Macleod, Kay..... 1702
MacMillan, Erin L.. 1113, 1630
Macos, Patrick..... 945
MacPherson, Lesley 970
Macq, Benoit..... 3156
Macri', Simone 4041
Macura, Katarzyna J..... 1769
Madabhushi, Anant… 1248, 1773, 1774, 1795, 1801, 1809
Madadi, Alireza..... 4000
Madan, Akshay…… 509, 1997, 2030, 3646
Madan, Neel..... 1254
Maddage, Rajika 2515
Madden, David..... 3287
Madelin, Guillaume..... 638
Mader, Irina.. 2213, 2226, 3065
Mader, Wolfgang 477
Maderwald, Stefan ..... …2759, 4281, 4393, 4474
Madewell, John E... 2406, 2505
Madhankumar, A.B..... 1882
Madhu, Basetti 4038
Madhuranthakam, Ananth3049, 3370
Madjar, Cécile..... 2871, 2872
Mädler, Burkhard... 1150, 3193
Madore, Bruno 478, 2063, 3178, 4216, 4290, 4300
Madru, Renata..... 1913
Mae, Tatsuo..... 1656
Maeder, Philippe 3107, 3336

Maelandsmo, Gunhild 4035
Maelandsmo, Gunhild M. ... 804
Maes, Frederik 774, 1242
Magão, Fernanda 4089
Magat, Julie .. 1139, 1700, 1750
Mager, Dario 2794
Magerkurth, Joerg 4333
Maggi, Pietro 3055
Magill, Arthur W. 4356
Magin, Richard L. 871, 1990, 2444, 3189, 3529
Magland, Jeremy F. ... 148, 762, 1181, 1351, 1353, 1354, 1593, 1602
Magnani, Giuseppe 1179
Magnano, Christopher R. ... 1003
Magnier, Luc 1650
Magnotta, Vincent A. 733, 3220, 3243, 3266, 4215
Magnus, Tim 2923
Magnuson, Matthew E. 2243, 2250, 2255, 2302, 3278
Magon, Claudio Jose 2040
Magon, Stefano 2903
Maguire, Mahon L. 1361
Mahabadi, Amir Abbas 574
Mahadevia, Riti J. ..... …1329, 2862, 3821
Mahani, Najmeh Khalili ... 3045
Mahbub, Zaid Bin 1219
Mahdi, Abbas Ali 4047
Maher, Elizabeth A. 214, 509, 1997, 2030, 3646
Mahieu-Williame, Laurent 1650
Mahmood, Asim 3682
Mahmood, Faisal 2931
Mahmood, Zohaib 2722
Mahmoud, Shamseldeen 788
Mahmoudi, Morteza 4202
Mahnken, Andreas H. 2779
Mahon, Bradford Z. 3573
Mai, Xiao Li 3868
Maier, Alex V. 3288
Maier, Florian ……1835, 1839, 4294, 4303, 4326
Maier, Joseph K. 3741, 3777
Maier, Stephan E. .. 2063, 2093, 3178
Mailloux, Ryan J. 1522
Maiman, Dennis J. 150
Mainero, Caterina .. 1086, 3606, 3608
Mair, Ross W. 947
Maisch, Birgit 1165
Maithel, Shishir K. 4308
Maitra, Anirban 1714, 3431
Maître, Xavier 2426, 2434, 3841, 3869, 4117
Majeed, Waqas 2294, 3278
Majid, Tabassum 1069, 2930
Majoie, Charles B.L.M. 712
Majumdar, Shantanu 2877
Majumdar, Sharmila ..... …430, 684, 1652, 1654, 3497, 3531, 3543, 4310, 4497
Mak, Henry Ka Fung 1023, 1087, 3270, 3273
Mak, W. 1023
Makanyanga, Jesica 2705
Makarov, Edward 1270
Makharia, Govind K. 223
Maki, Jeffrey H. 1272, 1413, 3066, 4459
Makki, Malek I. 1214, 2910
Makris, Andreas 3447
Makris, Nikos 937
Makropoulos, Antonios 884, 899
Maksimovic, Jane 624
Maksymowicz, Wojciech ... 562
Malaisrie, Chris 1329, 4448
Malaisrie, S. Chris 62
Malaisse, Willy 1505, 4059
Malamateniou, Christina 918
Malaspina, Dolores 3556, 3580, 3582, 3590
Malba, Vincent 472
Maldjian, Joseph A. 2154, 2163
Malek, Mahrooz 2703
Malesky, Kimberly . 1037, 1042
Mali, Willem 1829
Malik, Shaihan J. ..... ….2594, 3768, 4263
Malis, Vadim 3481
Malkin, Mark G. 512, 977
Mallow, Johannes 2782
Malloy, Craig R. ……509, 657, 659, 1624, 1629, 2727, 2728, 2753, 3370, 3946, 4407
Malmberg, Filip 1618
Malyarenko, Dariya I. 3217
Malzacher, Matthias 4355
Mamczarz, Jacek 85
Mamedov, Ilgar 1891
Mancini, Laura 2115, 4333
Mancuso, Anthony 810
Mandava, Sagar 604
Mandel, Jonathan 3038
Mandelkow, Hendrik 708
Mandeville, Emiri T. 3244
Mandeville, Joseph B. 759
Manduca, Armando ..... ….130, 603, 2422, 2427, 2878, 3810
Mangia, Silvia 869, 1091, 1961, 3552
Mangin, Jean-François 779, 3153, 3154, 3155
Manhard, Mary Kate 1595, 1603
Mani, Venkatesh 4539
Maniega, Susana Muñoz ... 900, 2139, 2140
Manigbas, Elaine 2917
Manivannan, Niranchana .. 3726
Manka, Robert 186, 1339, 3835, 4519
Mann, Helen 508
Mann, J. John 3985
Manning, Kathryn Y. 2776
Manning, Warren J. ... 188, 257, 261, 1313, 1318, 1319, 1323, 1358, 1373, 1406, 1411, 1427, 4453
Manor, Brad 4339
Mansi, Tommaso 4498
Mansoori, Bahar 4097
Mansour, Marc 502
Månsson, Sven 2417, 2565
Mantel, Frederick 1498
Manton, David J. 1728
Manuel, Michele V. 2557
Manzary, Mojieb 1661
Mao, Cuiping 1015
Mao, Deng 675
Mao, Hui 234, 511, 1036, 3627, 3897
Mao, Qing 2876
Mao, Xiangling ..... ……1021, 1206, 2855, 3593, 3597, 3985
Mao, Yi 3425
Mar, Winnie 1783
Maramraju, Sri Harsha 4360
Marangoni, Elisabetta 804
Marashdeh, Wael 870
Maravilla, Kenneth R. 45, 3613
Marcano, Daniela 2930
Marchadour, Charlotte 3998
Marchenko, Yevgen 2023
Marciani, Luca 1958, 4053, 4054
Marco, Elysa 782
Marco, Valentina Di 3099
Marco-Rius, Irene 3937
Marculescu, Rodrig 4514
Marcus, Charles 151, 1923, 1933, 3929
Mareci, Thomas H. 2557, 3188, 3189
Marek, Jaroslav 833, 3264
Mareyam, Azma 75, 826, 2724, 4386
Margolis, Daniel J.A. 1769, 3388, 3391, 3406, 3959
Margolis, Russell L. . 381, 1019
Maria, Naomi Santa 1860
Mariappan, Yogesh K. 278, 279, 645
Marin, Daniele 1275
Marinelli, Luca. ….2053, 2054, 2092, 3202, 3216, 4390, 4391
Marino, Denis 1063, 1703, 1974
Mariotti, Erika 3930, 3939
Maritim, Samuel 1901, 3898
Marizzoni, Moira 2873, 2913
MarjanskaA, Malgorzata 737
Mark, Eugene J. 218
Markiewicz, Erica 154, 678, 1702
Markl, Michael 8, 62, 629, 631, 1329, 1337, 1342, 1349, 2994, 3821, 4434, 4435, 4447, 4448, 4450, 4451, 4489
Marko, Lajos 28
Markos, Farouk 1856
Marks, Leonard 3406
Marlow, Neil 2948
Marmar, Charles 1198, 1199
Marosi, Christine 981, 3630
Marques, Jose 3009
Marques, José P. ... 77, 266, 309, 948, 2493, 3705, 4189, 4265
Marquina, Antonio 2696
Marra, Camillo 2887
Marrie, Ruth Ann 1331
Marrinan, G. 4073
Marrouche, Nassir F. ….. 319, 1395, 1445, 4299, 4462, 4484, 4510, 4515, 4562, 4569
Marrufo-Melendez, O. 3492
Marschar, Anja Maria 2113
Marschner, Henrik .. 4239, 4366
Marsh, Megan Nicole 1652
Marshall, Andrew D. 4002, 4037
Marshall, David 778, 3148
Marshall, Helen……. 644, 820, 1464, 4119
Marshall, Ian 2907, 4012
Marshall, Randolph S. 2991
Martarello, Laurent 1693, 2220
Martel, Dimitri 2039
Martel-Laferriere, Valerie 4082
Martens, Michael A. 2769, 3875
Mårtensson, Magnus 308, 3697, 3708, 3757
Marti-Bonmati, Luis 1281
Martin, Adrian 2696
Martin, Alastair……. 472,

2995, 4318, 4438
Martin, Alastair J. 4320
Martin, Alex 3285
Martin, Amber 721
Martin, Diego …….. 246, 1528, 1573, 2208, 3797, 3829, 4070
Martin, Douglas R. 1075, 1076, 1077
Martin, Ernst 740, 1942
Martin, Melanie 992, 3147
Martin, Neil A. 1947
Martin, Nicholas 2119
Martin, Patricia 1325
Martin, Peter 67, 4445
Martin, Rolicia F. 4002
Martin, Stéphane 1650
Martin-Cook, Kristin 619
Martineau, Estelle 1950
Martinelli, Vittorio 44, 3611
Martinez, Elena 928
Martinez, Francisco 3910
Martinez, Gary V... 1756, 1760, 1762, 3446
Martinez-Lage, Maria 3632
Martinez-Santiesteban, Francisco M. ... 560, 3926, 4369
Martinot, Jean-Luc 893
Martín-Recuero, Ana Belen 114
Martirosian, Petros . 1135, 1230
Martius, Sebastian 2829
Marty, Benjamin 4552
Maruyama, Katsuya 3513
Maruyama, Kouichi 1872
Maruyama, Nobuyuki 2112
Marx, Joel 1073
Marx, Michael 227, 1822, 4297
Marzolla, Vincenzo 4051
Masaki, Hidekazu 1576
Mason, Deborah F. 1090
Mason, Emily 844
Mason, Graeme F. 862, 1956
Mason, Ralph P. 1699, 1794
Mason, Ronald P. 566, 1584, 1873, 1874
Massacesi, Luca 3055
Massire, Aurélien .. 4251, 4256, 4257
Massoumzadeh, Parinaz ... 3056
Massuda, Raffael 1206
Masthoff, Max 157
Mastropasqua, Chiara 328, 2847
Masuda, Yoshitada 942
Masui, Takayuki….1134, 1288, 1502, 2998, 4480
Masutani, Yoshitaka 3477, 3637, 3669
Mata, Jaime F. ….6, 817, 1447, 1448, 1450, 1453, 1455, 1465, 1473, 1827, 4114, 4116
Mates, John A B 2768
Mathalon, Daniel 736
Mathew, Blessy 1169, 1240, 2142
Mathiak, Klaus 2024, 2028
Mathieu, Jean-Baptiste 2707, 2708, 2711, 3216
Mathis, Chester A. 4358
Mathur, Sandeep 3382
Matloub, Hani 2315
Matoba, Hiroki 4467, 4473
Matsubara, Keisuke 1140
Matsuda, Kant 3582
Matsuda, Tetsuya 1962
Matsuda, Tsuyoshi 1244, 1542, 3043
Matsumae, Mitsunori 1213
Matsumoto, Sumiaki 1486, 4100, 4104, 4112, 4113, 4479
Matsumura, Yoshio 1374
Matsumura, Yutaka 1141, 1244
Matsunaga, Terry O. 1064
Matsuo, Kayako 523
Matsuo, Yukinori 4106
Matsuoka, Yuichiro 1846, 1848
Matsushima, Mayumi 1502
Matsuura, Yuka 235
Matsuzaki, Kenji…. 4068, 4124, 4128
Matthew, Shona 1325
Matthews, Lucy A.E. 348, 1084
Matthey, Susanne 2826
Mattrey, Robert F. ..... ….1391, 1392, 3391
Matusch, Andreas 2124
Matwiy, Jarod 2721
Matyjasik, Hubert 562
Matysik, Jorg 2881
Matzat, Stephen J. 3548
Mauch, Alexander 4435
Mauconduit, Franck 83
Maudsley, Andrew 854, 968, 1940, 2023, 2860, 3640, 3957, 3963, 3980
Maumet, Camille 3037, 3260
Maunder, Adam 2720, 4350
Maunoir-Regimbal, Séverine 1047, 1267
Maurel, Pierre 3037, 3260
Maurer, Jeremy 4314
Mawn, Louise A. 1104
Maxien, Daniel 591
Maximov, Ivan I.…3124, 3159, 3199, 3214, 3650, 4246
May, Todd 2894
Mayadev, Angeli 45, 3613
Mayberg, Helen S. 1183
Mayer, Dirk ... 655, 3911, 3917, 3931, 3933, 3935, 3938, 3944, 3985
Mayer, Gaell 1490
Mayer, Ingrid A. 3384
Mayhew, John Edward 757
Mayhew, Stephen D. ..... …38, 2262, 2329, 2342
Mazaheri, Yousef ..... ….1209, 3104, 3379, 3396
Mazerolle, Erin L. 1109
Maziero, Danilo 3360
Mazumder, Ria……. 2098, 2100, 2431, 2432
Mazurkewitz, Peter 2588
McAdams, H. Page.. 818, 1451, 1452
McArthur, David 1947
McBride, Patrick E. 65
McCaig, Sarah 1860
McCarley, Robert 1188
McCarthy, James J. 2898
McCarthy, Patrick 62, 4448
McClain, Wesley 2820, 3625
McCluskey, Tina 2476
McConathy, Jonathan 573, 3056
McConnell, Michael V. 235
McCormack, David G. 819, 1457, 1460, 1462, 1471
McCormack, Robert G. 1661
McCormick, Lynne 1277
McCracken, Paul J. 1719
McCreary, Cheryl R. 2351
McCulloch, Charles 2995
McCurdy, Colin M. 3912
McCurdy, Victoria J. 1075, 1076, 1077
McDermott, Shanaugh 595, 3449
McDonald, Colm 1200
McDonald, John W. 2261
McDougal, W. Scott 1786, 1787
McDougall, Mary P. 2727, 2728, 2752, 2753, 3370, 4407
McDuffie, Marcia 4062
McFarland, John 1200
McGann, Christopher J. 318, 319, 4462, 4484, 4510
McGarragle, Olivia. 1189, 1193
McGarry, Matthew D.J… 2423, 2425, 2442
McGarvey, Jeremy . 1405, 1438
McGavern, Dorian 1859
McGee, Kiaran P…… 278, 645, 1748
McGinley, John 2730
McGlone, Francis 753
McGregor, Hugh 1596
McHugh, Brain 228
McHugh, Damien 3201
McInerney, Shane 1200
McIntyre, Cameron C. 1183
McIntyre, Chris 22
McIntyre, Scott 667
McKendry, Jonathan 563
McKenney, Jesse 3405
McKenzie, Charles A. 549, 1510, 2418, 3729, 3912, 4277
McKinnon, Graeme C. 1683, 2635, 3777
McLaren, Alex 1666
Mclaren, Christine E. 201
McLaren, D. G. 2332
McLaughlin, Rebekah L. 202
McLean, Mary 1211
Mclemore, Ryan 1666
McLin, Valérie A. ... 111, 1975, 3993
McMachon, Katie 2119
McMahon, Michael T. 152, 156, 158, 422, 426, 428, 447, 565, 1852, 1903, 1904, 2545, 2555, 3940, 4240, 4295
McMillan, Alan B. ..... …2280, 2522, 2524
McMillan, Corey T. 1011
McNichols, Roger J. 4301, 4302
McPhee, Kelly C. 2466
McSwain, Bill 2841
McVeigh, Elliot R. 255, 259, 471, 865, 1059, 2457, 4494
McVicar, Nevin 4221, 4226
McWalter, Emily J. ... 436, 686, 3548
McWatters, Kara 1669
McWilliams, Sarah 4279
Mead, Simon 386, 3011
Meade, Thomas 1688
Meakin, James A. ... 2148, 4401
Meakin, Susan 4226
Meani, Alessandro.. 1179, 3553
Means-Powell, Julie 3384
Mease, Ronnie C. 236
Mebarki, Mouniya 3423
Mechling, Anna 2265, 2322
Medda, Alessio 2250
Meder, Jean-François 626, 1136
Medina, Rodolfo A. 3939
Medrano-Gracia, Pau 1431
Meduri, Venkata 4546, 4548
Medved, Milica 96, 3054, 3371
Medway, Debra 1361
Meekaoui, Choukri 479
Meems, Be 4543
Meens, Be 589
Meersmann, Thomas 1456,

1475
Mehndiratta, Amit… 2172, 3068, 3069, 3070
Mehta, Bhairav B.....…1407, 4482, 4570
Mehta, Puja.....4527
Mehta, Rita S. 195, 201
Mei, Chang-Sheng.....…478, 4290, 4300
Mei, Jennifer.....1051, 3082
Mei, Xunbai.....1388
Meier, Dirk 831
Meier, Martin.....31, 1548
Meier, Robert Ch. 662
Meijering, Erik 1266
Meilandt, William J. 1037
Meintjes, Ernesta M.….....886, 2585, 3272, 4501
Meinzer, Hans-Peter .....…614, 790, 3151, 3162, 3166
Meise, Florian M. 1983
Meisel, Mark W.....2557
Meissner, Markus V. 662
Mekary, Saïd 2871
Mekkaoui, Choukri …481, 581, 3587, 4495, 4496, 4502, 4504
Mekle, Ralf.....1241, 4259
Mekonnen, Abeye.....4334
Melamed, Jonathan.....1572
Melbourne, Andrew..802, 2948
Melchert, Uwe 973
Melendez-Calderon, Alejandro 888
Melhem, Elias R. ….968, 1006, 3632, 3641
Melia, Rebecca 1003
Melie-Garcia, Lester.....3168
Melkus, Gerd……57, 144, 684, 2003, 3460, 4497
Mello, Julie.....3358
Meloni, Antonella.....….1433, 1440, 4196, 4485, 4490
Melsaether, Amy 197, 1741, 2813, 3364
Meltzer, Jed 2240
Melzer, Tracy R.....1090
Menchise, Valeria.....3892
Mendes, Jason K....1621, 2583, 3047
Mendez-Rojas, Miguel 3878
Mendonça, Gustavo Maia Queiroz.....1334
Mendoza, Cedric.....2225
Menedez, Maria Isabel 3532
Menegaz, Gloria 2934
Meng, Eric 1510
Meng, Quanfei.....548
Meng, Yajing.....3600
Meng, Yuguang..... 3685, 3691
Mengesha, Tirusew T 3889, 3902
Mengual, Elisa.....2193
Menichetti, Luca.….....1930, 3923, 3947
Menon, Rajiv G. 2352, 2996, 2997
Menon, Ravi S.. ……670, 724, 1108, 1289, 2231, 2776, 3349, 3739, 3842
Menon, Vimla..... 3230, 3231
Mens, Giel 2594, 4373, 4568
Menter, David.....1933
Menth, Jillaina L.....1756
Mentlein, Rolf 3677
Mentzel, Hans-Joachim 777, 2127, 2370, 2495, 3010, 4103
Menys, Alex 677
Menza, Marius.....4483
Menzel, Marion I.….656, 1919, 1930, 1931, 1934, 2053, 2054, 2092, 2103, 3921, 3924
Merboldt, Klaus-Dietmar 4323, 4441, 4567
Merchant, Milton.....3938
Merchant, Nazakat..... 899, 924
Merchant, Samer 1379
Merchant, Thomas E. 3639
Merckel, Laura 1829
Mercury, Michael 2869
Merhar, Stephanie L. 923, 2760
Meriaudau, Fabrice.....621
Merino, Maria J. 1782
Merisaari, Harri 3398
Merkel, Bernd.....620
Merkens, Heiko 1686
Merkle, Elmar M. ... 1755, 4463
Merkle, Hellmut .. …459, 1082, 1891, 2778
Merle, Mathilde.....1823
Merrifield, Gavin D.1387, 1389
Merrill, Robb.... 134, 832, 2583
Merritt, Mac 2243
Merritt, Matthew E.…657, 659, 3946
Mershon, Christopher.....3474
Mert, Aygül 981, 3630
Mertins, Alfred..... 3714, 4278
Mertsch, Sonja.....1866
Merugumala, Sai K.....1096, 1188, 1626
Merwa, Robert.....840
Merz, Noel Bairey . 1320, 1401, 4527
Mesaros, Sarlota 3607
Meshksar, Arash.....3003
Meskaldji, Djalel Eddine 2934, 2964
Mesquita, Michel B.1043, 2301
Mess, Werner 4543
Messina, Stefano 1173
Messiou, Christina.....…508, 1761, 3448, 4150, 4153
Messner, Alina 1653
Meszoely, Ingrid M. 3384
Methner, Carmen.....1364
Metman, Leo Verhagen.... 4427
Metoki, Tsuyoshi.... 1141, 3787
Metz, Luanne M. 3027
Metzger, Gregory J.....…30, 1292, 1540, 3402, 3418, 3767, 3958, 4136
Metzler, Scott 235
Metzler-Baddeley, Claudia 3663
Meudt, Jennifer J. 65
Meuli, Reto.. ……898, 2934, 3107, 3336
Mewar, Sujeet R..... 223, 4024
Mewis, Ryan 3940
Meyer, Carsten 952
Meyer, Cord 1498
Meyer, Craig…….. 1284, 1298, 1865, 4556, 4573
Meyer, Craig H..... 316, 1228, 1448, 2157, 2164, 3032, 4555
Meyer, Esther2590, 3711, 3736
Meyer, James.....1633
Meyer, Joel.....3612
Meyer, Ronald A. 1639
Meyerand, Mary Elizabeth 987, 3866
Meyer-Lindenberg, Andreas 2305, 2321
Meyers, Sandra M. 3724
Meyerspeer, Martin 1628, 1971, 2187, 2782, 4356
Mezer, Aviv.....938
Mezzanzanica, Delia 807
Mi, Donghua 630
Miao, Hsiao-Chien 2056
Micallef, Caroline.....4333
Michael, Navin..... 2023, 2031, 4015
Michaël, Sdika.....742
Michaeli, Shalom 764, 869, 1091, 3552
Michaelides, Demos.....4449
Michaelides, Kristis.....4449
Michaelis, Thomas 272
Michaely, Henrik J. . 400, 4057, 4140, 4142
Michal, Carl 1227
Michalik, David E. 2859
Micheal, N.....2015
Michel, Patrik.....1143
Michell, Paul D. 909, 2956
Michels, Lars..... 740, 1942
Mickey, Bruce.....509
Middione, Matthew J. 4436
Middleton, Devon 2114
Middleton, Michael S..... 1516, 1517, 4033
Miese, Falk.....4227
Miettinen, Tuukka..... 60, 1038
Miga, Michael I. 1730
Mignion, Lionel 1760
Mika, Valerie 1162, 2897, 3561
Mikati, Mohamad A. 906
Mikeev, Arthem 1554
Mikesell, Robert.....417
Mikheev, Artem V. 1551, 2695
Miki, Hitoshi 2992
Mikkelsen, Irene Klaerke .. 204, 427
Milak, Matthew S... 1206, 3985
Mildner, Toralf..... 757, 2168, 2367, 4366
Miles, Laura .. 783, 3556, 3580, 3590
Milham, Michael P..... 527
Miller, Andrew H. 969
Miller, Bruce 3665
Miller, Christopher A. 1409
Miller, David H. 49, 1090, 1212, 2095, 2540
Miller, Emmy R. 2898
Miller, Frank H. 593
Miller, G. Wilson 6, 822, 1448, 4115, 1447, 1465, 1473, 4114, 4116
Miller, Karla 54, 705, 2074, 3022, 3176, 3274, 3275, 3718, 3792, 4541
Miller, Laura 4073
Miller, Michael..... 2888, 2949, 3239
Miller, Michael I. ... 3013, 3150
Miller, Patti A. 1882
Miller, Wilson 1450
Millis, Scott.....1162
Millon, Antoine.....1912
Mills, Parker H. 1867
Millward, Niki.....1933
Milot, Laurent 91
Milot, Sylvain.....3518
Min, David K. 3238
Min, James 1419
Min, Zhigang 1151, 1177, 3563

Minalga, Emilee 832
Minarikova, Lenka .. 217, 1737, 3374
Minas, Jennifer 3007
Minato, Kotaro 2112
Mindrinos, Michael N..... 3518
Minowa, Kazuyuki 2111
Mintzopoulos, Dionyssios 1034, 2999, 3294, 3518, 4044, 4048
Miquel, Marc Eric 250
Miranda, Lea 426
Miranda, Pedro C..... 4334
Miranda, Susana 499
Mirbagheri, Saeedeh 1130
Mirelis, Jesus G. 256
Mirkes, Christian C. 1982, 2529
Mironchik, Yelena .. 1714, 3431
Mirsadraee, Saeed..... 1317
Misaki, Masaya 521, 732, 1160, 1161, 1185, 3024, 3350, 3569
Mischi, Massimo 95
Misci, Paolo..... 803
Mishkovsky, Mor 1703
Mishra, Arabinda..... 3288
Mishra, Sushanta Kumar .. 3864
Mishra, Usha 1939
Mishra, Virendra..... 800, 2958, 3190
Mistretta, Charles A... 544, 624, 2993
Mistry, Nilesh..... 1744
Mitani, Naoko..... 2850
Mitchell, Kenneth..... 1012
Mitra, Anish..... 2259
Mitrea, Bogdan G. 374
Mitschang, Lorenz .. 1476, 1478
Mitsumori, Fumiyuki..... 4214
Mitsumoto, Hiroshi..... 2855
Mittal, Pardeep 4069, 4072
Mittal, Ravinder..... 681
Mix, Michal 2226
Miyagi, Ryo .. 1685, 3100, 3498
Miyake, Hideaki 3386
Miyakoshi, Makoto..... 2337
Miyasaka, Mikiko..... 1576
Miyasaka, Toshiteru 2935, 2985
Miyata, Tomoko 4475
Miyati, Toshiaki 4154, 4165
Miyati, Tosiaki 3436, 3509
Miyazaki, Keiko 720, 2217
Miyazaki, Mitsue ... 4467, 4473, 4475
Miyazaki, Takayuki..... 3509
Miyoshi, Mitsuharu 1288, 1502, 3180
Mizuhara, Kazuyuki 2437
Mizuki, Kenichi..... 1134, 1288, 1502, 2998
Mizusawa, Hidehiro 2850
Mlynárik, Vladimír..... 1063
Mlynash, Michael..... 1144
Moazenzadeh, Ali..... 662
Moccaldi, Melanie.... 200, 3364
Mocco, J. 207
Moche, Michael..... 1777, 1843, 3389, 3399
Mochizuki, Teruhito 2992
Mocking, Steven..... 2938
Modat, Marc 1095, 3679
Modi, Shilpi. 3019, 3559, 3995, 4007
Modic, Michael T. 788
Moding, Everett J. 3416
Modo, Michel . 704, 2090, 3873
Mody, Swati 166, 4133
Moe, Orson W. 674
Moellenhoff, Klaus..... 2124
Moeller, Gerry F..... 3659
Moeller, Harald E. 847, 3339
Moeller, James 1012
Moeller, Steen . 17, 52, 74, 244, 406, 2621, 2661, 3275, 3801, 3958
Moerel, Michelle 295
Moerland, Marinus A. 4322
Moestue, Siver A..... 500, 804, 4035
Moghadasi, Ali 364, 3481, 3494, 3522
Moghaddam, Abbas N..... 487, 1403
Moghari, Mehdi H. 1313
Mohakud, Sudipta 3640
Mohamed, Feroze ... 1116, 2114
Mohamed, Mona A..... 4040
Mohamed, Mona M. 2021
Mohammadi, Siawoosh ... 3008, 3131, 3196
Mohan, Pauliah..... 3625
Mohan, Suyash 3641
Moheet, Amir 113
Mohiaddin, Raad 4457
Mohl, Brianne..... 1189, 1193
Mohler, Emile R. 1344, 2186
Moiola, Lucia 42
Mojahed, Hamed 3969
Mok, Greta S.P. 3476, 3478
Molina, Elena 3035
Molina, Monica 2860
Molinari, Marco..... 1014, 1099
Molinaro, Annette 3643
Molitoris, Sarah..... 3228
Möller, Harald E..... 379, 384, 524, 757, 1001, 2168, 2367, 4208, 4235, 4239, 4366
Molloy, Carly 905
Molteno, Christopher D..... 886
Mongkolwisetwara, Puttisarn 823, 1461
Monk, Christopher 889
Monney, Pierre..... 547
Monohan, Elizabeth 1097
Mononen, Mika E..... 3546
Monroe, Jeffrey 3557
Montana, Giovanni..... 176
Montenegro, Lisa 917
Montesinos, Paula 882
Monu, Johnny..... 4477
Monu, Uche D. 436
Moodalbail, Divya..... 2978
Moodie, Craig 2282
Moody, Katherine..... 2744
Mooiweer, Ronald .. 3016, 4244
Mookerjee, Rajeshwar..... 1509, 2190, 3117
Moon, Chan Hong..... 687
Moon, Chung-Man..... 3224
Moon, James 1582
Moon, Richard E. ... 1491, 4111
Moonen, Chrit T.W. 230, 1807, 1810, 1829, 1830, 3871, 4309, 4311, 4325
Moonen, Rik P.M. 4199
Mooney, Karen E. . 1465, 1744, 4114
Moore, Jay..... 2593, 4262
Moore, Ryan..... 207
Moore, Sandra L..... 405
Moore, Stephen 1064, 3843
Moore, Wayne..... 1078
Moore, William 3890
Moosvi, Firas..... 153
Moots, Paul 983
Morales, María P. 3896
Moran, Bill 2456
Mora-Vieira, Luis F..... 1312
Mörchel, Philipp..... 1366
Moreau, Jeremy..... 989
Moreau, Richard..... 4087
Moreira, Andre E..... 507, 1209
Morel, Penelope 243
Morelande, Mark..... 2456
Morelli, John N. 4057
Moreno, Karlos X..... 657, 659
Moreno, Lucas..... 720
Moreno, Rodrigo 2416
Morey, Rajendra..... 868
Morgan, Alexandra R. 1484, 1485
Morgan, Gareth 3448, 4150
Morgan, H. 2359
Morgan, Paul S..... 2848
Morgan, Scott..... 100
Morgan, Thomas 3412
Morgan, Veronica A.. 100, 508, 594, 1495, 1761, 1776, 3395, 3397, 3434, 3448
Morgan, Victoria L..... 2296
Morgunov, Melissa 2920
Mori, Harushi..... 3477, 3637
Mori, Noriko 1704
Mori, Susumu.... 177, 264, 707, 838, 2484, 2949, 3013, 3150, 3207, 4494
Mori, Yuki..... 1048, 2774
Morin, Viktor P. 2565
Morisaka, Hiroyuki 1507, 4168
Morissette, John 3184
Morita, Kosuke..... 2463
Morita, Yoshiaki 2981, 4545
Morita, Yoshinori..... 1848
Morito, Yusuke 2160
Moroz, Jennifer 3074
Morozov, Darya 3136, 3137
Morrell, Glen 1569, 4010, 4272
Morris, Elizabeth A. 3379
Morris, Joel M..... 2280
Morris, P. 1958
Morris, Peter G..... 1205, 2034, 3221
Morris, Robert..... 563
Morrison, Lake D. 1452
Morrison, William..... 3463
Morrow, Jasper M. 314, 691
Morse, David L. 1756
Mortazavi, Amir..... 503, 3451
Morton, A. Jennifer 1381, 2690
Morton, Kathryn A..... 4144
Moseley, Michael E. . 415, 451, 588, 1237, 2222, 2236, 2239, 2266, 3357, 3358
Moser, Ewald 1628, 1971, 2187, 2782, 2786, 4357
Mosher, Timothy..... 682
Mosher, Zachary 1029
Moskowitz, Chaya M. 3438
Moskowitz, Michael2999, 3294
Mossa, David J. 3390
Mossahebi, Pouria ... 431, 1677, 4225
Mostofsky, Stewart H..... 921, 1175, 3750, 3751
Motaal, Abdallah G. 1360
Motawani, Manish..... 186
Motoi, Yumiko..... 2866, 3672
Motosugi, Utaroh ... 4168, 4169
Motougi, Utaro..... 1507
Mottaghy, Felix..... 4543
Mougenot, Charles..... 4291
Mougin, Olivier E. 297, 934, 1219, 2553, 3602
Mouri, Feryel 4075, 4078

