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"

GUIDE TO THE TECHNICAL & POSTER EXHIBITION

Meeting Highlights

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	Dismantle
	18:15–22:00	Closing Party*

*Children under 16 will not be admitted to the Closing Party

TRADITIONAL AND ELECTRONIC POSTER VIEWING HOURS

Date	Time	Event
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

DATE	REGISTRATION (South Foyer)	SPEAKER READY ROOM (Exhibit Hall 2)
Friday, 19 April	14:00–20:00	14:00–20:00
Saturday, 20 April	06:30–18:00	07:00–18:00
Sunday, 21 April	07:00–18:00	07:00–18:00
Monday, 22 April	06:30–18:30	07:00–18:00
Tuesday, 23 April	06:30–18:00	07:00–18:00
Wednesday, 24 April	06:30–18:00	07:00–18:00
Thursday, 25 April	06:30–18:00	07:00–18:00
Friday, 26 April	07:00–12:30	07:00–13:00

Admission is by meeting or exhibitor badge only. Children under 16 will not be admitted on the exhibition floor, in any meeting rooms, or in attendance at our Opening Reception or Closing Party. Declaration of Relevant Financial Interests and Relationships by author of proferred papers can be found at www.ismrm.org. Videotaping, audiotaping, or photographing the presentations is strictly prohibited.

#ismrm13

ISMRM 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

MESSAGE FROM THE PROGRAM CHAIR

Garry Gold, M.D.
Chair, 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).

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.

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

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

GE Healthcare

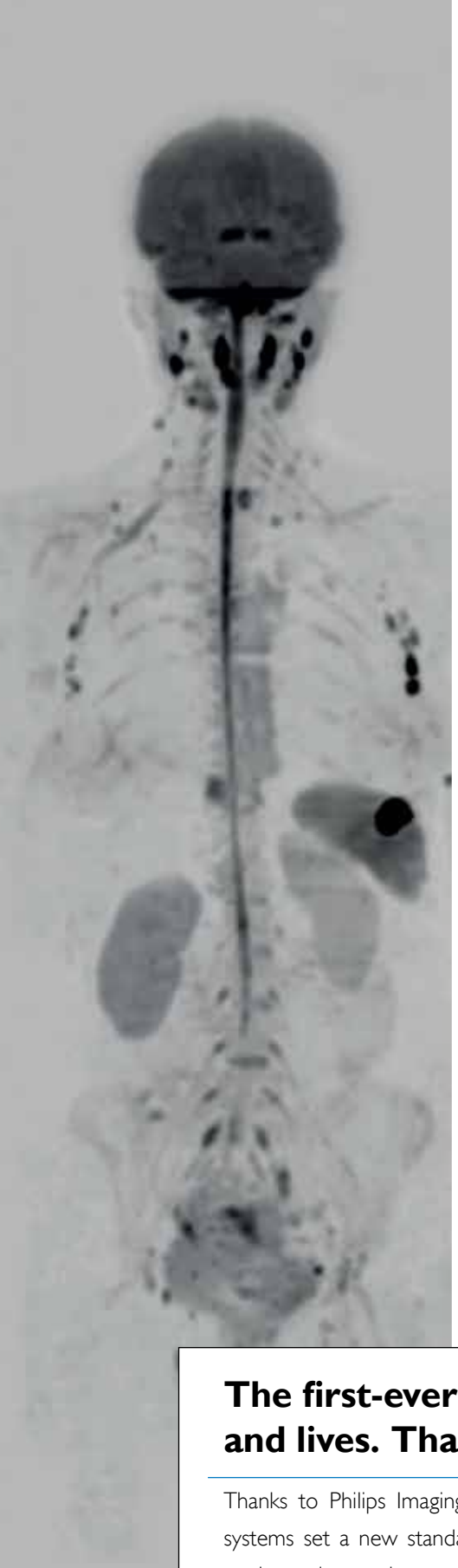
CAN YOU PLEASE KEEP IT DOWN UP THERE?

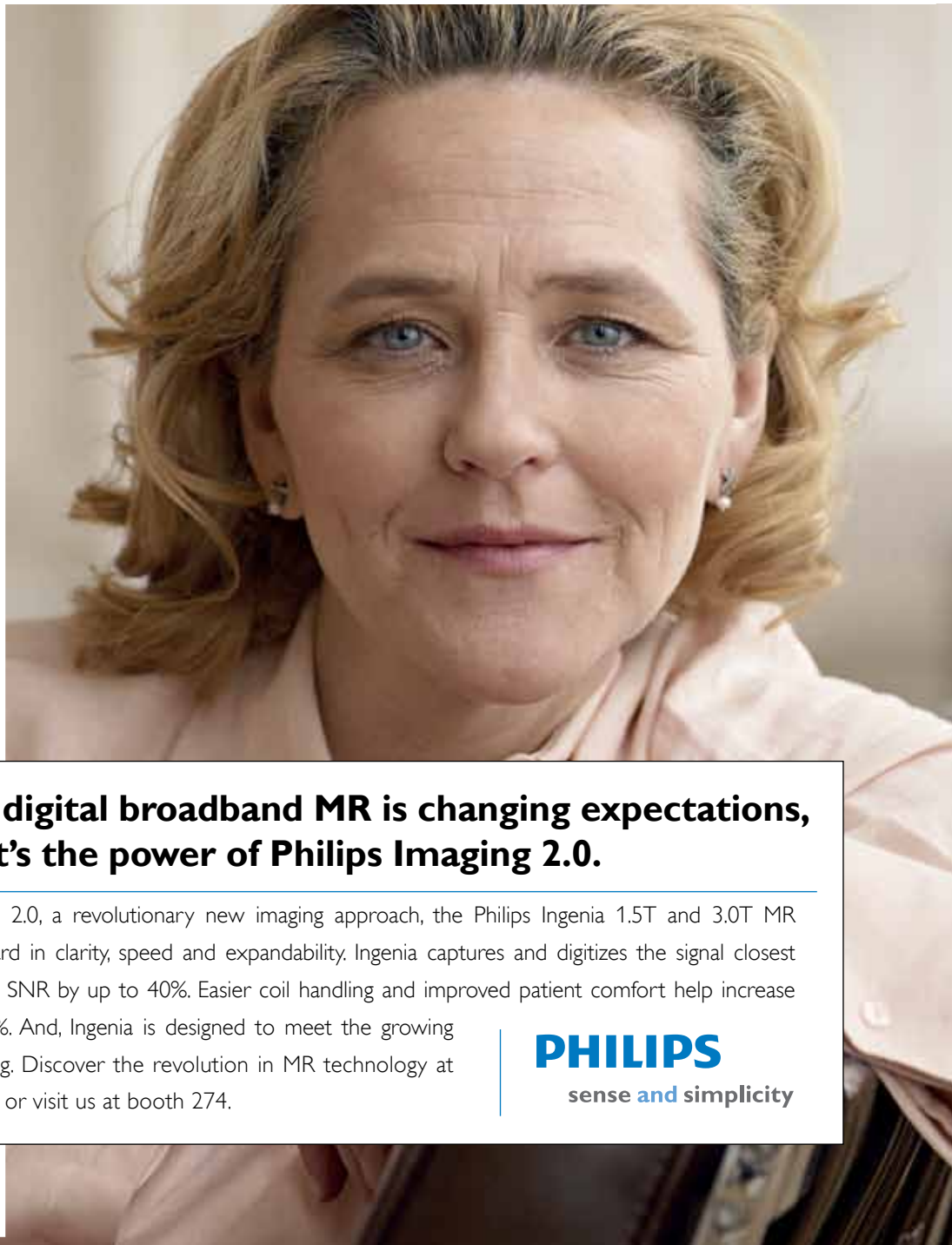
INTRODUCING SILENT SCAN

Humanizing MR isn't just our philosophy. It's our promise. Our promise to change how patients feel, see and hear MR for the better. However, now is the time to break the silent barrier and change the way patients hear MR forever.

Introducing Silent Scan*. Using a unique combination of breakthrough technologies, we've made MR as silent as a whisper. The day when your patients can undergo an MR scan without the added anxiety of loud noise is here. And we've accomplished this while still providing the excellent image quality you need to make a confident diagnosis. It's time to hear the difference.

imagination at work





The first-ever digital broadband MR is changing expectations, and lives. That's the power of Philips Imaging 2.0.

Thanks to Philips Imaging 2.0, a revolutionary new imaging approach, the Philips Ingenia 1.5T and 3.0T MR systems set a new standard in clarity, speed and expandability. Ingenia captures and digitizes the signal closest to the patient to improve SNR by up to 40%. Easier coil handling and improved patient comfort help increase productivity by up to 30%. And, Ingenia is designed to meet the growing needs in oncology imaging. Discover the revolution in MR technology at **www.philips.com/ISMRM** or visit us at booth 274.

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SIEMENS

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MAGNETOM Prisma*

Understanding functional processes and the most threatening diseases.

MAGNETOM Prisma, our upcoming and powerful 3T MRI system, is built to tackle the most demanding research challenges of today and tomorrow. It delivers maximum performance under prolonged high-strain conditions opening new possibilities for imaging functional processes and understanding the most threatening diseases. Only one of many high performance features is the new gradient system. With its higher gradient amplitude it delivers significantly higher signal-to-noise ratio, enhancing for example physiological imaging or morphometric measurements. With higher spatial and temporal resolution you can see excellent anatomical detail, for example displaying functional and structural brain connectivity. MAGNETOM Prisma delivers benchmark 3T magnet homogeneity – the basis for superior quantitative evaluations. Our new, powerful 3T system helps you enter new areas of research and strengthen your leadership in MRI.

* MAGNETOM Prisma is currently under development; it is not for sale in the U.S. and other countries. Its future availability cannot be guaranteed.

Answers for life.

A91MR-9257-A3-7600

ISMRM | BRIDGING THE GAP BETWEEN CLINICAL NEEDS AND TECHNOLOGICAL SOLUTIONS

International Society for Magnetic Resonance in Medicine

Visit us in Booth #342

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 A 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, STUDY GROUPS AND MANY OTHER BENEFITS OF ISMRM MEMBERSHIP

VISIT US AT 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

ISMRM PROGRAM-AT-A-GLANCE

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 — ISMRM 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

ISMRM 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)* 08:00–12:15 **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
08:30–16:45	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 — ISMRM 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

SMRT 22ND ANNUAL MEETING: CHANGING THE WORLD THROUGH MR EDUCATION & INNOVATION

20–21 April 2013, Salt Lake City, Utah, USA • ROOM 355 ABCDEF • Please visit www.ismrm.org/smrt/13 for program updates.

PROGRAM

SMRT Poster Walking Tour & Reception – Friday, 19 April 2013, 18:00 – 20:00

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), SMRT Program Chair 2013
	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., MApp.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**

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: 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)* Cardio-vascular	Electronic Poster Sessions: *(no CME credit)* Neuro A	Study Group Sessions: *(no CME credit)* Interven-tional MRI	Study Group Sessions: *(no CME credit)* Hyper-polarized Media MR	Young Investiga-tor Award Presenta-tions	Extreme Encoding Methods	Renal MRI	fMRI Con-nectivity: Mecha-nisms & Analysis	Advanced MRI in Multiple Sclerosis	Diffusion Acquisi-tion	**Educational Course:** MR Physics for Clinicians	**Educational Course:** MRI of Musculo-skeletal Impinge-ment Syn-dromes	**Educational Course:** Integrated Compre-hensive 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 Investiga-tor Award Presenta-tions	Electronic Poster Sessions: *(no CME credit)* Diffusion & Perfusion	Study Group Sessions: *(no CME credit)* MR Engineer-ing; MR Safety	Study Group Sessions: *(no CME credit)* Dynamic NMR Spectros-copy	Flow Quantifica-tion	RF Pulse Design	Animal Models 1	Prostate: Clinical	Arterial Spin Labeling	**Educational Course:** Imaging Metabo-lism with Hyper-polarized 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 Neurode-generative 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 & Applica-tions	Study Group Sessions: *(no CME credit)* Cardiac MR	MRS: Normal Me-tabolism & Systems Under Stress	Image Recon-struction	New Systems & Probes	Bone, Tendon & Menisci: State of the Art	Novel Contrast Agents & Reporters	**Translation-al Scientific Session:** Suscep-tibility 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**

YOUNG INVESTIGATOR AWARDS FINALISTS PRESENTATIONS

MONDAY, 22 APRIL 2013

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

ISMRM BUSINESS MEETING OPEN TO ALL MEMBERS

ISMRM ONE COMMUNITY FOR CLINICIANS AND SCIENTISTS

All ISMRM members are invited to attend the Annual ISMRM Business Meeting: Wednesday, 24 April 18:15–19:15 in room 150 AG.

Salute outgoing officers, meet incoming officers and central office staff, receive updates on society business, discover volunteer opportunities, make your voice heard and network with colleagues.

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
	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: 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
	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
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.	
09:00	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 • HALL 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 Will 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 Wall 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

MARK YOUR CALENDAR FOR OUR NEXT MEETING

JOINT ANNUAL MEETING ISMRM-ESMRMB

10–16 MAY 2014

SMRT 23rd ANNUAL MEETING • 10-11 May 2014

ABSTRACT DEADLINE: 13 NOVEMBER 2013

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

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 evaluation 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 hours 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 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 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 or evening events (no exceptions)!

MONDAY–FRIDAY COURSES

Scientific Meeting & additional courses: up to 35.75 *AMA PRA Category 1 Credits*™ (study group meetings, lunchtime programs, 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), then click on the forms.

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.

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.

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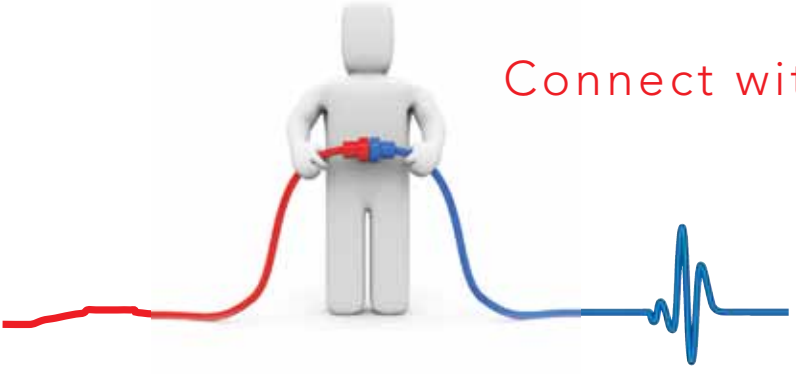

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BOOTH 104

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BOOTH 131

Aspect Imaging

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Phone: +1 416 274 8166 • Email: rsandler@aspectimaging.com
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Aspect Imaging's world-class M2™ compact high-performance MRI imaging system enables unique applications of MR imaging in markets where conventional MRI is too expensive, too complex to install and operate, and limited due to its need for a shielded facility. Aspect Imaging is pleased to showcase a complete line of four compact, high-performance magnets at ISMRM 2013 showing the breadth of self-shielded, compact high-performance systems available for pre-clinical and advanced industrial applications. As with all of Aspect Imaging compact MRI systems, the magnets have the common benefits of self-shielding (no dedicated facilities or shielded rooms required), silent operation, no special cooling or power requirements, and having no eddy current and virtually no external fringe field—which allow the systems the flexibility to be placed in many locations in a hospital, lab or industrial setting. Please also visit Aspect Imaging's sister booth (#349) to see the application of our technology for the clinical market with a new M2™ compact MRI system for clinical imaging of the wrist.

