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Electronic Poster

Hepatobiliary/Pancreas

Exhibition Hall Monday 14:00-16:00 Computer 1

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- 14:00 2930. Assessment of Hepatic Perfusion with Diffusion Weighted & Dynamic Contrast Enhanced ¹H MRI in CCl₄ Treated Rat Liver**
Andriy Babsky¹, Beena George¹, George Sandusky², Navin Bansal¹
¹Radiology & Imaging Sciences, Indiana University, Indianapolis, IN, United States; ²Pathology & Laboratory Medicine, Indiana University, Indianapolis, IN, United States
- 14:30 2931. Quantification of T₁ Relaxation Time of Liver & Spleen Before & After Oxygen Inhalation in Patients with & Without Liver Cirrhosis**
Kyung Ah Kim^{1,2}, Mi-Suk Park², In Seong Kim Kim³, Myeong-Jin Kim², Ki Whang Kim²
¹Radiology, Inje University Ilsan-Paik Hospital, Goyang-si, Gyeonggi-do, Korea, Republic of; ²Radiology, Yonsei University College of Medicine, Seoul, Korea, Republic of; ³Siemens Medical Solution
- 15:00 2932. Hepatic Fibrosis by Chronic Viral Hepatitis: Segmental Localization of Degree of Fibrosis using Double Contrast Material-Enhanced MRI**
Jeong-Sik Yu¹, Jae Ho Shim, Jae-Joon Chung, Joo Hee Kim, Ki Whang Kim
¹Radiology, Yonsei University College of Medicine, Gangnam Severance Hospital, Seoul, Korea, Republic of
- 15:30 2933. Effect of Cirrhosis on Portal Venous Flow Reserve**
Hwayoung Kate Lee¹, Zhitong Zou², Martin Raymond Prince²
¹Radiology, Columbia University College of Physicians & Surgeons, New York, NY, United States; ²Radiology, Weill Cornell Medical College, New York, NY, United States

Exhibit Hall Tuesday 3:30-5:30 Computer 1

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- 13:30 2934. Comparison of Liver Stiffness with MRE & Fibrosis Quantification with Fibro-C Index in Chronic Hepatitis B Patients.**
Sudhakar Kundapur Venkatesh¹, Dean Tai², Aileen Wee³, Shuoyu Xu⁴, Hanry Yu⁵
¹Diagnostic Imaging, National University Health System, Singapore, Singapore; ²Institute of Bioengineering & Nanotechnology, Singapore, Singapore; ³Pathology, National University Health System, Singapore, Singapore; ⁴Singapore-MIT Alliance, Singapore, Singapore; ⁵Physiology, National University Health System, Singapore, Singapore
- 14:00 2935. Liver Stiffness Assessment by Tagged MRI of Cardiac-Induced Liver Motion**
Sohae Chung¹, Elodie Breton¹, Lorenzo Mannelli¹, Leon Axel¹
¹Center for Biomedical Imaging, Department of Radiology, NYU Langone Medical Center, New York, NY, United States
- 14:30 2936. MR Elastography: Reproducibility of Measurements of Mean Liver Stiffness**
Russell N. Low^{1,2}, Tarek Hassanein³, Neeraj Panchal
¹Sharp & Children's MRI Center, San Diego, CA, United States; ²San Diego Imaging, San Diego, CA, United States; ³Southern California Liver Centers
- 15:00 2937. Tag MRI of the Liver as a New Method to Differentiate Normal vs. Cirrhotic Livers**
Lorenzo Mannelli¹, Orpheus Kolokythas¹, Theodore Jay Dubinsky¹, Martin Gunn¹, Christopher A. Potter¹, Jeffrey H. Maki¹
¹Radiology, University of Washington, Seattle, WA, United States

Exhibition Hall Wednesday 3:30-5:30 Computer 1

- 13:30 2938. In Vivo ¹⁹F MRI to Detect Biliary Excretion of ¹⁹F-Labeled Drugs in Mice**
Su Xu^{1,2}, Kunrong Cheng³, Sandeep Khurana⁴, Diana Johnson⁴, James Polli⁴, Da Shi^{1,2}, Steven Roys^{1,2}, Rao Gullapalli^{1,2}, Jean-Pierre Raufman³
¹Diagnostic Radiology & Nuclear Medicine, University of Maryland School of Medicine, Baltimore, MD, United States; ²Core for Translational Research in Imaging @ Maryland University of Maryland School ; ³Department of Medicine, University of Maryland School of Medicine; ⁴Department of Pharmaceutical Sciences, University of Maryland School of Pharmacy
- 14:00 2939. Fluid Suppression for MRI Screening by Dual Echo Subtraction**
Ananth J. Madhuranthakam¹, Karen S. Lee², Jean H. Brittain³, Ivan Pedrosa², Neil M. Rofsky⁴, David C. Alsop²
¹Global Applied Science Laboratory, GE Healthcare, Boston, MA, United States; ²Radiology, Beth Israel Deaconess Medical Center & Harvard Medical School, Boston, MA, United States; ³Global Applied Science Laboratory, GE Healthcare, Madison, WI, United States; ⁴Radiology, UT Southwestern Medical Center, Dallas, TX, United States
- 14:30 2940. Parallel Transmission in Liver MRI at 7T: Initial Results**
Xiaoping Wu¹, Sebastian Schmitter¹, Edwards J. Auerbach¹, J. Pfeuffer², Michael Hamm³, Kamil Ugurbil¹, P-F. Van De Moortele¹
¹CMRR, Radiology, University of Minnesota, Minneapolis, MN, United States; ²MR Application Development, Siemens Healthcare, Erlangen, Germany; ³Siemens Healthcare, Charlestown, MA, United States
- 15:00 2941. Ultra-High Spatio-Temporal Resolution Liver Imaging using a New View Ordering Scheme & a 2-Point Dixon Acquisition**
Manojkumar Saranathan¹, Dan Rettmann², Anja S. Brau³, Brian A. Hargreaves¹, Shreyas Vasanawala¹
¹Radiology, Stanford University, Stanford, CA, United States; ²Global Applied Science Laboratory, GE Healthcare, Rochester, MN, United States; ³Global Applied Science Laboratory, GE Healthcare, Menlo Park, CA, United States

Exhibition Hall Thursday 3:30-5:30 Computer 1

- 13:30 2942. Radial K-Space Sampling for 3D Fat-Suppressed Contrast-Enhanced Imaging of the Liver During Free Breathing**
Hersh Chandarana¹, Andrew B. Rosenkrantz¹, Ruth P. Lim¹, Danny Kim¹, David I. Mossa¹, Konstantinos Arhakis¹, Berthold Kiefer², Tobias Kai Block², Vivian S. Lee¹
¹Department of Radiology, NYU Langone Medical Center, New York, NY, United States; ²MR Application & Workflow Development, Siemens AG Healthcare Sector, Erlangen, Germany
- 14:00 2943. Measurement of Field Inhomogeneity & Susceptibility Effects for Liver Iron Quantification in Patients with Iron Overload**
Brian A. Taylor¹, Ralf B. Loeffler¹, Ruitian Song¹, R. Jason Stafford², Beth McCarville¹, Jane S. Hankins³, Claudia M. Hillenbrand¹
¹Radiological Sciences, St. Jude Children's Research Hospital, Memphis, TN, United States; ²Imaging Physics, the University of Texas M. D. Anderson Cancer Center, Houston, TX, United States; ³Hematology, St. Jude Children's Research Hospital, Memphis, TN, United States
- 14:30 2944. The Secretory Flow of Pancreatic Juice in the Main Pancreatic Duct: Visualization by Means of MRCP with Spatially Selective Inversion Recovery Pulse**
Teruyuki Torigoe¹, Katsuyoshi Ito², Tsutomu Tamada², Akihiko Kanki², Kouji Yoshida²
¹KAWASAKI MEDICAL SCHOOL, Kurashiki, Okayama, Japan; ²KAWASAKI MEDICAL SCHOOL, Kurashiki, Okayama, Japan
- 15:00 2945. Automated Liver Parenchyma & Vessel Segmentation in Radial Gradient & Spin-Echo (GRASE) Datasets for Characterization of Diffuse Liver Disease**
Ali Bilgin^{1,2}, Rajagopalan Sundareshan, Christian G. Graff³, Chuan Huang⁴, Tomoe Barr¹, Maria I. Altbach⁵
¹Biomedical Engineering, University of Arizona, Tucson, AZ, United States; ²Electrical & Computer Engineering, University of Arizona, Tucson, AZ, United States; ³Division of Imaging & Applied Mathematics, Food & Drug Administration; ⁴Mathematics, University of Arizona, Tucson, AZ, United States; ⁵Radiology, University of Arizona

Kidney: Functional

Exhibition Hall Monday 14:00-16:00 Computer 2

- 14:00 2946. In Vivo Sodium MR Imaging of Rabbit Kidney using Dual-Tuned RF Coil at 3T**
Chan Hong Moon¹, Alessandro Furlan¹, Jung-Hwan Kim¹, Lloydine Jacobs^{2,3}, Tiejun Zhao⁴, Kyongtae Ty Bae¹

¹Radiology, University of Pittsburgh, Pittsburgh, PA, United States; ²Orthopaedic Surgery, University of Pittsburgh Medical Center, Pittsburgh, PA, United States; ³Ferguson Laboratory for Orthopaedic & Spine Research; ⁴MR Research Support, Siemens Healthcare, Pittsburgh, PA, United States

- 14:30 2947. Sodium MR Imaging of Human Kidney using a Dual-Tuned (²³Na/¹H) Body RF Coil at 3T: Quantitative Assessment of Sodium Concentration & Corticomedullary Gradient in Healthy Subjects**
Alessandro Furlan¹, Chan-Hong Moon¹, Jung-Hwan Kim¹, Xiang He¹, Bumwoo Park¹, Tiejun Zaho², Kyongtae Ty Bae¹
¹Radiology, University of Pittsburgh Medical Center, Pittsburgh, PA, United States; ²MR Research Support, Siemens Healthcare, Pittsburgh, PA, United States
- 15:00 2948. Evaluation of Therapeutic Effect on Renal Fibrosis by Diffusion-Weighted Imaging**
Osamu Togao¹, Shigehiro Doi², Makoto Kuro-O², Masaya Takahashi¹
¹Advanced Imaging Research Center, UT Southwestern Medical Center, Dallas, TX, United States; ²Departement of Pathology, UT Southwestern Medical Center, Dallas, TX, United States
- 15:30 2949. MR Elastography in Renal Transplant Patients: A Feasibility Study**
Christine U. Lee¹, Kevin J. Glaser¹, James F. Glockner¹, Meng Yin¹, Jun Chen¹, Richard L. Ehman¹
¹Radiology, Mayo Clinic, Rochester, MN, United States

Exhibition Hall Tuesday 13:30-15:30 Computer 2

- 13:30 2950. Renal Cortico-Medullary Differentiation in Liver Cirrhotic Patients: Is the Pathology Cortical or Medullary or Both?**
Umer Abdur Rahim Khan¹, Pierre Hugues Vivier¹, Pippa Storey¹, Akira Yamamoto¹, Henry Rusinek¹, Lei Zhang¹, Kristopher Tantillo¹, Ruth Lim¹, James Babb¹, John Devon², David Stoffel¹, Lewis Teperman², Judith Benstein³, Samuel Sigal³, Edward Skolnik³, Vivian S. Lee¹
¹Radiology, New York University Langone Medical Center, New York, NY, United States; ²Surgery, New York University Langone Medical Center, New York, NY, United States; ³Internal Medicine, New York University Langone Medical Center, New York, NY, United States
- 14:00 2951. Interleaved T₁- & T₂*-Mapping for Dynamic Abdominal Tissue Oxygenation Applications**
Yao Ding¹, Qing Yuan², Rami R Hallac¹, Ralph P. Mason², Roderick W. McColl², Robert D. Sims², Paul T. Weatherall²
¹Radiological Sciences Graduate Program, UT Southwestern Medical Center at Dallas, Dallas, TX, United States; ²Radiology, UT Southwestern Medical Center at Dallas, Dallas, TX, United States
- 14:30 2952. Noninvasive Evaluation of Renal Oxygen Extraction Fraction Via Reduced-FOV Asymmetric Spin Echo Approach**
Zhikui Xiao¹, Ajit Shankaranarayan², Emine Ulku Saritas³, Shen Hao¹, Cao Guang¹
¹Global Applied Science Laboratory, GE Healthcare, Beijing, China, People's Republic of; ²Global Applied Science Laboratory, GE Healthcare, Menlo Park, CA, United States; ³Department of Bioengineering, University of California, Berkeley, CA, United States
- 15:00 2953. Quantitative T₂* MRI for Kidneys Iron Overload Assessment in a Large Cohort of Thalassemia Major Patients.**
Antonella Meloni¹, Daniele De Marchi¹, Vincenzo Positano¹, Maria Chiara Dell'Amico¹, Brunella Favilli¹, Petra Keilberg¹, Chiara Tudisca², Gianluca Valeri³, Massimiliano Missere⁴, Angelo Zuccarelli⁵, Massimo Lombardi¹, Alessia Pepe¹
¹Fondazione G.Monasterio CNR-Regione Toscana & Institute of Clinical Physiology, Pisa, Italy; ²Policlinico "Paolo Giaccone", Palermo, Italy; ³Azienda Ospedaliero-Universitaria Ospedali Riuniti "Umberto I-Lancisi-Salesi", Ancona, Italy; ⁴Università Cattolica del Sacro Cuore, Campobasso, Italy; ⁵Ospedale Civile, Olbia, Italy

Exhibition Hall Wednesday 13:30-15:30 Computer 2

- 13:30 2954. Reproducibility of R₂* & R₂ Measurements in Human Kidneys**
Jeff Lei Zhang¹, Pippa Storey¹, Henry Rusinek¹, Hersh Chandarana¹, Mervin Wauchope¹, Rajesh Bhatta¹, David Stoffel¹, Eric E. Sigmund¹, Qun Chen¹, Vivian S. Lee¹
¹Department of Radiology, New York University, New York, NY, United States
- 14:00 2955. Quantitative BOLD Response of the Renal Medulla to Hyperoxic Challenge at 1.5T & 3.0T**
Olivio Donati¹, Daniel Nanz¹, Andreas Serra², Andreas Boss¹
¹Radiology, University Hospital of Zurich, Zurich, Switzerland; ²Nephrology, University Hospital of Zurich, Zurich, Switzerland
- 14:30 2956. Evaluation of Intra-Renal Oxygenation by BOLD MRI During Water Diuresis: Race Differences**
Lu-Ping Li¹, Federico Mordini², Sarah Halter¹, Eugene Dunkle¹, JoAnn Carbray¹, Ewa Gliwa¹, Hongyan Du³, Pottumarthi V Prasad¹
¹Radiology / Center for Advanced Imaging, Northshore University Healthsystem, Evanston, IL, United States; ²Radiology / Center for Advanced Imaging, Northshore University Healthsystem, Evanston, IL, United States; ³Center for Clinical Research Informatics (CCRI), Research Institute, Northshore University Healthsystem, Evanston, IL, United States

- 15:00 2957. Preliminary Evaluation of Renal BOLD MRI for Monitoring Progression in CKD Patients**
Muhammad E Haque¹, Ujala Bokhary¹, Shonny Fettman², Stuart Sprague², Pottumarthi Prasad¹
¹Radiology, NorthShore University HealthSystem, Evanston, IL, United States; ²Nephrology, NorthShore University HealthSystem, Evanston, IL, United States
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- Exhibition Hall Thursday 13:30-15:30 Computer 2
- 13:30 2958. DCE MR Renography Measurement of Renal Function in Patients Undergoing Partial Nephrectomy**
Stella K. Kang¹, William C. Huang², Jeff L. Zhang¹, Michael Stifelman², Mary Bruno¹, Konstantinos Arhakis¹, Edgar F. Suan¹, Vivian S. Lee¹, Hersh Chandarana¹
¹Radiology, NYU Langone Medical Center, New York, United States; ²Urology, NYU Langone Medical Center, New York, United States
- 14:00 2959. Assessment of Renal Function by ASL in Wilms Tumor Survivors**
Ruitian Song¹, Ralf B. Loeffler¹, Mary Beth McCarville¹, Sheri L. Spunt², Claudia Maria Hillenbrand¹
¹Radiological Sciences, St Jude Children's Research Hospital, Memphis, TN, United States; ²Oncology, St Jude Children's Research Hospital, Memphis, TN, United States
- 14:30 2960. Evaluation of Repeatability of Renal ASL MRI in Healthy Volunteers**
Marica Cutajar¹, David L. Thomas², Christopher A. Clark¹, Xavier Golay³, Isky Gordon¹
¹Imaging & Biophysics, UCL Institute of Child Health, London, United Kingdom; ²Medical Physics & Bioengineering, UCL Neuroscience, London, United Kingdom; ³UCL Institute of Neurology, London, United Kingdom
- 15:00 2961. Corticomedullary Differentiation of the Kidney: Evaluation with Non-Contrast-Enhanced Steady-State Free Precession (SSFP) MR Imaging with Time-Spatial Labeling Inversion Pulse (Time-SLIP)**
Akihiko Kanki¹, Tsutomu Tamada¹, Yasufumi Noda¹, Atsushi Higaki¹, Satoko Okamoto¹, Katsuyoshi Ito¹
¹Radiology, Kawasaki Medical School, Kurashiki, Okayama, Japan

Fetal & Female Pelvis

- Exhibition Hall Monday 14:00-16:00 Computer 3
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- 14:00 2962. MR Manifestations of Ovarian Adenofibromas & Cystadenofibromas: Conventional MR Imaging & High-B Value Diffusion-Weighted MR Imaging with Pathologic Correlatopn**
Kenji Matsuzaki¹, Mayumi Takeuchi¹, Masafumi Harada¹
¹Department of Radiology, University of Tokushima, Tokushima, Japan
- 14:30 2963. Clinical Significance of Lipid Peak in *In-Vivo* ¹H-MR Spectroscopy of Ovarian Thecomas/Fibrothecomats**
Mayumi Takeuchi¹, Kenji Matsuzaki¹, Masafumi Harada¹
¹Department of Radiology, University of Tokushima, Tokushima, Japan
- 15:00 2964. Clinical Significance of Creatine Peak in *In-Vivo* ¹H-MR Spectroscopy of Gynecologic Tumors**
Mayumi Takeuchi¹, Kenji Matsuzaki¹, Masafumi Harada¹
¹Department of Radiology, University of Tokushima, Tokushima, Japan
- 15:30 2965. Evaluation of the Effectiveness of Slice Selective Gradient Reversal Technique in Diffusion Weighted Imaging of the Female Pelvis at 3T MR Imaging**
Akio Tsukabe¹, Izumi Imaoka¹, Tetsuro Araki¹, Kazuhiko Nishimatsu¹, Masahiro Okada¹, Seishi Kumano¹, Kazunari Ishii¹, Ryuuishirou Ashikaga¹, Marc Van Cauwen², Takamichi Murakami¹
¹Radiology, Kinki University School of Medicine, Osaka-sayama, Osaka, Japan; ²Philips Healthcare, Asia Pacific
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- Exhibition Hall Tuesday 13:30-15:30 Computer 3
- 13:30 2966. Measuring Coherent Blood Flow in the Placenta, Basal Plate & Chorionic Plate**
Devasuda Anblagan¹, Ruta Deshpande², Carolyn Costigan¹, Nia W. Jones², George Bugg², Peter Mansell², Nick Raine Fenning³, Lopa Leach⁴, Penny A. Gowland¹
¹Sir Peter Mansfield Magnetic Resonance Centre, University of Nottingham, Nottingham, Nottinghamshire, United Kingdom; ²Nottingham University Hospitals NHS Trust, University of Nottingham, United Kingdom; ³School of Clinical Sciences, University of Nottingham, United Kingdom; ⁴School of Biomedical Sciences, University of Nottingham, Nottingham, United Kingdom
- 14:00 2967. Oxygen-Enhanced MRI in the Human Placenta: Preliminary Results**
Isaac Huen^{1,2}, David M. Morris^{1,2}, Caroline Wright³, Colin P. Sibley³, Edward Johnstone³, Josephine H. Naish^{1,2}

¹Imaging Sciences & Biomedical Engineering, School of Cancer & Imaging Sciences, University of Manchester, Manchester, United Kingdom; ²The University of Manchester Biomedical Imaging Institute, University of Manchester, Manchester, United Kingdom; ³Maternal & Fetal Health Research Centre, University of Manchester, Manchester, United Kingdom

- 14:30 2968. Relaxation Times as Biomarkers of Placental Tissue Morphology in Fetal Growth Restriction (FGR).**
Caroline Wright¹, David M. Morris^{2,3}, Philip N. Baker^{1,4}, Ian P. Crocker¹, Penny A. Gowland⁵, Geoff Parker^{2,3}, Colin P. Sibley¹
¹Maternal & Fetal Health Research Centre, University of Manchester, Manchester, United Kingdom; ²Imaging Science & Biomedical Engineering, University of Manchester, Manchester, United Kingdom; ³Biomedical Imaging Institute, University of Manchester, Manchester, United Kingdom; ⁴Faculty of Medicine & Dentistry, University of Alberta, Alberta, Canada; ⁵Sir Peter Mansfield Magnetic Resonance Imaging Centre, University of Nottingham, Nottingham, United Kingdom
- 15:00 2969. Investigation of Multichannel Phased Array Configurations for Fetal MR Imaging at 1.5T**
Ye Li¹, Yong Pang¹, Daniel Vigneron^{1,2}, Orit Glenn¹, Duan Xu¹, Xiaoliang Zhang^{1,2}
¹Department of Radiology & Biomedical Imaging, University of California San Francisco, San Francisco, CA, United States; ²UCSF/UC Berkeley Joint Graduate Group in Bioengineering, San Francisco, CA, United States

Exhibition Hall Wednesday 13:30-15:30 Computer 3

- 13:30 2970. In Utero Fetal Electrocardiogram Gating: Technical Feasibility**
Martyn N. J. Paley¹, Paul Griffiths¹
¹Human Metabolism, University of Sheffield, Sheffield, Yorkshire, United Kingdom
- 14:00 2971. MRI Triggering by a Doppler Ultrasound at 1.5 T for Future Fetal Cardiac Function Investigation**
Jin Yamamura¹, Klaus Valet², Roland Fischer^{3,4}, Gerhard Adam¹, Ulrike Wedegaertner¹
¹Diagnostic & Interventional Radiology, University Medical Center Hamburg-Eppendorf, Hamburg, Germany; ²Positronic Systemtechnik GmbH, Hamburg, Germany; ³University Medical Center, Germany; ⁴Children's Hospital & Research Center Oakland, Oakland, CA, United States
- 14:30 2972. The Effect of Maternal Diabetes on Fetal Adiposity**
Devasuda Anblagan¹, Ruta Deshpande², Alain Pitior³, Carolyn Costigan¹, Nia W. Jones², George Bugg², Peter Mansell², Nick Raine Fenning⁴, Lopa Leach⁵, Penny A. Gowland¹
¹Sir Peter Mansfield Magnetic Resonance Centre, University of Nottingham, Nottingham, Nottinghamshire, United Kingdom; ²Nottingham University Hospitals NHS Trust, University of Nottingham, United Kingdom; ³School of Psychology, University of Nottingham, United Kingdom; ⁴School of Clinical Sciences, University of Nottingham, United Kingdom; ⁵School of Biomedical Sciences, University of Nottingham, Nottingham, United Kingdom
- 15:00 2973. Perfusion of Multiple Embryos in Mouse Pregnancy - Visualization & Characterization using ASL MRI**
Reut Avni¹, Tal Raz¹, Joel Garbow², Michal Neeman¹
¹Biological Regulation, Weizmann Institute of Science, Rehovot, Israel; ²Department of Radiology, Washington University, St. Louis, MO, United States

Exhibition Hall Thursday 13:30-15:30 Computer 3

- 13:30 2974. Uterine Appearance & Uterine Peristalsis During Lactation on MR Imaging**
Sayaka Daido¹, Asako Nakai¹, Aki Kido¹, Koji Fujimoto¹, Hiroshi Kusahara², Kaori Togashi¹
¹Kyoto University, Kyoto, Japan; ²Tosiba Medical Systems Corporation
- 14:00 2975. Reproducibility of Apparent Diffusion Coefficients in the Normal Uterus During the Menstrual Cycle at 3T MR Imaging**
Akio Tsukabe¹, Izumi Imaoka¹, Tetsurou Araki¹, Kazuhiko Nishimatsu¹, Masahiro Okada¹, Seishi Kumano¹, Kazunari Ishii¹, Ryuishirou Ashikaga¹, Marc Van Cauteren², Takamichi Murakami¹
¹Radiology, Kinki University School of Medicine, Osaka-sayama, Osaka, Japan; ²Philips Healthcare, Asia Pacific
- 14:30 2976. Rudimentary Uteri, the Ovaries & Vaginal Length in MRKH Syndrome**
Margaret Anne Hall-Craggs¹, Alexander Paul Kirkham¹, Sophie Pattison¹, Sarah Creighton²
¹Radiology, University College Hospital, London, United Kingdom; ²Department of Gynaecology, University College Hospital, London, United Kingdom
- 15:00 2977. 7 Tesla MRI of the Female Pelvis**
Oliver Kraff^{1,2}, Lale Umutlu^{1,2}, Sonja Kinner², Stefan Maderwald^{1,2}, Stephan Orzada^{1,2}, Andreas K. Bitz^{1,2}, Michael Forsting², Mark E. Ladd^{1,2}, Thomas C. Lauenstein²
¹Erwin L. Hahn Institute for MRI, University Duisburg-Essen, Essen, Germany; ²Department of Diagnostic & Interventional Radiology & Neuroradiology, University Hospital Essen, Essen, Germany

Body Diffusion: Technique & Clinical Applications

Exhibition Hall Monday 14:00-16:00 Computer 4

- 14:00 2978. Investigating the Contribution of Osteoblastic Activity to ADC of Bone Metastases by Correlating Changes in ADC with Changes in T₂* & HU**
Christina Messiou¹, David J. Collins¹, Matthew Robson², Veronica A. Morgan¹, Catherine Simpkin¹, Diletta Bianchini³, Johann S. de Bono³, Nandita deSouza¹
¹CRUK & EPSRC Cancer Imaging Centre, Institute of Cancer Research & Royal Marsden NHS Foundation Trust, Sutton, Surrey, United Kingdom; ²Dept. of Cardiovascular Medicine, University of Oxford, Oxford, United Kingdom; ³Dept. of Medicine, Institute of Cancer Research & Royal Marsden NHS Foundation Trust, Sutton, Surrey, United Kingdom
- 14:30 2979. Improved Diagnostic Accuracy of Whole Body Diffusion Weighted MRI using Computed Imaging.**
Matthew David Blackledge¹, Nina Tunariu¹, David J. Collins¹, Martin O. Leach¹, Dow-Mu Koh¹
¹CR-UK & EPSRC Cancer Imaging Centre, Institute of Cancer Research & Royal Marsden Hospital, Sutton, Surrey, United Kingdom
- 15:00 2980. Whole-Body MR-Imaging Allows to Differentiate Indolent from Aggressive Systemic Mastocytosis**
Henrik J. Michaely¹, Georgia Metzgeroth², Philipp Riffel¹, Stefan Haneder¹, W. K. Hofmann², Stefan O. Schoenberg¹, Andreas Reiter²
¹University Medical Center Mannheim, Mannheim, BaWue, Germany; ²Oncology, University Medical Center Mannheim, Mannheim, BaWue, Germany
- 15:30 2981. Diffusion-Weighted Imaging of Retroperitoneal Fibrosis & Retroperitoneal Lymphoma: Can Apparent Diffusion Coefficient Values Distinguish the Two?**
Bradley Spieler¹, Caludia Reuben Seuss¹, Daniel Sahlein¹, Sooah Kim¹
¹Radiology, New York University, New York, NY, United States

Exhibition Hall Tuesday 13:30-15:30 Computer 4

- 13:30 2982. Diffusion-Weighted MRI of Normal Sized Pelvic Lymph Nodes: How to Delineate an Ideal Region of Interest?**
Daniel Guo Quae Chong¹, Giuseppe Petralia^{1,2}, Michael Ith¹, Johannes Michael Froehlich^{1,3}, Harriet Thoeny¹
¹Dept. of Diagnostic, Interventional & Pediatric Radiology (DIPR), Inselspital, Bern, Switzerland; ²Division of Radiology, European Institute of Oncology, Milan, Italy; ³Guerbet AG, Zurich, Switzerland
- 14:00 2983. Longitudinal Follow-Up of Kidneys from Living Donors to their Recipients by DWI.**
Peter Vermathen¹, Tobias Binser¹, Harriet C. Thoeny², Chris Boesch¹, Felix J. Frey³, Ute Eisenberger³
¹Dept. of Clinical Research, University of Bern, Bern, Switzerland; ²Dept. of Radiology, University & Inselspital, Bern, Switzerland; ³Dept. of Nephrology, University & Inselspital, Bern, Switzerland
- 14:30 2984. Diffusion-Weighted MRI in the Kidney Pre- & Post-Transplantation in Donor-Recipient Pairs**
Karl Kristopher Vigen¹, Sean B. Fain², Elizabeth A. Sadowski¹
¹Radiology, University of Wisconsin-Madison, Madison, WI, United States; ²Medical Physics, University of Wisconsin-Madison, Madison, WI, United States
- 15:00 2985. The Effect of Fat Suppression on ADC Values in Murine Liver with Variable Degrees of Fibrosis**
Stephan William Anderson¹, Jorge A. Soto¹, Elizabeth Tang¹, Hernan Jara¹
¹Radiology, Boston University Medical Center, Boston, MA, United States

Exhibition Hall Wednesday 13:30-15:30 Computer 4

- 13:30 2986. Assessment of Liver Blood Flow using a Navigator Echo Respiratory Gated Parallel Imaging Technique at 1.5 T**
Loredana Sorina Truica^{1,2}, Ian Cameron²
¹Carleton University, Ottawa, ON, Canada; ²Diagnostic Imaging - MRI research Lab, Ottawa Hospital- General Campus
- 14:00 2987. Diffusion-Weighted MRI for the Zonal Characterization of Liver Tumors**
Mathilde Wagner^{1,2}, Sabrina Doblaz², Jean-Luc Daire^{1,2}, Helena Leitao^{1,2}, Philippe Garteiser², Valérie Vilgrain^{1,2}, Ralph Sinkus², Bernard Edgar Van Beers^{1,2}
¹Radiology, Beaujon University Hospital, Clichy, France; ²Inserm U773, Centre de Recherche Biomédicale Bichat Beaujon, Clichy, France
- 14:30 2988. The Effect of Gd-DTPA on the Determination of the Apparent Diffusion Coefficient in Liver Metastases & Healthy Liver Tissue**
Ulrike Fasol¹, Klaus Mross², Annette Frost², Martin Buechert¹, Valerij Kiselev¹, Juergen Hennig¹
¹MR Development & Application Center, University Medical Center Freiburg, Freiburg, Germany; ²Tumor Biology Center, Albert-Ludwigs-University Freiburg, Freiburg, Germany

- 15:00 2989. **Correlation of Contrast Enhancement Speed of Hepatic Hemangiomas on Gadolinium-Enhanced Dynamic T₁-Weighted Images with Apparent Diffusion Coefficient on Diffusion-Weighted Imaging**
Dal-Mo Yang¹, Hyun-Cheol Kim¹, Geon-Ho Jahng¹
¹Radiology, Kyung Hee University, East-West Neo Medical Center, Seoul, Korea, Republic of

Exhibition Hall Thursday 13:30-15:30 Computer 4

- 13:30 2990. **Motion Correction of Multiple B-Values (MCMB) Diffusion-Weighted Imaging**
Yousef Mazaheri¹, Richard Kinh Gian Do², Jingbo Zhang², Elizabeth Morris², Oguz Akin², Hedvig Hricak²
¹Medical Physics, Memorial Sloan Kettering Cancer Center, New York, United States; ²Radiology, Memorial Sloan Kettering Cancer Center
- 14:00 2991. **Investigation of the Theoretical Background of the IVIM Model using Flow Compensated DWI**
Andreas Wetscherek¹, Bram Stieltjes², Wolfhard Semmler¹, Frederik Bernd Laun¹
¹Medical Physics in Radiology, German Cancer Research Center, Heidelberg, Germany; ²Quantitative Imaging Based Disease Characterization, German Cancer Research Center, Heidelberg, Germany
- 14:30 2992. **Assessment of Position Dependent Eddy Current Distortions in DW EPI Measurements: Monopolar Versus Bipolar Diffusion Preparation**
Verena Ballweg¹, Petros Martirosian¹, Hansjörg Graf¹, Hanne Wojtczyk¹, Fritz Schick¹
¹Section on Experimental Radiology, University Hospital Tübingen, Tübingen, Germany
- 15:00 2993. **PCATMIP: Enhancing Signal Intensity in DW-MRI**
Vinay Manjunath Pai¹, Stanislas Rapacchi², Peter Kellman¹, Pierre Croisille², Han Wen¹
¹NHLBI, National Institutes of Health, Bethesda, MD, United States; ²Laboratoire CREATIS, INSA de Lyon, Lyon, France

Metabolism/Diabetes

Exhibition Hall Monday 14:00-16:00 Computer 5

- 14:00 2994. **Volume Selective MRS of the Liver for Determination of Hepatic Lipids – Is there a Need for Cardiac &/or Respiratory Triggering?**
Jürgen Machann¹, Fritz Schick¹
¹Section on Experimental Radiology, University Hospital Tübingen, Tübingen, Germany
- 14:30 2995. **Real-Time Navigator Gating in Proton Liver Spectroscopy at 3T**
Andreas Hock¹, Ladislav Valkovic², Ivan Frollo², Peter Boesiger¹, Anke Henning¹, Spyros Kollias³
¹Institute for Biomedical Engineering, University & ETH Zurich, Zurich, Switzerland; ²Department of Imaging Methods, Institute of Measurement Science, Slovak Academy of Sciences, Bratislava, Slovakia; ³University Hospital of Zurich, Institute of Neuroradiology, Zurich, Switzerland
- 15:00 2996. **Metabolite Cycled Non-Water-Suppressed Spectroscopy Offers Increased Spectral Quality in Cases of Physiologic & Subject Motion**
Erin Leigh MacMillan¹, Murielle Bortolotti², Andreas Boss¹, Chris Boesch¹, Roland Kreis¹
¹Dept. of Clinical Research, University of Bern, Bern, Switzerland; ²Dept. of Physiology, University of Lausanne, Lausanne, Switzerland

Exhibition Hall Tuesday 13:30-15:30 Computer 5

- 13:30 2997. **Fast T₂ Relaxometry in ¹H-MRS of Hepatic Water & Fat using Short TR at 3T**
Giulio Gambarota¹, Mark Tanner¹, Marinette van Der Graaf², Robert Mulkern³, Rexford D. Newbould¹
¹Clinical Imaging Center, GSK, Imperial College, London, United Kingdom; ²Radboud University Nijmegen Medical Centre, Nijmegen, Netherlands; ³Radiology, Children's Hospital Boston, Boston, United States
- 14:00 2998. **Quantitative Estimation of the Degree of Macrosteatosis in Living Related Liver Donors using IDEAL Gradient Echo Imaging**
Jeong Min Lee¹, Eugene Joe¹, Joon Koo Han¹
¹Radiology, Seoul National University Hospital, Seoul, Korea, Republic of
- 14:30 2999. **Noninvasive Quantification of Hepatic Steatosis in Rats with 1.5T MRS & MRI: Feasibility, Early Results & Optimization**
Gaspard d'Assignies^{1,2}, Ghislaine Fontés^{3,4}, Louis Gaboury⁵, Yvan Boulanger^{4,6}, Gilles Soulez⁷, Vincent Poitout^{3,4}, An Tang⁸

¹Radiology, Hôpital Saint-Luc, Montreal, France; ²Beaujon Hospital, Université Paris VII, Canada; ³Montréal Diabetes Research Center, Canada; ⁴CRCHUM, Canada; ⁵Department of Anatomic-Pathology, CHUM, Canada; ⁶Radiology, Hôpital Saint-Luc, Canada; ⁷Radiology, CRCHUM, Canada; ⁸Radiology, University of Montreal, Montreal, Quebec, Canada

- 15:00 3000. MRI Detection of Glycogen *In Vivo* in Diabetic Mice at 3 Tesla: Feasibility & Initial Experience**
 Mina Kim¹, Queenie Chan^{1,2}, James Y. B. Lau³, Sookja K. Chung³, Pek-Lan Khong¹
¹Department of Diagnostic Radiology, the University of Hong Kong, Hong Kong, Pokfulam, Hong Kong; ²Philips Healthcare, Hong Kong; ³Department of Anatomy, the University of Hong Kong

Exhibition Hall Wednesday 13:30-15:30 Computer 5

- 13:30 3001. Longitudinal Tracking of Adiposity in a Canine Model of Insulin Resistance**
 Edward Brian Welch^{1,2}, Johan Berglund³, Joel Kullberg³, Katie Colbert Coate⁴, Phil Williams⁴, Alan Cherrington⁴, Malcolm J. Avison^{1,2}
¹Vanderbilt University Institute of Imaging Science, Vanderbilt University, Nashville, TN, United States; ²Department of Radiology & Radiological Sciences, Vanderbilt University, Nashville, TN, United States; ³Department of Radiology, Uppsala University, Uppsala, Sweden; ⁴Department of Molecular Physiology & Biophysics, Vanderbilt University, Nashville, TN, United States
- 14:00 3002. Test-Retest Reproducibility of Whole-Body Fat Water Imaging at 3 Tesla Compared to DEXA**
 Edward Brian Welch^{1,2}, Malcolm J. Avison^{1,2}, Kevin D. Niswender³, Johan Berglund⁴, Joel Kullberg⁴, Lars Johansson⁴, Morten Bruvold⁵, Heidi J. Silver³
¹Vanderbilt University Institute of Imaging Science, Vanderbilt University, Nashville, TN, United States; ²Department of Radiology & Radiological Sciences, Vanderbilt University, Nashville, TN, United States; ³School of Medicine, Vanderbilt University, Nashville, TN, United States; ⁴Department of Radiology, Uppsala University, Uppsala, Sweden; ⁵MR Clinical Science, Philips Healthcare, Best, Netherlands
- 14:30 3003. Quantitative Analysis of Fat Distribution using Whole-Body Magnetic Resonance Imaging**
 Julien Dinkel¹, Diana Wald², Heinz-Peter Schlemmer, Hans-Peter Meinzer, Rudolf Kaaks³, Stefan Delorme
¹Radiology, German Cancer Research Center, Heidelberg, Germany; ²Medical & Biological Informatics, German Cancer Research Center; ³Cancer Epidemiology, German Cancer Research Center
- 15:00 3004. Correlation of Lipid Profile & Insulin Sensitivity with Body Fat Evaluated using MRI, Dual Energy X-Ray Absorptiometry & Bioimpedance**
 Ankur Poddar¹, Rama Jayasundar¹
¹NMR, All India Institute of Medical Sciences, New Delhi, Delhi, India

Exhibition Hall Thursday 13:30-15:30 Computer 5

- 13:30 3005. Determination of ATP Synthesis Exchange Rates in Human Liver & Skeletal Muscle using ³¹P Magnetization Transfer**
 Tania Buehler¹, Andreas Boss¹, Roland Kreis¹, Chris Boesch¹
¹Dept. of Clinical Research, University of Bern, Bern, Switzerland
- 14:00 3006. Regional Variability in Triglyceride Composition of Adipose Tissue Measured by ¹H MRS**
 Gavin Hamilton¹, Michael S. Middleton¹, Takeshi Yokoo¹, Claude B. Sirlin¹
¹Department of Radiology, University of California, San Diego, San Diego, CA, United States
- 14:30 3007. Influence of Type 2 Diabetes on Intramyocellular Lipids Among Patients with Chronic Kidney Disease**
 Jimin Ren¹, Manisha Shah², Maram Museitif², Lynne Roetzer², A. Dean Sherry^{1,3}, Craig R. Malloy^{1,4}, Devasmita Choudhury²
¹Advanced Imaging Research Center, University of Texas Southwestern Medical Center, Dallas, TX, United States; ²VA North Texas Health Care System; ³Department of Chemistry, University of Texas at Dallas, Richardson, TX; ⁴VA North Texas Health Care System
- 15:00 3008. Look-Locker MRI Measurements of Relaxation Rate After Manganese Labeling of Pancreatic β 946; Cells Detect Increments in Disease Progression in a Mouse Model of Type 1 Diabetes**
 Patrick Antkowiak¹, Brian Stevens², Marcia McDuffie², Frederick H. Epstein³
¹Biomedical Engineering, University of Virginia, Charlottesville, VA, United States; ²Microbiology, University of Virginia; ³Radiology, University of Virginia

Body Applications of Contrast Media & Bowel MRI

Exhibition Hall Monday 14:00-16:00 Computer 6

- 14:00 3009. Evaluation of Positive Contrast Around SPIO-Loaded Polymer Threads for Surgical Mesh Delineation by MRI**
 Hank C. W. Donker¹, Nils A. Krämer², Jens Otto³, Ioana Slabu⁴, Martin Baumann⁴, Uwe Klinge³, Christiane K. Kuhl²

¹Department of Diagnostic Radiology, RWTH Aachen University, Aachen, NRW, Germany; ²Department of Diagnostic Radiology, RWTH Aachen University, Aachen, NRW, Germany; ³Department of Chirurgie, RWTH Aachen University, Aachen, NRW, Germany; ⁴Helmholtz Institute for Applied Medical Engineering, RWTH Aachen University, Aachen, NRW, Germany

- 14:30 3010. High-Resolution Interstitial MR Lymphography for the Diagnosis of Sentinel Lymph Nodes: Inhomogeneous Distribution of SPIO within Non-Malignant Lymph Nodes**
Daisuke Suzuki^{1,2}, Masayuki Yamaguchi¹, Toshihiro Furuta^{1,3}, Kohki Yoshikawa², Hirofumi Fujii¹
¹Functional Imaging Division, National Cancer Center Hospital East, Kashiwa, Chiba, Japan; ²Graduate Division of Health Sciences, Komazawa University, Setagaya, Tokyo, Japan; ³Department of Radiology, the Tokyo University Hospital, Tokyo, Japan
- 15:00 3011. Fitting DCE-MRI Data in the Liver with a Dual-Inlet Model: Choice of Venous & Arterial Delay Parameters**
Steven Sourbron¹, Wieland Sommer², Christoph J. Zech², Maximilian F. Reiser², Karin A. Herrmann²
¹Division of Medical Physics, University of Leeds, Leeds, United Kingdom; ²Department of Clinical Radiology, University of Munich, Munich, Germany
- 15:30 3012. Initial Experiences Evaluating the Hepatic Arterial Buffer Response with DCE-MRI in Healthy Rats at 9.4T**
Manil Chouhan¹, Shonit Punwani¹, Alan Bainbridge², Nathan Davies³, Raj Mookerjee³, Rajiv Jalan³, Stuart Taylor¹
¹Centre for Medical Imaging, University College London, London, United Kingdom; ²Department of Medical Physics, University College London Hospitals NHS Trust; ³Institute of Hepatology, University College London

Exhibition Hall Tuesday 13:30-15:30 Computer 6

- 13:30 3013. Clinical Feasibility of High-Resolution Navigator-Gated 3D T₁w Hepatobiliary MRI with Gd-EOB-DTPA Enhancement**
Alan De Lun Xu¹, Anja C. Brau², Yuji Iwadata², Jarrett Rosenberg¹, Shreyas Vasanawala¹, Robert Herfkens¹
¹Radiology, Stanford University, Stanford, CA, United States; ²GE Healthcare
- 14:00 3014. Balanced MR Cholangiopancreatography with Motion-Sensitized Driven-Equilibrium: Feasibility of Post-Contrast Biliary Examination with Gadolinium Ethoxybenzyl Diethylene Triamine Pentaacetic Acid (Gd-EOB-DTPA)**
Tomohiro Nakayama¹, Akihiro Nishie¹, Takashi Yoshiura¹, Yoshiki Asayama¹, Kousei Ishigami¹, Daisuke Kakihara¹, Yukihisa Takayama¹, Makoto Obara², Hiroshi Honda¹
¹Clinical Radiology, Graduate School of Medical Sciences, Kyushu University, Fukuoka, Japan; ²Philips Electronics Japan
- 14:30 3015. Diagnosis of FNH: Comparison of Gd-EOB-DTPA with Gd-BOPTA, Preliminary Results from a Multicentric US Study.**
Christine Iseman¹, Bachir Taouli¹, Rajan T. Gupta², John Leyendecker³, Elmar Merkle²
¹Mount Sinai School of Medicine, New York, NY, United States; ²Duke University, Durham, NC, United States; ³Wake Forest University, Winston-Salem, NC, United States
- 15:00 3016. The First Human Whole Body Pharmacokinetic Minimal Model for the Liver Specific Contrast Agent Gd-EOB-DTPA**
Mikael Fredrik Forsgren^{1,2}, Olof Dahlqvist Leinhard^{1,3}, Gunnar Cedersund^{2,4}, Nils Dahlström^{1,3}, Örjan Smedby^{1,3}, Torkel B. Brismar⁵, Peter Lundberg^{3,6}
¹Department of Medical & Health Sciences, Division of Radiological Sciences, Linköping University, Linköping, Sweden; ²Department of Clinical & Experimental Medicine, Diabetes & Integrated Systems Biology, Linköping University, Linköping, Sweden; ³Center for Medical Image Science & Visualization (CMIV), Linköping University, Linköping, Sweden; ⁴School of Life Sciences, Freiburg Institute of Advanced Sciences, Freiburg, Germany; ⁵Department of Radiology, Karolinska University Hospital, Stockholm, Sweden; ⁶Department of Radiation Physics, CKOC, University Hospital of Linköping, Linköping, Sweden

Exhibition Hall Wednesday 13:30-15:30 Computer 6

- 13:30 3017. Magnetization Transfer Detects Changes in Intestinal Fibrosis After Anti-TNF α**
Scott D. Swanson¹, Jeremy Adler², Phyllissa Schmiedlin-Ren³, Kinan Rahal³, Laura Reingold³, Ellen M. Zimmermann³
¹Department of Radiology, University of Michigan, Ann Arbor, MI, United States; ²Department of Pediatrics & Communicable Diseases, University of Michigan, Ann Arbor, MI, United States; ³Department of Internal Medicine-Gastroenterology, University of Michigan, Ann Arbor, MI, United States
- 14:00 3018. T₂ Relaxometry to Assess Inflammation & Fibrosis in an Acute & Chronic Murine Model of Inflammatory Bowel Diseases**
Tom Dresselaers¹, Christine Breynaert², Gert Van Assche², Uwe Himmelreich¹
¹Biomedical NMR Unit/ MoSAIC, K.U.Leuven, Leuven, Brabant, Belgium; ²Division of Gastroenterology, K.U.Leuven, leuven, Brabant, Belgium
- 14:30 3019. Optimising Oral Contrast Agents for Interactive Neonatal Gut Imaging**
Owen John Arthurs¹, Martin John Graves¹, Ilse Joubert¹, David John Lomas¹