Mouridsen, Kim.....204
Mousavi, Pedram.... 2720, 4350
Moussavi, Amir..... 3696, 3776
Moy, Linda..... 197, 200, 1739, 1741, 3364, 3373
Mpofu, Senzeni..... 439, 4231
Mu, Ketao.....240
Mu, Xin 2974
Muccigrosso, David.. 361, 3527
Much, Chressen K. 1421, 3057, 4127
Mucke, Johanna..... 167, 2983
Muckley, Matthew J. 2623
Mueggler, Thomas.....331
Mueller, Bryon 736
Mueller, Dominik N. 28
Mueller, Edgar..... ……1370, 2652, 2674, 3812
Mueller, Hans-Peter.....3080
Mueller, Karsten 379, 384, 524, 1001
Mueller, Mark.....1230
Mueller, Michael 361, 3527
Mueller, Wade 512
Mueller-Lenke, Nicole.....2903
Muelly, Michael 1671, 1690
Muftuler, L. Tugan .. 150, 2733, 3215, 3831, 4352
Mugler, III, John P. 6, 817, 822, 1284, 1447, 1448, 1450, 1453, 1455, 1465, 1473, 1827, 2157, 2368, 4114, 4115, 4116, 4120
Muhle, Maximilian.....2747
Muhlert, Niels.....3163
Muhlert, Nils 49, 1095, 2540
Muir, Eric R..... 449, 894, 1220
Muir, Keith W. 1133
Mukherjee, Joydeep.....3432
Mukherjee, Pratik ..... ……178, 782, 3152, 3169, 3592, 3599
Mukherjee, Shreya.. 1885, 2511
Mukhopadhyaya, Ashok .1523, 1525
Mulcahey, MJ..... 1116, 2114
Mulder, Harriët W. 2206
Mulder, Matthew J.. 1892, 2324
Muldoon, Leslie L. 1722
Mulkern, Robert 418, 1535, 1770, 2093, 3361, 4056
Mulkey, Sarah B..... 174, 2107
Müller, Alexander.... 833, 2839, 3331, 3715, 3771
Müller, Dirk K. 4239
Müller, Gunilla M. 2565
Müller, Markus 3107
Müller, Matthias 824, 1930, 3947
Müller, Nils 3704
Muller, Robert N. 237, 746
Müller, Roland 4366
Müller, Susanne.....341
Müller-Lutz, Anja... 4220, 4227
Müller-Tidow, Carsten 1767
Mullick, Rakesh 2984, 3075, 3211, 3281, 3720, 3723
Mullin, Jim 1387, 1389
Mullinger, Karen J..... 38, 2342, 2763
Mullins, Paul Gerald Mark 453, 1252
Mullins, Roger J. 85, 2320, 3507
Mulsant, Benoit 1191
Mundell, Victoria 563
Münnemann, Kerstin 1921, 1927, 1937
Munz, Eberhard.....3549
Muradyan, Iga 1499, 2762
Murai, Yasuo.....4454
Murakami, Masaaki..... 1048
Murakami, Toshiyuki972, 2988
Murase, Kenya 2551, 3547, 3879
Murase, Tomokazu 1643, 2338, 2343
Murashima, Mai 2481
Muraskin, Jordan S. 2862
Murat, Sébastien.....1820
Murata, Katsutoshi 988
Muratore, Alicia 4120
Murayama, Jessica.....4524
Murdoch, James B.. 387, 2026, 2851, 3984
Murnane, Kevin.....88
Muro, Isao 3172
Murph-Eigel, E. Colleen..... 923
Murphy, Alyssa 1018
Murphy, Declan.....3583
Murphy, Kevin …….849, 2182, 2349, 3342, 3343, 3344, 3345
Murphy, Mark 2630
Murphy, Matthew C. 2422, 2878
Murphy, Robert L. 3668
Murphy-Boesch, Joseph .. 1561, 2833
Murray, Michael 1200
Murthy, Anand N ... 2984, 3281
Muschelli, John 2261
Mustafi, Devkumar.... 154, 678, 1702
Musthafa, Haja-Sherief N. 1382
Muthupillai, Raja.... 1357, 1371
Mutihac, Radu 2702, 3731
Mutlu, Senol.....1838
Mutsaerts, Henri J.M.M. 712
Myall, Daniel.....1090
Myeong, Wan-Jae.....1276
Myer, Daniel 726
Myers, Jim F. M. 1953
Myint, Esther.....3090
Myronovych, Andriy..... 1521

N

Na, Ho Ngoc.....3689
Nabatani, Akira 1244
Nabuurs, Christine.....2008
Nacif, Marcelo.....4558
Nadar, Mariappan S..... 2652, 2674, 3805, 3812
Nadar, Sreenivasan R. 3554
Nadig, Vidya 2648, 4488, 4491, 4498
Naegelin, Yvonne.....3618
Nael, Kambiz.....3003
Næss-Schmidt, Erhard..... 1127
Nafisi, Bahiyah Al.....7
Nag, T. C. 2947
Nagala, Sidhartha 1211
Nagamatsu, Hiroshi..... 1576
Naganawa, Shinji 1233
Nagaoka, Tomoaki ... 910, 3097
Nagaraja, Tavarekere N.... 2209
Nagarajan, Rajakumar..... 856, 2859, 3959, 3971, 3983
Nagata, Motonori 4529
Nagel, Armin M. 116, 216, 1983, 1984, 1992, 1993
Nagel, Eike..... 186, 1279
Nägele, Thomas.....1176
Nagelmann, Nina.....1404
Nägga, Katarina..... 615
Naggara, Olivier..... 626, 1136
Nagle, Scott K. 63, 399, 646, 1274, 1422, 1492, 1501, 4098, 4101, 4455
Nagpal, Seema.....3636
Nagy, Zoltan..... 2065, 3196
Naik, Arpana 504
Naim, Maryam 917
Nair, Dileep.... 752, 2142, 4422
Nair, Govind.....3055
Nair, Veena A..... 2990, 3306
Naish, Josephine H. 648, 1409, 1480, 1484, 1485, 3201
Naismith, Robert 776, 3624
Naito, Hiroaki..... 2981, 4545
Najac, Chloé..... 3998, 3999
Najera, S. Solis.....3492
Najjar, Aiman Al.....3173
Najm, Imad..... 752, 2142
Nakagami, Ryutaro 1945
Nakagawa, Masayuki 3383
Nakai, Asako.....1579
Nakai, Ryusuke 2559, 3116, 3520
Nakai, Toshiharu... 2330, 2334, 2337
Nakajima, Kohei 3513
Nakako, Nobuo 4529
Nakamoto, Dean.....1589
Nakamura, Katsumi 4467, 4473
Nakamura, Kazuhiro 1140
Nakamura, Kazuki.....2604
Nakamura, Masanobu 540, 3629, 4466, 4532
Nakamura, Takashi . 136, 2771, 3130
Nakamura, Toshiyasu..... 3100, 3498
Nakanishi, Atsushi 2866, 3637, 3672
Nakano, Y. 4064
Nakashima, Tsutomu..... 1233
Nakata, Ken.....1656
Nakayama, Ryohei.....4529
Nalcioglu, Orhan..... 831, 2783, 2791, 4353, 4394
Nalesnik, Michael 275
Nam, Woo Hyun 1842
Nam, Yoonho..... 1236, 3851, 3852, 3922, 4180
Nan, Hong.....1203
Nanba, Takamasa..... 972, 2988
Nandi, Asish.....4054
Nanga, Ravi PR..... 420, 1438, 2037, 2541, 2543, 2554, 2697, 3983
Narang, Jayant.....3444
Narayana, Ponnada A..... …48, 891, 1067, 1083, 1444, 2118, 2898, 3036, 3096, 3621, 3659
Narayanan, Priya lakshmi .. 886
Narayanan, Shrikanth S.... 1235
Narayanan, Sridar..... 47, 2694
Narayanan, Vinodh 1045
Narayanasamy, Prabagaran 1055
Nardo, Lorenzo 632, 683, 3497
Naresh, Nivedita K. 324
Nargeot, Romuald 1263
Narsude, Mayur.....3705
Naruse, Shoji 1643, 2338, 2343
Narvid, Jared 982
Nasholm, Peter 2447
Nasrallah, Fatima 2306

Nasrallah, Fatima Ali..210, 332
Nasrallah, Henry.....3589, 3591
Nassenstein, Kai 4474
Nasseri, Morad 1722
Natarajan, Shyam 3406
Nateras, Oscar 714, 1220
Nath, Kavindra 809, 1006, 1192, 1705, 1726, 1727
Nathan, D.....3302
Nathoo, Nabeela 1050, 1062
Natsuaki, Yutaka233, 542, 876, 1613, 4222, 4461, 4469
Nau, Amy C.....3655
Nauerth, Arno.....1404, 1496
Nauman, Eric.....2346, 2892, 3303, 3661
Navalpakkam, Bharath 830, 2815
Navis, Anna C. 3674
Navis, Anneke C.....805, 4016
Navon, Gil 232, 425, 2516
Nawabi, Danyal H. 640
Nayak, Krishna S. …251, 1235, 1352, 2714, 3908, 4206, 4525
Nazem-Zadeh, Mohammad 3644
Near, Jamie.. 1127, 3972, 3991, 4401
Nebel, Mary Beth 1175
Nederveen, Aart J. 712, 880, 3495, 4178, 4185
Nedjati-Gilani, Gemma ...3126, 3128
Neelavali, Jaladhar .. 166, 1238, 1581, 4126, 4133
Neeman, Micha.....439, 1853, 1897, 4231, 4507
Nees, Frauke.....893
Negahdar, M.J. 1346, 4445
Neggers, Bas.....2014
Negri, Viviana 3876
Neher, Peter F.....3151, 3162, 3166
Nehrke, Kay …….365, 2592, 2748, 4254, 4270, 4271, 4413
Neil, Jeffrey J. 535, 2937
Nejad-Davarani, Siamak .3058, 3297, 3681, 3682
Nekolla, Stephan G....576, 824, 829
Nelissen, Jules L.....1360
Nelson, David 809, 1705, 1718, 1726, 1727
Nelson, Marvin D, Jr...920, 922
Nelson, Michael.....3369
Nelson, Sarah 122, 247, 510, 658, 960, 974, 2003, 2012, 3006, 3592, 3599, 3642, 3643, 3907
Nemoto, Masahito 2319
Nencka, Andrew S..... …123, 1725, 2228, 2232, 3319
Nensa, Felix..... 574, 3881
Nestadt, Gerald.....4040
Nestor, Peter J. 997, 3664
Nett, Elizabeth Janus 1332, 4455
Neu, Corey P. 433, 1681
Neubauer, Stefan 578, 1361, 1999, 2027, 2745
Neuberger, Thomas 389, 1239, 2954
Neubert, Aleš.....1612
Neudecker, Sabine. 1552, 1562, 4008, 4355
Neumaier, Michael 2790
Neumann, Daniel.....3710
Neumann, Jane 4239
Neumayer, Bernhard 3499
Neuner, Irene 3214, 3650
Neuwelt, Edward A. 716, 1722, 3072
Neveu, Marie-Aline 1700, 1750
Nevo, Erez.....311
Nevo, Uri..... 496, 2669
Newbold, Kate.....505
Newbould, Rexford D. 4010
Newby, David C. 1317
Newitt, David C..... 202, 3202, 3367
Newman, Jane H.....1385
Newstead, Gillian M.....3371, 3372
Newton, Allen T. ... 3064, 3288, 3330
Nezafat, Reza 188, 257, 882, 1313, 1318, 1319, 1323, 1358, 1373, 1406, 1411, 1427, 4453, 4568, 4571
Nezhad, Faezeh Sanaei.....3087
Ng, Amanda C. L. .. 2667, 3843
Ng, Johnny ... 2304, 3269, 3311
Ng, Kian Chye..... 1068, 1072, 2015
Ng, Quan Sing..... 1693, 2220
Ng, Shu-Hang..... 1231, 3091
Ng, Thian C. 2210, 3063
Ng, Thomas 1860
Ng, Tovia Yun Jie 332
Ng, Yin Kwee.....1326
Ngan, Ka-kei 275
Ngen, Ethel.....561
Nghiemphu, Phioanh 513, 3631
Ngo, Tri Minh 2457
Nguyen, Christopher 1419, 4151
Nguyen, Hien 2676
Nguyen, Huyen Thanh 503, 3451
Nguyen, Patricia.....235
Nguyen, Thanh..... 1097, 2474, 3620
Nguyen, Thanh B. 2200
Nguyen, Thanh D. ... 262, 1024, 2591, 3617
Nguyen-Thanh, Thao 2226
Ni, Wendy W. ... 415, 451, 588, 2222, 2236, 2266, 2902, 3123, 3357
Nicholls, Francesca 3873
Nickel, Dominik..... 829, 4088
Nickel, Marcel D. 401
Nickerson, Lisa 206
Nicola, De Pisapia.....3280
Nicolai, Jodi 476
Nicolaij, Klaas..... 1623, 1627
Nicolas-Jilwan, Manal..... 2157
Nicolay, Klaas ……117, 423, 1360, 1826, 1894, 1957, 1960, 1964, 2011, 4009, 4199
Nicoli, Francois.....3002
Nicolson, Rob.....2355
Nicolson, Susan.....917
Nie, Jingxin 2951, 2952
Nie, Xingju... 2096, 2916, 3084
Niebergall, Aaron..... 676, 4340
Nielles-Vallespin, Sonia.... 479, 581, 4495, 4502, 4504
Nielsen, Allen S.....3608
Nielsen, Jon-Fredrik 252, 2362, 2403, 2507, 2602, 2744, 3333
Nielsen, Niels Christian... 3945, 4246
Nielsen, Thomas.....1752
Nielsen, Tim. 2152, 3751, 4278
Nielsen-Saines, Karin.....2859
Nielson, Kristy A.....996
Nieman, Brian J. 90, 271, 1070, 2572
Nieminen, Jaako O. 3743
Nieminen, Miika T.…434, 641, 1662, 1887, 3546, 3551, 3552
Niendorf, Thoralf ….25, 28, 29, 394, 395, 580, 616, 833, 864, 928, 1085, 1296, 1384, 1412, 2747, 2839, 3264, 3504, 4512
Niessen, Wiro J. 1266
Niesters, Marieke 3045
Nieto, Elena.....1883
Nieuwstadt, Harm.....4542
Niitsu, Mamoru 3513
Nijsen, Frank.....3871
Nikolaou, Konstantin 591, 4141, 4460
Niks, Erik H. 2960
Niles, David J.... 10, 653, 1567, 3918, 3936
Nilles, Nora.....3604
Nilsson, Markus 497, 615, 781, 3185
Nimbalkar, Manoj M..... 824
Nimmo-Smith, Ian.....2123
Ning, Ning..... 173
Ninomiya, Ayako 1578
Niogi, Sumit Narayan..... 919
Nippe, Nadine 157
Nir, Guy 2429
Nishie, Akihiko 4093
Nishie, Akihiro.....4123
Nishii, Takashi 1656, 3547
Nishijo, Hisao.....2437
Nishimura, Dwight G.189, 370, 543, 555, 694, 1282, 1293, 2581, 2619, 3828, 3933, 4470
Nishio, Mizuho..... 1486, 4100, 4104, 4112, 4113, 4471, 4479
Nishiyama, Nobuhiro 1869
Nissan, Noam. 198, 2101, 4061
Nissi, Mikko J. ..... …….429, 434, 764, 1658, 3551, 3552
Nissou, Marie-France..... 83
Nistler, Juergen 2741, 2746, 4398
Nitatori, Toshiaki .. 1397, 1425, 1428
Nitta, Shuhei..... 1397, 1425, 1428, 3839
Nittka, Mathias..... 2558, 2561, 3488
Niu, Chen 1151, 1177, 3563
Niu, Gang..... 173, 795, 2975
Niven, Robert M..... 648
Niwa, Tetsu 910, 3097
Nixdorf, Donald 1684, 3978
Nixon, Terence W.. 667, 2611, 2713
Niznikiewicz, Margaret.... 1188
Njus, Jeffrey M. 716
Nkansah, Michael K..... 1893
Noack, Cornelia 380
Nöbauer-Huhmann, Iris.... 3475
Nobili, Flavio 2873, 2913
Nobusawa, Hiroshi..... 4122
Noda, Yasufumi 1530, 1555, 1558, 1566
Noebauer-Huhmann, Iris-Melanie 1678
Noël, Peter..... 602, 1415
Noeske, Ralph 962, 2966, 4032
Nofiele, Joris Tchouala 203, 1880
Nogle, Sally..... 3557

Noguchi, Teruo.....4545
Noll, Douglas C.....252, 2362, 2403, 2507, 2623, 2744, 3259, 3297, 3317, 3333
Nongena, Phumza.....797
Nordbeck, Peter.....1366
Norman, Jane.....900, 2959
Norquay, Graham 644, 816, 1449, 1477, 1929, 1998, 4119
Norris, David 53, 837, 2045, 2238, 3704, 3707
Norris, Mathew.....2784, 3589, 3591
Northam, Gemma 802
Northern, Tracie 3589, 3591
Northoff, Georg.....2331
Norton, Patrick 1284
Nosaka, Shunsuke.....1576
Noseworthy, Michael D...1632, 1636, 1637, 1640, 1648, 2792, 2798, 3248, 3506
Nossin-Manor, Revital.....887
Nöth, Ulrike.....2513
Notohamiprodjo, Mike 4141
Nougaret, Stephanie 4131
Nour, Sherif G. 1817, 4308
Noureddine, Yacine 4415, 4416
Novak, Jan.....4036
Novak, Ronald D. 1589
Novembre, Francis J. 1060
Novikov, Dmitry S. ...363, 489, 495, 993, 2116, 2519, 3073, 3127, 4175
Nowakowski, Adam 562
Noworolski, Susan.....1779
Nowotny, Bettina....1963, 2419
Nowotny, Peter.....2419
Nozaki, Atsushi 128
NR, Jagannathan.....1207
Nsair, Ali 487
Numan, Wouter 1819, 4336
Numano, Tomokazu 2437
Nummenmaa, Aapo.....3353
Nunes, Patricia M. 673
Nunes, Rita 918
Nyholm, Tufve 1665
Nyman, Charles G. 3438
Nyman, Gregory 3396
Nyman, Jeffry S. 1595, 1603

O

O'Brien, Kieran 77, 269, 1955,3009, 3107, 3336
O'Callaghan, James M. 3679
O'Connor, James P. 2693
O'Dell, Nick 2888
O'Duffy, Anne 207
O'Gorman, Ruth L. . 740, 1942, 2966, 2977
O'Halloran, Rafael 73, 369, 2044, 2061, 2083, 2084, 2615, 3182, 3210, 3830
O'Leary-Moore, Shonagh 3076
O'Muircheartaigh, Jonathan 801, 911, 2955
O'Neill, Mark 469
O'Neill, Michael J. 3679
O'Reilly, Meaghan A. 354
O'Rourke, Donald M. 3641
Oakden, Wendy 354, 468
Oakes, Terrence R. 2891, 3020, 3184, 3302, 3614
Oaklander, Anne Louise 353
Oakley, Fiona 598
Oakley, Gretchen Mae 1221
Oates, George 1458
Obaidat, Ihab M. 1888
Obara, Makoto. 213, 540, 1375, 1781, 3130, 3172, 3629, 4093, 4100, 4104, 4123, 4466, 4549
Obata, Takayuki 2436, 3198
Obayashi, James T. 994
Oberwahrenbrock, Timm . 1085
Obruchkov, Sergei.....4342
Ochi, Hisaaki..... 2750, 3955
Ochi, Tomoko..... 2935, 2985
Oda, Shogo 2992
Odéen, Henrik 1802
Odille, Freddy.....677
Odudu, Aghogho 22
Oduneye, Samuel.....4518
Oeh, Jason 501
Oei, Edwin.....146
Oeltzschner, Georg . 4220, 4227
Oerlemans, Chris.....3871
Oesingmann, Niels 4163
Oezerdem, Celal 580, 1412, 2747
Offerman, Erik J. 4434
Ogasawara, Kuniaki 972, 1141, 2988, 3660
Ogawa, Akira 1141, 2988
Ogbole, Godwin Inalegwu 3668
Ogden, Christopher 1776
Ogg, Robert J. 382, 388
Ogino, Tetsuo 2150, 4093, 4154, 4165
Ogio, Tetsuo 3172
Ogisu, Kimihiro.....3110
Ogris, Kathrin1217, 2420, 3499
Ogunniyi, Adesola.....3668
Oguz, Kader Karli 2109
Oh, Changheun..... 2808, 2809
Oh, Jihun 2208
Oh, Karen 3380
Oh, Karen Y. 504
Oh, Se-Hong.... 164, 867, 2153, 2489, 2773, 3033
Oh, Sukhoon ……389, 2802, 2805, 2824, 4374, 4379, 4381
Oh, Sung Suk 164
Oh, Young Tag.....225
Ohara, Mary 3449
Ohgiya, Yoshimitsu.....4122
Ohguri, Naoto.....1872
Ohnishi, Takahiro.....3513
Ohno, Naoki 3509
Ohno, Yoshiharu ... 1486, 1494, 3386, 4100, 4104, 4112, 4113, 4471, 4479
Ohrmann, Patricia.....1165
Ohsaki, Hiroyuki 3262
Ohtomo, Kuni..... 1170, 1290, 3477, 3637
Ohtori, Seiji.....942
Oida, Takenori.....2719
Oikawa, Hiroshi 1244
OIkawa, Yasuhiro.....942
Oishi, Kenichi 177, 2949, 3013, 3150
Ojala, Risto..... 641, 1662
Ojeil, Najate 1206
Ok, Abdullah 2747
Okada, Tomohisa ... 2102, 4106
Okada, Yoshio.....418
Okamoto, Yoshikazu..... 1968, 3086, 3108, 3526
Okamura, Teppei.....1781
Okazawa, Hidehiko 3043
Okell, Thomas W. ….102, 623, 1128, 1137, 2148, 2989
Okuaki, Tomoaki.....3130
Okuaki, Tomoyuki 1780, 1781, 2463, 2985, 4093
Okumura, Kenichiro.....942
Okuwaki, Toru 3513
Olafsson, Valur 33, 2244, 2245, 2271, 3318
Oldani, Graziano 111
Olfers, Shannon L. 1045
Oliveira, Gabriel L. S. L... 1335
Oliver, Ruth.....3727
Oliver, Sam 453, 1252
Olivero, William C. 2425
Oliver-Taylor, Aaron..... 2151
Olivito, Giusy..... 1014, 1099
Ollinger, John M. .. 2891, 3020, 3184, 3614, 4210
Olopade, Olufunmilayo I.. 3371
Olsen, Kathryn M. 1487
Olsen, Miles 1840
Olsen, Øystein E.....1747
Olson, Jeffrey J. 969
Olson, Matthew L.. 3059, 3092, 3385
Olsson, Lars E. 1490
Oluigbo, Chima.....3295
Omar, Hazim.....3309
Omar, Nur Farhayu 22, 276
Omary, Reed A. 476
Omizzolo, Cristina G. 2972
Omuro, Antonio M. 3625
Ong, Caroline.....3994
Ong, Frank 4443
Ong, Henry . 1592, 1604, 2470, 2517
Ong, Yan Zhi.....210
Ongur, Dost.....219
Onne, Reerink 4245
Ono, Hideo.....4532
Onoda, Yui.....4122
Onthank, David 1279
Ooi, Melvyn B..... 305, 3744, 3756
Oosterlinck, Wouter 3690, 3694
Oosterwijk, Egbert 3978
Opal, Puneet.....3170
Oppenheim, Catherine..... 626, 1136, 2984, 3211, 3723
Oran, Omer Faruk . 2807, 4187, 4188
Orbach, Darren B. 418, 3361
Ordidge, Roger J. 9, 3780
Orita, Sumihisa.....942
Oros-Peusquens, Ana-Maria 2124, 2494, 3219, 3724
Orosz, Ariane 3046, 3308
Orringer, Daniel 418
Ortega, Bernardo.....2717
Ortiz, Pablo L. 3593, 3597
Ortiz-Nieto, Francisco..... 1625, 1820
Orton, Matthew R..... 508, 720, 1761, 1926, 2201, 2205, 2217, 3114, 3919, 4158
Orzada, Stephan 538, 1790, 2759, 3403, 3772, 4281, 4393, 4414, 4474
Oshinski, John N. 1312
Oskolkov, Nikita 428, 1903, 1904
Osman, Nael F.....21
Ostendorf, Benedikt 4227
Oster, Julien 4321
Ostergaard, Leif 204, 427
Ostergren, Lauren.....1327
Ostler, Peter.....3447

Ostwaldt, Ann-Christin.....586
Ota, Hideki ... 1301, 4464, 4535
Ota, Kiyobumi 2850
Otake, Yosuke 2750, 3955
Otazo, Ricardo …….606, 2558, 3484, 3493, 3809, 4084, 4091
Oto, Aytek 96
Oto, Aytekin . 1758, 1772, 3054
Otsubo, Eriko.....1576
Ott, Martin.....2475, 4213
Otte, Willem M.....700
Otto, Angela M.....3921, 3924
Otto, Jens.....680, 1588
Otto, Josephin.....1777, 1843, 3389, 3399
Ou, Hsin-You 280
Ou, Xiawei..... 174, 2107, 2269
Ouriadov, Alexei V. 819, 1457, 1479
Ourselin, Sebastien 49,802, 1095, 2948, 3679
Ousova, Olga 643
Ouwerkerk, Ronald. 1519, 3990
Ouyang, Minhui.....3577
Ouyang, Yen-Chien.....3015
Ouyang, Yuyuan.....2638
Overduin, Christiaan G.....1818
Overvliet, Geke..... 1166, 2288
Owen, Julia P... 178, 782, 3152, 3169, 3642
Owers-Bradley, John R....1917, 1920
Öz, G. 3982
Oz, Gulin 113, 863, 1939, 2858
Ozarslan, Evren 710, 2058, 3188
Ozen, Ali Caglar.....767, 4430
Özerdem, Celal .. 394, 395, 833, 2839
Ozier, Annaig 643
Ozranov-Palchik, Ola 3007
Oztekin, Nese 2109
Ozturk, Cengizhan .. 1838, 3029
Ozturk-Isik, Esin.....2017
Ozyurt, Burak 736, 2180
Ozyurt, Onur.....3029

P

Paaske, Nils 1524
Paasonen, Jaakko.....2298
Pacey, Alan.....4025
Pacheco-Torres, Jesús..... 1883, 1886
Padberg, George W. 1634
Padgett, Douglas E. 640
Padhani, Anwar R. 2217, 3087, 3447, 4147, 4149
Padovan, Sergio.....3892
Padua, Abraham 3488
Pagani, Elisabetta 44, 3607, 3611
Pagano, Joseph J.....1377
Pagel, Marty .. 441, 1906, 1908, 1910, 3870
Paglialunga, Sabina 1977
Pahwa, Anokh 3437
Pai, Vinay M. 482, 575
Painter, Michael J. 920
Paiva, Fernando F.....2040
Pajevic, Sinisa 2058
Palace, Jacqueline.....1084
Palacio, Nicholas.....1442
Palacios, Rafael Delgado .3313
Palaniyappan, Lena 1205, 3301
Palatnik, Irina 616
Paldino, Michael J. ... 885, 3652
Palenstijn, Willem Jan 2662
Palesi, Fulvia 3163, 3574
Paley, Martyn 3427, 3913, 3925, 3949, 3951, 4025, 4329, 4493
Palmqvist, Sebastian.....615
Palombo, Marco 494, 1635, 3099, 3144
Pameijer, Frank A... 3442, 3443
Pampel, André 1001, 2168, 4235, 4239, 4366
Pan, Chunshu.....1503
Pan, Hai 2891, 3020, 3302, 3614
Pan, Hong.....3329
Pan, Jullie 2016, 2739
Pan, Jullie W. 3974, 3994, 4400
Pan, Li 4314
Pan, Tien-Chi 3428
Pan, Wen-Ju 2243, 2250, 2255, 2302
Panagiotaki, Eleftheria 491, 1798, 2105, 3128
Panchanatheeswaran, Karthik 3377
Panchuelo, Rosa M. S 297, 300, 753
Panda, Anshuman.....3441
Panda, Swayamprava.....2209
Panda, Swetasudha 1104
Pandey, Abhishek... 1528, 2462
Pandit, Anand.....176
Pandit, Prachi 440
Pandya, Sneha N..... 1097, 3620
Panek, Rafal 1488, 3919
Pang, Dominic.....3081
Pang, Jianing 1295, 1314, 4531
Pang, Yong 1675, 2686
Pang, Yuxi..... 1781, 1782
Panicek, David M. 717
Panigrahy, Ashok 180, 920, 922, 1951, 1954, 2944, 2965, 3191
Pankratz, V. Shane 1733
Pannek, Kerstin 798, 2131, 2968
Pannetier, Nicolas.... 451, 2492, 2641, 3121, 3122
Pannetier-Lecoeur, Myriam 4348
Panotopoulos, Joannis 1678
Panych, Lawrence P. 478, 4216, 4290, 4300
Papadatospastos, Dionysis.. 508
Papademetris, Xenios 1864
Papademetris, Xenophon.. 2268
Papadopoulou, Athina 3618
Papadopulou-Rosenzweig, Maria 4135
Papanastasiou, Giorgos 1317
Papavassiliou, Efstathios.. 2846
Papazoglou, Sebastian 873, 973, 2435, 2440, 4076
Papoti, Daniel..... 2325, 2778
Papoutsis, Konstantinos.... 4401
Paquette, Lisa 920
Paquette, Michael 2121
Paradis, Valerie 3423, 4087
Paragios, Nikos 2700
Paramsothy, Pathmaja 1302
Parasoglou, Prodromos..... 358, 3493, 3521, 3523, 4228
Pardo, Edison 779
Pardon, Marie-Christine ... 3904
Parekh, Keyur.....4489
Parekh, Mansi B. 3023, 3167
Parikh, Jehill.....2907
Parikh, Jyoti..... 2104, 4279
Paris, Luisa.....807
Parizel, Paul M. 1243, 3095
Park, Bu S. 4305, 4380
Park, Daniel J. 4010
Park, Eun-Ah..... 1276, 1426
Park, Hee Myung.... 4170, 4176
Park, HyunWook..... 164, 2050, 2401, 2629, 2808, 2809, 3781
Park, Ilwoo 2012, 3907
Park, Jae Mo.. 655, 2239, 3911, 3917, 3933, 3935, 3938, 3944
Park, Jaeseok 2514, 2518, 2650
Park, Jane H. 3508, 3510, 3511
Park, Jang Woo 1155, 1172, 1245, 1884, 2333, 2345, 3656
Park, Ji Seon.. 618, 2911, 3226, 3263
Park, Ji-Ae... 1877, 1879, 1881, 1895, 1898
Park, Jihyun Annie..... 2448
Park, Jinha.....2106
Park, Ji-Seon 3855
Park, Joshua 1645, 1646
Park, Joshua Haekyun 2725, 2726, 4351
Park, Keith 4390, 4391
Park, Mi-Suk 225
Park, Suhyung 2650
Park, Sun Mi 3245
Park, Sung-Hong 2356, 2358, 2537, 3033, 3781
Park, Tae-Jin 3560
Parker, Dennis 134, 832, 1221, 1222, 1802, 1811, 1812, 2567, 2583, 4010, 4272, 4287, 4343
Parker, Geoff J. M... 991, 1484, 1485, 2693
Parker, Geoffrey..... 648, 1409, 1480, 3201
Parker, Greg D. 778, 3148
Parker, Helen.....4053
Parkes, Harold G. 3919
Parkes, Harry.....1866
Parkes, Laura.....1142
Parkes, Laura M. 915, 916, 991
Parkkonen, Lauri T.....3743
Parnell, Steven 644, 1477
Parraga, Grace819, 1457, 1460, 1462, 1471
Parra-Robles, Juan..... 644, 820, 1459, 1464, 1469, 1470, 4119
Parrish, Todd..... 2350, 3170
Parshad, Rajinder ... 3377, 3382
Parsons, Matthew 2894
Partridge, Mike..... 100, 1776
Partridge, Savannah C..... 3059, 3092, 3385
Parzer, Peter 3588
Pascal-Tenorio, Aurea..... 227
Pashakhanloo, Farhad 259, 4494
Pasin, Moreno 1122
Paška, Jan.....391
Paspulati, Raj Mohan 4097
Pasquier, Renaud Du..... 3615
Pasterkamp, Gerard..... 883
Pasternak, Ofer 614, 790, 2899, 3185
Pasternak, Stephen H. 1907
Pastor, Maria 2193
Patay, Zoltan 2961
Patel, Anant Bahadur 1966, 1976, 1978, 1980
Patel, Brij B.....806
Patel, Gopesh 4403
Patel, Megha..... 1029, 3228