BOOTH 349

Aspect Imaging

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Aspect Imaging's world-class M2™ compact high-performance MRI imaging system enables unique applications of MR imaging in markets where conventional MRI is too expensive, too complex to install and operate, and limited due to its need for a shielded facility. Aspect's clinical program is introducing a new compact MRI system for clinical extremity imaging that will change the way MRI is perceived, used and incorporated in routine imaging of the wrist. The system enables high-throughput wrist imaging in a comfortable, stress-free environment and requires no shielding, specialty power or cooling. In the pre-clinical market, Aspect's high-performance permanent magnet and gradients are used in Bruker's industry-leading compact ICON™ system for pre-clinical research as well as Mediso's nanoScan® integrated whole-body pre-clinical PET-MR and SPECT-MR systems. In addition, the M2 compact high-performance MRI imaging system is also being marketed for 3D MR-based histology applications enabling exquisite results, affordability, portability and ease-of-use. For advanced industrial markets, Aspect's FlowScan™ platform provides unmatched real-time quantitative results for industrial rheological applications. Aspect also produces a state-of-the-art NMR platform for inline and bench-top measurement and real-time analysis of liquid composition in crude oil, FCC and petrochemical production.

BOOTH 132

Avotec, Inc.

603 N. Buck Hendry Way • Stuart, FL 34994 USA
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BOOTH 114

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This year, Bayer is celebrating 25 years of contrast in MRI. Please stop by and celebrate with us!

BOOTH 167

BIOPAC Systems, Inc.

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NEW! Gating System complete gating solutions for human and animal research applications. The dual channel gating system sends cardiac trigger pulses to the MRI when a respiration signal is in the quiet phase. Pre-processing filters and gain controls further refine the quality of the signal and ensure reliable triggering.

BIOPAC also provides Human-safe Isolated RF Cable/Filter Systems transducers, stimulus options, electrodes and leads with advanced software tools for safe data collection, subject monitoring and clean physiological signals in the MRI environment.

Visit the BIOPAC booth to discuss your MRI research requirements…see why our systems are used in thousands of labs and cited in thousands of publications.

BOOTH 258

ISMRM BRONZE CORPORATE MEMBER

Bracco

259 Prospect Plains Rd. • Monroe Township, NJ 08831 USA
Phone: +1 609 514 2200 • Fax: +1 609 514 2514
usa.braccoimaging.com

Bracco Imaging S.p.A. is one of the world's leading companies in the diagnostic imaging business. Bracco Imaging develops, manufactures and markets diagnostic imaging agents and solutions that meet medical needs and facilitate clinical solutions. Headquartered in Milan, Italy, Bracco Imaging operates in over 90 markets worldwide, either directly or indirectly, through subsidiaries, joint ventures, licenses and distribution partnership agreements.

Bracco Imaging is a subsidiary of Bracco S.p.A., the holding company of the Bracco Group which also markets Ethical and Over the Counter (OTC) pharmaceutical products in Italy as well as Medical Devices and Advanced injection systems for contrast imaging products worldwide. Furthermore, the Bracco Group offers diagnosis services through the Milan-based Centro Diagnostico Italiano (Italian Diagnostic Center).

Bracco. The Contrast Imaging Specialists.

Solutions for **Your** Practice and **Your** Patients

Come to the **Bracco booth, no. 258!**

- Bracco is focused on contrast agents for medical imaging and provides a wide portfolio of products and services for your practice and your patients
- Our offering can be tailored to fit the unique needs of your practice in CT, Cardiac Cath, Ultrasound, MRI and Interventional/Diagnostic Radiology

Committed **to Science,**
Committed **to You.**™

BRACCO
LIFE FROM INSIDE

BOOTH 169

Brain Products – Brain Vision

Zeppelinstrasse 7 • Gliching, 82205 Germany
Phone: +49 0 8105 73384 0 • Fax: +49 0 8105 73384 505 • Email: sales@brainproducts.com
www.brainproducts.com • www.brainvision.com

Brain Products GmbH is a leading manufacturer of soft- and hardware for neurophysiological research. Brain Vision LLC is its exclusive distributor in the US and Canada.

For EEG/fMRI co-registrations, we offer:

- Electrode caps (BrainCap MR) with up to 256 channels;
- EEG amplifiers (BrainAmp MR Series) with up to 256 channels;
- Software solutions for signal recording, MR artefact correction and on-/offline signal analysis (BrainVision Recorder, Analyzer and RecView);
- Various sensors to record ECG, EMG, GSR, acceleration, respiration, etc. synchronously with EEG/fMRI;
- Consumables (like MR pillows, electrode gels, etc.);
- And, last but not least, our long-time experience in the EEG/fMRI field proven by more than 300 PubMed-listed user publications (www.brainproducts.com/references.php).

Our EEG/fMRI experts are looking forward to meeting you at our booth!

BOOTH 328

ISMRM SILVER CORPORATE MEMBER

Bruker

15 Fortune Drive • Billerica, NJ 01821 USA
Phone: +1 978 667 9580 • Fax: +1 978 667 0985 • Email: info@bruker-biospin.com
www.bruker.com/imaging

Bruker is the worldwide technology and market leader in preclinical MRI, providing advanced solutions for small animal MRI in preclinical research and molecular imaging. Our products enable the latest imaging and spectroscopy applications for *in vivo* investigation of small animals.

The Icon™ is an easy-to-use 1 Tesla desktop MRI scanner for small rodents that combines simplicity with compact dimensions, bringing magnetic resonance imaging (MRI) within everyone's reach.

The BioSpec® is a multipurpose system for biomedical research designed for maximum flexibility in implementing the latest developments in imaging and spectroscopy.

The PharmaScan® has been designed for routine, dedicated applications in molecular imaging and pharmaceutical research.

The ClinScan® is designed to further facilitate translational research from "mice to men" in the field of preclinical MRI.

The software package ParaVision® provides "ease of use" for the routine user, and yet retains the flexible and powerful programming features required by the expert user.

Bruker designs, manufactures and distributes life science and analytical research tools based on magnetic resonance core technology. Our technologies include NMR, EPR, MRI as well as superconducting magnets.

BOOTH 359

Cambridge Research Systems, Ltd.

80 Riverside Estate • Rochester • Kent, ME24BH, UK
Phone: +1 866 846 2929 • Fax:+ 011 44 1634 720 719 • Email: sales@crsltd.com
www.toolsforfmri.com

At Cambridge Research Systems, our reputation is founded on values of scientific rigour and integrity. You can be confident that our tools provide the precision and control needed for scientific applications, while remaining practical and affordable – the engineering philosophy which we have held since our incorporation in 1989.

Our culture is to collaborate openly with academic partners and other like-minded companies, enabling us to deliver integrated, single-source solutions from a broad range of specially selected, high quality equipment. We offer you the flexibility and choice you need to advance our understanding of the brain.

Our flagship BOLDscreen MRI-compatible LCD monitor range includes high brightness, high resolution, stereo and dichoptic presentation options. Our products are market leaders, our people, committed and knowledgeable. Our ambition is to continue setting standards in the neuroscience community, of which we are proud to be a part.

BOOTH 204

Cedrus Corporation

PO Box 6309 • San Pedro, CA 90734 USA
Phone: +1 310 548 9595 • Fax: +1 310 548 9537 • Email: torres@cedrus.com
www.cedrus.com

Cedrus Corporation offers robust, fiber optic response pads which are compatible with all applications including SuperLab, E-Prime, and Presentation. Please stop by our booth to see the newly introduced Lumina controller and response pads.

BOOTH 200

The Coil Company

4744 Nighthorse Court • Parker, CO 80134-4526 USA
Phone: +1 303 919 3822 • Fax: +1 303 997 6669 • Email: info@thecoilcompany.com
www.thecoilcompany.com

The Coil Company has been developing prototype cryogenically cooled coils for both animal and clinical diagnostic and treatment monitoring purposes and for medical research applications. These are simple in design, simple to make and will improve image quality by a factor of 2-3 fold. This improvement can make MRI exams significantly faster and/or improve image quality and resolution. The impact of this on biomedical research and health care should be significant. This is especially the case for lower fields (7T and below) and at clinically relevant fields of 1.0T and 1.5T- where we have demonstrated SNR gains of > than 3 at 1.5T using phased arrays. TCC provides custom research coils, preamplifiers and similar accessories for high throughput imaging and enhanced SNR – we are currently involved in R&D on coils for improved array imaging. Clients include the FDA, Pfizer, and the Univ. of New Mexico. Contact us at info@thecoilcompany.com or call Ray Nunnally directly at +1 303 919 3822.

BOOTH 129

Communication Power Corporation CPC

80 Davids Drive Suite 3 • Hauppauge, NY 11788 USA
Phone: +1 631 434 7306 • Fax: +1 631 434 7026 • Email: info@cpcamps.com
www.cpcamps.com

Communication Power Corporation (CPC, founded in 1994) is a leading amplifier supplier to the MRI, MRS, HFMRI, NMR, EPR and NQR markets. Our products are designed to provide the best performance for each customer whether the end user application is OEM, clinical, research institution or industrial/analytical. CPCs amplifiers cover all MRI applications (head, extremity, whole body) at all field strengths (now up to 10.5T whole body) and have a various amplifier products for parallel transmit (B_1 shimming) applications.

BOOTH 302

Compumedics USA, Inc.

6605 West W.T. Harris Blvd., Suite F • Charlotte, NC 28269
Phone: +1 704 749 3200 • Fax: +1 704 749 3299
www.compumedicsusa.com

Compumedics Neuroscan is dedicated to expanding knowledge and understanding of the human brain and central nervous system through advanced technology. Neuroscan, founded in 1985, is the world's leading provider of technologies for high-density EEG recordings, electro-magnetic source localization, multi-modal neuroimaging and enhancements to functional MRI. Compumedics Neuroscan, products are in use at over 1500 universities, corporate laboratories and national research institutes in more than 40 countries. Through its world-leading technology, Compumedics Neuroscan and its parent company Compumedics Ltd., provides products for a full range of neuroscience research and neurodiagnostic applications. Compumedics Neuroscan was first to offer a commercially available system for the simultaneous acquisition of EEG and fMRI data. This technology has evolved into the integrated Curry/MicroMagLink system, with the capacity to record high quality EEG/fMRI data using sampling rates from 500-20,000 Hz, with gradient and ballistocardiogram artifact suppression in real time. This system has been used for applications in both cognitive and clinical neuroscience research, including the first ECoG recordings during fMRI. The seamless integration of our research systems with our clinical systems provides the opportunity to select one platform to satisfy all applications, in the laboratory or in the clinic.

BOOTH 377

Conaptic Limited

Didcot Business Centre, Market Place • Didcot, Oxon OX117RE UK
Phone: +44 845 6808459 • Fax: +44 870 622 0845 • Email: paul@conaptic.com
www.conaptic.com

Conaptic produces Calpendo, an intelligent booking system designed to manage bookings and projects for shared equipment. Originally designed for a busy MR laboratory at the University of Oxford, Calpendo is now in use in universities across North America, Europe and Asia.

You can choose the rules that control who can make what bookings and Calpendo enforces your rules for you.

Calpendo takes the hassle out of scheduling to minimise mistakes and stress, and maximise efficient use of your scanner. Calpendo will save you time and money. You won't want to change your booking system again.

Conaptic also produces Exprodo, web-based database software that can be used by a project to store all of its non-imaging data and control exactly who has what access to your data. Exprodo can also keep track of all your project tasks which is especially useful for those projects that need to see subjects multiple times.

BOOTH 182

CST of America, Inc.

492 Old Connecticut Path, Suite 500 • Framingham, MA 01701 USA
Phone: +1 508 665 4412 • Fax: +1 508 665 4401 • Email: debra.gasser@cst.com
www.cst.com

CST develops and markets CST STUDIO SUITE, a comprehensive electromagnetic and circuit simulator that have many applications in optimizing MRI systems. A large number of available biological models allow virtual simulation of biological effects and safety considerations.

Magnetic Resonance Imaging (MRI) systems rely on a complex interaction of different physical domains and CST STUDIO SUITE is able to model and optimize many parts of the overall system including the RF coils in order to improve the homogeneity of the underlying RF fields. RF circuit matching and tuning is included.

A new CST MRI-toolbox helps to directly evaluate the essential quantities such as the B1+ and B1- fields, their statistical properties, but also safety relevant quantities such as general averaged SAR results, "worst case SAR" of multi-channel systems or "total SAR per material.". Transient thermal heating based on the bioheat equation can also be monitored.

BOOTH 180

Doty Scientific, Inc.

700 Clemson Road • Columbia, SC 29229 USA
Phone: +1 803 788 6497 • Fax: +1 803 736 5495 • Email: judy@dotynmr.com
www.dotynmr.com

Doty Scientific specializes in coils for small animal and pre-clinical imaging. Doty makes RF volume coils and surface coils as well as microscopy probes - which include gradients and RF. Doty's patented simple-tune Litz and Litzcage RF coils are easy to use, yet provide extraordinary homogeneity and unmatched S/N. Litz small animal imaging platforms come in standard coil sizes, allow maximum flexibility for animal handling, and can be single or dual frequency. Litz imaging modules may have dimensions customized to your specifications, and can also be single or dual frequency.

Vertical bore microscopy probes with 5 to 12 mm diameter samples can be tuned up to 900 MHz. With 350 G/cm pulsed gradient strength and Litz RF coils, the S/N is unmatched.

Hundreds of numerically optimized surface coils for up to twice the S/N are available as transmit-receive, receive only, passively detuned, or dual frequency, for many applications.