¹Radiology, University of Cambridge, Cambridge, Cambridgeshire, United Kingdom

- 15:00 3020. Contrast-Enhanced MR Enterography as a Stand-Alone Tool to Evaluate Crohn's Disease in Pediatric Population.**
Bradley Spieler¹, Nicole Hindman¹, Caludia Reuben Seuss¹, Alec J. Megibow¹, Joseph Levy², Kerry Zabriskie², Daniel Sahlein¹, Rafael Rivera¹, Sooah Kim¹
¹Radiology, New York University, New York, NY, United States; ²Pediatric Gastroenterology, New York University, New York, NY, United States

Exhibition Hall Thursday 13:30-15:30 Computer 6

- 13:30 3021. Simultaneous Assessment of Gastric Secretion, Mixing & Emptying During Free Breathing**
Jelena Curcic¹, Matthias Sauter², Werner Schwizer², Peter Boesiger¹, Andreas Steingoetter^{1,2}
¹Institute for Biomedical Engineering, University & ETH, Zurich, Switzerland; ²Division of Gastroenterology & Hepatology, University Hospital Zurich, Zurich, Switzerland
- 14:00 3022. Quantitative Assessment of Small Bowel Motility by Nonrigid Registration of Dynamic MR Images**
Freddy Odille¹, Alex Menys², Asia Ahmed², Shonit Punwani², Stuart Taylor², David Atkinson¹
¹Centre for Medical Image Computing, University College London, London, United Kingdom; ²Centre for Medical Imaging, University College London, London, United Kingdom
- 14:30 3023. Defining the Mode of Action of Loperamide & Loperamide Plus Simethicone using an MRI Model of Acute Diarrhoea**
Elisa Placidi¹, Luca Marciani², Caroline L. Hoad¹, Klara C. Garsed², Susan E. Pritchard¹, Eleanor F. Cox¹, Carolyn Costigan³, Robin C. Spiller², Penny A. Gowland¹
¹SPMMRC, University of Nottingham, Nottingham, United Kingdom; ²Nottingham Digestive Diseases Centre Biomedical Research Unit, Nottingham, United Kingdom; ³Brain & Body Centre, University of Nottingham, Nottingham, United Kingdom
- 15:00 3024. Real-Time Imaging & Reconstruction of the Small Bowels Based on Golden Ratio Radial & Regularized SENSE MRI**
Lau Brix^{1,2}, Steffen Ringgaard², Brian Staubsøl-Grøn², Bodil Ginnerup Pedersen², Yasmina Berber³, Mario Ries⁴, Thomas Sangild Sørensen^{5,6}
¹Department of Clinical Engineering, Aarhus N, Region Midt, Denmark; ²MR-Centre, Aarhus University Hospital, Skejby, Aarhus N, Region Midt, Denmark; ³Laboratoire IMF, Centre National de la Recherche Scientifique/Université Bordeaux 2, France; ⁴Laboratoire IMF, Centre National de la Recherche Scientifique/Université Bordeaux 2, France; ⁵Department of Computer Science, Aarhus University, Denmark; ⁶Institute of Clinical Medicine, Aarhus University, Denmark

Pulmonary Structure & Function with Hyperpolarized Gas & Proton MRI

Exhibition Hall Monday 14:00-16:00 Computer 7

- 14:00 3025. Modeling Hyperpolarized ¹²⁹Xe Bolus Passage for Quantification of Pulmonary Blood Flow**
Harald E. Möller^{1,2}, Zackary I. Cleveland², Laurence W. Hedlund², John Nouls², Matthew Freeman^{2,3}, Yi Qi², Bastiaan Driehuys²
¹Max Planck Institute for Human Cognitive & Brain Sciences, Leipzig, Germany; ²Center for In Vivo Microscopy, Duke University Medical Center, Durham, NC, United States; ³Graduate Program in Medical Physics, Duke University, Durham, NC, United States
- 14:30 3026. A Simple Model of Gas Exchange in the Lung for Hyperpolarized ¹²⁹Xe**
Yulin V. Chang¹
¹Mechanical Engineering, Washington University, St. Louis, MO, United States
- 15:00 3027. Optimized Diffusion Time for Long-Time-Scale Helium-3 Diffusion MRI**
Chengbo Wang¹, John P. Mugler, III^{1,2}, Eduard E. de Lange¹, Talissa A. Altes¹
¹Radiology, University of Virginia, Charlottesville, VA, United States; ²Biomedical Engineering, University of Virginia, Charlottesville, VA, United States
- 15:30 3028. Non-Linear Image Registration of ³He Lung Diffusion MRI Acquired at Different Inflation States, Exemplified by Alveolar Ventilation Maps**
Torsten Dornik¹, Peter Magnusson¹, Frederik Hengstenberg^{1,2}, Sergei Karpuk³, Jorgen Vestbo², Per Åkeson¹, Lise Vejby Søgaard¹
¹Danish Research Centre for Magnetic Resonance, Copenhagen University Hospital, Hvidovre, Denmark; ²Department of Cardiology & Respiratory Medicine, Copenhagen University Hospital, Hvidovre, Denmark; ³Institute of Physics, University of Mainz, Mainz, Germany

Exhibition Hall Tuesday 13:30-15:30 Computer 7

- 13:30 3029. Functional Mapping of Regional Airway Obstruction & Gas Trapping in 3D using Dynamic HP He-3 MRI**
Jionghan Dai¹, Eric T. Peterson², James H. Holmes³, Robert V. Cadman¹, Ronald L. Sorkness⁴, Sean B. Fain^{1,5}
¹Medical Physics, University of Wisconsin - Madison, Madison, WI, United States; ²Biomedical Engineering, University of Wisconsin - Madison, Madison, WI, United States; ³Global Applied Science Laboratory, GE Healthcare, Madison, WI, United States; ⁴pharmacy, University of Wisconsin - Madison, Madison, WI, United States; ⁵Radiology, University of Wisconsin - Madison, Madison, WI, United States
- 14:00 3030. Validation of Hyperpolarized ³Helium MRI in Probing Regional Ventilation: A Quantitative Assessment Against MDCT Based Local Air Volume Changes (AVC)**
Ahmed Fathi Halaweish^{1,2}, Youbing Yin³, Daniel R. Thedens¹, Ching-Long Lin³, Edwin J. R. vanBeek⁴, Eric A. Hoffman^{1,2}
¹Department of Radiology, University of Iowa, Iowa City, IA, United States; ²Department of Biomedical Engineering, University of Iowa, Iowa City, IA, United States; ³Department of Mechanical & Industrial Engineering, University of Iowa, Iowa City, IA, United States; ⁴Queen's Medical Research Institute, University of Edinburgh, Edinburgh, Scotland
- 14:30 3031. Development of a Three-Dimensional Visualization & Atlasing Tool for Pulmonary Gas Distribution from Hyperpolarized ³He Magnetic Resonance Imaging**
Andrew Wheatley¹, Usaf Aladl¹, Igor Gyacskov¹, Aaron Fenster^{1,2}, Grace Parraga^{1,2}
¹Imaging, Robarts Research Institute, London, Ontario, Canada; ²Department of Medical Biophysics, the University of Western Ontario, London, Ontario, Canada
- 15:00 3032. Improved Compressed Sensing Reconstruction & Optimised Sampling Patterns for Very Fast Acquisition of Hyperpolarised ³He Images**
Salma Ajraoui¹, Steven Parnell¹, Juan Parra-Robles¹, Robert Ireland¹, Jim Wild¹
¹University of Sheffield, Sheffield, United Kingdom

Exhibition Hall Wednesday 13:30-15:30 Computer 7

- 13:30 3033. T₂* Measurements of 3.0 T MRI with Ultra-Short TE: Capabilities of Pulmonary Functional Assessment & Clinical Stage Classification in Smokers**
Yoshiharu Ohno^{1,2}, Hisanobu Koyama¹, Takeshi Yoshikawa¹, Nobukazu Aoyama², Daisuke Takenaka¹, Keiko Matsumoto³, Masaya Takahashi⁴, Makoto Obara⁵, Marc van Cauteren⁵, Kazuro Sugimura¹
¹Radiology, Kobe University Graduate School of Medicine, Kobe, Hyogo, Japan; ²Radiology, Kobe University Hospital, Kobe, Hyogo, Japan; ³Radiology, Yamanashi Hospital of Social Insurance, Kofu, Yamanashi, Japan; ⁴Advanced Imaging Research Center, University of Texas Southwestern Medical Center, Houston, TX, United States; ⁵Philips Healthcare, Tokyo, Japan
- 14:00 3034. 3D Pulmonary Perfusion MRI with Whole-Chest Coverage, High Temporal & Isotropic Spatial Resolution**
Kang Wang¹, Frank Korosec^{1,2}, Mark Schiebler², Christopher Francois², Scott Reeder^{2,3}, Thomas Grist², Reed Busse⁴, James Holmes⁴, Jean Brittain⁴, Nathan Artz¹, Sean Fain^{1,3}, Scott Nagle²
¹Medical Physics, University of Wisconsin-Madison, Madison, WI, United States; ²Radiology, University of Wisconsin-Madison, Madison, WI, United States; ³Biomedical Engineering, University of Wisconsin-Madison, Madison, WI, United States; ⁴Applied Science Lab, GE Healthcare, Madison, WI, United States
- 14:30 3035. Automated Airway Lumen Segmentation & Characterization in Patients with Tracheomalacia: A Feasibility Study**
Piotr A. Wielopolski¹, Pierluigi Cier^{2,3}, Rashindra Manniesing⁴, Sandra Lever², Martin Lequin¹, Gabriel Krestin¹, Harm A. W. M. Tiddens^{1,2}
¹Radiology, Erasmus Medical Center, Rotterdam, Netherlands; ²Pulmonology, Erasmus Medical Center, Sophia Children Hospital, Rotterdam, Netherlands; ³Radiology, Department of Medical-Diagnostic Sciences & Therapies, University of Padua, Padua, Italy; ⁴Department of Informatics & Radiology, Erasmus Medical Center, Rotterdam, Netherlands
- 15:00 3036. Comparative Study of SSFP Lung MRI at 1.5T with High Resolution Computed Tomography in Patients with Interstitial Lung Fibrosis**
Smitha Rajaram¹, Andy James Swift^{1,2}, David Capener¹, Robin Condliffe³, Charlie Elliot³, Judith Hurdman³, Christine Davies⁴, Catherine Hill⁴, David G. Kiely³, Jim M. Wild¹
¹Academic Unit of Radiology, University of Sheffield, Sheffield, Yorkshire, United Kingdom; ²NIHR Cardiovascular Biomedical Research Unit, Sheffield, United Kingdom; ³Pulmonary Vascular Disease Unit, Royal Hallamshire Hospital, Sheffield; ⁴Department of Radiology, Royal Hallamshire Hospital, Sheffield

Exhibition Hall Thursday 13:30-15:30 Computer 7

- 13:30 3037. Accelerated Whole-Lung Specific Ventilation Imaging in Large Species with Hyperpolarized Gas MRI**
Kiarash Emami¹, Hooman Hamedani¹, Yinan Xu¹, Stephen J. Kadlec¹, Yi Xin¹, Puttisarn Mongkolwisetwara¹, Harrila Profka², Masaru Ishii³, Rahim R. Rizi¹
¹Radiology, University of Pennsylvania, Philadelphia, PA, United States; ²Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States; ³Otolaryngology–Head & Neck Surgery, Johns Hopkins University, Baltimore, MD, United States
- 14:00 3038. Quantification of Regional Lung Microstructure Response to Positive End-Expiratory Pressure by Hyperpolarized Gas MRI in Surfactant-Deficient Rats**
Maurizio F. Cereda¹, Kiarash Emami², Stephen J. Kadlec², Yi Xin², Puttisarn Mongkolwisetwara², Harilla Profka², Amy Barulic², Stephen Pickup², Nicholas N. Kuzma², Masaru Ishii³, Hooman Hamedani², Benjamin M. Pullinger², Rajat Ghosh², Jennia Rajaei², Clifford S. Deutschman¹, Rahim R. Rizi²
¹Anesthesiology & Critical Care, University of Pennsylvania, Philadelphia, PA, United States; ²Radiology, University of Pennsylvania, Philadelphia, PA, United States; ³Otolaryngology–Head & Neck Surgery, Johns Hopkins University, Baltimore, MD, United States
- 14:30 3039. Detection of Pulmonary Ischemia using the Oxygen Sensitivity of Hyperpolarized Helium MRI in a Rodent Model of Pulmonary Embolism**
Ronn P. Walvick^{1,2}, Austin L. Reno², Mathew J. Gounis², Mitchell S. Albert²
¹Radiology, New York University Langone Medical Center, New York, NY, United States; ²Radiology, University of Massachusetts Medical School, Worcester, MA, United States
- 15:00 3040. Free vs. Forced : Gas Transport Differences in ³He MRI Dynamic Ventilation Measurements of Lungs Induced by Gas Mixture Application Regime.**
Maxim Terekhov¹, Manuela Gueldner², Klaus Gast³, Julien Rivoire¹, Ursula Wolf², Janet Friedrich¹, Sergei Karpuk², Zahir Salhi², Laura Maria Schreiber¹
¹Department of Diagnostic & Interventional Radiology, Section of Medical Physics, Johannes Gutenberg University Medical Center Mainz, Mainz, Germany; ²Institute of Physics, Johannes Gutenberg University Mainz, Mainz, Germany; ³Department of Diagnostic & Interventional Radiology, Johannes Gutenberg University Medical Center Mainz, Mainz, Germany

Gastrointestinal & Hepatobiliary Cancers (Clinical Studies)

Exhibition Hall Monday 14:00-16:00 Computer 8

- 14:00 3041. Signal Intensity of Hepatic Nodules Detected by Gadoteric Acid-Enhanced MR Imaging: Correlation with Arterial & Portal Blood Supply.**
Megumi Takechi¹, Takaharu Tsuda¹, Hiroaki Tanaka¹, Shinji Yoshioka², Michinobu Nagao³, Teruhito Mochizuki¹
¹Department of Radiology, Ehime University School of Medicine, Shitsukawa, Toon, Ehime, Japan; ²Department of Radiology, Matsuyama Redcross Hospital, Japan; ³Department of Molecular Imaging & Diagnosis, Kyushu University School of Medicine, Japan
- 14:30 3042. Hepatobiliary Phase of Gadoteric Acid-Enhanced MRI in the Diagnosis of Hepatocellular Carcinoma in Patients with Impaired Liver Function**
Eun-Suk Cho¹, Jeong-Sik Yu¹
¹Radiology, Yonsei University College of Medicine, Gangnam Severance Hospital, Seoul, Korea, Republic of
- 15:00 3043. Hypovascular Nodules Presented with Hypointensity on the Hepatobiliary Phase of Gd-EOB-DTPA Enhanced MRI in the Cirrhotic Liver: Implications for Developing Hypervascular Hepatocellular Carcinoma.**
Tomoko Hyodo^{1,2}, Masahiro Okada¹, Yuki Kagawa¹, Sachiyo Kogita³, Seishi Kumano¹, Izumi Imaoka¹, Masatoshi Hori⁴, Kazunari Ishii¹, Yasuharu Imai³, Teruhito Mochizuki², Masatoshi Kudo⁵, Takamichi Murakami¹
¹Radiology, Kinki University Faculty of Medicine, Osaka-Sayama, Osaka, Japan; ²Diagnostic & Therapeutic Radiology, Ehime University Graduate School of Medicine, Toon, Ehime, Japan; ³Gastroenterology, Ikeda Municipal Hospital, Ikeda, Osaka, Japan; ⁴Radiology, Osaka University Graduate School of Medicine, Suita, Osaka, Japan; ⁵Gastroenterology & Hepatology, Kinki University Faculty of Medicine, Osaka-Sayama, Osaka, Japan
- 15:30 3044. Diffusion-Weighted Imaging Versus Superparamagnetic Iron Oxide (SPIO)-Enhanced MRI: Exclusive & Combined Values in the Assessment of Hepatic Metastases**
Hana Kim¹, Jeong-Sik Yu¹, Eun-Suk Cho¹, Jae-Joon Chung¹, Joo Hee Kim¹, Ki Whang Kim¹
¹Radiology, Yonsei University College of Medicine, Gangnam Severance Hospital, Seoul, Korea, Republic of

Exhibition Hall Tuesday 13:30-15:30 Computer 8

- 13:30 3045. MRI of the Cirrhotic Liver with Gd-EOB-DTPA: Does the Addition of the Hepatocyte Phase Improve Detection & Confidence in Characterization of Hepatocellular Carcinoma?**
Mustafa R. Bashir¹, Rajan T. Gupta¹, Matthew S. Davenport¹, Brian C. Allen¹, Lisa M. Ho¹, Daniel T. Boll¹, Elmar M. Merkle¹
¹Radiology, Duke University Medical Center, Durham, NC, United States
- 14:00 3046. Characterization of Hyperintense Nodules on Precontrast T₁-Weighted MR Imaging: The Utility of Gadoteric Acid-Enhanced Hepatocyte-Phase Imaging**
Chen-Te Chou¹, Ran-Chou Chen²
¹Radiology, Changhua Christian Hospital, Chang-Hua, Taiwan, Taiwan; ²Radiology, Taipei City Hospital, Taipei, Taiwan
- 14:30 3047. Assessment of Response to Therapy by DCE-MRI & DWI MRI in Primary Liver Cancers**
David H. Gultekin¹, Lawrence H. Schwartz², Nancy E. Kemeny³, Mithat Gonen⁴, Michael I. D'Angelica⁵, Peter J. Allen⁵, Yuman Fong⁵, Leslie H. Blumgart⁵, Ronald P. Dematteo⁵, William R. Jarnagin⁵
¹Radiology, Memorial Sloan-Kettering Cancer Center, New York, NY, United States; ²Radiology, Columbia University Medical Center, New York, NY, United States; ³Medicine, Memorial Sloan-Kettering Cancer Center, New York, NY, United States; ⁴Epidemiology-Biostatistics, Memorial Sloan-Kettering Cancer Center, New York, United States; ⁵Surgery, Memorial Sloan-Kettering Cancer Center, New York, NY, United States
- 15:00 3048. DCE-MRI Perfusion in Liver Disease with 3D Volumetric Coverage**
Yin Huang¹, Ethan Brodsky¹, Kevin Johnson¹, Eric Bultman², Debra Horn^{1,3}, Sean Fain^{1,3}, Scott Reeder^{1,3}
¹Medical Physics, University of Wisconsin Madison, Madison, WI, United States; ²Biomedical Engineering, University of Wisconsin Madison, Madison, WI, United States; ³Radiology, University of Wisconsin Madison, Madison, WI, United States

Exhibition Hall Wednesday 13:30-15:30 Computer 8

- 13:30 3049. Normal Pancreas & Pancreatic Cancer: Comparison Among Different Diffusion Weighted MR Imaging Acquisitions at 3.0T**
Xiuzhong Yao¹, Mengsu Zeng¹, He Wang², Fei Sun², Shengxiang Rao¹, Yuan Ji³
¹Radiology, Zhongshan Hospital of Fudan University, Shanghai, China, People's Republic of; ²The applied science lab, GE Healthcare; ³Pathology, Zhongshan Hospital of Fudan University, Shanghai, China, People's Republic of
- 14:00 3050. Pancreatic Cancer Screening & Surveillance with MRI – 7 Year Experience**
Masoom A. Haider¹, Wigdan Al-Sukhni², Kartik S. Jhaveri¹, Heidi Rothenmund², Spring Holter², Steven Narod³, Malcolm Moore⁴, Stephanie Wilson⁵, Steven Gallinger²
¹Medical Imaging, Princess Margaret Hospital, University of Toronto, Toronto, Ontario, Canada; ²Department of Surgery, University Health Network, University of Toronto, Toronto, Ontario, Canada; ³Women's College Research Institute, University of Toronto, Toronto, Ontario, Canada; ⁴Department of Medicine, Princess Margaret Hospital, University of Toronto, Toronto, Ontario, Canada; ⁵Medical Imaging, University Health Network, University of Toronto, Toronto, Ontario, Canada
- 14:30 3051. Dynamic Contrast-Enhanced Magnetic Resonance Imaging to Assess Desmoid Tumours in Familial Adenomatous Polyposis**
Santosh Bhandari¹, N. Jane Taylor², Ashish Sinha¹, J. James Stirling², Ian C. Simcock², Arun Gupta¹, Robin K. S. Phillips¹, Susan K. Clark¹, Vicky J. Goh²
¹Polyposis Registry, St Mark's Hospital, London, United Kingdom; ²Paul Strickland Scanner Centre, Mount Vernon Hospital, Northwood, Middlesex HA6 2RN, United Kingdom
- 15:00 3052. Comparison between Pre & Post Chemoradiation Therapy DCE-MR & PCT Findings: Initial Observations in Locally Advanced Rectal Tumors**
Stefano Viotti¹, Giuseppe Petralia¹, Paul Eugene Summers¹, Luke Bonello¹, Moreno Pasin¹, Roberto Di Filippi¹, Massimo Bellomi^{1,2}
¹European Institute of Oncology, Milano, Italy; ²School of Radiology, Università Statale degli Studi di Milano, Milano, Italy

Prostate Cancer (Clinical Studies) I

Exhibition Hall Thursday 13:30-15:30 Computer 9

- 13:30 3053. Identifying Prostate Brachytherapy Seeds at MRI: A Study in Phantom**
Ali Fatemi-Ardekani¹, Jette Borg¹
¹Radiation Medicine Program, Princess Margaret Hospital, Toronto, Ontario, Canada

- 14:00 3054. Value of Combined 3T Multiparametric MR Imaging & MR Guided Biopsy in Patient Selection for Active Surveillance within the PRIAS Study: Initial Results of the MRPRIAS Study, a Prospective Multicenter Study.**
Caroline Maria Anna Hoeks¹, Joyce G. R. Bomers¹, Diederik M. Somford², Roderick van Den Bergh³, Inge M. Van Oort², Henk Vergunst⁴, Geert Smits⁵, Jorg Oddens⁶, Christina A. Hulsbergen-Van De Kaa⁷, Chris Bangma⁸, Fred Witjes², Jelle O. Barentsz¹
¹Radiology, Radboud University Nijmegen Medical Centre, Nijmegen, Gelderland, Netherlands; ²Urology, Radboud University Nijmegen Medical Centre, Nijmegen, Gelderland, Netherlands; ³Urology, University Medical Centre Utrecht, Utrecht, Netherlands; ⁴Urology, Canisius Wilhelmina Hospital, Nijmegen, Gelderland, Netherlands; ⁵Urology, Alysis Zorggroep, Arnhem, Gelderland, Netherlands; ⁶Urology, Jeroen Bosch Hospital, Den Bosch, Noord-Brabant, Netherlands; ⁷Pathology, Radboud University Nijmegen Medical Centre, Nijmegen, Gelderland, Netherlands; ⁸Urology, Erasmus University Medical Centre, Rotterdam
- 14:30 3055. Hierarchical Image Registration for Improved Sampling During 3T MRI-Guided Transperineal Targeted Prostate Biopsy**
Andriy Fedorov¹, Kemal Tuncali¹, Fiona Fennessy¹, Junichi Tokuda¹, Nobuhiko Hata¹, William M. Wells¹, Ron Kikinis¹, Clare M. C. Tempny¹
¹Department of Radiology, Brigham & Women's Hospital, Boston, MA, United States
- 15:00 3056. T₁ Relaxation Changes of Bone & Lymph Node Lesions of Metastatic Prostate Cancer During 4 Cycles of Antiangiogenic Drug Therapy**
Naira Muradyan¹, Baris Turkbey², William Dahut³, Peter Choyke²
¹iCAD, Inc., Nashua, NH, United States; ²Molecular Imaging Program, National Cancer Institute, Bethesda, MD, United States; ³Medical Oncology Branch, National Cancer Institute, Bethesda, MD, United States

Prostate Cancer (Clinical Studies) II

Exhibition Hall Monday 14:00-16:00 Computer 10

- 14:00 3057. High Resolution 3D ³¹P Spectroscopic Imaging of the Human Prostate at 7T: Technical Feasibility & In Vivo Measurement**
Thiele Kobus¹, Andreas K. Bitz², Mark J. Van Uden¹, Miriam W. Lagemaat¹, Stephan Orzada², Arend Heerschap¹, Tom W. J. Scheenen^{1,2}
¹Radiology, Radboud University Nijmegen Medical Centre, Nijmegen, Gelderland, Netherlands; ²Erwin L. Hahn Institute for Magnetic Resonance Imaging, Essen, Germany
- 14:30 3058. Correlation between In Vivo ¹H MRSI & Ex Vivo ¹H HR MAS in Spatially Matched Regions in Prostate Cancer Patients**
Kirsten Margrete Selnaes¹, Ingrid Susanne Gribbestad¹, Helena Bertilsson^{2,3}, Alan Wright⁴, Anders Angelsen³, Arend Heerschap⁴, May-Britt Tessem¹
¹Department of Circulation & Medical Imaging, NTNU, Trondheim, Norway; ²Department of Laboratory Medicine & Children's & Women's Health, NTNU, Trondheim, Norway; ³Department of Urology, St. Olavs Hospital, Trondheim University Hospital, Trondheim, Norway; ⁴Department of Radiology, Radboud University Nijmegen Medical Centre, Netherlands
- 15:00 3059. A Peak Phasing & Alignment Algorithm for Automated Post-Processing of 3D MRSI Data from the Prostate of Cancer Patients.**
Alan James Wright¹, Arend Heerschap¹
¹Radboud University Nijmegen Medical Centre, Nijmegen, Netherlands
- 15:30 3060. Automated Lipid-Removal for Baseline Correction of Prostate-Cancer MRSI Data using Prior Knowledge.**
Alan James Wright¹, Arend Heerschap¹
¹Radboud University Nijmegen Medical Centre, Nijmegen, Netherlands

Exhibition Hall Tuesday 13:30-15:30 Computer 10

- 13:30 3061. Improving Accuracy in Measurement of Choline as a Predictor of Early Response to Neoadjuvant Chemotherapy: Correction of Internal Reference using External Reference**
Yuriko Suzuki¹, Yoshifumi Kuroki², Marc Van Cauteren¹
¹MR Clinical Science, Philips Electronics Japan, Minato-ku, Tokyo, Japan; ²Tochigi Cancer Center, Utsunomiya, Tochigi, Japan
- 14:00 3062. Arterial Spin Labeling Perfusion Studies of the Prostate with an ERC**
Xiufeng Li¹, Chaitanya Kalavagunta¹, Michael T. Nelson², Greg J. Metzger¹
¹Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, MN, United States; ²Diagnostic Radiology, University of Minnesota, Minneapolis, MN, United States
- 14:30 3063. Prostate Perfusion using Arterial Spin Labeling: Initial Experience**

Xiufeng Li¹, Chaitanya Kalavagunta¹, Greg Metzger¹

¹Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, MN, United States

15:00 3064. A Comparison between Arterial Input Function Approaches for High Temporal Resolution Pharmacokinetic Analysis of Prostate Cancer at 3.0T

Fiona M. Fennessy¹, Sandeep N. Gupta², Andriy Fedorov¹, Robert Mulkern¹, Yi Tang¹, Felipe Franco¹, Kemal Tuncali¹, Ehud Schmidt¹, Clare Tempany¹

¹Brigham & Women's Hospital, Boston, MA, United States; ²Functional Imaging Lab, GE Global Research Center, Niskayuna, NY, United States

Exhibition Hall Wednesday 13:30-15:30 Computer 10

13:30 3065. The Effect of Tissue Hydraulic Conductivity on Interstitial Fluid Pressure (IFP) as Measured by DCE-MRI in Human Prostate

Jarrett Grover¹, Yousef Mazaheri²

¹Memorial Sloan Kettering Cancer Center, New York, NY, United States; ²Medical Physics, Memorial Sloan Kettering Cancer Center, New York, United States

14:00 3066. Contrast-to-Noise Ratio in Extrapolated & Measured High B-Value Diffusion Weighted Prostate MR Images

Marnix Christiaan Maas¹, Jurgen J. Fütterer¹, Tom W. J. Scheenen¹

¹Department of Radiology, Radboud University Nijmegen Medical Centre, Nijmegen, Netherlands

14:30 3067. Non Mono-Exponential Analysis of DW-MRI Data for the Detection of Prostate Cancer

Yousef Mazaheri¹, Alvarez Vargas², Oguz Akin², Debra Goldman², Hedvig Hricak²

¹Medical Physics, Memorial Sloan Kettering Cancer Center, New York, United States; ²Radiology, Memorial Sloan Kettering Cancer Center, New York, NY, United States

15:00 3068. Role of Quantitative MRI Biomarkers for Evaluating Prostatic Transition Zone Tumors

Jing Ren¹, Yi Huan², Mengqi Wei²

¹Department of Radiology, Xijing Hospital, Fourth Military Medical University, Xi'an, Shaanxi, China, People's Republic of; ²Xijing Hospital, Fourth Military Medical University, China, People's Republic of

Exhibition Hall Thursday 13:30-15:30 Computer 10

13:30 3069. Diagnosis of Prostate Cancer: Comparison of MR Diffusion Tensor Imaging, Quantitative Dynamic Contrast-Enhanced MR Imaging & the Two Techniques Combined at 3.0T

Chunmei Li¹, Min Chen¹, Saying Li¹, Xuna Zhao², Chen Zhang¹, Cheng Zhou¹

¹Beijing Hospital, Beijing, China, People's Republic of; ²Peking University

14:00 3070. Neuroanatomical Evaluation of Periprostatic Nerve in Patients Submitted to Nerve-Sparing Prostatectomy at 3T: Feasibility Study & Preliminary Experience

Valeria Panebianco¹, Sabina Prato², Daniele Lisi¹, Valeria Buonocore¹, Tommaso Biondi¹, Roberto Passariello¹

¹Department of Radiological Sciences, Sapienza University, Rome, Italy; ²MR Advanced Applications, GE Healthcare, Milan, Italy

14:30 3071. MRI Prostate Volumetry as a Surrogate for Transrectal Ultrasound Volumetry in Estimating Iodine – 125 Seeds in Brachytherapy: Inter-Observer Variability

Liang Wang¹, Hedvig Hricak², Oguz Akin²

¹Tongji University Hositla of HUST, Wuhan, Hubei, China, People's Republic of; ²Memorial Sloan-Kettering Cancer Center

15:00 3072. MRI & Biopsy Performance in Delineating Recurrent Tumor Boundaries After Radiotherapy for Prostate Cancer

Cynthia Menard^{1,2}, Douglas Iupati¹, Jenny Lee¹, Anna Simeonov¹, Jessy Abed¹, Julia Publicover¹, Peter Chung¹, Andrew Bayley¹, Charles Catton¹, Michael Milosevic¹, Robert Bristow¹, Gerard Morton³, Padraig Warde¹, Kristy Brock¹, Masoom Haider³

¹Princess Margaret Hospital, Toronto, ON, Canada; ²Department of Radiation Oncology, University of Toronto, Toronto, Ontario, Canada; ³Odette Cancer Center

Breast I

Exhibition Hall Monday 14:00-16:00 Computer 11

14:00 3073. Initial Clinical Testing of RESOLVE: High-Resolution Diffusion Weighted Imaging at 3T

Dorota Jakubowski Wisner¹, Vibhas S. Deshpande², Bonnie N. Joe¹, David A. Porter³, C. Belinda Chang¹, Gerhard A. Laub², Nola Hylton¹

¹Radiology & Biomedical Imaging, University of California, San Francisco, San Francisco, CA, United States; ²MR Research & Development, Siemens Medical Solutions USA, Inc., San Francisco, CA, United States; ³MR Research & Development, Siemens Medical Solutions, Erlangen, Bavaria, Germany

- 14:30 3074. 3.0T Breast Diffusion Weighted MRI using Readout Segmented EPI: Comparison with Single Shot EPI**
Shotaro Kanao¹, Tomohisa Okada¹, Mami Iima¹, Kazuna Takeda¹, Shigeaki Umeoka¹, Takeshi Kubo¹, Kaori Togashi¹
¹Diagnostic Imaging & Nuclear Medicine, Kyoto University Graduate School of Medicine, Kyoto, Japan
- 15:00 3075. Reduced Field-of-View Diffusion-Weighted Imaging in Patients with Invasive Breast Cancer**
Lisa Singer¹, Lisa J. Wilmes¹, Emine U. Saritas^{2,3}, Ajit Shankaranarayanan⁴, Evelyn Proctor¹, Dorota Wisner¹, Belinda Chang¹, Bonnie N. Joe¹, Dwight G. Nishimura³, Nola M. Hylton¹
¹Radiology & Biomedical Imaging, UCSF, San Francisco, CA, United States; ²Department of Bioengineering, UC Berkeley, Berkeley, CA, United States; ³Department of Electrical Engineering, Stanford University, Stanford, CA, United States; ⁴Applied Science Laboratory, GE Healthcare, Menlo Park, CA, United States
- 15:30 3076. Technical Advances for Breast Diffusion MR Imaging on Wide-Bore 3T Systems**
Vibhas S. Deshpande¹, Dorota J. Wisner², John W. Grinstead¹, Thorsten Feiweier³, Bonnie N. Joe², Gerhard A. Laub¹
¹Siemens Medical Solutions USA, Inc., San Francisco, CA, United States; ²Dept. of Radiology & Biomedical Engineering, UCSF, San Francisco, CA, United States; ³Siemens Medical Solutions, Erlangen, Germany

Exhibition Hall Tuesday 13:30-15:30 Computer 11

- 13:30 3077. Contrast Enhanced MRI in Neoadjuvant Chemotherapy for Locally Advanced Breast Cancer: Does Accuracy Vary Across Clinically Relevant Sub-Sets?**
David John Manton¹, Filip Van Kove¹, Martin D. Pickles¹, Lindsay W. Turnbull¹
¹Yorkshire Cancer Research Centre for MR Investigations, Hull-York Medical School, Hull, East Yorkshire, United Kingdom
- 14:00 3078. The Study of Relationship between ADC Value & Maximal Diameter of the Breast Cancer with Ki-67 Expression During Neoadjuvant Chemotherapy**
Li Guo¹, Xiao-Ying Wang¹, Nai-Shan Qin¹, Xue-Xiang Jiang¹
¹Radiology, Peking University First Hospital, Beijing, China, People's Republic of
- 14:30 3079. Feasibility of 7 Tesla Breast MRI. Determination of Intrinsic Sensitivity & High Resolution MRI, DWI & ¹H-MRS of Breast Cancer Patients Receiving Neo-Adjuvant Therapy**
Mies A. Korteweg¹, Wouter B. Veldhuis¹, Fredy Visser¹, Peter R. Luijten¹, Willem P. Th. M. Mali¹, Paul J. van Diest², Maurice A. A. J. van den Bosch¹, Dennis W. J. Klomp¹
¹Radiology, University Medical Center Utrecht, Utrecht, Netherlands; ²Pathology, University Medical Center Utrecht, Utrecht, Netherlands
- 15:00 3080. Feasibility of using MR Spectroscopy without Water-Fat Suppression to Monitor Tumor Response to Chemotherapy**
Hyeon-Man Baek¹, Jeon-Hor Chen², Orhan Nalcioglu², Min-Ying Su²
¹Advanced Imaging Research Center, UT Southwestern Medical Center, Dallas, TX, United States; ²Tu & Yuen Center for Functional Onco-Imaging, UC Irvine, Irvine, CA, United States

Exhibition Hall Wednesday 13:30-15:30 Computer 11

- 13:30 3081. Effect of Thin-Section Diffusion-Weighted Magnetic Resonance Imaging on Diagnosis of Malignant Breast Lesions**
April M. Chow¹, Polly S. Y. Cheung², Raymond Lee³, Ka Man Chan³, Sau Fan Liu¹, Siu Ki Yu¹, Gladys G. Lo³
¹Medical Physics & Research Department, Hong Kong Sanatorium & Hospital, Happy Valley, Hong Kong SAR, China, People's Republic of; ²Breast Care Center, Hong Kong Sanatorium & Hospital, Happy Valley, Hong Kong SAR, China, People's Republic of; ³Department of Diagnostic & Interventional Radiology, Hong Kong Sanatorium & Hospital, Happy Valley, Hong Kong SAR, China, People's Republic of
- 14:00 3082. Correlation between Apparent Diffusion Coefficient & Molecular & Histological Prognostic Factors in Breast Cancer: Initial Observations in 53 Patients.**
Giuseppe Petralia¹, Luke Bonello², Paul Summers¹, Lorenzo Preda¹, Roberto Di Filippi¹, Moreno Pasin¹, Marzia Locatelli³, Giuseppe Curigliano³, Massimo Bellomi^{1,2}
¹Radiology, European Institute of Oncology, Milan, Italy; ²School of Radiology, University of Milan, Milan, Italy; ³Medical Oncology, European Institute of Oncology, Milan, Italy
- 14:30 3083. The Relation of Apparent Diffusion Coefficient (ADC) Measurements in Normal Glandular Breast Tissue to Menstrual Cycle & Menopausal State at 3.0T Diffusion-Weighted Imaging.**

Elizabeth Anne Maxine O'Flynn¹, Marco Borri¹, Maria Schmidt¹, Veronica Morgan¹, Sharon Giles¹, Catherine Parry-Jones¹, Nandita M. de Souza¹

¹Clinical Magnetic Resonance, Cancer Research UK & EPSRC Cancer Imaging Centre, Sutton, Surrey, United Kingdom

15:00 3084. Difference of Apparent Diffusion Coefficient in Breast Mass & Non-Mass Like Enhancement Lesions

Liuquan Cheng¹, Yuhan Bai^{1,2}, Jing Zhang^{1,3}, Mei Liu⁴, Xiru Li⁵

¹Radiology, Chinese PLA General Hospital, Beijing, China, People's Republic of; ²Radiology, the People's Hospital of Wuhan University, Hubei; ³Radiology, Chinese PLA Navy General Hospital, Beijing; ⁴Pathology, Chinese PLA General Hospital, Beijing, China, People's Republic of; ⁵Surgery, Chinese PLA General Hospital, Beijing, China, People's Republic of

Exhibition Hall Thursday 13:30-15:30 Computer 11

13:30 3085. Automatic Bolus Detection in Breast MRI: A Method to Improve Accuracy & Reliability?

Christian Geppert¹, Matthias Fenchel¹, Rolf Janka², Andre de Oliveira¹, Berthold Kiefer¹, Michael Uder², Evelyn Wenkel²

¹Siemens Healthcare, Erlangen, Germany; ²Radiologisches Institut, Universitätsklinikum Erlangen, Erlangen, Germany

14:00 3086. Transmit B₁ Field Inhomogeneity & T₁ Estimation Errors in Breast DCE MRI at 3T

Kyunghyun Sung¹, Bruce L. Daniel¹, Brian A. Hargreaves¹

¹Radiology, Stanford University, Stanford, CA, United States

14:30 3087. Variable-Resolution Dynamic Contrast-Enhanced Breast MRI Acquisition

Manojkumar Saranathan¹, Brian A. Hargreaves¹, Catherine J. Moran¹, Bruce Daniel¹

¹Radiology, Stanford University, Stanford, CA, United States

15:00 3088. Improved Lesion Conspicuity on Contrast Enhanced Breast MRI at 3 Tesla using Linear Vs. Radial-Centric K-Space Ordering

Bonnie N. Joe¹, Dorota Wisner¹, Vignesh A. Arasu¹, Sachiko Suzuki¹, Vibhas S. Deshpande², Belinda Chang¹, Gerhard Laub², Nola M. Hylton¹

¹Dept of Radiology & Biomedical Imaging, UCSF, San Francisco, CA, United States; ²Siemens Medical Solutions USA, Inc, San Francisco, CA, United States

Breast II

Exhibition Hall Monday 14:00-16:00 Computer 12

14:00 3089. Magnetization Transfer Imaging & Dynamic Contrast Enhanced Imaging of Breast Cancer at 3T

Samantha Lynn Heller¹, Linda Moy¹, Sherlin Lavianivi¹, Melanie Moccaldi¹, Sunghoon Kim²

¹Radiology, NYU School of Medicine, New York, NY, United States; ²Center for Biomedical Imaging, Radiology, NYU School of Medicine, New York, NY

14:30 3090. Chemical Exchange Saturation Transfer (CEST) MRI of the Breast at 3T using Amide Proton Transfer (APT)

Adrienne N. Dula^{1,2}, Lori R. Arlinghaus^{1,2}, Bennett A. Landman^{1,3}, Richard D. Dortch^{1,2}, John C. Gore^{1,2}, Tom E. Yankeelov^{1,2}, Seth A. Smith^{1,2}

¹Institute of Imaging Science, Vanderbilt University Medical Center, Nashville, TN, United States; ²Radiology & Radiological Sciences, Vanderbilt University Medical Center, Nashville, TN, United States; ³Electrical Engineering & Computer Science, Vanderbilt University Medical Center, Nashville, TN, United States

15:00 3091. Enhancing Mass Detection & Classification in Breast Tissue using Strain-Encoded (SENC) MRI

Ahmed Amr Harouni¹, Riham H. El Khouli², Jakir Hossain³, David A. Bluemke², Nael F. Osman⁴, Michael A. Jacobs⁵

¹Electrical & Computer Engineering, Johns Hopkins University, Baltimore, MD, United States; ²Radiology & Imaging Sciences, National Institute of Health, Bethesda, MD, United States; ³Electrical & Computer Engineering, Johns Hopkins University, Baltimore, MD, United States; ⁴Department of Radiology, Johns Hopkins University, Baltimore, MD, United States; ⁵Department of Radiology & Oncology, Johns Hopkins University School of Medicine, Baltimore, MD, United States

15:30 3092. Sub-Millimeter Breast Imaging & Relaxivity Characterization at 7T

Ryan Brown¹, Kellyanne McGorty¹, Linda Moy¹, Scott DeGregorio¹, Daniel K. Sodickson¹, Graham C. Wiggins¹

¹Center for Biomedical Imaging, NYU Langone Medical Center, New York, NY, United States

Exhibition Hall Tuesday 13:30-15:30 Computer 12

13:30 3093. Achieving Consistent, Homogeneous, Dark Fat Suppression on Bilateral Breast MRI at 3.0 Tesla in the Clinical Setting

Bonnie N. Joe¹, Vibhas S. Deshpande², Dorota J. Wisner¹, Vignesh A. Arasu¹, Nola M. Hylton¹, Gerhard A. Laub²

¹Dept of Radiology & Biomedical Imaging, UCSF, San Francisco, CA, United States; ²Siemens Medical Solutions USA, Inc, San Francisco, CA, United States

- 14:00 3094. Breast Morphological & DCE MRI with SWIFT**
Curtis Andrew Corum¹, Steen Moeller¹, Djaudat Idiyatullin¹, Diane Hutter¹, Angela Snyder¹, Michael T. Nelson², Tim Emory², Jessica E. Kuehn-Hajder², Lynn E. Eberly³, Gregor Adriany¹, Michael Garwood¹
¹CMRR, Radiology Department, Medical School, University of Minnesota, Minneapolis, MN, United States; ²Breast Center, Radiology Department, Medical School, University of Minnesota, Minneapolis, MN, United States; ³Division of Biostatistics, School of Public Health, University of Minnesota, Minneapolis, MN, United States
- 14:30 3095. Normal Variability in the Quantitative Assessment of Breast Tissue by MRI**
Ania Szary¹, Sheye Aliu¹, Sachiko Suzuki¹, Catherine Klifa¹, Dorota Wisner¹, Evelyn Proctor¹, Bonnie Joe¹, Nola Hylton¹
¹Department of Radiology & Biomedical Imaging, UCSF, San Francisco, CA, United States
- 15:00 3096. Clinical Implementation of 3D High Spectral & Spatial Resolution Imaging**
Abbie M. Wood¹, Gillian M. Newstead¹, Hiroyuki Abe¹, Milica Medved¹, Greg S. Karczmar¹
¹Radiology, University of Chicago, Chicago, IL, United States

Exhibition Hall Wednesday 13:30-15:30 Computer 12

- 13:30 3097. Meta-Population Breast Cancer Screening with the δK^{trans} DCE-MRI Parameter**
Charles S. Springer¹, Luminita A. Tudorica¹, Xin Li¹, Sunitha Thakur², Elizabeth A. Morris², Karen Y. Oh¹, Mark D. Kettler¹, Yiyi Chen¹, Ian J. Tagge¹, Stephanie L. Hemmingson¹, Maayan Korenblit², John W. Grinstead³, Gerhard Laub⁴, Jason A. Koutcher², Wei Huang¹
¹Oregon Health & Science University, Portland, OR, United States; ²Memorial Sloan Kettering Cancer Center, New York, United States; ³Siemens Healthcare, Portland, OR, United States; ⁴Siemens Healthcare, San Francisco, CA, United States
- 14:00 3098. To Compare MR Spectroscopy at 3T with Tumor Type & Grading of Breast Cancers**
Marianna Telesca¹, Federica Pediconi¹, Maria Laura Luciani¹, Valeria Casali¹, Federica Vasselli¹, Elena Miglio¹, Carlo Catalano¹, Roberto Passariello¹
¹"Sapienza" University of Rome, Rome, Italy
- 14:30 3099. Time-Frequency Analysis of In Vivo MRS of the Breast Improves Cancer Detection**
Frederick Shic¹, Alexander P. Lin², Peter Stanwell², Saadallah Ramadan², Eva Gombos², Carolyn Mountford²
¹Child Study Center, Yale University School of Medicine, New Haven, CT, United States; ²Center for Clinical Spectroscopy, Brigham & Women's Hospital, Boston, MA, United States
- 15:00 3100. In Vivo Quantitative Proton MR Spectroscopy to Characterize Morphological Pattern of MR Enhancements in Breast Cancer**
Hyeon-Man Baek¹, Jeon-Hor Chen², Orhan Nalcioglu², Min-Ying Su²
¹Advanced Imaging Research Center, UT Southwestern Medical Center, Dallas, TX, United States; ²Tu & Yuen Center for Functional Onco-Imaging, UC Irvine, Irvine, CA, United States

Other Cancers (Clinical Studies)

Exhibition Hall Monday 14:00-16:00 Computer 13

- 14:00 3101. Using Paired Tissue & Serum Samples to Characterize Human Lung Cancer Metabolomics with Ex Vivo ¹H HRMAS MRS.**
Elita DeFeo¹, Isabel Dittmann, Yannick Berker, Li Su², Eugene Mark, David Christiani², Leo L. Cheng³
¹Pathology, Massachusetts General Hospital, Charlestown, MA, United States; ²Environmental Health, Harvard School of Public Health; ³Radiology, Pathology, Massachusetts General Hospital
- 14:30 3102. Automatic Image Registration of Lung CT & Hyperpolarized Helium-3 MRI Via Mutual Information of Proton MRI**
Rob H. Ireland^{1,2}, James A. Swinscoe², Matthew Q. Hatton², Helen Marshall¹, Salma Ajraoui¹, Juan Parra-Robles¹, Jim M. Wild¹
¹Academic Radiology, University of Sheffield, Sheffield, S. Yorkshire, United Kingdom; ²Academic Clinical Oncology, University of Sheffield, Sheffield, S. Yorkshire, United Kingdom
- 15:00 3103. Clinical Application of Pharmacokinetic Analysis as a Biomarker in Solitary Pulmonary Nodules: Dynamic Contrast Enhanced MR Imaging**
Hatsuho Mamata^{1,2}, Junichi Tokuda^{1,2}, Ritu R. Gill^{1,2}, Robert F. Padera^{2,3}, Robert E. Lenkinski^{2,4}, David J. Sugarbaker^{2,5}, Hiroto Hatabu^{1,2}

¹Radiology, Brigham & Women's Hospital, Boston, MA, United States; ²Harvard Medical School, Boston, MA, United States; ³Pathology, Brigham & Women's Hospital, Boston, MA, United States; ⁴Radiology, Beth Israel Deaconess Medical Center, Boston, MA, United States; ⁵Thoracic surgery, Brigham & Women's Hospital, Boston, MA, United States

15:30 3104. Characterization of SCUBE3 Protein for Its Role in Tumor Vascularization by SSCE-MRI

Cheng-Hung Chou¹, Yi-Fang Cheng¹, Amit Kumar¹, Konan Peck¹, Chen Chang¹

¹Institute of Biomedical Sciences, Academia Sinica, Taipei, Taiwan

Exhibition Hall Tuesday 13:30-15:30 Computer 13

13:30 3105. Paediatric & Adolescent Lymphoma: Comparison of MR Imaging & PET-CT for Detection of Focal Splenic Lesions

Shonit Punwani¹, King Kenneth Cheung¹, Nicholas Skipper¹, Alan Bainbridge², Stuart Taylor¹, Ashley Groves³, Sharon Hain³, Simona Ben-Haim³, Michael Steward³, Ananth Shankar⁴, Stephen Daw⁴, Steve Halligan¹, Paul Humphries¹

¹Centre for Medical Imaging, University College London, London, United Kingdom; ²Department of Medical Physics & Bioengineering, University College London; ³Institute of Nuclear Medicine, University College London; ⁴Paediatrics, University College London Hospital

14:00 3106. Magnetic Resonance Imaging for Staging Lymphoma: Whole-Body or Less?