Patel, Mina..... 276, 4094
Patel, Snehal G. 507
Patel, Sudeep 2183
Patel, Vipulkumar..... 3036
Paterson, Nigel 1460
Pathak, Arvind P..... 159, 442, 1059, 3846
Pathak, Ashok Kumar..... 1512
Pathak, Kavindra Nath..... 1718
Pathan, Meerakhan 1950
Patil, Shantanu..... 142
Patil, Sunil 562
Patrick, P. Stephen..... 160
Patterson, Andrew J..... 1303, 1305, 3730
Patterson, Steve 2281, 3324
Patton, Alice 3671
Patz, Samuel 1254, 1499, 1500, 2762
Paudyal, Ramesh 1718
Paul, Dominik..... 2368, 2590, 3711, 3736
Paul, Friedemann..... 380, 1085
Paul, Jan 3837
Paule, Merle G..... 2932
Pauley, Gregory J. 3158
Pauli, Andreina..... 898
Paulides, Maarten ... 1819, 4336
Paulsen, Jane S. 2853
Paulsen, Keith D.... 2423, 2425, 2442
Paulson, Eric S..... 512, 1154
Paulus, Daniel H..... 830, 2812, 2813, 2814
Pauly, John M..... 4, 125, 215, 312, 537, 652, 722, 723, 1822, 2281, 2398, 2458, 2509, 2512, 2577, 2624, 2840, 4411
Paus, Tomas..... 893, 4130
Pausova, Zdenka..... 4130
Pautler, Robia G. ... 1069, 2930, 3865
Pautot, Fabrice..... 3002
Pavan, Matteo..... 78, 671, 730, 2632
Pavlina, John M. 1797, 1985
Pavlova, Vlady 1078
Pavlovskaya, Galina 1456
Pavol, Marykay..... 2991
Pavuluri, Mani 2945, 3594, 3595
Pawate, Siddharama 2539, 3605
Pawela, Christopher P..... 2264, 2317
Pawlik, Timothy M..... 1537
Payne, Allison 1802, 1811, 1812, 1824, 4298
Payne, Allison H..... 226
Payne, Christa..... 3685, 3691
Payne, Geoffrey..... 100, 1776. 1994, 3874
Payne, Stephen J.... 3068, 3069, 3070, 4234, 4401
Payoux, Pierre 2873, 2913
Pazderova, Libuse 888, 924
Peale, Franklin V. 501
Pearce, John..... 242, 1991
Pearl, Monica S. 562, 1845
Pearlson, Godfrey..... 1196
Pearson, Andrew 720
Pearson, Jack 4025
Pearson, Randy..... 3557
Peat, David T..... 1917, 1920
Peccerelli, Nicole.... 3580, 3590
Pechman, Kimberly 1724, 1725
Peck, Kyung K. 3562
Pedersen, Erik M. .. 1524, 1752, 1757
Pedersen, Michael ... 424, 1928, 4139
Pedley, Rosamund Barbara 506, 1698, 1701, 2105, 2188, 2190
Pednekar, Amol..... 1357, 1371
Pedrini, Mariana 1206
Pedrosa, Ivan 3049
Peehl, Donna M..... 812, 3429
Peel, Sarah Anne 260
Peelle, Jonathan E..... 1011
Peet, Andrew C.. 533, 970, 980, 2009, 3992, 4036
Peeters, Ronald..... 2081, 3654
Peeters, Tom H. 567
Pei, Mengchao..... 692, 3334, 4465
Peirce-Cottler, Shayn..... 1442
Pekar, James J. 177, 1175, 2261, 2270, 3257
Pelland, Katie 1228
Pelled, Gadi 1613, 4222
Peller, Michael 1816, 1896, 2452
Pelletier, Jean 50
Pelletier, Kay..... 1748
Pelletier, Laurent 83, 3414
Pellicer, Ruben 1819, 4336
Pellikan, Stefanie..... 3645
Peltier, Scott J..... 889, 2623, 3259, 3297
Peluso, Angelo 4490
Penet, Marie-France .. 239, 442, 1714, 3431
Peng, Hsu-Hsia..... 1330, 1343, 1825, 1889
Peng, Shin-Lei..... 1330, 3686
Peng, Shuai..... 383
Peng, Xi..... 2644
Peng, Xianghong 234
Peng, Xingui..... 357, 564
Peng, Yahui 96, 1772
Peng, Yun..... 3568, 4162
Peng, Ziwen..... 179
Pennati, Francesca..... 4109
Pennell, David R. ... 2539, 3605
Pennell, Dudley J..... 2460
Penner, Jacob..... 3987
Penny, William..... 4333
Pentang, Gael 4220, 4227
Penzak, Scott 4531
Penzkofer, Tobias.... 475, 1770, 1799
Pepe, Aessia 4196
Pepe, Alessia 1433, 1440, 4485, 4490
Peprah, Marcus K..... 2557
Pereira, Edna 85
Pereira, Fabricio R. S. 3587
Pérez, Eduardo Barragán.. 3307
Perez, Marlon 2793
Perez, Rosario 2917
Pérez-Carro, Rocío..... 3417
Perez-Rossello, Jeannette 1535, 4056
Perez-Torres, Carlos J. 1720
Perie, Delphine..... 3528
Perkins, Thomas G. ... 403, 922, 1610, 1641, 1644
Perles-Barbacaru, Teodora-Adriana..... 83, 3118, 3414
Perlman, Harris 1688
Perlman, Jeffrey 919
Perman, William 4032
Perri, Roberta 2887
Perrier, Anne-Laure..... 1650, 1660, 2777
Perry, Jamie..... 607
Persson, Pontus B..... 29
Peruzzo, Denis..... 2172, 2215, 3133
Pervolaraki, Eleftheria..... 4493
Peschansky, Veronica J. ... 1065
Peschke, Peter 1699
Pescrille, Joseph D. 85
Pesesse, Xavier..... 1650
Pesola, Marko..... 3398
Pestilli, Franco..... 3160
Petchprapa, Catherine..... 634
Petelinsek, Anna..... 3866
Peters, Andrew 1219
Peters, Dana... 261, 2388, 2611, 2713, 3712
Peters, Harry P. F 4054
Peters, Robert D. 3784
Peters, Terry.. 162, 1249, 2419, 2689, 4277
Peters, Zachary J. 1529
Petersen, Dirk..... 973
Petersen, Esben Thade..... 172, 285, 2146, 2172, 2967, 3001, 3042
Petersen, Kitt Falk..... 1956
Peterson, Bradley S. 3722, 4383
Peterson, Claudia S. 2898
Peterson, Dean 994
Peterson, Eric 3936
Peterson, Pernilla 2417
Peterson, Ronald C..... 613
Peterson, William T. 4360
Petesen, Kitt Falk 119
Petibon, Yoann..... 2684
Petiet, Alexandra..... 2318
Petit, Yvan..... 346
Petkovska, Iva 1539, 4086
Petralia, Giuseppe 1778
Petrella, Jeffrey 2870, 3765
Petrenko, Volodomyr 3675
Petridou, Natalia..... 755, 2284, 4397
Petri-Fink, Alke..... 2698, 3905
Petroff, Ognen..... 3994
Petropoulos, Labros..... 2732
Petrovic, Aleksandar 3788, 3789
Petrovic, Andreas .. 1686, 2420, 2469, 2488
Petrovic, Igor..... 1030
Petrucci, A..... 2857
Petrusca, Lorena..... 233
Pettigrew, Roderic I. 21, 881
Petty, Christopher M. 906
Peysakhovic, Barbara..... 2687, 2969
Pfannenberg, Christina..... 1230
Pfefferbaum, Adolf 3693, 3911, 3931
Pfeifer, Charlotte..... 4060
Pfeiffer, Harald..... 395, 4404
Pfeiffer, Norman 2765
Pfeuffer, Josef ..... …….1554, 1739, 2157, 2741, 2746, 3021, 3034, 3041, 3390, 4252, 4261
Pfeuffer, Joseph..... 4398
Pflugfelder, Daniel 2372
Pfueller, Caspar..... 1085
Phal, Pramit..... 620
Pham, Dzung 1098, 1149, 2501
Pham, Peter Huy 3538
Philip, Mathew..... 4327
Philippe, Garteiser..... 2429

Philippens, Marielle E.P. ... 852, 3442, 3443, 3666, 4245
Phillips, Christophe 3199
Phillips, Joanna J. 510, 658, 960, 3643
Phillips, Jonathan..... 2094
Phillips, Kimberly A..... 2263
Phillips, Michael..... 752, 788, 1240, 2142, 2143
Phillips, Michael 951, 1107, 2133, 4328
Phillips, Raquel..... 521, 732, 1160, 1161, 1185, 3024, 3350, 3569
Phipps, Kim P..... 979, 2170
Phua, Kok Soon..... 210
Pibarot, Philippe 64, 1328, 1329
Piccini, Davide 547, 1294, 1315, 1316, 1380, 1417, 3764, 4565
Piccirilli, Eleonora..... 1635
Piccoli, Tommaso..... 2287
Piccolomini, Angelica 3223
Pichardo, Samuel.... 1828, 4291
Pichler, Bernd..... 570, 4359
Pickles, Martin D.... 1728, 1735
Pickup, Stephen B. .. 823, 1046, 1053, 1705, 1718, 1727, 1878
Piedzia, Weronika..... 2392
Piehslinger, Eva..... 3541
Piel, Joseph..... 2708
Pienaar, Rudolph 909, 2687, 2969, 3738
Pieper, Russell O. 658, 3432
Pierce, Iain Thomas..... 4505
Pierce, Richard A..... 4109
Pierpaoli, Carlo..... 710
Pierre, Eric Y..... 253, 2648
Pierrick, Bourgeat..... 621
Pietquin, Olivier 4321
Pietri, Sandra 1650
Pietro, Giulia Di..... 1635
Pietrzik, Claus 3895
Pietsch, Hubertus..... 748
Pike, Bruce G. 914, 2136, 2479
Pike, Damien 1471
Pike, G. Bruce 1109, 851
Pike, Martin..... 1717, 3067
Pilatus, Ulrich..... 3645
Pilcher, Webster 3573
Pileio, Giuseppe..... 3937
Pilla, James J. 1405, 1438
Pillai, Jay J..... 3554, 3648
Pillen, Sigrid..... 1631
Pilleul, Frank ... 281, 742, 1532, 1585, 4362
Pillonetto, Gianluigi 2172, 2215
Pine, Kerrin J..... 4217, 4341
Pineda, Federico D. 3054
Pineda, Jose A. 2976
Pinker, Katja... 196, 1737, 1738
Pinker-Domenig, Katja..... 217, 3374, 3381
Pinkstone, Marie..... 250
Pins, George 3085
Pinto, Peter A. 1782
Pinzano, Astrid..... 1660, 2777
Pipe, James G. 2415, 2582
Pirko, Istvan 2477
Pirpamer, Lukas..... 999
Piryatinsky, Irene..... 911
Pisanu, Maria Elena..... 807
Pishko, Gregory L. 1722
Pitiot, Alain 934, 3012, 3602
Pitkänen, Asla..... 1038
Pitt, David 692
Pittschieler, Elisabeth 3536, 3541
Pivec, Sonja Monika..... 1217
Pivirotto, Philip 3907
Piyasena, Chinthika..... 900
Pizarro-Sanchez, Gonzalo .. 256
Pizer, Barry..... 916
Pizoli, Carolyn E. 906
Pizzi, Romain 1389
Pizzimenti, Natalie M..... 1639
Placidi, Matteo 1891
Plank, Markus..... 2271
Plante, Elena..... 2946
Plasschaert, Ellen..... 3654
Plata, Juan C..... 227, 4297
Plate, Annika 2482
Plaumann, Markus..... 3927
Pleger, Burkhard..... 384
Plein, Sven..... 186, 315
Plenge, Esben 1266
Plenk, Hanns..... 3536
Pletnikova, Olga 264
Plewes, Donald B. 182
Pliskin, Neil..... 2820
Plotnik, Adam..... 542
Pluim, Josien P.W. 2206
Plumb, Andrew..... 677
Podberesky, Daniel J. 1506
Poddar, Ankur 1523, 1525
Podo, Franca..... 807
Poelmann, Robert E.... 237, 883
Poelmans, Jennifer.. 1496, 1721
Poelzing, Steven 1379
Poeppel, Thorsten D. .. 241, 574
Pohar, Kamal S..... 503, 3451
Pohlmann, Andreas 25, 28, 29, 616
Pohmann, Rolf 291, 961, 1982, 2013, 2025, 2389, 2529
Poil, Simon S..... 740, 1942
Poirier-Quinot, Marie 135, 2434, 2796, 3869, 3872
Poizner, Howard..... 2271
Pojman, Nicholas 3169
Polak, Paul 1003
Polasek, Miloslav ... 1899, 1900
Polaskova, Pavlina 516, 971, 3197, 3635
Polimeni, Jonathan R. 268, 410, 665, 950, 2646, 2724, 3254, 3315, 3348, 3354, 3355, 4386
Pollack, Alan..... 1771
Pollaro, James 689, 1224, 1633, 3519
Poluektova, Larisa Y..... 1055, 1268, 1270
Polzehl, Joerg..... 3131
Polzin, Evelyn 1370
Pomper, Martin G..... 239
Ponrartana, Skorn... 1641, 1644
Ponzo, Viviana 2847
Poole, Dana S..... 1266
Poole, Michael S. 663, 4344
Poole, Victoria N... 2346, 2892, 3303
Poon, Evon 1905
Poot, Dirk H.J..... 1266, 3186
Pop, Mihaela 4517
Pope, Romney 1729
Pope, Whitney.. 205, 513, 808, 3631
Poplawsky, Alexander John 296
Popov, Anatoliy V. 1723, 1878, 3421
Poptani, Harish……968, 1046, 1053, 1718, 1723, 1878, 2541, 2697, 3421, 3632, 3641, 3983
Porambo, Michael 1073
Porayette, Prashob..... 481
Porcari, Paola 1063
Porcaro, Camillo 2342
Porro, Carlo Adolfo..... 2279
Port, John D..... 2477
Port, Marc..... 746
Port, Michael..... 3949, 3951
Portefaix, Christophe..... 50
Porter, David 54, 196, 840, 1210, 3176
Porter, Marie-Claire . 386, 3011
Porto, Miguel..... 4157
Poser, Benedikt A..... 75, 409, 2396, 2400, 3314, 3327, 3707, 3772
Positano, Vincenzo 1440, 4485, 4490
Posnansky, Oleg 3212, 3770
Posse, Patricio Riva..... 1183
Posse, Stefan 3378, 3956
Post, Hans 4359
Post, M. Judy D..... 2860
Potdevin, Guillaume. 602, 1415
Pothayee, Nikorn.... 1561, 3862
Potkin, Steven 736, 3576
Potter, Hollis 1670, 1673
Potter, Hollis G. 640, 1606, 1679, 2560
Potter, Lee C. 2523, 3734, 3813, 3822
Potters, Wouter V..... 880
Pouliot, Jean..... 3915
Poulsen, Catherine..... 2841
Poulsen, David J..... 3682
Poupon, Cyril 779, 1027, 3153, 3154, 3155
Poupon, Fabrice 3155
Pourfathi, Mehrdad 1916, 1925, 3952
Pouwels, Petra..... 1110
Pouyatos, Benoit 3413
Powell, Nick M. 3679
Powell, Andrew J. 1313
Powell, Ceri..... 505
Powell, Elizabeth M. 4002
Powell, Jonathan 545
Powell, Kimerly A. 1695, 3726
Powell, Nathaniel J..... 17
Powell, Tracy E..... 1817
Power, Carl 1792, 3081
Powers, John 1011
Pownder, Sarah L. 1606
Prabhakaran, Karthik..... 2162
Prabhakaran, Vivek 2990, 3306
Pracht, Eberhard Daniel 249, 3709
Pradhan, Ria..... 4393
Pradhan, Subechhya 844
Pradier, Laurent..... 89
Prado, Marco A. 4226
Prager, Sarah 1302
Prah, Melissa A. 512, 959, 971, 1154, 3635
Prakash, K.N. Bhanu..... 1068, 1526, 2015, 2023, 2701
Prakash, Karthik Munikoti 2090
Prasad, H. Krishna..... 4024
Prasad, Pottumarthi Vara... 633, 2189, 2497, 2498, 2503, 4135
Prato, F.S..... 3038
Pratt, Ronald G..... 923, 2760
Pratt, Stephen J.P..... 3507
Prayson, Richard 4422
Preciado, Ronny I..... 3207
Prescot, Andrew Paul 4011
Prescott, Jeffrey William.. 2870
Preuss, Todd..... 780

Preusser, Matthias.....981, 3630
Prevost, Valentin 27, 1112
Preziosa, Paolo 3607, 3611
Priatna, Agus 573, 4566
Price, Anthony ..9, 3768, 3806, 4456, 4487
Price, Darren.....1205, 2034
Price, Elissa 3367
Price, Julie C.....4358
Priest, Andrew N. ..1211, 1280, 1287, 3387, 4472
Prieto, Claudia…545, 546, 609, 769, 3111, 3745, 3747, 3754
Primio, Gina Di 1667
Prina-Mello, Adriele.....1856
Prince, Martin R. ...3, 262, 747, 1536, 1577, 2207, 2474, 2566, 2591, 3456, 3847, 4138, 4465
Prins, Robert.....808
Prinsen, H. 3445
Printz, Eric.....2568
Prior, Devin E.....3860
Prisner, Thomas.....3953
Pritchard, Susan.....4054
Proctor, Evelyn.....202
Proctor, Michael I.....1235
Profka, Harrilla…….823, 1467, 1932, 3426
Prokscha, Torben.....872
Prompers, Jeanine J. 117, 1623, 1627, 1957, 1960, 1964, 2011
Prothmann, Marcel 4512
Protti, Andrea 1279
Proverbio, Alessandro 3129
Prsa, Milan.....4129
Pruessmann, Klaas P.....69, 78, 293, 304, 391, 466, 529, 552, 553, 669, 671, 730, 761,1410,2007, 2464,2569, 2632, 2663, 2715, 2716, 2742, 3332, 3827
Przezdzik, Izabela.....2262
Psimolofitis, Elias.....4449
Psychogios, Nikolaos.....3518
Pu, Xin.....1132
Pucar, Darko.....3394
Puce, Aina 3249
Puderbach, Michael 651
Pui, Ching-Hon.....613
Pujara, Akshat C.....1741
Pul, Refik.....1092, 1372
Pullens, Pim.....3138
Pullinger, Ben.....3426
Punchard, William F.B. 2713
Punwani, Shonit.....93, 1509, 1582, 1793, 1800, 2080, 2190, 2705, 3117, 4146
Purcell, Ryan 3023
Pusateri, Lisa 243
Pushparajah, Kuberan.....3098
Puts, Nicolaas A. J...921, 1941, 2021, 2041, 3596, 3972, 4040
Putterman, Chaim.....2861
Puttick, Simon 1381
Pyka, Krzysztof 2306

Q

Qadri, Shahnaz M.....1888
Qazi, Naila...4194, 4204, 4546, 4548
Qi, Jing 1514, 1515
Qi, Jinyi 2509
Qi, Xiaoyang 242
Qi, Yi.....815, 1454, 3416
Qian, Chunqi 294, 1561
Qian, Di 2823
Qian, Wenshu 1087
Qian, Yongxian . 438, 639, 685, 1651
Qiao, Joe X.....205
Qiao, Min 2920
Qiao, Ye 1130
Qiao, Yuan 422, 565
Qiao, Zhongwei 24, 360, 4080, 4161
Qin, Lei 2766
Qin, Qin……413, 845, 1911, 3750, 3751, 4240, 4295
Qin, Wei 925, 1174, 1177
Qin, Yuanyuan 240
Qin, Yuan-Yuan 958
Qing, Kun 6, 1447, 1473, 4114, 4116
Qing, Yang X. 4378
Qiu, Deqiang 415, 451, 588, 2051, 2144, 2222, 2236, 2239, 3357
Qiu, Lihua 1005
Qiu, Maolin 454, 2906, 3234
Qiu, Xing.....789
Qiu, Yuxuan 780
Qu, Changsheng 3681, 3682
Qu, feifei 1371
Qu, Qiumin.....1028
Quarles, Christopher C. 587, 983, 1715, 2195, 2196, 2202, 2216, 3064, 3106, 4134, 4137, 4229, 4241
Quatto, Piero.....1179
Quesson, Bruno 1823
Quick, Harald H. 830, 1366, 2812, 2813, 2814, 2815, 2817, 2818
Quinn, Joseph F.....994
Quinn, Matthew P. 1289
Quirk, James D.....4109, 4121
Quiros, Alicia 2886
Quodbach, Julian.....3696

R

Ra, Jong Beom 1842
Raab, Peter 1092
Raaijmakers, Alexander 285, 390, 1791, 2594, 3401, 3818, 4382
Rabbani, K. Siddique 1219
Rabrait, Cécile..... 626, 1136, 1585, 4362
Rachmilevitch, Itay 225
Racine, Caroline A. 974
Rackayova, Veronika 4508
Rad, Hamidreza Saligheh 2703, 3087, 4000
Radbruch, Alexander. 116, 167, 216, 515, 2983
Radecki, Guillaume.....1263
Radomski, Marek 1856
Radoul, Marina439, 1853, 1897
Radovanovic, Ivan.. 1703, 1974
Radue, Ernst-Wilhelm.....1101, 2903, 3618
Radvany, Martin G. 1845
Rae, Caroline.....2438
Raffard, Gérard 643
Raffel, Corey.....1695
Raffelt, David A. 787, 797, 841
Rafiei, Reza.....4000
Raftopoulos, Rhian E. 1212
Ragan, Dustin Kenneth.....2976
Raghavan, Raghu 4315
Raghunand, Natarajan 3797
Ragin, Ann B.....2862, 2863, 3668
Ragsdale, Clifton W. 2520
Rahbar, Habib 3092, 3385
Rahim, Tayeb Ahmad 1036
Rahimi, Mahdi S. ..1273, 1274, 1286, 1541
Rahman, Annalise 1162
Rahme, Laurence G.3518, 4048
Rai, A. K. 1512
Rai, Prashant Kumar 1512
Raichle, Marcus.....2259
Raij, Tommi 41
Raine-Fenning, Nick 4130
Raj, Ashish.. 1024, 1097, 2253, 2641, 2923, 3617, 3620, 3665
Raj, Ganesh 1794
Raj, Lakshmi 1765
Rajaei, Jennia 823, 1467
Rajagopal, Akila.....3051
Rajamani, Kumar T. 3075
Rajan, Jeny 2081
Rajan, Sunder S. 4305, 4380
Rajan, Usha 1189, 1193
Rajapakse, Chamith S. 1593, 1594, 1599, 3462
Rajaraman, Chittoor 976
Rajasekaran, Raj.....3494
Rajiah, Prabhakar 4491
Rajkumar, Vineeth 506
Rajput, Ashwani.....3378
Rakheja, Rajan 1741, 3737, 4108
Rakhra, Kawan.....3487
Ramachandran, Sarayu.....4539
Ramadan, Saadallah 1044
Ramakant, Pooja 4018
Ramakrishnaiah, Raghu H. 174, 2107, 2269
Raman, Fabio 4531
Raman, Mekala R.....2477
Raman, Rishi.....3023
Raman, Steven 3388, 3391, 3406, 3435, 3437, 3959
Raman, Venu.....1710
Ramanan, Venkat .. 1418, 1443, 4517, 4518
Ramani, Ramachandran 454, 2906
Ramani, Sathish 2602, 2654
Ramasamy, Deepa P..... 1003
Ramasawmy, Rajiv . 506, 2188, 2190
Ramb, Rebecca..... 2647, 2651
Rambo, Mary V..... 1712, 1768
Rambow, Olen 2406, 2410
Ramirez, Dario C. ... 566, 1873, 1874
Ramirez, Marc..... 1933, 3948
Ramsey, Nick F..... 755, 2284
Ramu, Jaivijay.....2932
Rana, Bharti 3728
Rana, Netra... 1177, 3222, 3563
Rana, Poonam 4005, 4006, 4007, 4023
Rancan, Giaime.....4219
Rand, Scott D. 512, 977
Randeva, Harpal S.....4052
Randle, Ashley 1075, 1076, 1077
Randolph-Habecker, Julie 1646
Randtke, Edward T. 1906, 1908
Rane, Swati ... 844, 3048, 3265, 3286, 3341
Rangasamy, Sampathkumar

.....1045
Rangwala, Novena... 350, 1120, 3089
Raniga, Parnesh.....3843
Ranjan, Ravi .. 395, 4510, 4515, 4569
Ranjeva, Jean-Philippe 50, 346, 455, 2873, 2913, 3957, 3979, 3980
Rannou, Nicolas 3738
Rao, Arun Govinda.....3723
Rao, Hengyi.....40, 3292
Rao, Jianghong 440
Rao, Raghavendra.....1981
Rao, Stephen M. 1107, 2853
Rao, Uma.....3577
Raoult, Hélène 625, 1131
Rapacchi, Stanislas 193, 485, 542, 2626, 4560
Rapoport, Natalya.....226
Räsänen, Lasse P. 3546
Rasche, Volker 1324, 1367, 1608, 1616, 3080, 3503, 3837, 4547
Raschke, Felix 1967
Raschke, James.....4315
Raschle, Nora M. ... 2687, 2969, 3007
Raschpichler, Matthias 384
Rashid, Shams 4560
Rasmussen, Finn.....1752
Rasmussen, Jerod 736, 3576
Rastegar, Neda.....1538
Rata, Mihaela.....592
Ratai, Eva-Maria..... 86, 1018
Raterman, Brian..... 870, 2433
Rath, Joseph.....940
Rathi, Yogesh 937, 2899
Rathore, Ram Kishore S ... 4005
Ratiney, Helene 2039
Ratnaker, S. James.....1909
Ratnanather, J. Tilak.....3150
Rattan, Mantosh S. 923
Rattigan, Yanique I.....806
Raubitschek, Andrew.....1860
Rauch, Scott L. 1034
Rauscher, Alexander. 347, 1100
Rautiainen, Jari 434, 3551
Raval, Amish N. 1390
Raval, Shailesh B.... 4368, 4408
Ravi, Harshan 2178
Ravikumar, Priya.....1494
Ray, Sangeeta 239
Raya, Jose G. 435, 3530
Raybaud, Charles..... 887, 913
Rayment, Pip 4054
Raynaud, Jean-Sebastien ... 746, 1868, 3845, 3872
Rayz, Vitaliy L. 2995, 4320, 4437, 4438
Razavi, Nadja 2267
Razavi, Reza..... 260, 469, 3098
Re, Marta.....2287
Re, Thomas J. 885, 3738
Reaume, Joseph..... 940, 1938, 2688
Rebuzzi, Mauro 1601
Recht, Lawrence..... 3636, 3938
Recht, Michael P. 634, 2558, 3484
Reddick, Wilburn E. ..... ….382, 613, 2961, 3165, 4207, 4209
Reddy, Damodar..... 2541, 2697
Reddy, Narendra L. 4052
Reddy, Ravinder..... 420, 1006, 1007, 1192, 1438, 2037, 2541, 2543, 2554, 2697
Reddy, Sanjana.....1006
Redgem, Anthony... 2698, 3905
Redler, Gage.....1989
Redpath, Thomas W. 1359, 1369
Reed, Damon..... 1756, 1762
Reed, Galen D. 215, 652, 1935, 2003
Reed, Jess D. 65
Reeder, Scott B.... 63, 191, 282, 378, 399, 402, 558, 597, 1273, 1274, 1398, 1501, 1541, 2449, 2471, 2556, 2704, 3848, 3858, 4098, 4164, 4194, 4204, 4455, 4548
Reese, Shannon Raye 1567
Reese, Timothy G. 479, 581, 2125, 2684, 4495, 4496, 4502, 4504
Refai, Hazem.....3347
Rega, Marilena 424, 4238
Regan, William.....1117
Regatte, Ravinder R. . 358, 638, 3462, 3493, 3521, 3523, 4228
Rehm, Jennifer Leigh 402
Rehman, Ishtiaq.....3427
Rehwald, Wolfgang G. 1426, 4530
Reich, Daniel .. 459, 858, 1079, 1098, 3055, 3964
Reich, Marcel 1544
Reichardt, Wilfried.....3882
Reichenbach, Jürgen R. 460, 695, 777, 1003, 1952, 2127, 2370, 2371, 2472, 2488, 2495, 2499, 2571, 2765, 3010, 3205, 3491, 3505, 3512, 3785, 3856, 4103, 4190, 4203
Reid, Scott.....2848
Reidy, Diane L. 3438
Reifschneider, Olga..... 157
Reijman, Max..... 146
Reijnierse, Monique 3480
Reilly, James P. 3248
Reilly, Mary M. 314, 691
Reinartz, Sebastian 186
Reiner, Caecilia S. 1755
Reinhardt, Geneviève 1574
Reinhardt, Julia 1101, 1642, 2903, 3618
Reinhold, Caroline 4131
Reinisch, Andreas..... 765
Reinsberg, Stefan A. 153, 2214, 2448, 3074
Reinsberger, Claus 785
Reis, Marcio 4089
Reiser, Maximilian F. 591, 1816, 1896, 2082, 2452, 2482, 3105, 4141, 4460, 4522
Reisert, Marco ..... …….703, 2116, 2169, 2213, 2226, 3065
Reishofer, Gernot 840
Reisig, Gregor 1614
Reisinger, Dominik Maria1073, 2940
Reiss-Zimmermann, Martin 1777, 3399
Reiter, David A. 433
Reiter, Gert..... 4074, 4508
Reiter, Robert 3388, 3391, 3959
Reiter, Rolf... 2428, 2430, 4076
Reitner, Andreas..... 163
Reitz, Matthias 3039
Remington, Gina 1125
Remis, R.F..... 4178, 4185
Remmele, Stefanie ... 768, 2811
Rémy, Chantal..... 81, 1047
Ren, Jimin 1624, 1629
Renaud, Luc 3413
Reneman, L. 1204
Rengan, Ramesh..... 968
Renisch, Steffen 768
Renne, Julius 650, 744, 1497
Rennings, Andreas 2775
Renshaw, Perry F. ... 741, 1184, 4011
Renz, Wolfgang..... 2839
Repetto, Maurizio..... 4345
Repovic, Pavle..... 45, 3613
Repplinger, Michael 4098
Resch, Franz..... 3588
Resmer, Frank 1984
Resor, Stanley, Jr..... 3994
Restaino, Gennaro 4490
Retière, Fabrice 2816
Rettmann, Dan W.. 1286, 3820, 4085
Reutens, David C. . 2048, 2049, 2087, 3173, 3304
Reuter, Martin 947
Reuter, Victor E. 3394
Rey, Caroline 455
Reyes, Denise..... 3703
Reyes, Diane 1537
Reyes, Mauricio 4152
Reyes-Madrigal, Francisco 3593, 3597
Reyhan, Meral L..... 488, 1403, 4486, 4492
Reynaud, Olivier 444, 3103
Reynolds, Deanna S. 2936
Reynolds, Rebecca 2959
Reynolds, Richard C. 3285
Reynolds, Steven... 3427, 3913, 3925, 3949, 3951, 4025, 4493
Rezai, Ali 3295
Rhee, Hak Young..... 2911
Rhee, Hak-Young..... 618
Rhode, Christina..... 4465
Rhode, Kawal..... 260
Ribe, Lars Riisgaard..... 204
Ribot, Emeline J. 3729
Riccelli, Louis P. 994
Ricci, Alessandro 807
Riccio, Cory 1057
Riccitelli, Gianna..... 3611
Richard, Edo..... 712
Richard-Loendt, Angela 424
Richards, Linda J..... 2957
Richards, Todd L..... 3158
Richardson, Cheryl..... 1729
Richardson, Russell S..... 1621, 3047
Richardson, Simon ... 491, 3679
Riches, Sophie F..... 100, 1776
Richmond, Stephen .. 778, 3148
Richter, Bernhard 1229
Richter, Ernst J. 2395
Riddell, Angela 505
Ridge, Jason 1200
Ridgway, Gerard R.... 386, 841, 3011
Ridner, Sheila..... 3048
Riebau, Derek..... 207
Rieck, Birgit..... 1828
Riedel, Tim 1843
Riederer, Stephen J.. 126, 2640, 4395, 4458
Riedy, Gerard ……2891, 3020, 3184, 3302, 3614, 4210
Rieger, Jan..... 2747, 3264
Rieger, Johannes 3645
Riegler, Georg..... 1605
Rieke, Viola 4310, 4335