BOOTH 206

Electrical Geodesics, Inc. EGI

1600 Millrace Drive, Suite 307 • Eugene, OR 97403 USA
Phone: +1 541 687 7962 • Fax: +1 541 687 7963 • Email: info@egi.com
www.egi.com

EGI is the sole provider of the Geodesic EEG Platform for advanced brain research. Geodesic EEG offers the advantages of whole head coverage, dense array EEG for high spatial resolution, and the HydroCel Geodesic Sensor Net electrode placement system for exceptional comfort and ease of use. Geodesic EEG Systems come with 32, 64, 128, or 256 channels, and include the HydroCel Geodesic Sensor Net; amplifiers for up to 256 channels; and Net Station software for acquisition, review, and analysis. MetaFile Format facilitates interoperation with third party analysis and signal processing routines. Systems can be easily upgraded for compatible with fMRI. EGI also offers an integrated source estimation and optical sensor localization system, experimental control software, integrated eye tracking systems, and polygraphic input boxes. Excellence in customer support is provided with all products. Stop by the EGI booth for a demo!

BOOTH 176

Elsevier, Inc

1600 JFK Blvd., Suite 1800 • Philadelphia, PA 19103 USA
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www.elsevierhealth.com

ELSEVIER is a leading publisher of health science publications, advancing medicine by delivering superior reference information and decision support tools to doctors, nurses, health practitioners and students. With an extensive media spectrum — print, online and handheld, we are able to supply the information you need in the most convenient format.

BOOTH 379

EM Software & Systems - FEKO

100 Exploration Way, Suite 310-B • Hampton, VA 23666 USA
Phone: +1 757 224 9128 • Fax: +1 757 282 5897 • Email: feko.admin@emssusa.com
www.feko.info

FEKO (www.feko.info) is a powerful tool with Method of Moments (MoM) and Finite Element Method (FEM) solvers. FEKO has been successfully used in a number of MRI radio frequency (RF) coil designs and magnetic resonance (MR) RF safety analyses. RF coil design in FEKO allows for the accurate prediction of signal-to-noise ratio (SNR), field homogeneity and coil safety. Accurate prediction of coil performance not only helps to optimize the coil design itself, but also reduces the time and cost involved in developing a superior RF coil for a specific application in MR. FEKO modeling and simulation greatly assist in the development of surface coils, volume coils and array coils. For RF safety, FEKO calculates very reliably volume averaged SAR (Specific Absorption Rate) in 1-g, 10-g and whole body of interest for a given power input to coil element/s. The full unrestricted version of FEKO is available for a free trial for 45 days by registering at the FEKO website.

BOOTH 168

Ergospect GmbH

Oppolzerstrasse 6 • Innsbruck, Tirol, 6020 Austria
Phone: +1 00 43 699 1602 0200 • Fax: +1 00 43 5128 4598 • Email: info@ergospect.com
www.ergospect.com

Ergospect is specialized in the development and production of "Diagnostic Pedals" for the examination of different muscle groups, the myocardium and the musculoskeletal system. The main diagnostic focus is on the evaluation of peripheral arterial disease besides supervision of training success in professional sports. By objective evaluation of blood flow, blood circulation and differential diagnosis of orthopedic and neurological indications the muscle physiology and energy metabolism in the extremities can be assessed accurately. With advanced MRI techniques pathological alteration, which may be masked and therefore be underdiagnosed during rest, can be examined during stress or physical exercise.

The pedals are compatible with all MRI-systems (up to 7 Tesla) and consist of a basic platform to be combined with different modules.

On request, we can also develop and deliver individual solutions according to customer specifications.

BOOTH 203

European Society for Magnetic Resonance in Medicine and Biology (ESMRMB)

Neutorgasse 9 • Vienna, 1010 Austria
Phone: 0043 1 5351306 • Fax: 0043 1 5357041 • Email: office@esmrmb.org
www.esmrmb.org

Founded in 1984 as a platform for clinicians, physicists and basic scientists with an interest in the field of MR, ESMRMB has around 1,200 active members.

In 1994, MAGMA was introduced as the official journal (which is included in the membership) and has become well-established since then with a remarkably high impact factor.

ESMRMB runs several successful educational programmes: The School of MRI, which offers a variety of advanced clinical courses (14 courses in 2013), and the Lectures on MR programme, which provides teaching courses for MR physicists and basic scientists (6-8 courses in 2013). The Hands-On MRI course programme, launched in 2009, is designed for radiographers and physicians with 50% lectures and 50% hands-on sessions on the scanner.

The ESMRMB is furthermore proud to be holding its 30th Annual Scientific Meeting from October 3-5, 2013 in Toulouse offering several highlights of an equally balanced programme forming the European Forum for MR research and clinical practice.

For further information please refer to our website www.esmrmb.org or contact us directly at the ESMRMB Office at office@esmrmb.org

BOOTH 205

ETS-Lindgren

1301 Arrow Point Drive • Cedar Park, TX 78613 USA
Phone: +1 512 531 6400 • Fax: +1 512 531 6500
www.ets-lindgren.com

ETS-Lindgren's MRI shielding systems feature Clear Choice™ products: ferromagnetic detection systems to enhance safety and energy efficient LED lighting.

Global support and services include installation, testing and site surveys. The company's RF engineering and consulting division offers acoustic, vibration and magnetic design expertise resulting from decades of MRI shielding R&D.

BOOTH 202

Fiero Milano Congressi

P.le Carlo Magno, 1 • Milano, 20149 Italy
Phone: +39 02 49977694 • Fax: +39 02 49977695
www.fieramilanocongressi.it/Home_en.html

Fiera Milano Congressi, part of the Fiera Milano Group, has been Italy's leading conference management operator since 1994.

Specialized in managing event venues, today we run two conference centres and an executive business suite with a total capacity of over 20,000 seats: MiCo - Milano Congressi, Europe's largest; Stella Polare, the futuristic conference centre in the new Milan tradeshow complex; MoMeC, the executive business suite in the heart of Rome.

An innovative management model designed to meet all your demands: luxurious meeting rooms and state-of-the-art audiovisual equipment; huge multi-purpose spaces and innovative telecommunications; flexible conference halls and top class catering. Countless services, just one contractor: what could be easier than that?

We manage over 500 events a year ranging from conventions and congresses to gala dinners and product launches – and we provide each with the same service: Excellence with a capital E.

The secret of our success? People. Our criteria for selecting Fiera Milano Congressi team members are enthusiasm, professional skills and experience. In every department, from Sales to Admin, from Project Management to Marketing, we guarantee you our tireless support because we work with a single objective: to deliver an unforgettable event!

BOOTH 378

FUS Instruments

415-170 The Donway West • Toronto, ON M3C2G3 Canada
Phone: +1 416 480 6142 • Email: rronen@fusinstruments.com
www.fusinstruments.com

FUS Instruments, formed in 2009, was spun-out of research conducted at Sunnybrook Research Institute in Toronto, where scientists and engineers have developed focused ultrasound technology for over two decades. FUS Instruments develops image-guided focused ultrasound systems for preclinical research. Our flagship product, the RK-100 is a focused ultrasound system that is fully compatible with MRI, CT and diagnostic ultrasound imaging. The company's mission is to lower the technology barrier that exists in investigating applications of focused ultrasound by inventing turnkey solutions to enable research in this exciting field.

BOOTH 148

ISMRM GOLD CORPORATE MEMBER

GE Healthcare

3200 N. Grandview Blvd. • Waukesha, WI 53188
Phone: +1 262 951 9320 • Email: cory.stahl@ge.com
www.gehealthcare.com

GE Healthcare provides transformational medical technologies and services that are shaping a new age of patient care. Our broad expertise in medical imaging and information technologies, medical diagnostics, patient monitoring systems, drug discovery, biopharmaceutical manufacturing technologies, performance improvement and performance solutions services help our customers to deliver better care to more people around the world at a lower cost. In addition, we partner with healthcare leaders, striving to leverage the global policy change necessary to implement a successful shift to sustainable healthcare systems.

BOOTH 165

GMW Associates

955 Industrial Road • San Carlos, CA 94070 USA
Phone: +1 650 802 8292 • Fax: +1 650 802 8298 • Email: ian@gmw.com
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GMW will be showing Instrumentation for magnetic field and electric current measurement including:

Bartington Three-Component Fluxgate Magnetic Field Sensors with frequency response from dc to 3kHz for high resolution mapping or active cancellation of fringe magnetic fields. Metrolab Three Component Fluxgate and Hall Teslameters with USB Interface with Probes covering the field range from 10nT to 20T for mapping fringe and magnet fields for safety and equipment placement requirements. Metrolab NMR Teslameters and Probe Arrays for B0 magnet mapping and shimming. PEM Flux Probes for ac and pulse fields with single or differential coils and frequency response bands that can be specified between <1Hz to about 20MHz. LEM very low noise Current Transducers for variable field magnet control, measurement of magnet charging currents and gradient amplifier test. Magnelab Current Transformers for rf and pule current measurement to over 500MHz. GMW Resistive and HTS-110 Superconducting Electromagnets and Coils for biological, materials and device research, development and testing.

BOOTH 364

Guerbet LLC

1185 West 2nd Street • Bloomington, IN 47403 USA
Phone: +1 812 333 0059 • Fax: +1 812 333 0084 • Email: shelley.nelson@guerbet-group.com
www.guerbet-us.com

Since 1901, Guerbet has been a pioneer in the development of contrast media for medical imaging. Its products are marketed in over 130 countries and relied on by over 60,000 healthcare professionals to diagnose disease and assess treatment efficacy. Through involvement in over 100 R&D partnerships, Guerbet is fueling progress in imaging technologies. In the US, Guerbet LLC, the U.S. subsidiary, was established in January of 2002 is responsible for the marketing, sales , and distribution of OXILAN® (ioxilan) Injection, a nonionic low-osmolar and low-viscous agent for diagnostic and interventional procedures, and HEXABRIX® (ioxaglate meglumine 39.3% and ioxaglate sodium 19.6%) Injection, an ionic, low-osmolar iodinated contrast agent for diagnostic and interventional cardiac and interventional radiology procedures. Guerbet is also the sole supplier of Lipiodol® (ethyl esters of iodized fatty acids of poppy seed oil), an iodinated, poppy seed oil based x-ray contrast medium used for diagnostic and interventional imaging.

BOOTH 158

ISMRM BRONZE CORPORATE MEMBER

Hitachi Medical Systems America, Inc.

1959 Summit Commerce Park • Twinsburg, OH 44087 USA

Phone: +1 330 425 1313 • Fax: +1 330 405 8173 • Email: johnstonm@hitachimed.com

www.hitachimed.com

Hitachi Medical Systems America (HMSA) located in Twinsburg, Ohio, a wholly owned subsidiary of Hitachi Medical Corporation offers a broad range of diagnostic imaging equipment including MRI, CT and Ultrasound. Our innovations in diagnostic imaging provide technology that drives clinical solutions to deliver diagnostic confidence, improve workflow efficiency and provide a better patient experience. In addition to exceptional equipment, HMSA is known for its comprehensive customer support programs to maximize the lifecycle value of equipment through responsive service maintenance, significant software upgrades and on-going applications support.

BOOTH 126

International Electric Company

Sahaajankatu 48 • Helsinki, FI-00880 Finland

Phone: +358 09 759 4470 • Fax: +358 09 759 447 57 • Email: kimmo.alho@ieco.fi

www.ieco.fi

International Electric Co. (IECO), established in 1974, designs and manufactures precision power electronics, MRI gradient amplifiers, bipolar/unipolar magnet power supplies, and precision temperature controllers for MRI and other applications.

IECO introduced its first gradient amplifier in 1994. This revolutionary PWM amplifier enabled excellent image quality in open MRI systems. Simultaneously IECO also launched the first D-class magnet power supply delivering new efficiency levels with 0,1ppm accuracy. IECO's expertise has recently been utilized in the development of the industry's first High Temperature Superconductive (HTS) MRI magnets.

IECO gradient amplifiers and bipolar magnet power supplies have modular design so they can be flexibly matched to a wide range of coils. Compact amplifier units can be connected in series or in parallel in Master/Slave operation to gain output voltages up to 1100V and output currents over 1500A. Amplifiers are utilized in resistive, superconductive and permanent magnet MRI systems, both in human and in research scanning systems. IECO bipolar magnet power supplies are ideal for e.g. pulsed magnet applications.

IECO has ISO 9001 and ISO 13485 certified quality system and is headquartered in Helsinki, Finland.

BOOTH 342

International Society for Magnetic Resonance in Medicine

2030 Addison Street, Suite 700, Berkeley, CA 94704 USA

Phone: +1 510 841 1899 • Fax: +1 510 841 2300 • Email: info@ismrm.org

www.ismrm.org

On 1 January 1994, the Society of Magnetic Resonance in Medicine and the Society of Magnetic Resonance Imaging merged to form the Society of Magnetic Resonance (now named the International Society for Magnetic Resonance in Medicine). The first annual meeting of the merged Society was held in Dallas, Texas, USA, in March 1994. The most recent annual meeting was held in Stockholm, Sweden in 2010.

The merged International Society for Magnetic Resonance in Medicine is an international, nonprofit, scientific association whose purpose is to promote communication, research, development, and applications in the field of magnetic resonance in medicine and biology and other related topics and to develop and provide channels and facilities for continuing education in the field. Its multidisciplinary membership of over 6,000 consists of clinicians, physicists, engineers, biochemists, and technologists.

In addition to its large scientific meetings, the Society holds workshops and publishes two journals, *Magnetic Resonance in Medicine* and the *Journal of Magnetic Resonance Imaging*, and a newsletter, *MR Pulse*. It also sponsors study groups on specific areas of scientific interest and chapters based on geographical location.

BOOTH 236

Invivo

3630 SW 47th Avenue • Gainesville, FL 32608 USA

Phone: +1 877 468 4861 • Email: info@invivo.com

www.invivocorp.com

Invivo is proud to deliver innovative high performance RF coils and advanced clinical MRI solutions, including visualization, analysis, MRI targeting and reporting systems for breast, prostate, neuro, orthopedic, and fMRI applications. System solutions streamline MR image viewing, provide automatic analysis processing, simplified review and interventional planning tools for rapid, repeatable results and improved diagnostic confidence. Invivo is also the world leader in MRI wireless patient monitoring, providing accurate and high performing care solutions for your MRI patients. Technology leaders in the MRI now and for the future, Invivo brings innovation to you. For more information, visit www.invivocorp.com or call 877-INVIVO1.