Thomas Kwee¹, Erik Akkerman², Rob Fijnheer³, Marie Jose Kersten⁴, Joseph Zsiros⁵, Inge Ludwig⁶, Marc Bierings⁷, Jaap Stoker², Rutger-Jan Nivelstein¹

¹Department of Radiology, University Medical Center Utrecht, Utrecht, Netherlands; ²Department of Radiology, Academic Medical Center, Amsterdam, Netherlands; ³Department of Hematology, Meander Medical Center, Amersfoort, Netherlands; ⁴Department of Hematology, Academic Medical Center, Amsterdam, Netherlands; ⁵Department of Pediatric Oncology, Academic Medical Center, Amsterdam, Netherlands; ⁶Department of Hematology, University Medical Center Utrecht, Utrecht, Netherlands; ⁷Department of Pediatric Hematology, University Medical Center Utrecht, Utrecht, Netherlands

14:30 3107. Prediction of Lymphoma Response to Chemotherapy: Evaluation of Pre-Treatment MR Derived ADC & PET Derived SUV as Prognostic Biomarkers

Shonit Punwani¹, Paul Humphries¹, Stuart Taylor¹, Stephen Daw², Ananth Shankar², Alan Bainbridge³, Ziauddin Zia Saad⁴, Ashley Groves⁴, Steve Halligan

¹Centre for Medical Imaging, University College London, London, United Kingdom; ²Paediatrics, University College London Hospital; ³Department of Medical Physics & Bioengineering, University College London; ⁴Institute of Nuclear Medicine, University College London

15:00 3108. ¹H MRS & MRI Longitudinal Study to Detect Therapeutic Response in Non-Hodgkin's Lymphoma Patients

Seung-Cheol Lee¹, Harish Poptani¹, Hari Hariharan¹, Sunita Nasta², Jakub Svoboda², Stephen J. Schuster², Jerry D. Glickson¹

¹Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States; ²Department of Medicine, Hematology Oncology Division, University of Pennsylvania, Philadelphia, PA, United States

Perfusion & Permeability: Preclinical & Clinical I

Exhibition Hall Monday 14:00-16:00 Computer 14

14:00 3109. Effect of Anesthesia on Tumor Vascular Permeability Measurements by DCE-MRI

Wenlian Zhu¹, Yoshinori Kato¹, Dmitri Artemov¹

¹The Russell H. Morgan Department of Radiology & Radiological Science, Johns Hopkins University, Baltimore, MD, United States

14:30 3110. Assessing the Tumour Microenvironment with DCE-MRI & DCE-Ultrasound

Firas Moosvi^{1,2}, Peter Bevan³, Colleen Bailey^{1,2}, Greg Stanisz^{1,2}

¹Imaging Physics, Sunnybrook Health Sciences Centre, Toronto, Ontario, Canada; ²Medical Biophysics, University of Toronto, Toronto, Ontario, Canada; ³McMaster University, Hamilton, Ontario, Canada

15:00 3111. Towards Improving Tumor Boundary Identification in Murine Models of Glioma using Cerebral Blood Volume Maps

Kathleen E. Chaffee¹, Jeff R. Anderson¹, Joshua S. Shimony¹, G. Larry Bretthorst¹, Joseph J. H. Ackerman¹, Joel R. Garbow¹

¹Radiology, Washington University School of Medicine, St. Louis, MO, United States

15:30 3112. Contribution of Perfusion in Diffusion Weighted MRI of Orthotopic and Subcutaneous Hepatocellular Carcinoma in Rat

Andriy Babsky¹, Beena George¹, Navin Bansal¹

¹Radiology & Imaging Sciences, Indiana University, Indianapolis, IN, United States

 Exhibition Hall Tuesday 13:30-15:30 Computer 14

- 13:30 3113. The DCE-MRI δK^{trans} Parameter has Diminished Sensitivity to AIF Variation**
Emerson Hum¹, Xin Li¹, Luminita Tudorica², Karen Oh², Stephanie Hemmingson¹, Mark Kettler², John Grinstead³, Gerhard Laub⁴, Charles Springer¹, Wei Huang¹
¹Advanced Imaging Research Center, Oregon Health & Science University, Portland, OR, United States; ²Diagnostic Radiology, Oregon Health & Science University, Portland, OR, United States; ³Siemens Healthcare, Portland, OR, United States; ⁴Siemens Healthcare, San Francisco, CA, United States
- 14:00 3114. Significant Improvement in Reproducibility of DCE-MRI Achieved using Cardiac-Output Based Constraint of Arterial Input Function**
Jeff Lei Zhang¹, Henry Rusinek¹, Umer Khan¹, Pippa Storey¹, David Stoffel¹, Qun Chen¹, Vivian S. Lee¹
¹Department of Radiology, New York University, New York, NY, United States
- 14:30 3115. Implications of Mean Intracellular Water Lifetime for Prostate DCE-MRI Modeling**
Xin Li¹, Ryan A. Priest^{2,3}, William J. Woodward¹, Ian J. Tagge¹, Faisal Siddiqui^{2,3}, Tomasz M. Beer^{4,5}, Mark G. Garzotto^{6,7}, Wei Huang¹, William D. Rooney¹, Charles S. Springer, Jr.^{1,5}
¹Advanced Imaging Research Center, Oregon Health & Science University, Portland, OR, United States; ²Radiology, Oregon Health & Science University, Portland, OR, United States; ³School of Medicine, Oregon Health & Science University, Portland, OR, United States; ⁴Hematology/Oncology, Oregon Health & Science University, Portland, OR, United States; ⁵Knight Cancer Institute, Oregon Health & Science University, Portland, OR, United States; ⁶Urology, Oregon Health & Science University, Portland, OR, United States; ⁷Portland VA Medical Center, Portland, OR, United States
- 15:00 3116. A Comparison of DCE-MRI Pharmacokinetic Models in Human Breast Cancer**
Xia Li¹, Lori R. Arlinghaus¹, E. Brian Welch¹, A. Bapsi Chakravarthy¹, Lei Xu¹, Jaime Farley¹, Ingrid Mayer¹, Mark Kelley¹, Ingrid Meszoely¹, Julie Means-Powell¹, Vandana Abramson¹, Ana Grau¹, Mia Levy¹, John C. Gore¹, Thomas E. Yankeelov¹
¹Vanderbilt University Institute of Imaging Science, Nashville, TN, United States

 Exhibition Hall Wednesday 13:30-15:30 Computer 14

- 13:30 3117. Improved Temporal Resolution for Human Breast DCE-MRI Data using Compressed Sensing**
David S. Smith¹, Xia Li¹, Lori Arlinghaus¹, Edward Brian Welch¹, John C. Gore¹, Thomas E. Yankeelov¹
¹Radiology & Radiological Sciences, Institute of Imaging Science, Vanderbilt University, Nashville, TN, United States
- 14:00 3118. What is the Minimum Time Resolution Required for DCE-MRI Kinetic Analysis with Kety Model using Single- & Dual-Temporal-Resolution Techniques?**
Ka-Loh Li¹, Gerard Thompson¹, Xiaoping Zhu¹, Giovanni Buonaccorsi², Alan Jackson¹
¹Wolfson Molecular Imaging Centre, the University of Manchester, Manchester, Lancashire, United Kingdom; ²ISBE, the University of Manchester
- 14:30 3119. Improving Quantitative Accuracy & Spatial Resolution of Parametric Imaging using a Dual-Temporal-Resolution DCE MRI Technique**
Ka-Loh Li¹, Salman Qureshi², John Cain¹, Amy Watkins¹, Gareth Evans³, Simon Lloyd⁴, Xiaoping Zhu¹, Alan Jackson¹
¹Wolfson Molecular Imaging Centre, the University of Manchester, Manchester, Lancashire, United Kingdom; ²Greater Manchester Neurosciences Centre, Salford Royal Hospital, Salford, United Kingdom; ³MRI, the University of Manchester; ⁴Manchester Royal Infirmary, Manchester, United Kingdom
- 15:00 3120. Free-Breathing Dynamic Contrast-Enhanced MRI at 3.0 T using a 3D-Radial-Gradient Echo Sequence with K-Space-Weighted Image Contrast (KWIC): Preliminary Study**
Kyung Won Kim¹, Jeong Min Lee¹, Yong Sik Jeon¹, Joon Koo Han¹, Byung Ihn Choi¹
¹Radiology, Seoul National University Hospital, Seoul, Korea, Republic of

 Exhibition Hall Thursday 13:30-15:30 Computer 14

- 13:30 3121. Is Perfusion Parameters Effective to Predict Tumor Response on DCE MRI Performed before CCRT?**
Kyung Ah Kim^{1,2}, Mi-Suk Park², Myeong-Jin Kim², Joon Seok Lim², Jin-Young Choi², Ki Whang Kim²
¹Radiology, Inje University Ilsan-Paik Hospital, Goyang-si, Gyeonggi-do, Korea, Republic of; ²Radiology, Yonsei University College of Medicine, Seoul, Korea, Republic of
- 14:00 3122. Influence of Multiparametric Tumour Delineation Methods on the Median Transfer Constant (K_{trans}) Tumour Values & their Reproducibility**
Nina Tunariu¹, Michael Germuska¹, Veronica A. Morgan¹, Sharon Giles¹, Catherine Simpkin¹, Timothy Yap², James A. d'Arcy¹, David J. Collins¹, Nandita M. de Souza¹

¹Clinical MRI Unit, Royal Marsden Hospital, Institute of Cancer Research & EPSRC Cancer Imaging Centre, Sutton, Surrey, United Kingdom; ²Drug Development Unit, Royal Marsden Hospital & Institute of Cancer Research, Sutton, Surrey, United Kingdom

- 14:30 3123. Preliminary Result of Pharmacokinetic Parameter Evaluation in Malignant Pleural Mesothelioma: Correlation with Histology & Growth Type.**
Hatsuho Mamata^{1,2}, Ritu R. Gill^{1,2}, Junichi Tokuda^{1,2}, Robert F. Padera^{2,3}, Robert E. Lenkinski^{2,4}, William G. Richards^{2,5}, Tamara R. Tilleman^{2,5}, David J. Sugarbaker^{2,5}, Hiroto Hatabu^{1,2}
¹Radiology, Brigham & Women's Hospital, Boston, MA, United States; ²Harvard Medical School, Boston, MA, United States; ³Pathology, Brigham & Women's Hospital, Boston, MA, United States; ⁴Radiology, Beth Israel Deaconess Medical Center, Boston, MA, United States; ⁵Thoracic surgery, Brigham & Women's Hospital, Boston, MA, United States
- 15:00 3124. Comparison of Parameters of Dynamic Contrast Enhanced (DCE-)MRI & Contrast Enhanced UltraSound (CEUS) Applied in a Clinical Pharmacological Study**
Ulrike Fasol¹, Annette Frost², Martin Buechert¹, Klaus Mross², Jann Arends²
¹MR Development & Application Center, University Medical Center Freiburg, Freiburg, Germany; ²Tumor Biology Center, Albert-Ludwigs-University Freiburg, Freiburg, Germany

Perfusion & Permeability: Preclinical & Clinical II

Exhibition Hall Monday 14:00-16:00 Computer 15

- 14:00 3125. Dynamic Contrast Enhanced MRI of the Liver for Therapy Monitoring of Hepatic Metastases from Neuroendocrine Tumors**
Wieland H. Sommer¹, Steven Sourbron², Maximilian F. Reiser¹, Karin A. Herrmann¹, Christoph Zech¹
¹Department of Radiology, University Hospital Munich, Grosshadern Campus, Munich, Bavaria, Germany; ²University of Leeds, Leeds, United Kingdom
- 14:30 3126. Correlation of Intravoxel Incoherent Motion with Dynamic Contrast Enhanced MRI Derived Parameters in Neck Nodal Metastases**
Yonggang Lu¹, Jacobus F. A. Jansen², Hilda E. Stambuk¹, Yousef Tehrani-Mazaheri¹, Nancy Lee¹, Jason A. Koutcher¹, Amita Shukla-Dave¹
¹Memorial Sloan-Kettering Cancer Center, New York, NY, United States; ²Maastricht University Medical Center, Maastricht, Netherlands
- 15:00 3127. Combined MRI Texture & Shape Analysis for the Prediction of Biologic Aggressiveness in Musculoskeletal Neoplasms**
Rebecca E. Thornhill¹, Greg O. Cron¹, Ian Cameron¹, Adnan Sheikh¹, Gina Di Primio¹, Joel Werier¹, Mark E. Schweitzer¹, Jing Zhang², Xiao Guang Cheng²
¹The Ottawa Hospital, Ottawa, Ontario, Canada; ²Beijing Ji Shui Tan Hospital, Beijing, China, People's Republic of
- 15:30 3128. Dynamic Contrast-Enhanced Magnetic Resonance Imaging & Dynamic Contrast-Enhanced Computed Tomography of Primary Colorectal Cancer: Comparison of Test-Retest Agreement.**
N. Jane Taylor¹, Ian C. Simcock¹, J. James Stirling¹, Aftab Khan², Rob Glynne-Jones², Anwar R. Padhani¹, Vicky J. Goh¹
¹Paul Strickland Scanner Centre, Mount Vernon Hospital, Northwood, Middlesex HA6 2RN, United Kingdom; ²Cancer Centre, Mount Vernon Hospital, Northwood, Middlesex HA6 2RN, United Kingdom

Tumor Therapy Response - Preclinical & Clinical

Exhibition Hall Tuesday 13:30-15:30 Computer 16

- 14:00 3129. DCE-MRI in Rat Gliomas Under Therapy with Temozolomide & a Nitric Oxide Donor**
Claudia Weidensteiner¹, Mehdi Ordikhani-Seyedlar², Anna Werres³, Nadja Osterberg³, Astrid Weyerbrock³, Wilfried Reichardt²
¹MR Development & Application Center, University Medical Center Freiburg, Freiburg, Germany; ²Department of Radiology/Medical Physics, University Medical Center Freiburg, Freiburg, Germany; ³Department of Neurosurgery, University Medical Center Freiburg, Freiburg, Germany
- 14:30 3130. Multiparametric Imaging for Therapy Response to Cytotoxic & Cytostatic Agents in Xenograft Mice**
Natalie J. Serkova¹, Erica L. Pierce², Kendra M. Hasebrook¹, Andrea L. Merz¹, Todd M. Pitts², Gail Eckhardt²
¹Anesthesiology, University of Colorado Denver, Aurora, CO, United States; ²Medical Oncology, University of Colorado Denver
- 15:00 3131. Assessment of Early Tumor Response to Chemotherapy using MR Elastography (MRE)**
Jun Chen¹, Kiaran P. McGee¹, Yogesh K Mariappan¹, Kevin J. Glaser¹, Stephen M. Ansell¹, Kay M. Pelletier¹, Deanna M. Grote¹, Richard L. Ehman¹

¹Mayo Clinic, Rochester, MN, United States

- 15:30 3132. Comparisons of the Efficacy of the Jak1/2 Inhibitor AZD1480 with the VEGF Signaling Inhibitor Cediranib (AZD2171) & Sham Treatments in Mouse Tumors using DCE-MRI, DW-MRI, & Histology**
Mary E. Loveless^{1,2}, Deborah Lawson³, Michael Collins³, Deborah Morosini³, Corinne Reimer³, Dennis Huszar³, Jane Halliday⁴, John C. Waterton⁴, John C. Gore^{2,5}, Thomas E. Yankeelov^{2,5}
¹Biomedical Engineering, Vanderbilt University, Nashville, TN, United States; ²Institute of Imaging Science, Vanderbilt University, Nashville, TN, United States; ³Cancer Bioscience, AstraZeneca, Boston, MA, United States; ⁴Translational Sciences: Imaging, AstraZeneca, Macclesfield, Cheshire, United Kingdom; ⁵Radiology & Radiological Science, Vanderbilt University, Nashville, TN, United States

Exhibition Hall Tuesday 13:30-15:30 Computer 16

- 13:30 3133. Treatment Response Assessment of a Novel Vascular-Disrupting Agent on Rabbit Tumor Model using DCE-MRI**
Kyung Won Kim¹, Jeong Min Lee¹, Ji Suk Park¹, Yong Sik Jeon¹, Joon Koo Han¹, Byung Ihn Choi¹
¹Radiology, Seoul National University Hospital, Seoul, Korea, Republic of
- 14:00 3134. Textural Analysis of DCE-MRI of the Breast as a Predictor of Response**
Peter Gibbs¹, Arfan Ahmed¹, Martin Pickles¹, Lindsay Turnbull¹
¹Centre for MR Investigations, University of Hull, Hull, United Kingdom
- 14:30 3135. Monitoring Treatment Response to Neoadjuvant Chemotherapy in Breast Cancer by 3D Proton Magnetic Resonance Spectroscopy Imaging**
Bogumil-Krystian Debski¹, Wolfgang Bogner¹, Marek Chmelik¹, Katja Pinker, Thomas Helbich, Siegfried Trattnig¹, Stephan Gruber¹
¹MR Centre of Excellence, Dept. Radiology, Medical University of Vienna, Vienna, Austria
- 15:00 3136. Evaluation of the Role of DW-MRI in the Assessment of Tumor Response to Sunitinib in Metastatic Renal Cell Carcinoma.**
Nishat Bharwani¹, Marc E. Miquel², Thomas Powles³, Redha Boubertakh², Anju Sahdev¹, Rodney H. Reznek¹, Andrea G. Rockall¹
¹Radiology, Barts & the London NHS Trust, London, United Kingdom; ²Medical Physics, Barts & the London NHS Trust, London, United Kingdom; ³Medical Oncology, Barts & the London NHS Trust, London, United Kingdom

Exhibition Hall Wednesday 13:30-15:30 Computer 16

- 13:30 3137. Sunitinib Induces Reductions in Tumor Vascular Permeability & Intra-Tumor Vascular Volume in Renal Cell Carcinoma**
Mark Alan Rosen¹, Yiqun Xue¹, Sarah Englander¹, Daniel Heitjian², Hyunseon S. Kang¹, Anna Fagan¹, Naomi Haas³, William Lee³, William Carley⁴, Hee Kwon Song¹, Stephen Keefe³, Yu Jiangsheng¹
¹Radiology, University of Pennsylvania, Philadelphia, PA, United States; ²Biostatistics and Epidemiology, University of Pennsylvania, Philadelphia, PA, United States; ³Medicine, University of Pennsylvania, Philadelphia, PA, United States; ⁴Pfizer, Inc., Collegeville, PA, United States
- 14:00 3138. The δK^{trans} DCE-MRI Parameter Provides Early Prediction of Soft-Tissue Sarcoma Therapy Response: Initial Experience**
Stephanie Hemmingson¹, Kelly Perlewitz², Megan Holtorf², Ian Tagge¹, William Woodward¹, Christopher Ryan², Charles Springer¹, Wei Huang¹
¹Advanced Imaging Research Center, Oregon Health & Science University, Portland, OR, United States; ²Medicine, Oregon Health & Science University, Portland, OR, United States
- 14:30 3139. DCE-MRI as a Prognostic Factor in Osteosarcoma**
Junyu Guo¹, John O. Glass¹, Qing Ji¹, Catherine A. Billups², Najat C. Daw³, Wilburn E. Reddick¹
¹Translational Imaging Research, Radiological Sciences, St Jude Children's Research Hospital, Memphis, TN, United States; ²Biostatistics, St. Jude Children's Research Hospital, Memphis, TN, United States; ³Division of Pediatrics, MD Anderson Cancer Center, Houston, TX, United States
- 15:00 3140. MRI Analysis of Bone Metastasis: Shape-Related Exclusion Criteria**
Rafal M Kedzierski¹, Paul T. Weatherall²
¹Radiology, John Peter Smith Hospital, Fort Worth, TX, United States; ²Radiology, Univ. of Texas Southwestern Medical Center, Dallas, TX, United States

Exhibition Hall Thursday 13:30-15:30 Computer 16

- 13:30 3141. Assessment of Neoadjuvant Chemotherapeutic Response of Bladder Cancer by Dynamic Contrast-Enhanced MRI at 3T**
Huyen Thanh Nguyen^{1,2}, Guang Jia¹, Zarine K. Shah¹, Kamal S. Pohar³, Amir Mortazavi⁴, Daniel Clark¹, Mitva Patel¹, Debra L. Zynger⁵, Michael V. Knopp^{1,2}
¹Wright Center of Innovation in Biomedical Imaging & Department of Radiology, the Ohio State University, Columbus, OH, United States; ²Biophysics Program, the Ohio State University, Columbus, OH, United States; ³Department of Urology, the Ohio State University, Columbus, OH, United States; ⁴Department of Internal Medicine, the Ohio State University, Columbus, OH, United States; ⁵Department of Pathology, the Ohio State University, Columbus, OH, United States
- 14:00 3142. MRI Multi-Parametric Response Mapping for Assessment of Early Therapeutic Efficacy in Head & Neck Cancer**
Yonggang Lu¹, Jacobus F. A. Jansen², Hilda E. Stambuk¹, Nancy Lee¹, Jason A. Koutcher¹, Amita Shukla-Dave¹
¹Memorial Sloan-Kettering Cancer Center, New York, NY, United States; ²Maastricht University Medical Center, Maastricht, Netherlands
- 14:30 3143. An Exploratory Open-Label, Non-Randomised, Single Centre Methodology Study to Compare Dynamic Contrast Enhanced CT & MRI as Markers of Changes in Vascular Activity Mediated by a Positive Control Agent (Cediranib), a Potent Inhibitor of VEGF-Driven Angiogenesis in Patients with Advanced Solid Tumours**
Christina Messiou¹, Matthew Orton¹, David J. Collins¹, Veronica a Morgan¹, Dorothy Mears², Isabel Castellano², Dionysis Papadatospastos³, Andre Brunetto³, Jooern Ang³, Helen Mann⁴, Jean Tessier⁴, Helen Young⁴, Stan Kaye³, Johann de Bono³, Martin O. Leach¹, Nandita M. deSouza¹
¹CRUK & EPSRC Cancer Imaging Centre, Institute of Cancer Research & Royal Marsden NHS Foundation Trust, Sutton, Surrey, United Kingdom; ²Radiology, Royal Marsden NHS Foundation Trust, Sutton, Surrey, United Kingdom; ³Dept of Medicine, Institute of Cancer Research & Royal Marsden NHS Foundation Trust, Sutton, Surrey, United Kingdom; ⁴AstraZeneca, United Kingdom
- 15:00 3144. Predictive Value of Fast & Slow ADC Component Analysis for Rectal Cancer Response Monitoring After Neoadjuvant Radiochemotherapy: Initial Results.**
Martijn Intven¹, Onne Reerink¹, Marielle E. P. Philippens¹
¹Radiotherapy, University Medical Centre, Utrecht, Netherlands

Cancer Cells - Biopsies, Biofluids

Exhibition Hall Monday 14:00-16:00 Computer 17

- 14:00 3145. Lipid Profile of Distinct Areas of Astrocytic Brain Tumors**
Frauke Nehen¹, Laura Columbano², Rudolf Fahlbusch², Dieter Leibfritz¹
¹Institute of Organic Chemistry, University of Bremen, Bremen, Germany; ²International Neuroscience Institute Hannover, Hannover, Germany
- 14:30 3146. A ¹H MRS Study on Neurospheres of Cancer Stem Cells from Human Glioblastoma Multiforme Shows the Presence of Markers of Both Glial & Neuronal Morphology**
Laura Guidoni¹, Lucia Ricci Vitiani², Simona di Martino³, Sveva Grande¹, Anna Maria Luciani¹, Alessandra Palma⁴, Vincenza Viti¹, Antonella Rosi¹
¹Dipartimento di Tecnologie e Salute, Istituto Superiore di Sanità and INFN, Rome, Italy; ²Dipartimento di Ematologia, Oncologia e Medicina Molecolare, Istituto Superiore di Sanità, Rome, Italy; ³Scuola Superiore di Catania, University of Catania, Catania, Italy; ⁴Dipartimento di Tecnologie e Salute, Istituto Superiore di Sanità, Rome, Italy
- 15:00 3147. Metabolic Signatures in Histopathologically Proven Gallbladder Carcinoma Tissues by Hmas Nmr Spectroscopy**
Santosh Kumar Bharti¹, Raja Roy¹, Anu Behari², Vinay K. Kapoor², C. L. Khetrpal¹
¹CBMR, Centre of Biomedical Magnetic Resonance, Lucknow, Uttar Pradesh, India; ²Dept. of Surgical Gastroenterology, Sanjay Gandhi Post Graduate Institute of Medical Sciences, Lucknow, Uttar Pradesh, India
- 15:30 3148. Revealing Cancer Phenotype-Specific Biomarkers in a Cell Perfusing System by ¹³C & ¹H MRS**
Rui Vasco Simoes¹, Ellen Ackerstaff¹, Natalia Kruchevsky¹, Carl Le¹, Kristen Zakian¹, Jason A. Koutcher¹
¹Medical Physics, Memorial Sloan-Kettering Cancer Center, New York, NY, United States

Exhibition Hall Tuesday 13:30-15:30 Computer 17

- 13:30 3149. Treatment with the MEK Inhibitor U0126 Induces Increased Lactate Production in Prostate & Breast Cancer Cell Lines**
Alessia Lodi¹, Sarah M. Woods¹, Robert M. Danforth¹, Sabrina M. Ronen¹

¹University of California San Francisco, San Francisco, CA, United States

- 14:00 3150. Proton HR-MAS MR Spectroscopy of Oral Squamous Cell Carcinoma Tissues: A Metabolic & Multivariate Approach to Distinguish Malignant Tissues**
Raja Roy¹, Shatakshi Srivastava¹, Vivek Gupta², Ashish Tiwari², Anand N. Srivastava³, Abhinav A. Sonkar²
¹Centre of Biomedical Magnetic Resonance, Lucknow, Uttar Pradesh, India; ²Departments of General Surgery, Chatrapati Shahuji Maharaj Medical University, Lucknow, Uttar Pradesh, India; ³Departments of Pathology, Chatrapati Shahuji Maharaj Medical University, Lucknow, Uttar Pradesh, India
- 14:30 3151. Metabolic Characterisation of Retinoblastoma Tumour Tissue**
Martin Wilson^{1,2}, Georgia Kapatai¹, Risto A. Kauppinen³, Theodoros N. Arvanitis^{2,4}, Carmel McConville¹, Andrew C. Peet^{1,2}
¹Cancer Sciences, University of Birmingham, Birmingham, United Kingdom; ²Birmingham Children's Hospital NHS Foundation Trust, Birmingham, United Kingdom; ³Department of Radiology, Dartmouth College, Hanover, NH, United States; ⁴School of Electronic, Electrical & Computer Engineering, University of Birmingham, Birmingham, United Kingdom
- 15:00 3152. MR Microimaging of Ex-Vivo Prostate Tissue at 16.4T**
Gary Cowin¹, Nyoman Dana Kurniawan¹, Paul Sved^{2,3}, Geoff Watson⁴, Roger Bourne⁵
¹Centre for Advanced Imaging, the University of Queensland, Brisbane, Queensland, Australia; ²Department of Surgery, Faculty of Medicine, University of Sydney, Sydney, New South Wales, Australia; ³Department of Urology, Royal Prince Alfred Hospital, Sydney, New South Wales, Australia; ⁴Department of Anatomical Pathology, Royal Prince Alfred Hospital, Sydney, New South Wales, Australia; ⁵Discipline of Medical Radiation Sciences, Faculty of Health Sciences, University of Sydney, Sydney, New South Wales, Australia

Cancer - Animal Models

Exhibition Hall Monday 14:00-16:00 Computer 18

- 14:00 3153. Differentiation of Radiation Necrosis from Glioma in Rat Models using Diffusion Tensor MR Imaging**
Silun Wang¹, Yifei Chen¹, Bachchu Lal^{2,3}, Eric Ford⁴, Erik Tryggstad⁴, Michael Armour⁴, Kun Yan¹, John Laterra^{2,5}, Jinyuan Zhou^{1,6}
¹Radiology, Johns Hopkins School of Medicine, Baltimore, MD, United States; ²Neurology, Johns Hopkins School of Medicine, Baltimore, MD, United States; ³Neurology, Kennedy Krieger Institute, Baltimore, MD, United States; ⁴Radiation Oncology, Johns Hopkins School of Medicine, Baltimore, MD, United States; ⁵Neurology, Kennedy Krieger Institute, Baltimore, MD, United States; ⁶F.M. Kirby Research Center for Functional Brain Imaging, Kennedy Krieger Institute, Baltimore, MD, United States
- 14:30 3154. Breast Cancer Metastases in the Rat Spinal Cord Induce Focal, But Not Distal, Neurodegeneration Measured with Diffusion Tensor Imaging.**
Matthew D. Budde¹, Eric Gold¹, E. Kay Jordan¹, Joseph A. Frank¹
¹Radiology & Imaging Sciences, National Institutes of Health, Bethesda, MD, United States
- 15:00 3155. Characterization of Brain Tumor Infiltration into Adjacent Brain Tissue in Experimental Models with Diffusion Tensor Imaging (DTI)**
Silun Wang¹, Jinyuan Zhou^{1,2}
¹Division of MR Research, Department of Radiology, Johns Hopkins University School of Medicine, Baltimore, MD, United States; ²F.M. Kirby Research Center for Functional Brain Imaging, Kennedy Krieger Institute, Baltimore, MD, United States
- 15:30 3156. MR Spectroscopic Imaging of Lactate in Dedifferentiated Liposarcoma Models**
Asif Rizwan^{1,2}, Xiaohui Ni¹, Rachael O'Connor³, Samuel Singer³, Jason Koutcher^{1,4}, Kristen L. Zakian^{1,4}
¹Medical Physics, Memorial Sloan-Kettering Cancer Center, New York, NY, United States; ²Weill Cornell Medical College, New York, NY, United States; ³Sarcoma Biology Laboratory, Sarcoma Disease Management Program & Surgery, Memorial Sloan-Kettering Cancer Center, New York, NY, United States; ⁴Radiology, Memorial Sloan-Kettering Cancer Center, New York, NY, United States

Exhibition Hall Tuesday 13:30-15:30 Computer 18

- 13:30 3157. Assessment of Metastatic Potential of ⁶⁷Nr and ⁴T₁ Tumors with Selective Multiple-Quantum Coherence Transfer**
Asif Rizwan¹, Inna Serganova², Xiaohui Ni¹, Sunitha Thakur^{1,3}, Ronald Blasberg^{2,3}, Jason Koutcher^{1,4}
¹Medical Physics, Memorial Sloan-Kettering Cancer Center, New York, NY, United States; ²Neurology, Memorial Sloan-Kettering Cancer Center, New York, NY, United States; ³Radiology, Memorial Sloan Kettering Cancer Center, New York, NY, United States; ⁴Radiology, Memorial Sloan Kettering Cancer Center, New York, NY, United States

- 14:00 3158. **In Vivo Lactate T₁ & T₂ Relaxation Measurements in ER-Positive Breast Tumors using SS-SelMQC Editing Sequence**
Sanjay Annarao¹, Ku Thomas², Nagavarakishore Pillarsetty, Jason Koutcher^{1,2}, Sunitha Thakur^{1,2}
¹Medical Physics, Memorial Sloan Kettering Cancer Center, New York, NY, United States; ²Radiology, Memorial Sloan Kettering Cancer Center, New York, NY, United States
- 14:30 3159. **Suppression of Peritumoral Edema for Improved Demarcation of Brain Tumor Lesion with T₁ Over T₂ (T₁/T₂) Mapping**
Jerry S. Cheung¹, Enfeng Wang¹, Giulia Fulci², Phillip Zhe Sun¹
¹Athinoula A. Martinos Center for Biomedical Imaging, Department of Radiology, MGH & Harvard Medical School, Charlestown, MA 02129, United States; ²Molecular Neuro-oncology Laboratories, Center for Molecular Imaging, MGH & Harvard Medical School, Boston, MA 02124, United States
- 15:00 3160. **Changes in High Spectral & Spatial Resolution MR Images of Tumor Tissue Due to Locally Induced Hyperthermia**
Sean Foxley¹, Xiaobing Fan¹, Jonathan River¹, Marta Zamora¹, Erica Markiewicz¹, Shunmugavelu Sokka², Gregory S. Karczmar¹
¹Department of Radiology, University of Chicago, Chicago, IL, United States; ²MR-HIFU, Philips Healthcare, Andover, MA, United States

Exhibition Hall Wednesday 13:30-15:30 Computer 18

- 13:30 3161. **Hyperpolarized ¹³C Biomarkers of Response to Prostate Cancer Radiation Therapy**
Vickie Yi Zhang¹, Robert Bok¹, Subramaniam Sukumar¹, Adam Cunha², I-Chow Hsu², Kristen Scott¹, Jean Pouliot², Daniel Vigneron¹, John Kurhanewicz¹
¹Dept. of Radiology & Biomedical Imaging, University of California, San Francisco, San Francisco, CA, United States; ²Dept. of Radiation Oncology, University of California, San Francisco, San Francisco, CA, United States
- 14:00 3162. **Imaging Oncogene Expression using Hyperpolarized Succinic Acid**
Pratip Bhattacharya¹, Niki Zacharias¹, William H. Perman², Asraf Imam¹, Alan Epstein³, Brian D. Ross¹
¹Enhanced MR Laboratory, Huntington Medical Research Institutes, Pasadena, CA, United States; ²Medical Physics, St. Louis University, St. Louis, MO, United States; ³Pathology, University of Southern California, Los Angeles, CA, United States
- 14:30 3163. **Characterization of Lung Cancer by Amide Proton Transfer (APT) Imaging: In-Vivo Study in an Orthotopic Mouse Model**
Masaya Takahashi¹, Osamu Togao¹, Chase W. Kessinger², Gang Huang², Ivan Dimitrov¹, A. Dean Sherry¹, Jinming Gao²
¹Advanced Imaging Research Center, UT Southwestern Medical Center, Dallas, TX, United States; ²Simmons Comprehensive Cancer Center, UT Southwestern Medical Center, Dallas, TX, United States
- 15:00 3164. **Predicting Glioma Response to Radiotherapy with Amide Proton Transfer (APT) MRI**
Jinyuan Zhou^{1,2}, Silun Wang¹, Betty Tyler³, Rachel Grossman³, Erik Tryggstad⁴, Eric Ford⁴, Michael Armour⁴, Kun Yan¹, Bachchu Lal⁵, Peter C. M. van Zijl^{1,2}, John Laterra⁵
¹Department of Radiology, Johns Hopkins University, Baltimore, MD, United States; ²F.M. Kirby Research Center for Functional Brain Imaging, Kennedy Krieger Institute, Baltimore, MD, United States; ³Department of Neurosurgery, Johns Hopkins University, Baltimore, MD, United States; ⁴Department of Radiation Oncology, Johns Hopkins University, Baltimore, MD, United States; ⁵Department of Neurology, Kennedy Krieger Institute, Baltimore, MD, United States

Exhibition Hall Thursday 13:30-15:30 Computer 18

- 13:30 3165. **Investigation of the BOLD Response to Carbogen Breathing with Tumour Blood Volume in an Intracranial F₉₈ Rodent Glioma Model**
Efthymia Papaevangelou¹, Kirstie Suzanne Opstad¹, Franklyn Arron Howe¹
¹Clinical Sciences, St. George's University of London, London, Greater London, United Kingdom
- 14:00 3166. **Correlation of Quantitative Tissue Characteristics Derived from DCE-MRI, DW-MRI & Histology in Murine Tumors**
Mary E. Loveless^{1,2}, Deborah Lawson³, Michael Collins³, Corinne Reimer³, Dennis Huszar³, Jane Halliday⁴, John C. Waterton⁴, John C. Gore², Thomas E. Yankeelov²
¹Biomedical Engineering, Vanderbilt University, Nashville, TN, United States; ²Institute of Imaging Science, Vanderbilt University, Nashville, TN, United States; ³Cancer Bioscience, AstraZeneca, Boston, MA, United States; ⁴Translational Sciences: Imaging, AstraZeneca, Macclesfield, Cheshire, United Kingdom
- 14:30 3167. **Non-Invasive Visualization of Differential BBB Permeability & In Vivo Quantification of Tumor Volume in an Experimental Model of Breast Cancer Metastasis to the Brain, using Gadolinium-Enhanced MRI & 3D BSSFP**

Dean Bowles Percy¹, Emeline J. Ribot¹, Catherine McFadden¹, Yuhua Chen¹, Carmen Simeadrea², Ann F. Chambers², Patricia S. Steeg³, Paula J. Foster¹

¹Robarts Research Institute, London, Ontario, Canada; ²London Regional Cancer Program, London, Ontario, Canada; ³National Cancer Institute, National Institutes of Health, Bethesda, MD, United States

15:00 3168. Analysis of Vascular Function by DCE-MRI in a Human Endothelial Cell Derived Angiogenesis Model in Mice Under Anti- & Pro-Angiogenic Treatment

Claudia Weidensteiner¹, Wilfried Reichardt², Oliver Siedentopf³, Ralph Graeser³, Holger Weber³

¹MR Development & Application Center, University Medical Center Freiburg, Freiburg, Germany; ²Department of Radiology/Medical Physics, University Medical Center Freiburg, Freiburg, Germany; ³ProQinase GmbH, Freiburg, Germany

Reduction of Susceptibility Artifact: Imaging Around Metallic Implants

Exhibition Hall Monday 14:00-16:00 Computer 19

14:00 3169. Distortion Scout in Metal Implants Imaging

Guobin Li¹, Mathias Nittka², Dominik Paul², Wei Jun Zhang¹

¹Siemens Mindit Magnetic Resonance Ltd., Shenzhen, Guang Dong, China, People's Republic of; ²Siemens Healthcare Sector, Erlangen

14:30 3170. MR Imaging Near Orthopedic Implants using Slice-Encoding for Metal Artifact Correction & Off-Resonance Suppression

Chiel Johan den Harder¹, Ulrike A. Blume¹, Clemens Bos²

¹MR CTO, Philips Healthcare, Best, Netherlands; ²MR Clinical Science, Philips Healthcare, Best, Netherlands

15:00 3171. MSVAT-SPACE for Fast Metal Implants Imaging

Guobin Li¹, Mathias Nittka², Dominik Paul², Lars Lauer²

¹Siemens Mindit Magnetic Resonance Ltd., Shenzhen, Guang Dong, China, People's Republic of; ²Siemens Healthcare Sector, Erlangen

15:30 3172. Combined Parallel Imaging & Compressed Sensing on 3D Multi-Spectral Imaging Near Metal Implants

Kevin M. Koch¹, Kevin F. King¹

¹Global Applied Science Laboratory, GE Healthcare, Waukesha, WI, United States

Exhibition Hall Tuesday 13:30-15:30 Computer 19

13:30 3173. Jacobian-Based Correction of 3D-MSI Images Near Implanted Metal Devices

Kevin M. Koch¹, Matthew A. Koff², Hollis G. Potter²

¹Global Applied Science Laboratory, GE Healthcare, Waukesha, WI, United States; ²Department of Radiology & Imaging, Hospital for Special Surgery, New York, NY, United States

14:00 3174. POCS-Based Compressive Slice Encoding for Metal Artifact Correction

Wenmiao Lu¹, Jun Deng¹, Yi Lu², Garry Gold³, Brian Hargreaves³

¹Nanyang Tech. University, Singapore, SG, Singapore; ²University of Illinois, Urbana Champaign, United States; ³Stanford University, United States

14:30 3175. B₁ Mapping Near Metallic Implants

Uchechukwuka Diana Monu¹, Pauline W. Worters², Kyunghyun Sung², Kevin M. Koch³, Garry E. Gold², Brian A. Hargreaves²

¹Electrical Engineering, Stanford University, Stanford, CA, United States; ²Department of Radiology, Stanford University, Stanford, CA, United States; ³Applied Science Lab, GE Healthcare, Waukesha, WI, United States

15:00 3176. Magnetic Resonance Imaging of Metal-On-Metal Hip Resurfacing Implants

Catherine Lee Hayter¹, Matthew F. Koff¹, Kevin F. Koch², Parina Shah¹, Edwin P. Su³, Hollis G. Potter^{1,4}

¹Department of Radiology & Imaging, Hospital for Special Surgery, New York, NY, United States; ²Applied Science Laboratory, General Electric Healthcare, Waukesha, WI, United States; ³Center for Hip Pain & Preservation, Hospital for Special Surgery, New York, NY, United States; ⁴Weill Cornell Medical College of Cornell University, New York, NY, United States

Kinematic MR in the Knee & Small Joints/Inflammatory

Exhibition Hall Monday 14:00-16:00 Computer 20

14:00 3177. Dynamic Imaging Produces Different 3D Knee Kinematic Information than Static Imaging

Agnes G. d'Entremont^{1,2}, Jurek Nordmeyer-Massner³, Clemens Bos⁴, David R. Wilson^{2,5}, Klaas P. Pruessmann³

¹Mechanical Engineering, University of British Columbia, Vancouver, BC, Canada; ²Centre for Hip Health & Mobility, Vancouver, BC, Canada; ³Institute for Biomedical Engineering, ETH & University of Zurich, Zurich, Switzerland; ⁴Philips Healthcare, Best, Netherlands; ⁵Orthopaedics, University of British Columbia, Vancouver, BC, Canada

- 14:30 3178. Dynamic Imaging of 3D Knee Kinematics using PC-VIPR**
Robert Bradford¹, Kevin Johnson², Oliver Wieben², Darryl Thelen¹
¹Mechanical Engineering, University of Wisconsin - Madison, Madison, WI, United States; ²Medical Physics, University of Wisconsin - Madison
- 15:00 3179. Compression of the Knee Upon Weight Loading in Healthy & Osteoarthritis Subjects as Measured by MRI & X-Ray**
Bradley T. Wyman¹, Sebastian Cotofana², Yanwei Zhang¹, Richard B. Souza³, M-P. Hellio Le Graverand¹, Xiaojuan Li³, Sharmila Majumdar³, Thomas M. Link³, Felix Eckstein², Eric Vignon⁴
¹Pfizer, Groton, CT, United States; ²Paracelsus Medical University, Salzburg, Austria; ³University California, San Francisco, San Francisco, CA, United States; ⁴Universite Claude Bernard, Lyon, France
- 15:30 3180. Fast Dynamic Multislice MRI of the Human Knee using a Motion Device**
Daniel Ludwig Weber^{1,2}, Sebastian Klum², Sai Ramesh Raghuraman², Joachim Hermann Schrauth^{1,2}, Peter Michael Jakob^{1,2}, Daniel Haddad^{1,2}
¹MRB Research Center for Magnetic Resonance Bavaria eV, Würzburg, Bavaria, Germany; ²Department of Experimental Physics 5 (Biophysics), University of Würzburg, Würzburg, Bavaria, Germany

Exhibition Hall Tuesday 13:30-15:30 Computer 20

- 13:30 3181. 4D Dynamic MR Imaging of the Wrist at 1.5 & 3T: First Results from a Feasibility Study**
Catherine N. Petchprapa¹, Thomas Mulholland², Vito Ruggiero, Philip Hodnett
¹RADIOLOGY, NYU HOSPITAL FOR JOINT DISEASES, NEW YORK, NY, United States; ²NYU LANGONE MEDICAL CENTER, United States
- 14:00 3182. Quantitative Assessment of Mechanical Ankle Laxity using MR Imaging**
Christian Jürgen Seebauer¹, Jens Rump², Hermann Josef Bail³, Felix Güttler², Bernd Hamm², Ulf Teichgräber²
¹Center for Musculoskeletal Surgery, Charité-Universitätsmedizin Berlin, Berlin, Germany; ²Department of Radiology, Charité-Universitätsmedizin Berlin, Berlin, Germany; ³Department of Trauma & Orthopedic Surgery, Clinic Nuremberg, Nuremberg, Germany
- 14:30 3183. Stress MRI of Ligamentous Stabilizers in Acute & Chronic Acromioclavicular Joint Instabilities**
Marco Vicari^{1,2}, Kaywan Izadpanah³, Norbert P. Suedkamp³, Matthias Weigel⁴, Matthias Honal⁴, Elisabeth Weitzel³, Elmar Kotter⁵, Mathias Langer⁵, Jan T. Winterer⁵
¹MRI R&D, Esaote S.p.A., Genova, Italy; ²Dept. of Radiology, Medical Physics, University Medical Center Freiburg, Freiburg, Germany; ³Dept. of Orthopedic & Trauma Surgery, University Medical Center Freiburg, Freiburg, Germany; ⁴Dept. of Radiology, Medical Physics, University Medical Center Freiburg, Freiburg, Germany; ⁵Dept. of Radiology, Clinical Radiology, University Medical Center Freiburg, Freiburg, Germany
- 15:00 3184. Assessment of Length Variations of the Coracoclavicular Ligaments During Arm Movement from MRI Data**
Matthias Honal¹, Marco Vicari², Elisabeth Weitzel³, Kaywan Izadpanah³
¹Department of Radiology, Medical Physics, University Medical Center Freiburg, Freiburg, Germany; ²Esaote S. p. A., Genova, Italy; ³Department of Orthopedic & Trauma Surgery, University Medical Center Freiburg, Freiburg, Germany