Riemenschneider, Bruno 411
Riemer, Frank 351, 2000
Rienhoff, Hugh Young 4196
Ries, Mario 230, 1807, 1810, 1830, 4309, 4311, 4325
Ries, Michael 3497
Riffe, Matthew J. 139, 725
Riffel, Philipp 400, 4057
Rigell, Christopher 721
Riggins, Gregory 565
Righi, Valeria 3518, 4048
Righini, Andrea 885
Rigsby, Cynthia K. . 1337, 4450
Riha, Matthias 1737
Riisnaes, Ruth..... 499
Rijpkema, M. 3445
Rilling, James 780
Ring, Patrik..... 3697, 3708
Ringenbach, Alex 2464
Ringgaard, Steffen..... 1424
Ringgard, Steffen..... 1928
Rischpler, Christopher 576
Rispoli, Joseph..... 2728, 3370, 4407
Rispoli, Joseph Vincent 2752
Rispoli, Vinicius de Carvalho 68
Risse, Frank 1490
Risterucci, Celine 2305
Ristic, Mihailo 2730
Ritt, Philipp 2817
Ritter, Christian O. 649
Ritter, Dieter..... 3041
Ritter, John 2894
Ritter, Oliver..... 1366
Riva, Nilo 1173
Rivera, Debra S. 2755, 2757
Rivera, Leonardo 1332
Rivet, Dennis 2894
Riviere, Denis..... 3155
Riviore, Julien 1680
Rivlin, Michal..... 425
Rivoire, Julien 1472, 1474, 4118
Rizi, Rahim..... 821, 823, 1461, 1463, 1466, 1467, 1468, 1916, 1925, 1932, 3426, 3952
Roayaie, Sasan..... 1533, 3439
Robach, Paul..... 713
Robb, Fraser 825, 4387
Robbins, Robert C. 235
Robert, Benjamin 317, 349, 625
Robert, Philippe..... 746, 1868, 3872
Robert, Turner 2755
Roberts, Christian..... 3971
Roberts, John A. 2567
Roberts, Neil... 900, 1620, 2959
Roberts, Timothy..... 472, 3169
Roberts, Timothy P..... 1195
Robertson, Claudia S. 1067
Robertson, F. 3272
Robertson, Holly R. 1034
Robertson, Nicola..... 2948
Robertson, Sara 908
Robertson, Scott H. .. 818, 1451
Robey, Ian F. 441
Robin, Arthur L. 1193
Robineau, Fabien..... 2246
Robinson, Emma 176
Robinson, Jennifer..... 3578
Robinson, Joshua D. 1337, 4450
Robinson, Meghan.. 2346, 3303
Robinson, Simon 448, 499, 1716, 1749, 1905, 3775, 3782, 3919
Robison, Leslie L. 613
Robison, Ryan K. ... 2196, 3330
Robledo, Brenda..... 1850, 3867
Robson, Matthew D... 131, 506, 578, 1999, 2027, 2596, 2743, 2745, 4402, 4541
Robson, Philip 1912, 4539
Roby, John W. 894
Roca, Pauline..... 626, 1136
Rocca, Maria A..... 42, 44, 803, 1121, 2963, 3553, 3607, 3611
Roccatagliata, Luca 2873, 2913
Rocha, Liana..... 4089
Roche, Alexis ... 269, 948, 3615
Rochefort, Matthew..... 568
Rochitte, Carlos..... 4558
Rockel, Conrad P... 1632, 1636, 1637
Roda, Manohar..... 1619
Roden, Michael 1963, 2419, 4029
Rodeo, Scott A. 1606
Roder, Constantin..... 1171
Rodgers, Christopher 131, 578, 1999, 2027, 2596, 2743, 2745, 4402
Rodgers, Zachary... 1351, 1353, 1354
Rødland, Einar A. 804
Rodrigues, Katyucia de Macedo..... 799
Rodrigues, Tiago B.. 160, 3909, 3916, 3937
Rodriguez, Alfredo O. 3492, 4371
Rodriguez, Carolyn 1206
Rodriguez, Christine..... 626
Rodriguez, Heron 1285
Rodriguez, Joe..... 1691
Rodríguez-Mayoral, Oscar 3593, 3597
Roebroeck, Alard .. 2124, 2734, 3138
Roeck, Werner W. 831
Roeder, Emilie..... 1660, 2777
Roediger, Maike..... 1165
Roehrborn, Claus..... 1794
Roeloffs, Volkert Brar..... 2546
Roemer, Robert 1824, 4298
Roethke, Matthias.... 167, 2983, 3392
Rofsky, Neil M. 375
Rogers, Baxter..... 3283
Roggenhofer, Elisabeth ... 2472, 2884, 3339
Rogowska, Jadwiga . 941, 3572, 3575
Roh, Simon..... 733
Rohde, Stefan 167, 2983
Rohlfing, Torsten 3693
Rohling, Kenneth ... 4390, 4391
Rohr, Axel..... 3626
Roig, Eulalia Serés 4356
Rojas, Rafael 2846
Rokem, Ariel 938, 3160
Roland, Jörg . 1818, 2829, 4074
Roldán-Alzate, Alejandro..... 63, 191, 282, 1332, 1356, 1432, 4450
Rollins, Nancy K. 175, 2958, 3799, 4444
Roman, Jessica 2304, 3269
Romanasco, David 3615
Romano, Anthony J. 872, 2424, 2431
Romanzetti, Sandro 3965
Romeo, Maria Antonietta . 1440
Romero, Robert 166, 4133
Romero, Roberto 1581, 4126
Romito, Laura 4046
Rommel, Eberhard 1340
Rommel, Nathalie..... 1182
Romu, Thobias 1682, 2416
Ron, Maria A..... 49, 2540
Ronen, Itamar……1079, 1996, 2468, 2881, 3245, 3999
Ronen, Sabrina M..... 658, 3432
Rong, Kim Cho 3902
Rong, Rong 4125, 4312
Rong, Song..... 31, 1548
Rooney, Thomas..... 89
Rooney, William D. .. 689, 716, 994, 1224, 1633, 3067, 3072, 3519, 3603
Ropele, Stefan…… 868, 929, 999, 3895, 4205, 4296
Ros, Christian..... 777, 2127
Ros, Pablo Riera..... 4097
Rosa, Maria Joao..... 2246
Rosa, Michael Da..... 91
Rosand, Jonathan..... 2938
Rosander, Johannes 1682
Rosas, H. Diana..... 2912
Rosca, Mariana G..... 322
Rose, Chris J. 2693
Rose, Georg..... 1836
Rose, John 1222
Rose, Shawn..... 1688
Rose, Stephen 798, 2119, 2131, 2968
Rosen, Bruce 528, 1018, 2999, 3061, 3294
Rosen, Bruce R. 516, 595, 759, 760, 826, 2029, 2125, 2511, 3197, 3254, 3348, 3449, 3606, 3721
Rosen, Glenn D. 1065
Rosen, Mark 1795
Rosen, Matthew S. 20, 137, 1500, 1922, 2361, 2664, 2772
Rosenbaum, Daniel 919
Rosenberg, David R. 1189, 1193
Rosenberg, Jarrett..... 211, 2144
Rosenberg, Joseph H. 329
Rosenholm, Jessica M. 1887
Rosenkrantz, Andrew B. 94, 1572, 3390
Rosin, Paul L..... 778, 3148
Rosini, A. 2857
Rösler, Manuela 1985
Ross, Bernhard..... 2240
Ross, Brian . 2888, 3217, 3929, 4032
Ross, Chris 4315, 4330
Ross, Christopher A. 381, 1019
Ross, Jed 501
Ross, Peter J. 4217
Ross, Sarajane 501
Rosser, Anne 1049, 3663
Rosset, Saharon..... 949, 3125
Rossman, Milton 821, 1461, 1463, 1466, 1468
Rossman, Phillip J.. 2443, 4395
Rost, Natalia S..... 2938
Rostomily, Robert C..... 1040
Rostrup, Egill 3335
Rotenberg, David 1191
Rothgang, Eva..... 1818, 3409
Rothman, Douglas L. 118, 119, 228, 299, 862, 1706, 1956,

3242, 3411
Rottbauer, Wolfgang 1324, 1367, 4547
Rottner, Kurt..... 2395
Rougemont, Anne-Laure 111
Rouillon, Laurence 1574
Roujol, Sébastien..... ….1313, 1318, 1319, 1323, 1373, 1823
Roura, Eloy..... 1095
Roussakis, Emmanuel..... 3244
Roussel, Tangi..... 2039
Roussin, Isabelle..... 4457
Roux, Patrick Le..... 3328
Rowe, Christopher C. . 621, 841
Rowe, Daniel B. 123, 2229, 2232, 2285, 2733
Rowe, Matthew..... 773
Rowland-Hill, Christopher . 976
Roy, Bhaswati 3640
Roy, Christopher W..... 7, 4129
Roy, Nicole..... 504, 3380
Roy, Raja..... 1948, 4019
Roy, Rene J..... 324
Royce, Melanie E. 3378
Roys, Steven..... 1026, 1152, 1943, 2383, 2896, 4327
Royston, Thomas J. .. 871, 2444
Rozen, Eric 789
Rozenfeld, Michael..... 3170
Ruaud, Jean-Pierre.. 3841, 3869
Ruben, Dawn..... 562
Rudge, Peter 386, 3011
Rudin, Markus 333, 860, 2300, 3914
Rudko, Dave A. 162
Rudko, David A..... 1108, 3842
Rudolph, André 1370
Rudser, Kyle..... 1021
Rueckert, Daniel 176, 884, 918, 3806
Ruest, Torsten..... 2864
Ruff, Christian C. 3332
Ruh, Alexander..... 3127
Ruiz-Cabello, Jesus 3901
Ruiz-Lozano, Pilar..... 235
Rukat, Tammo 2214
Rummeny, Ernst J. ... 144, 3460
Runge, Val M. 3488
Ruocco, Giancarlo 3144
Ruparel, Kosha 2162
Rupp, Thomas 713
Ruppert, Kai 6, 817, 1447, 1448, 1450, 1453, 1455
Rupprecht, Sebastian 396, 2802, 4377
Ruset, Iulian C.….6, 817, 1447, 1448, 1450, 1453, 1455, 4121
Rusinek, Henry…….208, 1551, 1554, 1570, 2212, 2695, 4084
Russe, Maximilian..... 4451
Russek, Stephen 4338
Russell, Doozie..... 3557
Russell, John..... 3378
Russell, Michael 2894
Russell-Schulz, Bretta 220, 1117
Russman, Barry 689, 1633
Rusted, Jenny M. 2864
Rusu, Mirabela 1795
Ruszkiewicz, James A. 4358
Rutgers, D.R. 966
Ruth, Thomas 1265
Rutherford, Mary A. . 918, 2108
Rutigliano, Sandra 3463
Rutt, Brian K. ….248, 397, 440, 2512, 2595, 3604, 4267, 4376
Rutz, Tobias 547
Ružicka, Evžen..... 379, 524
Ružicka, Filip 379, 524
Ruzza, Marta 1861
Ryan, Sarah 1029, 1153
Rybak, Leon D. 2558
Ryder, Stephen D. 276, 4094
Rypma, Bart 3616
Ryu, Chang-Woo..... 618, 2911, 3226, 3263
Ryu, Yeun-chul 2824
Rzanny, Reinhard .. 1952, 3491, 3505, 3512

S

Saad, Ziad S..... 2230, 3285
Saar, Galit..... 1035
Saarakkala, Simo..... 434, 641, 1662, 3551
Sabandal, Carola..... 2966
Sabapathy, Divya..... 3893
Sabapathy, Kanaga 1707
Sabati, Mohammad.. 854, 1940, 3957, 3963, 3980
Sabin, Shea A. 1647
Sabri, Osama 2884
Sack, Alexander..... 2287
Sack, Ingolf ..... ……341, 380, 872, 873, 973, 2424, 2428, 2430, 2435, 2439, 2440, 4076
Sack, Markus..... 1973
Sacolick, Laura I..... 2199
Sadananthan, Suresh A.... 1526, 2023, 2701
Sadleir, Rosalind J. 4182
Sado, Daniel 1582
Sadovnick, Dessa..... 1100
Sadowski, Elizabeth A..... 1567
Saeed, Maythem 472, 1391, 1392, 4310, 4318, 4335, 4524
Saekho, Suwit..... 4563
Safran, Marc R. 3500, 3548
Sag, Aslihan Taskiran 2109
Saga, Tsuneo 1713, 1869, 1872, 3891
Sagawa, Hajime..... 4468
Sagiyama, Koji 674, 955, 1125, 1494
Sah, Rani G. 3377, 3382
Sah, Rani Gupta 1207
Saha, Saikat..... 4349
Sahani, Dushyant V. 3449
Sahebjavaher, Ramin S.... 1226, 2429, 4078
Sahin, Mustafa..... 909
Sahul, Raffi 396, 4377
Said, Adnan..... 282
Saidov, Tamerlan 95
Saiki, Makoto 4122
Saiki, Yoshikatsu..... 4464
Saikus, Christina E. 4316
Sailasuta, Napapon . 3929, 4032
Sainati, Robert..... 4432
Saino, Takeshi 942
Saint-Martin, Christine..... 914
Sair, Haris I. 2270
Saito, Shigeyoshi.... 2551, 3879
Sajda, Paul..... 756
Sajib, Saurav ZK 4181
Sajja, Balasrinivasa R..... 1268
Sakadzic, Sava..... 3244
Sakahara, Harumi ... 1134, 1868
Sakai, Akira..... 3479
Sakai, Koji..... 3116
Sakai, Osamu..... 3146
Sakai, Toshinori 3100, 3498
Sakai, Yu..... 4095
Sakaie, Ken E. 788, 1107, 1125, 2133, 2142, 2143, 2303, 2575, 2853, 3200
Sakamoto, Hiroki 4545
Sakamoto, Masahiko 2935, 2985
Sakashita, Naotaka 4468
Sakashita, Tomohiro..... 1208
Sakib, Nurus..... 1855
Sako, Wataru..... 1163
Sakoglu, Unal..... 3290
Saksena, Sona1723, 1878, 3421
Sakuma, Hajime 4516, 4529
Sakuma, Yoshihiro..... 942
Sala, Evis..... 3387, 4131
Sala, Sara..... 1179, 3553
Salaklang, Jatuporn 2698, 3905
Sala-Llonch, Roser . 2873, 2913
Salameh, Najat 20
Salamekh, Samer..... 4235
Salamon, Noriko 205, 539, 3003
Salas, Gorka 3896
Salat, David H. 2912
Salazar, Gabriela 3492
Salcudean, Septimiu E..... 2429
Saleem, Sheena 166
Saleh, Gameel 2775
Saleh, Habib Al 1607, 1676
Salerno, Michael 316, 1407, 4482, 4555, 4556, 4570, 4573
Salgaonkar, Vasant..... 227
Salibi, Nouha1018, 1075, 1076, 1077, 1216, 2787, 4186, 4503
Salle, Francesco Di..... 2287
Salmella, Michael..... 954
Salmeron, Betty Jo ... 519, 1180
Salmon, Carlos 2502, 3360, 4026
Salo, Elli-Noora 434, 1887, 3551
Salomir, Rares..... 233
Saloner, David A. 190, 1345, 2995, 3796, 4320, 4437, 4438, 4497
Salort-Campana, Emmanuelle 407
Salter, Michael W..... 1118
Saltz, Leonard 1514, 1515
Salvado, Olivier 621, 841, 2119
Salvador, Ricardo..... 4334
Salvatori, Cristina..... 4490
Salzman, Karen 956
Samani, Abbas 2428
Sämann, Philipp 2092
Samdani, Amer..... 1116, 2114
Sammet, Christina L..... 2862, 3668
Sammet, Steffen96, 3668, 4071
Sammi, Manoj K. ... 1224, 3603
Sammons, Brian 2894
Samosonov, Alexey.. 636, 1655
Samouilov, Alexandre..... 534
Sampaio, Marcos..... 1667
Sampath, Deepak..... 501
Samsanov, Alexey..... 4317
Samson, Rebecca S. 49, 691, 2540
Samsonov, Alexey A... 45, 431, 583, 1677, 2556, 3613, 4225
Samuel, Errol L. 2930
Samuel, Sara..... 4218
Samuel, Sharon 721
Sanacora, Gerard..... 862
Sanchez-Gonzalez, Javier... 256
Sanchez-Lopez, Hector 4347
Sander, Christin Y..... 759, 826
Sanders, Melinda..... 3384

Sanders, Stephen.....481
Sanderson, Paul 4054
Sandhu, Gurpreet S.....1589
Sandler, Kiri 1771
Sandrasegaran, Kumar.....3441
Sandulache, Vlad.....3948
Sanelli,, Pina C. 3334
Sanganahalli, Basavaraju ..299, 667, 3242
Sang-Han, Choi 927
Sangill, Ryan 699
Sankhwar, Pushplata.....4018, 4047
Sankhwar, Satya Narain ...4047
Sano, Katsuhiro 1507
Santarelli, Maria F..1440, 1930
Santarelli, Roberta 4117
Santelli, Claudio 1355, 2643, 3748
Santiago, Uribe-Lewis 4038
Santin, Mathieu David.....89, 1058, 2318
Santini, Francesco....233, 4553, 4561
Santoro, Davide 833, 2747, 2839
Santus, Robin.....746
Santyr, Brendan 162
Santyr, Giles E.....819, 1457, 1479, 3910
Saouaf, Rola ...541, 4151, 4469
Sapiro, Guillermo 59, 2621
Sapkota, Nabraj 2736, 2781
Sarah, Banks.....788
Saranathan, Manojkumar...248, 1539, 1557, 2512, 2597, 3405, 3794, 4085, 4086
Sardanelli, Francesco.....376
Sarioglu, Baykal 1838
Saritas, Emine U..57, 140, 202, 1779, 1857, 2974, 3405
Sarkar, Pooja 2335
Sarkar, Subhendra.....2846
Sarkar, Susanta K. 236
Särkkä, Simo 3353
Sarlls, Joelle E. 2052, 2067, 2072, 2658
Sarma, Manoj K.....608, 856, 2859, 3983
Sarma, Sankara 2900
Sarntinoranont, Malisa.....2557
Sarracanie, Mathieu ...20, 1922, 2361, 2772
Sartorius, Alexander 943, 1973, 2305, 2321
Sasaki, Hidenobu.....4464
Sasaki, Hiroki 3477, 3637
Sasaki, Makoto.....972, 1141, 2066, 2988, 3660, 3787
Sasaki, Miho.....3130
Sathian, K. 2254, 2273
Sati, Pascal 459, 1079, 3964
Sato, Hiroki 1781
Sato, Hirotaka.....942
Sato, Kanako 3013
Sato, Keisaku.....4066
Sato, Kimihiko 1134, 1288, 1502, 2998
Sato, Ryota 2480
Sato, Tetsuo.....2112
Sato, Tomohiro.....1530, 1555, 1558
Sato-Akaba, Hideo 1986
Satou, Saori 4112, 4113, 4471, 4479
Satriani, Fabio Ginnari 4051
Sattar, Abdus 4491
Sattin, Justin 2990, 3306
Saudek, Frantisek 4058
Saunavaara, Jani 3398
Saunders, Dawn E. 979
Saunders, Debra.....566, 1584, 1873, 1874
Sauvage, Maria-Angeles Carrillo-de 112
Sava, Anca R. Croitor.....518
Saver, Jeffrey L. 205
Savitz, Jonathan.....1160, 3024
Sawa, Akira 3596
Sawiak, Stephen J. 1364, 1381, 2690
Sawyer, Alice 3598
Saxena, Mohit.....2843, 2844, 2845, 3728
Saxena, Rohit 3229, 3230, 3231, 3232
Sayal, Karen 3730
Saybasili, Haris.....185, 3483, 3838, 4489
Sayin, Ozan 865, 3483
Sayre, James 542
Sbrizzi, Alessandro 3016, 3818, 4185, 4244, 4245
Scanlon, Cathy 1200
Scardino, Peter T. 3394
Scearce-Levie, Kimberly.1037, 1042
Schabel, Alex 956
Schabel, Matthias C. 956, 1717, 3067
Schad, Lothar R. 455, 1544, 1545, 1552, 1562, 1614, 2360, 3115, 3119, 3121, 4008, 4014, 4211, 4355
Schadewaldt, Nicole.....768
Schaefer, Andreas.....2757
Schaefers, Gregor..2826, 4415, 4416
Schaeffter, Tobias.....258, 260, 307, 469, 470, 484, 546, 609, 769, 2643, 3745, 3747, 3748, 3754, 4279
Schaer, Michael O. 1606
Schaetz, Sebastian..4275, 4340
Schäfer, Andreas.....267, 270, 935, 2339, 2472, 2854, 2884
Schafer, Rachel L. 4361
Schäfer, Rita.....3996
Schäfers, Klaus.....1767
Schäfers, Michael.....1767
Schäfers, Sonja.....1767
Schaffer, David V.....1857
Schaffer, Paul 1265
Schakel, Tim 3443
Schalkx, Hanke J. 2206
Schall, Jeffrey D. 3288
Schaller, Benoît Michel....1955
Schar, Michael.....72, 2582
Schär, Michael... 255, 428, 433, 579, 4494
Scharnowski, Frank 2024, 2028, 2246
Schätz, Sebastian.....4567
Scheck, Simon.....2968
Scheef, Lukas 952
Scheel, Michael 380, 872, 873, 2424
Scheenen, Tom W.J.....99, 538, 1769, 1790, 2020, 3403, 3964, 3982
Scheffler, Klaus. 233, 291, 300, 414, 961, 1135, 1891, 1982, 2013, 2025, 2389, 2529
Scheidegger, Milan.....739
Scheidegger, Rachel2534, 2538
Scheinost, Dustin.....2268
Schelman, William R. 2704
Schenck, John F.....2708, 2711, 3216, 3281, 3774
Schenker, Esther.....2305
Schepkin, Victor D. 3412
Scherer, Axel.....4227
Scherling, Carole.....989
Schernthaner, Melanie.....163
Scherrer, Benoit.....2057, 2587, 3135, 3156
Scheurer, Eva 929, 1217, 1686, 2420, 2469, 2488, 3499, 4205
Schewe, Denis 2929
Schewzow, Kiril.....2187
Schiavi, Emanuele.....2696
Schick, Fritz 1511
Schiebler, Mark L.....63, 399, 1422, 1501, 2471, 4098, 4455, 4546
Schieke, Moira F. ...1534, 4167
Schierup, Anne-Lise.....1524
Schild, Hans H. 748, 952, 4270, 4271
Schillak, Scott 2734, 2758
Schilling, Franz 2103, 3921
Schilling, Lothar.....4014
Schipper, Matthew 3644
Schirda, Claudiu.....577, 2369
Schiros, Chun 4503
Schlaug, Gottfried ..2235, 4224
Schlegel, Felix.....2300
Schlei, Nancy Ann 1567
Schleich, Christoph 4227
Schleich, Dieter.....1614
Schleicher, Erwin 1511
Schlemmer, Heinz Peter.....515
Schlemmer, Heinz-Peter....167, 651, 2983, 3392
Schliebs, Reinhard.....2882
Schloegl, Matthias.....2665
Schlosser, Thomas.....574
Schluep, Myriam 3615
Schluppeck, Denis.....297
Schmahmann, Jeremy D...2941
Schmainda, Kathleen M. ...446, 512, 957, 959, 971, 977, 1154, 1534, 1724, 1725, 2203, 3061, 3635, 4167
Schmalbrock, Petra 2098
Schmid, Albrecht Ingo 1628, 1971, 2187, 2782
Schmid, Sophie ..101, 104, 105
Schmid, Thomas.....529, 669, 2569, 2632
Schmid-Schwap, Martina 3536, 3541
Schmidt, Bertram 1836
Schmidt, Ehud J. ...1847, 2199, 4321
Schmidt, Heike.....1200
Schmidt, Holger 1230
Schmidt, Johannes F.M. ..1322, 3748, 3835
Schmidt, Ken.....1666
Schmidt, M.....594
Schmidt, Maria A. 505, 1729
Schmidt, Michaela.....3812
Schmidt, Nils Ole.....3039
Schmidt, Rebecca.....157
Schmidt, Regine 1423
Schmidt, Reinhold....999, 3895
Schmidt, Rita 654, 2407,

2639, 2680, 2682
Schmiedeskamp, Heiko 415, 588, 2197, 3636
Schmitgen, Arno.....1843
Schmithorst, Vincent J.....180, 1951, 1954, 2944, 2946, 3051, 3191
Schmitt, Benjamin ...635, 4220, 4227
Schmitt, Benoit.....779, 3153, 3154, 3155
Schmitt, Franz 4420
Schmitt, Matthias.....1409
Schmitt, Peter 625, 1131, 1292, 3811, 4461
Schmitter, Sebastian ....……71, 74, 288, 429, 463, 1292, 4191, 4398, 4429, 4446
Schmitz, Georg.....4270
Schmitz, Joep.....1627
Schmitz-Peiffer, Henning .3604
Schmuck, Eric G.....1390
Schmued, Larry 2932
Schnackenburg, Bernhard...186
Schnall, Mitchell D...377, 3428
Schneider, Joel.....1904
Schneider, Johannes 2780
Schneider, Juliane.....898
Schneider, Julie.....998, 2879
Schneider, Jurgen E. 1361
Schneider, Manuel.....730
Schneider, Matthias 4227
Schneider, Moritz Jörg 3105
Schneider, Rainer ...4252, 4261
Schneider, Torben… 491, 1095, 1126, 2095, 3126, 3128, 3187
Schnell, Susanne..8, 629, 1329, 3821, 4450
Schnizer, Bernhard 1668
Schock-Kusch, Daniel 1552
Schoder, Heiko 3394
Schödl, Horst 3775, 3782
Schoenbauer, Elisabeth.....3539
Schoenberg, Stefan O. 400, 4057, 4140, 4142
Schoennagel, Bjoern.....1421
Schoepfer, Johanna.....2829
Scholl, Timothy J.....560, 3910, 3926, 4369
Schöllhorn, J. 631
Scholz, Jan.....892
Schönbauer, Elisabeth 1605
Schönfeld, Christian ..650, 744, 1497
Schonknecht, Peter .2873, 2913
Schönnagel, Björn P. 4060, 4127
Schönwald, Gerrit.....2826
Schooler, Joseph Alan 3531
Schöpf, Veronika.....3472
Schram, Miranda T. 1022
Schraml, Christina 1230
Schrans, Debby G.M. 2960
Schrantee, A. 1204
Schrauben, Eric Mathew ...622, 4442
Schrauwen, Patrick.....1977
Schrauwen-Hinderling, Vera B. 1977
Schreiber, Laura Maria....1423, 1472, 1474, 1482, 1590, 1921, 1927, 1937, 2731, 3953, 4118, 4523
Schreuder, A.H. 589
Schreuder, Tobien 4543
Schreyer, Edward 3485
Schröder, Christian.....3389
Schröder, Julia.....1590
Schroeder, Marie A. 3943, 4511
Schroeter, Matthias L. 379, 384, 524, 1001
Schröter, Aileen 333, 860, 2300
Schroth, Gerhard 1143
Schubert, Florian 1241
Schubert, Gerald....1829, 4309, 4311
Schubert, Tilman 1283
Schuff, Norbert.……451, 2620, 3121, 3122, 3289, 3814
Schuler, Andreas 218
Schuleri, Karl H.....259
Schülke, Christophe 1318, 1323
Schulte, Rolf F.....656, 1449, 1919, 1930, 1931, 1934, 3923, 3924, 3947, 4243
Schultz, Gerrit ….16, 124, 666, 2379, 2651, 3702, 3827
Schultz, Lonni 3058
Schultz, Robert.....2978
Schultz, Robert T.....2204
Schultz, Susan 1344
Schulz, Heinrich 768
Schulz, Jessica.....3759
Schulz, Ursula G.....623
Schulze, Hans-Peter.....1836
Schulz-Menger, Jeanette..1370, 2839, 4512
Schumacher, Martin 631
Schuman, Joel S. 273
Schumann, Gunter.....893
Schunck, Wolf Hagen.....28
Schuppert, Christopher.....683
Schuppert, Mark 1590, 2731
Schütz, Tatjana 4096
Schütz, Uwe 1653
Schwab, Daniel.....4432
Schwab, Felix..... 591, 4522
Schwab, Peter..... 917
Schwab, Simon..... 3046, 3246
Schwaderlapp, Niels..... 1924
Schwaiger, Markus.... 576, 656, 824, 829, 1934, 3924
Schwartz, Benjamin M. 478
Schwartz, Lawrence 1514, 1515
Schwartz, Michael L. 224
Schwartzman, David 577
Schwarz, Adam 2305, 4015
Schwarz, M. L. R. 1614
Schwarz, Raphael... 1612, 3533
Schwarz, Stefan T. 265, 953, 1167, 2848, 3012
Schweiger, Ulrich..... 1372
Schweitzer, Andrew D. 2856
Schweitzer, Mark E. 989, 1522, 1667, 1669, 2200, 3363, 3487, 3501
Schwenzer, Nina F. 1230
Schwerter, Michael..... 2747
Schweser, Ferdinand ..... …460, 695, 1003, 2371, 2472, 2488, 2495, 2499, 3856, 4190, 4203
Schwessinger, Tilman 1786
Schwitter, Juerg..... 547, 1315, 4565
Scoffings, Daniel..... 1211
Scoggins, Matthew A. 388
Scola, Elisa..... 1179
Scott, Allison C.R..... 885, 1065
Scott, Andrew. 479, 4502, 4504
Scott, Andrew David..... 250
Scott, Christopher..... 1733
Scott, Elizabeth Nicholas . 1197
Scott, Greig C.……133, 722, 723, 2840, 4411
Scott, Marietta L.J.. 1484, 1485
Scully, Deirdre 1719
Scurr, Erica..... 1729
Seal, Marc 3203
Seaquist, Elizabeth 113
Searles, Gabriel 827
Sears, Rosalie C..... 3067
Sebastianelli, Wayne 1239
Sebire, Neil J. 1747
Seddigh, Arshia 1093, 1117
Sedlacik, Jan.. 460, 2923, 3039, 3057, 4203
Seeber, Derek A. 2717
Seed, Mike 7, 2326, 4129
Seedial, Stephen 2856
Seeger, Christoph 842, 1146, 2867, 2880, 3195, 3628
Seeger, Matthias..... 306, 3703
Seehaus, Arne..... 2124
Seehofer, Daniel..... 2428
Seeliger, Erdmann 25, 28, 29
Seely, Jean..... 3363
Seemann, Reiner 833, 4404
Seenu, Vurthaluru .. 3377, 3382
Seethamraju, Ravi T..... 1018, 1075, 1076, 1077, 1499, 1847, 3329
Seevinck, Peter R. . 1849, 2683, 4322
Segers, Hilde 2662
Seginer, Amir..... 2639
Sehgal, Sandy..... 1344
Se-Hong, Oh..... 902
Sehovic, Selma..... 219
Seiberlich, Nicole.. 18, 19, 185, 320, 600, 601, 719, 1543, 2631, 2648, 3483, 3752, 3834, 3836, 3838, 4083, 4488, 4489, 4491, 4498
Seidenbecher, Thomas 1262
Seidler, Rachael 889
Seif, Maryam..... 4152
Seifert, Alan C. 141, 762, 1592, 1594, 1602
Seifert, Frank 2827, 4259, 4404
Seifritz, Erich 739
Seiler, Stephan 999
Seiler, Stephen 3370
Sein, Julien..... 954, 4446
Seino, Noritaka..... 4122
Seitz, Andreas 1608
Seki, Junji..... 1244
Seki, Shinichiro..... 1486, 4100, 4104
Sekine, Tetsuro..... 1374, 4454
Sekino, Masaki..... 3262
Selnæs, Kirsten M. 1769, 1785, 1788
Selvaraj, Senthil 1333
Selzer, Audrey H.... 1224, 3603
Semaan, Edouard Michel . 4448
Semmineh, Natenael B..... 587, 2202, 2216
Semmler, Wolfhard... 116, 216, 1835, 1984, 1993
Semouchkina, Elena..... 389
Semple, Scott I. 900, 1317, 2907, 2959
Sen, Anindya..... 4135
Sénégas, Julien..... 1782, 2588
Senesac, Claudia 1633
Seng, Lee Yung..... 1526, 2701
Sengupta, Saikat..... 2578, 3763
Senjem, Matthew L. 2422, 2878
Senner, Volker 1866
Seo, Gwysuk 4477
Seo, Hyung Suk..... 1222