BOOTH 201

KinetiCor

4471 Kahala Ave. • Honolulu, HI 96816 USA
Phone: +1 808 366 0333 • Email: info@kineticor.com
www.kineticor.com

KinetiCor is a medical imaging company dedicated to bringing razor sharp clarity to MR imaging. Our patented prospective motion correction optical imaging technology delivers unparalleled performance to fully optimize the power of MR imaging. One of the biggest challenges in MR imaging today is blur caused by patient motion. Often those patients that need a scan the most are the ones who cannot keep still, due to trauma, a medical condition or non-compliance due to their youthful age. Many require sedation, or just cannot be scanned. KinetiCor's motion correction adjusts for patient motion prospectively in real-time, enabling an MR scanner to adjust the image acquisition plane with the patent movement, ensuring that every MR scan is razor sharp. KinetiCor's prospective motion correction is available for research purposes to MR research centers worldwide.

BOOTH 361

Kopp Development, Inc.

785 NE Dixie Hwy. • Jensen Beach, FL 34957 USA
Phone: +1 772 225 6932 • Fax: +1 772 225 6291 • Email: info@koppdevelopment.com
www.koppdevelopment.com

Kopp Development Inc., the world leading manufacturer of ferromagnetic detectors for MRI Safety, is proud to announce the newest generation of FerrAlert™ detectors, HALO II. FerrAlert™ detectors are recognized to be the most accurate ferromagnetic detectors for MRI. In addition, they have been independently tested to be the most sensitive in a real-world MRI environment.

All FerrAlert™ detectors incorporate our unique, patented technology to detect and precisely locate offending ferrous objects. This unique and timesaving feature makes them the preferred choice by hospitals and imaging centers worldwide.

The new FerrAlert™ HALO II detectors incorporate our new Visual Advanced Warning Technology, which will bring to our customers an unparalleled ease of use and satisfaction.

Please visit us at booth 361 at ISMRM 2013 to see all our MRI Safety Solution products.

BOOTH 181

Liquids Research, Ltd.

Office 9, Mentec • Bangor, Gwynedd LL57 2UP UK
Phone: +44 0 1248 352204 • Email: mail@liquidsresearch.co.uk
www.liquidsresearch.co.uk

Liquids Research Limited, founded in 1990 by Professor K. O'Grady and Dr S. W. Charles, is a leading manufacturer of ferrofluids and magnetic nanoparticles, occupying modern facilities in the Mentec Technology Centre, a science park in Bangor, North Wales.

The founders are internationally recognized as experts in the field of magnetic liquids, ferrofluids, magnetic inks, MR fluids and bio separation, leading many research projects covering the fundamental aspects of these materials and other fields also based on fine magnetic particles.

The company is continuously updated on the latest research and development and thus is an obvious choice for consultancy advice in these fields. The founders belong to a number of committees involved with magnetic liquids and are the authors of many original scientific papers.

Fine particles of ferrites, typically iron oxides are available in a range of sizes from 10nm diameter up. Our new unique Controlled Growth Process can produce particles of highly uniform size and magnetic properties. Such particles are available either ready coated with a range of dispersants or in uncoated form suitable for coating with proteins or other materials for subsequent in-vitro applications.

BOOTH 110

LMT Medical Systems GmbH

Maria-Goeppert Straße 5 • Luebede, 23562 Germany
Phone: +49 451 6933 190 • Fax: +49 451 6933 19 299 • Email: jarosz@lammersmedical.com
www.lmt-medicalsystems.com

LMT Medical Systems GmbH was founded in 2007. The company, which is based in Luebeck, Germany, develops MRI coils for distribution under its own name. LMT Medical Systems benefits from the long-term experience in development and production of MR Diagnostic related products of LMT Lammers Medical Technology GmbH, which is owned by the same founder.

LMT Medical Systems specializes in miscellaneous MRI neonatal array coils. Her present focus is on development of neonatal array coils for the MR Diagnostics Incubator System nomag® IC - an Incubator for newborns and premature babies, for examination with magnetic resonance tomography.

More information on the company is available at www.lmt-medicalsystems.com

BOOTH 183

MagResource (a co-exhibitor with MRITec/ MR:comp)

4560 Algonquin Trail • Green Bay, WI 54313 USA
Phone: +1 866 760 3464 • Fax: +1 866 514 9105
www.magresource.com

www.MagResource.com provides a searchable online database of printable MRI safety information for medical implants.

Our database lists over 6800 implants & features daily updates.

MagResource database has the most comprehensive and up-to-date MRI Implant Safety information in the world. MagResource was designed by an MRI Tech for MRI Techs!

BOOTH 127

Metrasens, Ltd.

2150 Western Court, Suite 360 • Lisle, IL 60531 USA
Phone: +1 630 541 6509 • Fax: +1 630 541 5733 • Email: DCook@metrasens.com
www.metrasens.com

Meet the coauthor, Dr. Mark Keene, who presents the study on Detection of Implants and Other Objects using a Ferromagnetic Detection System: Implications for Patient Screening Prior to MRI.

Choose Ferroguard's industry-leading screening and entry control safety solutions and you can be confident that ferrous objects, large and small, will be detected before the threshold of your MRI room. Ferroguard Assure combines unique Visual Early Warning (ViEW®) technology to alert you to risk items well in advance of the doorway, with new Smart Alarm™ to maximize workflow efficiency and minimize alarm fatigue. Ferroguard Screener is the most sensitive ferromagnetic screener available, ideal for excluding the smallest items for maximum safety and image quality. With Ferroguard you can depend on premier planning, installation, ongoing technical support and accredited training options.

BOOTH 307

Miltenyi Biotec

Friedrich-Ebert Str.68 • Bergisch Gladbach, 51429 Germany
Phone: +49 2204 83061 • Fax: +49 2204 85197 • Email: viscover@miltenyibiotec.de
www.viscover.com

Miltenyi Biotec's VISCOVER™ product line is the first comprehensive portfolio of commercial Small Animal Imaging agents worldwide. For both pre-clinical pharmaceutical and basic research, it will enhance and advance your in vivo pre-clinical studies. This unrivalled, innovative portfolio covers all principal modalities: MRI, CT, Ultrasound and Optical Imaging.

BOOTH 164

MR Instruments, Inc.

5610 Rowland, Inc. • Minneapolis, MN 55343 USA
Phone: +1 952 746 1435 • Fax: +1 952 746 1437 • Toll Free: +1 888 672 6457 • Email: abeck@mrinstruments.com
www.mrinstruments.com

MR Instruments is an independent designer and manufacturer of advanced MRI RF coils with over ten years of RF coil design experience. The Company continues on the path of designing superior products that enhances the patient experience at the lowest possible cost to the customer.

In 2009 MR Instruments introduced the first clinically available 32-channel, 3.0T head coil. We strive for continual product improvement and have recently completed our 4th generation of this coil providing superior SNR compared to competing products. This advanced technology has made MR Instruments the leader in independent coil manufacturers for high channel count RF coil technology. In 2010 the 16-channel Head coil was added to the portfolio for both 1.5T and 3.0T and is available to the research community.

MR Instruments continues to improve its product line by introducing the latest in flexible coils with its DuoFLEX® Coil Suite and DuoFLEX® Interventional Suite for 1.5T and 3.0T. The DuoFLEX Coil Suite is the latest in flexible coil technology and provides improved signal in an 8-channel phased array configuration that is designed to easily be used with multiple anatomies.

MR Instruments continues to expand through development programs with top research facilities and work with major OEMs.

BOOTH 242

MR Solutions, Ltd.

Unit 1H, Merrow Business Park • Guildford, Surrey GU4 7WA UK
Phone: +44 1483 532 146 • Fax: +44 1483 594084
www.mrsolutions.com

MR Solutions has been a world leading manufacturer of MRI spectrometer consoles for clinical and research MRI systems for over 25 years. With a background based on the supply of spectrometers for MRI systems from 0.1T to 4.7T for whole human body applications and from 0.01T to 11.7T for research we bring a wealth of experience to the marketplace.

MR Solutions is pleased to exhibit its new 0 to 3.0 Tesla bench top pre-clinical MRI system specifically designed for rat and mouse studies, molecular imaging, multi-nuclear and multi-modality applications. Based on revolutionary cryogen free superconducting magnet technology this system is designed to complement and operate in close proximity to other modalities including SPECT, PET and optical.

In addition our latest MRI spectrometer, the EVO, has an unlimited number of transmitters and receivers and a wealth of software. Full phased array support is offered.

ISMRM BRONZE CORPORATE MEMBER

BOOTH 183

MRI Tec – MR:comp GmbH

Buschgrundstr. 33 • Gelsenkirchen, NRW 45894 Germany
Phone: +49 209 1497730 0 • Fax: +49 209 1497730 • Email: info@mri-tec.com
www.mri-tec.com • www.mrcomp.com

www.MRI-Tec.com is your provider for all products and services for the MRI environment. Benefit from our strength the competence of our strong partners. MRI-Tec is distributing worldwide MR Safe and MR Conditional products like equipment, tools and accessories. Offering MR:comp's seminars in USA and Europe for several occupational groups concerning MR Safety and Compatibility as well as www.mrcomp.com consulting services for R&D and MRI safety testing for implants and other medical devices according to standardized test methods of ASTM, IEC, ISO. Get also MagResource in the EU, the most complete and up-to-date database of MRI implant safety information in the world, www.MagResource.eu. Offering worldwide, www.MRI-Tec.com is your ONE-STOP-Shop for all your needs for the MRI environment wherever you are located.

BOOTH 305

MRIpad

7 Industrial Way • Salem, NH 03079 USA
Phone: +1 603 890 9007 • Email: info@mripad.co
www.mripad.co

The MRIpad™ is an inflatable mattress pad designed to reduce patient callbacks, and decrease patient anxiety by increasing patient stability and comfort during MRI scans. The MRIpad™ takes seconds to put in place and is inflated according to each patient's weight and comfort needs. The patented engineering renders lateral support and comfort, while decreasing pressure points by filling supine-position voids. The MRIpad™ can be used with patients of any size and on most MRI coils.

BOOTH 174

Nata Technologies

114-250 Schoolhouse Str. • Coquitlam, BC V3K6V7 Canada
Phone: +1 604 939 2553 • Fax: +1 604 939 2653 • Email: sales@natatech.com
www.natatech.com

Nata Technologies (Vancouver, Canada) is an engineering, development and production company providing research tools for functional MRI (fMRI) and MEG applications. Products include fiber optic response pads, fiber optic joysticks, fiber optic mouse and trackballs. The company provides custom solutions such as 3D fiber optic joysticks, fiber optic keyboards and pianos, and others. All products are fully compatible with any MRI scanners as response devices do not include any metal, they are built from plastic, glass and ceramic parts.

Products have superior performance as they are developed by scientist and engineers with wealth of expertise in the field of life science and technology.

BOOTH 128

Neoptix Fiber Optic Sensors, Inc.

1415 Frank Carrel, Suite 220 • Quebec, QC G1N 4N7
Phone: +1 418 687 2500 Ext. 228 • Fax: +1 418 687 2524 • Email: mdore@neoptix.com
www.neoptix.com

Neoptix fiber optic temperature sensors are designed for perfect integration into your medical application. Made out of dielectric materials, our temperature sensors are immune to radiation and other interferences. Optical sensors are also inherently transparent to medical imaging techniques.

BOOTH 320

NordicNeuroLab AS

Møllendalsvein 65C • Bergen, N-5009 Norway
Phone: +47 557 07095 • Fax: +47 557 07096
www.nordicneurolab.com

With over a decade of experience, NordicNeuroLab (NNL) provides products and solutions that define the field of functional MR imaging. We understand the growing need for reliable and innovative tools in this growing field. As a result, we closely collaborate with research and clinical teams from both academic and medical centers, MR system manufacturers, and third party vendors to develop and manufacture hardware and software solutions that meet the needs of very experienced centers while developing training programs to make fMRI easy to adopt for more novice users. From state of the art post-processing and visualization software for BOLD, Diffusion/DTI, and Perfusion/DCE imaging to fMRI hardware for audio and visual stimulation, eye tracking, and patient response collection, NNL's products are used around the world by researchers and clinicians alike. Ultimately, we are dedicated to bringing the most advanced neuro-imaging tools to market while making functional MRI programs easy to implement.

BOOTH 260

ISMRM ASSOCIATE CORPORATE MEMBER

Nova Medical, Inc.

150 West Street, Suite 201 • Wilmington, MA 01887 USA
Phone: +1 978 988-5553 • Fax: +1 978 988 5556
www.novamedical.com

Nova Medical, Inc. (Wilmington, MA, USA), a leader in high field RF coil engineering, provides a broad range of high performance coils for both medium and high field MR systems. Our standard product line includes multi-channel whole brain arrays for 3T and 7T, volume transmit solutions for 7T, and parallel imaging arrays for field strengths from 1.5T to 7T. Please come by and see our latest thirty-two channel whole brain solutions for 3T and 7T.

BOOTH 111

NUKEM Isotopes GmbH (a co-exhibitor with Rockland Technimed, Ltd.)

Industriestr. 13 • Alzenau, 63755 Germany
Phone: +49 6023 91 1474 • Fax: +49 6023 91 1614 • Email: tilo.glaeser@nukemisotopes.de
www.nukem-isotopes.com

NUKEM Isotopes GmbH, together with its partner, Rockland Technimed, Ltd. offers and markets a new line of real time , non-radioactive, metabolic MRI contrast medium namely Oxy-17® for use in conjunction with an unaltered MRI scanner, patented and registered as Oxy-17®.

Abilities of Oxy-17®, OxyGasTM & OxyFusion™

– Ability to assess tissue viability in cases of neurological and cardiovascular catastro-phes (Heart or Stroke attack)

– Ability to determine Oxygen Extraction Fraction [OEF] in stroke at a 1 mm resolution, because they can cross the intact blood brain barrier [presently can only be done with PET/CT, using a radio-active isotope Oxygen-15] at its best resolution of 6 mm.

– Ability to track tumor angiogenesis

– Oxy-17® and OxyMaps™ are useful as "Non Invasive Real-time Tissue Stress Moni-tor" to evaluate normal and abnormal Oxygen Consumption rates in a biological sub-ject, without any limitations on repeating the test due to dosage and/or equipment.

– Oxygen-17 in the form of gas (OxyGas™) is a paradigm shifting new contrast medium for NMR imaging and provides a breakthrough of Tissue Viability (Stress) Imaging us-ing standard clinical MRI scanners, a patented technology of Rockland Technimed.

– Oxygen-17 is available in the form of water with different enrichments up to 90%.

– OxyFusion™ is a pre-filled, ready to use syringe consisting of an Oxygen transporting Nano-emulsion with OxyGas™ for IV delivery to target tissue for diagnostic imaging –currently for preclinical animal investigations. (Being introduced at this year's ISMRM. Please visit booth 111 for more information)

Our products are manufactured under conditions in compliance with cGMP requirements of 21 Code of Federal Regulations: Parts 210 and 211.