Exhibition Hall Wednesday 13:30-15:30 Computer 20

- 13:30 3185. MRI of the Plantar Plate in the Painful Forefoot of Patients with Rheumatoid Arthritis**
Heidi J. Siddle¹, Richard J. Hodgson², Anthony C. Redmond^{1,2}, Andrew J. Grainger^{2,3}, Richard J. Wakefield^{1,2}, David A. Pickles⁴, Phillip S. Helliwell¹
¹Section of Musculoskeletal Disease, University of Leeds, Leeds, West Yorkshire, United Kingdom; ²Leeds Musculoskeletal Biomedical Research Unit, Leeds, United Kingdom; ³Department of Radiology, Leeds Teaching Hospitals NHS Trust, Leeds, United Kingdom; ⁴Department of Rheumatology, Leeds Teaching Hospitals NHS Trust, Leeds, United Kingdom
- 14:00 3186. Dynamic Contrast Enhanced MRI of the Achilles Entesis in Spondyloarthritis**
Richard Hodgson¹, Peter Wright², Andrew J. Grainger², Phillip J. O'Connor², Phillip Helliwell, Dennis McGonagle, Paul Emery, Matthew D. Robson³
¹LMBRU, University of Leeds, Leeds, Yorkshire, United Kingdom; ²Leeds Teaching Hospitals NHS Trust; ³University of Oxford
- 14:30 3187. Comparison of MRI of the Hand & Feet for Detecting Early Arthritis**
Andrew J. Grainger¹, Richard J. Hodgson², Jackie Nam², Edith Villeneuve², Paul Emery²
¹LMBRU, Leeds Teaching Hospitals NHS Trust, Leeds, Yorkshire, United Kingdom; ²University of Leeds

- 15:00 3188. Magnetisation Transfer Contrast Imaging of Synovitis in Arthritis.**
Carole Burnett¹, Andrew Grainger¹, Anthony Redmond^{1,2}, Richard Hodgson^{1,2}
¹LMBRU, Chapel Allerton Hospital, Leeds, United Kingdom; ²Leeds University, United Kingdom

Exhibition Hall Thursday 13:30-15:30 Computer 20

- 13:30 3189. The Value of 3D ETHRIVE in the Diagnosis of Early Rheumatoid Arthritis of the Hand at 3T**
Kazuyuki Ohgi¹, Masatoshi Hotta¹, Satoshi Doishita¹, Akinori Harada¹, Akiyoshi Yamashita¹, Hiroyuki Yokote¹, Shunji Tsukuda¹, Tetsuhisa Yamada¹
¹Department of Radiology, Japanese Red-Cross Medical Center, Shibuya-ku, Tokyo, Japan

- 14:00 3190. In Vivo ¹⁹F MRI for Sensitive Assessment of Arthritis: Antiinflammatory Action of A2A Receptor Activation**
Ulrich Flögel¹, Lisa Galbarz¹, Zhaoping Ding¹, Ali El-Tayeb², Christoph Jacoby¹, Peter van Lent³, Christa Müller², Jürgen Schrader¹
¹Institute for Cardiovascular Physiology, Heinrich Heine University, Düsseldorf, NRW, Germany; ²PharmaCenter Bonn; ³Radboud University Nijmegen

- 14:30 3191. Iterative Decomposition of Water & Fat with Echo Asymmetry & Least-Squares Estimation (IDEAL) of the Wrist & Finger at 3TMRI: Comparison with Chemical Shift Selective Fat Suppression Images**
Takatoshi Aoki¹, Yoshiko Yamashita¹, Hiroyuki Takahashi¹, Yoshiko Hayashida¹, Hodaka Oki¹, Shigeru Hibino², Atsushi Nozaki², Kazuyoshi Saito³, Yoshiya Tanaka³, Yukunori Korogi¹
¹Department of Radiology, University of Occupational & Environmental Health School of Medicine, Kitakyushu, Fukuoka, Japan; ²GE Healthcare Japan; ³First department of Internal Medicine, University of Occupational and Environmental Health School of, Kitakyushu, Fukuoka, Japan

- 15:00 3192. Progression of an Antigen-Induced Arthritis Model in Rat Assessed by MRI**
Lindsey Alexandra Crowe¹, Frank Tobalem¹, David Tchernin², Benedicte M-A. Delattre¹, Kerstin Grosdemange¹, Marije Koenders³, Wim B. van Den Berg³, Jean-Paul Vallée¹
¹Division of Radiology, Geneva University Hospitals, University of Geneva, Faculty of Medicine, Foundation for Medical Researchers, Geneva, Switzerland; ²Division of Radiology, Geneva University Hospitals, Geneva, Switzerland; ³Department of Rheumatology, Rheumatology Research & Advanced Therapeutics, Radboud University Nijmegen Medical Center, Netherlands

MSK: 7T & Beyond MRI

Exhibition Hall Monday 14:00-16:00 Computer 21

- 14:00 3193. High Resolution Imaging of the Sacroiliac Joints in Ankylosing Spondylitis Patients at 7 Tesla**
Maartje E. Vossen¹, Wouter M. Teeuwisse¹, Monique Reijnierse¹, Desiree M. van Der Heijde², Nadine B. Smith¹, Andrew G. Webb¹
¹Radiology, Leiden University Medical Center, Leiden, Netherlands; ²Rheumatology, Leiden University Medical Center

- 14:30 3194. MR Imaging of the Lower Extremities at 7 Tesla: Initial Experience with a 15-Channel Coil**
Michael Bock¹, Florian Meise¹, Titus Lanz², Reiner Umathum¹, Lydia Schuster, Lars Gerigk, Armin M. Nagel¹, Ann-Kathrin Homagk¹, Wolfhard Semmler¹
¹Medical Physics in Radiology, German Cancer Research Center (DKFZ), Heidelberg, Germany; ²RAPID Biomedical GmbH, Rimpf, Germany

- 15:00 3195. The Comparison of the Performance of MRI Clinical Sequences for Ankle Imaging at 3T vs. 7T**
Vladimir Juras^{1,2}, Goetz Welsch¹, Ladislav Valkovic², Pavol Szomolanyi^{1,2}, Iris-Melanie Nöbauer-Huhmann¹, Ivan Frollo², Siegfried Trattnig¹
¹Department of Radiology, Medical University of Vienna, Vienna, Austria, Austria; ²Department of Imaging Methods, Institute of Measurement Science, Bratislava, Slovakia

- 15:30 3196. Magnetic Resonance Imaging of the Knee at 3 & 7 Tesla – Comparison using Dedicated Multi-Channels Coils & Optimized 2D & 3D Protocols**
Goetz Hannes Welsch^{1,2}, Vladimir Juras¹, Pavol Szomolanyi¹, Tallal Charles Mamisch³, Peter Baer⁴, Claudia Kronmewetter¹, Friedrich Frank Hennig², Hiroyuki Fujita⁵, Siegfried Trattnig¹
¹Medical University of Vienna, Vienna, Austria; ²Department of Trauma Surgery, University of Erlangen-Nuremberg, Erlangen, Bavaria, Germany; ³University of Berne; ⁴Siemens Healthcare; ⁵Quality Electrodynamics

Exhibition Hall Tuesday 13:30-15:30 Computer 21

- 13:30 3197. High Resolution MRI of the Wrist at 7 Tesla Detects Subregional Variation in Trabecular Bone Micro-Architecture in Healthy Subjects**

Gregory Chang¹, Ligong Wang¹, Guoyuan Liang², Graham C. Wiggins¹, Punam K. Saha², Ravinder R. Regatte¹
¹NYU Langone Medical Center, New York, NY, United States; ²University of Iowa, Iowa City, IA, United States

14:00 3198. **Comparison of a 28-Channel Phased-Array Coil & a Circularly Polarized Coil for Morphologic Imaging & T₂ Mapping of Knee Cartilage at 7 Tesla**

Gregory Chang¹, Ding Xia¹, Graham C. Wiggins¹, Guillaume Madelin¹, Christian Glaser¹, Matthew Finnerty², Hiroyuki Fujita², Ravinder R. Regatte¹
¹NYU Langone Medical Center, New York, NY, United States; ²Quality Electrodynamics, Mayfield Village, OH, United States

14:30 3199. **Skeletal Muscle Diffusion Tensor Imaging of the Human Forearm at 7T**

Martijn Froeling^{1,2}, Johannes M. Hoogduin^{3,4}, Dennis W. J. Klomp³, Klaas Nicolay¹, Gustav J. Strijkers¹, Aart J. Nederveen²
¹Biomedical NMR, Department of Biomedical Engineering, Eindhoven University of Technology, Eindhoven, Netherlands;
²Department of Radiology, Academic Medical Center, Amsterdam, Netherlands; ³Imaging Division, University Medical Center Utrecht, Utrecht, Netherlands; ⁴Brain Division, University Medical Center Utrecht, Utrecht, Netherlands

15:00 3200. **Sodium (²³Na) MR Imaging at 7T for the Evaluation of Repair Tissue Quality in Patients After Two Cartilage Repair Procedures**

Stefan Zbyn^{1,2}, David Stelzener¹, Goetz Hannes Welsch^{1,3}, Lukas L. Negrin⁴, Vladimir Juras^{1,5}, Pavol Szomolanyi^{1,5}, Ronald Dorotka², Siegfried Trattnig¹
¹Department of Radiology, Medical University Vienna, Vienna, Austria; ²Department of Orthopaedic Surgery, Medical University Vienna, Vienna, Austria; ³Department of Trauma Surgery, University Hospital of Erlangen, Erlangen, Germany; ⁴Department of Trauma Surgery, Medical University Vienna, Vienna, Austria; ⁵Department of Imaging Methods, Institute of Measurement Science - SAS, Bratislava, Slovakia

Exhibition Hall Wednesday 13:30-15:30 Computer 21

13:30 3201. **Detection of Fast Decaying Lactate in Human Skeletal Muscle After Exercise by 7T ¹H MRS**

Jimin Ren¹, Ivan Dimitrov^{1,2}, Changho Choi¹, A. Dean Sherry^{1,3}, Craig R. Malloy^{1,4}
¹Advanced Imaging Research Center, University of Texas Southwestern Medical Center, Dallas, TX, United States; ²Philips Medical Systems, Cleveland, OH; ³Department of Chemistry, University of Texas at Dallas, Richardson, TX, United States; ⁴VA North Texas Health Care System, Dallas, TX, United States

14:00 3202. **Population-Averaged 7T ¹H MRS Determination of Metabolites in Human Skeletal Muscle at Rest**

Jimin Ren¹, Ivan Dimitrov^{1,2}, Craig R. Malloy^{1,3}, A. Dean Sherry^{1,4}
¹Advanced Imaging Research Center, University of Texas Southwestern Medical Center, Dallas, TX, United States; ²Philips Medical System, Cleveland, OH, United States; ³VA North Texas Health Care System, Dallas, TX, United States; ⁴Department of Texas at Dallas, University of Texas at Dallas, Richardson, TX, United States

14:30 3203. **Phosphocreatine & Acetylcarnitine in Skeletal Muscle During Exercise at 7T by Interleaved ³¹P & ¹H-MRS**

Katja Heinicke^{1,2}, Jackson Green^{1,2}, Ivan Dimitrov^{3,4}, Sergey Cheshkov³, Jimin Ren³, Craig R. Malloy³, Ronald G. Haller^{1,2}
¹Neuromuscular Center, Institute for Exercise & Environmental Medicine, Texas Health Presbyterian Hospital, Dallas, TX, United States; ²Department of Neurology, University of Texas Southwestern Medical Center, Dallas, TX, United States; ³Advanced Imaging Research Center, University of Texas Southwestern Medical Center, Dallas, TX, United States; ⁴Philips Medical Systems, Cleveland, OH, United States

15:00 3204. **Comparison of ³¹P-MRS at 3T & 7T for Localized & Non-Localized Acquisition**

Wolfgang Bogner¹, Marek Chmelik¹, Siegfried Trattnig¹, Stephan Gruber¹
¹Department of Radiology, Medical University of Vienna, Vienna, Austria

Exhibition Hall Thursday 13:30-15:30 Computer 21

13:30 3205. **In Vivo ³¹P Diffusion Tensor Spectroscopy of Human Calf Muscle**

Hermien E. Kan¹, Sebastian Aussenhofer¹, Andrew Webb¹, Aranee Techawiboonwong², Itamar Ronen¹
¹Radiology, Leiden University Medical Center, Leiden, Zuid-Holland, Netherlands; ²Department of Electrical Engineering, Mahidol University, Nakornpathom, Thailand

14:00 3206. **T₁-Rho Dispersion in Human OA Cartilage Specimens using HRMAS Spectroscopy at 11.7T**

Keerthi She¹, Hikari Yoshihara, Joe Schooler, John Kurhanewicz, Michael Ries, Xiaojuan Li
¹Radiology, University of California, San Francisco, San Francisco, CA, United States

14:30 3207. **Multiparametric Assessment of Healthy & OA Articular Cartilage Under Loading at 17.6 T**

Jose G. Raya¹, Gerd Melkus², Silvia Adam-Neumair³, Kevin Dunham, Olaf Dietrich³, Maximilian F. Reiser³, Reinhard Putz³, Peter M. Jakob⁴, Christian Glaser

¹Radiology, New York University Langone Medical Center, New York, NY, United States; ²University of California, San Francisco; ³University of Munich; ⁴University of Wuerzburg

- 15:00 3208. **A Newly Strictly Non-Invasive Experimental Device Allowing Repeated MR Investigations of Exercising Hindlimb Mouse Muscles at Ultra-High Field (11.75T)**
Julien Gondin¹, Christophe Vilmen¹, Patrick J. Cozzone¹, Guillaume Duhamel¹, David Bendahan¹
¹Centre de Résonance Magnétique Biologique et Médicale (CRMBM) - UMR CNRS 6612, Faculté de Médecine - Université de la Méditerranée, Marseille, France

Ultrashort TE: MSK Applications

Exhibition Hall Monday 14:00-16:00 Computer 22

- 14:00 3209. **Free & Bound Water Quantification of Cortical Bone**
Jiang Du¹, Won Bae¹, Hermida Juan², Eric Diaz¹, Christine Chung¹, Darryl DLima², Graeme Bydder¹
¹Radiology, University of California, San Diego, San Diego, CA, United States; ²Scripps Reseach Institution
- 14:30 3210. **Preliminary Results on Bone Perfusion Measurement using Dynamic Contrast Enhanced Ultrashort TE Imaging**
Olivier M. Girard¹, Jiang Du¹, Robert F. Mattrey¹, Graeme M. Bydder¹
¹Department of Radiology, University of California, San Diego, CA, United States
- 15:00 3211. **Ultrashort Echo Time MRI for Quantification of Tendon Disease in Spondyloarthritis.**
Richard J. Hodgson¹, Nikesh Menon², Andrew J. Grainger², Philip O'Connor², Dennis McGonagle, Philip Helliwell, Paul Emery, Matthew D. Robson³
¹LMBRU, University of Leeds, Leeds, Yorkshire, United Kingdom; ²Leeds Teaching Hospitals NHS Trust; ³University of Oxford
- 15:30 3212. **¹H Relaxation Properties of Achilles Tendons Measured by 3D-UTE at 3T & 7T: A Feasibility Study**
Vladimir Juras^{1,2}, Stefan Zbyn¹, Vladimir Jellus³, Pavol Szomolanyi^{1,2}, Ivan Frollo², Siegfried Trattmig¹
¹Department of Radiology, Medical University of Vienna, Vienna, Austria, Austria; ²Department of Imaging Methods, Institute of Measurement Science, Bratislava, Slovakia; ³Siemens AG, Erlangen, Germany

MRI of Articular Cartilage - Osteoarthritis

Exhibition Hall Tuesday 13:30-15:30 Computer 23

- 13:30 3213. **Assessment of T_{1ρ} & T₂ Mapping as Biomarkers of Denaturalization in Articular Cartilage with Osteoarthritis: Comparison with Pathological Results After Total Knee Replacement**
Yukihisa Takayama¹, Masamitsu Hatakenaka¹, Takashi Yoshiura¹, Hidetoshi Tsushima², Ken Okazaki², Kei Nishikawa³, Makoto Obara⁴, Yukihide Iwamoto², Hiroshi Honda¹
¹Department of Clinical Radiology, Graduate School of Medical Sciences, Kyushu University, Fukuoka, Japan; ²Department of Orthopaedic Surgery, Graduate School of Medical Sciences, Kyushu University, Fukuoka, Japan; ³Radiology Center, Kyushu University Hospital, Fukuoka, Japan; ⁴Philips Electronics Japan, Tokyo, Japan
- 14:00 3214. **T₂, T_{1ρ} & Sodium MRI of Articular Cartilage in Patients with Osteoarthritis Treated with Arthritis Relief Plus Cream**
Hillary Jayne Braun¹, Melissa A. Vogelsong^{1,2}, Ernesto Staroswiecki^{1,3}, Brian A. Hargreaves¹, Neal Bangerter⁴, Eric Han⁵, Jill Fattor⁶, Anne L. Friedlander⁷, Omer Shah⁸, Jacquie M. Beaubien⁹, Garry Evan Gold¹
¹Radiology, Stanford University, Stanford, CA, United States; ²UCSF School of Medicine; ³Electrical Engineering, Stanford University; ⁴Electrical Engineering, Brigham Young University; ⁵GE Healthcare Global Applied Sciences Laboratory, Menlo Park, CA; ⁶Stanford Center on Longevity, Stanford University, Stanford, CA; ⁷VA Palo Alto Healthcare Center, Palo Alto, CA; ⁸Georgetown University School of Medicine; ⁹Psychology, Stanford University, Stanford, CA
- 14:30 3215. **The Relationship between Knee Cartilage MR T₂ & Morphology in Subjects from the Incidence & Control Cohorts of the Osteoarthritis Initiative**
Gabby B. Joseph¹, Thomas Baum¹, Julio Carballido-Gamio¹, Lorenzo Nardo¹, Warapat Virayavanich¹, Hamza Alizai¹, Michael C. Nevitt², John A. Lynch², Charles E. McCulloch², Sharmila Majumdar¹, Thomas M. Link¹
¹Department of Radiology & Biomedical Imaging, University of California, San Francisco, San Francisco, CA, United States; ²Department of Epidemiology & Biostatistics, University of California, San Francisco, San Francisco, CA, United States
- 15:00 3216. **T₂ Relaxation Time Reveals Early Cartilage Changes After One-Year & Two-Year Follow-Up in Subjects at Risk for Osteoarthritis: Data from Osteoarthritis Initiative**
Annamari Herronen¹, Eveliina Lammentausta², Risto O. Ojala³, Miika T. Nieminen^{1,2}

¹Department of Medical Technology, University of Oulu, Oulu, Finland; ²Department of Diagnostic Radiology, Oulu University Hospital; ³Deaconess Institute of Oulu

Exhibition Hall Wednesday 13:30-15:30 Computer 23

- 13:30 3217. In Vivo Sodium & Proton T₁rho MR Imaging of Human Knee Cartilage at 3T**
Chan Hong Moon¹, Jung-Hwan Kim¹, Tiejun Zhao², Xiang He¹, Bum-Woo Park¹, Kyongtae Ty Bae¹
¹Radiology, University of Pittsburgh, Pittsburgh, PA, United States; ²MR Research Support, Siemens Healthcare, Pittsburgh, PA, United States
- 14:00 3218. Does the Scanner Make a Difference? Interscanner Variability of Tibial Cartilage T₂ Relaxation Time – a Comparison of Three 1.5T & One 3T Scanner of One Manufacturer**
Annie Horng¹, Sabine Weckbach, Mike Notohamiprodjo, Malte Munkel, Jürgen Weber, Maximilian F. Reiser, Christian Glaser^{2,3}
¹Department of Clinical Radiology, University Hospitals LMU Munich - Campus Grosshadern, Munich, Bavaria, Germany; ²Center of Biomedical Imaging, NYULMC, New York, United States; ³Department of Clinical Radiology, University Hospitals LMU Munich - Campus Grosshadern, Munich, Germany
- 14:30 3219. Experimental Investigation into the Relationship between T₂* & T₂ in Cartilages at 3T**
Yongxian Qian¹, Ashley A. Williams², Constance R. Chu², Fernando E. Boada¹
¹Radiology, University of Pittsburgh, Pittsburgh, PA, United States; ²Orthopaedic Surgery, University of Pittsburgh, Pittsburgh, PA, United States
- 15:00 3220. Quantitative Cartilage Degeneration Associated with Spontaneous Osteoarthritis in a Guinea Pig Model**
Matthew Fenty¹, Victor Babu Kassey¹, George Dodge², Ari Borthakur¹, Ravinder Reddy¹
¹CMROI, Radiology, University of Pennsylvania, Philadelphia, PA, United States; ²McKay Orthopaedics Labs, Department of Orthopaedic Surgery, University of Pennsylvania School of Medicine, Philadelphia, PA, United States

Cartilage - Contrast Enhanced Imaging

Exhibition Hall Monday 14:00-16:00 Computer 24

- 14:00 3221. A New Approach to Analyze DGEMRIC Measurements in Femoroacetabular Impingement**
Riccardo Lattanzi^{1,2}, Anna Krigel³, Catherine Petchprapa², Artem V. Mikheev², Kevin Dunham², Soterios Gyftopoulos², Tallas Charles Mamisch¹, Young Jo Kim⁵, Henry Rusinek², Michael Rech², Christian Glaser^{1,2}
¹Center for Biomedical Imaging, New York University Langone Medical Center, New York, NY, United States; ²Radiology, New York University Langone Medical Center, New York, NY, United States; ³New York University School of Medicine, New York, NY, United States; ⁴Clinical Research, University of Bern, Bern, Switzerland; ⁵Orthopedic Surgery, Children's Hospital, Boston, MA, United States
- 14:30 3222. Contrast Agent Diffusion in DGEMRIC: Exploring Donnan Equilibrium In Vitro & In Vivo**
Eveliina Lammontausta^{1,2}, Eliot H. Frank³, Zana Hawezi², Alan J. Grodzinsky³, Leif E. Dahlberg²
¹Department of Diagnostic Radiology, Oulu University Hospital, Oulu, Finland; ²Joint & Soft Tissue Unit, Department of Clinical Sciences, Lund University, Malmö, Sweden; ³MIT, Cambridge, MA, United States
- 15:00 3223. Depth-Wise Relaxivity of Gd-DTPA²⁻ & Gd-DTPA-BMA in Human Femoral Head Cartilage**
Eveliina Lammontausta^{1,2}, Samo Lasic³, Daniel Topgaard³, Olle Söderman³, Leif E. Dahlberg²
¹Department of Diagnostic Radiology, Oulu University Hospital, Oulu, Finland; ²Joint & Soft Tissue Unit, Department of Clinical Sciences, Lund University, Malmö, Sweden; ³Department of Physical Chemistry, Lund University, Lund, Sweden
- 15:30 3224. Optimization of a 3D Phase-Sensitive IR Protocol for DGEMRIC Technique.**
Michael Durkan¹, Jerzy Szumowski², Dawson Brown¹, Dennis Crawford¹, Erwin Schwarz², Katrina Heiles³
¹Orthopaedics & Rehabilitation, Oregon Health & Science University, Portland, OR, United States; ²Radiology, Oregon Health & Science University, Portland, OR, United States; ³Hewlett Packard, United States

Exhibition Hall Tuesday 13:30-15:30 Computer 24

- 13:30 3225. Early & Delayed Contrast Enhancement MRI of the Knee**
Wei Li¹, Ewa Gliwa¹, Pottumarthi V. Prasad¹
¹Radiology, NorthShore University HealthSystem, Evanston, IL, United States
- 14:00 3226. Signal Polarity Restoration in IR Sequence for T₁-Mapping in the DGEMRIC Technique.**
Jerzy Szumowski¹, Michael Durkan, Katrina Heiles², Dawson Brown, Erwin Schwarz, Dennis Crawford
¹Radiology, Oregon Health & Science University, Portland, OR, United States; ²Hewlett-Packard

- 14:30 3227. The Effects of B₁ Inhomogeneity Correction for 3D-Variable Flip Angle T₁ Measurements in Hip-DGEMRIC at 3T & 1.5T**
Carl Siversson¹, Jenny Chan², Carl Johan Tiderius³, Tallal Charles Mamisch⁴, Jonas Svensson¹, Young Jo Kim²
¹Department of Radiation Physics, Lund University, Malmö, Sweden; ²Department of Orthopaedics, Children's Hospital Boston, Boston, MA, United States; ³Department of Orthopaedics, Lund University, Malmö, Sweden; ⁴Department of Orthopaedics, University of Bern, Bern, Switzerland
- 15:00 3228. Histological Correlation with MRI Findings to Monitor Gene Therapy in an "In Vivo" Equine Model**
Maria Isabel Menendez^{1,2}, Daniel J. Clark¹, Michelle Carlton³, David C. Flanigan⁴, Guang Jia¹, Steffen Sammet, Steven Weisbrode⁵, Alicia L. Bertone⁶, Michael V. Knopp
¹Radiology, OSU Imaging Core Lab Wright Center of Innovation in Biomedical Imaging, the Ohio State University, Columbus, OH, United States; ²Clinical Veterinary Sciences, College of Veterinary Medicine, Columbus, OH, United States; ³Radiology, Wright Center of Innovation in Biomedical Imaging, the Ohio State University; ⁴Orthopedics, the Ohio State University Medical Center, Columbus, OH, United States; ⁵Veterinary Biosciences, College of Veterinary Medicine, the Ohio State University, Columbus, OH; ⁶Veterinary Clinical Sciences, College of Veterinary Medicine, the Ohio State University, Columbus, OH

MRI of Articular Cartilage - New Methods

Exhibition Hall Monday 14:00-16:00 Computer 25

- 14:00 3229. T_{1ρ} MRI of the Glenohumeral Joint Cartilage**
Scott Puckhaber¹, Matthew Fenty², Nancy Major³, Ravinder Reddy²
¹Duke University School of Medicine, Durham, NC, United States; ²CMROI, Radiology, University of Pennsylvania, Philadelphia, PA, United States; ³Musculoskeletal Imaging, Department of Radiology, Hospital of the University of Pennsylvania, Philadelphia, PA, United States
- 14:30 3230. Feasibility of High Resolution T₂ & T₂* Mapping of Metacarpophalangeal Joints in Children at 3T**
Chen Lin¹, Scott A. Persohn¹, Boaz Karmazyn¹
¹Department of Radiology & Imaging Science, Indiana University School of Medicine, Indianapolis, IN, United States
- 15:00 3231. Quantitative Magnetization Transfer of Entire Human Patellofemoral Joint in 30 Minutes**
Nade Sritanyaratana¹, Alexey Samsonov², Samuel A. Hurley³, Kevin M. Johnson², Pouria Mossahebi¹, Walter F. Block^{1,3}, Richard Kijowski²
¹Biomedical Engineering, University of Wisconsin - Madison, Madison, WI, United States; ²Radiology, University of Wisconsin - Madison, Madison, WI, United States; ³Medical Physics, University of Wisconsin - Madison, Madison, WI, United States
- 15:30 3232. Evaluation of the Articular Cartilage of the Wrist Joint using Two-Dimensional & Three-Dimensional Sequences at 1.5T & 3T**
Albert Paul Meier¹, Humberto Rosas¹, Jonathan Tueting², Richard Kijowski¹
¹Department of Radiology, University of Wisconsin, Madison, WI, United States; ²Department of Orthopedics, University of Wisconsin, Madison, WI

Bone: Assessment of Traveculae & Structural Analysis

Exhibition Hall Tuesday 13:30-15:30 Computer 26

- 13:30 3233. The Effects of Organic Nitrates on Lumbar Spine Bone Mineral Density & Marrow Blood Perfusion in Ovariectomized Female Rats.**
Yi-Xiang Wang¹, Min Deng¹, James F. Griffith¹
¹Department of Imaging & Interventional Radiology, the Chinese University of Hong Kong, Shatin, NT, Hong Kong
- 14:00 3234. Feasibility of Assessing Trabecular Structure using a Standard Clinical MRI Scanner**
Christie McComb¹, Christopher Leddy², John Foster¹, Gillian Anderson², S. Faisal Ahmed²
¹Clinical Physics, Royal Hospital for Sick Children, Glasgow, United Kingdom; ²Developmental Endocrinology Research Group, Royal Hospital for Sick Children, Glasgow, United Kingdom
- 14:30 3235. Quantification using Textural Analysis on MR Bone Data**
Victor Rakesh Lazar¹, Gary P. Liney², David J. Manton¹, Peter Gibbs¹, Celia Gregson³, Sue Steel⁴, Joern Rittweger⁵, Jonathan Tobias³, Lindsay W. Turnbull¹
¹Centre for Magnetic Resonance Investigations, University of Hull & HYMS, Hull, Humberside, United Kingdom; ²Radiation Physics, University of Hull, Hull, United Kingdom; ³Academic Rheumatology, University of Bristol, Bristol, United Kingdom; ⁴Centre for Metabolic Bone Disease, Hull Royal Infirmary, Hull, United Kingdom; ⁵Institute for Biomedical Research into Human Movement & Health, Manchester Metropolitan University, Manchester, United Kingdom

- 15:00 3236. Analyses of Restricted Diffusion of Water Molecules using Trabecular Bone Phantom**
Risa Yorimitsu¹, Tosiaki Miyati¹, Takashi Minami¹, Harumasa Kasai², Nobuyuki Arai², Hirohito Kan¹, Akihiro Kitanaka¹, Tatsuhiko Matsushita¹, Masaki Hara², Yuta Shibamoto²
¹Division of Health Sciences, Graduate School of Medical Science, Kanazawa University, Kanazawa, Ishikawa, Japan; ²Department of Radiology, Nagoya City University Hospital

Quantitative MRI: Link to Material Properties

Exhibition Hall Wednesday 13:30-15:30 Computer 27

- 13:30 3237. Quantitative MRI as an Indirect Evaluation Tool of the Mechanical Properties of Muscles**
Delphine Périé^{1,2}, Renaud Grenier¹, Guillaume Gilbert³, Gilles Beaudoin⁴
¹Mechanical Engineering, Ecole Polytechnique de Montréal, Montréal, Québec, Canada; ²Research Center, CHU Sainte-Justine, Montréal, Québec, Canada; ³Philips Healthcare, Montréal, Québec, Canada; ⁴Physics & Biomedical Engineering, CHUM Notre Dame, Montréal, Québec, Canada
- 14:00 3238. Association of MR Relaxation Times & Functional Behavior of Osteoarthritic Cartilage using Loaded Knee MRI**
Karupppasamy Subburaj¹, Richard B. Souza^{1,2}, Christoph Stehling³, Brad T. Wyman⁴, Marie-Pierre Hellio Le Graverand-Gastineau⁴, Thomas M. Link¹, Xiaojuan Li¹, Sharmila Majumdar¹
¹Department of Radiology & Biomedical Imaging, University of California San Francisco, San Francisco, CA, United States; ²Department of Physical Therapy & Rehabilitation Science, University of California San Francisco, San Francisco, CA, United States; ³Department of Clinical Radiology, University of Muenster, Münster, Germany; ⁴Pfizer, Inc., Groton, CT, United States
- 14:30 3239. Relationship between Relaxation Component T₂ Values & Weight Fractions & Mechanical Moduli in Native Cartilage**
Onyi Irrechukwu¹, Sarah von-Thaer¹, Eliot Frank², David Reiter¹, Alan Grodzinsky², Richard Spencer¹
¹National Institute on Aging, National Institutes of Health, Baltimore, MD, United States; ²Massachusetts Institute of Technology, Cambridge, MA, United States
- 15:00 3240. Estimating the Short-Time Elastic Modulus of Cartilage using T_{1ρ} & T₂**
Kathryn E. Keenan^{1,2}, Thor Besier¹, R. Lane Smith^{1,2}, Gary S. Beaupre^{1,2}, Garry E. Gold¹
¹Stanford University, Stanford, CA, United States; ²Bone & Joint RR&D Center, VAHCS, Palo Alto, CA, United States

Intervertebral Disk: Quantitative Analysis

Exhibition Hall Thursday 13:30-15:30 Computer 28

- 13:30 3241. Assessment of Mechanical Properties of Isolated Intervertebral Discs using Quantitative Magnetic Resonance Imaging**
Delphine Périé^{1,2}, Maximilien Recuerda^{1,3}, Guillaume Gilbert⁴, Gilles Beaudoin⁵
¹Mechanical Engineering, Ecole Polytechnique de Montréal, Montréal, Québec, Canada; ²Research Center, CHU Sainte-Justine, Montréal, Québec, Canada; ³Research Center, CHU Sainte-Justine, Montréal, Québec, Canada; ⁴Philips Healthcare, Montréal, Québec, Canada; ⁵Physics & Biomedical Engineering, CHUM Notre Dame, Montréal, Québec, Canada
- 14:00 3242. Correlation between ADC & T_{1ρ}-Relaxation Time for In-Vivo Assessment of Intervertebral Disc Degeneration**
Hon J. Yu¹, Shadfar Bahri¹, Lutfi Tugan Muftuler¹, Orhan Nalcioglu¹, Vance Gardner²
¹Center for Functional Onco-Imaging, University of California, Irvine, CA, United States; ²Orthopaedic Education & Research Institute of Southern California, Orange, CA, United States
- 14:30 3243. Sensitivity of Quantitative MRI to the Compressive State of the Isolated Intervertebral Discs**
Delphine Périé^{1,2}, Yann-Guirec Manach¹, Guillaume Gilbert³, Gilles Beaudoin⁴
¹Mechanical Engineering, Ecole Polytechnique de Montréal, Montréal, Québec, Canada; ²Research Center, CHU Sainte-Justine, Montréal, Québec, Canada; ³Philips Healthcare, Montréal, Québec, Canada; ⁴Physics & Biomedical Engineering, CHUM Notre Dame, Montréal, Québec, Canada
- 15:00 3244. In Vivo Sodium & Proton T_{1ρ} MR Imaging of Human Spine Disc at 3T**
Chan Hong Moon¹, Jung-Hwan Kim¹, Xiang He¹, Tiejun Zhao², Kyongtae Ty Bae¹
¹Radiology, University of Pittsburgh, Pittsburgh, PA, United States; ²MR Research Support, Siemens Healthcare, Pittsburgh, PA, United States

MSK - New Sequences, Interesting Applications

Exhibition Hall	Monday 14:00-16:00	Computer 29
14:00	3245.	T₂-Weighted-MRI & Dielectric Spectroscopy to Investigate Collagen Structure Behaviour During Cartilage Dehydration <i>Cesare E. M. Gruber^{1,2}, Cesare Cametti^{1,3}, Bruno Maraviglia^{1,4}, Silvia Capuani^{1,2}</i> ¹ Physics, "Sapienza" University of Rome, Rome, Italy; ² CNR-IPCF UOS, Rome, Italy; ³ CNR-CRS-SOFT, Rome, Italy; ⁴ Santa Lucia Foundation, Neuroimaging Laboratory, Rome, Italy
14:30	3246.	Clinical Feasibility of a New Partial Spoiling T₂ Mapping Approach After Cartilage Repair of the Knee <i>Goetz Hannes Welsch^{1,2}, Oliver Bieri³, Klaus Scheffler³, Tallal Charles Mamisch⁴, Kolja Gelse², Alina Messner¹, Stefan Marlovits¹, Siegfried Trattnig¹</i> ¹ Medical University of Vienna, Vienna, Austria; ² Department of Trauma Surgery, University of Erlangen-Nuremberg, Erlangen, Bavaria, Germany; ³ University of Basel; ⁴ University of Berne
15:00	3247.	A Model-Based Approach for Fast T₂ Mapping of Articular Cartilage <i>Chuan Huang¹, Mihra S. Taljanovic², Maria I. Altbach²</i> ¹ Mathematics, University of Arizona, Tucson, AZ, United States; ² Radiology, University of Arizona
15:30	3248.	Improved 3D-Fse Isotropic Imaging of the Knee using Enhanced Flip Angle Modulation & Crusher Gradient Optimization <i>Michael Muelly¹, Willis Huang², Weitian Chen³, Donglai Huo⁴, Xiaoli Zhao⁴, Garry Gold²</i> ¹ Pennsylvania State University, Hershey, PA, United States; ² Radiology, Stanford University, Stanford, CA, United States; ³ Global Applied Science Laboratory, GE Healthcare, Menlo Park, CA, United States; ⁴ PSD & Applications, GE Healthcare, Waukesha, WI, United States

Exhibition Hall	Tuesday 13:30-15:30	Computer 29
13:30	3249.	Joint Anatomical & Biochemical Imaging using 3D FSE <i>Weitian Chen¹, Tao Zhang², Eric T. Han¹, Garry E. Gold³</i> ¹ Global Applied Science Laboratory, GE Healthcare, Menlo Park, CA, United States; ² Electrical Engineering, Stanford University, Palo Alto, CA, United States; ³ Radiology, Stanford University, Palo Alto, CA, United States
14:00	3250.	Impact of Compressed Sensing on Volumetric Knee MRI <i>Shreyas S. Vasanawala¹, Peng Lai², Marcus T. Alley¹, Garry E. Gold¹, John M. Pauly³, Michael Lustig⁴</i> ¹ Radiology, Stanford University, Stanford, CA, United States; ² ASL West, GE Healthcare, Menlo Park, CA, United States; ³ Electrical Engineering, Stanford University, Stanford, CA, United States; ⁴ Electrical Engineering & CS, UC Berkeley, Berkeley, CA, United States
14:30	3251.	Simultaneous MRI Acquisition of Both Knee Joints with Multitransmit Technology at 3T <i>Wenbo Wei¹, Guang Jia¹, David C. Flanagan², Christopher C. Kaeding², Steffen Sammet¹, Peter Arjan Wassenaar¹, Michael V. Knopp¹</i> ¹ Wright Center of Innovation in Biomedical Imaging & Department of Radiology, the Ohio State University, Columbus, OH, United States; ² Department of Orthopedics, the Ohio State University, Columbus, OH, United States
15:00	3252.	Bilateral Hip MRI using Dual-Band Excitation with Slab-Phase Modulation <i>Misung Han¹, Brian Andrew Hargreaves², Roland Krug¹</i> ¹ Radiology & Biomedical Imaging, University of California - San Francisco, San Francisco, CA, United States; ² Radiology, Stanford University, Stanford, CA, United States

Exhibition Hall	Wednesday 13:30-15:30	Computer 29
13:30	3253.	Multi-Planar Assessment of the Elbow Joint using Isotropic Resolution Vpr-Atr Imaging <i>Larry Hernandez¹, Jessica L. Klaers¹, Walter F. Block^{1,2}, Rick Kijowski³</i> ¹ Medical Physics, University of Wisconsin, School of Medicine & Public Health, Madison, WI, United States; ² Biomedical Engineering, University of Wisconsin, Madison, WI, United States; ³ Radiology, University of Wisconsin, School of Medicine & Public Health, Madison, WI, United States
14:00	3254.	Magnetic Resonance Lymphography at 3T: A Promising Noninvasive Approach to Characterize Inguinal Lymphatic Vessel Leakage <i>Qing Lu¹, Jianrong Xu¹, Ningfei Liu², Xihai Zhao³</i> ¹ Department of Radiology, Renji hospital Shanghai Jiaotong University School of Medicine, Shanghai, China, People's Republic of; ² Plastic & Reconstructive Surgery, Shanghai 9th People's Hospital, Shanghai Jiao Tong University School of Medicine, Shanghai; ³ Center for BioMedical Imaging Research (CBIR), Tsinghua University School of Medicine, Beijing, China, People's Republic of

- 14:30 3255. 3T High Resolution MR Neurography of Sciatic Neuropathy**
Anneesh Chhabra¹, Theodoros Soldatos, Gustav Andreisek², John A. Carrino
¹MSK Radiology, Johns Hopkins University School of Medicine, Baltimore, MD, United States; ²Radiology, University Hospital, Zurich, Switzerland
- 15:00 3256. Magic Angle Effect: A Relevant Artifact in MR Neurography at 3T?**
Thorsten Kästel¹, Sabine Heiland, Philipp Baeumer, Andreas Bartsch, Martin Bendszus, Mirko Pham
¹Department of Neuroradiology, University of Heidelberg Medical Center, Heidelberg, Baden-Württemberg, Germany

Muscle: Diabetes, Muscular Dystrophy, Diffusion Tensor

Exhibition Hall Monday 14:00-16:00 Computer 30

- 14:00 3257. Diffusion Tensor Imaging Evaluation of Upper Leg Muscular Changes After Long Distance Running**
Martijn Froeling^{1,2}, Gustav J. Strijkers¹, Mario Maas², Klaas Nicolay¹, Aart J. Nederveen²
¹Biomedical NMR, Department of Biomedical Engineering, Eindhoven University of Technology, Eindhoven, Netherlands;
²Department of Radiology, Academic Medical Center, University of Amsterdam, Amsterdam, Netherlands
- 14:30 3258. T₂-Weighted Imaging & Stimulated Echo Diffusion Tensor Imaging in Chronic Exertional Compartment Syndrome Calf Muscle**
Eric Edward Sigmund¹, Dabang Sui¹, Philip A. Hodnett², Kecheng Liu³, KellyAnne McGorty¹, Michael Mechlin¹, Jenny Bencardino¹
¹Radiology, New York University Langone Medical Center, New York, NY, United States; ²Department of Radiology, NYU Langone Center, New York, United States; ³Siemens Medical Systems, United States
- 15:00 3259. Towards a General Approach for Skeletal Muscle DTI Acquisition & Post-Processing**
Martijn Froeling^{1,2}, Aart J. Nederveen², Maarten R. Drost³, K. Nicolay¹, Gustav J. Strijkers¹
¹Biomedical NMR, Department of Biomedical Engineering, Eindhoven University of Technology, Eindhoven, Netherlands;
²Department of Radiology, Academic Medical Center, Amsterdam, Netherlands; ³Department of Human Movement Science, School for Nutrition, Toxicology & Metabolism, Maastricht University, Maastricht, Netherlands
- 15:30 3260. Fiber Architecture of the Female Pelvic Floor: An Exploratory Investigation using Different Diffusion MRI Tractography Algorithms**
Martijn Froeling^{1,2}, Gustav J. Strijkers¹, Ben Jeurissen³, Marije P. van Der Paardt², Jaap Stoker², Klaas Nicolay¹, Aart J. Nederveen², Alexander Leemans⁴
¹Biomedical NMR, Department of Biomedical Engineering, Eindhoven University of Technology, Eindhoven, Netherlands;
²Department of Radiology, Academic Medical Center, Amsterdam, Netherlands; ³Vision Lab, Department of Physics, University of Antwerp, Antwerp, Belgium; ⁴Image Sciences Institute, University Medical Center Utrecht, Utrecht, Netherlands

Exhibition Hall Tuesday 13:30-15:30 Computer 30

- 13:30 3261. Two Pools of Inorganic Phosphate in Canine Model of DMD Characterized by Magnetization Transfer ³¹P NMRS**
Claire Wary^{1,2}, Thibaud Naulet^{1,2}, Jean-Laurent Thibaud^{1,3}, Aurélien Monnet^{1,2}, Stephane Blof⁴, Pierre G. Carlier^{1,5}
¹NMR Laboratory, Institute of Myology, Paris, France; ²IdM NMR Laboratory, CEA, I2BM, MIRCen, Paris, France; ³UPR of Neurobiology, Ecole Nationale Veterinaire d'Alfort, Maisons Alfort, France; ⁴UPR of Neurobiology, Ecole Nationale Veterinaire d'Alfort, Maisons Alfort, France; ⁵IdM NMR Laboratory, CEA, I2BM, MIRCen, Paris, France
- 14:00 3262. Single- Versus Multipeak Modeling of Dixon Images to Determine the Fat Fraction in Patients with Duchenne Muscular Dystrophy**
Beatrijs H. A. Wokke¹, Clemens Bos², Holger Eggers³, Janneke C. van Den Bergen¹, Andrew Webb⁴, Jan J. Verschuuren¹, Hermien E. Kan⁴
¹Neurology, Leiden University Medical Center, Leiden, Netherlands; ²Philips Healthcare, Best, Netherlands; ³Philips Healthcare, Hamburg, Germany; ⁴Radiology, Leiden University Medical Center, Leiden, Netherlands
- 14:30 3263. Reduced T₂* Values in Soleus Muscle of Type 2 Diabetes Mellitus**
Chun S. Zuo¹, Donald Simonson², Young-Hoon Sung¹, Rosemond Villafuerte¹, Perry F. Renshaw¹
¹McLean Hospital, Boston, MA, United States; ²Brigham & Women's Hospital, Boston, MA, United States
- 15:00 3264. In Vivo ¹H MRS Monitoring of Intra-Myocellular Lipids After Acute Muscle Injury in Healthy & Dystrophic Mouse Muscles**
Su Xu^{1,2}, Da Shi^{1,2}, Steven Roys^{1,2}, Alan McMillian^{1,2}, Rao Gullapalli^{1,2}, Rich Lovering³
¹Diagnostic Radiology & Nuclear Medicine, University of Maryland School of Medicine, Baltimore, MD, United States; ²Core for Translational Research in Imaging @ Maryland University of Maryland School ; ³Department of Orthopaedics, University of Maryland School of Medicine, Baltimore, MD, United States

Exhibition Hall Wednesday 13:30-15:30 Computer 30

- 13:30 3265. Distinct Inter- & Intra-Muscular Features Observed by MR Imaging & Spectroscopy in Patients with FSHD Uncover Pathobiological Processes in Disease Development**
Barbara H. Janssen¹, Rob J. W. Arts², Nicoline B. M. Voet³, Christine I. H. C. Nabuurs¹, Baziel G. M. van Engelen², Arend Heerschap¹
¹Radiology, Radboud University Nijmegen Medical Centre, Nijmegen, Netherlands; ²Neurology, Radboud University Nijmegen Medical Centre, Nijmegen, Netherlands; ³Rehabilitation, Radboud University Nijmegen Medical Centre, Nijmegen, Netherlands
- 14:00 3266. Quantitative MRI for Muscle Characterisation – Initial Comparison of Young Adults with Cerebral Palsy to Normal Subjects**
Jonathan James Noble^{1,2}, Sanjay Vijayanathan³, Adam P. Shortland^{1,3}, Geoff D. Charles-Edwards^{1,3}
¹King's College London, London, United Kingdom; ²King's College Hospital, London, United Kingdom; ³Guy's & St Thomas' Hospital, London, United Kingdom
- 14:30 3267. Metformin Severely Impairs *In Vivo* Muscle Oxidative Capacity in a Rat Model of Type 2 Diabetes**
Bart Wessels¹, Jolita Ciapaite¹, Klaas Nicolay¹, Jeanine Prompers¹
¹Biomedical NMR, Eindhoven University of Technology, Eindhoven, Netherlands
- 15:00 3268. Assessment of Changes in Regional Distribution of Skeletal Muscle Adipose Tissue in Type 2 Diabetes using Quantitative IDEAL Gradient Echo Imaging**
Dimitrios C. Karampinos¹, Thomas Baum¹, Lorenzo Nardo¹, Julio Carballido-Gamio¹, Paran S. Yap¹, Huanzhou Yu², Ann Shimakawa², Thomas M. Link¹, Sharmila Majumdar¹
¹Department of Radiology & Biomedical Imaging, University of California, San Francisco, San Francisco, CA, United States; ²Global Applied Science Laboratory, GE Healthcare, Menlo Park, CA, United States