Seo, Hyunseok 2050
Seo, Jeehye .. 1245, 1884, 2272, 2333, 2345, 3656
Seo, Jee-Hye 1155, 1172
Seo, Jin Keun 4183
Seo, Youngho 4310
Seo, Youngseob 3799, 4444
Sepehrband, Farshid 2048, 2049
Sequeiros, Roberto Blanco 1887
Serai, Suraj D. 1506, 3490
Seramani, Sankar ... 1054, 1068, 1072, 2015, 2023
Serano, Peter 75, 2741
Serduc, Raphaël 3413
Seres, Peter 1017
Serganova, Inna 813, 4030
Sermesant, Maxime 484
Serpa, Maurício H. 3587
Serra, Laura ... 612, 1000, 1016, 2857, 2887
Serrao, Eva M. 3909, 3916, 3937
Seshamani, Sharmishtaa ... 3351
Seth, Pankaj 3420
Sethi, Arjun 1251
Sethi, Benu 4313
Sethi, Varun 49, 2540
Setsompop, Kawin 53, 58, 410, 593, 2077, 2603, 3183, 3315, 3355
Settlecase, Fabio 4318
Seunarine, Kiran K. 2132
Seuwen, Aline 860, 2300
Sevak, Kuntalkumar 3415
Sewerin, Philipp 4227
Shaaban, Akram 319
Shaghaghi, Hoora .. 1461, 1925, 1932
Shah, Ajay 1279
Shah, Bijay 825, 827
Shah, Disha 3313
Shah, Jatin P. 507
Shah, Nadim Jon. 80, 109, 2124, 2372, 2374, 2494, 2600, 2679, 3083, 3124, 3159, 3164, 3199, 3214, 3219, 3650, 3709, 3724, 3769, 3798, 3965, 4344
Shah, Pallav 1116, 2114
Shah, Parina 1673, 2560
Shah, Sanjiv J. 1333
Shah, Saurabh 3988
Shah, Tariq ... 1714, 3431, 3433
Shah, Yash S. 3259
Shah, Zarine K. 503, 2531, 3451
Shaha, Ashok R. 1209
Shahidiani, Asal 3583
Shaikh, Mohammed 1572, 1741
Shaikh, Sikandar M 3454
Shajan, Gunamony 291, 414, 961, 1135, 1982, 2013, 2025, 2389, 2529, 2830
Shakes, Chandra 3533
Shan, Dai 946, 1009
Shanbhag, Dattesh D. 2984, 3075, 3211, 3216, 3281, 3720, 3723
Shanbhag, Nagesh 4014
Shang, Hong 2799
Shankar, Ananth 4146
Shankaranarayanan, Ajit 57, 202, 2075, 2145, 2192, 2235, 2974, 2977, 3031, 3405, 3708
Shanmuganathan, Kathirkama 1026, 2896
Shanmuganayagam, Dhanansayan 65
Shao, Huiyan 1763
Shao, Yu 2787, 2833
Shapiro, Erik M. 1863, 1864, 1890, 1892, 1893
Sharan, Pratap 1207
Sharif, Behzad 1295, 1320, 1401, 1419, 4151, 4526, 4527
Sharif, Siamak Salari 3248, 4481
Sharkey-Toppen, Travis ... 2433
Sharma, Ankeeta 3229, 3232
Sharma, Anuj 73, 369, 2061
Sharma, Gaurav. 1512, 3430
Sharma, Neha 4006
Sharma, Parvesh 4066
Sharma, Pradeep 3230, 3231
Sharma, Puneet 246, 3797, 3829
Sharma, Raju 3377
Sharma, Samir D. 130, 3858
Sharma, Sanjay 98
Sharma, Shivak 573, 4566
Sharma, Sonu 1505
Sharma, Uma 1207, 2947, 3377, 3382, 4024, 4049
Sharma, Uma R. 223, 338
Sharman, Matthew 620
Sharp, Jonathan C. 14
Shashi, Vandana 868, 2970
Shatillo, Artem 2313
Shattuck, David W. . 771, 1951, 2691
Shaughnessy, Fiona 3939
Shaw, Dennis W. 3158
Shaw, Dominick 1456
Shaw, Jaime L. 261, 4571
Shaywitz, Bennett A. 2268
Shaywitz, Sally E. 2268
Shazeeb, Mohammed S ... 1259, 3085
Shea, Colin D. 1098, 3055
Shea, Jill E. 226
Shea, Steven M. 1871, 4314
Sheehan, Frances T. 3483
Sheffer, Douglas 4462
Sheikh, Adnan 3501
Sheikh, Khadija 1462
Shein, Steven L. 3906
Shellock, Frank G. 3456
Sheltraw, Daniel J. 3352
Shemesh, Noam 536, 2062, 2070
Shen, Chao-Yu 3683
Shen, Danlin 3579
Shen, Dinggang 179, 936, 2117, 2942, 2943, 2951, 2952
Shen, Jun 858, 2032, 3964, 3984
Shen, Kai-kai 2119
Shen, Qiang 337, 340, 944, 2323, 2921, 2922
Shen, Weijun 2770
Shen, Xiaobo 1024, 1097, 3617
Shen, Xilin 2268
Shen, Xiobo 3620
Shen, Yimin 443, 1581, 4126
Shen, ZhiWei 1949, 2357
Sheng, Ke K. 608
Sheng, Min 619
Shenk, Trey 3303
Shenoi, Mithun 3418
Shenton, Martha E. ... 937, 2899
Shepherd, J. H. 594
Shepherd, Timothy M. 710, 3021
Sheriff, Sulaiman 854, 968, 2860, 3640, 3957, 3963, 3980
Sherr, Elliott 178, 3169
Sherry, A. Dean 657, 659, 1624, 1629, 1909, 3946
Shestov, Alexander A. 3518, 4030
Shetty, Anil . 1817, 1839, 4301, 4302
Shewman, Elizabeth F. 3529
Shi, Da 2320, 3673
Shi, Dapeng 3638
Shi, Feng 179, 2951, 2952
Shi, Fu-Dong 1066
Shi, Honglu 1223, 1234
Shi, Hui 3292
Shi, Kaining 3050
Shi, Lixin 2019
Shi, Wei-Xing 1051
Shi, Xian-Feng 1184, 1569, 2781, 4011
Shi, Xiangyang 3886
Shi, Xinwei . 1306, 1804, 1806, 1813
Shi, Xiutao 1744
Shi, Yunzhou 501
Shia, Jinru 1514, 1515
Shiee, Navid 1098
Shifteh, Keivan 4110
Shigeno, Keiji 3520
Shigeno, Shuichi 2520
Shih, Chun-Tsun 1518
Shih, Natalie 1795
Shih, Y.C. 3653
Shih, Yen-Yu Ian 335, 751, 2181, 2312, 2323, 3236, 3237
Shim, Hyunsuk 969
Shim, Woo 528
Shim, Woo Hyun 2926
Shim, Yun Michael 6, 1447
Shimakawa, Ann 399, 1398, 3832
Shimaoka, Toru 1405
Shimizu, Tuyoshi 4478
Shimoji, Keigo 2866, 3637, 3669, 3672
Shimoni, Eyal 1853
Shimony, Joshua S. 2894, 3056, 3564
Shin, Cheong-Il 4055
Shin, David 736, 2165, 2180
Shin, Dong Moon 234
Shin, Jaemin 2260
Shin, Jaewook 231, 4173, 4179, 4180, 4266
Shin, Peter 133, 3954
Shin, Taehoon 543, 2619, 4470
Shin, Wanyong 788, 2159, 2670, 2678
Shingles, Michael 3557
Shinmoto, Hiroshi 1781
Shinohe, Yutaka 1141, 1244
Shiodera, Taichiro 1425, 1428, 3839
Shiodera, Taichirou 1397
Shiomi, Toshiyuki 3539
Shiou, Sheng-Ru 678
Shirai, Toru .. 2006, 2480, 3955
Shirato, Hiroki 1208, 2111
Shitano, Fuki 1578, 3450, 4132
Shivkumar, Kalyanam 4560
Shlapak, Darya P. 357
Shmatukha, Andriy 4313
Shmueli, Karin 1793
Shrestha, Manoj 2367
Shrivastava, Devashish 284,

2758, 2828
Shroyer, Kenneth.....3890
Shtilbans, Alexander.....2856
Shu, Hao.....1194
Shu, Ni.....46, 2958
Shu, Yunhong.....2477, 3810
Shufelt, Chrisandra.1320, 4527
Shuhendler, Adam.....440
Shukla, Garima.....3229, 3232
Shukla-Dave, Amita 507, 1209, 1514, 1515, 3104, 3394, 3396
Shulman, Gerald I.....119, 1956
Shungu, Dikoma C. 1021, 1206, 2855, 3593, 3597, 3985
Shurrab, Mohammed.....4313, 4518
Shyong, Tai E. 1526, 2701
Shyu, Ling-Yuh.....3692
Sibtain, Naomi.....1093, 1117
Sica, Christopher T..396, 2802, 2805, 2806, 4377
Sidabras, Jason W.....2789
Siddiqui, Sarmad.....1932
Siders, Bill.....2927
Sidle, Katie.....4238
Siebold, Rainer.....635
Sieg, Jürgen.....2782
Sieger, Tomáš.....524
Siegert, Thomas.....2757, 3759
Siemonsen, Susanne.....2923
Siemund, Roger.....2504
Siero, Jeroen C W.....755, 852, 2284
Sierra, Alejandra.60, 869, 1038
Sierra, Eduardo Castro.....2328, 3307
Sierro, Christophe.....547
Sigal, Ian A.....273
Sigfridsson, Andreas.....1918
Sigfridsson, Andreas Bjoern Joakim 3941
Sigmund, Eric E. 197, 363, 690, 1554, 1739, 1741, 2076, 2813, 3373
Sijbers, Jan..... ……1243, 2047, 2081, 2662, 3095, 3186
Sikka, Arti 1716
Silani, Vincenzo 1173
Silasi-Mansat, Robert 566, 1584, 1873, 1874
Sillay, Karl A.....1841
Sillerud, Laurel.....3378
Sills, Allen.....207
Silva, Afonso C. 459, 2325, 2778
Silveira, Luis Miguel.....2804, 2831
Silvia, Hidalgo-Tobon S. ..3492
Sima, Diana M.....518, 3989
Simard, J. Marc 3680
Simmonite, Molly.....3301
Simmons, Camilla ..1043, 2301
Simmons, John W.....228
Simoes, Rui V. 813, 4030
Simon, Aaron 3338
Simon, Aaron Benjamin ...2297
Simon, M. Celeste 810
Simon, Martin.....973
Simonetti, Orlando P. 66, 1336, 2433, 2836, 3734, 3813, 3816, 3826, 4440
Simonis, Frank F.J.....285
Simpkin, Catherine J. 1495, 3395, 3397, 3434, 4153
Simplaceanu, Virgil.....3861
Simpson, Rob 533
Simpson, Robin 486, 4554
Sims, Robert D. 1794
Sin, Sanghun.....4110
Sinclair, Christopher D.J. ..314, 691, 2115
Sinclair, Kevin J. 3912
Singanamalli, Asha.....1795
Singer, Robert.....207
Singh, Anup... 420, 1006, 1192, 1438, 2541, 2543, 2554, 2697
Singh, David..... 1480, 1484
Singh, Devendra 1948
Singh, Namita3019, 3559, 3995
Singh, R.....3430
Singh, Reena.....3230, 3231
Singh, Sadhana 3559
Singh, Santosh Kumar 1948
Singh, Savita.....4024
Singhal, Aneesh.....2999, 3294
Sinha, Sanjiv.....4049
Sinha, Shantanu 364, 681, 3481, 3494, 3522
Sinha, Usha.... 364, 3481, 3494, 3522
Sinkus, Ralph 448, 1749, 2421, 2429, 2434, 2438, 2447, 3423, 4075, 4078, 4117
Sinnecker, Tim 1085
Siow, Bernard M…… 9, 491, 2105, 3126, 3129, 3679
Siripongsakun, Surachate .3435
Sirlin, Claude B. 1516, 1517, 4033
Siskind, Eli 4386
Siston, Robert.....1657
Sitharaman, Balaji 3890
Sitter, Beathe 804
Sivak, Stefan.....2893
Siversson, Carl 3535
Six, Joseph..... 1456, 1475
Sizonenko, Stéphane V.... 2515, 3675
Sjunnesson, Håkan 2504
Skamarauskas, John 598
Skare, Stefan ... 211, 308, 2060, 2061, 2579, 3023, 3167, 3697, 3708, 3757
Skedzielewski, Tinamarie 1712, 1768
Skibbe, Henrik.....703
Skinner, Jack T.587, 983, 2196, 3064
Skolka, Astrid.....3541
Skranes, Jon.....2949
Skrap, Miran.....967
Škrátek, Martin.....2795
Skrbo, Nirma.....804
Slade, Jill M. 1639
Sladen, Helen 3916
Sladen, Louise.....1490
Slater, David Alexander 704, 2090
Slavens, Zachary W.....2406, 2505
Slavin, Glenn S.....1416
Sled, John G. 887, 945, 2326
Slenter, Jos M.G.M. 1977
Slifstein, Mark.....1206
Sliva, Danielle D. 2969
Slobounov, Semyon 1239
Small, William C... 4069, 4072, 4308
Smethurst, Phillip.....4238
Smink, Jouke.... 258, 469, 1357
Smit, Ewoud J. 4540
Smith, A. 2332
Smith, Alex 2088
Smith, Alex K.....352
Smith, Alex R.....2204
Smith, Andra 989
Smith, Barbara.....561
Smith, Chelsey M. 2068
Smith, Claire 4472
Smith, David S. 2413, 2692
Smith, Elliot 4345
Smith, Helen J. 1205
Smith, J. Carson 996
Smith, Kenneth J. 3126
Smith, Mary Lou 913
Smith, Matthew 3936
Smith, Matthew R. ... 558, 2556
Smith, Michael 2609
Smith, Michael J.....2721
Smith, Michael Richard..... 526
Smith, Nataliya..... 566, 1584, 1873, 1874
Smith, Nathan A.....1055
Smith, Robert 35, 106
Smith, Robert E. 841, 2135
Smith, Robert X. 193
Smith, Sara..... 2687, 2969
Smith, Seth.....427
Smith, Seth A. . 199, 352, 1104, 2237, 2278, 2539, 3605, 4223
Smith, Stephen M. 3274, 3275, 3792
Smith, Wade.....2995
Smith, Zachary M... 2348, 3310
Smits, Marion.....3328
Smittenaar, Peter 3017
Smolka, Michael 893
Smorodinsky, Emmanuil.... 541
Snead, Carter.....913
Snider, Joe.....2271
Snider, Ryan W. 1144
Snir, Jonatan A. 1694, 1907
Snozek, Darrah..... 361, 3527
Snyder, Abraham.... 2894, 3564
Snyder, Angela.....3369
Snyder, Angela Lynn Styczynski 17
Snyder, Carl 30, 131, 578, 3369, 4402
Snyder, Carl J. 2743, 2745
Snyder, Jeff 2718, 4483
So, K. F. 32, 3267, 3268
So, Po-Wah 2090
Soares, Ana Francisca 4003, 4004
Sochen, Nir 3136, 3137
Sodickson, Daniel K.... 76, 286, 292, 527, 606, 2453, 2519, 2558, 2636, 2681, 2737, 3373, 3484, 3809, 4084, 4091, 4175, 4189, 4258, 4365, 4367, 4379, 4409, 4424, 4428
Sodickson, Lester A. 4175
Soesbe, Todd C. 1909
Soga, Shigeyoshi.....1781
Søgaard, Lise Vejby.....2103
Soher, Brian 1491
Sohlin, Maja.....3121
Sohn, Michael J.....3438
Sohn, Sung-Min 731
Sohns, Jan 4441
Sohrabi, Sahand 2995
Sokhi, Hemmy K.....4147
Sokolska, Magdalena 2151, 2177
Solaiyappan, Meiyappan .1710, 1734, 4314
Solana, Ana Beatriz.....3035
Solanky, Bhavana S. 351, 1111, 2000, 2393
Solbach, Klaus 2759, 2775
Soliman, Abraam S. 2418, 4277

Solin, Arno 3353
Solis-Vivanco, Rodolfo ... 3593, 3597
Solomon, Eddy 2062, 2101, 2390
Solomon, Richard 4135
Soltanian-Zadeh, Hamid .. 1162, 3444, 3649
Somasundaram, Rajan 2428
Someya, Yoshiaki 2338
Sommer, Graham 227, 3405
Sommer, Gregor 651
Sommerville, L. Cort 4489
Son, Hyeokwoo 2803
Sønderby, Casper Kaae 2071, 2073
Sondhi, Dolan 1021
Sone, Michihiko 1233
Song, Allen .. 1617, 2870, 3207, 3765
Song, Allen W. 56, 664, 836, 868, 906, 2970, 3287
Song, Chu-Jing 3015
Song, Hee Kwon 193, 611
Song, Ho-Taek 1649, 3516, 3922
Song, Huijin 2272
Song, Hui-jin 1884
Song, In Chan 3540
Song, Jae W. 909, 2956
Song, Jie 2990, 3867
Song, Likai 3946
Song, Ruiciao 3879
Song, Ruitian 374, 4198
Song, Sang-Eun 475, 1770
Song, Sheng-Kwei 342, 417, 492, 493, 776, 1039, 2314, 3112, 3622, 3624
Song, Tian Y 3254, 3348
Song, Xiaolei .. 426, 1904, 2545
Song, Yurong 1696
Soni, Ravi 4005
Sonico, Gerald J. 3482, 3670
Sonka, Milan 2411
Sonkar, Abhinav A. 1948, 4019
Sonmez, Merdim 287, 4316
Sonn, Geoff 3406
Soravia, Leila Maria 3308
Soriano, Stephanie 1766
Sørlie, Therese 804
Sormani, Maria Pia 1086
Sorrell, James 2894
Sorvari, Juhana 60
Sosna, Jacob 1915
Sosnovik, David E. 479, 481, 581, 642, 882, 4495, 4496, 4502, 4504
Sossi, Vesna 1265, 2816
Sostheim, Rebecca 3766
Sotak, Christopher H. 1259, 3085
Sotelo, Julio 4452
Sotiropoulos, Stamatios N. .. 52, 835, 2122
Soulier, Elisabeth 455
Sourbron, Steven 1547
Sours, Chandler 1026, 1152, 2383, 2896
Sours, Chandler R. 329, 1943
Southworth, Richard 3939
Soutome, Yoshihisa 2006, 2066, 2480, 2750, 2756, 3955
Souweidane, Mark 1021
Souza, Richard 1652
So-Yeon, Shim 902
Spampinato, Maria V. 786
Spangler, Erika 2120
Spano, Barbara 612, 1000, 1016, 2857, 2887
Sparks, Rachel 1795
Spasojevic, Ivan 3883
Spear, John T. . 461, 2486, 3265
Speck, Oliver 2575, 3212, 3755, 3770, 4403
Speckbacher, Hadwig 2977
Spedding, Michael 2305
Spees, William M. ... 417, 2314, 2937
Speier, Peter ... 479, 4502, 4504
Spence, Jeffrey S. ... 2852, 2904
Spencer, Dennis D. 3994
Spencer, Kevin 1188
Spencer, Richard G. 433
Spencer, Susan S. 3994
Sperl, Jonathan I. ... 2053, 2054, 2092
Sperling, Dan 1773
Spielman, Daniel 655, 854, 3640, 3911, 3917, 3931, 3933, 3935, 3938, 3944, 3963, 3985
Spiess, Hans Wolfgang 1921, 1927, 1937
Spiller, Robin C. 4054
Spincemaille, Pascal .. 165, 262, 697, 702, 1531, 1536, 1577, 2207, 2378, 2474, 2566, 2591, 3334, 3847, 3853, 4174, 4193
Spliet, Wim G.M. 2982
Splitthoff, Daniel Nico 2226
Spoel, Marjolein 1464
Spoormaker, Victor 3328
Sporns, Olaf 3652
Sporring, Jon 3026
Spottiswoode, Bruce S. 320, 584, 593, 1342, 4488, 4489, 4501
Sprenger, Christian 2277
Sprenger, Till 1101, 2903, 3618
Sprenger, Tim 2053, 2054, 2092
Springer, Caroline J. 1905
Springer, Charles 1224
Springer, Charles S, Jr. 504, 716, 1272, 3066, 3067, 3072, 4459
Sprinkart, Alois M. . 4270, 4271
Sprinkhuizen, Sara Maria . 3197
Squarcina, Letizia 3133
Squire, Iain B. 22
Squires, Alex 3474
Sreenivas, Vishnu ... 3229, 3232
Sreenivasan, Karthik Ramakrishnan 520, 3261, 3301, 3558
Srinivasan, Subashini 193, 3713, 4436, 4574
Srinivasan, Vivek J. 3244
Srinivasen, Shardha 4455
Sriram, Renuka 812, 3429
Sritanyaratana, Nade 431, 1677
Srivastava, Madhur 697
Srivastava, Shatakshi 1948, 4019
Staals, Julie 2218
Stäb, Daniel 2614, 3715
Stachs, Oliver 2747
Stack, James F, Jr. 4384
Staedtke, Verena 565
Staehler, Michael 4141
Staewen, Terrell D. . 1083, 2898
Stafford, R. Jason .. 1839, 2505, 3733, 3854, 4294, 4301,4302, 4303, 4326
Stafford, Randall B. 2153, 2554, 2773, 3033
Ståhlberg, Freddy 497, 781, 1913, 2198
Stainsby, Jeffrey A. 1416, 1418
Stalder, Aurelien F. 1342, 1434
Staley, Charles A. 4308
Stalpers, L.J.A. 4178, 4185
Stambuk, Hilda E. ... 507, 1209, 3104
Stammes, Marieke 237
Stang, Pascal P. 722, 723, 2840, 4411
Stangel, Martin 1092
Stanisz, Greg J. . 354, 468, 1159
Stankovic, Iva 1030
Stankovic, Zoran 4451
Stanley, Jeffrey A. .. 1189, 1193
Stanley, Olivia 502
Stara, Riccardo 2508, 4385
Starr, Danielle 1460
Stashinko, Elaine 177
Statum, Sheronda 145, 437, 1611, 3457, 3468, 3469, 3470, 3496
Steadman, Patrick 945
Steckner, Michael C. 2842
Stedham, Owen 1379
Steen, Pedersen E. 3865
Steenweg, Marjan 1110
Stefan, Wolfgang 2505, 3854
Stefania, Rachele 3859
Stefanovic, Bojana ... 945, 1159
Stehning, Christian 256, 768, 2811, 3626, 3714, 4237
Stehouwer, Bertine L. 1970, 2729, 3368
Stehouwer, Coen D.A. 1022
Stein, Ariel 1981
Stein, Elliot 519, 1180
Steinbach, Joachim 3645
Steinberg, Joel S. 3659
Steinert, Kaely 3703
Steinfeld, Robert 1080
Steinseifer, Isabell K. 2020
Stelzer, Johannes 2291
Stemkens, Bjorn 4325
Stemmer, Alto 2059, 2368, 4160
Stenger, Victor Andrew. 73, 75, 369, 409, 2396, 2400, 3314, 3327, 3772
Stenzel, Gregg 469
Stenzel, Martin 777, 2127, 2370, 2495, 3010, 4103
Stephan, Klaas E. 791, 3332
Stephenson, Mary C. 1205, 1958, 2034, 3012, 3221, 4054
Stepniewska, Iwona 3078
Stern, Emily 3329
Sterner, Chris 3428
Stevens, Brian 4062
Stevens, Kathryn 3500
Stevens, Tynan 2275, 2293
Steventon, Jessica 1049
Steward, Christopher 620
Stewart, Willie 1133
Stice, Steve 2521
Stickle, Yun-Jeong 825, 827
Stieltjes, Bram 614, 790, 2113, 3028, 3079, 3151, 3162, 3166, 3392, 3455, 3588
Stikov, Nikola 1109, 2479
Stiles, Jane 818, 1451, 1452
Stilla, Randall 2254, 2273
Stiller, Detlef 2790

Stillson, Carol 4524
Stinnett, Gary R. 3865
Stinson, Eric G. 4458
Stippich, Christoph 1101, 1642, 2903, 3618
Stirnberg, Rüdiger 80, 2372
Stobbe, Rob 3977
Stock, Ariel 2861
Stockard, Cecil 1751
Stöcker, Tony ... 80, 249, 2372, 2600, 3709
Stockmann, Jason P. .. 137, 665, 1922, 2611, 2664
Stodika, R. 3038
Stoeck, Christian T. ... 480, 484, 1363, 1430, 2099, 2576, 3098, 3206
Stoeckel, Bernd 2787
Stoesz, Mark 3667
Stoffel, David R. 405
Stoica, Teodora 1026, 1943, 2896
Stokes, Ashley M. ... 1715, 2195
Stollberger, Rudolf ..... ….765, 1668, 2078, 2469, 2615, 2636, 2665, 3182, 3827, 4074, 4296
Stolzenburg, Jens-Uwe 3389
Stone, Alan J. 849, 3344
Stone, Lael 1107, 2133, 2143
Stone, Trevor 1661
Storås, Tryggve Holck 1792
Storey, Pippa 405, 745
Storino, Christine 869
Storkey, Amos J. 2139
Stormann, Jeremy 2846
Storrs, Judd 3589, 3591
Stortz, Greg 2816
Stosic-Opincal, Tatjana 3607
Stoyanova, Radka ... 1771, 3415
Straathof, Chiara S.M. 2960
Strackee, Simon D. 3542
Straka, Matus 211, 1144, 2197, 3628, 3636
Strakowski, Stephen M. ... 3589, 3591, 4001
Strand, Sven-Erik 1913
Strasser, Bernhard .. 1738, 2018, 2022
Strasser, Johannes 4074
Strazzer, Sandra 2963
Strecker, Ralph 593, 4089
Streicher, Markus N. 2472, 2757
Streitberger, Kaspar-Josche 341
Streitbürger, Daniel-Paolo 1001
Strigel, Roberta 2402
Strijkers, Gustav J. 423, 883, 1360, 1376, 1826, 1894, 3495, 4199
Strinnholm, Jörgen 3486
Strobel, Klaus 157
Stroeve, Jeroen 4373
Ström, Conny 3486
Strominger, Zoe 178
Strother, Megan 206, 207, 427, 983, 2296
Strunk, Dirk 765
Strupp, John 2746, 2758
Struys, Tom .. 3690, 3694, 4059
Stuber, Matthias 547, 1308, 1311, 1315, 1316, 1380, 1417, 3107, 4565
Studebaker, Adam 1695
Studholme, Colin 2959, 3351
Stueber, Carsten 2884
Stufflebeam, Steven M. 516, 785, 971, 1154, 3061, 3197, 3305, 3635
Stupar, Vasile 1047
Stupic, Karl 1456, 1475
Sturm, Walter 109
Styner, Martin 3670
Su, Favian 632
Su, Jason 2595, 3604
Su, Li 218
Su, Mao-Yuan Marine 4509, 4513
Su, Min-Ying 195, 201, 718, 1733, 3362, 3365, 3366, 3662, 4307
Su, Pan 3204
Su, Tao 4143
Su, Yi 3056
Suarez, Pilar Dies ... 2328, 3307
Subashi, Ergys 3416
Subburaj, Karupppasamy .. 430, 3497
Subramanian, Sankaran ... 2522, 2524
Subramanian, Thyagaragian 1029
Suchy, Mojmir 1907, 4221
Sueblinvong, Thanasak 406
Suendermann, Simon H. ... 1339
Suetens, Paul 774, 1242
Suezer, Beser Ferzan 635
Suga, Daisaku 3436
Suga, Mikio 2436
Sugano, Nobuhiko 3547
Sugar, Linda 91
Sugimori, Hiroyuki . 1208, 2150
Sugimoto, Naozo 2481, 3116
Sugimura, Kazuro 1486, 1780, 3386, 4100, 4104, 4112, 4113, 4471, 4479
Sugimura, Masayoshi 1134, 1502, 2998, 4480
Suh, Jin-Suck 1649, 3516
Suh, Ji-Yeon 528, 2926
Suh, Kyung Jin 1245, 2272, 2333
Suhail, Mohammed 1391, 1392
Suhocki, Paul V. 1275
Sui, Yi .1327, 1341, 1783, 2980
Suidgeest, Ernst 237, 883
Suinesiaputra, Avan 1431
Suk, Jae-Eun 3922
Sukenick, George 806, 813, 4030
Sukstanskii, Alexander L. . 866, 2937, 3132
Sukumar, Subramaniam .. 3420, 3915, 3920
Sule, Manasi 2920
Sulik, Kathleen K. 3076
Sullivan, Daniel 1756
Sullivan, Edith V. 3693
Sumi, Misa 3130
Summermatter, Severin 1363
Summers, Paul 2279
Sumner, Dale R. 3529
Sumpf, Tilman Johannes . 3615, 3719
Sun, Bin 548
Sun, Hao 2362, 2403, 3333
Sun, Hongfu 169, 1081
Sun, Hye Young 3502
Sun, Jessica 906
Sun, Jiayu 1764
Sun, Jie 875
Sun, Jun 1571
Sun, Nan 3113
Sun, Peng 776, 3622, 3624
Sun, Phillip Zhe 2357, 2549, 2918, 4236
Sun, Qinli 2962
Sun, Shu-Wei 1051, 3082
Sun, Wei 1327
Sun, Wenli 1599
Sun, Xiaojun 3036, 3621
Sun, Xiaotong 1075, 1076, 1077, 2787
Sun, Xiaoyu 1029, 1153
Sun, Yanping 1044
Sun, Yawen 1201
Sun, Yi 3978
Sunaert, Stefan 518, 774, 1182, 1242, 1243, 2081, 3095, 3654
Sundaram, Padma 3361
Sundaram, Padmavathi 418
Sundgren, Pia 497, 781
Sung, KyungHyun . 2597, 3793, 3794, 4085, 4560
Sung, Young-Hoon . 1184, 4011
Sung-Yeon, Park 902
Sunshine, Jeffrey 253
Supuran, Claudiu T. 3943
Surova, Yulia 2198
Surowiec, Rachel 3533
Surrentino, Emiliano 807
Suslow, Thomas 1165
Sutton, Bradley P. ... 607, 2036, 2064, 2423, 2425, 2442
Suyama, Jumpei 4122
Suzuki, Ayako 1579
Suzuki, Hidenori 2559
Suzuki, Hiroya 3879
Suzuki, Masatoshi 3866
Suzuki, Michimasa . 2866, 3672
Suzuki, Miyako 942
Suzuki, Takayuki 1288, 1502
Suzuki, Yuichi 3477
Suzuki, Yuriko 213, 955, 1208, 2111, 2150, 3134, 3669, 4454
Svärd, Daniel 615
Sved, Paul 3081
Sveinsson, Bragi 557, 3537
Svendsen, Clive 3866
Svenningsen, Sarah . 819, 1460, 1462
Swanson, James 3576
Swanson, Scott D. 2507
Swartz, Harold 1995
Swedin, Linda 1490
Sweeney, H. Lee 3519
Sweeney, John 1196
Sweeney, Lee 689, 1633
Sweiss, Nadera 1341
Swietach, Pawel 3943
Swift, Andy 1348
Swingen, Cory 263
Sykes, Anne-Marie G. 4107
Symms, Mark R. 784
Symonds-Tayler, Richard. 1488
Syunyaeva, Zulfiya 1896
Szabo, Robert M. 3482
Szalai, Gabor 1581, 4126
Szczepankiewicz, Filip 497, 615, 781
Szekeres, Trevor 162
Szendroedi, Julia 4029
Szeto, Hazel H. 4048
Szeverenyi, Nikolaus M. 1611, 2909, 3464, 3473, 3496
Szmulewitz, Russell Z. 3054
Szoeke, Cassandra 620
Szomolanyi, Pavol ... 688, 1678, 2473, 3465, 3466, 3532, 3536, 3539, 3541