BOOTH 120

Olea Medical

93 Avenue Des Sorbiers • La Cotat, 13600 France
Phone: +33 442 712 420 • Fax: +33 442 712 427 • Email: christele.gauvier@olea-medical.com
www.olea-medical.com

Olea Medical®, a provider of advanced MR and CT perfusion imaging post-processing, designs and markets innovative medical imaging applications significantly improving diagnostic processes and treatment evaluation.

Olea Sphere® is an image processing software package intended for picture archive, post-processing and communication. It standardizes across vendors both viewing and analysis capabilities of functional and dynamic MRI and CT imaging datasets. It features innovative image viewing and analysis, processing of PWI post-processing, permeability computation, as well as diffusion DWI and DTI post-processing, fiber tracking post-processing, and longitudinal analysis of multiple time points.

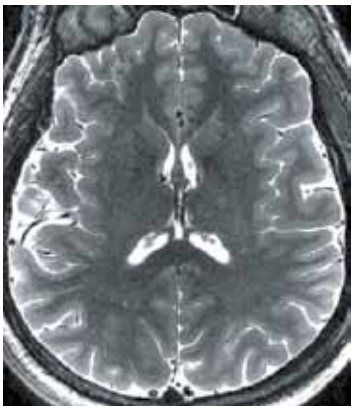
Olea Medical's applications are compliant with the DICOM standard and Windows, Macintosh or Linux operating systems. Olea Sphere® runs on any standard off-the-shelf workstation or it can be used through thin deployment. The DWI Module is used to visualize local water diffusion properties from the analysis of MR-DWI data. The Fiber Tracking feature utilizes the directional dependency of the diffusion to display different structures within anatomic areas of interest. The perfusion analysis module is used for visualization and analysis of dynamic imaging data, showing properties of changes in contrast over time. Both DSC and DCE MRI perfusion sequences are supported to cover full body analysis.

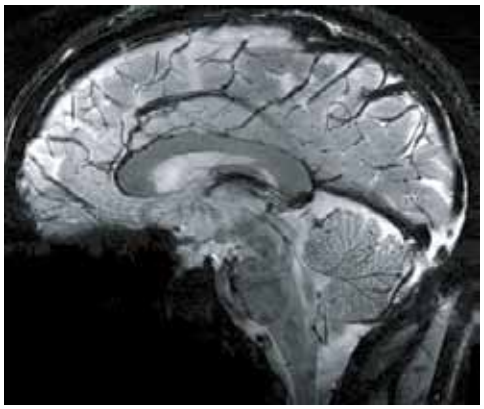
Nova Medical, Inc.

Introducing our latest product line for High Field Neuroimaging

3T 32RX Head Array

- Outstanding Sensitivity
- Optimized for highly accelerated imaging in any plane
- Open front for visual stimuli presentation
- Ideal for fMRI, DTI, spectroscopy and hi-res anatomic imaging





7T 1TX32RX Head Array

- High Efficiency Local TX
- Superb cortical and central brain SNR
- Multi-plane acceleration
- Mirror for rear-view projection
- Available on all platforms

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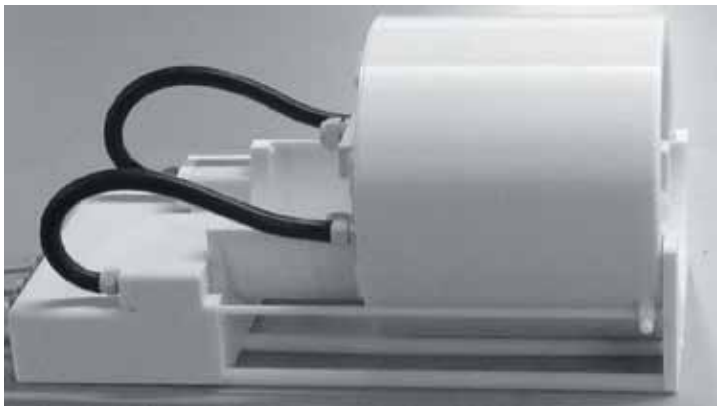

7T 8TX32RX Head Array

- Parallel Transmit with eight fully independent TX channels
- CP Efficiency similar to Nova 1TX
- High performance 32RX for best SNR and parallel imaging capability
- B1 Field correction optimizes 7T image contrast and sensitivity

All products are investigational devices. Federal Law restricts to Investigational Use

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BOOTH 352

OPSENS, Inc.

2014 Rue Cyrille Duquet • Quebec, Quebec GIN 4N6 Canada
Phone: +1 418 682 9996 • Fax: +1 418 682 9939 • Email: mcl@opsens.com
www.opsens.com

Opsens' fibre optic pressure and temperature sensors for physiological measurement deliver unprecedented accuracy and reliability. These sensors are completely immune to MRI/EMI/RFI, miniature in size, customizable and cost competitive, designed specifically for preclinical and clinical studies where robustness and reliability are demanded.

The pressure sensor is offered in different packaging and dimensions depending on your project requirements. Our novel sensor design resolves two of the most important issues faced in the industry: temperature shift and moisture-induced drifting problems.

Opsens temperature sensor ranging from 100 microns to 1.8mm OD offers an accuracy ≤ ± 0.15 °C and a resolution 0.05 °C. These fiber optic temperature sensors are available in both disposable and non-disposable versions.

Opsens' single channel and multi-channel systems, designed for physiology assessment, have a sampling rate ranging from 20Hz to 1 K Hz. These systems feature plug-and-play features, simple to use and dedicated software for data processing and acquisition purpose.

BOOTH 306

PearlTec AG

Rutistrasse 14 • Schlieren, Zurich 8952 Switzerland
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www.pearltec.ch

THE UNIQUE PATIENT POSITIONING SYSTEM

Founded in 2008 in Zurich, Switzerland, Pearltec's goal is to set a new standard in patient positioning and mobilization during medical imaging. After a very successful market introduction in Switzerland and strong interest on the part of customers, Pearltec is now bringing its unique patient positioning device to the rest of the world. The products of Pearltec are a unique patented patient positioning system for both CT's and MRI's. Designed to maximize workflow efficiency through increased patient stability, easier handling, better hygiene and superior patient comfort all leading to better imaging results and fewer repeated procedures. The product is manufactured in Switzerland utilizing a new and innovative Pearltec patented technology that combines soft movable polystyrene pearls with adjustable air chambers to reduce the amount of patient movements. This results in better image quality and a more efficient workflow for your department.

We invite you to review our products at www.pearltec.ch and preview a short product demonstration video on YouTube at www.youtube.com/user/pearltecag . We are confident that you will find that our products can add value to your workflow. For more information please contact us toll free at 1 855 PEARLTEC.

BOOTH 207

Pepric

Kapel Dreef 75 • Leuven, B-3001 Belgium
Phone: +32 16 28 8282 • Fax: +32 16 28 1778 • Email: stephanie.teughels@pepric.com
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Pepric offers instrumentation for quantitative detection of magnetic nanolabels in tissue or blood samples.

Determine the bio distribution quantitatively and perform longitudinal migration studies of cells labeled with stable magnetic nanoparticles.

Quantify magnetic labels in tissue and blood samples with the Pepric tool.

Pepric instruments are based on pEPR (particle-EPR) resulting in a direct and selective detection of magnetic nanoparticles. The method provides the capability of quantifying particles or magnetically labeled cells. And therefore, pEPR is complementary to MRI having an excellent spatial resolution for cell or particle location.

The pEPR method is non-invasive for the cells, cells keep their functionality.

Measurement results are obtained by simple and fast operation of the instrument.

Blood and tissue samples are analyzed directly and do not require specific sample preparation.

And tissue samples are conserved for further analysis, for example for histology.

Learn more about it, visit www.pepric.com, or visit Pepric in Leuven (Belgium) and perform test experiments with the Pepric tools.

YOU'VE ONLY JUST ARRIVED & ALREADY WE'RE THINKING OF YOUR NEXT TRIP

As the official airline network for the ISMRM's 21st Annual Meeting and Exhibition, we'd like to thank you for choosing the Star Alliance network and hope that all goes really well for you here today.

Whilst you concentrate on the day's events, we hope you'll consider us the next time you need to attend a conference.

With over 21,900 flights a day to 1,329 airports across 194 countries, our 27 member airlines will extend a wide choice of flights to any future conference you're planning to attend. And no matter which of those airlines' frequent flyer programmes you belong to, you can earn and redeem miles across all of them.

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Information correct as at 11/2012

BOOTH 166

The Phantom Laboratory

PO Box 511 • Salem, NY 12865 USA

Phone: +1 518 525 1190 • Fax: +1 518 692 3329 • Toll Free: +1 800 525 1190 • Email: statlter@phantomlab.com

www.phantomlab.com

The Phantom Laboratory (www.phantomlab.com) manufactures a wide variety of medical imaging and radiation therapy phantoms. Working with Owl (www.imageowl.com) they offer the Magphan® Quantitative Imaging Phantom (used in the ADNI study) and image distortion measurement services. They feature phantoms for CT, MR, Digital and SPECT quality assurance, radiation therapy and radiosurgery treatment evaluations, radiologic technologist training and custom phantoms for OEM applications.

BOOTH 274

ISMRM GOLD CORPORATE MEMBER

Philips Healthcare

Boschdijk 525 • Eindhoven, 5621JG Netherlands

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www.healthcare.philips.com/us_en/

Royal Philips Electronics of the Netherlands is a diversified Health and Well-being company, focused on improving people's lives through meaningful innovations.

The future of healthcare is one of the most pressing global issues of our time. The Healthcare sector's vision is to improve the quality of clinicians' and patients' lives by simplifying the delivery of healthcare, improving clinical outcomes and reducing healthcare system costs around the world. This includes helping to improve the diagnosis, treatment and management of many of today's deadly and debilitating diseases, such as cancer and heart disease.

By approaching healthcare from the perspective of a patient or a physician, we believe we can better understand clinical needs and create more innovative and meaningful solutions. By understanding a medical condition through the entire "cycle of care" – from prevention and screening, through diagnosis and treatment, to recovery and, where needed, long-term management – we can create more effective solutions. By focusing on enabling care in the hospital, in the home, or wherever else the patient might be, we can improve the quality of life for patients and their care providers. Through our consistent focus on all of these aspects of care, we can ultimately create the best solutions.

BOOTH 376

Pure Devices

Eisenbahn Str. 53 • Würzburg, 97084 Germany

Phone: +49 931 7105 3591 • Fax: +49 931 7105 3595 • Email: michael.ledwig@pure-devices.com

www.pure-devices.com

Pure Devices is a manufacturer of state-of-the-art portable MRI scanners made in Germany. Our benchtop MRI scanners research-lab and portable-lab are optimized for scientific as well as educational use. Their compact design and the easy-to-use software offer great opportunities in the scientific laboratory setting. Especially teaching and learning laboratory classes will profit from the hands-on examples made possible with the portable-lab. Scientists familiar to Matlab will enjoy the use of the research-lab. Feel free to visit our booth for a live demonstration.

BOOTH 121

RAPID Biomedical GmbH

Technologiepark, Pav. 4 • Kettelerstr. 3-11 • Rimpar, 97222 Germany
Phone: + 49 0 9365 8826 0 • Fax: +49 0 9365 8826 99 • Email: info@rapidbiomed.de
www.rapidbiomed.de

RAPID Biomedical GmbH is specialized in designing and building RF coils for MRI and NMR spectroscopy.

We customize resonators and surface coils to the individual needs of the researcher in terms of FoV, ROI, field strength, frequencies, housing, interface, etc. Our product range includes 1H as well as multi-nuclear (e.g. 1H / 31P) MR coils for clinical studies for all organs and all MR systems.

The R&D work concentrates on human 7T coils, dual tuned coils and multi array coils for parallel MRI both for human as well as for animal studies. The company collaborates with research institutes, hospitals and MR system manufacturers worldwide. Our sister company RAPID MR International, LLC (www.rapidmri.com), situated in Columbus, Ohio is our contact partner for customers from the United States, Canada and South America. We cordially invite you to visit our ISMRM booth. Take your chance in our traditional quiz and see RAPID products and scientific results first hand.

BOOTH 170

Remcom

315 S. Allen St., Suite 416 • State College, PA 16801 USA
Phone: +1 814 861 1299 • Fax: +1 814 861 1308 • Toll Free: +1 888 7 REMCOM • Email: sales@remcom.com
www.remcom.com

Remcom provides innovative EM simulation software consulting services. XFdtd Release 7 (XF7), our full wave 3D EM solver, simplifies the analysis of complex EM problems and leads the market in FDTD-based modeling and simulation. The Bio-Pro version of XF7 provides accurate predictions of the interaction of electromagnetic fields with biological tissues and includes important bio-EM calculation capabilities such as automatic saving of all steady state conduction currents, electric fields, and magnetic fields. Analysis options are available for device performance, such as tuning, and bio-interaction including SAR. Realistic, poseable human body models are available in addition to CAD-based phantom models. Remcom's products are used for a variety of applications including: Bio/EM effects, MRI, Antenna Design and Placement, Microwave Circuits, RFID, Wireless Communications, EMC/EMI, Photonics and Optical, and more. Remcom offers affordable and creative solutions for any budget or level of need. Learn more at www.remcom.com or by calling +1 814 861 1299.

BOOTH 358

Resonance Technology, Inc.

18121 Parthenia St., Unit A • Northridge, CA 91325 USA
Phone: +1 818 882 1997 • Fax: +1 818 882 5524 • Email: olivia@mrivideo.com
www.mrivideo.com

Resonance Technology, Inc. has been the recognized leader in cutting-edge MRI compatible audio-video systems. The company was founded in 1988 by Mokhtar Ziarati, an Electrical Engineer specializing in ct and MRI, with the goal of eliminating the claustrophobia and discomfort patients often experience during MRI procedures.

In addition to our full line of MRI compatible patient comfort devices, Resonance Technology, Inc. offers our second generation of the first and only truly stereoscopic, SXGA Virtual Reality Display for functional MRI on the market. With unmatched clarity and versatility, VisuaStim SXGA is the perfect choice in visual stimulation displays for fMRI studies. Its compact, eyeglass-like design allows it to be used in all standard Headcoils. The crisp, dual 1280 x 1024 x 3 pixel resolution displays (display contrast ratio;10,000:1) affords brilliant color and crystal-clear picture quality, free of color aberration or pixel dropout. Input from your PC allows real time 3D objects to be displayed to your subjects. The optional MREye eyetracking module adds even more versatility for your critical studies, allowing for a complete input/output device within the bore of the magnet.