Exhibition Hall Thursday 13:30-15:30 Computer 30

- 13:30 3269. Diffusion Tensor Imaging of Acute Muscular Injury in Normal & Dystrophic Mice**
Alan B. McMillan¹, Da Shi¹, Su Xu¹, R. M. Lovering²
¹Diagnostic Radiology & Nuclear Medicine, University of Maryland School of Medicine, Baltimore, MD, United States; ²University of Maryland School of Medicine, Orthopaedics, Baltimore, MD, United States
- 14:00 3270. The Effect of Diffusion Tensor Imaging SNR on Skeletal Muscle Tractography**
Armen Alex Gharibans¹, Curtis Laurence Johnson¹, Danchin Daniel Chen¹, John G. Georgiadis¹
¹Mechanical Science & Engineering, University of Illinois at Urbana-Champaign, Urbana, IL, United States
- 14:30 3271. Quantitative Effects of Inclusion of Fat on Diffusion Tensor MRI of Human Thigh Muscles**
Sarah E. Williams^{1,2}, Anneriet Heemskerk^{3,4}, Edward Brian Welch^{2,3}, Bruce M. Damon^{2,3}, Jane H. Park^{3,5}
¹Biomedical Engineering, Vanderbilt University, Nashville, TN, United States; ²Institute of Imaging Science, Vanderbilt University, Nashville, TN, United States; ³Radiology & Radiological Sciences, Vanderbilt University, Nashville, TN, United States; ⁴Radiology, Erasmus Medical Center, Nashville, TN, United States; ⁵Molecular Physiology & Biophysics, Vanderbilt University, Nashville, TN, United States
- 15:00 3272. *In Vivo* Muscle Fiber Curvature Measurements using DT-MRI**
Anneriet Heemskerk^{1,2}, Zhaohua Ding^{1,3}, Tuhin Sinha^{1,4}, Kevin J. Wilson³, Bruce M. Damon^{1,3}
¹Radiology & Radiological Sciences, Vanderbilt University, Nashville, TN, United States; ²Erasmus Medical Center, Rotterdam, Netherlands; ³Institute of Imaging Science, Vanderbilt University, Nashville, TN, United States; ⁴Radiology, UC-San Francisco, San Francisco, CA, United States

Cardiovascular Image Processing & Flow Quantification

Exhibition Hall Monday 14:00-16:00 Computer 31

- 14:00 3273. Evaluation of Vessel Area using Time-Of-Flight MR Angiography, Contrast-Enhanced MR Angiography & CT Angiography in a Rabbit Peripheral Arterial Disease Model**
Yi Xu¹, Yingli Fu¹, Nicole Azene¹, Dorota Kedziorek¹, Tina Ehtiat², Aaron Flammang², Bruce A. Wasserman¹, Ye Qiao¹, Merine Etesami¹, Steven M. Shea², Dara L. Kraitchman¹
¹Russell H. Morgan Department of Radiology & Radiological Science, Johns Hopkins University, Baltimore, MD, United States; ²Center for Applied Medical Imaging, Siemens Corporate Research, Inc., Baltimore, MD, United States
- 14:30 3274. Wavelet Denoising of First-Pass Perfusion: Impact on Visual Assessment.**
Pedro Ferreira¹, Peter Gatehouse², Tevfik Ismail², Ankur Gulati², David Firmin²
¹Imperial College, London, United Kingdom; ²Royal Brompton Hospital

15:00 3275. **Abnormal Right Heart Flow Patterns in Pulmonary Artery Hypertension Visualized with 4D Flow-Sensitive MRI**
Christopher J. François¹, Alejandro Roldan¹, Eric Niespodzany², Naomi C. Chesler³, Jonathan G. Keevil⁴, Alex P. Frydrychowicz¹
¹Radiology, University of Wisconsin, Madison, WI, United States; ²Medical Physics, University of Wisconsin, Madison, WI, United States; ³Biomedical Engineering, University of Wisconsin, Madison, WI, United States; ⁴Medicine, University of Wisconsin, Madison, WI, United States

15:30 3276. **Automated Segmentation of Myocardial Infarcts on Delayed Enhancement MR Images**
YingLi Lu¹, Graham A. Wright^{1,2}, Perry E. Radau¹
¹Imaging Research, Sunnybrook Health Science Centre, Toronto, ON, Canada; ²Department of Medical Biophysics, University of Toronto, Toronto, ON, Canada

Exhibition Hall Tuesday 13:30-15:30 Computer 31

13:30 3277. **Automated Extraction of the Arterial Input Function from Contrast-Enhanced First-Pass Cardiac MR Perfusion Images**
Li-Yueh Hsu¹, Mikhail Gorbachev^{1,2}, Lin-Ching Chang², Sujethra Vasu¹, Christine Mancini¹, W. Patricia Bandettini¹, Andrew E. Arai¹
¹National Heart Lung & Blood Institute, National Institutes of Health, Bethesda, MD, United States; ²Department of Electrical Engineering & Computer Science, the Catholic University of America, Washington, D.C., United States

14:00 3278. **Inline Myocardial T₂* Mapping with Iterative Robust Fitting**
Saurabh Shah¹, Hui Xue², Andreas Greiser³, Peter Weale¹, Taigang He⁴, David N. Firmin⁴, Dudley J. Pennell⁴, Sven Zühlsdorff⁴, Jens Guehring³
¹Siemens Healthcare, Chicago, IL, United States; ²Siemens Corporate Research, Princeton, NJ, United States; ³Siemens AG, Erlangen, Germany; ⁴Royal Brompton Hospital, London, United Kingdom

14:30 3279. **A New Triangulated Surface Approach to Measuring Apex Curvature from Cine MRI in Patients with Mitral Regurgitation**
Chun Guo Schiros¹, Steven G. Lloyd², Himanshu Gupta², Louis J. Dell'Italia², Thomas S. Denney Jr.
¹Electrical & Computer Engineering Department, Auburn University, Auburn, AL, United States; ²University of Alabama at Birmingham

15:00 3280. **A Geometric Method Based on Mass Center Drifting Detection for Improving Basal Left Ventricle Automated Segmentation**
Mengchao Pei¹, Lijia Wang^{1,2}, Jianqi Li¹, Mingxia Fan¹, Yi Wang^{2,3}
¹Shanghai Key Laboratory of Magnetic Resonance, East China Normal University, Shanghai, China, People's Republic of; ²Department of Radiology, Weill Medical College of Cornell University, New York, NY, United States; ³Department of Physiology, Biophysics, & Systems Biology, Weill Medical College of Cornell University, New York, NY, United States

Exhibition Hall Wednesday 13:30-15:30 Computer 31

13:30 3281. **Algorithmic Quantification of Left Ventricle Segmentation in 4D Cardiac Magnetic Resonance Imaging Based on Spatio-Temporal Continuity**
Lijia Wang^{1,2}, Mengchao Pei¹, Noel C. F. Codella³, Jonathan W. Weinsaft^{2,4}, Martin R. Prince², Yi Wang^{2,3}
¹Shanghai Key Laboratory of Magnetic Resonance, East China Normal University, Shanghai, China, People's Republic of; ²Department of Radiology, Weill Medical College of Cornell University, New York, NY, United States; ³Department of Physiology, Biophysics, and Systems Biology, Weill Medical College of Cornell University, New York, NY, United States; ⁴Department of Medicine-Cardiology, Weill Medical College of Cornell University, New York, NY, United States

14:00 3282. **Accuracy of Vessel Area Assessment: Comparison between Experts & Automatic FWHM**
Maarten A. G. Merckx¹, Javier Oliván Bescós², Liesbeth Geerts³, E. M. H. Bosboom¹, F. N. van De Vosse⁴, M. Breeuwer^{2,4}
¹Biomedical Engineering, Maastricht University Medical Center, Maastricht, Netherlands; ²Clinical Science and Advanced Development, Philips Healthcare, Netherlands; ³MR Clinical Science, Philips Healthcare, Netherlands; ⁴Biomedical Engineering, University of Technology Eindhoven, Netherlands

14:30 3283. **An Automated Method for Extraction of Tissue Doppler Like Myocardial Motion Parameters from Conventional Cine Cardiac MR - a Feasibility Study**
Peter Weale¹, Christoph Guetter², Jeremy D. Collins³, Marie Wasielewski³, Neil Chatterjee⁴, Marie-Pierre Jolly², Hui Xue², Lu Xiaoguang², Jens Guehring⁵, Sven Zuehlsdorff⁴, James Carr³
¹Cardiovascular MR Research & Development, Siemens Healthcare USA, Chicago, IL, United States; ²Siemens Corporate Research, Princeton, NJ, United States; ³Radiology, Northwestern University, Chicago, IL, United States; ⁴Feinberg School of Medicine, Northwestern University, Chicago, IL, United States; ⁵Magnetic Resonance, Siemens AG, Healthcare Sector, Erlangen, Germany

- 15:00 3284. **4D Gradient Based Phase Unwrapping for PC-MR Flow Data**
Michael Loecher¹, Kevin Johnson¹, Benjamin Landgraf¹, Oliver Wieben^{1,2}
¹Medical Physics, University of Wisconsin, Madison, WI, United States; ²Radiology, University of Wisconsin, Madison, WI, United States
- Exhibition Hall Thursday 13:30-15:30 Computer 31
- 13:30 3285. **Rapid 3D *In Vivo* Magnetic Particle Imaging with a Large Field of View**
Jürgen Rahmer¹, Bernhard Gleich¹, Claas Bontus¹, Ingo Schmale¹, Joachim Schmidt¹, Jürgen Kanzenbach¹, Oliver Woywode², Jürgen Weizenecker³, Jörn Borgert¹
¹Philips Research Laboratories, Hamburg, Germany; ²Philips Medical Systems DMC GmbH, Hamburg, Germany; ³University of Applied Sciences, Karlsruhe, Germany
- 14:00 3286. **Flow Quantification with 4D Flow-Sensitive MRI: Validation in Patients with Congenital Heart Disease**
Christina Bonczyk¹, Alex P. Frydrychowicz¹, Michael W. Loecher², Elizabeth J. Nett², Benjamin R. Landgraf¹, Kevin M. Johnson², Oliver Wieben^{1,2}, Christopher J. François¹
¹Radiology, University of Wisconsin, Madison, WI, United States; ²Medical Physics, University of Wisconsin, Madison, WI, United States
- 14:30 3287. **K-T-GRAPPA Accelerated Phase Contrast MRI: Improved Assessment of Blood Flow & 3-Directional Myocardial Motion During Breath-Hold**
Simon Bauer¹, Michael Markl¹, Bernd André Jung¹
¹Dept. of Radiology, Medical Physics, University Medical Center, Freiburg, Germany
- 15:00 3288. **Stenosis Flow: Comparison of a Generalized Navier-Stokes Model & Phase Contrast MRI**
Alex J. Barker¹, Jelena Bock¹, Michael Markl¹
¹Medical Physics, Dept. of Radiology, University Medical Center Freiburg, Freiburg, Germany

Flow Quantification & Venal Function

Exhibition Hall Monday 14:00-16:00 Computer 32

- 14:00 3289. **Middle Cerebral Artery Blood Flow Velocity Changes in Response to Precise Targeting of End-Tidal CO₂ & O₂: A Comparative Study between Transcranial Doppler Ultrasound & Phase Contrast Magnetic Resonance Angiography**
Jackie Leung¹, Arun Mohanta¹, Amir Behpour^{1,2}, Neil Sokol², Andrea Kassner^{1,2}
¹Diagnostic Imaging, Hospital for Sick Children, Toronto, Ontario, Canada; ²Medical Imaging, University of Toronto, Toronto, Ontario, Canada
- 14:30 3290. **Hemodynamic Assessment of Kinking Vs. Non-Kinking Abdominal Aorta**
Mamoru Takahashi¹, Yasuo Takehara², Hiroyasu Takeda², Masaki Terada³, Haruo Isoda⁴, Tetsuya Wakayama⁵, Atsushi Nozaki⁵, Toshiyuki Shimizu⁶, Marcus Alley⁷, Roland Bammer⁷, Norihiko Siiya², Norihiro Tooyama, Katsutoshi Ichijo, Harumi Sakahara²
¹Radiology, Seirei Mikatahara General Hospital, Hamamatsu, Shizuoka, Japan; ²Hamamatsu University School of Medicine; ³Iwata City Hospital; ⁴Nagoya University School of Health Sciences; ⁵GE Healthcare Japan; ⁶R's Tech Co.; ⁷Stanford University School of Medicine
- 15:00 3291. **Variable Velocity Encoding of 4D Phase-Contrast Sequences to Improve Blood Flow Visualizations**
Anders Nilsson¹, Karin Markenroth Bloch^{1,2}, Freddy Ståhlberg^{1,3}
¹Dept. of Medical Radiation Physics, Lund University, Sweden; ²Clinical Sciences, Philips Healthcare, Lund, Sweden; ³Dept. of Diagnostic Radiology, Lund University, Sweden
- 15:30 3292. **An *In Vivo* MRI & Computational Fluid Dynamic Simulation of Cerebrospinal Fluid Hydrodynamics in the Third Ventricle**
Aurelie Picquot¹, Francesco Santini², Jelena Bock³, Philippe Reymond¹, Eleonora Fonari⁴, Bryn Andrew Martin¹, Nikos Stergiopoulos¹
¹Laboratory of Hemodynamics & Cardiovascular Technology, Ecole Polytechnique Federale de Lausanne, Lausanne, Switzerland; ²Radiological Physics, University of Basel Hospital, Switzerland; ³Department of Radiology, University Hospital Freiburg, Germany; ⁴Lausanne Center for Biomedical Imaging, Centre Hospitalier Universitaire Vaudois, Switzerland

Exhibition Hall Tuesday 13:30-15:30 Computer 32

- 13:30 3293. **Aortic Pulse Wave Velocity Evaluation with 5-Year Followup**
Yi Wang^{1,2}, Edwin Estrada¹, Visali Kodali¹, Nathaniel Reichel^{1,3}

¹Research, St. Francis Hospital, Roslyn, NY, United States; ²Biomedical Engineering, Stony Brook University, Stony Brook, NY, United States; ³Cardiology, Stony Brook University, Stony Brook, NY, United States

- 14:00 3294. Volumetric Whole-Heart Three-Directional Tissue Phase Mapping of the Heart at 3T**
Anja Lutz¹, Axel Bornstedt¹, Patrick Etyngier², Robert Manzke³, Wolfgang Rottbauer¹, G. Ulrich Nienhaus⁴, Volker Rasche¹
¹University Hospital of Ulm, Ulm, BW, Germany; ²Medisys Research Lab, Philips Healthcare, Suresnes, France; ³Philips Research NA, Briarcliff Manor, United States; ⁴Karlsruhe Institute of Technology, Karlsruhe, Germany
- 14:30 3295. Aortic Flow Assessment using Phase Contrast MRI in Mice with Aortic Regurgitation**
Xiaoli Zhang^{1,2}, Yu Qing Zhou¹, Mark van Doormaal¹, R. Mark Henkelman^{1,2}
¹Mouse Imaging Centre, Hospital for Sick Children, Toronto, Ontario, Canada; ²Department of Medical Biophysics, University of Toronto, Toronto, Ontario, Canada
- 15:00 3296. Novel Real-Time PC-MRI Technique for Accurate Single Heartbeat Evaluation of Pulmonary-to-Systemic Flow Ratios using an Interleaved Two-Slice Acquisition Scheme**
Hung-Yu Lin^{1,2}, Scott B. King¹, Yu Ding³, Davinder S. Jassal², Patricia Gervai¹, Eilean McKenzie-Matwiy¹, Orlando P. Simonetti³, Boguslaw Tomanek¹, Ganghong Tian¹
¹Institute for Biodiagnostics, National Research Council Canada, Winnipeg, Manitoba, Canada; ²Radiology, University of Manitoba, Winnipeg, Manitoba, Canada; ³Internal Medicine, the Ohio State University, Columbus, OH, United States

Exhibition Hall Wednesday 13:30-15:30 Computer 32

- 13:30 3297. Clinical & Cardiac Function Correlates of Aortic Pulse Wave Velocity Measured by Cardiac Magnetic Resonance Imaging in Normal Subjects**
Visali Kodali¹, Yi Wang¹, Simcha Pollack^{1,2}, Edwin Estrada¹, Nathaniel Reichek^{1,3}
¹Cardiac Imaging, Research, Saint Francis Hospital, Roslyn, NY, United States; ²St. John's University, New York, United States; ³Department of Biomedical Engineering Division of Cardiology, Stony Brook University, Stony Brook, NY, United States
- 14:00 3298. Robust Data Acquisition for MR Doppler**
Daeho Lee¹, Adam Bruce Kerr¹, Juan Manuel Santos², Bob Sueh-Chien Hu³, John Mark Pauly¹
¹Electrical Engineering, Stanford University, Stanford, CA, United States; ²HeartVista, Inc., Palo Alto, CA, United States; ³Cardiology, Palo Alto Medical Foundation, Palo Alto, CA, United States
- 14:30 3299. Flow Acceleration & Elevated Wall Shear Stress with Hypoplastic Arch After Aortic Coarctation Repair**
Thomas A. Hope¹, Stephen E. S. Crook¹, Michael D. Hope¹
¹Radiology, University of California San Francisco, San Francisco, CA, United States
- 15:00 3300. Magnetic Resonance Velocity Mapping During Intermittent Pneumatic Compression of the Calf & Foot**
Iain Thomas Pierce^{1,2}, Peter David Gatehouse^{1,2}, Evi Kalodiki^{3,4}, Chris Lattimer^{3,4}, George Geroulakos^{3,4}, David N. Firmin^{1,2}
¹NHLI, Imperial College London, London, United Kingdom; ²CMR Unit, Royal Brompton Hospital Trust, London, United Kingdom; ³Dept of Surgery & Cancer, Imperial College London, London, United Kingdom; ⁴Vascular Unit, Ealing Hospital, London, United Kingdom

Exhibition Hall Thursday 13:30-15:30 Computer 32

- 13:30 3301. Workflow Integrated Interactive Realtime Radial Flow Measurement with Dynamic VENC Adjustment for Accurate Peak Velocity Estimation**
Peter Speier¹, Andreas Greiser¹, Andre de Oliveira¹, Dirk Franger², Edgar Müller¹
¹Siemens AG Healthcare Sector, Erlangen, Germany; ²Freelance Software Consultant
- 14:00 3302. Whole Heart Flow-Sensitive 4D MRI in Patients After Repair of Tetralogy of Fallot**
Julia Geiger¹, Raoul Arnold², Brigitte Stiller², Mathias Langer¹, Michael Markl¹
¹Radiology and Medical Physics, University Hospital Freiburg, Freiburg, Germany; ²Pediatric Cardiology, University Hospital Freiburg, Freiburg, Germany
- 14:30 3303. Dual VENC Phase Contrast MRI for Simultaneous Assessment of Blood Flow and Cardiac Motion**
Waltraud Brigitte Buchenberg¹, Michael Markl², Simon Bauer², Jelena Bock², Ramona Lorenz², Bernd A. Jung²
¹Radiology, Medical Physics, University Medical Centre, Freiburg, Germany; ²Radiology, Medical Physics, University Medical Centre, Freiburg, Germany
- 15:00 3304. Normal Local Pulse Wave Velocity Predicts Absence of Local Aorta Diameter Growth in Marfan Syndrome: A Comprehensive MRI-Approach**
Jos J. M. Westenberg¹, Patrick J. H. de Koning¹, Pieter J. van Den Boogaard¹, Dennis Hendriksen¹, Johan H. C. Reiber¹, Albert de Roos¹, Rob J. van Der Geest¹

¹Radiology, Leiden University Medical Center, Leiden, ZH, Netherlands

Vessel Wall Imaging (Non-Coronary)

Exhibition Hall	Monday 14:00-16:00	Computer 33
14:00	3305.	Plaque Disruption in a Rabbit Model of Atherothrombosis Occurs in Regions of Low Endothelial Shear Stress <i>Alkystis Phinikaridou¹, Ning Hua¹, James A. Hamilton¹</i> ¹ Department of Physiology and Biophysics, Boston University, Boston, MA, United States
14:30	3306.	Evaluation of 3D Blood Flow Changes in the Normal & Dilated Thoracic Aorta using Flow-Sensitive 4D MRI. <i>Jonas Bürk¹, Zoran Stankovic¹, Alex Frydrychowicz¹, Mathias Langer¹, Michael Markl¹</i> ¹ Department of Diagnostic Radiology, Medical Physics, University Hospital Freiburg, Freiburg, Germany
15:00	3307.	Calculation of Wall Shear Stress in Intracranial Cerebral Aneurysms using High Resolution Phase Contrast MRA (PC-VIPR) <i>Warren Chang¹, Steven Kecskemeti², Alex Frydrychowicz¹, Benjamin Landgraf¹, Beverly Aagaard-Kienitz¹, Yijing Wu², Kevin Johnson², Oliver Wieben², Charles Mistretta², Patrick Turski¹</i> ¹ Department of Radiology, University of Wisconsin School of Medicine and Public Health, Madison, WI, United States; ² Department of Medical Physics, University of Wisconsin School of Medicine & Public Health, Madison, WI, United States
15:30	3308.	Carotid Plaque MRI Characteristics as a Marker of Severe Coronary Artery Disease. <i>Hideki Ota¹, Minako Oikawa², Morihiko Takeda³, Satoshi Yasuda³, Jun Takahashi³, Yoshitaka Ito³, Yoshihiro Fukumoto³, Hiroaki Shimokawa³, Shuichi Higano^{1,4}, Shoki Takahashi¹</i> ¹ Diagnostic Radiology, Tohoku University Hospital, Sendai, Miyagi, Japan; ² Sendai Red Cross Hospital, Sendai, Miyagi, Japan; ³ Cardiovascular Medicine, Tohoku University Hospital, Sendai, Miyagi, Japan; ⁴ Sendai Radiation Oncology & Imaging Clinic, Sendai, Miyagi, Japan
Exhibition Hall	Tuesday 13:30-15:30	Computer 33
13:30	3309.	Comparison of Non-Invasive Self-Gated Flash (Intragate®) with Prospectively Triggered Flash Cine Sequences for the Evaluation of Aortic Distensibility in Mice at 9.4 T. <i>Peter Fries¹, Roland Seidel¹, Andreas Müller¹, Günther Schneider¹, Alexander Massmann¹, Arno Bucker¹</i> ¹ Clinic of Diagnostic & Interventional Radiology, Saarland University Hospital, Homburg, Saarland, Germany
14:00	3310.	Improvements of Suppression of In-Plane Flow Signal of Carotid Arteries using Phase Sensitive Inversion Recovery -3D T₁ Turbo Field Echo <i>Nao Kajihara¹, Tomohiko Horie¹, Masatoshi Honda¹, Isao Muro¹, Taro Takahara², Hisamoto Moriguchi¹, Yutaka Imai¹</i> ¹ Radiology, Tokai University School of Medicine, Isehara, Kanagawa, Japan; ² Tokai University School of Engineering, Hiratsuka, Kanagawa, Japan
14:30	3311.	Quantitative T₁, T₂ & T₂* Mapping of Carotid Artery Normal Wall & Atherosclerotic Plaque <i>Georgeta Mihai¹, Shivraman Giri², Travis P Sharkey-Toppen², Subha V Raman³, Sanjay Rajagopalan³, Orlando P Simonetti³</i> ¹ Cardiovascular Medicine, the Ohio State University, Columbus, OH, United States; ² Biomedical Engineering, the Ohio State University, Columbus, OH, United States; ³ Cardiovascular Medicine, the Ohio State University, Columbus, OH, United States
15:00	3312.	CINE Turbo Spin Echo Imaging <i>Jason K. Mendes¹, Dennis L. Parker¹, Jordan P. Hulet¹</i> ¹ University of Utah, Salt Lake City, UT, United States
Exhibition Hall	Wednesday 13:30-15:30	Computer 33
13:30	3313.	Quantification of Morphologic & Microvascular Vessel Wall Characteristics of Abdominal Aortic Aneurysms with MRI <i>Van Lai Nguyen^{1,2}, Geert-Willem Schurink¹, Anne E. Saris², Marianne Eline Kooi², Walter H. Backes², Rob J. van Der Geest³, Tim Leiner^{2,4}</i> ¹ Department of Surgery, Maastricht University Medical Center, Maastricht, Netherlands; ² Department of Radiology, Maastricht University Medical Center, Maastricht, Netherlands; ³ LKEB, Leiden University Medical Center, Leiden; ⁴ Department of Radiology, Utrecht University Medical Center, Utrecht, Netherlands
14:00	3314.	3D T₂-Weighted Black Blood Vessel Wall Imaging with Uniform Fat & Water Separation <i>Ananth J. Madhuranthakam¹, Mitsuharu Miyoshi², Robert L. Greenman³, David C. Alsop³</i>

¹Global Applied Science Laboratory, GE Healthcare, Boston, MA, United States; ²Global Applied Science Laboratory, GE Healthcare, Tokyo, Japan; ³Radiology, Beth Israel Deaconess Medical Center & Harvard Medical School, Boston, MA, United States

- 14:30 3315. Development of Comprehensive 3D Evaluation of Atherosclerosis in Multiple Vascular Beds**
Venkatesh Mani¹, Claudia Calcagno¹, Yiucho Chung², Zahi A. Fayad¹
¹Radiology, Mount Sinai School of Medicine, New York, NY, United States; ²Siemens Medical Solutions
- 15:00 3316. SHILO: Simultaneous High/Low Spatial/Temporal Resolution Dual-Imaging Acquisition for Improved Parameters Quantification in Dynamic Contrast Enhanced (DCE) MRI of Atherosclerosis**
Claudia Calcagno¹, Sarayu Ramachandran, Venkatesh Mani, Melanie Kotys², Stefan Fischer², Zahi Adel Fayad
¹Mount Sinai School of Medicine, New York, NY, United States; ²Philips Healthcare

Exhibition Hall Thursday 13:30-15:30 Computer 33

- 13:30 3317. Independent Factors which Impact Image Quality in Carotid Vessel Wall Imaging: Implications for Multi-Center Studies**
Jie Sun¹, Daniel S. Hippe¹, Hunter R. Underhill², Yan Song³, Nan Luo³, Min Chen³, Cheng Zhou³, Thomas S. Hatsukami⁴, Chun Yuan¹
¹Radiology, University of Washington, Seattle, WA, United States; ²Medicine, University of Washington, Seattle, WA, United States; ³Radiology, Beijing Hospital, Beijing, China, People's Republic of; ⁴Surgery, University of Washington, Seattle, WA, United States
- 14:00 3318. Gadofosveset Detects Endothelial Dysfunction Associated with Atherosclerotic Plaque Formation & Progression in Mice**
Alkystis Phinikaridou¹, Marcelo Andia¹, Rene Botnar¹
¹Imaging Sciences, King's College London, London, United Kingdom
- 14:30 3319. Fibrous Cap & Lipid Rich Necrotic Core are Difficult to be Distinguished with Routine Image Weighting at 3T**
Rui Li^{1,2}, Jie Sun², Marina Ferguson², Chun Yuan²
¹Center for Biomedical Imaging Research, Tsinghua University, Beijing, China, People's Republic of; ²University of Washington, Seattle, WA, United States
- 15:00 3320. Identification of Vulnerable Plaque by MRI & Fluorescence Imaging in a Rabbit Model**
Ning Hua¹, Fred Baik², Tuan Pham¹, Nick Giordano¹, Alkystis Phinikaridou¹, Michael Whitney², Quyen Nguyen², Roger Tsien², James Hamilton¹
¹Boston University, Boston, MA, United States; ²University of California San Diego, San Diego, CA, United States

Contrast Enhanced MRA (Non-Coronary)

Exhibition Hall Monday 14:00-16:00 Computer 34

- 14:00 3321. A Novel Approach to ECG-Gated High-Resolution Contrast-Enhanced MR Angiography in Thorax: Technical Aspects**
Yutaka Natsuaki¹, Philipp Moritz Wagner², J. Paul Finn², Randall Kroeker³, Gerhard Laub¹
¹Siemens Medical Solutions, Los Angeles, CA, United States; ²Radiology, UCLA, Los Angeles, CA, United States; ³Siemens Medical Solutions, Winnipeg, MB, Canada
- 14:30 3322. Contrast Enhanced MR Angiography of the Thoracic Aorta: Comparison of ECG-Gated Techniques at 3T**
Ruth P. Lim¹, Ryan Avery², Mary Bruno², David Mossa², Gary McNeal³, Yutaka Natsuaki³, Monvadi B. Srichai²
¹Radiology, NYU Langone Medical Center, New York, NY, United States; ²Radiology, NYU Langone Medical Center, New York, NY, United States; ³Siemens Healthcare, United States
- 15:00 3323. Combined Respiratory & Cardiac Triggered MRA of Congenital Heart Disease with a Blood Pool Contrast Agent**
Shreyas S. Vasanawala¹, Frandics P. Chan¹, Beverley Newman¹, Marcus T. Alley¹
¹Radiology, Stanford University, Stanford, CA, United States
- 15:30 3324. Neonatal Congenital Heart Disease: Initial Results with High Resolution Contrast Enhanced MR Angiography at 3.0 Tesla**
John Michael Moriarty¹, Kambiz Nael¹, Gary Satou², Pierangelo Renella², Pablo Abbona¹, John Paul Finn¹
¹Radiology, UCLA Medical Center, Los Angeles, CA, United States; ²Pediatric Cardiology, UCLA Medical Center, Los Angeles, CA, United States

Exhibition Hall	Tuesday 13:30-15:30	Computer 34
13:30	3325.	Time-Resolved MR Angiography Pre-Catheter-Based Ablation for Atrial Fibrillation <i>Michael Schonberger¹, Asad Usman¹, Aya Kino¹, Andrada Popescu¹, Maurizio Galizia¹, Jeremy Collins¹, James Carr¹, Timothy Carroll¹</i> ¹ Department of Radiology, Northwestern University, Chicago, IL, United States
14:00	3326.	Diagnostic Accuracy of Contrast-Enhanced MR Angiography & Non-Contrast Proton MR Imaging Compared with CT Pulmonary Angiography in Chronic Thromboembolic Pulmonary Hypertension <i>Smitha Rajaram¹, Andy James Swift¹, David Capener¹, Adam Telfer¹, Judith Hurdman², Robin Condliffe², Charlie Ellior², Christine Davies³, Catherine Hill³, David G. Kiely², Jim M. Wild¹</i> ¹ Academic Unit of Radiology, University of Sheffield, Sheffield, Yorkshire, United Kingdom; ² Pulmonary Vascular Disease Unit, Royal Hallamshire Hospital, Sheffield; ³ Department of Radiology, Royal Hallamshire Hospital, Sheffield
14:30	3327.	High Temporal & Spatial Resolution Imaging of Body AVMs <i>Phillip M. Young¹, Petrice Marie Mostardi¹, Michael A. McKusick¹, Stephen J. Riederer¹</i> ¹ Radiology, Mayo Clinic, Rochester, MN, United States
15:00	3328.	MR Angiography using Fractional Contrast Doses with VIPR & HYPR <i>Lauren Ashley Keith¹, Frank Korosec², Charles Mistretta^{1,2}</i> ¹ Medical Physics, UW - Madison, Madison, WI, United States; ² Radiology, UW - Madison, Madison, WI, United States
Exhibition Hall	Wednesday 13:30-15:30	Computer 34
13:30	3329.	Preoperative Mapping of Autogenous Saphenous Veins in Patients with PAOD & Femorodistal Bypass Grafting: Prospective Comparison of Peripheral MR Angiography using a Blood Pool Contrast Agent with Ultrasound & Intraoperative Findings <i>Ann Marie Jah-Kabba¹, Guido Matthias Kukuk¹, Dariusch Reza Hadizadeh¹, Arne Koscielny², Frauke Verrel², Hans Heinz Schild¹, Winfried Albert Willinek¹</i> ¹ Department of Radiology, University of Bonn, Bonn, NRW, Germany; ² Department of Vascular Surgery, University of Bonn, Bonn, NRW, Germany
14:00	3330.	Qualitative & Quantitative Evaluation of Contrast-Enhanced MR Venography (MRV) of the Lower Extremities with a Blood Pool Agent Compared to Noncontrast MRV <i>Charles Yoon Kim¹, Steven Huang¹, Rajan Gupta¹, Michael Miller¹, Mark Lessne¹, Pranay Krishnan¹, Nicholas Befera¹, Paul Evans¹, Elmar M. Merkle¹</i> ¹ Radiology, Duke University Medical Center, Durham, NC, United States
14:30	3331.	Three-Station MR Angiography with High-Resolution Steady-State Vascular Imaging using Ferumoxytol <i>Pippa Storey¹, Mary Theresa Bruno¹, Ruth P. Lim¹, Hersh Chandarana¹, David R. Stoffel¹, Vivian S. Lee¹</i> ¹ Radiology Department, New York University School of Medicine, New York, United States
15:00	3332.	Single Dose Large Anatomical Coverage Contrast-Enhanced Peripheral MRA using a Novel Broadband Digital MR Architecture: Initial Experience <i>Tim Leiner¹, Eveline Alberts², Liesbeth Geerts², Mark Stoesz², Fredi Visser¹, Willem Mali¹, Jeroen Hendrikse¹</i> ¹ Department of Radiology, Utrecht University Medical Center, Utrecht, Netherlands; ² Clinical Science Division, Philips Medical Systems, Best, Netherlands
Exhibition Hall	Thursday 13:30-15:30	Computer 34
13:30	3333.	Highly Accelerated Abdominal CE-MRA with 3D Timing Scan <i>Petrice Marie Mostardi¹, James F. Glockner¹, Stephen J. Riederer¹</i> ¹ Mayo Clinic, Rochester, MN, United States
14:00	3334.	Comparison of Renal MRA/CTA & DSA in CORAL Study <i>Honglei Zhang¹, Alan H. Matsumoto², Donald Cutlip³, Timothy P. Murphy⁴, Christopher J. Cooper⁵, Lance D. Dworkin⁶, Martin R. Prince¹</i> ¹ Radiology, Weill Cornell Medical College, New York, NY, United States; ² Radiology, University of Virginia, Charlottesville, VA, United States; ³ Clinical Investigations, Harvard Clinical Research Institute, Boston, MA, United States; ⁴ Diagnostic Imaging, Rhode Island Hospital, Providence, RI, United States; ⁵ Medicine, the University of Toledo, Toledo, OH, United States; ⁶ Department of Medicine, Alpert Medical School of Brown University, Providence, RI, United States
14:30	3335.	Ultra-High Resolution 3D Microangiography of the Rat Ocular Circulation at 11.7 T <i>Yen-Yu Ian Shih¹, Eric R. Muir¹, Li Guang¹, Bryan H. De La Garza¹, Timothy Q. Duong¹</i> ¹ Research Imaging Institute, University of Texas Health Science Center at San Antonio, San Antonio, TX, United States

- 15:00 3336. **4D Contrast Enhanced MRA using Single Dose Dual Injections & Constrained Reconstruction**
Yijing Wu¹, Kevin Johnson¹, Steven Kecksmeti¹, Charles A. Mistretta², Patrick A. Turski¹
¹Medical Physics, University of Wisconsin, Madison, MADISON, WI, United States; ²Medical Physics & Radiology, University of Wisconsin, Madison

Contrast-Free MRA

Exhibition Hall Monday 14:00-16:00 Computer 35

- 14:00 3337. **Three Dimensional Non-Contrast MRA of the Lower Extremities using Stepping Thin Slab Acquisition: Initial Experience in Healthy Subjects**
Thanh D. Nguyen¹, Mitchell Cooper², Pascal Spincemaille¹, Priscilla Winchester¹, Martin R. Prince¹, Yi Wang¹
¹Radiology, Weill Cornell Medical College, New York, NY, United States; ²Biomedical Engineering, Cornell University, Ithaca, NY, United States
- 14:30 3338. **Accuracy of Non-Contrast Fresh-Blood MRA for the Assessment of Lower Extremity Peripheral Vascular Disease**
Timothy S. E. Albert, M.D.¹, Erin J. Kelly, Ph.D.², Patrik Zetterlund, M.D.¹, Connie Luna, R.T.¹, Nancy Yellin, RN¹, Mitsue Miyazaki, Ph.D.³
¹Salinas Valley Memorial Hospital Cardiovascular Diagnostic Center, Monterey, CA, United States; ²Toshiba America Medical Systems, Tustin, CA; ³Toshiba Medical Research Institute USA, Inc, Vernon Hills, IL
- 15:00 3339. **Optimization of the First-Order Gradient Moment for Flow-Sensitive Dephasing Magnetization-Prepared 3D Noncontrast MRA**
Zhaoyang Fan^{1,2}, Xiangzhi Zhou², Xiaoming Bi³, Sven Zuehlsdorff⁴, Rohan Dharmakumar^{2,4}, James Carr², Debiao Li^{2,4}
¹Cedars-Sinai Medical Center, Los Angeles, CA, United States; ²Northwestern University, Chicago, IL, United States; ³Siemens Healthcare, Chicago, IL, United States; ⁴Cedars-Sinai Medical Center, Los Angeles, CA, United States
- 15:30 3340. **Non-Contrast-Enhanced Peripheral MRA: Comparison of 3D Fast Spin-Echo Based & Flow Sensitive Dephasing Prepared Steady State Free Precession Techniques at 1.5 T**
Ruth P. Lim¹, Zhaoyang Fan², Manjil Chatterji³, Amanjit Baadh⁴, Iliyana Atanasova⁴, Pippa Storey⁴, Danny C. Kim⁴, Sooh Kim⁴, Philip Hodnett⁴, Afshan Ahmad⁴, David Stoffel⁴, James S. Babb⁴, Daniel Kim⁴, Qun Chen⁴, Jian Xu⁵, Debiao Li^{2,6}, Vivian S. Lee^{4,6}
¹Radiology, NYU Langone Medical Center, New York, NY, United States; ²Radiology, Cedars-Sinai Medical Center and UCLA, Los Angeles, CA, United States; ³Radiology, Mt Sinai School of Medicine, New York, NY, United States; ⁴Radiology, NYU Langone Medical Center, New York, NY, United States; ⁵Siemens Healthcare, New York, NY, United States; ⁶Co-Senior Author

Exhibition Hall Tuesday 13:30-15:30 Computer 35

- 13:30 3341. **Optimization of Non-Contrast Enhanced Time-SLIP for Carotid Artery Imaging**
William W. Orrison Jr. MD, MBA^{1,2}, Erin J. Kelly, PhD³, Denise Moreau, RT³, Cayce J. Roach^{4,5}, Eric H. Hanson MD, MPH^{4,5}
¹CHW Nevada Imaging Company, Las Vegas, NV, United States; ²Touro University Nevada, Henderson, NV, United States; ³Toshiba America Medical Systems, Tustin, CA; ⁴University of Nevada Las Vegas; ⁵Advanced Medical Imaging & Genetics (Amigenics)
- 14:00 3342. **Flow Independent Breast MR Angiography using a Variable Flip Angle Turbo Spin Echo Sequence**
Yi Wang^{1,2}, Karl Diedrich², Glen Morrell², Allison Payne², Dennis L. Parker^{1,2}
¹Bioengineering, University of Utah, Salt Lake City, UT, United States; ²Radiology, Utah Center for Advanced Imaging Research, Salt Lake City, UT, United States
- 14:30 3343. **Non-Contrast Thoracic MRA within Single Breath-Hold using Highly-Accelerated Parallel Imaging**
Jian Xu^{1,2}, Kellyanne Mcgorty¹, Ruth Lim¹, Mary Bruno¹, Monvadi Srichai¹, Daniel Kim¹, Daniel Sodickson¹
¹Center for Biomedical Imaging, Department of Radiology, New York University School of Medicine, New York, NY, United States; ²PolyTechnic Institute of NYU & Siemens Medical Solutions USA Inc., New York, NY, United States
- 15:00 3344. **Dynamic Angiography Imaging at 7T using Variable Duration Pseudo-Continuous Arterial Spin Labeling**
Onur Ozyurt¹, Ann-Kathrin Homagk², Michael Bock², Cengizhan Ozturk¹
¹Institute of Biomedical Engineering, Bogazici University, Istanbul, Turkey; ²Medical Physics in Radiology, German Cancer Research Center (DKFZ), Heidelberg, Germany

Exhibition Hall Wednesday 13:30-15:30 Computer 35

- 13:30 3345. Non Contrast 3D Volumetric Time-Resolved MRA in Renal Artery(CINEMA-RENAL)**
Masanobu Nakamura¹, Masami Yoneyama¹, Tomoyuki Okuaki¹, Takashi Tabuchi¹, Atsushi Takemura², Makoto Obara², Junko Ogura¹
¹Medical Satellite Yaesu Clinic, Chiyoda-ku, Tokyo, Japan; ²Philips Electronics Japan, Tokyo, Japan
- 14:00 3346. Arterial Spin Labeling Angiography without the Need of Subtraction using a Triple Inversion Recovery Prepulse**
Marcelo E. Andia¹, Rene M. Botnar¹
¹Division of Imaging Sciences & Biomedical Engineering, Kings College London, London, United Kingdom
- 14:30 3347. Non-Contrast Outer Radial Inner Square K-Space Scheme (NORISKS)- a Breath-Held Balanced SSFP-Dixon Technique for Non-Contrast Enhanced Renal MRA**
Manojkumar Saranathan¹, Pauline W. Worters¹, Shreyas Vasanawala¹
¹Radiology, Stanford University, Stanford, CA, United States
- 15:00 3348. Noncontrast MR Angiography for Comprehensive Assessment of Abdominopelvic Arteries using Quadruple Inversion-Recovery Preconditioning & 3D Balanced Steady-State Free Precession Imaging**
Iliyana P. Atanasova^{1,2}, Daniel Kim¹, Ruth P. Lim¹, Pippa Storey¹, Vivian S. Lee¹
¹New York University, New York, United States; ²Columbia University, New York, United States

Exhibition Hall Thursday 13:30-15:30 Computer 35

- 13:30 3349. Noncontrast MRA at 3T**
Mitsue Miyazaki^{1,2}, Yuichi Yamashita², Andrew Wheaton¹, Wayne Dannels¹, Robert Anderson¹, Leping Zha¹, Satoshi Sugiura²
¹Toshiba Medical Research Institute USA, Vernon Hills, IL, United States; ²Toshiba Medical Systems, Otawara, Tochigi, Japan
- 14:00 3350. Aorto-Iliac Flow-Sensitive 4D MRI: Normal & Altered Flow Characteristics in Abdominal Aneurysms**
Jörg Mauch¹, Michael Markl², Christoph Haller³, Zoran Stankovic¹, Mathias Langer¹, Julia Geiger¹
¹Radiology, Medical Physics, University Medical Center, Freiburg, Germany; ²Radiology, Medical Physics, University Medical Center, Freiburg, Germany; ³Cardiovascular Surgery, University Medical Center, Freiburg, Germany
- 14:30 3351. Evaluation of Venous Spread of Renal Cell Carcinoma by Non-Contrast-Enhanced Magnetic Resonance Venography: A SLEEK Sequence**
Yigang Pei¹, Daoyu Hu²
¹Department of Radiology, Tongji Hospital, Tongji Medical College, Huazhong University of Science & Technology, Wuhan, Hubei, China, People's Republic of; ²Department of Radiology, Ongji Hospital, Tongji Medical College, Huazhong University of Science & Technology, Wuhan, Hubei, China, People's Republic of
- 15:00 3352. Efficient Substitute for Inversion Preparation in TSE Angiography**
Jason K. Mendes¹, Dennis L. Parker¹
¹University of Utah, Salt Lake City, UT, United States

Myocardial Function: Experimental Models & Human Studies I

Exhibition Hall Monday 14:00-16:00 Computer 36

- 14:00 3353. Quantitative Evaluation of Regional RF Shimming on a Wide Aperture Dual-Channel Multi-Transmit 3.0T: Implications for Cardiac MRI**
Ramkumar Krishnamurthy¹, Amol Pednekar², Marc Kouwenhoven³, Paul Harvey³, Claudio Arena⁴, Benjamin Cheong⁴, Raja Muthupillai⁴
¹Bioengineering, Rice University, Houston, TX, United States; ²Philips Healthcare, Houston, TX, United States; ³Philips Healthcare, Best, Netherlands; ⁴Diagnostic & Interventional Radiology, St. Luke's Episcopal Hospital, Houston, TX, United States
- 14:30 3354. Quantification of Left Bundle Branch Block on Left Ventricular Regional Wall Motion using Six-Segment Center Point Trajectory Mapping**
Ting Song^{1,2}, Jeffrey a Stainsby³, Maureen N. Hood^{2,4}, Vincent B. Ho^{2,4}
¹Global Applied Science Laboratory, GE Healthcare, Bethesda, MD, United States; ²Radiology, Uniformed Services University of the Health Sciences, Bethesda, MD, United States; ³Global Applied Science Laboratory, GE Healthcare, Toronto, ON, Canada; ⁴Radiology, National Naval Medical Center, Bethesda, MD, United States

- 15:00 3355. Functional Characterization of the Micro-Rna Deficient Adult Murine Heart**
Surya C. Gnyawali¹, Sashwati Roy¹, Jaideep Banerjee¹, Savita Khanna¹, Chandan K. Sen¹
¹Surgery, Ohio State University, Columbus, OH, United States
- 15:30 3356. Relative Area Change (RAC) Better Reflects Right Ventricular Ejection Fraction (RVEF) than Longitudinal or Transverse Functional Measurements in Pulmonary Hypertension Patients**
Andrew James Swift^{1,2}, Smitha Rajaram¹, David Capener¹, Judith Hurdman³, Robin Condliffe³, Charlie Elliot³, David G. Kiely³, Jim M. Wild¹
¹Academic Unit of Radiology, Sheffield, South Yorkshire, United Kingdom; ²NHRC Cardiovascular Biomedical Research Unit, Sheffield, United Kingdom; ³Pulmonary Vascular Disease Unit, Royal Hallamshire Hospital, Sheffield, United Kingdom
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- Exhibition Hall Tuesday 13:30-15:30 Computer 36
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- 13:30 3357. Evaluation of Cardiac Function using Noninvasive Phase-Contrast MRI, Cine MRI & Invasive Pressure-Volume Techniques on Pigs at Rest & Under Pharmacologic Stress Test**
Hung-Yu Lin^{1,2}, Darren Freed³, Trevor Lee³, Rakesh Arora³, Ayyaz Ali⁴, Wael Almoustadi³, Bo Xiang¹, Fei Wang¹, Scott B. King¹, Boguslaw Tomanek¹, Ganghong Tian¹
¹Institute for Biodiagnostics, National Research Council Canada, Winnipeg, Manitoba, Cambodia; ²Radiology, University of Manitoba, Winnipeg, Manitoba, Canada; ³Cardiac Sciences Program, St. Boniface Hospital, Winnipeg, Manitoba, Canada; ⁴Cardiothoracic Surgery, Papworth Hospital, Cambridge, United Kingdom
- 14:00 3358. Dynamic PVA Gel Phantom for Material Property Assessment using SPAMM-PAV**
Ziheng Zhang¹, Peter B. Brown¹, Donald P. Dione², Albert J. Sinusas², Smita Sampath¹
¹Department of Diagnostic Radiology, Yale University, School of Medicine, New Haven, CT, United States; ²Section of Cardiovascular Medicine, Yale University, School of Medicine, New Haven, CT, United States
- 14:30 3359. Comparison of Regional Myocardial Function in the Human & the Mouse**
Christakis Constantinides¹, Daniel Ruecker², Dimitrios Perperidis¹
¹Mechanical & Manufacturing Engineering, University of Cyprus, Nicosia, Cyprus; ²Imperial College London, London, United Kingdom
- 15:00 3360. Characterization of Iron Load in Rat Myocardium at 7T by R₂ Map**
Gyula Kotek¹, Matteo Milanesi², Gavin Houston³, Piotr Wielopolski¹, Gabriella N. Doeswijk¹, Gabriel P. Krestin¹, Monique Bernsen¹
¹Radiology, Erasmus MC, Rotterdam, Netherlands; ²Agilent Technologies UK Ltd, Netherlands; ³General Electric Healthcare, Netherlands
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- Exhibition Hall Wednesday 13:30-15:30 Computer 36
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- 13:30 3361. Assessment of the Right Ventricular Function in Patients with Chronic Obstructive Pulmonary Disease using MRI**
Yan Gao¹, Xianging Du¹, Wen Qin¹, Kuncheng Li¹
¹Department of Radiology, Xuanwu Hospital of Capital Medical University, Beijing, China, People's Republic of
- 14:00 3362. Optimization of Whole-Heart Cine MRI with a 128-Channel Receive Coil**
Himanshu Bhat¹, Philipp Hoecht¹, Sven Zuehlsdorff², Azma Mareyam³, Boris Keil⁴, Andreas Potthast⁵, Melanie Schmitt⁵, Lawrence L. Wald¹, Michael Hamm¹, David E. Sosnovik⁴
¹Siemens Medical Solutions USA Inc., Charlestown, MA, United States; ²Siemens Medical Solutions USA Inc., Chicago, IL, United States; ³Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Boston, MA, United States; ⁴Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Boston, MA, United States; ⁵Siemens Healthcare, Erlangen, Germany
- 14:30 3363. Manual Right Ventricle Segmentation on Short-Axis SSFP Views: Quantification of the Regional Inter-Observer Variability.**
Laurent Bonnemains^{1,2}, Damien Mandry^{2,3}, Pierre-Yves Marie^{3,4}, Pierre-André Vuissoz^{2,5}
¹Cardiologie Infantile, CHU Nancy, NANCY, France; ²IADI, Nancy University, NANCY, France; ³Médecine Nucléaire, CHU Nancy, NANCY, France; ⁴CIC801, INSERM, NANCY, France; ⁵U947, INSERM, NANCY, France
- 15:00 3364. Left Ventricular Volumes, Mass & Function Normalized to the Body Surface Area, Age & Gender from CMR in a Large Cohort of Well-Treated Thalassemia Major Patients Without Myocardial Iron Overload.**
Antonella Meloni¹, Maria Chiara Dell'Amico¹, Brunella Favilli¹, Giovanni Donato Aquaro¹, Pierluigi Festa¹, Elisabetta Chiodi², Stefania Renne³, Gennaro Restaino⁴, Vincenzo Positano¹, Maria Concetta Galati⁵, Massimo Lombardi¹, Alessia Pepe¹
¹Fondazione G.Monasterio CNR-Regione Toscana & Institute of Clinical Physiology, Pisa, Italy; ²Arcispedale "S. Anna", Ferrara, Italy; ³P.O. "Giovanni Paolo II", Lamezia Terme, Italy; ⁴Università Cattolica del Sacro Cuore, Campobasso, Italy; ⁵A.O. "Pugliese-Ciaccio", Catanzaro, Italy