T

Tabata, Yasuhiko 3891
Tabbert, Martin 2632
Tabelow, Karsten 3131
Tabesh, Ali ……498, 786, 993, 2079, 2096, 2916, 3139, 3183
Tabet, Naji 2864
Taborik, Fabrice 1650
Tabuchi, Takashi 540, 3629, 4466, 4532
Tachi, Masaki 1368, 1374, 1375, 4549
Tachrount, Mohamed 2987, 3126
Tack, Cees J. 222, 673
Tacke, Frank 1279
Tadanki, Sasidhar ... 2578, 3763
Tafur, Monica 3458, 3464
Taiwo, Babafemi 2862
Tak, Sungho.. 2227, 2233, 3346
Takagi, Ryo 4454
Takahara, Atsushi 4466
Takahara, Taro... ……540, 910, 3097, 3172, 3629, 4466, 4532
Takahashi, Akihiro 1846
Takahashi, Emi 885, 909, 1065, 2941, 2956
Takahashi, Hideyuki 3513
Takahashi, Kazuhisa 942
Takahashi, Keiko 4134, 4137
Takahashi, Masaya 674, 955, 1125, 1494, 4100
Takahashi, Satoru .. 1780, 3386, 4100, 4104, 4112, 4113, 4479
Takahashi, Shoki 4464, 4535
Takahashi, Takamune 4134, 4137
Takahashi, Tetsuhiko 2598, 2599
Takahasi, Masahiro 1759
Takakura, Kyoko ... 1578, 4132, 4468
Takamoto, Kouichi 2437
Takanaga, Masako 3509
Takase, Kei 4464, 4535
Takase, Shinichi 4516
Takasu, Miyuki 3479
Takata, Hiroshige 3879
Takaya, Nobuhiro 4214
Takayama, Yuki 1962
Takayama, Yukihisa 4093, 4123
Takebayashi, Satoshi 1405
Takeda, Hiroyuki 550, 2570
Takeda, Minako 4549
Takeguchi, Tomoyuki 1397, 1425, 1428, 3839
Takehara, Yasuo 1868, 4478
Takei, Naoyuki 1134, 1290, 1502, 2998, 4480
Takemura, Atsushi 540, 3629
Takenaka, Daisuke 1486
Takeshima, Hidenori 3839
Takeuchi, Hiroaki 3634
Takeuchi, Mayumi 4068, 4124, 4128
Takeuchi, Yuki 3879
Takewa, Megumi 2985
Takewa, Tomoaki 3262
Taki, Waro 2559
Takizawa, Masahiro 2598, 2599
Takizawa, Osamu 3520
Tal, Assaf 86, 221, 1938, 3973, 3975
Tal, Omer 33, 2244, 2245
Talagala, S. Lalith .. 2052, 2658
Talal, Andrew 1531
Talavage, Thomas . 2346, 2608, 2655, 2656, 2892, 3303, 3661
Talbott, Jason 982
Tallberg, Joakim 1682
Talwalkar, Jayant A.. 279, 4067
Tam, Leo K. 2388, 2611, 2713, 3712
Tam, Roger 1117
Tamada, Daiki 136, 1597, 2771
Tamada, Tsutomu .. 1530, 1555, 1558, 1566
Tamai, Ken 1579
Tamez-Pena, Jose ... 1687, 3485
Tamm, Leanne 3576
Tammer, Roland 3696
Tamminga, Carol 738, 1196
Tamura, Chiharu 1781
Tamura, Hajime 1140
Tamura, Manjula K. 2266
Tamura, Naoyuki 3513
Tamura, Satoru 1656, 3547
Tan, Ek T. 2053, 2054, 2075, 2092, 2574, 3202, 3216, 3281, 3774
Tan, Ek Tsoon 3211
Tan, Huan 2189, 2497, 2498, 2503, 3612
Tan, Li-Hai 2520
Tan, Mui Hong 1072
Tan, Nelly 3388, 3437
Tan, Ru San 1441
Tan, Rusan 1326
Tanaka, Chuzo 1643, 2338, 2343, 3955
Tanaka, Hisashi 1656, 3547
Tanaka, Naoaki 785
Tanaka, Naoro 3305
Tanaka, Sayaka 1869
Tancredi, Felipe B. 3340
Tanderup, Kari 1752, 1757
Taneja, Samir S. 94, 1572
Tanemura, Hiroshi 2559
Tang, Chaohui 2294
Tang, Cheuk 2304, 3311
Tang, Cheuk Ying .. 3269, 3298
Tang, H. 3302
Tang, Hehan 1005
Tang, Jin 2502, 4186
Tang, Kevin S. 1890
Tang, Lijun 548
Tang, Minghui 2834
Tang, Qunfeng 3101
Tang, Richard L. Q. 254
Tang, Xin 3783
tang, Yehuan 3050
Tang, Yu-Wei 1365, 1414
Tani, Hitomi . 1368, 1375, 4549
Tanifum, Eric 3893
Taniguchi, Yo..... 2006, 2091, 2480
Tanimoto, Daigo 1566
Tannus, Alberto 2040
Tantillo, Gabriella 3562
Tanttu, Jukka 230
Tao, Xiaofen 3311
Tao, Xiaofeng 3269
Tao, Ye 1845
Tao, Yuehui 2596
Taoka, Toshiaki 2935, 2985
Taouli, Bachir 1508, 1533, 2212, 3439, 4077, 4082, 4091, 4163
Tapscott, Stephen 1645
Taquet, Maxime 3135, 3156
Taracila, Victor 825, 4387
Tarantino, Umberto 1635
Tarasek, Matthew ... 1819, 4336
Tardieu, Marion..... 2434, 4117
Tardif, Christine Lucas 267, 270, 935
Tariq, Maira 3187
Tariq, Umar .. 1539, 1664, 4443
Tartaro, Armando 1281
Tasdizen, Tolga 2607
Tatagiba, Marcos Soares .. 1171
Tatsuno, Satoshi 3629, 4466
Tauhid, Shahamat 1096
Taviani, Valentina 399, 597, 1398, 2449, 2556
Tavor, Ido 711, 926, 2110, 3651
Tawackoli, Wafa 1613, 4222
Tawara, Noriyuki 3513
Tax, Chantal M.W. 700, 3149
Tay, Hui Chien 2306
Tayler, Michael C. D. 3937
Taylor, Ann M. 345
Taylor, Brian 1147, 2408, 4198
Taylor, Chris J. 2693
Taylor, Jennifer M. 2002
Taylor, Margot J. 887
Taylor, Michael D. 923
Taylor, Robert W. 1385
Taylor, Roy 1383
Taylor, Stuart 1509, 1582, 2190, 2705, 3117, 4146
Taylor, Stuart A. 677
Tazoe, Jun 3116
Tchistiakova, Ekaterina 3250
Tea, Illa 1950
Teceno, Tyler 1719
Techawiboonwong, Aranee 1079
Tedford, Clark E. 4044
Tee, Sui Seng 160, 3935
Tee, Yee Kai 3990, 4234
Teeuwisse, Wouter M. 101, 104, 105, 1225, 3480
Tefera, Getaneh Bayu 2118
Tegafaw, Tirusew... 3887, 3888
Teh, Irvin 210
Teich, Douglas 2846
Teichgraeber, Ulf 4331
Tejos, Cristián 1347, 1429, 3111, 4452
Telkki, Ville-Veikko 1887
Tembulkar, Tanuf 3890
Tempany, Clare 475, 1770, 1799
Tempany-Afdhal, Clare 2199
Tempelmann, Claus 3264
Temple, Michael 4291
Temucin, Cagri Mesut 2109
Teng, Gao-Jun 26
Teo, Wei Peng 210
Teodorescu, Roxana 3298
Teoh, Wei W. 1707
Terada, Masaki 4478
Terada, Yasuhiko .. 1597, 1685, 2761
Terae, Satoshi 1208, 2111
Terashima, Kazuki 3436
Terauchi, Kazuma 1134, 1288, 1502
Terekhov, Maxim .. 1472, 1474, 3953, 4118
Terhaard, Chris..... 3442, 3443, 3666
Terpstra, Melissa 113, 1939, 2033
Terraz, Sylvain 111
Terreno, Enzo 421, 1861
Terrones, Marcos Alonso Lopez 4392

Tessem, May-Britt .. 1785, 1788
Tessier, Jean 508
Testelin, Sylvie 1214
Testud, Frederik 1304, 2663, 3827
Tetzlaff, Wolfram 347, 1114
Teughels, Stephanie 1856
Tha, Khin Khin 1208, 2111
Thacker, Jon . 2498, 2503, 4135
Than, Nandor Gabor 1581, 4126
Thawait, Guarav K. 2735
Théberge, Jean 2355
Thedens, Daniel R. 3220, 3243, 3266, 4215
Theisen, Daniel 4522
Thelwall, Peter E. 598, 750
Thida, Thida 219
Thiele, Frank 952
Thiessen, Jonathan D. 992, 2816, 3147
Thimmappa, Nanda 1536, 1577, 3456, 3847, 4138, 4465
Thind, Kundan…… 1479, 3729, 3910, 3912, 3926, 4369
Thiran, Jean-Philippe 898, 2134, 2934, 2964
Thirumalai, Arthi 1302
Thiruvenkadam, Sheshadri 3720
Thng, Choon Hua ... 1693, 2220
Thoennessen, Heike 3650
Thoeny, Harriet C. 1778
Thoma, Christian 1383
Thomas, Amy 1007
Thomas, Bejoy 2900
Thomas, Binu Panjikattil ... 619, 850
Thomas, David 2151, 2177, 3727
Thomas, David L. .. 9, 424, 691, 1126, 2987, 3126, 3780, 4238
Thomas, Jewell B. 1156
Thomas, Karen 1729
Thomas, M. Albert 608, 856, 2004, 2010, 2043, 2859, 3421, 3959, 3971, 3983
Thomas, Monique 862
Thomas, Reena 3636
Thomason, Moriah ... 166, 4133
Thompson, Alan 1111
Thompson, Andrew 3011
Thompson, Christopher J. . 2816
Thompson, Craig B. 810
Thompson, Deanne 3203
Thompson, Deanne K. 905, 2972
Thompson, Garth ... 2243, 2250, 2255, 2302
Thompson, Paul 2119
Thompson, Reid C. 2296
Thompson, Richard B. 1377
Thompson, Terry 3038
Thomson, Louise EJ 1295, 1320, 1401, 4527
Thoonen, Geert 1944
Thörmer, Gregor 1777, 1843, 3389, 3399, 4096
Thornhill, Rebecca E. 3363, 3501
Thornton, John 386, 3011, 4333
Thornton, John S. 314, 691, 2115
Thornton, Victoria 1361
Thornton-Wells, Tricia 3286
Thotala, Dinesh K. 84, 1720
Thrippleton, Michael J. 2907
Thulborn, Keith R. 2820, 2874, 3625, 3742
Thulkar, Sanjay 98, 3377
Thürling, Markus 4415
Tian, Jie 925, 1174, 1177
Tian, Jinfeng….263, 284, 2746, 2758, 2828, 4398
Tian, Liu 2497
Tian, Nan 4386
Tian, Wei 2901, 3633
Tiar, Feriel 3414
Tibboel, Dick 1464
Tiberi, Gianluigi 2508, 4385
Tiddens, Harm 1464
Tie, Changjun 229, 4292
Tiefermann, Janice M. 923
Tieng, Quang M. 2049
Tiepolt, Solveig 2884
Tietze, Anna 427
Tiitu, Virpi 434, 3551
Tijssen, Rob H. N. 54, 4325
Tillema, Jan-Mendelt 2477
Tillement, Olivier 4102
Tilsen, Sam 697
Timm, Kerstin N. 3937
Ting, Samuel T. 3734, 3813, 3816, 3826
Tipikin, Dmitriy 1995
Tipirneni, Aaryani 3628
Tirsi, Aziz 208
Tisdall, Matthew Dylan 268, 855, 2029, 3030, 3791
Tisell, A. 1106
Tivarus, Madalina E. 3573
Tiwari, Pallavi 1248, 1774
Tiwari, Vivek 1966, 1978
Tiwari, Yash Vardhan 337, 340, 2922
Tkac, Ivan 1961, 1981
Tkach, Jean A. 923, 2760
Tkachenko, Valeriy 2839
To, Xuan Vinh 332, 3689
Tobalem, Frank 2698, 3905
Tobias, William A. 1465, 1473, 4114
Tobisch, Alexandra 698
Tobón, Silvia Hidalgo 2328, 3307, 3878
Todd, Nick ….832, 1802, 1811, 1812, 4287, 4298
Toews, Matthew 478, 4300
Tofts, Paul S. 2864
Toga, Arthur W. 2691
Togao, Osamu ..... ……..213, 955, 1125, 4123, 4233, 4237
Togashi, Kaori 1578, 1579, 2102, 3383, 3450, 4106, 4132, 4468
Togni, Paolo 4336
Tokarev, Julian 954
Tokuda, Junichi 475, 1770
Tomanek, Boguslaw ... 14, 2392
Tomasi, Dardo 1157
Tomaszewski, John 1795
Tomic, Aleksandra 1030
Tomiyama, Hiroyuki 2866, 3672
Tomlinson, James S. 568
Tommerdahl, Mark 921
Tomoda, Yoshihiro 4280
Tomokazu, Numano 3514
Tompkins, Ronald G. 4048
Tomsic, Michael 2769
Toney, Glenn M. 2307
Tong, Frank 339
Tong, Gehua 302
Tong, Ricky 4335
Tong, XiaoXin 4537
Tong, Ying 985
Tong, Yunjie 206
Tonson, Anne 1622
Tonyushkin, Alexey A. ... 2792, 2798
Toosy, Ahmed 1122, 1212
Topfer, Ryan 3856
Topping, Geoffrey 1265
Torbati, Leila 2703
Torbenson, Michael S. 280
Toro, Lida 1347
Torrealdea, Francisco 424, 4238
Torres, William E. 4308
Torso, Mario 2857, 2887
Tosetti, Michela 2508, 4385
Toshikatsu, Washio 3514
Tosner, Zdenek 4246
Toso, Christian 111
Tosun, Duygu 3289
Totenhagen, John ... 1012, 1064
Toth, Ferenc 429
Toth, Robert 1801
Totterman, Saara 1687
Totterman, Saara 3485
Toulmin, Hilary 888
Tour, James 2930
Tourbah, Ayman 50
Tourdias, Thomas 248
Tournier, Donald 3163
Tournier, Jacques-Donald . 772, 787, 797, 841, 2135
Toussaint, Jimmy 3890
Toussaint, Nicolas 480, 484, 3098, 3206
Tovmasyan, Artek 3883
Towner, Rheal A. 566, 1584, 1873, 1874
Towse, Theodore F. 1520, 1647, 3048, 3508, 3511
Toyoda, Hiroshi 2160
Toyoshima, Hideto 1140
Toyota, Taro 1872
Töyräs, Juha 641
Tozer, Gillian M.…1998, 3427, 3913, 3925, 3949, 3951
Tozzi, Piergiorgio 1315
Träber, Frank 4270
Traber, Julius 1370
Traboulsee, Anthony L. 51, 1078, 1084, 1093, 1100, 1117
Trakic, Adnan 727, 3701, 3819, 4345, 4418
Tramm, Brandon 863, 2734
Trampel, Robert 2339, 2854, 2884, 4282
Tran, Bob 620
Tran, Thao T. 2888
Tran, Thuy 1913
Tran, Winston 251
Tran-Gia, Johannes . 129, 1321, 2454
Trantzschel, Thomas 3927
Trapp, Bruce D. 1107
Trattnig, Siegfried 163, 196, 217, 635, 688, 855, 981, 1088, 1605, 1653, 1663, 1678, 1737, 1738, 1969, 2018, 2022, 2473, 2785, 3374, 3465, 3466, 3471, 3472, 3475, 3532, 3536, 3539, 3541, 3630, 3775, 3782, 3970, 4028, 4090, 4140, 4142, 4508, 4514
Traud, Stefan 2903
Traughber, Melanie S.. 67, 768, 4445
Trauner, Michael 1969, 4028
Traussnigg, Stefan .. 1969, 4028
Traveler, T. 2359

Traxler, Hannes 2473
Trayanova, Natalia 4314
Trbojevic, Radmila 380
Tremoleda, J.L. 1204
Trenell, Michael I. .. 1383, 1385
Triano, Pamela 3358
Triantafyllou, Christina ... 1210, 3305, 3348, 3354, 3355, 3598
Triantafyllou, Maria 1778
Triantanfyllou, Christina .. 1018
Tricotel, Aurore 1574
Tripathi, Manjari.... 3565, 3566, 3567
Tripathi, Rajendra P..... 3688, 3695, 3864, 4005, 4006, 4020, 4023
Triphan, Simon 647
Triplett, William 689, 1633, 3189, 3519
Triulzi, Fabio 3133
Trivedi, Richa 4005
Troalen, Thomas 317, 323, 1321
Troncoso, Juan 264
Trop, Isabelle 1742
Tropp, James 729, 4385
Tropp, Jim 3907
Troprès, Irène ……209, 713, 1753, 2175, 2225, 2492, 3118
Troter, Arnaud Le 407
Trouard, Theodore . 1012, 1064, 1493
Troxell, Megan L. 504
Trueman, Rebecca 1049
Truijman, Martine.... 589, 4542, 4543
Truong, Trong-Kha.... 664, 836, 3758
Truttmann, Anita 898, 903
Trzasko, Joshua D. 130, 603, 3810, 4458
Tsaftaris, Sotirios A. 254
Tsai, Fong Y. 1672, 2925, 3000
Tsai, Hao-Hung 3692
Tsai, Leo L. 3934
Tsai, Ping-Huei..... 1672, 2925, 3000
Tsai, Shang-Yueh 532, 1518, 3817
Tsai, Yi-Hsin 3015
Tsai, Yuan-Hsiung..... 2221
Tsang, Adrian 3977
Tsarfaty, Ilan 425
Tse, Zion..... 273, 1847, 3474, 4321
Tseng, Benjamin..... 619
Tseng, C.E. J..... 3653
Tseng, Chuen-Den..... 4513
Tseng, Elaine..... 1345
Tseng, Po-Jung 4307
Tseng, Wen-Yih Isaac 523, 1343, 2085, 2130, 3093, 3161, 3293, 3422, 3653, 4509, 4513
Tseng, Yu-Sheng.... 1414, 2289
Tsien, Christina I. 514, 3644
Tsirouis, Apostolos John . 2856, 3853
Tsoumakidou, Georgia 3409
Tsoumpas, Charalampos... 3745
Tsuchida, Masahiro 2719
Tsui, Wai Hon 208
Tsujikawa, Tetsuya..... 3043
Tsukamoto, Kei 1134, 1288, 1502, 2998
Tsurugizawa, Tomokazu ... 416, 3103
Tu, Tsang-Wei..... 933, 1039, 1071
Tucker, Carl S. 1387
Tucker, Emily..... 4053
Tudisca, Chiara..... 4485
Tudorica, Alina..... 504, 3380
Tuite, Paul 1939
Tully, Lisa M..... 923
Tümer, Murat 1838
Tunariu, Nina 592, 1994, 3434, 4149
Tuncali, Kemal475, 1770, 1821
Tung, Yu-Yin 2925
Tunnicliffe, Elizabeth M. . 3792
Tunstead, James..... 1712
Tuor, Ursula I. 2920, 3238
Turconi, Anna..... 2963
Turk, Esra 15
Turk, Esra Abaci..... 4269
Turkbey, Baris I..... 1782
Turlington, Daryl..... 1487
Turnbull, Daniel H. 1691
Turnbull, Douglass M..... 1385
Turnbull, Lindsay W. 962, 975, 976, 1728, 1735
Turner, Gregory H. 1045, 1066, 1666
Turner, Jessica..... 3207
Turner, Robert 53, 107, 267, 270, 757, 847, 935, 2339, 2472, 2757, 2830, 2854, 2884, 3339, 3759, 4282
Turski, Patrick 624, 987, 1136, 2993
Turtzo, L. Christine .. 933, 1071
Turunen, Mikko..... 1382
Tusor, Nora..... 797, 888, 924
Tustison, Nicholas J. 1473, 4120
Tuttle, R. Michael..... 1209
Tuzzi, Elisa..... 1000
Twieg, Donald B. ... 2996, 2997
Twieg, Michael 139, 725
Tyagi, Ritu 4023
Tyan, Andy..... 1091
Tyan, Yeu-Sheng.... 1269, 3683
Tyburn, Jean-Max 3940
Tyler, Betty 1059
Tyler, Damian J. 3943
Tyler, Mitch E. 2990
Tymofiyeva, Olga..... 890
Tzangarakis, Vasilis 4449
Tzika, Aria A..... 2999, 3294, 3518, 4048
Tzschaetzsch, Heiko..... 2435

U

Uberti, Mariano G. 1268
Uchikoshi, Masato. 1576, 2102, 2935
Uchiumi, Tomomi 1685
Uchiyama, Daiji 4467, 4473
Uddin, Md Nasir..... 4200
Ueberle, Friedrich... 1421, 4127
Uecker, Martin .. 127, 312, 676, 2584, 2645, 2657, 2668, 3700, 3776, 3954, 4274, 4275, 4323, 4443
Ueda, Junpei..... 2551
Ueda, Masafumi 4467, 4473
Ueno, Tomohiro 2481
Ueno, Yoshiko..... 1780, 3386
Ueoka, Katsuhiko 1576
Ugurbil, Kamil .. 30, 52, 59, 71, 74, 244, 295, 793, 859, 954, 1540, 2122, 2364, 2621, 2661, .2677, 2746, 2758, 3275, 3321, 4136, 4253, 4398, 4446
Uh, Jinsoo..... 2178, 3639
Uhrig, Lynn..... 2905
Ullmann, Peter..... 2780
Ulloa, Jose..... 1749
Ulman, Shrutin 2288
Ulrici, Johannes..... 3837
Ulrike, Wedegaertner 3057
Uludag, Kamil..... 2472, 3138
Ulug, Aziz M..... 1163
Ulutan, Oytun..... 4430
Umathum, Reiner 116, 1984, 1985, 2821
Umeda, Masahiro .. 1643, 2338, 2343, 3955
Umehana, Masaki... 3103, 3383
Umeoka, Shigeaki . 3450, 4106, 4468
Umphrey, Heidi..... 1751
Umutlu, Lale 4281
Unal, Orhan.... 646, 1808, 4317
Underhill, Hunter R... 45, 1040, 1132, 3613
Unschuld, Paul G. 381, 1019
Untenberger, Markus..... 3719, 3776, 4274, 4275, 4340
Urbina, Jesús 4452
Urgošík, Dušan..... 379, 524
Uribe, Sergio 1347, 1429, 4452
Urrutia, Victor..... 1130
Usher, Marianne..... 1729
Ushijima, Yasuhiro 4123
Usman, Muhammad .. 546, 609, 3754
Usoro, Joshua..... 3385
Utecht, Lynn..... 284, 2828
Utsunomiya, Daisuke..... 2463
Uwano, Ikuko1141, 3660, 3787
Uy, Manuel O..... 4040

V

Vachon, Celine M. 1733
Vadakkumpadan, Fijoy 4314
Vadvakar, Shraddha 1584
Vaes, Peter 1856
Vaessen, Maarten 2288
Vaessen, Paul 1829
Vaghefi, Ehsan..... 450
Vagni, Vincent A. 3906
Vahedipour, Kaveh 2494, 2600, 3164, 3709, 3769, 3798
Vaidya, Jatin..... 736
Vaidya, Manushka V..... 4379
Vaidya, Vivek 2984
Vail, Thomas P..... 430
Vakil, Parmede..... 8, 582, 629, 2352, 2994, 3790
Valabregue, Romain..... 737
Valaparla, Sunil K..... 2001
Valdez, Michael 1012, 1064
Valente, Giancarlo..... 2287
Valentinitsch, Alexander.... 430
Valeri, Gianluca 4490
Valette, Julien. 112, 3998, 3999
Valkonen, Tuomo..... 2078
Valkovic, Ladislav 1969, 2795, 3970, 4028, 4090
Vallée, Jean-Paul.... 2698, 3905
Vallone, Antonino .. 1440, 4485
Valsasina, Paola 803, 1121, 1173, 1179, 2963, 3553, 3611
van Alfen, Nens..... 1631
van Amerom, Joshua F. P..... 7,

1443, 4129
Van Asten, Jack JA.. 673, 3687, 3982
van Beek, Edwin..... 1620
Van Beek, Maarten . 2316, 3687
Van Beers, Bernard E. 2421, 2447, 3423, 4075, 4078, 4087
van Bel, Frank 2967
van Bergen, Jiri M.G. 1019
van Boxtel, Martin P.J. 1022
Van Broeckhoven, Christine 1052
van Bruggen, Nicholas 501
van Bruggen, Thomas..... 790, 3588
van Buchem, Mark A. 458, 990, 2882, 2960
van Bussel, Frank C.G. 990, 1022
van Cappellen van Walsum, Anne-Marie van..... 837
Van Cauter, Sofie 518, 3989
Van Cauteren, Marc..... 2150, 3130, 3134, 3172, 4093, .4100, 4104, 4154, 4165
Van Criekinge, Mark 215, 812, 3429
van Dalen, Thijs..... 1829
van de Bank, B.L. 3982
van de Graaf, Benjamin 1021
van de Haar, Harm J. 990, 1022, 2218
van de Kolok, Cees..... 1376
van de Lindt, Tessa..... 833
van de Loo, Fons A. 3905
van de Looij, Yohan 2515, 3413, 3675
Van de Moortele, Pierre-Francois…… 30, 71, 74, 288, 463, 954, 1292, 3962, 4191, 4253, 4398, 4429, 4446
van de Ven, Kim C.C..... 222
van den Berg, C.A.T.. 115, 285, 390, 1830, 2146, 3016, 3442, 3818, 4178, 4185, 4244, 4245, 4325
van den Berg, Nico . 3401, 4382
van den Berg, Sjoerd A..... 1960
van den Bergen, Janneke . 2960
van den Boomen, Hannah . 4284
van den Bosch, Maurice A.A.J. .. 1829, 1970, 3368, 4309, 4311
van den Brink, Johan 2385, 3443
van der Berg, Wim 3905
van der Bom, Imramsjah M.J. 3880, 4230
van der Geest, R.J. 589
van der Geest, Rob 4543
van der Graaf, M. 222, 3445
van der Heide, Uulke A. 97, 554, 1789, 1791
van der Heiden, Kim 237
van der Kemp, W.J.M..... 1708, 1789, 1970, 2008
van der Knaap, Marjo..... 1110
Van der Kolk, A.G. ... 627, 966, 1271, 2982, 4540
van der Kouwe, André J. W. 268, 855, 947, 2029, 2295, 2585, 3030, 3272, 3791
van der Kruijs, Sylvie J. .. 1166, 1187
Van der Laak, Jeroen..... 99
Van der Linden, Annemie . 331, 1052, 3313
van der Lugt, Aad..... 4542
van der Pol, Christian B.... 1667
van der Steen, Ton..... 4542
van der Tol, Pieternel 4199
van der Veen, Jan WC 2032
van der Velden, Tijl A. 2391, 2573, 2729, 4538
van der Weerd, Louise..... 237, 883, 1266
van Dijk, Ko Willems..... 1960
Van Dyke, Terry..... 1696
van Engelen, Baziel G. 1631, 1634
Van Erp, Theodorus GM ... 736, 3576
Van Essen, David C..... 52, 835
van Ewijk, Petronella A.... 1977
van Gelderen, Peter ... 372, 459, 708, 754, 1082, 2248
van Golen, Larissa W. 2179
van Gorp, Joost..... 1829, 2683
Van Hecke, Wim 774, 1243, 3095
van Heeswijk, Ruud B..... 1311, 4565
van Hoof, Raf..... 589, 4543
Van Houten, Elijah..... 2423
Van Huffel, Sabine ... 518, 3989
van IJperen, Gert 2562
van Kalleveen, Irene..... 2008, 2387, 2729, 4245
van Laarhoven, H. W.M. .. 3445
van Leeuwen, Maarten S. . 2206
van Lier, A.L 4178, 4185
van Lier, Astrid L.H.M.W. . 115
van Loon, Luc JC 1964
Van Meir, Erwin..... 511
van Nierop, Bastiaan J. 1360
van Ooij, Pim..... 62
van Oorschot, Joep 4521
van Oort, Erik..... 2238
van Oostenbrugge, Robert 589, 2218, 4543
van Ormondt, Dirk 2032
van Orshoven, N.P. 589
van Orshoven, Narender... 4543
van Osch, Matthias ... 101, 102, 104, 105, 458, 628, 850, 1225, 2175, 2198, 2625, 3045, 3245
van Osch, Thijs..... 990
van Ree, Katherine 3447
van Rhoon, Gerard . 1819, 4336
van Riel, Natal A. 1960
Van Santvoort, Ann..... 3694
Van Steenkiste, Gwendolyn 3186
Van Stockum, Saskia..... 1090
van Stralen, Marijn..... 2206
Van Thiel, Geoffrey S. 3529
van Tiel, Jasper..... 146
van Tol, Johan 3946
van Uden, Mark J. 538, 3403
van Vulpen, Marco..... ……97, 554, 1789, 1791, 1830, 4322
van Walderveen, Marianne A.A. 628
van Weeghel, Michel..... 117
van Westen, Danielle 497, 615, 781, 2198, 2504
van Yperen, Gert 3443
van Zijl, Peter C.M. ... 152, 156, 381, 413, 422, 426, 428, 447, 565, 585, 707, 845, 1019, 1852, 1903, 1904, 1911, 2261, 2484, 2544, 2545, 2555, 3257, 3648, 3840, 3940, 4240, 4295
Van, Anh Tu…….73, 121, 369, 2044, 2061, 2084, 3210, 3744
VanCriekinge, Mark..... 3907
Vandenborne, Krista 689, 1633, 3519, 4066
Vandeputte, Caroline..... 1139
Vandoorne, Katrien 4507
Vandsburger, Moriel 439, 1853, 1897, 4231, 4507
Vangel, Mark..... 3061
Vanghan, J. Thomas 263
Vanhoutte, Greetje 1052
Vannesjo, Johanna..... 2715
Vannesjo, Signe Johanna..... 69, 529, 552, 669, 671, 2569
Vannest, Jennifer..... 3051
Vanni, Simo..... 3353
VanSlooten, Ashley..... 3058
Várallyay, Csanad G. 716
Varentsova, Anna..... 2128
Vareth, Maryam 122, 2012
Vargas, Alberto 3396
Vargas-Cañas, S. 3492
Varma, Gopal 350, 2506, 2535, 2536, 3934, 3942, 4224
Vartholomeos, Panagiotis. 2766
Varvaris, Mark 3596
Varvaro, Gaspare..... 3876
Vasanawala, Shreyas S..... 127, 128, 312, 1539, 1557, 1664, 2577, 2624, 3795, 4085, 4086, 4443
Vasavada, Megha 1153
Vaseghi, Marmar..... 4560
Vasile, Julie..... 4465
Vasireddi, Anil K. 1004
Vass, Clemens..... 163
Vassallo, Irene..... 1063
Vasung, Lana ... 896, 903, 2964
Vasylechko, Serge..... 918
Vats, Divya 3914
Vaughan, David 787
Vaughan-Jones, Richard .. 3943
Vavasour, Irene 51, 1226
Vazin, Tandis 1857
Vazquez, Alberto..... 2299
Vazquez, Fabian..... 4371
Veeraiah, Pandichelvam... 1966
Veeravelli, Sumana 1012
Veggiotti, Pierangelo..... 42
Vegh, Viktor..... 2049
Vehtari, Aki..... 3353
Veit-Haibach, Patrick..... 4157
Vekszler, György 1663
Velagapudi, Charkradhar ... 344
Velagapudi, Krishna N..... 319, 4462
Velan, Sendhil S.... 1054, 1068, 1072, 1526, 1527, 1707, 2015, 2023, 2031, 2701, 4015, 4064
Velazquez, Carmen 2860
Velde, Greetje Vande 1496, 1721
Veldhuis, Wouter B..... 1970, 2206, 3368
Velikina, Julia V..... 583
Velpandian, T..... 3430
Veltien, Andor 673, 3687, 4016
Venkat, Chitra 1144
Venkataraman, Kavita..... 1526, 2701
Venkatasubramanian, Palamadai N. 1709
Venkatesh, Bharath A 4500
Venkatesh, Humsa..... 3432
Venkatesh, Sudhakar K. 278, 4067
Venkateswaran, Madhav .. 4317
Venkatraman, Talaignair... 749, 3883