A standalone version of our eyetracking system is available for the PC platform, featuring great accuracy and easy set up at a low cost (about 1/3 the cost of any comparable systems). This is the only fMRI eyetracker on the market that includes a built-in camera and operates entirely inside the headcoil. An optional reflective mirror is available for viewing any external visual paradigm presentation.

We also have a full line of Audio and Video Systems for patient comfort applications including the new widescreen Cinema Vision.

BOOTH 111

Rockland Technimed, Ltd.

One International Blvd., Suite 400 • Mahway, New Jersey 07945 USA
Phone: +1 201 512 8721 • Fax: +1 845 426 1109 • Email: pgupte@oxy-17.com • Email: staff@oxy-17.com
www.oxy-17.com

Rockland Technimed Limited (RTL) is a theranostic imaging company committed to the early diagnosis and treatment of hypoxic injury through Oxy-17®, its patented and proprietary metabolic magnetic resonance imaging medium. RTL has the world's largest production source of Oxy-17® Gas, an enriched form of naturally available oxygen, in compliance with the cGMP requirement for medical gases, and commercially available in the United States and European Union for more than 20 years. RTL's lead preclinical candidate, Oxy-17® Fusion, is the first ready-to-use intravenous formulation of Oxy-17® Gas (on a proprietary bioinert nano emulsion); and is currently in regulatory marketing studies in Germany (European Union) and the United States. Oxy-17® Fusion will be commercialized in the United States by RTL, and in the European Union by a joint venture partnership company comprised of RTL and Nukem Isotopes GmbH.

BOOTH 175

SA Instruments, Inc.

PO Box 740 • Stony Brook, NY 11790 USA
Phone: +1 631 689 9408 • Fax: +1 631 689 9410 • Email: suzan@i4sa.com
www.i4sa.com

SA Instruments designs, manufactures and sells physiological monitoring and gating systems and other support products for animal research. Multi-parameter systems measure heart rates > 900 BPM and are compatible with MR, CT, PET, SPECT and Optical imaging environments. Parameters include ECG, temperature, respiration, blood pressure, oxygen saturation, end-tidal CO2 and auxiliary input channels. Waveform and trend data can be captured, stored and displayed. Several advanced fiber optic sensors are available which are MR and CT-compatible. An ultra-miniature fiber optic pressure sensor provides real time pressure measurements in mice, rats and larger animals. The sensor can be used to measure pressure in the heart, ventricles of the brain, spinal canal, etc. It can also be used to make a minimally invasive IBP measurement with a needle stick into an artery. Also available is a ventilator with remote, miniature, pneumatic valves that provides ventilation for animals as small as mice even in the MR environment. Ventilation rates up to 150 breathes/minute are supported. Systems are also available to accommodate monitoring and gating multiple animals in multiple imaging modalities simultaneously. A new water bed heater system allows animal temperature to be regulated even in tight imaging setups.

BOOTH 112

ScanMed

9840 S. 140th St., Suite 8 • Omaha, NE 68138 USA
Phone: +1 402 934 2650 • Fax: +1 402 778 9699 • Email: ljohnson@scanmed.com
www.scanmed.com

ScanMed is a full-service MRI Coil manufacture and coil repair center that also offers a complete coil refurbishment program. As an MRI coil manufacturer, ScanMed offers a wide variety of unique MRI coils to compliment your existing MRI system. Our SemiFlex™ family of coils offers the high performance and high quality of high channel-count coils with the ease of use of a flexible coil.

ScanMed also offers contract engineering, contract manufacturing and custom coil designs to fill any need. Additionally, our ISO-Certified Service department can service all OEM coils. Our OEM trained service staff offers turnaround times from 3 days to 24-hours, with an Industry-Leading warranty on all repairs.

We will be displaying pictures and samples of our MRI Coils.

BOOTH 113

Shelley Medical Imaging Technologies: A Division of Shelley Automation, Inc.

157 Ashley Crescent • London, Ontario N6E 3P9 Canada

Phone: +1 519 690 0874 • Email: bob.gravett@sympatico.ca • Email: bob.gravett@simutec.com

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A leader in MRI compatible respiratory motion platforms, dynamic multi-modality heart phantoms, anatomically correct vascular models, QA flow phantoms and highly accurate programmable physiological flow pumps for quantitative blood flow and angiographic applications (MRA, DSA, CTA), as well as Doppler Ultrasound, Particle Imaging Velocimetry (PIV) & Optical Coherence Tomography (OCT). Programmable pumps and flow phantoms can also be used for iMRI, and endovascular device testing, validation and training. Tissue mimicking materials include; PVA-C, Agar & Silicones.

Custom anatomical structures such as vasculatures, hearts, valves & organs are possible.

NEW PRODUCTS: MRI compatible multi-modality respiratory motion platforms, MRI compatible DCE-perfusion phantom (also compatible with CT & PET) & Anatomically correct coronary arteries (LCA & RCA).

Work-In-Progress: Myocardial First-Pass Perfusion Phantom

BOOTH 310

ISMRM GOLD CORPORATE MEMBER

Siemens AG Healthcare Sector

Henkestaße 127, H CC 431 • Erlangen, 91052 Germany

Phone: +49 91 3184 2924

www.siemens.com/healthcare

The Siemens Healthcare Sector is one of the world's largest suppliers to the healthcare industry and a trendsetter in medical imaging, laboratory diagnostics, medical information technology and hearing aids. Siemens offers its customers products and solutions for the entire range of patient care from a single source – from prevention and early detection to diagnosis, and on to treatment and aftercare. By optimizing clinical workflows for the most common diseases, Siemens also makes healthcare faster, better and more cost-effective.

As a business unit of Siemens Healthcare, Magnetic Resonance offers the most innovative and comprehensive portfolio for MRI – powered by Tim 4G (Total imaging matrix) technology and Dot (Day optimizing throughput). Together, these technologies redefine productivity in MRI. The field strength of MAGNETOM systems range from 0.35 up to 3 Tesla. Siemens was the first to deliver 70cm Open Bore systems for 1.5T and 3T field strength, and also offers one of the broadest range of clinical applications in the industry. Siemens MR's latest innovations are the world's only fully integrated simultaneous whole-body molecular MR (MR and PET) system – Biograph mMR and the 3T system MAGNETOM Prisma with a gradient strength of 80 mT/m @ 200 T/m/s simultaneously to tackle the most demanding MRI research challenges.

More information: www.siemens.com/m

BOOTH 303

St. Jude Children's Research Hospital

262 Danny Thomas Pl., MS 507 • Memphis, TN 38105 USA

Phone: +1 901 595 6214 • Fax: +1 901 833 0113

www.stjude.org

St. Jude Children's Research Hospital, located in Memphis, Tennessee, is a premier center for research and treatment of potentially fatal childhood diseases, including cancer and certain blood, genetic, and immunodeficiency disorders. The hospital's mission is to advance cures and develop the means to prevent pediatric catastrophic diseases through research and treatment. St. Jude is dedicated to providing unsurpassed patient care and to advancing the health of children through biomedical research.

BOOTH 354

Tesla Engineering, Ltd.

Water Lane, Storrington • West Sussex RH20 3EA, UK
Phone: +44 1903 74 3941 • Fax: +44 1903 74 5518 • Email: sales@tesla.co.uk
www.tesla.co.uk

Tesla Engineering Ltd. has manufactured MRI gradient coils in volume since 1985, and continues to produce innovative design solutions for both open and cylindrical magnets. The company has an integrated modeling, design, and manufacturing process, and can undertake projects ranging from one-offs to large production runs.

Tesla and its partner companies, Everson Tesla Inc. in the USA, and Futura in the Netherlands, have expertise in electromagnets, cryomagnets, composites, and high vacuum components, which they apply to the manufacture of high quality electromagnetic products for medicine, science, and engineering.

BOOTH 220

ISMRM BRONZE CORPORATE MEMBER

Toshiba America Medical Systems

2441 Michelle Drive • Tustin, CA 92780 USA
Phone: +1 800 421 1968
www.medical.toshiba.com

An innovator in medical imaging technology, Toshiba America Medical Systems markets, sells, distributes and services diagnostic imaging systems throughout the U.S. Toshiba is committed to providing customers with the patient-focused technology and optimum system performance needed to succeed in today's healthcare marketplace.

BOOTH 304

Visualization Sciences Group

15 New England Executive Park • Burlington, MA 01803 USA
Phone: +1 781 685 4855 • Fax: +1 781 240 6444 • Email: info@vsg3d.com
www.vsg3d.com

Visualization Sciences Group (VSG) is the leading provider of high-performance 3D visualization software for engineers, scientists, and software developers in biomedical life sciences and more.

VSG is showcasing Amira® 3D visualization and analysis software. Amira® is a powerful, multifaceted 3D software platform for visualizing, manipulating, and understanding life sciences and biomedical data coming from all types of sources and modalities.

Amira allows the import and fusion of multi-modal 2D and 3D data and gives insight into materials and components properties on full 3D structures, at any scale and size.

Amira is widely used as the 3D visualization tool of choice to work with clinical or pre-clinical image data from CT, MR, nuclear imaging, ultrasound, optical or electron microscopy. With incredible speed and flexibility, Amira supports molecular models, vector and flow data, simulation data on finite element models, and all types of multi-dimensional image, vector, tensor, and geometry data. Amira enables researchers and engineers to perform interactive exploration, visualization, analysis and measurement.

BOOTH 353

John Wiley & Sons LTD

350 Main Street • Malden, MA 02148 USA
Phone: +1 781 388 8544 • Fax: +1 781 338 8544 • Toll Free: +1 877 762 2974 • Email: CFeeley@wiley.com
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at ISMRM 2013,
Exhibit 220

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BOOTH 355

World Molecular Imaging Society

5839 Green Valley Circle Suite 209 • Culver City, CA 90230 USA
Phone: +1 310 215 9730 • Fax: +1 30 215 9731 • Email: wmis@wmis.org
www.wmis.org

The World Molecular Imaging Society (WMIS) is an organization dedicated to supporting, developing and promoting preclinical and clinical multi-modal molecular imaging in order to understand and effectively treat neurological, cardiovascular, inflammatory, metabolic, oncological and infectious diseases. WMIS members and non-members meet annually at our World Molecular Imaging Congress (WMIC), which is organized by the joint efforts of the World Molecular Imaging Society (WMIS), the European Society for Molecular Imaging (ESMI) and the Federation of Asian Societies for Molecular Imaging (FASMI). The meeting rotates every year between locations in North America, Europe and Asia, and is education and abstract- driven, providing a distinctive platform for scientists and clinicians with diverse backgrounds to interact and present cutting-edge advances in molecular imaging. Industry exhibits include the latest advances in preclinical and clinical imaging applications to create a complete molecular imaging educational technology showcase. The WMIC's goal is to inspire, educate and optimize the community's efforts leading to new medical and molecular imaging discoveries, greater linkages between research and market outcomes, and significant improvements in healthcare. Visit us online at wmis.org and wmicmeeting.org, follow us on Facebook and Twitter, and see us at ISMRM booth 355.

BOOTH 348

ISMRM ASSOCIATE CORPORATE MEMBER

ZMT Zurich MedTech AG

Zeughausstrasse 43 • Zürich, 8004 Switzerland
Phone: +41 44 245 9697 • Fax: +41 44 245 9779 • Email: akgun@zurichmedtech.com
www.zurichmedtech.com

ZMT Zurich Medtech AG (ZMT) is committed to empowering medical technology with computational simulation tools and dedicated evaluation and test systems. ZMT is a sister company of Schmid & Partner Engineering AG (SPEAG) and our strategic research alliance with two leading research institutions, the IT'IS Foundation and ETH Zurich, further ensures that we will always provide the most advanced products and services with an unmatched level of reliability and accuracy.

With SEMCAD X and MUSAIK, SPEAG and ZMT offer unparalleled software tools in computational biomedicine for the complete design, simulation, and safety evaluation of the most complex problems in the MRI and medical implant industries. In addition, as a leader in electromagnetic field test systems, ZMT manufactures Medical Implant Test Systems (MITS), which simulate maximum incident fields of commercial MR scanners for RF and gradient field heating and compatibility of medical implants.

As part of its novel near-field measurement instrumentation, SPEAG has pioneered an experimental probe technology, the Time Domain Sensor (TDS) system, to reliably analyze EM/SAR distributions and to map complex vector B1-fields in real-time. The TDS system can measure both frequency and time-domain information in MRI coils while maintaining complete amplitude and phase information of measured signals.

Visit us at booth 348 to learn more about our solutions first hand.

ISMRM WELCOMES CHAPTER MEMBERS

ISMRM chapters are established on a geographical basis and reflect the multidisciplinary nature and intellectual balance of the ISMRM.

ISMRM BENELUX CHAPTER • ISMRM BRITISH CHAPTER • ISMRM CHINESE CHAPTER
ISMRM GERMAN CHAPTER • ISRAELI CHAPTER • ISMRM ITALIAN CHAPTER
ISMRM NORDIC CHAPTER • ISMRM ROMANIAN CHAPTER

Visit www.ISMRM.org to learn more about the membership, meetings and bylaws of the ISMRM chapter in your area.