 Exhibition Hall Thursday 13:30-15:30 Computer 36

- 13:30 3365. **Surgical Ventricular Restoration Fails to Improve Regional Left Ventricular Shape in Terms of Curvedness**
Liang Zhong¹, Yi Su², Srikanth Sola³, Jose L. Navia³, Terrance Chua¹, Ghassan Kassab⁴, Ru San Tan¹
¹National Heart Centre, Singapore, Singapore; ²Institute of High Performance Computing, A*STAR, Singapore; ³Cleveland Clinic, USA; ⁴Indiana University-Purdue University, Indianapolis, USA
- 14:00 3366. **Magnetic Resonance Analysis of Right Ventricular Volumetric Function for the Noninvasive Diagnosis of Pulmonary Hypertension**
Amir H. Davarpanah¹, Parmede Vakil¹, Octavia Biris¹, Sanjiv Shah², Timothy Carroll¹, James Carr¹
¹Cardiovascular Imaging, Northwestern University, Chicago, IL, United States; ²Cardiology, Northwestern University, Chicago, IL
- 14:30 3367. **A Preliminary Assessment of Diastolic Dysfunction with Normal Ejection Fraction with Cine MRI of the Atrioventricular Junction Motion**
Sohae Chung¹, Elodie Breton¹, Leon Axel¹
¹Radiology Department, NYU Langone Medical Center, New York, NY, United States
- 15:00 3368. **Left Ventricular Strain through Radial Tagging: Efficiency & Validity**
Abbas N. Moghaddam^{1,2}, Khaled Z. Abd-Elmoniem³, Golanz Heidari¹, Stefan Ruehm¹, J. Paul Finn¹
¹David Geffen School of Medicine, UCLA, Los Angeles, CA, United States; ²Biomedical Engineering, Polytechnique University, Tehran, Iran; ³National Institute of Diabetes & Digestive & Kidney Diseases, National Institutes of Health, Bethesda, MD, United States

Myocardial Function: Experimental Models & Human Studies II

 Exhibition Hall Monday 14:00-16:00 Computer 37

- 14:00 3369. **Displacement-Encoded & Manganese-Enhanced Cardiac MRI Reveal that NNOS, & Not ENOS, Plays the Dominant Role in Modulating Calcium Cycling in the Mammalian Heart**
Moriel Vandsburger¹, Brent A. French², Kramer M. Christopher², Xiaodong Zhong³, Frederick H. Epstein²
¹Biological Regulation, Weizmann Institute of Science, Rehovot, Israel; ²University of Virginia, United States; ³Siemens Medical Solutions, United States
- 14:30 3370. **Analysis of Segmental Myocardial Performance in Patients after Heart Transplantation**
Daniela Foell¹, Tobias Wengenmayer¹, Bernd Andre Jung², Elfriede Schilli¹, Anna Lena Stroh¹, Christoph Bode¹, Jürgen Hennig², Michael Markl²
¹Cardiology & Angiology, University Hospital Freiburg, Freiburg, Germany; ²Diagnostic Radiology, Medical Physics, University Hospital Freiburg, Germany
- 15:00 3371. **Comparison of SNR Efficiencies & Strain for Cine DENSE Images Acquired using Conventional EPI, Flyback EPI and Spiral k-Space Trajectories**
Xiaodong Zhong¹, Bruce S. Spottiswoode², Craig H. Meyer^{3,4}, Frederick H. Epstein^{3,4}
¹MR R&D Collaborations, Siemens Healthcare, Atlanta, GA, United States; ²MRC/UCT Medical Imaging Research Unit, University of Cape Town, Cape Town, Western Cape, South Africa; ³Radiology Department, University of Virginia, Charlottesville, VA, United States; ⁴Biomedical Engineering Department, University of Virginia, Charlottesville, VA, United States
- 15:30 3372. **Fiber Tracking of the Human Heart *In Vivo***
Sonia Nelles-Vallespin¹, Choukri Mekkaoui², Timothy G. Reese², Peter Gatehouse¹, Thorsten Feiweier³, Peter Speier³, David E. Sosnovik², David Firmin¹
¹Cardiovascular MR Unit, Royal Brompton & Harefield NHS Foundation Trust, London, United Kingdom; ²Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Charlestown, MA, United States; ³Siemens AG Healthcare Sector, Erlangen, Germany

 Exhibition Hall Tuesday 13:30-15:30 Computer 37

- 13:30 3373. **Quantification of Left Ventricular Torsion by Off-Resonance Insensitive CSPAMM (ORI-CSPAMM)**
Meral Reyhan^{1,2}, Daniel B. Ennis^{2,3}
¹Department of Radiological Sciences, Diagnostic Cardiovascular Imaging Section, University of California, Los Angeles, CA, United States; ²Biomedical Physics Interdepartmental Program, University of California, Los Angeles, CA, United States; ³Department of Radiological Sciences, Diagnostic Cardiovascular Imaging Section, University of California, Los Angeles, CA, United States
- 14:00 3374. **Multichannel RF Transmission Improves Cardiac Cine BSSFP MRI at 3.0T**
Oliver M. Weber¹, Javier Sanchez Gonzalez¹
¹Philips Healthcare, Madrid, Spain

14:30 3375. **Time-Evolution of Edema in Reperfused Acute Myocardial Infarction: Implications for Assessment of Area-At-Risk**
Veronica L. M. Rundell¹, Avinash Kali¹, Xiangzhi Zhou¹, Ying Liu¹, Richard L. Q. Tang¹, Andreas Kumar², Rohan Dharmakumar¹
¹Radiology, Northwestern University, Chicago, IL, United States; ²Laval University

15:00 3376. **Age-Related Differences of 3D Blood Flow in the Left Heart**
Daniela Foell¹, Steffen Taeger¹, Bernd Andre Jung², Michael Markl²
¹Cardiology & Angiology, University Hospital Freiburg, Freiburg, Germany; ²Diagnostic Radiology, Medical Physics, University Hospital Freiburg, Germany

Exhibition Hall Wednesday 13:30-15:30 Computer 37

13:30 3377. **Effects of Autologous Bone Marrow Mononuclear Cells Transplantation through Coronary Artery Bypass Grafting in Patients with Chronic Myocardial Infarction Assessed by Magnetic Resonance Imaging: A Randomized, Double Blind, Placebo-Controlled Pilot Trial**
Minjie Lu¹, Shihua Zhao¹, Shiliang Jiang¹, Sheng Liu², Yan Zhang¹, Zuoxiang He³
¹Radiology, Fuwai Hospital, Beijing, China, People's Republic of; ²Cardiac Surgery, Fuwai Hospital, Beijing, China, People's Republic of; ³Nuclear Medicine, Fuwai Hospital, Beijing, China, People's Republic of

14:00 3378. **Single-Breathhold Three-Dimensional Cardiac Cine MRI with Retrospective Cardiac Gating using High Acceleration kT ARC (K- & Adaptive T- Autocalibrating Reconstruction for Cartesian Sampling)**
Peng Lai¹, Marcus T. Alley², Shreyas S. Vasanawala², Anja C. S. Brau¹
¹Global Applied Science Laboratory, GE Healthcare, Menlo Park, CA, United States; ²Radiology, Stanford University, Stanford, CA, United States

14:30 3379. **The Effect of Through Plane Motion on Left Ventricular Regional Rotation: A Study using Slice-Following Harmonic Phase (SF-HARP) Imaging.**
David Brotman¹, Ziheng Zhang², Smita Sampath²
¹Fairfield University, Fairfield, CT, United States; ²Yale University

15:00 3380. **Pancreatic Exocrine Function & Cardiac Iron in Patients with Iron Overload & with Thalassemia**
Jin Yamamura¹, Regine Grosse², Andrea Jarisch³, Gritta E. Janka⁴, Peter Nielsen⁵, Gerhard Adam¹, Roland Fischer^{5,6}
¹Diagnostic & Interventional Radiology, University Medical Center Hamburg-Eppendorf, Hamburg, Germany; ²Pediatric Hematology & Oncology, University Medical Center Hamburg-Eppendorf; ³Stem Cell Transplant Center, Johann Wolfgang Goethe-University of Frankfurt, Frankfurt, Germany; ⁴Pediatric Hematology & Oncology, University Medical Center Hamburg-Eppendorf, Hamburg, Germany; ⁵Department of Biochemistry & Molecular Biology II: Molecular Cell Biology, University Medical Center Hamburg-Eppendorf, Hamburg, Germany; ⁶Children's Hospital & Research Center Oakland, Oakland, CA, United States

Exhibition Hall Thursday 13:30-15:30 Computer 37

13:30 3381. **Optimal Tag Distance for Myocardial MR Motion Analysis of Healthy & Diseased Mice**
Bastiaan J. van Nierop¹, Tom J. L. Schreurs^{1,2}, Hans C. van Assen², Gustav J. Strijkers¹, Klaas Nicolay¹
¹Biomedical NMR, Department of Biomedical Engineering, Eindhoven University of Technology, Eindhoven, Netherlands; ²Biomedical Image Analysis, Department of Biomedical Engineering, Eindhoven University of Technology, Eindhoven, Netherlands

14:00 3382. **Diagnostic Capability & Reproducibility of Myocardial Strain Measured by DENSE MRI in Patients with Acute Myocardial Infarction**
Kakuya Kitagawa¹, Hideki Miyagi¹, Shingo Kato¹, Yeonyee Elizabeth Yoon¹, Motonori Nagata¹, Shinichi Takase¹, Andreas Sigfridsson², Hajime Sakuma¹
¹Radiology, Mie University Hospital, Tsu, Mie, Japan; ²Center for Medical Image Science & Visualization, Linköping University, Linköping, Sweden

14:30 3383. **Free Breathing 3D Imaging of Right Ventricular Structure & Function using Respiratory & Cardiac Self-Gated Cine MRI**
Yanchun Zhu^{1,2}, Jing Liu², Pascal Spincemaille², Thanh D. Nguyen², Minisha Kochar³, Debbie W. Chen³, Jonathan Lessick³, Shanglian Bao¹, Liuquan Cheng⁴, Martin R. Prince², Yi Wang², Jonathan W. Weinsaft³
¹Beijing Key Lab of Medical Physics & Engineering, Peking University, Beijing, China, People's Republic of; ²Cornell Cardiovascular Magnetic Resonance Imaging Laboratory, Radiology Department, Weill Cornell Medical College, New York, NY, United States; ³Department of Medicine, Weill Cornell Medical College, New York, NY, United States; ⁴Department of Radiology, Chinese PLA General Hospital, Beijing, China, People's Republic of

15:00 3384. **Use of Oxygen Challenge to Assess Myocardial Oxygenation: A Potential Tool to Image Oxygen Metabolism.**
Marzena M. Wylezinska¹, Jordi L. Tremoleda¹, Joseph Habib², Daniel Stuckey², Willy Gsell¹

¹Biological Imaging Centre, Imaging Sciences Department, MRC Clinical Sciences Centre, Imperial College London, London, United Kingdom; ²National Heart & Lung Institute, Imperial College London, London, United Kingdom

Myocardial Tissue Characterization: Human Studies

Exhibition Hall	Monday 14:00-16:00	Computer 38
14:00	3385.	<p>Assessment of the Gray Zone: A Comparison of Two Quantitative Methods in Heart Failure Patients <i>Tobias Voigt¹, Peter Koken¹, Simon G. Duckett², Anoop K. Shetty², Christian Stehning¹, Aldo Rinaldi², Reza Razavi², Tobias Schaeffter², Andrea J. Wiethoff³</i> ¹Philips Research Laboratories, Hamburg, Germany; ²Kings College London, London, United Kingdom; ³Philips Healthcare, Best, Netherlands</p>
14:30	3386.	<p>Improved Detection of Papillary Muscle Infarction by High-Resolution 3D Free Breathing Delayed Enhancement CMR <i>Thanh D. Nguyen¹, Jason Chinitz², Minisha Kochar², Debbie Chen³, Parag Goyal², Helina Kassahun², Martin R. Prince¹, Yi Wang¹, Jonathan W. Weinsaft²</i> ¹Radiology, Weill Cornell Medical College, New York, NY, United States; ²Medicine/Cardiology, Weill Cornell Medical College, New York, NY, United States; ³Cornell University, Ithaca, NY, United States</p>
15:00	3387.	<p>Non-Selective Double Inversion Recovery Pre-Pulse for Flow-Independent Black Blood Myocardial Scar Imaging: Optimization of the T₁ Suppression Range <i>Sarah Anne Peel¹, Geraint Morton¹, Eike Nagel¹, René M. Botnar¹</i> ¹Division of Imaging Sciences & Biomedical Engineering, King's College London, London, United Kingdom</p>
15:30	3388.	<p>Three-Segment Center Point Trajectory Model for Segmental Motion Tracking of Myocardial Infarction <i>Ting Song^{1,2}, Jeffrey A. Stainsby³, Maureen N. Hood^{2,4}, Vincent B. Ho^{2,4}</i> ¹Global Applied Science Laboratory, GE Healthcare, Bethesda, MD, United States; ²Radiology, Uniformed Services University of the Health Sciences, Bethesda, MD, United States; ³Global Applied Science Laboratory, GE Healthcare, Toronto, ON, Canada; ⁴Radiology, National Naval Medical Center, Bethesda, MD, United States</p>
Exhibition Hall	Tuesday 13:30-15:30	Computer 38
13:30	3389.	<p>Scar-Coronary Cardiac MR Imaging Acquired by Navigator-Gated 3D Fat-Suppressed Delayed-Enhancement Imaging Technique <i>Yasuo Amano¹, Tomonari Kiriya¹, Yoshio Matsumura¹, Masaki Tachi¹, Tetsuro Sekine¹, Shinichiro Kumita¹</i> ¹Nippon Medical School, Tokyo, Japan</p>
14:00	3390.	<p>Variations in Myocardial T₁ with Cardiac Cycle at 1.5T <i>Xiaopeng Zhou^{1,2}, Melanie S. Kotys³, Christian Stehning⁴, Stefan E. Fischer³, Scott D. Flamm¹, Randolph M. Setser¹</i> ¹Imaging Institute, Cleveland Clinic, Cleveland, OH, United States; ²Cleveland State University, Cleveland, OH, United States; ³Philips Healthcare, OH, United States; ⁴Philips Research, Hamburg, Germany</p>
14:30	3391.	<p>Myocardial T₁ Measurement: Comparison of Modified Look-Locker Inversion Recovery (MOLLI) & TI Scout <i>Yuan Chang Liu¹, Chia-Ying Liu¹, Rob J. van Der Geest², Joao Lima, David Bluemke³, Collen Hadigan⁴</i> ¹Department of Radiology, Johns Hopkins Hospital, Baltimore, MD, United States; ²Department of Radiology, Leiden University Medical Center, Netherlands; ³Radiology & Imaging Sciences, National Institutes of Health (NIH); ⁴National Institute of Allergy & Infectious Diseases (NIAID), NIH</p>
15:00	3392.	<p>Imaging of the Right Ventricular Wall at 3T in Suspected ARVD: Black-Blood Proton Density & T₁-W Imaging Both with & Without Fat-Saturation Compared with Multi-Echo Dixon Technique <i>Caroline Daly¹, Tosin Osuntokun¹, Mark Knox¹, Deirdre Ward¹, Ross Murphy¹, Ruth Dunne¹, Peter Beddy¹, James F. Meaney¹, Gerard Boyle^{1,2}, Matthew Clemence³, Andrew J. Fagan^{1,2}</i> ¹Centre for Advanced Medical Imaging, St. James's Hospital / Trinity College, Dublin, Ireland; ²School of Medicine, Trinity College University of Dublin, Ireland; ³Philips Healthcare, Reigate, United Kingdom</p>
Exhibition Hall	Wednesday 13:30-15:30	Computer 38
13:30	3393.	<p>Myocardial T₁ & T₂ Measurement in Patients with Cardiac Amyloid & Comparison with Normal Controls <i>James Glockner¹</i> ¹Radiology, Mayo Clinic, Rochester, MN, United States</p>
14:00	3394.	<p>MultiContrast Delayed Enhancement (MCOE) Improves Interpretation of Cardiac MRI Delayed Enhancement: A Clinical Validation Study</p>

W. Patricia Bandettini¹, Peter Kellman¹, Christine Mancini¹, Oscar Julian Booker¹, Sujethra Vasu¹, Steve W. Leung¹, Joel R. Wilson¹, Pamela Vincent¹, Sujata M. Shanbhag¹, Marcus Y. Chen¹, Andrew Ernest Arai¹
¹National Heart, Lung, & Blood Institute, National Institutes of Health, Bethesda, MD, United States

- 14:30 3395. Myocardial T₂ Mapping with Respiratory Navigator & Non-Rigid Registration: Comparison of Motion Compensation Techniques**
Shivraman Giri¹, Saurabh Shah², Hui Xue³, Jens Guehring³, Sven Zuehlsdorff², Yiu-Cho Chung², Subha V. Raman¹, Orlando P. Simonetti¹
¹The Ohio State University, Columbus, OH, United States; ²Siemens Healthcare, Chicago, IL, United States; ³Siemens Corporate Research, Princeton, NJ, United States

- 15:00 3396. Preliminary Investigation of the Use of Multi-Transmit for Myocardial T₂ & T₂* Quantification in Normal Volunteers at 3T**
Hua Guo^{1,2}, Ed X. Wu^{3,4}, Wenchuan Wu^{1,2}, Xiangyang Ma⁵, Guangzhi Wang^{1,2}, Chun Yuan^{2,6}
¹Biomedical Engineering Department, Tsinghua University, Beijing, China, People's Republic of; ²Center for Biomedical Imaging Research, Tsinghua University, Beijing, China, People's Republic of; ³Laboratory of Biomedical Imaging & Signal Processing, the University of Hong Kong, Hong Kong, Hong Kong; ⁴Department of Electrical & Electronic Engineering, the University of Hong Kong, Hong Kong, Hong Kong; ⁵Philips Research Asia, Shanghai, China, People's Republic of; ⁶Department of Radiology, University of Washington, Seattle, WA, United States

Exhibition Hall Thursday 13:30-16:00 Computer 38

- 13:30 3397. Distribution of Cardiac Iron Measured by MRI-R₂***
Jin Yamamura¹, Regine Grosse², Joachim Graessner³, Gritta Janka², Gerhard Adam¹, Roland Fischer^{4,5}
¹Diagnostic & Interventional Radiology, University Medical Center Hamburg-Eppendorf, Hamburg, Germany; ²Pediatric Hematology & Oncology, University Medical Center Hamburg-Eppendorf, Hamburg, Germany; ³Siemens AG, Hamburg, Germany; ⁴Department of Biochemistry & Molecular Biology II: Molecular Cell Biology, University Medical Center Hamburg-Eppendorf, Hamburg, Germany; ⁵Children's Hospital & Research Center Oakland, Oakland, CA, United States

- 14:00 3398. Characterization of the Failing Human Heart Via Diffusion Tensor Imaging: An Ex-Vivo Study**
Osama M. Abdullah^{1,2}, Stavros G. Drakos³, Divya Ratan Verma³, Josef Stehlik³, Abdallah G. Kfoury³, Craig H. Selzman³, Craig Myrick⁴, Greg Russel⁴, Dean Y. Li³, Edward W. Hsu¹
¹Bioengineering, University of Utah, Salt Lake City, UT, United States; ²Small Animal Core Research, University of Utah, Salt Lake City, UT, United States; ³UTAH Cardiac Transplant Program, University of Utah & Intermountain Medical Center, Salt Lake City, UT, United States; ⁴Intermountain Donor Services, Salt Lake City, UT, United States

- 14:30 3399. Myocardial Fat Deposition in Dilated Cardiomyopathy Assessment by using MR Water-Fat Separation Imaging**
Minjie Lu¹, Shihua Zhao¹, Shiliang Jiang¹, Yang Zhang¹, Jing An², Jerecic Renate³, Saurabh Shah⁴
¹Radiology, Fuwai Hospital, Beijing, China, People's Republic of; ²Siemens Mindit Magnetic Resonance, Siemens Healthcare, MR Collaboration NE Asia., Beijing, China, People's Republic of; ³Siemens Limited China, Siemens Healthcare, MR Collaboration NE Asia, Beijing, Germany; ⁴Siemens Healthcare, Chicago, IL, United States

Experimental Myocardial Imaging & Flow Imaging

Exhibition Hall Monday 14:00-16:00 Computer 39

- 14:00 3400. MR Diffusion Tensor Investigation of Transmural Heterogeneity of Myocardium Structural Remodeling in Postinfarct Porcine Model**
Yin Wu^{1,2}, Ed X. Wu^{2,3}
¹Paul C. Lauterbur Research Centre for Biomedical Imaging, Shenzhen Institutes of Advanced Technology, Shenzhen, Guangdong, China, People's Republic of; ²Laboratory of Biomedical Imaging & Signal Processing, the University of Hong Kong, Pokfulam, Hong Kong; ³Department of Electrical & Electronic Engineering, the University of Hong Kong, Pokfulam, Hong Kong

- 14:30 3401. Impact of B-Value on DTI Indices of Left Ventricular Porcine Myocardium: A Preliminary Study**
Yin Wu^{1,2}, Chao Zou^{1,2}, Lijuan Zhang^{1,2}, Wei Liu^{1,2}, Rui-Bin Dai^{1,2}, Na Zhang^{1,2}, Xin Liu^{1,2}
¹Paul C. Lauterbur Research Centre for Biomedical Imaging, Shenzhen Institutes of Advanced Technology, Shenzhen, Guangdong, China, People's Republic of; ²Key Laboratory of Biomedical Informatics & Health Engineering, Chinese Academy of Sciences, Shenzhen, Guangdong, China, People's Republic of

- 15:00 3402. The Tractographic Propagation Angle: A Novel Tool to Detect Infarction & Characterize Myocardial Microstructure**
Choukri Mekkaoui¹, Shuning Huang¹, Guangping Dai¹, Timothy G. Reese¹, Udo Hoffmann², Marcel P. Jackowski³, David Sosnovik⁴
¹Radiology, Harvard Medical School, Massachusetts General Hospital, Martinos Center For Biomedical Imaging, Charlestown, MA, United States; ²Radiology, Massachusetts General Hospital, Harvard Medical School, United States; ³Computer Science, University of

São Paulo, Institute of Mathematics & Statistics, São Paulo, Brazil; ⁴Cardiology, Harvard Medical School, Massachusetts General Hospital, Martinos Center For Biomedical Imaging, Charlestown, MA, United States

- 15:30 3403. A Comparison of Delayed Contrast Enhanced & T₁rho MRI for Assessment of LV Remodeling**
Gerald Zsido¹, Walter R. T. Witschey², Kevin Koomalsingh¹, Joseph H. Gorman¹, Robin Hinmon¹, James J. Pilla¹, Ravinder Reddy³, Maxim Zaitsev², Robert Gorman¹
¹Cardiothoracic Surgery, University of Pennsylvania, Philadelphia, PA, United States; ²Medical Physics, University Medical Center Freiburg, Freiburg i. Breisgau, Baden Württemberg, Germany; ³Radiology, University of Pennsylvania, Philadelphia, PA, United States

Exhibition Hall Tuesday 13:30-15:30 Computer 39

- 13:30 3404. Rapid Relative Pressure Map Computation from Velocity-Encoded Phase-Contrast Measurements**
Gerard R. Crelier^{1,2}, David Brunner², Sebastian Kozerke², Peter Boesiger²
¹GyroTools LLC, Winterthur, Switzerland; ²Institute for Biomedical Engineering, University & ETH Zurich, Zurich, Switzerland
- 14:00 3405. Quantification of Vessel-Encoded Arterial Spin Labeling Dynamic Angiography with Auto-Calibration**
Thomas William Okell¹, Michael Andrew Chappell^{1,2}, Ursula G. Schulz³, Peter Jezzard¹
¹FMRIB Centre, Department of Clinical Neurosciences, University of Oxford, Oxford, Oxfordshire, United Kingdom; ²Institute of Biomedical Engineering, University of Oxford, Oxford, Oxfordshire, United Kingdom; ³Stroke Prevention Research Unit, Department of Clinical Neurosciences, University of Oxford, Oxford, Oxfordshire, United Kingdom
- 14:30 3406. Off-Pump Left Ventricular Apical to Descending Aortic Conduits in Adults with Aortic Stenosis: Postoperative Cardiodynamic Evaluation with Cardiac MRI**
Stephanie Clement-Guinaudeau¹, Adrian Lam², Stuart N. Hurst¹, Robert L. Eisner¹, Muralidhar Padala¹, Vinod H. Thourani¹, John N. Oshinski^{1,2}
¹Emory University, Atlanta, GA, United States; ²Georgia Institute of Technology, Atlanta, GA, United States
- 15:00 3407. Assessment of Myocardial Twist Motion by Velocity Encoded MRI in LA - Orientation**
Anja Lutz¹, Axel Bornstedt¹, Patrick Etyngier², Robert Manzke³, Wolfgang Rottbauer¹, G. Ulrich Nienhaus⁴, Volker Rasche¹
¹University Hospital of Ulm, Ulm, BW, Germany; ²Medisys Research Lab, Philips Healthcare, Suresnes, France; ³Philips Research NA, Briarcliff Manor, United States; ⁴Karlsruhe Institute of Technology, Karlsruhe, Germany

Exhibition Hall Wednesday 13:30-15:30 Computer 39

- 13:30 3408. Serial Assessment of Hyperintense Post-Infarct Myocardial Edema in Mice by T₂-Weighted MRI**
Ronald J. Beyers¹, R. Scott Smith¹, Yaqin Xu¹, Brent A. French¹, Frederick H. Epstein¹
¹University of Virginia, Charlottesville, VA, United States
- 14:00 3409. Imaging of Inflammation using VSOP at Multiple Time Points in a Mouse Model of Myocardial Infarction**
Andrea Protti¹, Xuebin Dong¹, Marcelo Andia², Sanjay Chaubey¹, Bin Yu¹, Matthias Taupitz³, Rene Botnar², Ajay M. Shah¹
¹Cardiovascular Division, King's College London BHF Centre of Excellence, London, UK, United Kingdom; ²Division of Imaging Sciences & Biomedical Engineering, King's College London BHF Centre of Excellence, London, UK, United Kingdom; ³Department of Radiology, Charite-Universitaetsmedizin, Berlin, Germany
- 14:30 3410. Dual Manganese- & Delayed-Enhanced MRI Detects Myocardial Border Zone Viability in a Murine Myocardial Injury Model**
Ildiko Toma¹, Michael Qian², Jaehoon Chung¹, Yongquan Gong³, Rajesh Dash¹, Robert C. Robbins⁴, Phillip Harnish⁵, Phillip C. Yang¹
¹Medicine/Cardiovascular Medicine, Stanford University, Stanford, CA, United States; ²University of California, Berkeley, Berkeley, CA, United States; ³Radiology, Stanford University, Stanford, CA, United States; ⁴Cardiothoracic Surgery - Adult Cardiac Surgery, Stanford University, Stanford, CA, United States; ⁵Eagle Vision Pharmaceutical Corp., United States
- 15:00 3411. Implications of 2D Slice Profile Deformations for Rapid Myocardial T₁/T₂ Quantification using DESPOT**
Matthias Alexander Dieringer^{1,2}, Michael Deimling^{2,3}, Davide Santoro², Flavio Carinci^{2,4}, Jeanette Schulz-Menger^{1,2}, Thoralf Niendorf^{1,2}
¹Experimental and Clinical Research Center (ECRC), Charité Campus Buch, Humboldt-University, Berlin, Germany; ²Berlin Ultrahigh Field Facility, Max-Delbrueck Center for Molecular Medicine, Berlin, Germany; ³Siemens Healthcare, Erlangen, Germany; ⁴Department of Physics, Insubria University, Como, Italy

Exhibition Hall Thursday 13:30-15:30 Computer 39

- 13:30 3412. Normal Distribution on Blood Flow Helicity in the Healthy Aorta**
Ramona Lorenz¹, Jelena Bock¹, Jan Gerrit Korvink^{2,3}, Michael Markl¹
¹Dept. of Radiology, Medical Physics, University Medical Center Freiburg, Freiburg, Germany; ²Dept. of Microsystems Engineering - IMTEK, University of Freiburg, Freiburg, Germany; ³Freiburg Institute of Advanced Studies (FRIAS), University Freiburg, Freiburg, Germany
- 14:00 3413. In-Vivo Validation of 5-Point PC-VIPR for Hemodynamic Assessment of the Hepatic & Splanchnic Hemodynamics in Swine**
Alex Frydrychowicz¹, Emily Winslow², Dan Consigny¹, Eric Niespodzany¹, Eric Bultman¹, Alejandro Roldán-Alzate¹, Kevin M. Johnson³, Oliver Wieben⁴, Scott B. Reeder¹
¹Department of Radiology, University of Wisconsin - Madison, Madison, WI, United States; ²Department of Surgery, University of Wisconsin - Madison, Madison, WI, United States; ³Department of Medical Physics, University of Wisconsin - Madison, Madison, WI, United States; ⁴Departments of Radiology & Medical Physics, University of Wisconsin - Madison, Madison, WI, United States
- 14:30 3414. Whole Heart 4D Hemodynamics in Patients with Transposition of the Great Arteries After Switch Procedure**
Julia Geiger¹, Raoul Arnold², Zoltan Csatar¹, Mathias Langer¹, Michael Markl¹
¹Radiology & Medical Physics, University Hospital Freiburg, Freiburg, Germany; ²Pediatric Cardiology, University Hospital Freiburg, Freiburg, Germany
- 15:00 3415. Analysis of Complex Cardiovascular Flow with Three Component Acceleration Encoded MRI**
Alex J. Barker¹, Felix Staehle¹, Jelena Bock¹, Bernd A. Jung¹, Michael Markl¹
¹Medical Physics, Dept. of Radiology, University Medical Center Freiburg, Freiburg, Germany

MRS Applied Methodology

Exhibition Hall Monday 14:00-16:00 Computer 40

- 14:00 3416. Comparing MEGA-SPECIAL to MEGA-STEAM for Pure GABA Detection at 7T**
He Zhu^{1,2}, Richard Edden^{1,2}, Ronald Ouwerkerk³, Peter B. Barker^{1,2}
¹Radiology, Johns Hopkins University, Baltimore, MD, United States; ²F.M. Kirby Research Center, Kennedy Krieger Institute, Baltimore, MD, United States; ³NIDDK, National Institute of Health, Bethesda, MD, United States
- 14:30 3417. Glutamate & Glutamine Spectroscopic Imaging in Brain Tumors at 3.0 T**
Sandeep Kumar Ganji¹, Ivan E. Dimitrov^{1,2}, Elizabeth A. Maher³, Changho Choi¹
¹Advanced Imaging Research Center, University of Texas Southwestern Medical Center, Dallas, TX, United States; ²Philips Medical Systems, Cleveland, OH, United States; ³Internal Medicine & Neurology, University of Texas Southwestern Medical Center, Dallas, TX, United States
- 15:00 3418. Thalamic & Subcortical GABA in Human Brain at 7T**
Jullie W. Pan¹, Nikolai Avdievich¹, Hoby P. Hetherington¹
¹Neurosurgery, Yale University School of Medicine, New Haven, CT, United States
- 15:30 3419. In Vivo Short Spin-Echo ¹H MR Spectroscopy with Macromolecule Suppression**
Xi Chen^{1,2}, Laura M. Rowland², Yihong Yang¹
¹Neuroimaging Research Branch, Nation Institute on Drug Abuse, Baltimore, MD, United States; ²Maryland Psychiatric Research Center, University of Maryland School of Medicine, Baltimore, MD, United States

Exhibition Hall Tuesday 13:30-15:30 Computer 40

- 13:30 3420. CT-PRESS Based Spiral Spectroscopic Imaging with Robust Water & Lipid Suppression using Multiple Dualband Frequency-Selective RF Pulses**
Meng Gu¹, Daniel M. Spielman¹, Natalie M. Zahr², Adolf Pfefferbaum², Edith V. Sullivan^{2,3}, Dirk Mayer^{1,2}
¹Radiology, Stanford University, Stanford, CA, United States; ²Neuroscience Program, SRI International, Menlo Park, CA, United States; ³Psychiatry & Behavioral Sciences, Stanford University
- 14:00 3421. Fully Adiabatic ³¹P 2D CSI with Negligible Chemical Shift Displacement Error at 7T**
Marek Chmelik¹, Stephan Gruber¹, Siegfried Trattnig¹, Wolfgang Bogner¹
¹MR Centre of Excellence, Department of Radiology, Medical University of Vienna, Vienna, Austria
- 14:30 3422. ¹H SPECIAL-MRSI at Ultra-Short TE: Improved Metabolite Detection for Multiple Voxels in Human Brain at 3T**
Ralf Mektele¹, Vladimir Mlynarik², Bernadeta Walaszek¹, Rolf Gruetter^{2,3}, Bernd Ittermann¹, Florian Schubert¹

¹Physikalisch-Technische Bundesanstalt, Berlin, Germany; ²Laboratory for Functional & Metabolic Imaging (LIFMET), Ecole Polytechnique Federale de Lausanne, Lausanne, Switzerland; ³Departments of Radiology, Universities of Lausanne & Geneva, Lausanne & Geneva, Switzerland

- 15:00 3423. **A Semi LASER ¹H MRS Sequence Designed with High Bandwidth RF Pulses for Use at 4.0 T**
Hui Liu^{1,2}, Gerald B. Matson^{1,3}
¹Center for Imaging of Neurodegenerative Diseases (CIND), Veterans Affairs Medical Center, San Francisco, CA, United States;
²Northern California Institute for Research & Education, San Francisco, CA, United States; ³University of California, San Francisco, CA, United States

Exhibition Hall Wednesday 13:30-15:30 Computer 40

- 13:30 3424. **Absolute Metabolite Quantification by Magnetic Resonance Spectroscopy Imaging in Skeletal Muscle: First Results & Reproducibility**

Xin Wang¹, Laura Fayad¹, Peter Barker²

¹Johns Hopkins University, Baltimore, MD, United States; ²Radiology, Johns Hopkins University, United States

- 14:00 3425. **In Vivo Phosphorus MR Spectroscopy Demonstrates the Heterogeneous Composition of Sarcomas**

Fernando Arias-Mendoza¹, Truman R. Brown¹

¹Radiology, Columbia University Medical Center, New York, NY, United States

- 14:30 3426. **In Vivo MR Spectroscopy of Irregularly Shaped Single Voxel using 2D-Selective RF Excitations Based on a PROPELLER Trajectory**

Martin G. Busch^{1,2}, Jürgen Finsterbusch^{1,2}

¹Department of Systems Neuroscience, University Medical Center Hamburg-Eppendorf, Hamburg, Germany; ²Neuroimage Nord, University Medical Centers Hamburg-Kiel-Lübeck, Hamburg-Kiel-Lübeck, Germany

- 15:00 3427. **Correlated Spectroscopic Imaging using Concentrically Circular Echo-Planar Trajectories in Human Calf**

Neil Wilson¹, Jon Furuyama¹, Michael Albert Thomas¹

¹Radiology, UCLA, Los Angeles, CA, United States

Exhibition Hall Thursday 13:30-15:30 Computer 40

- 13:30 3428. **Sensitivity & Localization Reliability Analysis for Spectral Localization by Multichannel Coils**

Li An¹, Steven Warach¹, Jun Shen²

¹National Institute of Neurological Disorders & Stroke, National Institutes of Health, Bethesda, MD, United States; ²National Institute of Mental Health, National Institutes of Health, Bethesda, MD, United States

- 14:00 3429. **Accelerating Magnetic Resonance Spectroscopy Imaging by Compressed Sensing**

Peng Cao^{1,2}, Condon Lau^{1,2}, Ed X. Wu^{1,2}

¹Laboratory of Biomedical Imaging & Signal Processing, the University of Hong Kong, Hong Kong SAR, China, People's Republic of; ²Department of Electrical & Electronic Engineering, the University of Hong Kong, Hong Kong SAR, China, People's Republic of

- 14:30 3430. **Combination of Compressed Sensing & SENSE for ¹H MRSI: An Initial Result**

Zhengchao Dong^{1,2}, Yudong Zhang^{1,2}, Bradley S. Peterson^{1,2}

¹Columbia University, New York, NY, United States; ²New York State Psychiatric Institute, New York, NY, United States

- 15:00 3431. **Non-Negative Blind Source Separation Techniques for Describing Intratumoral Histopathological Tissue Properties Within MRSI Measurements**

Anca Ramona Croitor Sava¹, Sofie Van Cauwer², Diana Maria Sima¹, Maria Osorio Garcia¹, Uwe Himmelreich², Sabine Van Huffel²

¹Depart. Electrical Eng. – ESAT/SCD, Katholieke Universiteit Leuven, Leuven, Belgium; ²Dept. Medical Diagnostic Sciences – Biomedical NMR Unit, Katholieke Universiteit Leuven, Leuven, Belgium

Spectroscopic Quantitation

Exhibition Hall Monday 14:00-16:00 Computer 41

- 14:00 3432. **Quantitative Musculoskeletal MRS using the Phantom Replacement Method & Phased-Array Receiver Coils**

Xin Wang¹, Laura Fayad², Peter Barker

¹Radiology, Johns Hopkins University, Baltimore, MD, United States; ²Johns Hopkins University, United States

- 14:30 3433. **Proton Magnetic Resonance Spectroscopy Method for the Detection of Human Brain Metabolites at 7 Tesla**

Mohammed Elywa¹, Samir Mulla-Osman¹, Martin Walter², Kai Zhong¹, Frank Godenschweiger¹, Oleksandr

Khorkhordin¹, Jörn Kaufmann³, Oliver Speck⁴

¹Department of Biomedical Magnetic Resonance, Otto-von-Guericke-University, Magdeburg, Germany; ²Universitätsklinik für Psychiatrie, Otto-von-Guericke-University, Magdeburg, Germany; ³Department of Neurology, Otto-von-Guericke-University, Magdeburg, Germany; ⁴Department of Biomedical Magnetic Resonance, Otto-von-Guericke-University, Magdeburg, Germany

- 15:00 3434. Precision & Repeatability of *In Vivo* GABA & Glutamate Quantification**
Ruth L. O'Gorman¹, Richard Edden², Lars Michels¹, James B. Murdoch³, Ernst Martin¹
¹University Children's Hospital, Zürich, Switzerland; ²Russell H. Morgan Department of Radiology & Radiological Sciences, Johns Hopkins University, Baltimore, MD, United States; ³Toshiba Medical Research Institute, Mayfield Village, OH, United States
- 15:30 3435. Exploring Collagen Self-Assembly by NMR**
Natalia Lisitza¹, Xudong Huang², Hiroto Hatatu³, Samuel Patz³
¹Department of Radiology, Brigham & Women's Hospital, Harvard Medical School, Boston, MA, United States; ²Department of Psychiatry, Massachusetts General Hospital, Harvard Medical School, Boston, MA, United States; ³Department of Radiology, Brigham & Women's Hospital, Harvard Medical School, Boston, MA, United States

Exhibition Hall Tuesday 13:30-15:30 Computer 41

- 13:30 3436. *In-Vivo* Short-Echo-Time Single-Voxel Proton LASER Spectroscopy at 7 Tesla Incorporating Macromolecule Subtraction**
Jacob Penner^{1,2}, Andrew Lim¹, Andrew Curtis^{1,2}, Martyn Klassen¹, Joseph Gati¹, Matthew Smith^{3,4}, Michael Borrie^{3,4}, Robert Bartha^{1,2}
¹Centre for Functional & Metabolic Mapping, Robarts Research Institute, London, Ontario, Canada; ²Medical Biophysics, University of Western Ontario, London, Ontario, Canada; ³Medicine, University of Western Ontario, London, Ontario, Canada; ⁴Division of Aging, Rehabilitation, & Geriatric Care, Lawson Health Research Institute, London, Ontario, Canada
- 14:00 3437. Optimization of Metabolite Basis-Sets Prior to Quantitation: A Quantum Mechanics Approach**
Andrii Lazariev¹, Abdul-Rahman Allouche², Monique Aubert-Frécon², Florence Fauvelle³, Karim Elbayed⁴, Martial Piotto^{4,5}, Izzie Jacques Namer⁶, Dirk van Ormondt⁷, Danielle Graveron-Demilly¹
¹Creatis-LRMN, Université Claude Bernard Lyon 1, Villeurbanne, France; ²LASIM, Université Claude Bernard Lyon 1, Villeurbanne, France; ³CRSSA/BCM, Grenoble, France; ⁴Institut de Chimie, Strasbourg, France; ⁵Bruker BioSpin, Wissembourg, France; ⁶Department of Biophysics & Nuclear Medicine, University Hospitals of, Strasbourg, France; ⁷Delft University of Technology, Delft, Netherlands
- 14:30 3438. Association of MRS Measures in the Brain with Body Mass**
Andrew A. Maudsley¹, Varan Govind, Kris Arheart²
¹Radiology, University of Miami, Miami, FL, United States; ²Epidemiology, University of Miami
- 15:00 3439. *In Vivo* ¹H MRS Quantification of Alzheimer Disease in Frontal Hippocampus of Mice with & without Inversion Recovery to Assess the Macromolecular Contribution**
Maria Isabel Osorio Garcia¹, Diana Sima², Flemming Ulrich Nielsen³, Tom Dresselaers³, Uwe Himmelreich³, Fred Van Leuven⁴, Sabine Van Huffel²
¹Electrical Engineering - ESAT/SCD, Katholieke Universiteit Leuven, Leuven, Belgium; ²Electrical Engineering - ESAT/SCD, Katholieke Universiteit Leuven, Leuven, Belgium; ³Biomedical Nuclear - Magnetic Resonance Unit, Katholieke Universiteit Leuven, Leuven, Belgium; ⁴Experimental Genetics Group LEGTEGG, Katholieke Universiteit Leuven, Leuven, Belgium

Exhibition Hall Wednesday 13:30-15:30 Computer 41

- 13:30 3440. Accuracy & Reproducibility of Short-TE MRS Measurements of GABA at 3T as a Function of Linewidth & SNR**
Jamie Near¹, Jesper Andersson¹, Philip Cowen², Peter Jezzard¹
¹FMRIB Centre, University of Oxford, Oxford, Oxfordshire, United Kingdom; ²Department of Psychiatry, University of Oxford, Oxford, Oxfordshire, United Kingdom
- 14:00 3441. *In Vivo* T₂ of GABA at 7T: Measuring Transverse Relaxation Times using Edited MRS**
Jarunee Intrapiromkul¹, Ying Cheng², He Zhu^{1,3}, Peter B. Barker^{1,3}, Richard Anthony Edward Edden^{1,3}
¹Russell H. Morgan Department of Radiology & Radiological Science, the Johns Hopkins University, Baltimore, MD, United States; ²Department of Biomedical Engineering, the Johns Hopkins University, Baltimore, MD, United States; ³Kennedy Krieger Institute, Baltimore, MD, United States
- 14:30 3442. Enhanced Detection of Glutamate in the Human Brain using Very Short Echo Times**
Sarah Andrea Wijtenburg^{1,2}, Jack Knight-Scott¹
¹Radiology, Children's Healthcare of Atlanta, Atlanta, GA, United States; ²Biomedical Engineering, University of Virginia, Charlottesville, VA, United States
- 15:00 3443. Novel Approach for the Assessment of the Bioavailability of Exogenous Phosphate by *In Vivo* Dynamic ¹⁷O & ³¹P MRS & MRI**

Gheorghe D. Mateescu^{1,2}, Chris A. Flask^{1,3}, Jeffrey L. Duerk^{1,3}

¹Radiology, Case Western Reserve University, Cleveland, OH, United States; ²Chemistry, Case Western Reserve University, Cleveland, OH, United States; ³Biomedical Engineering, Case Western Reserve University, Cleveland, OH, United States

Exhibition Hall Thursday 13:30-15:30 Computer 41

- 13:30 3444. Longitudinal Inter- & Intra-Individual Human Brain Metabolic Quantification with Proton MR Spectroscopy at 3T**
Ivan Kirov¹, Ilena George¹, Nikhil Jayawickrama¹, James Babb¹, Nissa Perry¹, Oded Gonen¹
¹Radiology, New York University, New York, NY, United States
- 14:00 3445. If J Doesn't Evolve, It Won't J-Resolve: J-PRESS with Bandwidth-Limited Refocusing Pulses**
Richard Anthony Edward Edden^{1,2}, Peter B. Barker^{1,2}
¹Russell H. Morgan Department of Radiology & Radiological Science, the Johns Hopkins University, Baltimore, MD, United States; ²FM Kirby Center for Functional MRI, Kennedy Krieger Institute, Baltimore, MD, United States
- 14:30 3446. Optimal Methodology for Glutamate & Glutamine Signal Quantification with Single Voxel MRS of the Human Brain**
Jingjing Zhang¹, Sulaiman Sheriff², Andrew A. Maudsley², Karl Goodkin³, Jeffrey R. Alger¹
¹Neurology, University of California at Los Angeles, Los Angeles, CA, United States; ²Radiology, University of Miami, Miami, FL, United States; ³Psychiatry & Behavioral Neurosciences, Cedars-Sinai Medical Center, Los Angeles, CA, United States
- 15:00 3447. A Statistical Framework for Biomarker Identification using HR-MAS 2D NMR Spectroscopy**
Akram Belghith¹, Christophe Collet², Karim Elbayed³, Lucien Rumbach⁴, Izzie Jacques Namer⁵, Jean-Paul Armspach⁶
¹University of Strasbourg, LSIT - CNRS UMR 7005, Strasbourg, Alsace, France; ²University of Strasbourg, LSIT - CNRS UMR 7005, France; ³University of Strasbourg, Institut de Chimie; ⁴Neurology Department CHU Minjoz Besancon -France; ⁵University of Strasbourg, LINC - CNRS FRE 3289 - France; ⁶University of Strasbourg, LINC - CNRS FRE 3289, France