Venook, Rayna 501
Ventakesh, Sudhakar K. ...1506
Vera, Naira P. Martinez....3895
Veraart, Jelle... 518, 2081, 3095
Verbeken, Eric.....1496
Verbist, Berit M.....1225
Verges, Samuel.....713
Vergun, Svyat.....2990
Vergun, Svyatoslav.....3306
Verhaar, Jan.....146
Verhaart, Rene.....4336
Verhey, Frans RJ 990, 2218
Verhoeven, Judith... 1182, 3654
Verhoye, Marleen... 1052, 3313
Verly, Marjolein 1182
Verma, Gaurav 1006, 1053, 1723, 3421, 3983
Verma, Hema.....4279
Verma, Nadimpalli RS 1875
Verma, Ragini 2088, 2089, 2204
Verma, Sanjay K. ..... …1054, 1068, 1072, 1707, 2015, 2023
Vermathen, Martina.....4021
Vermathen, Peter 4021, 4152
Vermeij, Eline 3905
Vernickel, Peter 2748, 2825, 4413
Vernikouskaya, Ina. 1367, 3080
Vernon, Anthony 1043, 2465
Verret, Jean-Marie .. 1585, 4362
Verschuuren, Jan J.G.M. ..2960
Versluis, Maarten J. ... 365, 398, 628, 1225, 2391, 2468, 2625
Vertes, Petra 2230
Vesanen, Panu 3743
Vesek, Jeffrey.....1029
Vespa, Paul.....1947
Vesprini, Danny.....91
Vestbo, Jørgen.....1484
Vexler, Zinaida.....3920
Viallon, Magalie . 233, 482, 575
Vidailhet, Marie.....1027
Vidler, Daniel 598
Vidorreta, Marta 2193
Vidyasagar, Rishma... 915, 916, 1142
Viel, Thomas 1767
Viergever, Max A. 700, 3149
Vigen, Karl K. 399, 1390, 1398, 1501
Vignaud, Alexandre.....2506, 3979, 4251, 4257, 4552
Vigneron, Daniel B.... 122, 215, 537, 658, 1675, 1935, 2003, 2398, 2799, 3420, 3429, 3907, 3915, 3954
Vijayakumar, Sathya 1395, 1445, 4462, 4510, 4515, 4562, 4569
Vik, Torbjoern.....2588
Vilgrain, Valérie.... 2421, 2447, 3423, 4075, 4078
Vilichis, Jenny.....2328
Villablanca, Pablo J. 3003
Villanueva, Angeles 3896
Villarrubia, Claudia Wuillma Narvaez 3378
Villemagne, Victor L.. 621, 841
Villena, Jorge Fernandez 2804, 2831
Villien, Marjorie..... 713, 2175, 2225
Villringer, Arno.....384
Vincent, Trevor J. 3147
Vincenti, Gabriella ... 547, 1315
Vinding, Mads Sloth..... 3945, 4246
Vinogradov, Sergei..... 3244
Viola-Villegas, Nerissa..... 3415
Virgincar, Rohan S. .. 818, 1451
Virtue, Patrick 127, 2668
Visaria, Rachana..... 284, 2828
Viset, Trond..... 1785
Visser, Fredy 368, 627, 966, 1271, 2982, 3016, 3542, 4244, 4540
Viswanath, Satish 1773
Viswanathan, Akila N. 1847
Vivash, Lucy 620
Vives, Veronique.....746
Vivian-Griffiths, Tim 895
Vivier, Pierre-Hughes..... 4144
Vlachou, Paraskevi A. 1529
Vlassenko, Andrei 3056
Vles, Johannes.....1166
Vo, An.....1163
Vodraskova, Eva 4058
Voelker, Maximilian N..... 2779
Voet, Nicoline B.M. 1631, 1634
Voets, Natalie L..... 2148, 3275
Vogel, Sherry 1189
Vogel-Claussen, Jens 650, 744, 1497
Vogelstein, Bert.....565
Vogelstein, Joshua.....2270
Vogt, Stefan.....154
Voigt, Tobias.... 258, 470, 4520
Voineskos, Aristotle N. 1191
Voiron, Jérôme 2176
Voit, Dirk 4274, 4275, 4323, 4567
Voleti, Rajeeva 1980
Volkov, Yuri.....1856
Volland, Nelly A. 134, 4299
Vollmayr, Barbara..... 943
Vollmers, Manda..... 863, 3418
Volotovskyy, Vyacheslav..... 14
Voluck, Matthew R. 3641
Volz, Steffen 2513
Vomacka, Lena 4522
Von Bohlen, Anne..... 1372
von Briesen, Hagen 3895
von Deuster, Constantin 307, 480, 2099, 2576
Von Deuster, Constantin .. 3206
von Elverfeldt, Dominik.. 2265, 2322, 2718, 2908, 3882
von Kienlin, Markus..... 331
von Knobelsdorff-Brenkenhoff, Florian 4512
Von Morze, Cornelius 537, 1935
Vonck, Kristl E..... 1187
Vöö, Stefan..... 4543
Voogt, Ingmar 2729, 3401, 4373, 4382
Voogt, Ingmar J. 4397
Voon, Valerie 2230
Vos, Eline K. .. 538, 1790, 3403
Vos, Sjoerd B .. 121, 842, 1146, 2867, 2880, 3195, 3628
Vosicky, James..... 1702
Voss, Henning 1021, 2253
Voss, Stephan D. 4056
Vossen, Josephina 4073
Voyvodic, James 736
Vu, An T. 2364, 3316, 3321
Vu, Anthony T. 2406
Vu, Joseph 2677
Vuilleumier, Patrik 2246
Vyas, Urvi 1822, 2509
Vymazal, Josef..... 379, 524

W

Wachowicz, Keith .. 2451, 3966
Wachsmuth, Lydia . 1262, 1767
Wacker, Frank ….31, 650, 744, 1372, 1497, 1548, 2633, 2649
Wada, Takeshi.....2935
Wada, Tsukasa 972
Waddell, Kevin 844
Wade, Trevor P. 549, 1479, 3729, 3912
Wadhwa, Shashi.....2947
Waehnert, Miriam 267, 270
Wage, Ricardo.....4564
Wagner, Claus..... 1482
Wagner, Gerd..... 1952
Wagner, Marlies..... 1105
Wagner, Michael..... 952
Wagner, Shawn 3894, 3932, 3950
Wagner, Sylvia.....3895
Wagshul, Mark E. . 1254, 2167, 2861, 4110
Wahl, Hannes..... 3604
Wahlund, Lars-Olof 2865
Waiczies, Helmar 28, 3504
Waiczies, Sonia..... 28, 3504
Wakahiro, Mari 178, 3169
Wakayama, Minako 4535
Wakayama, Tetsuya 2436, 3547, 4168, 4169, 4478
Wakayama, Toshiki..... 988
Wakeman, Daniel G. 2841
Waks, Matt..... 2734
Walboomers, X.Frank 3978
Walcher, Daniel 4547
Walcher, Thomas 1324
Walczak, Piotr 562, 1061, 2555
Wald, Lawrence L... 53, 58, 75, 137, 290, 353, 393, 410, 665, 792, 826, 950, 1210, 2077, 2125, 2603, 2646, 2664, 2722, 2724, 2731, 2740, 2741, 2772, 2804, 2831, 3254, 3305, 3315, 3348, 3354, 3355, 4177, 4252, 4386, 4412, 4420
Walden, Hannah..... 750
Walhöfer, Kirsten..... 1165
Walker, Christopher M..... 3948
Walker, Duncan 1612
Walker, Lindsay 801, 911, 2955
Walker, Matthew..... 3612
Walker, Ronald C..... 1520
Walker-Samuel, Simon 424, 506, 1509, 1698, 1701, 2105, 2188, 2190, 2214, 3117, 4238
Wallace, Daniel J. 541
Wallace, Toni . 720, 1729, 1994
Wallihan, Daniel 1506
Wallin, Diana 1981
Walls, Jamie D. 531
Walsh, Andrew..... 1081
Walsh, Edward G. .. 2996, 2997
Walter, Glenn. 689, 1633, 3519, 4066
Walther, Sebastian..... 3046
Walton, Leo..... 2990
Walz, Jennifer Marie..... 756
Walzer, Sonja M.... 2473, 3475, 3532
Wan, Min 1441
Wan, Mingxi 795, 2950
Wan, Tao..... 1809
Wan, Yi-ting..... 1168

Wandell, Brian.....938, 3160
Wang, Anna M. 360, 432
Wang, B.....3302
Wang, Bing.....1581, 4126
Wang, Binquan.....2891, 3020, 3184, 3614
Wang, Bo.....525, 3052
Wang, Chao-Ying.....1232
Wang, Chengbo ... 6, 822, 1447, 4115
Wang, Chengyan 92, 1775
Wang, Chung-Hsin.....1825
Wang, Chunsheng.....1675
Wang, Da.....2626
Wang, Dah-Jyuu.....1633
Wang, Danny J.J.....106, 193, 205, 539, 2183, 2227, 2233, 2953, 3033, 3038, 3040, 3044, 3052, 3323, 3346
Wang, Dehang.....548
Wang, Dinghui 2415
Wang, Dingxin 71, 244, 584, 2677
Wang, D-J.....689
Wang, Dongxin.....1020
Wang, Enfeng.....4236
Wang, Feng 1115, 2294, 3288, 4134, 4137
Wang, Fu-Nien 1218, 1330, 2256, 2547, 3120, 3686, 4195
Wang, Guan.....1845, 1871
Wang, Guangbin....1223, 1234, 3005
Wang, Guangyi.....478, 4300
Wang, Haiyi.....3050
Wang, Han.....1031, 1766
Wang, Haonan.....956, 4575
Wang, He..... 92, 240, 274, 958, 985, 1503, 1504, 1617, 1775, 2876, 2890, 2979, 2980, 3053, 3113, 4156
Wang, Henry 3633
Wang, Hongchen.....170, 3841, 3845, 3869
Wang, Huali.....3662
Wang, Huan.....2425
Wang, Hui 1430
Wang, Huiting 904, 1008, 1164
Wang, Hung-Hsuan.....1343
Wang, Jianjun.....443
Wang, Jian-Li1029, 1153, 3228
Wang, Jianyi.....1860
Wang, Jing. 1020, 1553, 1560, 2224, 2340, 3404, 3407
Wang, Jinnan. 630, 879, 1129, 1310, 1413, 4536
Wang, Jiun-jie 1231, 3091
Wang, Joon Ho 3467
Wang, Jun.....3568
Wang, Kang 1273, 1274, 1422, 1541, 2348, 3310, 3795, 3820, 3832
Wang, Kezhou.....1327, 1341
Wang, Lanlan 1005
Wang, Lee 561
Wang, Lei 3425
Wang, Li 24, 179, 2951, 2952, 4080, 4161
Wang, Lihui.....482
Wang, Lin.....2181
Wang, Liya..... 234, 511, 3627, 3897
Wang, Luning.....465, 2521
Wang, Lvhao 2357
Wang, Meihan 1298
Wang, Meiyun.....3638
Wang, Mingtao.....3171
Wang, Nian.....147
Wang, Ningli 525
Wang, Peng 1808, 3102, 3256, 4317
Wang, Ping.....2530
Wang, Qi 3903
Wang, Qidong 985, 1033, 1202
Wang, Qiu 2674, 3805, 3812
Wang, Qiuping 1580
Wang, Rong.....1028, 3040
Wang, Rui 92, 383, 1775, 3040, 3052
Wang, Ruixue.....4063
Wang, Ruopeng.....2125
Wang, Shi 1437, 1804, 1806, 1813, 2610
Wang, Shian-Jy 1858
Wang, Shiyang 96, 3649
Wang, Shuai 692, 3853
Wang, Shumin..... 1075, 1076, 1077, 2787, 2833
Wang, Shuo 3040
Wang, Shuxia . 946, 1009, 1074
Wang, Silun..... 2919, 3676
Wang, Sumei .. 968, 3632, 3641
Wang, Tingting.....3140
Wang, Vincent M. 3529
Wang, Wei..... 92, 1775, 1847
Wang, Wen-Tung .. 1149, 2501, 3981
Wang, Winfred.....1147
Wang, Xianlong..... 963, 2526
Wang, Xiao..... 848, 1306
Wang, Xiaoen..... 3934, 3942
Wang, Xiaojie..... 342, 3112
Wang, Xiaotian.....3525
Wang, Xiaoyan.....3067
Wang, Xiaoying... 92, 132, 984, 1020, 1297, 1549, 1550, 1553, 1559, 1560, 1763, 1775, 1784, 1796, 2194, 2224, 2340, 3400, 3404, 3407, 4125, 4143, 4312, 4339
Wang, Xiaoyong ... 3362, 3365, 3366
Wang, Xiao-Yong 1733
Wang, Xiuli 3600
Wang, Xue 2350, 3170
Wang, Xuxia 946
Wang, Ya 717
Wang, Yanhua..... 605, 3804
Wang, Yao 2688
Wang, Ye 4339
Wang, Yi ... 165, 262, 692, 697, 702, 1536, 1577, 2378, 2474, 2497, 2498, 2566, 2591, 2856, 2891, 3334, 3612, 3614, 3847, 3853, 3857, 4174, 4193, 4272
Wang, Yi-Hsin 3692
Wang, Yi-Xiang 2552, 2875, 3476, 3478, 4081, 4092
Wang, Yong .. …342, 492, 493, 776, 1039, 3622, 3624
Wang, Yong-Jun 1066
Wang, Yu 132, 2918
Wang, Yu Lin.....1178
Wang, Yuan..... 1177, 3222
Wang, Yuan-Cheng..... 26
Wang, YunMing.....1870
Wang, Yunzhi 3283
wang, yuqing.....3425
Wang, Ze. 40, 617, 2174, 2259, 3033
Wang, Zejing.....1645
Wang, Zhangwei 2835
Wang, Zhe.....1403
Wang, Zhen J. 812, 3429
Wang, Zhengge 3570
Wang, Zhiqun.....1010
Wang, Zhiyue J. 3799, 4444
Wang, Zi.....176
Wapp, Manuela 1143
Ward, Aaron D. 3729
Ward, Alexander O. 1381
Ward, B. Douglas .. 2249, 2264, 2317, 2883, 3300, 3846
Ward, Jesse.....154
Ward, Sally L.D. 251
Wardlaw, Joanna M.....2907
Warfield, Simon K. ... 311, 794, 1535, 2057, 2587, 3135, 3156, 3535, 3746, 4056
Wargo, Christopher J.....2363
Warnert, Esther A. H.....2182
Warnking, Jan M.... 713, 2175, 2176, 2225, 2832
Warntjes, JBM.....1106
Warntjes, Marcel.....2505
Warren, Anne.....3387
Warren, Kenneth 1081
Warton, Chirstopher.....886
Washio, Toshikatsu.....2437
Wasilewski, Marie..... 8, 1285
Waskiewicz, Nicole... 801, 911, 2955
Wasliewski, Marie.....629
Waspe, Adam C. 4291, 4337
Wassberg, Cecilia.....3394
Wasserman, Bruce A.....1130
Wassermann, Demian.....937
Wastling, Stephen James. 3326, 4264
Wasza, Jakob.....4528
Watal, Geeta.....1512
Watanabe, Atsuya 942
Watanabe, Hideaki.....2992
Watanabe, Hidehiro.....4214
Watanabe, M. 4064
Watanabe, Michiko 1388
Watanabe, Sadahiro.....1781
Watanabe, Saori 3509
Watanabe, Takashi 272
Watanabe, Yasuharu 1643, 2338, 2343
Watanabe, Yasushi.....1290
Watanabe, Yasuyoshi..... 2160
Waters, Emily Alexandria 1688
Waterton, John C.... 1749, 2693
Watkins, Ronald D. ... 305, 436, 1671, 1690, 3938
Watson, Geoffrey ... 3081, 3090
Watts, Richard 995, 1089, 1250
Waxmann, Patrick .. 4259, 4404
Wayte, Sarah C. 4052
Weaver, David 4105
Weaver, John.2423, 2425, 2442
Weaver, Junaita.....1782
Weavers, Paul T. 126, 2640, 4395
Webb, Andrew .. 105, 365, 398, 1400, 1996, 2008, 2468, 2592, 2800, 2801, 4375
Webb, Andrew G. 101, 104, 115, 1225, 1589, 2960, 3480
Webb, Becky.....1882
Webb, Kevin F. 450
Weber, Bernd 249
Weber, Daniel 1600
Weber, Ewald 727, 2780, 3701, 4418, 4421
Weber, Hans.... 124, 666, 2379, 2384, 4248
Weber, Kenneth A, II. 2350
Weber, Marc-André 116

Weber, Michael 163, 1663, 1678, 3536, 3541
Weber, Oliver M. 256
Weber, Stefan 1423, 4523
Weber, Wade 4001
Weber-Fahr, Wolfgang 943, 1973, 2305, 2321
Wech, Tobias 129, 2614
Wedan, Steve 469
Wedeen, Van J. 2125
Wedegärtner, Ulrike 1421, 4127
Wee, Chong-Yaw 179
Weglarz, Wladyslaw Piotr 2392
Wehrl, Hans 4359
Wehrli, Felix W. 141, 762, 917, 1307, 1344, 1351, 1353, 1354, 1592, 1593, 1594, 1601, 1602, 1604, 2161, 2186, 2517, 2953
Wehrli, Natasha E. 1572
Wehrli, Suzanne L. 1592, 2517, 3428
Wei, Hongjiang 482, 575
Wei, Juan 1310, 2586, 4125, 4312
Wei, Lai 503, 2531
Wei, Li 969, 3997
Wei, Ling 2919
Wei, Mengqi 548
Wei, Pei-Shan 2721
Wei, Wenbo 1657
Wei, Xiaocheng 556, 2404
Weibrecht, Martin 748
Weick, Stefan 649, 1489, 1498
Weiduschat, Nora ... 2855, 3985
Weier, Katrin 2903, 3618
Weigel, Matthias 1304, 2116, 4286
Weiger, Markus 761, 2632
Weiller, Cornelius 631
Weiluo, Ray 4374
Weinans, Harrie 146
Weinberg, Jeffrey S. 1839, 4294, 4301
Weiner, Michael 2620, 3814
Weiner, Michael 3665
Weiner, Myron 619
Weingarten, Carol P. 3287
Weingärtner, Sebastian 257, 1358, 1406, 1411, 1427
Weinsaft, Jonathan W. 262, 2474
Weinstein, Susan P. .. 194, 1732
Weir, Genevieve 502
Weir-McCall, Jonathan 1277
Weis, Jan 1625, 1820
Weis, Jared A. 1730
Weisenberg, Noemi 198
Weiser, Mark 1157
Weiskopf, Nikolaus 691, 2065, 2246, 2478, 3008, 3017, 3131, 3196, 4333
Weisman, Michael H. 541
Weiss, Claire 1372
Weiss, Clifford R. 471, 865, 1833
Weiss, Elisabeth 1487
Weiss, Kilian 1363, 1918, 3930, 3941
Weiss, Robert G. 530, 579
Weiss, Steffen.. 469, 470, 4324, 4413
Weisser, Gerald 3115
Weitekamp, Christopher ... 1153
Welch, E. Brian 1520, 1524, 1618, 2413, 2578, 3510, 3763
Welch, George 1133
Welch, Robert 1162, 2897, 3561
Weller, Daniel S. 2602
Wells, William M. , III 1821, 3361
Wells, Jack 506, 2188, 2190, 3679
Wells, William 418
Welsch, Götz 1663
Welsh, Denise C. 1719
Welsh, Robert Cary 385, 889
Welte, Tobias 744
Welz, Anna M. .. 16, 666, 2379, 2384, 2663
Wemmie, John A. 733, 3220, 3243, 3266
Wen, Han 482, 575
Wen, Hsiao-Chuan 1711
Wen, Jing 2861
Wen, Patrick Y. 516
Wen, Qiuting 3643
Wen, Shihui 3886
Wen, Wan-Hsin 2086
Wen, Yan 3857
Wen, Yang 4162
Wen, Zhibo 963, 2526
Wendell, David C. .. 1426, 4530
Weng, Dehe 4476
Weng, Hsu-Huei 2221
Weng, Jun-Cheng .. 1269, 3093, 3683, 3692
Weng, Shenhong 1186
Wengert, Georg 3381
Wenkel, Evelyn 2813
Wentland, Andrew L. 65, 1356, 4460
Wentzel, Jolanda 4542
Wenzel, Fabian 952
Weon, Chi Jun 1842
Werier, Joel 1669, 3501
Wermer, Marieke J.H. 628
Wernik, Christopher M. 1443
Werys, Konrad 1393
Wesa, Amy 577
Wessberg, Johan 753
Wessels, Bart.. 117, 1623, 1627
West, Kathryn L. 1056
West, Melinda 566
Westin, Carl-Fredrik.. 614, 937, 2899, 3179, 3185
Westman, Eric 2865
Westphal, Robert 1043
Wetscherek, Andreas 3079, 3111
Wetterling, Friedrich 1856, 4012
Wey, Hsiao-Ying 760, 2263
Wharton, Samuel J. ... 265, 300, 953, 2487, 2490, 2491, 3251
Wheatley, Andrew 1471
Wheaton, Andrew J. . 551, 2026
Wheeler-Kingshott, Claudia Angela M. 49, 351, 1090, 1095, 1111, 1122, 1126, 1212, 2000, 2095, 2393, 2540, 3126, 3128, 3163, 3187, 3574
While, Peter T. . 662, 663, 4346
Whitcher, Brandon 1768
White, Christian 404, 814
White, Darin 4107
White, Eric A. 3501
White, Jacob K. 2804, 2831
White, Lawrence T. 3449
White, Nathan 3088, 3391
White, Richard 1277, 2100, 2431, 2432, 2433
White, Richard D. 2098
Whitfield-Gabrieli, Susan. 3598
Whiting, Nicholas.. 1923, 1933, 3929
Whitlow, Christopher T. 2154
Who, D. R. 2359
Whyne, Cari 354
Wiaux, Yves 2493
Wiberg, Maria K 2865
Wichmann, Tobias 4250
Wick, Markus 2718
Wick, Wolfgang 515
Wicki, Jacqueline 1646
Wickline, Samuel A. . 483, 559, 3077
Widek, Thomas 1217, 1686, 3499
Widhalm, Georg 981, 3630
Widhalm, Harald 1663
Widjaja, Elysa 913
Wieben, Oliver 63, 65, 70, 191, 282, 622, 626, 1136, 1332, 1355, 1356, 1432, 3760, 3832, 4442, 4455
Wiedermann, Dirk 837
Wiener, J. 2332
Wiens, Curtis N. 549, 3729, 3912
Wierzechowski, Linda 2894
Wiesinger, Florian. 1934, 3720, 3923, 3924, 4243
Wiest, Roland 3046, 3308
Wiestler, Benedikt 515
Wigal, Tim 3576
Wiggermann, Vanessa 347, 1100
Wiggins, Graham 292, 2695, 2749, 3582, 4365, 4367, 4406, 4409
Wiggins, Graham C. 286, 2737, 2754, 3462, 4175, 4258, 4363, 4381
Wiggins, Richard H, III. ... 1221
Wiggins, Jillian 889
Wiggins, Richard 2567
Wighton, Paul 2295, 3791
Wigström, Lars 1480, 1484
Wijkstra, Hessel 95
Wijlemans, Joost W. 4309, 4311
Wijman, Christine 1144
Wijnen, Jannie P. ….986, 1708, 1970, 2008, 2014, 3433, 3982
Wilamowski, Bogdan 3256
Wild, Jim M. 644, 816, 820, 1348, 1449, 1458, 1459, 1464, 1469, 1470, 1477, 1929, 1998, 4119
Wildberger, Joachim E. 589, 1022, 1977, 4543
Wilde, Elisabeth A. 2898
Wildes, Flonné 1704, 1714, 3431, 3433
Wilhelm, Michael J. 2517
Wilke, Hans-Joachim 1616
Wilkinson, Graham 900
Will, Olga 3677
Willcocks, Rebecca J. 689, 1633, 3519
Willen, Elizabeth 2860
Willerding, Linus ... 1816, 2452
Willert, Christy 1694
Williams, Ashley A. . 639, 1651

Williams, Benjamin 1995
Williams, Guy B. 997, 3664
Williams, Jason..... 199, 983
Williams, Justin C. 2990
Williams, Michelle 1317
Williams, Philip E. 1618
Williams, Rashida A. 933, 1071
Williams, Steve C.R. 1043, 2301
Williams, Steven..... 3583
Williams, Steven C.R. 1093, 1117, 2465, 2706
Williams, Todd A. 559
Willinek, Winfried A 4270, 748
Wilm, Bertram J. 293, 529, 553, 669, 1113, 2569, 2716
Wilman, Alan H..... 169, 1081, 2466, 2723, 3856, 4200
Wilmes, Lisa J. 202, 3202
Wilson, Anne..... 3997
Wilson, Brent..... 319
Wilson, Brent Donald 4484
Wilson, David M. 567, 812, 3429
Wilson, David R. 1661
Wilson, Diane 1075, 1076, 1077
Wilson, Gregory J. 1272, 1413, 3066, 4459
Wilson, Mark 472, 4310, 4318, 4335
Wilson, Mark W. ... 1391, 1392, 4524
Wilson, Martin..... 980, 2009, 3992, 4036
Wilson, Neil..... 2043
Wilson, Neil E. 2004, 2010
Wilson, Robin..... 1729
Wilson, Stephen..... 4345
Wilson, Tracy 3286
Wiltfang, Jens 2873, 2913
Winchell, Adam M. .. 388, 1147
Windhager, Reinhard..... 1678
Windisch, Manfred 3895
Winfield, Jessica M. 3114, 4155, 4158
Winkel, Axel 1843
Winkler, Carla 650
Winkler, Simone Angela 397
Winnard, Jr., Paul T..... 1714
Winnard, Paul T..... 239
Winnhofer, Yvonne 4508, 4514
Winston, Gavin P..... 784
Winter, Bryan 2961
Winter, KS..... 4141
Winter, Lukas 394, 395, 580, 833, 1296, 1384, 1412, 2839, 3504
Winter, Patrick 242, 1340, 1521
Wintermark, Max 2157
Wintermark, Pia..... 914
Wintersperger, Bernd J. 4460
Wion, Didier..... 83, 3414
Wirestam, Ronnie 781, 2198
Wirth, Wolfgang.... 1659, 2698, 3550
Wirtz, Daniel 828, 2748, 2825, 4324
Wisbrun, Natali 616
Wise, Richard G. 345, 849, 2182, 3342, 3343, 3344
Wiseman, Robert W. 1639, 1965
Wisner, Krista..... 2282
Wisnieff, Cynthia 702, 3334, 3853, 4174, 4193
Wisnowski, Jessica L. 180, 920, 922, 1951, 2691, 2944, 2965, 3191
Wissmann, Lukas 186, 1322, 3835
Witherow, John 2894
Witschey, Walter R.T. 1405, 1438, 2660
Witte, Russell 1064
Witte, Tracy K. 3578
Wittsack, Hans-Jörg 4220, 4227
Wityk, Robert 1130
Witzel, Thomas 665, 2125, 2646, 2724, 3254, 3721, 4247
Wodka, Ericka L..... 921
Woehr, Jordan 2609
Wöhrer, Adelheid 3630
Wöhrle, Jochen..... 1324
Wojtkiewicz, Joanna 562
Wokke, Beatrijs H.A. 2960
Wolahan, Stephanie M. 1947
Wolber, Jan..... 1929, 1998
Wolf, Ivo 3151, 3166
Wolf, Nicole 1110
Wolf, Peter 4090, 4514
Wolf, Ronald L. 3641
Wolf, Sharon G. G. 1897
Wolf, Ursula . 1472, 1474, 4118
Wolfgram, Peter 402
Wolfsberger, Stefan .. 981, 3630
Wolf-Severs, Rachel N. 923
Wolfson, Tanya 3470
Wolinsky, Jerry S. 48, 1083, 1444, 3036, 3621
Wolk, David 617
Wollenweber, Scott D. 3720
Woltjer, Randall 1717
Wolzt, Michael 4514
Wong Te Fong, Anne-Christine L.F. 3919
Wong, Alex M..... 2171, 2219
Wong, Boon Seng 3689
Wong, Brenda L. 3490
Wong, Chi Wah 33, 2244, 2245, 2271, 3310, 3318
Wong, Chun-Sing... 2889, 4148
Wong, Edmund 2304, 3311, 3269, 3298
Wong, Eric C. 103, 2149, 2155, 2156, 3318
Wong, Eric T. 2538
Wong, Eugene 3910
Wong, Ho-Fai..... 1145, 2223
Wong, John 561
Wong, Kelvin K. 1123, 3171
Wong, Man..... 802
Wong, Michael D. 271
Wong, Savio..... 3282
Wong, Stephen T.C. 1123, 3171
Wong, Tony..... 435
Woo, Eung Je 2518, 4170, 4172, 4176, 4181, 4182, 4184
Woo, John H..... 3641
Woo, Mary A. 3657, 3658
Woo, Myung-Kyun… 2153, 2725, 2726, 2726, 2773, 4351
Woo, Seung-Tae.... 1877, 1879, 1881, 1895
Woo, Youngkeun 3515
Wood, Alexandra F. 4010
Wood, Bradford..... 1782
Wood, Emily T. 858, 1079, 1098
Wood, John . 1433, 4196, 4206
Wood, Nigel I. 1381
Wood, Sossena 4368, 4399, 4408
Wood, Tobias C..... 1043, 2301, 2465, 2706
Woodard, Pamela K. 573, 4566
Woods, Jason C. 4109, 4121
Woods, Mark 1272, 3066, 4459
Woodward, William J..... 3453
Woodworth, Davis C.513, 3631
Woolrich, Mark W. 2122
Wootton, David M..... 4110
Worbe, Yulia 2230
Worgall, Stefan 1021
Worters, Pauline W. . 557, 2974
Worthington, Lara A 2009
Wouters, Siem 1894
Wrede, Karsten..... 4416
Wren, Tishya A. L.. 1641, 1644
Wright, Alan. 1785, 1788, 3408
Wright, Alan J. 673, 1769
Wright, Alexander C. 148, 1592, 1594, 1599, 1604
Wright, David 2456, 2667, 3843
Wright, Graham A..... 474, 660, 1418, 1443, 1837, 4426, 4517, 4518
Wright, Katherine L. . 600, 601, 719, 1543, 2631, 3834, 3836
Wright, Margret 2119
Wright, Patrick..... 330
Wright, Steven. 2445, 2727, 2728, 2744, 2753, 3370, 4407
Wronski, Robert..... 3895
Wu, Bing..... 868, 1675, 1764, 3698, 3699, 3844
Wu, Can 1329, 2994
Wu, Changping 1571
Wu, Che-Ming 3091
Wu, Chen-Hao 3060, 3422
Wu, Chen-Hua 1825
Wu, Chin-Lee..... 1786, 1787
Wu, Dan 707, 2940
Wu, Ed X. 1028, 24, 32, 87, 173, 298, 302, 334, 336, 360, 412, 432, 795, 1255, 1256, 1258, 2975, 3233, 3235, 3267, 3268, 3270, 3271, 3273, 3312, 4080, 4161, 4506
Wu, Edzer L. 1124, 3717
Wu, Guojun..... 443
Wu, Holden H. 189, 1293, 3828
Wu, Hongtao 3682
Wu, Huimin..... 2993
Wu, Joseph..... 235
Wu, Lebin 1234
Wu, Lei 3585
Wu, Ming-Long 2256, 2467, 3686
Wu, Ming-Ting 2353, 2671, 3178
Wu, Minjie .. 2945, 3586, 3594, 3595
Wu, Ona 2938
Wu, Pei-Hsin..... 2467
Wu, Renhua..... 2357, 2549
Wu, RenHua..... 1949
Wu, Samuel..... 632
Wu, Shandong..... 194, 1732
Wu, Shaoxiong..... 511
Wu, ShouCheng 1870
Wu, Shulin 1786
Wu, Tai-Wei..... 922
Wu, Teresa 1564, 1565
Wu, Tingting 1310
Wu, Wen-Chau..... 2184
Wu, Wenchuan..... 1299, 1784, 2606, 2610, 2612, 3204, 4533
Wu, William E. 86
Wu, Xia 1766
Wu, Xiaodong 2411

Wu, Xiaoping 71, 74, 3962, 4253, 4398
Wu, Xueming 445
Wu, Yi-Chun 1330, 3686
Wu, Yijen 1386, 1408, 1446, 1867, 2455, 3860
Wu, Yijing 624, 626, 1136
Wu, Yi-Ling 3686
Wu, Yin 3525, 4499
Wu, Ying 2497, 2862, 2863, 2869, 3612
Wu, Ying Wei..... 3269, 3311
Wu, Yi-Ting 1733, 3362
Wu, Yi-Ying. 3015, 3060, 3422
Wu, Yong 3875
Wu, Zhe..... 1102
Wu, Zhiqing..... 2108
Wu, Ziyue..... 251, 2714
Wuang, Yee-Pay..... 1168
Wuerfel, Jens 380, 873, 928, 973, 1085
Wundrak, Stefan..... 3837
Würslin, Christian..... 1511
Wyatt, Cory 1654, 3543
Wylezinska-Arridge, M. ... 1204
Wyman, Brad..... 1652
Wyrwicz, Alice M. . 1709, 3239
Wyss, Michael 529, 2464
Wyss, Patrik..... 2594