Pulse Sequences & Reconstruction A

Pulse Sequences & Reconstruction B

Engineering

Interventional

Engineering

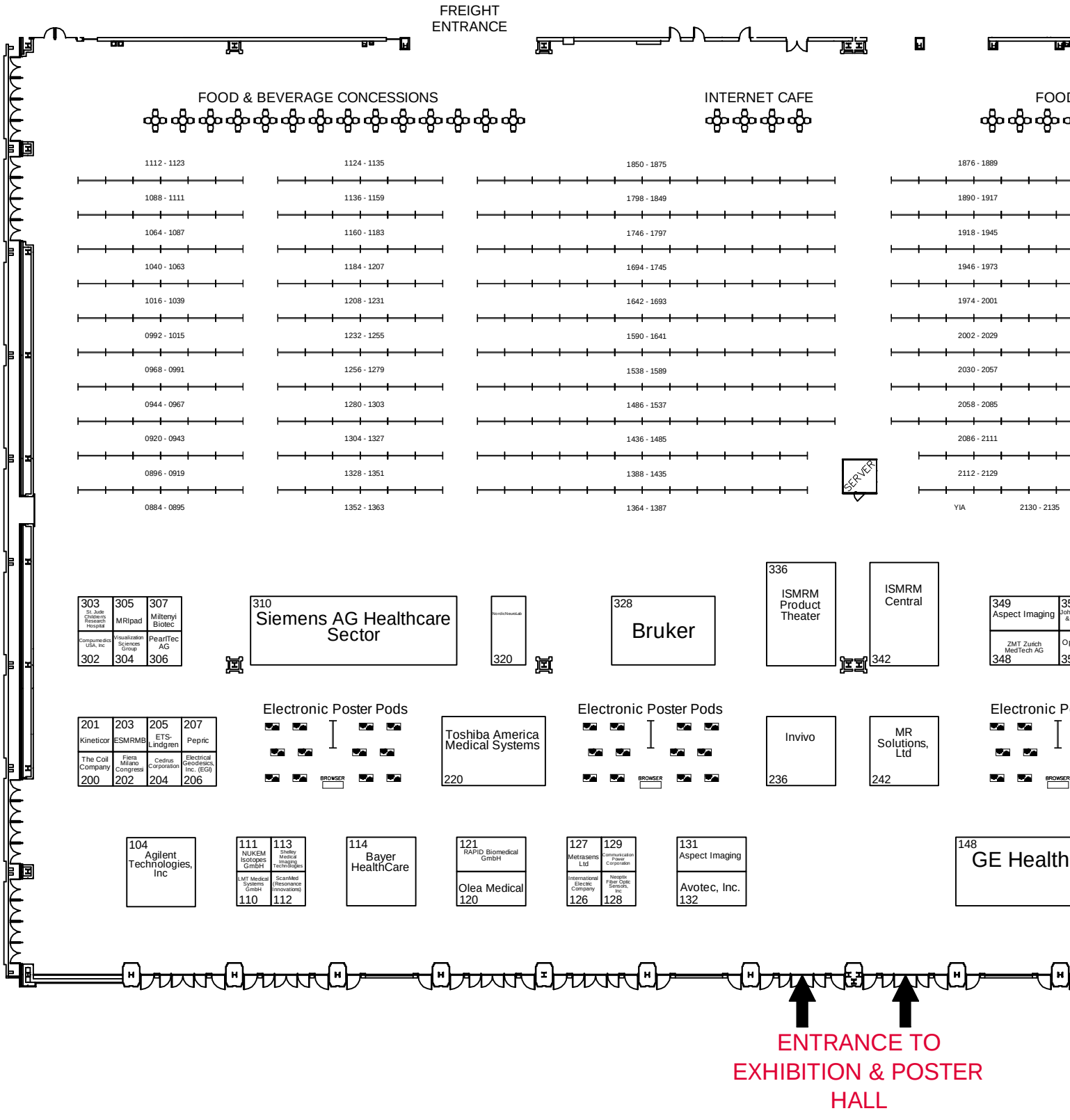
Cardiovascular

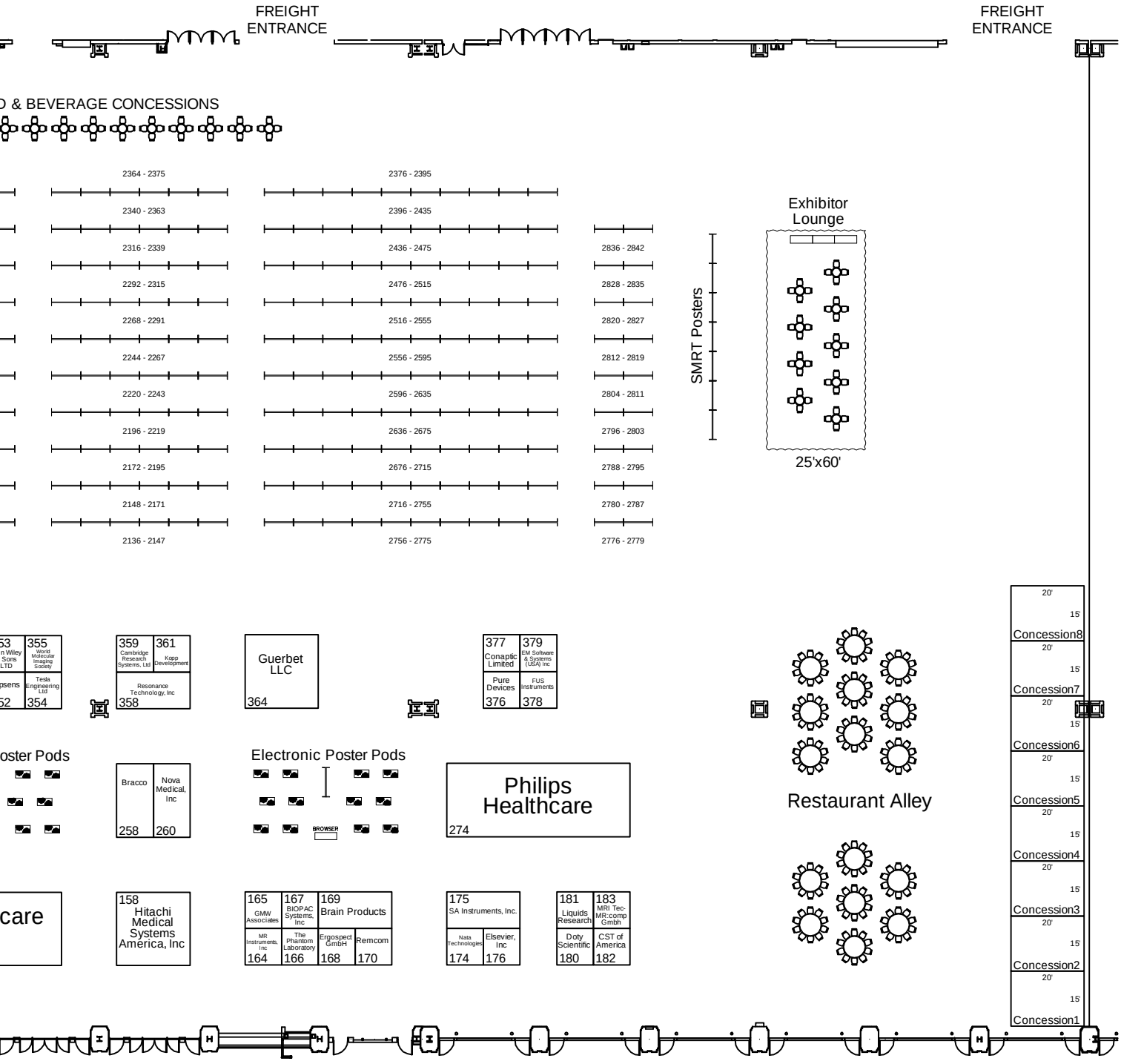
JOIN AN ISMRM STUDY GROUP!

ISMRM Study groups are established to foster interaction among members with a common interest in topical and active areas of MR. If you are a member of the ISMRM or SMRT, you may join any of the study groups and attend meetings being held during the Annual Meeting. To become a member of ISMRM or SMRT, please visit the registration desk.

Cardiac MR Monday, 22 April • Time 16:30 • Room 254 ABC	**MR Engineering** Monday, 22 April • Time 14:15 • Room 155 ABC
Current Issues in Brain Function Wednesday, 24 April • Time 13:30 • Room 155 ABC	**MR Flow & Motion Quantitation** Tuesday, 23 April • Time 13:30 • Room 254 ABC
Detection & Correction of Motion in MRI & MRS Thursday, 25 April • Time 10:30 • Room 254 ABC	**MR in Drug Research** Wednesday, 24 April • Time 13:30 • Room 254 ABC
Diffusion Thursday, 25 April • Time 10:30 • Room 155 ABC	**MR of Cancer** Tuesday, 23 April • Time 16:00 • Room 155 ABC
Dynamic NMR Spectroscopy Monday, 22 April • Time 14:15 • Room 254 ABC	**MR Safety** Monday, 22 April • Time 14:15 • Room 155 ABC
Electro-Magnetic Tissue Properties Wednesday, 24 April • Time 16:00 • Room 155 ABC	**Musculoskeletal MR** Wednesday, 24 April • Time 16:00 • Room 254 ABC
High Field Systems & Applications Monday, 22 April • Time 16:30 • Room 155 ABC	**Perfusion** Tuesday, 23 April • Time 16:00 • Room 254 ABC
Hyperpolarized Media MR Monday, 22 April • Time 10:45 • Room 254 ABC	**Psychiatric MR Spectroscopy & Imaging** Tuesday 23 April • Time 10:00 • Room 254 ABC
Interventional MR Monday 22 April • Time 10:45 • Room 155 ABC	**White Matter** Wednesday, 24 April • Time 10:00 Room • 155 ABC
Molecular & Cellular Imaging Tuesday, 23 April • Time 13:30 • Room 155 ABC	

ISMRM POSTER & EXHIBITION FLOOR PLAN




FREIGHT ENTRANCE
FREIGHT ENTRANCE
D & BEVERAGE CONCESSIONS
2364 - 2375
2340 - 2363
2316 - 2339
2292 - 2315
2268 - 2291
2244 - 2267
2220 - 2243
2196 - 2219
2172 - 2195
2148 - 2171
2136 - 2147
2376 - 2395
2396 - 2435
2436 - 2475
2476 - 2515
2516 - 2555
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2836 - 2842
2828 - 2835
2820 - 2827
2812 - 2819
2804 - 2811
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Exhibitor Lounge
SMRT Posters
25'x60'
355 World Molecular Imaging Society
Tesla Engineering Ltd
354
359 Cambridge Research Systems, Ltd
361 Kopp Development
Resonance Technology, Inc
358
Guerbet LLC
364
377 Conaptic Limited
379 EM Software & Systems (USA) Inc
Pure Devices
FUS Instruments
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Electronic Poster Pods
Bracco
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Nova Medical, Inc
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BROWSER
Philips Healthcare
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Restaurant Alley
158 Hitachi Medical Systems America, Inc
165 GMW Associates
167 BIOPAC Systems, Inc
169 Brain Products
MR Instruments, Inc
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The Phantom Laboratory
166
Ergospect GmbH
168
Remcom
170
175 SA Instruments, Inc.
Nata Technologies
174
Elsevier, Inc
176
181 Liquids Research
183 MRI Tec-MR comp Gmbh
Doty Scientific
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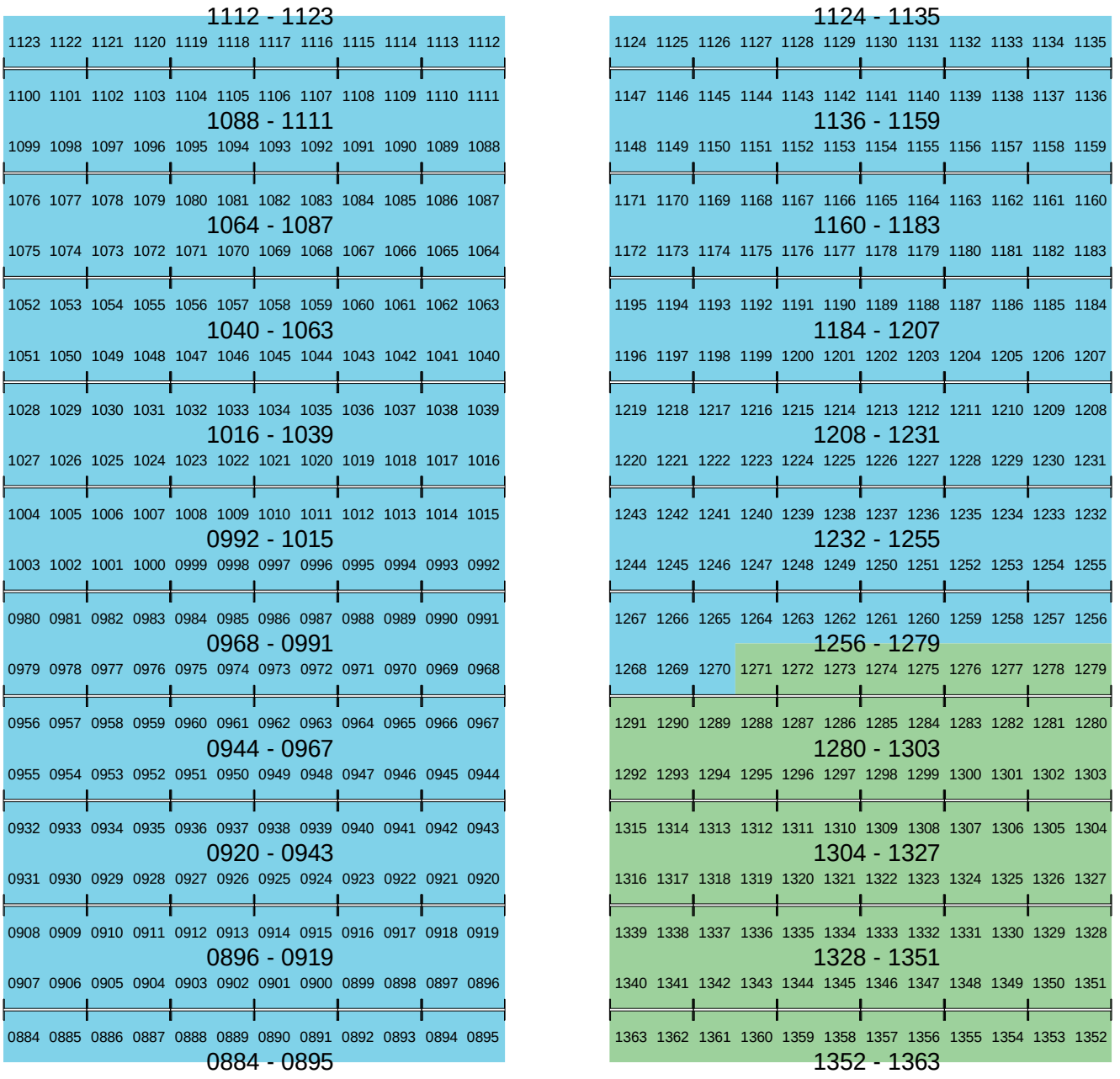
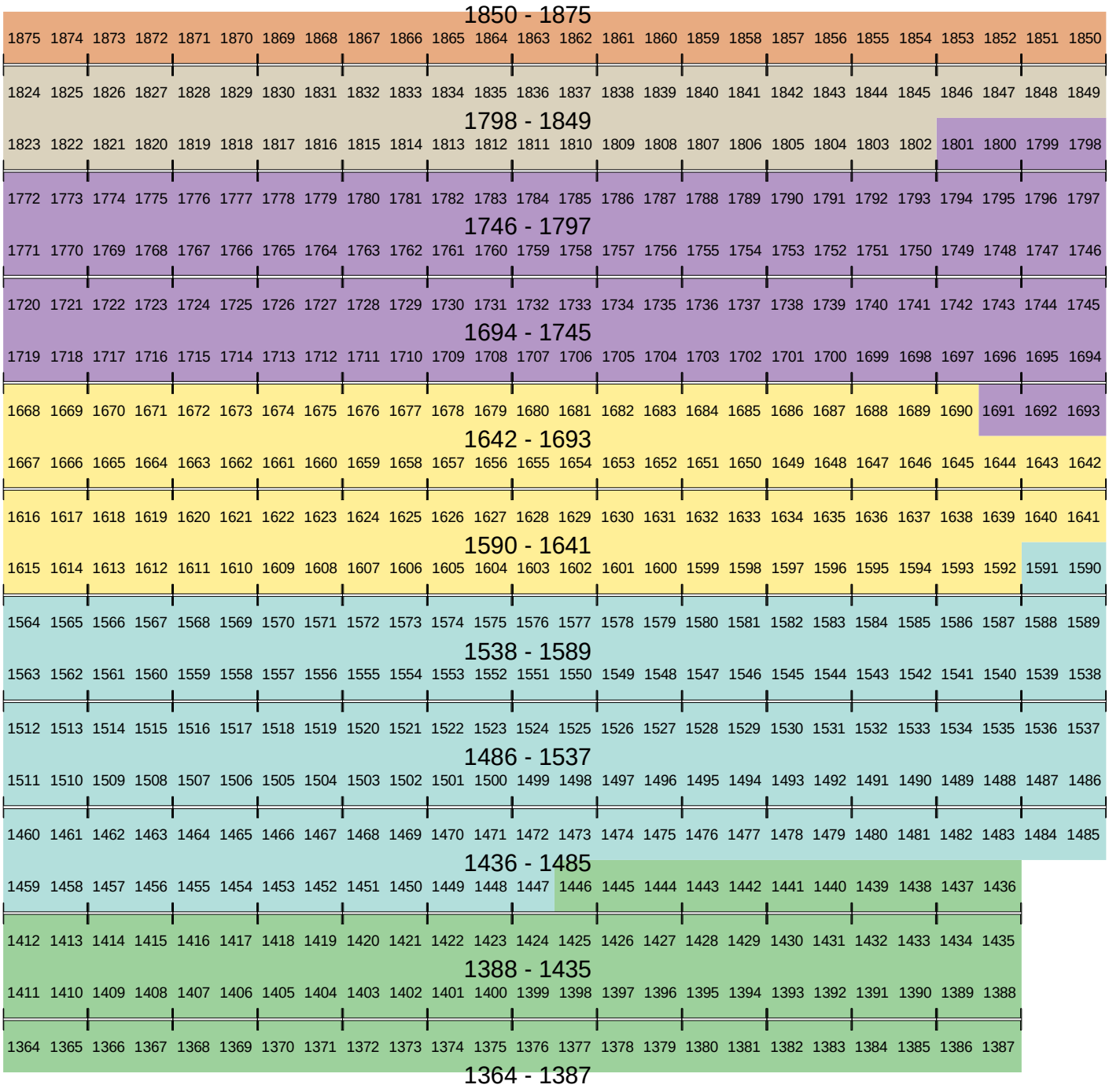
ISMRM POSTER & EXHIBITION FLOOR PLAN