3D MRSI

Exhibition Hall Monday 14:00-16:00 Computer 42

- 14:00 3448. Volumetric Chemical Shift Imaging with Low Power Adiabatic Pulses & Fast Spiral Readouts**
Ovidiu Cristian Andronesi¹, Borjan A. Gagoski², Elfar Adalsteinsson², Gregory A. Sorensen¹
¹Martinos Center for Biomedical Imaging, Radiology Department, Massachusetts General Hospital, Harvard Medical School, Charlestown, MA, United States; ²Electrical Engineering & Computer Science, Massachusetts Institute of Technology, Cambridge, MA, United States
- 14:30 3449. Towards Standardization of Volumetric MRSI**
Andrew A. Maudsley¹, Sulaiman Sheriff¹, Mohammed Sabati¹, Meng Gu², Juan Wei³, Dan Spielman², Peter Barker³, Rajesh Garugu¹
¹Radiology, University of Miami, Miami, FL, United States; ²Radiology, Stanford University, Stanford, CA, United States; ³Radiology, Johns Hopkins University, Baltimore, MD, United States
- 15:00 3450. Novel Automated 3D MRSI Acquisition with Whole Brain Slice Selection & Outer-Volume Suppression**
Eugene Ozhinsky^{1,2}, Adam B. Kerr³, Sarah J. Nelson^{1,4}
¹Surbeck Laboratory of Advanced Imaging, Department of Radiology & Biomedical Imaging, University of California, San Francisco, San Francisco, CA, United States; ²UCSF/UCB Joint Graduate Group in Bioengineering, University of California, San Francisco; ³Department of Electrical Engineering, Stanford University, CA, United States; ⁴Department of Bioengineering & Therapeutic Sciences, University of California, San Francisco
- 15:30 3451. Multi-Slice MRSI at 7T with Dualband Suppression & Hahn Echo Acquisition**
He Zhu^{1,2}, Ronald Ouwerkerk³, Richard Edden^{1,2}, Peter B. Barker^{1,2}
¹Radiology, Johns Hopkins University, Baltimore, MD, United States; ²F.M. Kirby Research Center, Kennedy Krieger Institute, Baltimore, MD, United States; ³NIDDK, National Institute of Health, Bethesda, MD, United States

Exhibition Hall Tuesday 13:30-15:30 Computer 42

- 13:30 3452. Improved Spatial Localization in 3D MRSI with a Sequence Combining PSF-Choice, EPSI & a Resolution-Enhancement Algorithm**
Lawrence Patrick Panych¹, Bruno Madore¹, William S. Hoge¹, Robert V. Mulkern²
¹Radiology, Brigham & Womens Hospital, Boston, MA, United States; ²Radiology, Children's Hospital, Boston, MA, United States
- 14:00 3453. Phase-Cycled Segmented Center-Out Echo Planar Spectroscopic Imaging Sequence**
Christian Labadie^{1,2}, Stefan Hetzer³, Toralf Mildner¹, Monique Aubert-Frécon², Harald E. Möller¹

¹Max Planck Institute for Human Cognitive & Brain Sciences, Leipzig, Germany; ²Laboratoire de Spectrométrie Ionique et Moléculaire, Université Claude Bernard Lyon 1, France; ³Bernstein Center for Computational Neuroscience, Berlin, Germany

14:30 3454. Optimized Semi-LASER 3D MRSI Sequence for Lactate Detection in the Prostate

Thiele Kobus¹, Arend Heerschap¹, Tom W. J. Scheenen¹

¹Radiology, Radboud University Nijmegen Medical Centre, Nijmegen, Gelderland, Netherlands

15:00 3455. Selective Zero-Quantum Coherence Transfer (Sel-ZQC) Method for High-Resolution Metabolite Imaging at Ultrahigh Field without Inhomogeneous Broadening & Susceptibility Artifacts

Song Chen¹, Qiuhong He^{1,2}

¹Radiology, University of Pittsburgh, Pittsburgh, PA, United States; ²Bioengineering, University of Pittsburgh, Pittsburgh, PA, United States

Perfusion & Permeability Methodology

Exhibition Hall Monday 14:00-16:00 Computer 43

14:00 3456. The Influences of Albumin Binding & Field Strength on the Relaxivity of Gadofosveset (Ablavar), & Its Potential Beyond Angiography as Clinical Field Strengths Increase

Owen Carl Richardson¹, Steven F. Tanner¹, Marietta Scott², David L. Buckley¹

¹Division of Medical Physics, University of Leeds, Leeds, West Yorkshire, United Kingdom; ²AstraZeneca, Alderley Park, Cheshire, United Kingdom

14:30 3457. Nano-Osmotic Coupling in Active Cell Membrane Water Permeability

Yajie Zhang¹, Marie Poirier-Quinot¹, Charles S. Springer, Jr.², James A. Balschi¹

¹Physiological NMR Core Laboratory, Brigham & Women's Hospital, Boston, MA, United States; ²Advanced Imaging Research Center, Oregon Health & Science University, Portland, OR, United States

15:00 3458. Cerebral Blood Volume Fraction Quantification in Mice

Teodora-Adriana Perles-Barbacaru¹, Francois Berger², Hana Lahrech¹

¹INSERM U836, Functional & Metabolic Neuroimaging, Grenoble Institute of Neurosciences, University Joseph Fourier, Grenoble, France; ²INSERM U836, Brain Nanomedicine Group, Grenoble Institute of Neurosciences, University Joseph Fourier, Grenoble, France

15:30 3459. 3D Cartesian Volumetric Liver Perfusion MRI with High Temporal & Isotropic Spatial Resolution

Kang Wang¹, Frank Korosec¹, Yin Huang¹, Kevin Johnson¹, Ethan Brodsky², Reed Busse³, James Holmes³, Jean Brittain³, Scott Reeder^{1,4}

¹Medical Physics, University of Wisconsin-Madison, Madison, WI, United States; ²Biomedical Engineering, University of Wisconsin-Madison, Madison, WI, United States; ³Global Applied Science Laboratory, GE Healthcare; ⁴Radiology, University of Wisconsin-Madison, Madison, WI, United States

Exhibition Hall Tuesday 13:30-15:30 Computer 43

13:30 3460. Bias & Precision for Hemodynamic Parameters Resulting from 'best Model' & 'weighted Model' Strategies Based on the Akaike Information Criterion

Robert Luypaert¹, Steven Pieter Sourbron², Johan de Mey¹

¹UZ Brussel - Radiology, Vrije Universiteit Brussel, Brussels, Belgium; ²Medical Physics, University of Leeds, Leeds, United Kingdom

14:00 3461. R₁ & R₂* Changes According to Gd Concentration: A Potential Limiting Factor in Converting MR Signal Intensity to Gd Concentration

Jeong Kon Kim^{1,2}, Ravi Teja Seethamraju³, Ji-Yeon Suh^{1,2}, Gyounggoo Cho⁴, Woo Hyun Shim^{2,5}, Young Ro Kim²

¹Department of Radiology, Research Institute of Radiology, Asan Medical Center, University of Ulsan College of Medicine, Seoul, Korea, Republic of; ²Radiology, Athinoula A. Martinos Center for Biomedical Imaging, Charlestown, MA, United States; ³SIEMENS Medical Solutions USA, Inc, Boston, MA, United States; ⁴MRI Team, Korea Basic Science Institute; ⁵Bio & Brain, Korea Advanced Institute of Science & Technology

14:30 3462. A Population Pharmacokinetic Model for Gd-DTPA in Small Animal DCE-MRI

Andreas Steingoetter¹, Dieter Menne², Rickmer Braren³

¹Division of Gastroenterology & Hepatology, University Zurich, Zurich, Switzerland; ²Menne Biomed Consulting, Tuebingen, Germany; ³Institute of Radiology, Klinikum rechts der Isar der TU München, Munich, Germany

15:00 3463. In Vivo Measurement of Blood Transit Time in Rat Brain using the Saturation Recovery-T₁app Imaging Method

Xiao Wang¹, Xiao-Hong Zhu¹, Yi Zhang¹, Wei Chen¹

¹Center for Magnetic Resonance Research, Department of Radiology, University of Minnesota Medical School, Minneapolis, MN, United States

Microscopy

Exhibition Hall Wednesday 13:30-15:30 Computer 44

- 13:30 3464. Magnetic Resonance Microscopy of Human Brain Tumor Biopsies**
Ana Gonzalez-Segura¹, Miguel Cerda-Nicolas², Concha Lopez-Gines², Jose Manuel Gonzalez-Darder³, Jose Manuel Morales², Daniel Monleon¹
¹Fundacion Investigacion HCUV, Valencia, Spain; ²Universidad de Valencia; ³Hospital Clinico Valencia
- 14:00 3465. A Microfluidic Micro-MRI Set-Up to Assess the Specificity of Targeted Contrast Agents on a Living Cell Monolayer**
Nicolas Gargam¹, Marie Poirier-Quinot¹, Jean-Sébastien Raynaud², Philippe Robert², Luc Darrasse¹
¹IR4M (UMR 8081), Université Paris-Sud - CNRS, Orsay, France; ²Guerbet Research, Paris, France
- 14:30 3466. Biexponential T₂ Approach to Investigate Water Organization & Molecular Mobility of Hydrated HPMC Dosage Forms. Influence of Drug Substances with Different Water Solubility.**
Anna Mlynarczyk¹, Krzysztof Jasinski¹, Piotr Kulinski¹, Marco L. H. Gruwel², Przemysław Dorozynski³, Bogusław Tomanek^{1,2}, Władysław P. Weglarz¹
¹Department of Magnetic Resonance Imaging, Institute of Nuclear Physics PAN, Krakow, Poland; ²Institute for Biodiagnostics, National Research Council of Canada, Winnipeg, Manitoba, Canada; ³Department of Pharmaceutical Technology & Biopharmaceutics, Jagiellonian University, Krakow, Poland
- 15:00 3467. Cellular Level MR Phase Contrast Microscopy & MEMRI of MnCl₂ Labeled Tumor Cells with Direct Optical Correlation**
Nicoleta Baxan¹, Ulf Kahler², Juergen Hennig¹, Dominik von Elverfeldt¹
¹Dept. of Radiology, Medical Physics, University Medical Center Freiburg, Freiburg, Germany; ²Department of Stereotactic Neurosurgery, University Medical Center Freiburg, Freiburg, Germany

MRS of Cells, Body Fluids & Others

Exhibition Hall Thursday 13:30-15:30 Computer 45

- 13:30 3468. Metabolic Regulatory Variation in Rat Serum Due to Cold Stress: High Resolution ¹H NMR Approach**
Sonia Gandhi¹, Hemanth Kumar Bhonsle Somu¹, Memita Devi¹, Sunil Pal¹, Rajendra P. Tripathi¹, Subash Khushu¹
¹NMR Research Centre, Institute of Nuclear Medicine & Allied Sciences, DRDO, Delhi, India; ²Division & Cyclotron & Radiopharmaceutical Sciences, Institute of Nuclear Medicine & Allied Sciences, DRDO, Delhi, India
- 14:00 3469. Metabolic Profiling of Human Liver Fibrosis**
Jose Manuel Morales¹, Beatriz Martinez-Granados, Juan del Olmo², Bernardo Celda, Jose Manuel Rodrigo^{1,2}, Daniel Monleon³
¹Universidad de Valencia, Valencia, Spain; ²Hospital Clinico Valencia; ³Fundacion Investigacion HCUV, Valencia, Spain
- 14:30 3470. High Resolution ¹H NMR Spectroscopy Successfully Discriminates Fetuses with Congenital Diaphragmatic Hernia from Normal Pregnancies**
Anca Ramona Croitor Sava¹, Veronika Beck^{2,3}, Inga Sandaite⁴, Jan Deprest^{2,3}, Filip Claus⁴, Sabine Van Huffel¹, Uwe Himmelreich⁵
¹Depart. Electrical Eng. – ESAT/SCD, Katholieke Universiteit Leuven, Leuven, Belgium; ²Division Woman & Child, University Hospital Gasthuisberg, Leuven, Belgium; ³Centre for Surgical Technologies, Katholieke Universiteit Leuven, Leuven, Belgium; ⁴Division of Medical Imaging, University Hospital Gasthuisberg, Leuven, Belgium; ⁵Dept. Medical Diagnostic Sciences – Biomedical NMR Unit, Katholieke Universiteit Leuven, Leuven, Belgium
- 15:00 3471. Hypoxia Increases Degradation of the Extracellular Matrix by Human Breast Cancer Cells**
Tariq Shah¹, Balaji Krishnamachary¹, Flonne Wildes¹, Yelena Mironchik¹, Zaver M. Bhujwalla¹
¹Radiology, Johns Hopkins University, Baltimore, MD, United States

Spectroscopy - Other

Exhibition Hall	Monday 14:00-16:00	Computer 46
14:00	3472.	Gender Differences in GABA & Glutamate Concentrations Measured with MEGA-PRESS <i>Ruth L. O'Gorman¹, Lars Michels¹, Richard Edden², Ernst Martin¹</i> ¹ University Children's Hospital, Zürich, Switzerland; ² Russell H. Morgan Department of Radiology & Radiological Sciences, Johns Hopkins University, Baltimore, MD, United States
14:30	3473.	Regional Variations in GABA Measured with MEGA-PRESS <i>Christopher John Evans¹, Frederic Boyl¹, Richard A. E. Edden², Krish D. Singh¹, Petroc Sumner¹</i> ¹ CUBRIC, School of Psychology, Cardiff University, Cardiff, Wales, United Kingdom; ² Russell H. Morgan Department of Radiology & Radiological Science, the Johns Hopkins University, Baltimore, United States
15:00	3474.	Motor Control Predicted by GABA Concentration in the Supplementary Motor Area <i>Christopher John Evans¹, Frederic Boyl¹, Richard A. E. Edden^{2,3}, Krish D. Singh¹, Masud Husain⁴, Petroc Sumner¹</i> ¹ CUBRIC, School of Psychology, Cardiff University, Cardiff, Wales, United Kingdom; ² Russell H. Morgan Department of Radiology & Radiological Science, the Johns Hopkins University, Baltimore, United States; ³ F.M. Kirby Research Center for Functional MRI, Kennedy Krieger Institute, Baltimore, United States; ⁴ UCL Institute of Cognitive Neuroscience & UCL Institute of Neurology, UCL, London, England, United Kingdom
15:30	3475.	¹H MRS at 7T Demonstrates a Strong Correlation Between Stimulus-Induced γ-Frequency in the Visual Cortex & the Glutamine/GABA Ratio. <i>Mary Charlotte Stephenson¹, Matthew J. Brookes¹, Darren Price¹, Antonio Napolitano², Susan T. Francis¹, Peter G. Morris¹</i> ¹ School of Physics & Astronomy, University of Nottingham, Nottingham, Nottinghamshire, United Kingdom; ² Academic Radiology, University of Nottingham, United Kingdom

Exhibition Hall	Tuesday 13:30-15:30	Computer 46
13:30	3476.	Feasibility of Quantitative Proton MR Spectroscopy without Water Suppression in <i>In Vivo</i> Malignant Breast Lesions at 1.5T <i>Hyeon-Man Baek¹</i> ¹ Advanced Imaging Research Center, UT Southwestern Medical Center, Dallas, TX, United States
14:00	3477.	Increase in SNR for ³¹P MR Spectroscopy by Integrating Polarization Transfer & Direct Detection in One Repetition Time. <i>Wybe van Der Kemp¹, Vincent Boer¹, Peter Luijten¹, Jannie Wijnen¹, Dennis Klomp¹</i> ¹ Department of Radiology, University Medical Centre, Utrecht, Netherlands
14:30	3478.	Optimal Recombination of Multi-Coils CSI Data using Image Based Sensitivity Map <i>Michaël Sdika¹, Yann Le Fur¹, Patrick J. Cozzone¹</i> ¹ CRMBM, CNRS, UMR 6612, Faculté de Médecine de Marseille, Université de la Méditerranée, Marseille, France
15:00	3479.	MISSA - a Highly-Developed Clinical Tool for MR Spectroscopy <i>Bernd Merkel¹, Markus T. Harz¹, Horst K. Hahn¹</i> ¹ Fraunhofer MEVIS, Bremen, Germany

Elastography

Exhibition Hall	Monday 14:00-16:00	Computer 47
14:00	3480.	Calculation of Shear Stiffness in Noise Dominated Magnetic Resonance Elastography (MRE) Data Based on Principal Frequency Estimation. <i>Kiaran Patrick McGee¹, David Lake¹, Yogesh Mariappan¹, Armando Manduca¹, Rolf Hubmayr², Richard Ehman¹</i> ¹ Department of Radiology, Mayo Clinic, Rochester, MN, United States; ² Pulmonology & Critical Care Medicine, Mayo Clinic, Rochester, MN, United States
14:30	3481.	Geometric Focusing of High Frequency Shear Waves for Noninvasive High Resolution MR Elastography <i>Thomas J Royston¹, Temel Kaya Yasar¹, Richard L Magin¹</i> ¹ University of Illinois at Chicago, Chicago, IL, United States

15:00 3482. Physical Boundary Conditions Reconstruction: A Novel Method to Determine Viscoelastic Parameters from Magnetic Resonance Elastography Data

Philippe Garteiser¹, Sabrina Doblus¹, Bernard E. VanBeers^{1,2}, Valérie Vilgrain², Ralph Sinkus¹

¹INSERM UMR 773, Centre de Recherche Biomédicale Bichat-Beaujon, Clichy, France; ²Department of Radiology, Beaujon University Hospital, Paris Diderot University, Clichy, France

15:30 3483. Hardware & Software Design for Serial & Longitudinal Rat MR Elastography Studies

Kevin John Glaser¹, Jun Chen¹, Meng Yin¹, Thomas Hulshizer¹, Phillip Rossmann¹, Richard Ehman¹

¹Radiology, Mayo Clinic, Rochester, MN, United States

Exhibition Hall Tuesday 13:30-15:30 Computer 47

13:30 3484. Evaluating the Feasibility of Multi-Slice Endorectal Magnetic Resonance Elastography for Prostate Cancer Localization

Arvin Arani^{1,2}, Donald Plewes^{1,2}, Rajiv Chopra^{1,2}

¹Imaging Research, Sunnybrook Research Institute, Toronto, ON, Canada; ²Medical Biophysics, University of Toronto, Toronto, ON, Canada

14:00 3485. MR-Elastography, a New Biomarker of the Tumor Vascularization in a Colon Cancer Mice Model

Lauriane Jugé¹, Bich-Thuy Doan², Johanne Seguin², Miguel Albuquerque¹, Benoit Larrat³, Daniel Scherman², Valerie Vilgrain¹, Valérie Paradis¹, Bernard E. Van-Beers¹, Ralph Sinkus¹

¹CRB3 / UMR 773, CLICHY, Ile de France, France, Metropolitan; ²UMR 8151, Unité de pharmacologie chimique et génétique et d'Imagerie, -UPCGI/Chimie-Paristech, Paris, France, Metropolitan; ³Institut Langevin, ESPCI, Paris, France, Metropolitan

14:30 3486. Measuring the Transient Before Steady-State in Brain MR Elastography

Curtis L. Johnson¹, Bradley P. Sutton^{2,3}, John G. Georgiadis^{1,3}

¹Department of Mechanical Science & Engineering, University of Illinois at Urbana-Champaign, Urbana, IL, United States; ²Department of Bioengineering, University of Illinois at Urbana-Champaign, Urbana, IL, United States; ³Beckman Institute for Advanced Science & Technology, University of Illinois at Urbana-Champaign, Urbana, IL, United States

15:00 3487. Hydraulic Conductivity Estimation using Magnetic Resonance Elastography

Adam J. Pattison¹, Phillip R. Perrinez¹, Matthew D. J. McGarry¹, John B. Weaver^{1,2}, Keith D. Paulsen^{1,3}

¹Thayer School of Engineering, Dartmouth College, Hanover, NH, United States; ²Dartmouth-Hitchcock Medical Center, Lebanon, NH, United States; ³Norris Cotton Cancer Center, Lebanon, NH, United States

Exhibition Hall Wednesday 13:30-15:30 Computer 47

13:30 3488. Quantitative Measurement of Brain Deformation Caused by Pressure Loading of the Skull

Erik H. Clayton¹, Agus Priatna², Bradley D. Bolster, Jr.³, Phillip V. Bayly^{1,4}

¹Mechanical Engineering & Material Science, Washington University in St. Louis, St. Louis, MO, United States; ²MR R&D Collaborations, Siemens Healthcare, St. Louis, MO, United States; ³MR R&D Collaborations, Siemens Healthcare, Rochester, MN, United States; ⁴Biomedical Engineering, Washington University, St. Louis, MO, United States

14:00 3489. Whole Brain MRE with Guided Pressure Waves

Xavier Maître¹, Emeline Lamain¹, Ralph Sinkus², Bruno Louis³, Luc Darrasse¹

¹IR4M (UMR8081), Univ Paris-Sud, CNRS, Orsay, France; ²Centre de Recherches Biomedicales Bichat-Beaujon (UMR773), CRB3, Inserm, Paris, France; ³Biomecanique Cellulaire et Respiratoire (U841), IMRB, Inserm, Creteil, France

14:30 3490. Non-Contact Driver System for MR Elastography of the Breast

Jun Chen¹, Kevin J. Glaser¹, Eric G. Stinson¹, Jennifer L. Kugel¹, Richard L. Ehman¹

¹Mayo Clinic, Rochester, MN, United States

15:00 3491. Modeling Strain-Encoded (SENC) MRI for Use in Clinical Breast Imaging

Ahmed Amr Harouni¹, Nael F. Osman², Michael A. Jacobs³

¹Electrical & Computer Engineering, Johns Hopkins University, Baltimore, MD, United States; ²Department of Radiology, Johns Hopkins University, Baltimore, MD, United States; ³Department of Radiology & Oncology, Johns Hopkins University school of Medicine, Baltimore, MD, United States

Exhibition Hall Thursday 13:30-15:30 Computer 47

13:30 3492. Feasibility of Brain MR-Elastography at 1.5 T with a Novel Wave Generator: An Animal Study

Najat Salameh¹, Line Souris¹, Mathieu Sarracanie¹, Ludovic de Rochefort¹, Ralph Sinkus², Luc Darrasse¹, Xavier Maître¹

¹IR4M (UMR 8081), Université Paris-Sud 11, Orsay, France; ²Inserm U979 - CNRS (UMR 7587), Institut Langevin, Paris, France

- 14:00 3493. A Novel Cardiac Phantom to Study Murine & Human Cardiac Motion & Function using MRI**
Christakis Constantinides¹, Dimitris Nearchou¹, Christoforos Constantinou¹, Panayiotis Ktorides¹, Robert Gravet², Vasilios Tzagarakis³
¹Mechanical & Manufacturing Engineering, University of Cyprus, Nicosia, Cyprus; ²Shelley Medical Imaging Technologies, London, Ontario, Canada; ³Alpha Evresis Diagnostic Center, Nicosia, Cyprus
- 14:30 3494. Measurement of Ferret Brain Tissue Stiffness *In Vivo* using MR Elastography**
Yulin V. Chang¹, Yuan Aaron Feng¹, Erik H. Clayton¹, Philip V. Bayly¹
¹Mechanical Engineering, Washington University, St. Louis, MO, United States
- 15:00 3495. Single-Shot Cardiac MR Elastography**
Sebastian Hirsch¹, Thomas Elgeti¹, Dieter Klatt¹, Juergen Braun², Ingolf Sack¹
¹Department of Radiology, Charité - University Medicine Berlin, Berlin, Germany; ²Institute of Medical Informatics, Charité - University Medicine Berlin, Berlin, Germany

Non-Proton MRI

Exhibition Hall Monday 14:00-16:00 Computer 48

- 14:00 3496. Visualization & Quantification of Intestinal Transit & Motor Function by Real-Time Tracking of ¹⁹F Labeled Capsules in Humans**
Tobias Hahn¹, Sebastian Kozerke¹, Werner Schwizer², Michael Fried², Peter Boesiger¹, Andreas Steingoetter^{1,2}
¹Institute for Biomedical Engineering, University & ETH Zurich, Zurich, Switzerland; ²Division of Gastroenterology & Hepatology, University Hospital Zurich, Zurich, Switzerland
- 14:30 3497. *In Vivo* Gastrointestinal Transit Study using Double-Labelled Markers**
Elisa Placidi¹, Caroline L. Hoad¹, Luca Marciani², Alan C. Perkins³, P. E. Blackshaw³, Robin C. Spiller², Penny A. Gowland¹
¹SPMMRC, Nottingham, Nottinghamshire, United Kingdom; ²Nottingham Digestive Diseases Centre Biomedical Research Unit, Nottingham, United Kingdom; ³Academic Medical Physics, Nottingham, United Kingdom
- 15:00 3498. ¹⁹F-MRI: Flow Measurement of Fluorinated Gases During High Frequency Oscillatory Ventilation**
Janet Friedrich¹, Julien Rivoire¹, Maxim Terekhov¹, Laura Maria Schreiber¹
¹Section of Medical Physics, Johannes Gutenberg University Medical Center, Mainz, Germany
- 15:30 3499. Feasibility of *In Vivo* Phosphorus Imaging of Cortical Bone at 7T in Humans**
Ping-Huei Tsai¹, Alan C. Seifert¹, Alexander C. Wright¹, Hamidreza S. Rad¹, Jeremy F. Magland¹, Hee Kwon Song¹, Mary B. Leonard², Felix W. Wehrli¹
¹Laboratory for Structural NMR Imaging, Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States; ²Center for Clinical Epidemiology & Biostatistics, Children's Hospital of Philadelphia, Philadelphia, PA, United States

Exhibition Hall Tuesday 13:30-15:30 Computer 48

- 13:30 3500. Development of Dual-Tuned Knee Coil at 7T: A Feasibility Study of High-Resolution Sodium MR Imaging & T₂ Mapping in Knee Cartilage *In Vivo***
Junghwan Kim¹, Bumwoo Park¹, Alessandro Furlan¹, Chanhong Moon¹, Sung-Hong Park¹, Tiejun Zhao², Kyongtae Ty Bae¹
¹Department of Radiology, University of Pittsburgh, Pittsburgh, PA, United States; ²MR Research Support, Siemens Healthcare, Pittsburgh, PA, United States
- 14:00 3501. A Triple-Resonant Coil System for Inherently Co-Registered Proton-, Sodium- & Chloride-MRI at 9.4T**
Friedrich Wetterling¹, Saema Ansar², Laurant Tritschler², Raffi Kalayciyan¹, Stefan Kirsch¹, Marc Fatar², Stephen Meairs², Lothar R. Schad¹
¹Computer Assisted Clinical Medicine, Heidelberg University, Mannheim, Germany; ²Department of Neurology, Heidelberg University, Mannheim, Germany
- 14:30 3502. Evaluation of B₀-Inhomogeneity Correction for Triple-Quantum-Filtered Sodium MRI of the Human Brain at 4.7T**
Adrian Tsang¹, Rob Stobbe¹, Christian Beaulieu¹
¹Biomedical Engineering, University of Alberta, Edmonton, Alberta, Canada
- 15:00 3503. Rodent Glioma Chemotherapy & Sodium MRI at 21.1T**
Victor D. Schepkin¹, Fabian Calixto Bejarano¹, Thomas Morgan², Shannon Gower-Winter², Cathy W. Levenson²
¹CIMAR/MRI, NHMFL/FSU, Tallahassee, FL, United States; ²Biomedical Sciences, FSU, Tallahassee, FL, United States

Exhibition Hall Wednesday 13:30-15:30 Computer 48

- 13:30 3504. In Vivo Brain Sodium T₂* Mapping with a Multiple-Echo Flexible TPI Sequence**
Aiming Lu¹, Ian C. Atkinson¹, Keith R. Thulborn¹
¹Center for MR Research, University of Illinois, Chicago, IL, United States
- 14:00 3505. Sodium Relaxation Times in the Knee Joint In Vivo at 7T**
Guillaume Madelin¹, Alexej Jerschow², Ravinder R. Regatte¹
¹Radiology Department, New York University Medical Center, New York, NY, United States; ²Chemistry Department, New York University, New York, NY, United States
- 14:30 3506. In Vivo Breast Sodium T₁ Measurements using Inversion Recovery 3D Cones**
Joshua Kaggie¹, Danny Park², Rexford D. Newbould³, Glen R. Morrell⁴, Brian Hargreaves⁵, Ernesto Staroswiecki^{5,6}, Gary E. Gold⁵, Neal K. Bangert²
¹Physics, University of Utah, Salt Lake City, UT, United States; ²Electrical & Computer Engineering, Brigham Young University, Provo, UT, United States; ³GSK Clinical Imaging Centre, London, United Kingdom; ⁴Radiology, University of Utah, Salt Lake City, UT, United States; ⁵Radiology, Stanford, Stanford, CA, United States; ⁶Electrical Engineering, Stanford, CA, UT, United States
- 15:00 3507. Relaxation Time Measurements of ³¹P Metabolites in Human Muscle at 9.4 Tesla**
Yi Su^{1,2}, Haoyang Xing², Theodore Claiborne², Keith R. Thulborn^{2,3}, Xiaohong Joe Zhou^{2,4}
¹Department of Bioengineering, University of Illinois at Chicago, Chicago, IL, United States; ²Center for Magnetic Resonance Research, University of Illinois Medical Center, Chicago, IL, United States; ³Department of Radiology, University of Illinois Medical Center, Chicago, IL, United States; ⁴Departments of Radiology, Neurosurgery & Bioengineering, University of Illinois Medical Center, Chicago, IL, United States

Exhibition Hall Thursday 13:30-15:30 Computer 48

- 13:30 3508. Quantitative Sodium MRI with Fluid Suppression in the Knee Joint at 3T & 7T**
Guillaume Madelin¹, Gregory Chang¹, Alexej Jerschow², Ravinder R. Regatte¹
¹Radiology Department, New York University Medical Center, New York, NY, United States; ²Chemistry Department, New York University, New York, NY, United States
- 14:00 3509. High Resolution Sodium MRI on Human Brain at 7T**
Yongxian Qian¹, Tiejun Zhao², Jonathan Weimer³, Hai Zheng³, Fernando E. Boada^{1,3}
¹Radiology, University of Pittsburgh, Pittsburgh, PA, United States; ²R&D, Siemens Medical Solutions USA, Pittsburgh, PA, United States; ³Bioengineering, University of Pittsburgh, Pittsburgh, PA, United States
- 14:30 3510. Sub-Millimeter ²³Na Imaging in Human Calf Skin at 7.0T**
Peter Linz¹, Davide Santoro², Wolfgang Renz^{2,3}, Jan Ruff³, Jens Titzel⁴, Friedrich Luft⁵, Thoralf Niendorf^{2,5}
¹Department of Nephrology & Hypertension, University Clinic Erlangen-Nuernberg, Erlangen, Germany; ²Berlin Ultrahigh Field Facility, Max-Delbrueck Center for Molecular Medicine, Berlin, Germany; ³Siemens Healthcare, Erlangen, Germany; ⁴Department of Nephrology & Hypertension & Nikolaus-Fiebiger-Center for Molecular Medicine, University Clinic Erlangen-Nuernberg, Erlangen, Germany; ⁵Experimental & Clinical Research Center (ECRC), Charité Campus Buch, Humboldt-University, Berlin, Germany
- 15:00 3511. RARE Imaging of Post-Exercise Phosphocreatine Recovery - Validation & Reproducibility**
Robert L. Greenman¹, Xiaoen Wang¹, Howard A. Smithline²
¹Radiology, Beth Israel Deaconess Medical Center/Harvard Medical School, Boston, MA, United States; ²Emergency Medicine, Bay State Medical Center, Tufts University School of Medicine, Boston & Springfield, MA, United States

Hyperpolarized ¹³C I

Exhibition Hall Monday 14:00-16:00 Computer 49

- 14:00 3512. Metabolism of Hyperpolarized [1-¹³C]Pyruvate in Isolated Perfused Mouse Livers – a Comparison of Fed & Fasted States**
Benjamin M. Pullinger¹, Stephen J. Kadlecik¹, Helen Chen², Qingwei Chu², Nicholas N. Kuzma¹, Rahim R. Rizi¹
¹Radiology, University of Pennsylvania, Philadelphia, PA, United States; ²Department of Biochemistry & Biophysics, University of Pennsylvania, Philadelphia, PA, United States
- 14:30 3513. Detection of Acute Kidney Injury using Hyperpolarized [1,4-¹³C₂]fumarate**
Mikko I. Kettunen¹, Menna R. Clatworthy^{2,3}, Timothy H. Witney¹, De-En Hu¹, Brett W. C. Kennedy¹, Sarah E. Bohndiek¹, Rebecca J. Mathews^{2,3}, Ferdia A. Gallagher^{1,4}, Ken G. Smith^{2,3}, Kevin M. Brindle¹
¹Department of Biochemistry, University of Cambridge & Cancer Research UK Cambridge Research Institute, Cambridge, Cambridgeshire, United Kingdom; ²Cambridge Institute for Medical Research, Cambridge, Cambridgeshire, United Kingdom;

³Department of Medicine, University of Cambridge School of Clinical Medicine, Cambridge, Cambridgeshire, United Kingdom;
⁴Department of Radiology, Addenbrooke's Hospital, University of Cambridge, Cambridge, Cambridgeshire, United Kingdom

- 15:00 3514. **Chemical Shift Selective Imaging of Hyperpolarized ¹³C using Variable Phase Balanced Steady-State Free Precession**
 Aaron Keith Grant¹, Elena Vinogradov¹, Xiaoen Wang¹, Hao Wang¹, Pankaj K. Seth², Vikas P. Sukhatme², David C. Alsop¹, Robert E. Lenkinski¹
¹Radiology, Beth Israel Deaconess Medical Center & Harvard Medical School, Boston, MA, United States; ²Medicine, Beth Israel Deaconess Medical Center & Harvard Medical School, Boston, MA, United States

- 15:30 3515. **Super Stimulated-Echo Preparation for Hyperpolarized ¹³C Metabolic Imaging**
 Peder Eric Zufall Larson¹, Adam B. Kerr², Ralph E. Hurd³, John Kurhanewicz¹, John M. Pauly², Daniel B. Vigneron¹
¹Radiology & Biomedical Imaging, UC - San Francisco, San Francisco, CA, United States; ²Electrical Engineering, Stanford University, Stanford, CA, United States; ³Applied Science Laboratory, GE Healthcare, Menlo Park, CA, United States

Exhibition Hall Tuesday 13:30-15:30 Computer 49

- 13:30 3516. **Transient Decrease in Tumor PO₂ by ¹³C-Pyruvate Injection**
 Keita Saito¹, Shingo Matsumoto¹, Nallathamby Devasahayam¹, Sankaran Subramanian¹, Jeeva P. Munasinghe², Jan Henrik Ardenkjaer-Larsen³, Herman Douglas Morris², Martin J. Lizak², James B. Mitchell¹, Murali C. Krishna¹
¹National Cancer Institute, Bethesda, MD, United States; ²National Institute of Neurological Disorder & Stroke; ³GE Healthcare

- 14:00 3517. **Metabolic Kinetics of a Glioma Model using Hyperpolarized ¹³C Magnetic Resonance Spectroscopic Imaging**
 Jae Mo Park^{1,2}, Sonal Josan^{2,3}, Taichang Jang⁴, Milton Merchant⁴, Yi-Fen Yen⁵, Ralph Hurd⁵, Lawrence Recht⁷, Daniel Spielman^{1,2}, Dirk Mayer^{2,3}
¹Department of Electrical Engineering, Stanford University, Stanford, CA, United States; ²Department of Radiology, Stanford University, Stanford, CA, United States; ³SRI International, Menlo Park, CA, United States; ⁴Department of Neurology & Neurological Sciences, Stanford University, Stanford, CA, United States; ⁵Global Applied Science Laboratory, GE Healthcare, Menlo Park, CA, United States

- 14:30 3518. **Construction & Use of a Cryostat for Hyperpolarization Based on a 15 Cm, 4.6T Magnet**
 Lloyd Lumata¹, Richard Martin¹, Ashish Jindal², Zoltan Kovacs¹, Craig Malloy¹, A. Dean Sherry¹, Mark Conradi³, Matthew E. Merritt¹
¹AIRC, UTSW Medical Center, Dallas, TX, United States; ²UTSW Medical Center, United States; ³Physics, Washington University in St. Louis, St. Louis, MO, United States

- 15:00 3519. **Fast Volumetric Imaging of Ethanol Metabolism in Rat with Hyperpolarized [1-¹³C]-Pyruvate**
 Sonal Josan^{1,2}, Daniel Spielman², Yi-Fen Yen³, Ralph Hurd³, Adolf Pfefferbaum^{1,4}, Dirk Mayer^{1,2}
¹SRI International, Menlo Park, CA, United States; ²Radiology, Stanford University, Stanford, CA, United States; ³GE Healthcare Applied Science Laboratory, Menlo Park, CA, United States; ⁴Psychiatry and Behavioral Sciences, Stanford University, Stanford, CA, United States

Exhibition Hall Wednesday 13:30-15:30 Computer 49

- 13:30 3520. **Simultaneous Bloch-Siegert B₁ Mapping & Imaging of Hyperpolarized Pyruvate, Bicarbonate, & Lactate, in a Single Tracer Bolus**
 Angus Zoen Lau^{1,2}, Albert P. Chen³, Charles H. Cunningham^{1,2}
¹Medical Biophysics, University of Toronto, Toronto, ON, Canada; ²Imaging Research, Sunnybrook Health Sciences Centre, Toronto, ON, Canada; ³GE Healthcare, Toronto, ON, Canada

- 14:00 3521. **Investigating the Role of PDH Inhibition on the Development of Hypertrophy in the Hyperthyroid Rat Heart**
 Helen J. Atherton^{1,2}, Michael S. Dodd¹, Lisa C. Heather¹, Marie A. Schroeder¹, Julian L. Griffin², George K. Radda¹, Kieran Clarke¹, Damian J. Tyler¹
¹Department of Physiology, Anatomy & Genetics, University of Oxford, Oxford, United Kingdom; ²Department of Biochemistry, University of Cambridge, Cambridge, United Kingdom

- 14:30 3522. **Method for Robust PH Measurement using Hyperpolarized Bicarbonate & Carbon Dioxide**
 Albert P. Chen¹, Ralph E. Hurd², Marie A. Schroeder^{3,4}, Angus Z. Lau^{4,5}, Yi-Ping Gu⁴, Wilfred W. Lam⁴, Charles H. Cunningham^{4,5}
¹GE Healthcare, Toronto, ON, Canada; ²GE Healthcare, Menlo Park, CA, United States; ³Department of Physiology, Anatomy & Genetics, University of Oxford, Oxford, United Kingdom; ⁴Imaging Research, Sunnybrook Health Sciences Centre, Toronto, ON, Canada; ⁵Department of Medical Biophysics, University of Toronto, Toronto, ON, Canada

- 15:00 3523. **Spectroscopic Imaging of Cerebral Metabolism using Hyperpolarized [1-¹³C]Pyruvate & Multi-Echo Single-Shot RARE Sequence**

Peter Otto Magnusson¹, Sadia Asghar Butt¹, Mette Hauge Lauritzen¹, Jan Henrik Ardenkjær-Larsen², Per Åkesson¹, Lise Vejby Sjøgaard¹

¹Danish Research Centre for Magnetic Resonance, Copenhagen University Hospital Hvidovre, Hvidovre, Denmark; ²GE Healthcare, Hillerød, Denmark

Exhibition Hall Thursday 13:30-15:30 Computer 49

- 13:30 3524. Autophagy Induced by DCA Treatment, PI3K Inhibition or Starvation Results in Reduced Pyruvate to Lactate Exchange Observed by DNP ¹³C-MRS.**
Yuen-Li Chung¹, Gigin Lin¹, Helen Troy¹, Anne-Christine Wong Te Fong¹, L. E. Jackson¹, Deborah K. Hill¹, Matthew Orton¹, Dow-Mu Koh¹, Simon P. Robinson¹, Ian R. Judson², John R. Griffiths³, Martin O. Leach¹, Thomas R. Eykyn¹
¹CR-UK & EPSRC Cancer Imaging Centre, Institute of Cancer Research & Royal Marsden Hospital, Sutton, Surrey, United Kingdom; ²CR-UK Centre for Cancer Therapeutics, Institute of Cancer Research & Royal Marsden Hospital, Sutton, Surrey, United Kingdom; ³Li Ka Shing Centre, CR-UK Cambridge Research Institute, Cambridge, United Kingdom
- 14:00 3525. Investigating Tumor Perfusion & Metabolism using Multiple Hyperpolarized ¹³C Compounds: HP001, Urea, & Pyruvate**
Cornelius von Morze¹, Peder E. Larson¹, Simon Hu¹, Robert Bok¹, Hikari Yoshihara¹, Andrei Goga², Jan Henrik Ardenkjær-Larsen³, Daniel B. Vigneron¹
¹Department of Radiology & Biomedical Imaging, UCSF, San Francisco, CA, United States; ²Department of Medicine, Division of Hematology / Oncology, UCSF, San Francisco, CA, United States; ³GE Healthcare, Hillerød, Denmark
- 14:30 3526. Arterial Input Function by DNP Measurement using an Automated Injector Designed for a 7T Unshielded Magnet**
Steven Reynolds¹, Samira Kazan², Leigh Williams², Aneurin Kennerley³, Jason Berwick³, Gillian Tozer², Martyn Paley¹
¹Academic unit of Radiology, Medical School, University of Sheffield, Sheffield, S. Yorkshire, United Kingdom; ²Department of Oncology, Medical School, University of Sheffield, Sheffield, S. Yorkshire, United Kingdom; ³Department of Psychology, University of Sheffield, Sheffield, S. Yorkshire, United Kingdom
- 15:00 3527. Efficient Preparation of Hyperpolarized Aqueous Succinate from the Para-Hydrogenation & Hydrolysis of Maleic Anhydride**
Francesca Reineri¹, Alessandra Viale¹, Silvano Ellena¹, Tommaso Boi¹, Roberto Gobetto¹, Silvio Aime¹
¹University of Torino, Torino, IT, Italy

Hyperpolarized ¹³C II

Exhibition Hall Monday 14:00-16:00 Computer 50

- 14:00 3528. Effects of RF Excitation Scheme on Signal-To-Noise-Ratio & Apparent Rate Constant Estimation in Dynamic Volumetric Imaging of Hyperpolarized [1-¹³C]-Pyruvate**
Sonal Josan^{1,2}, Ralph Hurd³, Adam B. Kerr⁴, Yi-Fen Yen³, Peder E. Z. Larson⁵, Adolf Pfefferbaum^{1,6}, Daniel Spielman², Dirk Mayer^{1,2}
¹SRI International, Menlo Park, CA, United States; ²Radiology, Stanford University, Stanford, CA, United States; ³GE Healthcare Applied Science Laboratory, Menlo Park, CA, United States; ⁴Electrical Engineering, Stanford University, Stanford, CA, United States; ⁵Dept of Radiology & Biomedical Imaging, UC-San Francisco, San Francisco, CA, United States; ⁶Psychiatry & Behavioral Sciences, Stanford University, Stanford, CA, United States
- 14:30 3529. Dynamic Imaging of Hyperpolarized [2-¹³C] Pyruvate & [5-¹³C] Glutamate in the Heart**
Angus Zoen Lau^{1,2}, Albert P. Chen³, Marie A. Schroeder⁴, Jennifer Barry², Charles H. Cunningham^{1,2}
¹Medical Biophysics, University of Toronto, Toronto, ON, Canada; ²Imaging Research, Sunnybrook Health Sciences Centre, Toronto, ON, Canada; ³GE Healthcare, Toronto, ON, Canada; ⁴Department of Physiology, Anatomy & Genetics, University of Oxford, Oxford, United Kingdom
- 15:00 3530. Localized *In Vivo* Hyperpolarization Transfer Experiments**
Mor Mishkovsky^{1,2}, Tian Cheng¹, Rolf Gruetter^{1,3}, Arnaud Comment^{1,2}
¹Laboratory for Functional & Metabolic Imaging, Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland; ²Department of Radiology, Université de Lausanne, Lausanne, Switzerland; ³Department of Radiology, Universités de Lausanne et de Genève, Lausanne & Genève, Switzerland
- 15:30 3531. Single-Shot, Frequency & Time Specific, 3D Imaging Method for Measuring Hyperpolarized ¹³C Biomarkers *In-Vivo* at 4.1 Tesla**
Subramaniam Sukumar¹, Kayvan R. Keshari¹, Robert Bok¹, Vickie Zhang¹, Andrew Taylor¹, Michael A. Ohliger¹, Hikari Yoshihara¹, John Kurhanewicz¹, Daniel B. Vigneron¹
¹Radiology & Biomedical Imaging, UCSF, San Francisco, CA, United States

Exhibition Hall Tuesday 13:30-15:30 Computer 50

- 13:30 3532. Free-Breathing Cardiac & Respiratory-Gated Imaging of Hyperpolarized Pyruvate & Bicarbonate in the Heart**
Angus Zoen Lau^{1,2}, Albert P. Chen³, Marie A. Schroeder^{2,4}, Wilfred W. Lam², Yiping Gu², Jennifer Barry², Charles H. Cunningham^{1,2}
¹Medical Biophysics, University of Toronto, Toronto, ON, Canada; ²Imaging Research, Sunnybrook Health Sciences Centre, Toronto, ON, Canada; ³GE Healthcare, Toronto, ON, Canada; ⁴Department of Physiology, Anatomy & Genetics, University of Oxford, Oxford, United Kingdom
- 14:00 3533. Improving Estimation of Intracellular Hyperpolarized 1-¹³C-Pyruvate Kinetics by Co-Injection of Gadolinium Contrast Agent**
Matthew Smith¹, Eric Peterson², Jeremy Gordon¹, Kang Wang¹, Ian Rowland³, Sean Fain^{1,3}
¹Medical Physics, University of Wisconsin, Madison, WI, United States; ²Biomedical Engineering, University of Wisconsin, Madison, WI, United States; ³Radiology, University of Wisconsin, Madison, WI, United States
- 14:30 3534. Hyperpolarized Water for Interventional Angiography**
Jan Henrik Ardenkjaer-Larsen¹, Christoffer Laustsen², Benjamin Pullinger³, Stephen Kadlecsek³, Kiarash Emami³, Rahim Rizi³
¹GE Healthcare, Broendby, Denmark; ²DRCMR, Hvidovre, Denmark; ³University of Pennsylvania, United States
- 15:00 3535. Interrogating Tricarboxylic Acid Cycle: A Comparative Study by Hyperpolarized Succinic Acid & Its Diethylester**
Pratip Bhattacharya¹, Niki Zacharias¹, Henry Chan¹, Napapon Sailasuta¹, Larry W. Robertson¹, Alan Epstein², Brian D. Ross¹
¹Enhanced MR Laboratory, Huntington Medical Research Institutes, Pasadena, CA, United States; ²Pathology, University of Southern California, Los Angeles, CA, United States