X

Xi, Yuanzhe..... 2603
Xia, Chunmei..... 24, 4080
Xia, Ding 358, 3493, 3521, 3523, 4228
Xia, Jianlin..... 2603
Xia, Rui 1764, 3425
Xia, Shuang 3296
Xia, Shuli..... 2545
Xia, Yang..... 147
Xiang, Jiang Hao 901, 907
Xiang, Qing-San 2563, 2564, 3732, 3823
Xiao, Gang..... 2357, 2549
Xiao, Guanghua..... 715
Xiao, Yuan..... 735
Xiaoyi, Liu..... 1203
Xie, Baojun..... 1186
Xie, Chuanmiao..... 3722
Xie, Chunming 1158, 1194, 2883, 3300
Xie, Jingping 4232
Xie, Jingsi..... 876
Xie, Karen 1783
Xie, Luke..... 23
Xie, Teng..... 46, 735
Xie, Victor B. ... 360, 412, 4506
Xie, Y. 525
Xie, Yibin..... 1314, 4469
Xie, Zhiyong..... 82
Xin, Lijing..... 1955, 4356
Xin, Xuegang 4201
Xin, Yi... 821, 823, 1461, 1463, 1466, 1467, 1468
Xin, Yu..... 1203
Xing, Wei 1571
Xing, Yan 652
Xiong, Qiang 263
Xiong, Wei 958
Xu, Bo……. 165, 697, 1536, 1577, 2378, 3847
Xu, Chao 4235
Xu, Dan 1051, 2568, 3741, 3784
Xu, Di..... 471, 865, 2377
Xu, Dongxiang 875
Xu, Duan 890, 2974, 3920, 4386
Xu, Feng. 43, 1094, 3257, 3601
Xu, Gui ping..... 1580
Xu, He N. 3426
Xu, Hongyan 243
Xu, Jiadi .. 428, 562, 707, 1061, 1911, 2544, 2545, 2555, 3940, 4240
Xu, Jian 606, 3183, 4575
Xu, Jianrong ... 879, 1201, 4519
Xu, Jiexun 2641
Xu, Jun 387, 2851
Xu, Junling 548
Xu, Junqian 52, 59, 2621, 2661, 3275, 3321
Xu, Junzhong..... 2202, 2216, 3143, 4229, 4232, 4241
Xu, Liang..... 3004
Xu, Qiang 3570
Xu, Shunliang..... 985
Xu, Su.... 85, 2320, 3507, 3673, 3680, 4002, 4037
Xu, Wenlong 3887, 3888, 3889, 3902
Xu, Xiang 419
Xu, Xiaojun 644, 1033, 4119
Xu, Yanqing 4161
Xu, Yaqin 1865
Xu, Yun 1008, 1164
Xu, Zhan..... 3319
Xuan, Liang..... 4431
Xuan, Min 1032
Xuan, Yang..... 2381, 2500
Xue, Hui 184, 575, 1394, 1402, 3734, 3813, 3816, 3826, 4559
Xue, Rong ... 1803, 3040, 3052, 3323
Xue, Yiqun 193, 611
Xue, Yuanyi 2688

Y

Yablonskiy, Dmitriy A. 866, 2937, 3524, 4109
Yachida, Takuya 1542
Yacoub, Essa S. 52, 59, 295, 2364, 2621, 2661, 2677, 2734, 3275, 3321
Yadav, Nirbhay N. 1911, 2544, 2545, 2555, 4240
Yadav, Renu..... 4006
Yagi, Kazuo..... 2437
Yahya, Atiyah 4017
Yak, Nicolas..... 474
Yaksic, Javier Urriola..... 2087, 3173
Yalcinkaya, Arda..... 1838
Yaligar, J. 2015
Yaligar, Jadegoud..... 1707
Yamabe, Eiko1685, 3100, 3498
Yamada, Kei..... 3116
Yamada, Ken-ichi..... 1987
Yamada, Kiyofumi 1129
Yamada, Naoaki 2981, 4545
Yamada, Takashi..... 4475
Yamada, Yoshifumi 2604, 2675
Yamaguchi, Masayuki..... 1945
Yamaguchi, Yuki 3198
Yamahata, Tsunehiro 4516
Yamakawa, Robyn 2949
Yamamoto, Akira .. 1530, 1555, 1558, 1566
Yamamoto, Akiyoshi 4467, 4473
Yamamoto, Etsuji..... 2091
Yamamoto, Tatsuya 3634
Yamamoto, Toru 2834, 3110
Yamamura, Jin 1421, 4060, 4127
Yamanaka, Kazuomi 4464
Yamashita, Fumio . 1141, 2066, 3660, 3787
Yamashita, Koji..... 213, 955
Yamashita, Tomohiro..... 910
Yamashita, Yasuo..... 1494
Yamashita, Yasuyuki 2463
Yamato, Mayumi..... 1987
Yamauchi, Kazuyo 942
Yamazaki, Masahiro..... 1233
Yan, Chenchen 904
Yan, Feng-Xian 1145, 2171, 2219, 2223
Yan, Fuhua..... 4156
Yan, Gen 2357
Yan, Ji-Geng 2315
Yan, Leslie ... 1190, 1198, 1199
Yan, Lirong..... ……106, 193, 539, 2227, 2233, 3346
Yan, Litao 2886
Yan, Mengfan..... 443
Yan, Pengyu..... 3478
Yan, Xu..... 4156
Yan, Yumei 339, 1036, 2919
Yanagimachi, Mamuro..... 1719
Yanagimachi, Noriharu 910
Yang, Alicia W. 3484
Yang, Baolian..... 1624
Yang, Bin 24, 4080
Yang, Bo 4327
Yang, Chi-Yu..... 1711
Yang, Dal-Mo 618, 3226, 3263, 3855
Yang, Donghan 535
Yang, Fan..... 4499
Yang, Guang 1967
Yang, Hong 1202
Yang, Hong-Chang 2767
Yang, Hsin-Jung..... 1314, 1439
Yang, Jian ..173, 432, 795, 897, 1028, 2950, 2962, 2975
Yang, Jie 1162, 3296, 3561
Yang, Jong-Chul 3224, 3560
Yang, Li 3005, 4143
Yang, Lily 234
Yang, Liqing 1074
Yang, Lixia..... 24, 4080
Yang, Ming 422
Yang, Mingshu..... 24
Yang, Phillip C..... 235
Yang, Qi..... 548, 4476
Yang, Qing... 1153, 4374, 4377
Yang, Qing X. . 396, 517, 1029, 1882, 2797, 2802, 3228, 3773
Yang, Ran 2375
Yang, Seung-Ho..... 965, 4039, 4043
Yang, Seungwook 3922
Yang, Shaolin…….715, 857, 2945, 3586, 3594, 3595, 3976
Yang, Song..... 901
Yang, Tae-Young..... 825, 827
Yang, Tao-Chieh 1330, 3686
Yang, Wei 3525
Yang, Wisely..... 1857
Yang, Xiangyu 3295, 3451
Yang, Xiaoming 1766
Yang, Xiaoyu 2735, 2785, 2838
Yang, Xing.. 4388, 4389, 4424, 4428

Yang, Xuedong. 92, 4125, 4312
Yang, Xun 734, 1196, 3600
Yang, Y.A. 4064
Yang, Ya-Han 1889
Yang, Yan 642
Yang, Yang 316, 4556, 4573
Yang, Yihong . 519, 1180, 2520
Yang, Yuqi 3903
Yang, Zheng 1158
Yang, Zhengyi 2048, 2049, 2087, 3304
Yang, Zhi 2260, 2331
Yang, Zhili 3812
Yan-Go, Frisca L. 3657
Yankeelov, Thomas E. 199, 1697, 1715, 1730, 1740, 2692, 3106, 3376, 3384
Yano, Kojiro 3383
Yantiss, Rhonda 1531
Yao, Bing 1082
Yao, Li 734, 735, 1196
Yao, Yuqiang 3040
Yao, Zhen 3875
Yap, Pew-Thian 936, 2117
Yap, Timothy A. 3434
Yap, Vivien L. 174, 2107
Yarach, Uten 4563
Yarnykh, Vasily L. 45, 3613
Yasar, Temel Kaya ... 871, 2444
Yaseen, Mohammad A. 3244
Yasokawa, Kazuya 1558
Yasuda, Masanori 1759
Yates, Paul 621
Yatsushiro, Satoshi 1213
Yau, Po Lai 208
Ye, Allen 1990
Ye, Changqing 1803
Ye, Deju 440
Ye, Jintang 3400
Ye, Jong Chul 2617, 3781, 3803
Ye, Lei 263
Ye, Qing 1408, 1446, 1867, 3860
Ye, Xiaojing 2638
Ye, Yongquan 3252, 3276, 3296, 4186
Ye, Zhen 445
Yeatman, Jason 938, 3160
Yee, Douglas 406
Yee, Sharon 501
Yeh, Chih-Kuang 1825, 2547
Yeh, Fang-Chang 776, 3624
Yeh, Fang-Cheng ... 1862, 1867, 3192
Yeh, Frank Fang-Cheng .. 2123, 3860
Yeh, Ping-Hong 2891, 3020, 3184, 3302, 3614
Yeh, Tzu-Chen 1232, 3120
Yeh, Victoria 4491
Yen, Cecil Chern-Chyi 2325, 2778
Yen, Chen-Tung 2311
Yen, Kathrin 929, 1217
Yen, Yi Fen 3917
Yen, Yi-Fen …….655, 3911, 3931, 3933, 3935, 3938, 3944
Yeniaras, Erol 1839, 3854
Yeo, Desmond 1819, 2835, 4336, 4432
Yeo, Lami 166, 4133
Yeom, Kristen 211
Yeotsas, Mary 1021
Yepes, Fernando 1246
Yeramian, Ara K. 289, 4250
Yeredor, Arie 2669
Yerly, Jerome . 192, 3807, 4534
Yerushalmi, David 2106
Yeung, Alan C. 235
Yeung, David K.W. 3218, 3459
Yeung, Serena Y. 694
Yeung, Timothy Pok Chi .. 3926
Yew, David 2875
Yiannakas, Marios C. 1111, 1122, 1212
Yildirim, Muhammed 4009
Yilmaz, Cuneyt 1494
Yin, Fang-Fang 1731
Yin, Gang 1278
Yin, Guangheng 4162
Yin, Kaiming 2959
Yin, Larry 403
Yin, Meng 279, 2427, 4067
Yin, Ting 4059
Yin, Xiaoming 2405
Yin, Ziying 3529
Ying, Daniel 2106
Ying, Karen 1813
Ying, Kui ..... …….1306, 1437, 1804, 1806, 2376, 2584, 2606, 2610, 2612, 2642, 2685
Ying, Leslie ... 605, 2158, 2644, 2653, 2659, 3804
Ying, Xiaoyou 2927
Yip, Chun-Yu 3689
Ylä-Herttuala, Seppo 355, 1382
Ylihautala, Mika 4309, 4311
Yoe, Yen C. 4052
Yohay, Kaleb 1021
Yokoo, Takeshi 2412, 4197
Yokosawa, Suguru .. 2066, 3660
Yokoyama, Kenichi 1397, 1425, 1428
Yoneyama, Koji 1288, 1502, 2998, 4480
Yoneyama, Masami 540, 3629, 4466, 4532
Yong, V. Wee 1050, 1062
Yoo, Hye Jin 3502, 3540
Yoo, Hyoungsuk 2803, 2837
Yoo, Shi-Joon 7
Yoon, Huisu 2617, 3803
Yoon, Jeong Hee 3109, 4166
Yoruk, Umit 1557
Yoshida, Daisuke 1208
Yoshida, Mariko 3669
Yoshida, Shoko 177, 3013
Yoshihara, Hikari A. I. 658
Yoshikawa, Hideki . 1656, 3547
Yoshikawa, Takeshi 1486, 4100, 4104, 4112, 4113, 4471, 4479
Yoshimaru, Eriko .. 1012, 1064, 1493
Yoshioka, Hiroshi .. 1685, 3100, 3498, 3534, 3538
Yoshioka, Yoshichika 1048, 1244, 2319, 2774
Yoshise, Satoshi 1868
Yoshiura, Takashi 213, 955, 4123, 4233
You, Hui 1031
You, Jiayong 1194
You, Myung-Won 3226
You, Zhigang 2618, 4477
Younce, John Robert 751, 2312, 3236, 3237
Young, Alistair A. 1431
Young, Brittany 2990
Young, Helen . 508, 1761, 2205
Young, Ian R. 2
Young, Karl 3289
Young, Kymberly 1161
Young, Kymberly D. . 521, 732, 1160, 1185, 3024, 3350, 3569
Young, M. 3288
Young, Phillip M. 4395
Young, Regina M. 810
Young, Rob 3562
Young, Simon S. 648, 1480, 1484
Young, William 2995
Young-Bo, Kim 902, 927
Yousry, Tarek A. 314, 386, 691, 2987, 3011, 4333
Youssef, Ramy F. 1794
Yousuf, Ambereen 96
Yovel, Galit 711, 926
Yu, Bolang 897, 2962, 2975
Yu, Dahua 1174
Yu, Hon J. ……150, 195, 718, 3365, 3534, 3538
Yu, Hsi-Yu 1343, 4513
Yu, Jeong-Sik 3440
Yu, Jiangsheng 611
Yu, Mi Hye 3452
Yu, Qiaowen 171
Yu, Shan-Ping 2919
Yu, Songlin 3040, 3052
Yu, Tao 422
Yu, Xin 294, 322, 758, 1388
Yu, Xue 1745, 2533
Yu, Yeyang 3815
Yuan, Ang 3424
Yuan, Chun ……630, 875, 877, 879, 1129, 1132, 1299, 1301, 1306, 1309, 1310, 1350, 1413, 1763, 1784, 2586, 2610, 2637, 3761, 4533, 4536, 4544
Yuan, Han 521, 732, 1160, 1161, 1185, 2241, 3024, 3350, 3569
Yuan, Hong 3236
Yuan, Hongyang 132, 4063
Yuan, Huishu 718
Yuan, Jing ... 2418, 2552, 2875, 3218, 3476, 3478, 4081, 4092, 4277
Yuan, Kai 925, 1174, 1177
Yuan, Qing ... 1794, 2412, 4197
Yuan, Yonggui 1194
Yui, Masao 3839
Yun, Hong 548
Yun, Seong Dae 2374, 2679
Yung, Andrew 153, 1265, 2429, 2448
Yung, Joshua P. 3733, 4302, 4303
Yunyao, Lai 1203
Yurgelun-Todd, Deborah .. 941, 3572, 3575
Yushanov, Sergei 2836
Yutzy, Steven 3177

Z

Zaaraoui, Wafaa 50, 455
Zabor, Emily C. 3438
Zabow, Gary 1902
Zacà, Domenico 3554, 3648
Zachariah, Roshini 642
Zacharias, Niki 3929, 4032
Zacharoulis, Stergios 720
Zacharovova, Klara 4058
Zadeh, Hamid Soltanian ... 3087
Zadeh, Mahdieh Bashoor ... 141
Zaharchuk, Greg 211, 415, 451, 588, 2144, 2145, 2222, 2236, 2239, 2266, 2902, 3031, 3122, 3123, 3357, 3636
Zahn, Roland 991

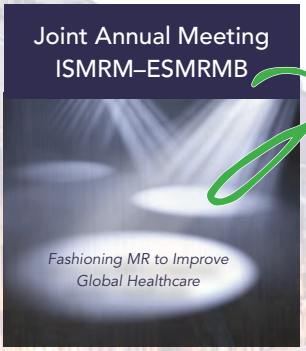
Zahneisen, Benjamin 409, 3327
Zaini, Wan Hazlin 3610
Zaiss, Moritz.....2546, 2548
Zaitsev, Maxim.... 16, 124, 289, 306, 637, 666, 1229, 1304, 2379, 2384, 2590, 2651, 2663, 2709, 2718, 3702, 3711, 3736, 3755, 3759, 3766, 3827, 4248, 4250
Zaitsu, Yuri.....348
Zajac-Benitez, Caroline ...1189, 1193
Zak, Lukas.....3465
Zakeri, Marjan 51
Zaki, Kamarul.....3730
Zakian, Kristen 1514, 1515
Zakszewski, Elizabeth 2141, 2928
Zamai, Moreno 3901
Zamecnik, Patrik.....635
Zamora, Marta 1702
Zamora, Tara 1981
Zamyadi, Mojdeh 913
Zanette, Brandon 2200
Zanetti, Marcus V. 3587
Zang-Hee, Cho 902, 927
Zaric, Olgica.. 196, 1738, 2785, 3374, 3381
Zarivach, Raz.....1853
Zarrouk, Michal.....2630
Zavaliangos, Antonios 1594, 1599
Zaya, Melody.....4527
Zbýn, Stefan 1605, 1663, 1738, 2473, 2785, 3471, 3475, 3539, 4140, 4142
Zeeh, Christian 2873, 2913
Zehavi, Tania.....198
Zeiler, Steve R. 1130
Zeineh, Michael.....248, 3023, 3167
Zeiser, Robert 3882
Zeisig, Vilia 2884
Zelaya, Fernando 3035
Zelinski, Elizabeth 920
Zelissen, P.M.J. 966
Zeller, Mario 2633, 3331, 3715, 3771
Zemel, Babette.....1594
Zemskov, Aleksey 4387
Zeng, Gengsheng L 2634
Zeng, Haifeng 3940
Zeng, Huadong 4066
Zeng, Mengsu.....548
Zeng, Peng.....2833
Zenge, Michael O.…547, 1294, 1316, 2652, 2674, 3812, 4528
Zengerle, Anja 1816
Zerbi, Valerio 2316, 3687
Zevenhoven, Koos C. J.....3743
Zha, Wei 402
Zha, Yunfei..... 1186, 3053
Zhai, Guihua..... 721, 1751
Zhai, Qing 4537
Zhai, Tianye 1158
Zhan, Jiping.....1940
Zhan, Wang 996
Zhang, Bei 389, 2737, 4381
Zhang, Bing.... 904, 1008, 1164
Zhang, Bo 2210
Zhang, C. Eleana 2218
Zhang, Chun 525
Zhang, Congyu 1510
Zhang, Daogong 1223
Zhang, Dong.....3040
Zhang, Fang.....1164
Zhang, Feng.....1766
Zhang, Ge..... 963, 2526
Zhang, Guishan 2357
Zhang, Guixiang.....3886
Zhang, Gui-Xiang.....2890
Zhang, Hao 1746
Zhang, Haosen.....1867
Zhang, Honglei.....4138
Zhang, HuaLei Shelley.....576
Zhang, Hui..... 9, 92, 698, 773, 784, 790, 796, 837, 1775, 1784, 2095, 3128, 3140, 3153, 3154, 3155, 3187
Zhang, Jay 2746, 2758
Zhang, Jeff L. 1551, 1621
Zhang, Jevin W. 298, 302, 412, 3233, 3235
Zhang, Jiange 1164
Zhang, Jiangyang..... 264, 707, 838, 1073, 1710, 1734, 2940, 4268
Zhang, Jianyi 263
Zhang, Jin..... 200, 1691
Zhang, Jing... 1103, 3609, 3623
Zhang, Jingdan 1586
Zhang, Jingfeng.....985
Zhang, Jingjing Michele...3956
Zhang, Jingwei 3334
Zhang, Jingyang 2555
Zhang, Jinjin..... 429, 764, 2382
Zhang, Jishui 3568
Zhang, Jue 92, 132, 984, 1020, 1297, 1549, 1550, 1560, 1775, 1796, 2155, 2156, 2194, 2224, 2340, 3404, 3407, 4063, 4339
Zhang, Jun Mei.....1441
Zhang, Kai.....4339
Zhang, Ke..... 86, 109
Zhang, Le 404, 814
Zhang, Lei 483, 1569, 2327, 4144, 4537
Zhang, Liandi 4013
Zhang, Lifeng.....1344
Zhang, Li-Hong.....2875
Zhang, Lijuan 1013, 2274, 2868, 2885
Zhang, Lin 2890
Zhang, Mian 1664
Zhang, Min..... 1564, 1565
Zhang, Ming 1015, 1151, 1177, 3222, 3563
Zhang, Minming..... 1032, 1033
Zhang, Myron. 752, 2142, 4422
Zhang, Na..... 4476, 4499, 4537
Zhang, Nan..... 613
Zhang, Nanyin.....327
Zhang, Ning..... 1593
Zhang, Pengyuan.....263
Zhang, Qinwei..... 2552, 3218
Zhang, Qiong.....4431
Zhang, Qiuli 1015
Zhang, Rong... 619, 1238, 1253
Zhang, Rui..... 985
Zhang, Shaodan..... 525
Zhang, Shengwei.... 2128, 2129
Zhang, Shuo 676, 3700
Zhang, Shu-Yun 1768
Zhang, Tao .. 2458, 2619, 2624, 3820
Zhang, Tianhao 3018
Zhang, Tianjing..... 2405, 4285
Zhang, Tong 1766
Zhang, Tongsheng.. 3378, 3956
Zhang, Vickie.....3915
Zhang, Weijuan 648, 1480, 1484
Zhang, Weiwei 556, 2404
Zhang, Xiaoan 1880, 4236
Zhang, Xiaodong..... 339, 361, 1036, 1060, 2183, 2919, 3685, 3691
Zhang, XiaoHong.....2627
Zhang, Xiaoliang..... 122, 219, 1675, 2686, 2799, 3920, 4376
Zhang, Xiaotong..... 288, 463, 4191, 4429
Zhang, XiaoWei 1257
Zhang, Xiaowei 2927
Zhang, Xiaoxia.....3225
Zhang, Xiaoyong.... 1850, 3867
Zhang, Xin 1008, 1164
Zhang, Xingxing 101
Zhang, Xinyuan.....4201
Zhang, Xuezhu 2816
Zhang, Yajie..... 4045
Zhang, Yajing2940, 2949, 3150
Zhang, Yan..... 240, 406
Zhang, Yi ...473, 530, 714, 848, 861, 1220, 2002, 4027
Zhang, Yong 1032, 1201, 2876, 2890
Zhang, Yongsheng 2174
Zhang, Yu 3170, 3289
Zhang, Yuchen..... 1297
Zhang, Yudong..... 1553, 1559, 1560, 2224, 3722
Zhang, Yue... 1020, 2340, 4162
Zhang, Yumiao..... 173, 795
Zhang, Yumiao..... 897, 2962, 2975
Zhang, Yunyan..... 3027
Zhang, Zhaoda 1900
Zhang, Zhe 1028, 2586
Zhang, Zhenghui 3784
Zhang, Zhenyu 2770
Zhang, Zhijun..... 1194
Zhang, Zhiqiang 3570
Zhang, Zhiyong..... 2035, 4288
Zhang, Zhongwei 1699
Zhang, Zhuoli..... 476
Zhao, Bo..... 607, 2455, 2459, 2620, 3814
Zhao, Eric Y. 51
Zhao, Feng 252, 2403, 2507, 2875, 3476, 4081, 4092
Zhao, Guojun 1078
Zhao, Huilin 879
Zhao, Jizong..... 3040, 3052
Zhao, Kai..... 1559, 2194
Zhao, Li..... 2157, 2164, 3032
Zhao, Ling..... 210
Zhao, Michael 3090
Zhao, Qiang..... 1066
Zhao, Qun 465, 2521
Zhao, Ruya..... 511
Zhao, Shihua 1278
Zhao, Tao 1278
Zhao, Tiejun..... 373, 438, 687, 2153, 2159, 2369, 3034, 3192, 4368, 4370, 4396, 4399, 4408
Zhao, Wei353, 665, 2724, 4386
Zhao, Wenguo..... 1399
Zhao, Xihai..... 630, 877, 879, 1129, 1299, 1300, 1302, 1350, 4536, 4544
Zhao, Xingquan..... 630
Zhao, Xue-Qiao..... 1302
Zhao, Xuna..... 383
Zhao, Yansong 1254, 4230
Zhao, Yuanli..... 3040
Zhao, Yujuan. 373, 4368, 4370,

4396, 4399, 4408
Zhe, Zhang.....901
Zhelev, Zhivko 1713
Zheng, Bo 140, 1857
Zheng, Helen 2930
Zheng, Jie 361, 605, 1764, 2158, 3527
Zheng, Karen S.....2856
Zheng, Lei 943, 2305
Zheng, Shaokuan 3880, 4230
Zheng, Tsinghua 2735, 2785, 2838
Zheng, Wei 387, 2851
Zheng, Weili.....2502
Zhong, Jia 243, 577
Zhong, Jianhui 789, 2901, 3213
Zhong, Liang 1326, 1441
Zhong, Xiadong.....4089
Zhong, Xiaodong..... ……283, 401, 1345, 3988, 4088, 4501
Zhou, Biyun.....1264, 1268
Zhou, Cheng 383
Zhou, Chunxiao 177
Zhou, Dong.....2566
Zhou, Iris Y. 32, 298, 302, 334, 412, 1258, 3233, 3235, 3267, 3268, 3270, 3271, 3273, 3312
Zhou, Jiachen.....3673
Zhou, Jinyuan 383, 530, 963, 2526, 2527, 3638, 3648, 3676
Zhou, Kun.....3174
Zhou, Lei 2220
Zhou, Rong....809, 1705, 1726, 1727
Zhou, S. Kevin.....1586
Zhou, Sha 1409
Zhou, Shibin 565
Zhou, Wei.....1220
Zhou, Xiaohong Joe 525, 1327, 1341, 1783, 2980
Zhou, Xin 3903
Zhou, Yan.....1201, 3113
Zhou, Yi 1005
Zhou, Yihang.....605, 2158
Zhou, Yong.....2914
Zhou, Yongxia.....43, 527, 940, 1094, 2688, 3601
Zhou, Yu-Qing 2326
Zhou, Yuxiang.....2118, 3036, 3621
Zhou, Z. 4064
Zhou, Zechen.....630, 877
Zhou, Zhengwei.....2685
Zhou, Zhuxian 445
Zhu, B. 4064
Zhu, Bin.....904, 1008, 1164
Zhu, Bin.....3868
Zhu, Chengcheng....1303, 1305
Zhu, Dan.....2685
Zhu, Dasong 1048, 2774
Zhu, David.....1253, 1301
Zhu, David C.2877, 3557, 4535
Zhu, Haoqin.....2732
Zhu, He.....457, 3376, 3596
Zhu, Henry 854
Zhu, Hongtu . 2942, 2943, 2952
Zhu, Huigang.....3865
Zhu, Jin.....1305
Zhu, Kangrong 125
Zhu, Martin W.....1388
Zhu, Min.....2241
Zhu, Naiyi 4156
Zhu, Senhua.....40, 3292
Zhu, Tong.....789, 3213
Zhu, Wenlian.....236, 238, 561
Zhu, Wenzhen 240
Zhu, Wen-Zhen 958
Zhu, Xiao-Hong. 517, 848, 859, 861, 863, 2002, 2033, 4027
Zhu, Xiaoping.....3071
Zhu, Yanjie.....2354, 2510
Zhu, Ying 4125, 4312
Zhu, Yudong.... 76, 2519, 4388, 4389, 4424, 4428
Zhu, Yuemin.....482, 575
Zhuang, Jiancheng.....3282
Zhuo, Jiachen 329, 1026, 1152, 1943, 2320, 2383, 2896, 3680
Zhuo, Yan.....525, 1803
Ziegler, Sibylle 824, 829
Ziegler, Susann.....830, 2813, 2817, 2818
Ziemann, Ulf 2513
Ziemssen, Tjalf.....3604
Ziener, Christian Herbert..2185
Zientara, Gary P. 1821
Zimmer, Fabian 1545
Zimmerman, Clarissa 2664
Zimmermann, Hanna.....1085
Zink, Inge 1182
Zink, Tom E. 825, 827
Zinn, Kurt.....721
Ziober, Amy 1795
Ziv, Etay. 178, 890, 3152, 3169
Zivadinov, Robert... 1003, 3014
Zlatev, Iavor 3895
Znamirowski, Richard M..2909
Zoccatelli, Giada 2873, 2913
Zoelch, Niklaus 2038
zoga, adam.....3463
Zola, Stuart.....339
Zöllei, Lilla.....799
Zöllner, Frank G. ... 1544, 1545, 1552, 2360, 3115, 3119
Zong, Xiaopeng.....2299, 2530
Zoratto, Francesca 3240
Zotev, Vadim... 521, 732, 1160, 1161, 1185, 3024, 3350, 3569
Zou, Chao..... 229, 245, 2354, 2510, 4292
Zou, Ling..... 1005, 2970
Zou, Qihong 326
Zou, Xiaowei.....464
Zou, Yunpeng.....4436
Zou, Zhitong.....747
Zsido, Gerald A. 1405, 1438
Zu, Zhongliang..... 461, 2486, 3265, 4134, 4229, 4230, 4232, 4241
Zubieta, Jon-Kar.....3259
Zuehlsdorff, Sven66, 320, 4488
Zuk, Jennifer 2969, 3007
Zun, Zungho 2144, 2145, 3031, 3123
Zuo, Chun..... 741, 1184
Zuo, Xi-Nian 527
Zuo, Zhentao 3040, 3052
Zur, Yuval 3489, 3778
Zurek, Magdalena.....1490
Zviman, M. Muz 255, 259, 4494
Zwanenburg, Jaco J.M..... 368, 627, 2391, 2982, 3042, 4521, 4538, 4540
Zwart, Nicholas Ryan.....2582
Zwarts, M. J.....3445
Zweier, Jay L.....534
Zwitserlood, Pienie.....1165
Zymeski, Heather 1433
Zynger, Debra L. 2531, 3451

MARK YOUR CALENDARS FOR OUR NEXT ANNUAL MEETING

JOINT ANNUAL MEETING ISMRM-ESMRMB
10–16 MAY 2014

SMRT 23rd ANNUAL MEETING • 10-11 May 2014



Milan ITALY

10–16 MAY 2014

ABSTRACT DEADLINE: 13 NOVEMBER 2013

BENEFIT FROM CUTTING-EDGE EDUCATION & SCIENTIFIC RESEARCH AT THE PREMIER MEETING IN THE MR GLOBAL COMMUNITY

The ISMRM-ESMRMB Joint Annual Meeting & Exhibition 2014 is the largest meeting dedicated to promoting communication, research, development and applications in the field of magnetic resonance in medicine and biology, as well as providing an invaluable channel and facility for continuing education in the field. Join over 6,000 clinicians, physicists, engineers, biochemists and technologists from more than 60 countries around the world for the premier meeting in the MR global community. Join us in 2014 in Milan, Italy.

ISMRM ONE COMMUNITY FOR CLINICIANS AND SCIENTISTS

ISMRM

BRIDGING THE GAP BETWEEN CLINICAL NEEDS AND TECHNOLOGICAL SOLUTIONS

International Society for Magnetic Resonance in Medicine

THE POWER OF SCIENCE, TECHNOLOGY & PRACTICE

WHAT WE DO:

- We bridge the gap between the clinical and scientific communities.
- We foster research and development in basic and clinical MR science and its application to healthcare.
- We provide international forums for MR science in medicine, biology and other industry hot topics.
- We promote communication and understanding about cutting-edge MR developments.
- We provide educational channels and other opportunities for continuing medical education credits.
- We publish two journals as well as proceedings and syllabi from premier scientific and clinical events.

AND WE IMPROVE HUMAN HEALTH

As a member of ISMRM, you become a part of a community of your peers. You contribute to the development of MR techniques and technologies. And you help improve the health of people around the globe.

BECOME AN ISMRM MEMBER TODAY!



WHO JOINS?

- Basic or clinical scientists who are developing MR techniques and applications
- Technologists who want to improve their understanding and utilization of MR
- Clinicians who are interested in MR clinical education
- Students, including postdocs, residents and fellows, engaged full-time in an academic or training program

BENEFITS THAT RESONATE:

LEARN. Benefits of membership include a full year's subscription to either *Magnetic Resonance in Medicine* or *Journal of Magnetic Resonance Imaging*, the journals of the International Society for Magnetic Resonance in Medicine. Members may opt to select both journals. The journal subscription is optional for technologists and students.

DISCOVER. Stay current with clinical and scientific developments by attending conferences, scientific workshops, educational courses, annual meetings and chapter meetings. Also access over 6,000 oral presentations online.

CONNECT. Meet other MR professionals and make valuable connections. Tap into the ISMRM online membership directory to connect with peers.

ENGAGE. Volunteer for abstract review, committee, study group and/or chapter membership and leadership.

DEVELOP. Access an ever-growing listing of available positions through the ISMRM Career Center, the largest MR community online resource for posting your position and/or your CV.

SAVE. Reduce the registration fees for the Annual Meeting and other programming throughout the year. Receive a 25% discount on any items purchased through the ISMRM bookstore.

ACCESS. As a member, you have access to educational stipends, seed grants and other funding opportunities.

TO FIND OUT MORE ABOUT MEMBERSHIP LEVELS, CHAPTERS, STUDY GROUPS AND MANY OTHER BENEFITS OF ISMRM MEMBERSHIP

GO TO WWW.ISMRM.ORG OR CALL +1 510 841 1899

INTERNATIONAL SOCIETY FOR MAGNETIC RESONANCE IN MEDICINE • 2030 ADDISON STREET • SUITE 700 • BERKELEY • CALIFORNIA 94704 USA