Legend

	NEURO
	CARDIOVASCULAR
	BODY
	MUSCULOSKELETAL
	CANCER
	INTERVENTIONAL
	MOLECULAR IMAGING
	MR SPECTROSCOPY
	DIFFUSION & PERFUSION
	FUNCTIONAL MRI
	PULSE SEQUENCES & RECONSTRUCTION
	ENGINEERING

ISMRM POSTER & EXHIBITION FLOOR PLAN



Legend

	NEURO
	CARDIOVASCULAR
	BODY
	MUSCULOSKELETAL

	CANCER
	INTERVENTIONAL
	MOLECULAR IMAGING
	MR SPECTROSCOPY

	DIFFUSION & PERFUSION
	FUNCTIONAL MRI
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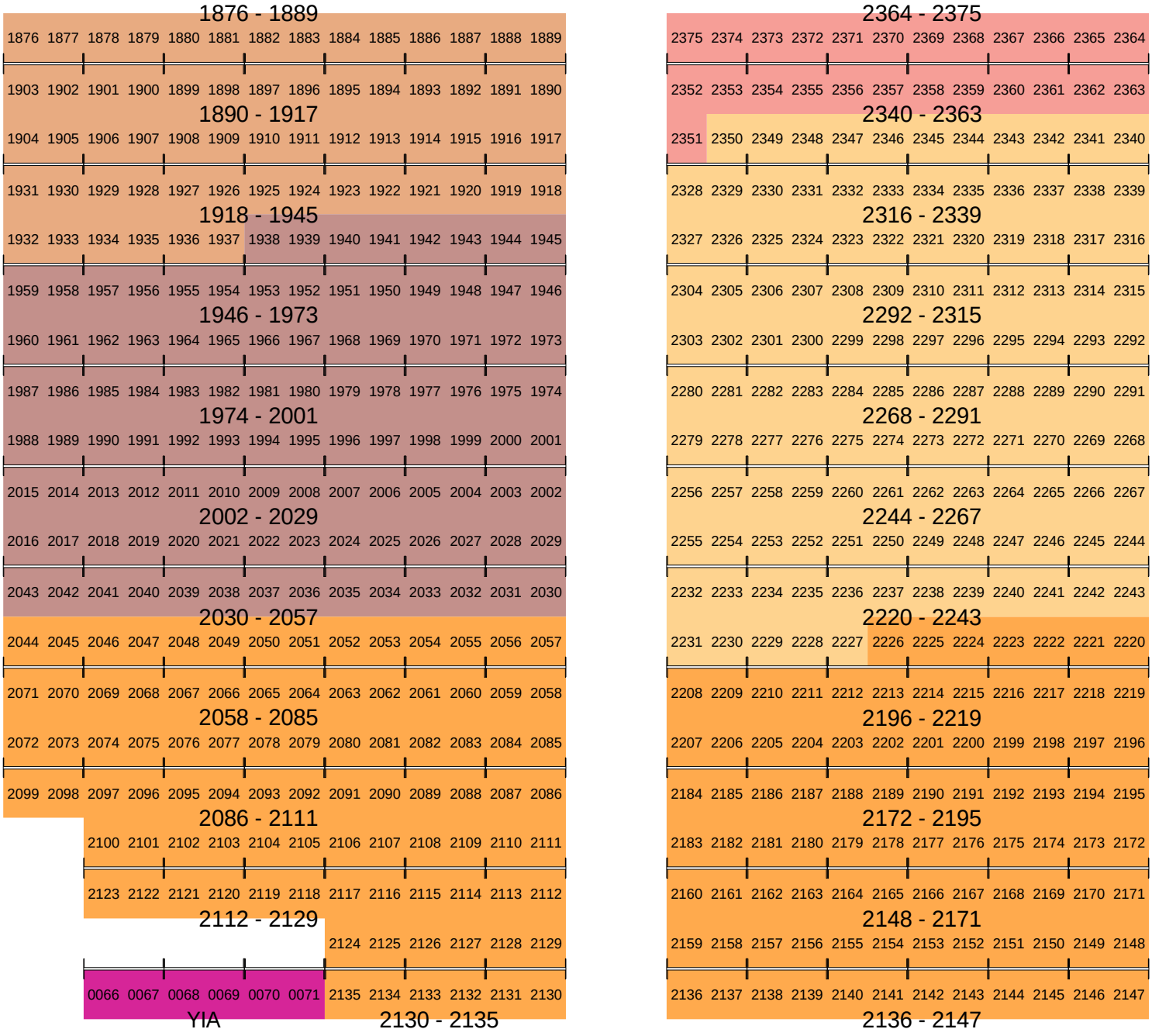
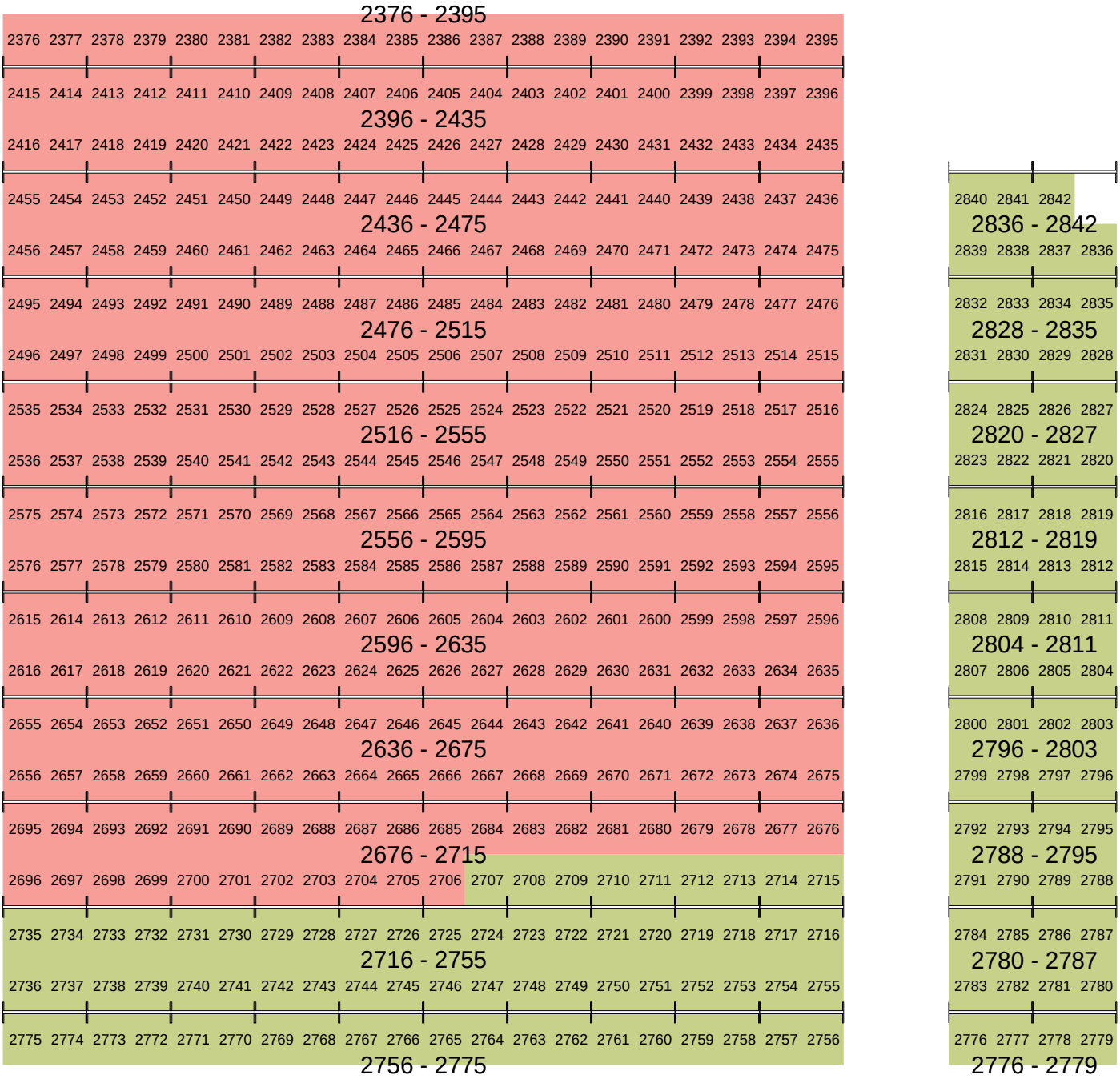
ISMRM POSTER & EXHIBITION FLOOR PLAN



Legend

	NEURO		CANCER		DIFFUSION & PERFUSION
	CARDIOVASCULAR		INTERVENTIONAL		FUNCTIONAL MRI
	BODY		MOLECULAR IMAGING		PULSE SEQUENCES & RECONSTRUCTION
	MUSCULOSKELETAL		MR SPECTROSCOPY		ENGINEERING

ISMRM POSTER & EXHIBITION FLOOR PLAN



Legend

	NEURO
	CARDIOVASCULAR
	BODY
	MUSCULOSKELETAL

	CANCER
	INTERVENTIONAL
	MOLECULAR IMAGING
	MR SPECTROSCOPY

	DIFFUSION & PERFUSION
	FUNCTIONAL MRI
	PULSE SEQUENCES & RECONSTRUCTION
	ENGINEERING

EXHIBITOR INFORMATION & BOOTH NUMBER

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104.....Agilent Technologies, Inc.
110.....LMT Medical Systems GmbH
111.....NUKEM Isotopes GmbH
111.....Rockland Technimed
112.....ScanMed
113.....Shelley Medical Imaging Technologies
114.....Bayer HealthCare
120.....Olea Medical
121.....RAPID Biomedical GmbH
126.....International Electric Company
127.....Metrasens, Ltd.
128.....Neoptix Fiber Optic Sensors, Inc.
129.....Communication Power Corporation
131.....Aspect Imaging
132.....Avotec, Inc.
148.....GE Healthcare
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164.....MR Instruments, Inc.
165.....GMW Associates
166.....The Phantom Laboratory
167.....BIOPAC Systems, Inc.
168.....Ergospect GmbH
169.....Brain Products
169.....Brain Vision LLC
170.....Remcom
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175.....SA Instruments, Inc.
176.....Elsevier, Inc.
180.....Doty Scientific, Inc.
181.....Liquids Research
182.....CST of America, Inc.
183.....MagResource
183.....MRI Tec/MR:comp GmbH

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200.....The Coil Company
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202.....Fiera Milano Congressi
203.....ESMRMB
204.....Cedrus Corporation
205.....ETS-Lindgren
206.....Electrical Geodesics, Inc. (EGI)
207.....Pepric
220.....Toshiba America Medical Systems
236.....Invivo
242.....MR Solutions, Ltd.
258.....Bracco
260.....Nova Medical, Inc.
274.....Philips Healthcare

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When: Sunday, April 21, 2013, 12:30–1:30 PM

Where: Plenary Hall

Faculty: Jeff Weinreb, MD
Val Runge, MD
Tim Leiner, MD

Be sure to visit **Booth #114**, where we will be commemorating 25 years of contrast in MRI!

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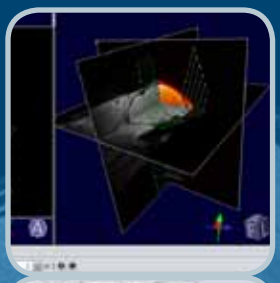

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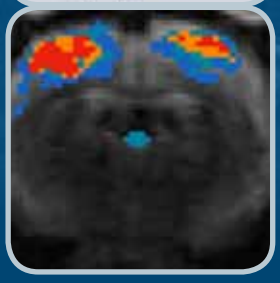

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