Exhibition Hall Wednesday 13:30-15:30 Computer 50

- 13:30 3536. Study of Acetyl Carnitine Kinetics in Skeletal Muscle *In Vivo* using Hyperpolarized 1-¹³C Acetate**
Jessica A. M. Bastiaansen¹, Tian Cheng¹, Mor Mishkovsky^{1,2}, Arnaud Comment^{1,2}, Rolf Gruetter^{1,3}
¹Laboratory of Functional & Metabolic Imaging, Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland; ²Department of Radiology, Université de Lausanne, Lausanne, Switzerland; ³Department of Radiology, Université de Lausanne et Genève, Lausanne & Geneva, Switzerland
- 14:00 3537. Spectral-Spatial EPI Sequence with Frequency Correction for Dynamic 3D Imaging of Pre-Polarized ¹³C Metabolites**
Charles H. Cunningham^{1,2}, Ralph E. Hurd³, Albert P. Chen⁴
¹Imaging Research, Sunnybrook Health Sciences Centre, Toronto, ON, Canada; ²Medical Biophysics, University of Toronto, Toronto, ON, Canada; ³GE Healthcare, Menlo Park, CA, United States; ⁴GE Healthcare, Toronto, ON, Canada
- 14:30 3538. Producing >60,000-Fold Room-Temperature ⁸⁹Y NMR Signal Enhancement**
Lloyd Laporca Lumata¹, Ashish Jindal¹, Matthew Merritt¹, Craig Malloy¹, Allan Dean Sherry^{1,2}, Zoltan Kovacs¹
¹Advanced Imaging Research Center, University of Texas Southwestern Medical Center, Dallas, TX, United States; ²Department of Chemistry, University of Texas at Dallas, Richardson, TX, United States
- 15:00 3539. *In Vivo* Assessment of Metabolism in the Hypertensive Rat Heart using Hyperpolarized [1-¹³C] & [2-¹³C]pyruvate**
Michael Samuel Dodd^{1,2}, Daniel Ball¹, Marie A. Schroeder¹, Helen J. Atherton¹, Lydia Le Page¹, George K. Radda¹, Housman Ashrafiyan², Hugh Watkins², Kieran Clarke¹, Damian J. Tyler¹
¹Physiology, Anatomy & Genetics, Oxford University, Oxford, United Kingdom; ²Cardiovascular Medicine, Oxford University, Oxford, United Kingdom

Exhibition Hall Thursday 13:30-15:30 Computer 50

- 13:30 3540. *In Vivo* Localized ¹⁵N MRS Detection of Hyperpolarized ¹⁵N Labeled Choline in the Rat Brain**
Cristina Cudalbu¹, Arnaud Comment², Tian Cheng², Mor Mishkovsky², Rolf Gruetter^{2,3}
¹Laboratory for Functional & Metabolic Imaging (LIFMET), Ecole Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland; ²Laboratory for Functional & Metabolic Imaging (LIFMET), Ecole Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland; ³Departments of Radiology, Universities of Lausanne & Geneva, Geneva, Switzerland
- 14:00 3541. Evaluation of Heterogeneous Metabolic Profile in an Orthotopic Human Glioblastoma Xenograft Model using 3D Compressed Sensing Hyperpolarized ¹³C MRSI**
Ilwoo Park¹, Simon Hu¹, Robert Bok¹, Peter Shin¹, Tomoko Ozawa², C. David James², Sabrina M. Ronen¹, Daniel B. Vigneron^{1,3}, Sarah J. Nelson^{1,3}

¹Surbeck Laboratory of Advanced Imaging, Department of Radiology & Biomedical Imaging, University of California, San Francisco, San Francisco, CA, United States; ²Brain Tumor Research Center, Department of Neurological Surgery, University of California, San Francisco, San Francisco, CA, United States; ³Department of Bioengineering & Therapeutic Sciences, University of California, San Francisco, San Francisco, CA, United States

- 14:30 3542. Exchange Dynamics of a Cryptophane-Based Xenon Molecular Sensor**
Richard Matthew Ramirez^{1,2}, Todd K. Stevens^{1,2}, Monica A. Smith^{3,4}, David E. Wemmer^{1,4}, Alexander Pines^{1,2}
¹Department of Chemistry, University of California, Berkeley, Berkeley, CA, United States; ²Materials Science Division, Lawrence Berkeley National Laboratory, Berkeley, CA, United States; ³Biophysics Graduate Group, University of California, Berkeley, United States; ⁴Physical Biosciences Division, Lawrence Berkeley National Laboratory, Berkeley, CA, United States
- 15:00 3543. Detection of Glutaminase Activity *In Vivo* in a MYC Mouse Model of Liver Cancer using Hyperpolarized [5-¹³C]Glutamine**
Simon Hu¹, Hikari Yoshihara¹, Robert Bok¹, Asha Balakrishnan², Andrei Goga², John Kurhanewicz¹, Daniel B. Vigneron¹
¹Dept. of Radiology & Biomedical Imaging, University of California at San Francisco, San Francisco, CA, United States; ²Dept. of Medicine, Division of Hematology/Oncology, University of California at San Francisco, San Francisco, CA, United States

fMRI & Functional Connectivity Analysis

Exhibition Hall Monday 14:00-16:00 Computer 51

- 14:00 3544. Inter-Subject Correlations Between Resting-State Spontaneous Fluctuations & Fractional Volume of Gray Matter**
Qihong Zou^{1,2}, Wanyong Shin^{1,3}, Hong Gu¹, Xiujuan Geng¹, Wang Zhan⁴, Yufeng Zang², Yihong Yang¹
¹Neuroimaging Research Branch, National Institute on Drug Abuse, National Institutes of Health, Baltimore, MD, United States; ²State Key Laboratory of Cognitive Neuroscience & Learning, Beijing Normal University, Beijing, China, People's Republic of; ³Imaging Institute, Cleveland Clinic, Cleveland, OH, United States; ⁴Center of Imaging for Neurodegenerative Diseases, University of California San Francisco, San Francisco, CA, United States
- 14:30 3545. Quantitative BOLD using a Diffusive Model**
John David Dickson¹, Dmitriy a Yablonskiy², Alex L. Sukstanski², Tom W. J. Ash³, Guy B. Williams³, Richard E. Ansorge¹
¹Department of Physics, Cambridge University, Cambridge, Cambridgeshire, United Kingdom; ²Mallinckrodt Institute of Radiology, University of Washington in St Louis, St Louis, MO, United States; ³Wolfson Brain Imaging Centre, Cambridge University, United Kingdom
- 15:00 3546. Voxel-Wise fMRI Group Analysis using Fractional Volume of Gray Matter as a Covariant**
Wanyong Shin¹, Hong Gu², Qihong Zou², Thomas Ross², Yihong Yang²
¹Radiology, Imaging Institute, Cleveland Clinic, Cleveland, OH, United States; ²National Institute on Drug Abuse, Baltimore, MD, United States
- 15:30 3547. Characterization of Spatial Variation of BOLD-Associated Neuronal Activity in fMRI**
Yu Li¹, Hu Cheng²
¹Radiology, Cincinnati Children's Hospital Medical Center, Cincinnati, OH, United States; ²Psychological & Brain Sciences, Indiana University at Bloomington, Bloomington, IN, United States

Exhibition Hall Tuesday 13:30-15:30 Computer 51

- 13:30 3548. A Support Vector Machine Based Real-Time fMRI Communication Channel**
Tom Ash¹, Adrian Carpenter¹, Guy Williams¹
¹Wolfson Brain Imaging Centre, University of Cambridge, Cambridge, United Kingdom
- 14:00 3549. Combination of SVM & ROI Approaches for Real-Time fMRI Neurofeedback**
Vadim Zotev¹, Raquel Phillips¹, Ruben Alvarez¹, W. Kyle Simmons¹, Pat Bellgowan¹, Wayne Drevets¹, Jerzy Bodurka¹
¹Laureate Institute for Brain Research, Tulsa, OK, United States
- 14:30 3550. Online Learning for Real Time fMRI Classification**
Hao Xu¹, Yongxin Taylor Xi¹, Ray Lee², Peter J. Ramadge¹
¹Electrical Engineering, Princeton University, Princeton, NJ, United States; ²Princeton Neuroscience Institute, Princeton University, Princeton, NJ, United States
- 15:00 3551. Real-Time BOLD Functional MRI Neuro-Feedback: Connectivity Changes Observed in an Imagery Task**
Silvina G. Horowitz¹, Brian D. Berman^{1,2}, Mark Hallett¹
¹HMCS, NINDS - NIH, Bethesda, MD, United States; ²Neurology, School of Medicine University of Colorado Denver, Aurora, CO, United States

Exhibition Hall Wednesday 13:30-15:30 Computer 51

- 13:30 3552. Connectivity Analysis Through Structural Vector Auto-Regressive (SVAR) Modeling**
Gang Chen¹, Ziad S. Saad¹, J. Paul Hamilton², Ian H. Gotlib², Robert W. Cox¹
¹SSCC/DIRP/NIMH, National Institutes of Health, Bethesda, MD, United States; ²Mood & Anxiety Disorders Laboratory, Department of Psychology, Stanford University, Stanford, CA, United States
- 14:00 3553. A Combined Dynamic Causal Modeling & Functional MRI Study to Assess Visuospatial Symmetry Judgment in Healthy Subjects**
Manisha Bhattacharya¹, Shilpi Modi¹, Memita Devi¹, Namita Singh Saini¹, Rajendra Prasad Tripathi¹, Subash Khushu¹
¹NMR Research Centre, INMAS, Delhi, India
- 14:30 3554. Conditional Granger Causality Analysis of fMRI Data Shows a Direct Connection from LGN to HMT+ Bypassing V₁**
Anna Gaglianese¹, Mauro Costagli², Giulio Bernardi¹, Lorenzo Sani¹, Emiliano Ricciardi¹, Pietro Pietrini¹
¹Laboratory of Clinical Biochemistry & Molecular Biology, Pisa, Italy, Italy; ²Laboratory for Cognitive Brain Mapping, RIKEN - Brain Science Institute, Wako, Japan
- 15:00 3555. Stimulus Entrained Dynamic Effective Connectivity Analysis of fMRI**
Gopikrishna Deshpande¹, Simon Lacey², Henrik Hagtvædt³, Venessa Patrick⁴, Amy Anderson², Randall Stilla², João Ricardo Sato⁵, Srinivas Reddy⁶, K. Sathian², Xiaoping Hu⁷
¹AU MRI Research Center, Department of Electrical & Computer Engineering, Auburn University, Auburn, AL, United States; ²Department of Neurology, Emory University, Atlanta, GA, United States; ³Carroll School of Management, Boston College, Chestnut Hill, MA, United States; ⁴C. T. Bauer College of Business, University of Houston, Houston, TX, United States; ⁵Center of Mathematics, Computation & Cognition, Universidade Federal do ABC, Santo André, Brazil; ⁶Centre for Marketing Excellence, Singapore Management University, Singapore; ⁷Coulter Department of Biomedical Engineering, Georgia Institute of Technology & Emory University, Atlanta, GA, United States

Exhibition Hall Thursday 13:30-15:30 Computer 51

- 13:30 3556. A Correlation-Matrix-Based Clustering Method for Extracting Correlation Patterns of Spontaneous BOLD Fluctuations**
Xiao Liu^{1,2}, Xiao-Hong Zhu¹, Yi Zhang¹, Peihua Qiu², Wei Chen¹
¹CMRR, Radiology, University of Minnesota, Minneapolis, MN, United States; ²Statistics, University of Minnesota, Minneapolis, MN, United States
- 14:00 3557. Eigenvector Centrality Mapping Based on Low-Frequency Phase Alignment**
Gabriele Lohmann¹, Maren Grigutsch¹, Daniel Margulies¹, Annette Horstmann¹, Burkhard Pleger¹, Joeran Lepsien¹, Dirk Goldhahn¹, Haiko Schloegl², Michael Stumvoll², Arno Villringer¹, Robert Turner¹
¹Max Planck Institute for Human Cognitive & Brain Sciences, Leipzig, Germany; ²Department of medicine, University of Leipzig, Leipzig, Germany
- 14:30 3558. BBICA Analysis of Functional & Structural Networks**
Alex Kenneth Smith¹, David J. Madden¹, Pooja Gaur¹, Nan-Kuei Chen¹
¹Brain Imaging & Analysis Center, Duke University, Durham, NC, United States
- 15:00 3559. Atlas-Based Analysis of Resting State Functional Connectivity MRI**
Andreia Vasconcellos Faria^{1,2}, Suresh Joel^{1,3}, Xiaoying Tang⁴, Peter vanZijl^{1,3}, Michael Miller⁴, James Pekar^{1,3}, Susumu Mori¹
¹Radiology, Johns Hopkins University, Baltimore, MD, United States; ²Radiology, State University of Campinas, Campinas, SP, Brazil; ³FM Kirby Research Center for Functional Brain Imaging, Kennedy Krieger Institute, Baltimore, MD, United States; ⁴Biomedical Engineering, Johns Hopkins University, Baltimore, MD, United States

Function Connectivity: Physiology & Application

Exhibition Hall Monday 14:00-16:00 Computer 52

- 14:00 3560. Spontaneous fMRI Activity Reflects a Dynamic Image of Brain State**
Marta Bianciardi¹, Masaki Fukunaga¹, Jacco A. de Zwart¹, Jeff H. Duyn¹
¹Advanced MRI Section, LFMI, NINDS, National Institutes of Health, Bethesda, MD, United States

- 14:30 3561. The Association between Pulse Wave Velocity, as a Marker of Sympathetic Tone, & Resting State BOLD Signals**
Kevin Murphy¹, James Coulson^{1,2}, Ashley D. Harris¹, Marija Fjodorova¹, Richard G. Wise¹
¹CUBRIC, School of Psychology, Cardiff University, Cardiff, Wales, United Kingdom; ²Wales Heart Research Institute, Cardiff University, Cardiff, Wales, United Kingdom
- 15:00 3562. Investigating the Neural Basis of fMRI**
Matthew Jon Brookes¹, Joanne Hale², Claire Stevenson², Johanna Zumer², Gareth Barnes³, Julia Owen⁴, Susan Francis², Srikantan Nagarajan⁴, Peter Morris²
¹Sir Peter Mansfield Magnetic Resonance Centre, University of Nottingham, Nottingham, United Kingdom; ²Sir Peter Mansfield Magnetic Resonance Centre, University of Nottingham, Nottingham, United Kingdom; ³Wellcome Trust Centre for Neuroimaging, University College London, London, United Kingdom; ⁴Biomagnetic Imaging Laboratory, University of California San Francisco, San Francisco, CA, United States
- 15:30 3563. T₂* Modulation of Functional Connectivity using a Multi-Echo Strategy**
Changwei W. Wu¹, Hong Gu¹, Qihong Zou¹, Hanbing Lu¹, Elliot a Stein¹, Yihong Yang¹
¹Neuroimaging Research Branch, National Institute on Drug Abuse, Baltimore, MD, United States

Exhibition Hall Tuesday 13:30-15:30 Computer 52

- 13:30 3564. Caffeine Tightens the Coupling between Resting-State Blood Flow & Metabolic Fluctuations**
Anna Leigh Rack-Gomer¹, Tom T. Liu¹
¹Bioengineering & Center for Functional MRI, UC San Diego, La Jolla, CA, United States
- 14:00 3565. Resting-State Functional Connectivity Modification by Non-Invasive Electrical Stimulation of the Brain**
Steven Roys¹, Gadi Alon², George Makris, Rao Gullapalli¹
¹University of Maryland, School of Medicine, Baltimore, MD, United States; ²Physical Therapy, University of Maryland, School of Medicine
- 14:30 3566. The Relation between Drug-Induced Effects on Resting State Brain Connectivity & Cerebral Blood Flow**
Najmeh Khalili-Mahani^{1,2}, Mathias J. P. Van Osch¹, Serge A. R. B. Rombouts^{1,2}
¹Radiology, Leiden University Medical Center, Leiden, Netherlands; ²Leiden Institute for Brain & Cognition, Institute of Psychology, Leiden, Netherlands
- 15:00 3567. Influence of Sevoflurane on Regional CBF & Functional Connectivity & Implications Related to Brain/Behavior During General Anesthesia**
Maolin Qiu¹, Ramachandran Raman², Roberto Martuzzi¹, Xiaohui Zhang¹, R. Todd Constable^{1,3}
¹Diagnostic Radiology, Yale University School of Medicine, New Haven, CT, United States; ²Anesthesia, Yale University School of Medicine, New Haven, CT, United States; ³Biomedical Engineering, Neurosurgery, Yale University School of Medicine, New Haven, CT, United States

Exhibition Hall Wednesday 13:30-15:30 Computer 52

- 13:30 3568. Functional Networks in the Macaque Brain Revealed by Independent Component Analysis of Resting-State fMRI**
R. Matthew Hutchison¹, L. Stan Leung¹, Seyed M. Mirsattari¹, Joseph S. Gati², Ravi S. Menon², Stefan Everling²
¹University of Western Ontario, London, Ontario, Canada; ²Robarts Research Institute, London, Ontario, Canada
- 14:00 3569. Gender Differences in Brain Structure & Resting State Activity: A Study in a Large Cohort of Young Healthy Subjects**
Paola Valsasina¹, Maria Assunta Rocca¹, Gianna Riccitelli¹, Andrea Falini², Giancarlo Comi³, Massimo Filippi¹
¹Neuroimaging Research Unit, Institute of Experimental Neurology, Division of Neuroscience, San Raffaele Hospital, Milan, Italy; ²Department of Neuroradiology, San Raffaele Hospital, Milan, Italy; ³Department of Neurology, San Raffaele Hospital, Milan, Italy
- 14:30 3570. Intrinsic Resting State Functional Connectivity of Default Mode Network Predicts Attention Task Performance**
Pan Lin¹, Nicola De Pisapia¹, Jorge Jovicich^{1,2}
¹Center for Mind Brain Sciences, University of Trento, Mattarello, Trento, Italy; ²Department of Cognitive & Education Sciences, University of Trento, Rovereto, Trento, Italy
- 15:00 3571. Applying Resting-State Functional MRI to Study Impact of Attention Training on Healthy Highly Educated Subjects**
Bob L. Hou¹, Alison Smith², Jason Chong², Julie Brefczynski-Lewis¹, Marc Haut²
¹Radiology, West Virginia University, Morgantown, WV, United States; ²Behavioral Medicine & Psychiatry, West Virginia University, Morgantown, WV, United States

Exhibition Hall Thursday 13:30-15:30 Computer 52

- 13:30 3572. Wavelet Analysis of the Small-World Human Brain Functional Network in Adolescents Prenatally Exposed to Cocaine**
Lei Jiang¹, Zhihao Li¹, Claire Coles², Mary Lynch², Xiaoping Hu¹
¹Department of Biomedical Engineering, Emory University and Georgia Institute of Technology, Atlanta, GA, United States; ²Department of Psychiatry & Behavioral Sciences, Emory University School of Medicine, Atlanta, GA, United States
- 14:00 3573. Resting-State fMRI Multi-Spectral Connectivity Networks for Classification of Mild Cognitive Impairment Patients**
Chong-Yaw Wee¹, Pew-Thian Yap¹, Kevin Denny², Lihong Wang², Dinggang Shen¹
¹Radiology, University of North Carolina, Chapel Hill, NC, United States; ²Brain Imaging & Analysis Center, Duke University Medical Center, Durham, NC, United States
- 14:30 3574. Resting State Network Abnormalities in Amyotrophic Lateral Sclerosis Mirror Those of Frontotemporal Dementia**
Elisa Canu¹, Federica Agosta¹, Paola Valsasina¹, Nilo Riva², Alessandro Prella³, Giulia Longoni¹, Giancarlo Comi², Massimo Filippi¹
¹Neuroimaging Research Unit, Institute of Experimental Neurology, Division of Neuroscience, Scientific Institute & University Hospital San Raffaele, Milan, Italy; ²Department of Neurology, Scientific Institute & University Hospital San Raffaele, Milan, Italy; ³Ospedale Fatebenefratelli e Oftalmico, Milan, Italy
- 15:00 3575. Changes in Thalamus Connectivity in Mild Cognitive Impairment: Evidence from Resting State fMRI**
Zhiqun Wang¹, Xiuqin Jia¹, Peipeng Liang¹, Kuncheng Li¹
¹Radiology Department, Xuanwu Hospital of Capital Medical University, Beijing, China, People's Republic of

fMRI: High Temporal & Spatial Resolution

Exhibition Hall Monday 14:00-16:00 Computer 53

- 14:00 3576. Echo-Shifted Multi-Slice EPI Compared with GE-EPI in Median Nerve Stimulation at 7T**
Gerda Bjork Grimsdottir¹, Natalia Petridou^{1,2}, Richard Bowtell¹
¹Sir Peter Mansfield MR Centre, Physics & Astronomy, the University of Nottingham, Nottingham, Nottinghamshire, United Kingdom; ²UMC, Utrecht, Netherlands
- 14:30 3577. Slice-Direction SENSE: A Sensitive Acquisition Method for Detecting Neuronal Current MRI Signal Induced by Epilepsy**
Qingfei Luo¹, Gary H. Glover¹
¹Department of Radiology, Stanford University, Stanford, CA, United States
- 15:00 3578. GRASE Functional MRI with Asymmetric Spin-Echo**
Lirong Yan¹, Robert P. Spunt², Emily Kilroy¹, Matthias Gunther³, Matthew D. Lieberman², Danny J. J. Wang¹
¹Department of Neurology, University of California Los Angeles, Los Angeles, CA, United States; ²Department of Psychology, University of California Los Angeles, Los Angeles, CA, United States; ³Fraunhofer MEVIS-Institute for Medical Image Computing, Bremen, Germany
- 15:30 3579. Quantitative Evaluation of RSN Functional Contrast in Low-TR fMRI**
Stephen Smith¹, Karla Miller¹, Christian Beckmann^{1,2}, Steen Moeller³, Kamil Ugurbil³, Essa Yacoub³, David Feinberg^{4,5}
¹FMRIB, Oxford University, Oxford, Oxon, United Kingdom; ²Donders Institute, Radboud University, Nijmegen, Netherlands; ³Center for Magnetic Resonance Research, University of Minnesota Medical School, MN, United States; ⁴Advanced MRI Technologies, Sebastopol, CA, United States; ⁵Helen Wills Institute for Neuroscience, UC Berkeley, CA, United States

Exhibition Hall Tuesday 13:30-15:30 Computer 53

- 13:30 3580. Event-Related Functional MRI at High Spatial & Temporal Resolution using UNFOLD**
Sebastian Domsch¹, Patrick Heiler¹, Lothar Rudi Schad¹
¹Computer Assisted Clinical Medicine, Heidelberg University, Mannheim, Germany
- 14:00 3581. Imaging Cognitive Latencies with Ultrafast 7T fMRI**
Allen T. Newton¹, Jascha D. Swisher², John C. Gore^{1,3}
¹Radiology & Radiological Sciences, Vanderbilt University, Nashville, TN, United States; ²Department of Psychology, Vanderbilt University, Nashville, TN, United States; ³Biomedical Engineering, Vanderbilt University, Nashville, TN, United States

- 14:30 3582. The Limit of Relative Timing Accuracy of BOLD fMRI in Human Visual Cortex**
Fa-Hsuan Lin^{1,2}, Jonathan R. Polimeni², Kevin Wen-Kai Tsai¹, Thomas Witzel², Wei-Tang Chang¹, Wen-Jui Kuo³, John W. Belliveau²
¹Institute of Biomedical Engineering, National Taiwan University, Taipei, Taiwan; ²Martinos Center, Massachusetts General Hospital, Charlestown, MA, United States; ³Institute of Neuroscience, National Yang-Ming University, Taipei, Taiwan

- 15:00 3583. Whole Brain Segmented Echo-Volumar-Imaging Increases fMRI Sensitivity Compared to Multi-Slice Echo-Planar-Imaging**
Stefan Posse^{1,2}, Radu Mutihac^{1,3}, Elena Ackley⁴, Jochen Rick⁵, Akio Yoshimoto⁶, Maxim Zaitsev⁵, Oliver Speck⁷
¹Neurology, University of New Mexico, Albuquerque, NM, United States; ²Electrical & Computer Engineering, University of New Mexico, Albuquerque, NM, United States; ³Electricity & Biophysics, Faculty of Physics, University of Bucharest, Bucharest, Romania; ⁴Neurology, University of New Mexico, United States; ⁵Radiology - Medical Physics, University Medical Center Freiburg, Freiburg, Germany; ⁶Polytechnic Institute of New York University, New York, United States; ⁷Biomedical Magnetic Resonance, Otto-von-Guericke-University Magdeburg, Magdeburg, Germany

Exhibition Hall Wednesday 13:30-15:30 Computer 53

- 13:30 3584. Mapping of Midbrain Nuclei Connectivity Networks using Time-Domain Phase-REGularized Parallel (T-PREP) Reconstruction of High-Resolution fMRI**
Nan-Kuei Chen¹
¹Brain Imaging & Analysis Center, Duke University Medical Center, Durham, NC, United States

- 14:00 3585. High Resolution Functional Connectivity Mapping at 7T**
Christina Triantafyllou^{1,2}, Boris Keil², Sheeba Arnold¹, Susan Whitfield-Gabrieli¹, Lawrence L. Wald^{2,3}
¹A.A. Martinos Imaging Center, McGovern Institute for Brain Research, Massachusetts Institute of Technology, Cambridge, MA, United States; ²A.A. Martinos Center for Biomedical Imaging, Department of Radiology, Massachusetts General Hospital, Harvard Medical School, Charlestown, MA, United States; ³Harvard-MIT Division of Health Sciences & Technology, Cambridge, MA, United States

- 14:30 3586. High Resolution Functional Mapping of Primary Motor Cortex & Primary Somatosensory Cortex in Humans at 7T**
Robert Trampel¹, Andreas Schäfer¹, Robin Martin Heidemann¹, Dimo Ivanov¹, Gabriele Lohmann¹, Stefan Geyer¹, Robert Turner¹
¹Max Planck Institute for Human Cognitive & Brain Sciences, Leipzig, Germany

- 15:00 3587. High Resolution BOLD fMRI of the Human Retina of Oxygen & Carbogen Inhalation**
Yi Zhang^{1,2}, Qi Peng^{1,2}, Oscar San Emeterio Nateras², Timothy Q. Duong^{1,2}
¹Research Imaging Institute, University of Texas Health Science Center at San Antonio, San Antonio, TX, United States; ²Radiology, University of Texas Health Science Center at San Antonio, San Antonio, TX, United States

Exhibition Hall Thursday 13:30-15:30 Computer 53

- 13:30 3588. Comparison of Acceleration Techniques Applied to Multi-Shot 3D EPI for fMRI Studies**
Onur Afacan^{1,2}, Dana H. Brooks¹, W. Scott Hoge², Istvan A. Morocz²
¹ECE Dept., Northeastern University, Boston, MA, United States; ²Radiology, Brigham & Women's Hospital, Harvard Medical School, Boston, MA, United States

- 14:00 3589. Functional MRI using Super-Resolved Spatiotemporally-Encoded Imaging Techniques**
Noam Ben-Eliezer¹, Ute Goerke², Lucio Frydman¹
¹Chemical Physics, Weizmann Institute of Science, Rehovot, Israel; ²Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, MN, United States

- 14:30 3590. Multi-Banded T₂-Weighted fMRI with a Z-Encoding RF Coil Array for Whole Brain Coverage at 7T**
Johannes Ritter¹, Pierre-Francois Van De Moortele¹, Steen Moeller¹, Eddie Auerbach¹, Kamil Ugurbil¹, Gregor Adriany¹
¹CMRR, University of Minnesota, Minneapolis, MN, United States

- 15:00 3591. Highly Sparse Spiral fMRI Reconstructed with Compressed Sensing: Trajectory Optimization for BOLD Contrast**
Daniel Holland¹, Careesa Liu², Chris V. Bowen^{2,3}, Andy Sederman¹, Lynn Gladden¹, Steven D. Beyer^{2,3}
¹Department of Chemical Engineering & Biotechnology, University of Cambridge, Cambridge, United Kingdom; ²Institute for Biagnostics (Atlantic), National Research Council Canada, Halifax, Nova Scotia, Canada; ³Departments of Physics & Radiology, Dalhousie University, Halifax, Nova Scotia, Canada

fMRI Signal Contributions

Exhibition Hall Monday 14:00-16:00 Computer 54

- 14:00 3592. Dynamical Statistical Modeling of Physiological Noise for Fast BOLD fMRI**
Simo Sarkka¹, Aapo Nummenmaa^{1,2}, Arno Solin¹, Aki Vehtari¹, Thomas Witzel³, Toni Auranen⁴, Simo Vanni⁴, Matti S. Hamalainen², Fa-Hsuan Lin^{1,5}
¹Department of Biomedical Engineering & Computational Science, Aalto University, Espoo, Finland; ²Athinoula A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Charlestown, MA, United States; ³Harvard-MIT Division of Health Sciences & Technology, Harvard University, Cambridge, MA, United States; ⁴Advanced Magnetic Imaging Centre, Low Temperature Laboratory, Aalto University, Espoo, Finland; ⁵Institute of Biomedical Engineering, National Taiwan University, Taipei, Taiwan
- 14:30 3593. Improved Model for Physiological Fluctuations in fMRI**
Christina Triantafyllou^{1,2}, Boris Keil², Jonathan R. Polimeni², Lawrence L. Wald^{2,3}
¹MIT, Athinoula A. Martinos Imaging Center, McGovern Institute for Brain Research, Cambridge, MA, United States; ²A.A. Martinos Center for Biomedical Imaging, Department of Radiology, Massachusetts General Hospital, Harvard Medical School, Charlestown, MA, United States; ³Harvard-MIT Division of Health Sciences & Technology, Cambridge, MA, United States
- 15:00 3594. Sources of Signal Fluctuations in Single-Shot 2D EPI & Segmented 3D EVI Acquisitions for fMRI at 7T**
João P. F. Jorge^{1,2}, Patrícia Figueiredo^{1,2}, Wietske van Der Zwaag^{3,4}, Mayur Narsude³, José P. Marques^{3,4}
¹Instituto Superior Técnico, Lisbon, Portugal; ²Institute for Systems & Robotics, Lisbon, Portugal; ³Laboratory for Functional & Metabolic Imaging, École Polytechnique Fédérale de Lausanne, Lausanne, Switzerland; ⁴Department of Radiology, Université de Lausanne, Lausanne, Switzerland
- 15:30 3595. The Effect of Cardiac Synchronization on the Temporal Characteristics of 3D SSFP & 3D SGPR**
Rob Hendrikus Tijssen¹, Karla Loreen Miller¹
¹FMRIB Centre, Oxford University, Oxford, Oxon, United Kingdom

Exhibition Hall Tuesday 13:30-15:30 Computer 54

- 13:30 3596. Feasibility of Quantitative Measurements for Regional Cerebral Metabolic Rate of Oxygen (CMRO₂) During Functional Change with Visual Stimulus using MRI**
Audrey Peiwen Fan¹, Jonathan R. Polimeni², Bruce R. Rosen^{2,3}, Elfar Adalsteinsson^{1,3}
¹Electrical Engineering & Computer Science, Massachusetts Institute of Technology, Cambridge, MA, United States; ²Radiology, Athinoula A. Martinos Center for Biomedical Imaging, Charlestown, MA, United States; ³Health Sciences & Technology, Harvard-MIT, Cambridge, MA, United States
- 14:00 3597. A New Approach for Venous Blood Oxygenation & Calibrated BOLD using Hyperoxia**
Ian Driver¹, Emma Hall¹, Susan Pritchard¹, Susan Francis¹, Penny Gowland¹
¹Sir Peter Mansfield Magnetic Resonance Centre, University of Nottingham, Nottingham, United Kingdom
- 14:30 3598. Breathing Gas Calibration for MR CMRO₂ Measurements: Comparative Effects on Functional Brain Networks**
Dimo Ivanov¹, Gabriele Lohmann¹, Stefan Kabisch^{1,2}, Ilona Henseler¹, Haiko Schloegl^{1,2}, Wolfgang Heinke³, Chloe Hutton⁴, Robert Turner¹
¹Max Planck Institute for Human Cognitive & Brain Sciences, Leipzig, Germany; ²Department of Medicine, University Hospital Leipzig, Leipzig, Germany; ³Department of Anesthesiology & Intensive Care Therapy, University Hospital Leipzig, Leipzig, Germany; ⁴Wellcome Trust Centre for Neuroimaging, University College London, London, United Kingdom
- 15:00 3599. High Resolution CMRO₂ in Visual Cortex of Macaca Mulatta**
Yvette Bohraus¹, Nikos K. Logothetis^{1,2}, Jozién Goense¹
¹Dept. Physiology of Cognitive Processes, Max Planck Institute for Biological Cybernetics, Tübingen, Germany; ²University of Manchester, Manchester, United Kingdom

Exhibition Hall Wednesday 13:30-15:30 Computer 54

- 13:30 3600. Differences in Neurovascular Coupling in Areas with Positive & Negative BOLD Signal**
Jozién Goense¹, Nikos K. Logothetis^{1,2}
¹Dept. of Physiology of Cognitive Processes, Max-Planck Institute for Biological Cybernetics, Tuebingen, Germany; ²Division of Imaging Science & Biomedical Engineering, University of Manchester, United Kingdom
- 14:00 3601. Neurovascular Coupling & Uncoupling in Negative fMRI Response**
Chiao-Chi V Chen^{1,2}, Yen-Yu I. Shih³, Yi-Hua Hsu^{1,2}, Bai-Chuang Shyu¹, Chen Chang^{1,2}
¹Institute of Biomedical Sciences, Academic Sinica, Taipei, Taiwan; ²Functional & Micro-magnetic Resonance Imaging Center, Academic Sinica, Taipei, Taiwan; ³Research Imaging Institute, University of Texas Health Science Center, San Antonio, TX, United States

- 14:30 3602. The Source of the Early-Negative Blood Oxygenation Signal**
Hiro Fukuda¹, Alberto Vazquez¹, Seong-Gi Kim¹
¹Radiology, University of Pittsburgh, Pittsburgh, PA, United States
- 15:00 3603. The BOLD fMRI Post-Stimulation Undershoot in Human Primary Motor Cortex is Not Caused by Elevated CBV**
Peter Dechent¹, Gunther Helms¹, Dietmar Merboldt², Jens Frahm²
¹MR-Research in Neurology & Psychiatry, Universitymedicine Göttingen, Göttingen, Germany; ²Biomedizinische NMR Forschungs GmbH am MPI für biophysikalische Chemie, Göttingen, Germany

Exhibition Hall Thursday 13:30-15:30 Computer 54

- 13:30 3604. Vascular-Space-Occupancy (VASO) MRI in Human Brain at 7T**
Jun Hua^{1,2}, Craig K. Jones^{1,2}, Peter C. M. van Zijl^{1,2}
¹Neurosection, Div. of MRI Research, Dept. of Radiology, Johns Hopkins University School of Medicine, Baltimore, MD, United States; ²F.M. Kirby Research Center for Functional Brain Imaging, Kennedy Krieger Institute, Baltimore, MD, United States
- 14:00 3605. Non-Invasive Quantification of Absolute Cerebral Blood Volume**
Pelin Aksit Ciris¹, Maolin Qiu¹, Robert Todd Constable¹
¹Yale University, New Haven, CT, United States
- 14:30 3606. Cerebral Arterial & Venous Blood Volume Changes During the Post-Stimulus BOLD Undershoot Period**
Tae Kim¹, Soeng-Gi Kim¹
¹Neuroimaging Laboratory, Radiology, University of Pittsburgh, Pittsburgh, PA, United States
- 15:00 3607. CBV Measurements-Gd DTPA vs. VASO- & their Relationship with CBF in Activated Human Visual Cortex**
Ai-Ling Lin¹, Hanzhang Lu², Peter T. Fox¹, Timothy Q. Duong¹
¹Research Imaging Institute, University of Texas Health Science Center, San Antonio, TX, United States; ²Advanced Imaging Research Center, University of Texas Southwestern Medical Center, Dallas, TX, United States

Improving fMRI Acquisition

Exhibition Hall Monday 14:00-16:00 Computer 55

- 14:00 3608. Multi-Echo EPI with Parallel Transmission Z-Shimming for Increased Sensitivity in BOLD fMRI**
Benedikt A. Poser¹, Cungeng Yang¹, Weiran Deng¹, Vijayanand Alagappan^{2,3}, Lawrence L. Wald^{2,4}, V. Andrew Stenger¹
¹University of Hawaii, John A. Burns School of Medicine, Honolulu, HI, United States; ²A.A. Martinos Center for Biomedical Imaging, Department of Radiology, Massachusetts General Hospital, Boston, MA, United States; ³Department of Biomedical Engineering, Tufts University, Medford, MA, United States; ⁴Harvard-MIT Division of Health Sciences & Technology, Cambridge, MA, United States
- 14:30 3609. fMRI with Concurrent Magnetic Field Monitoring**
Christoph Barmet¹, Bertram Jakob Wilm¹, Lars Kasper¹, Christian C. Ruff², Klaas Enno Stephan^{2,3}, Klaas Paul Pruessmann¹
¹Institute for Biomedical Engineering, University and ETH Zürich, Zurich, Switzerland; ²Laboratory for Social & Neural Systems Research, University of Zurich, Zurich, Switzerland; ³Wellcome Trust Centre for Neuroimaging, University College of London, London, United Kingdom
- 15:00 3610. Slice-Specific Gradient Compensation of Magnetic Field Inhomogeneities to Improve T₂*-Weighted Imaging of the Human Spinal Cord**
Jürgen Finsterbusch^{1,2}, Falk Eippert^{1,2}
¹Department of Systems Neuroscience, University Medical Center Hamburg-Eppendorf, Hamburg, Germany; ²Neuroimage Nord, University Medical Centers Hamburg-Kiel-Lübeck, Hamburg-Kiel-Lübeck, Germany
- 15:30 3611. Parallel Imaging with Asymmetric Acceleration (ASYA) to Reduce Susceptibility Artifacts in BOLD fMRI**
Kwan-Jin Jung¹, Tiejun Zhao²
¹Scientific Imaging Brain Research (SIBR), Department of Psychology, Carnegie Mellon University, Pittsburgh, PA, United States; ²MR R&D Collaborations, Siemens Medical Solutions USA, Siemens Healthcare, Pittsburgh, PA, United States

Exhibition Hall Tuesday 13:30-15:30 Computer 55

- 13:30 3612. Comparison of fMRI with Accelerated Variable Density Spiral & EPI**
Wei Lin¹, Enrico Simonotto¹, Feng Huang¹, Charles Saylor¹, George R. Duensing¹, Arne Reykowski¹
¹Invivo Corporation, Philips Healthcare, Gainesville, FL, United States

- 14:00 3613. Effects of a Slice-Dependent Template-Based Gradient Compensation Method on the BOLD Sensitivity**
Jochen Rick¹, Oliver Speck², Jürgen Hennig³, Maxim Zaitsev³
¹Dept. of Radiology, Medical Physics, University Medical Center Freiburg, Freiburg, N/A, Germany; ²Biomedical Magnetic Resonance, Otto-von-Guericke University, Magdeburg, Germany; ³Dept. of Radiology, Medical Physics, University Medical Center Freiburg, Freiburg, Germany
- 14:30 3614. Optimizing EPI for Functional MRI using Multi-Directional Shimming in a Single Shot Acquisition**
Jaemin Shin¹, Sinyeob Ahn¹, Xiaoping P. Hu¹
¹Biomedical Engineering, Georgia Tech/Emory University, Atlanta, GA, United States
- 15:00 3615. Dependence of Acquisition Trajectory on BOLD Sensitivity Changes Due to Magnetic Susceptibility Differences in the Brain**
Thomas Le Paine^{1,2}, Brad P. Sutton^{1,2}
¹Bioengineering, University of Illinois Urbana-Champaign, Urbana, IL, United States; ²Beckman Institute, University of Illinois Urbana-Champaign, Urbana, IL, United States

Exhibition Hall Wednesday 13:30-15:30 Computer 55

- 13:30 3616. Implementation of Navigator Phase Correction in Multi-Echo Non-Balanced SSFP at 7T**
Pål Erik Goa^{1,2}, Benedikt Andreas Pose^{2,3}, Markus Barth^{2,3}
¹Department of Medical Imaging, St.Olav University Hospital, Trondheim, Norway; ²Erwin L. Hahn Institute for Magnetic Resonance Imaging, University Duisburg-Essen, Essen, Germany; ³Donders Institute for Brain, Cognition & Behaviour, Radboud University Nijmegen, Nijmegen, Netherlands
- 14:00 3617. Impact of TE on Short-TR Pass-B & B-SSFP BOLD Contrast at 3T**
Qi Peng^{1,2}, Yi Zhang^{1,2}, Oscar San Emeterio Nateras^{1,2}, Timothy Q. Duong^{1,2}
¹Radiology, UT Health Science Center at San Antonio, San Antonio, TX, United States; ²Research Imaging Institute, UT Health Science Center at San Antonio, San Antonio, TX, United States
- 14:30 3618. A Real-Time Cardiac Synchronization Method for Reducing Flow-Induced Instabilities in SSFP fMRI of the Brainstem**
Rob Hendrikus Tijssen¹, Thomas William Okell¹, Karla Loreen Miller¹
¹fMRIB Centre, Oxford University, Oxford, Oxon, United Kingdom
- 15:00 3619. Balanced Steady State Free Precession fMRI using Intravascular Susceptibility Contrast Agent**
Iris Yuwen Zhou^{1,2}, Matthew M. Cheung^{1,2}, Kevin C. Chan^{1,2}, Condon Lau^{1,2}, Ed X. Wu^{1,2}
¹Laboratory of Biomedical & Signal Processing, the University of Hong Kong, Hong Kong SAR, China, People's Republic of; ²Department of Electrical & Electronic Engineering, the University of Hong Kong, Hong Kong SAR, China, People's Republic of

Exhibition Hall Thursday 13:30-15:30 Computer 55

- 13:30 3620. Dynamic Changes in the Tissue Microenvironment Induced by Hypercapnia & Hyperoxia: A T₁rho Dispersion Study at 9.4T**
Tao Jin¹, Seong-Gi Kim¹
¹Neuroimaging laboratory, Department of Radiology, University of Pittsburgh, Pittsburgh, PA, United States
- 14:00 3621. Direction-Dependent Diffusion fMRI Signals During Hypercapnia & Hyperoxia**
Tao Jin¹, Seong-Gi Kim¹
¹Neuroimaging laboratory, Department of Radiology, University of Pittsburgh, Pittsburgh, PA, United States
- 14:30 3622. Assessment of Hemodynamic Effects in Functional Diffusion-Weighted MRI**
Umesh Suryanarayana Rudrapatna¹, Maurits P. A. van Meer¹, Annette Van Der Toorn¹, Rick M. Dijkhuizen¹
¹Image Sciences Institute, University Medical Center Utrecht, Utrecht, Netherlands
- 15:00 3623. Magnetization Transfer fMRI in Humans at 7T**
Sung-Yeon Park¹, Dae-Hoon Kang¹, Se-Hong Oh¹, Myoung-Kyun Woo¹, Joshua H. Park¹, Jun-Young Chung¹, Young-Bo Kim¹, Zang-Hee Cho¹, Seong-Gi Kim²
¹Neuroscience Research Institute, Gachon University of Medicine & Science, Incheon, Korea, Republic of; ²Radiology, University of Pittsburgh, United States

fMRI Fluctuations: Artifacts & Information

 Exhibition Hall Monday 14:00-16:00 Computer 56

- 14:00 3624. The Effect of Flip Angle on BOLD fMRI Sensitivity**
Javier Gonzalez-Castillo¹, Vinai Roopchansingh², Peter A. Bandettini^{1,2}, Jerzy Bodurka³
¹Section on Functional Imaging Methods, National Institute of Mental Health, Bethesda, MD, United States; ²Functional MRI Facility, National Institute of Mental Health, Bethesda, MD, United States; ³Laureate Institute for Brain Research, Tulsa, OK, United States
- 14:30 3625. Investigating Cardiac Pulsatility in the Brain using EPI Sequences: From Physiological Noise to Physiological Information**
Iliia Makedonov^{1,2}, David E. Crane¹, Bradley J. MacIntosh^{1,3}
¹Heart & Stroke Foundation Centre for Stroke Recovery, Toronto, ON, Canada; ²Institute of Biomaterials & Biomedical Engineering, University of Toronto, Toronto, ON, Canada; ³Medical Biophysics, University of Toronto, Canada
- 15:00 3626. A Random-Walk Driven Segmentation of Resting State fMRI Data: Evaluation of Visual Cortex Sub-Communities is Enhanced by Physiological Noise Correction**
Tommaso Gili¹, Ibrahim Eid², Kevin Murphy¹, Ashley Harris¹, Guido Caldarelli³, Bruno Maraviglia², Richard Geoffrey Wise¹
¹Cardiff University Brain Research Imaging Centre (CUBRIC), School of Psychology, Cardiff University, Cardiff, Wales, United Kingdom; ²Dipartimento di Fisica, Università di Roma Sapienza, Roma, Italy; ³CNR-ISC Dipartimento di Fisica, Università di Roma Sapienza, Roma, Italy
- 15:30 3627. Relationship between Spontaneous Fluctuations in End-Tidal PCO₂ & Apparent Resting State Functional Connectivity**
Cécile Madjar¹, Claudine Joëlle Gauthier^{1,2}, Rasmus M. Birn³, Rick D. Hoge^{1,2}
¹CRIUGM/UNF, Montréal, Québec, Canada; ²Physiology/Biomedical Engineering, University of Montréal, Montréal, Québec, Canada; ³University of Wisconsin, Madison, WI, United States

 Exhibition Hall Tuesday 13:30-15:30 Computer 56

- 13:30 3628. A Simple Method to Reduce Signal Fluctuations in fMRI Caused by the Interaction between Motion & Coil Sensitivities**
Axel Hartwig¹, Mathias Engström¹, Olof Flodmark¹, Martin Ingvar¹, Stefan Skare¹
¹Clinical Neuroscience, Karolinska Institute, Stockholm, Sweden
- 14:00 3629. Identifying & Separating the RF Fluctuations from the Measurement Noise**
Costin Tanase¹, Jeffrey O'Hara², Denise Davis³, Fernando Boada³, Michael H. Buonocore⁴, Cameron S. Carter¹
¹Psychiatry & Behavioral Sciences, University of California at Davis, Sacramento, CA, United States; ²Siemens Medical Solutions; ³University of Pittsburgh, United States; ⁴Radiology, University of California Davis, United States
- 14:30 3630. Modelling Temporal Stability of EPI Time Series Acquired with Multi-Channel Receiver Coils: Treatment of Noise Correlation**
Chloe Hutton¹, Antoine Lutti¹, Nikolaus Weiskopf¹
¹Wellcome Trust Centre for Neuroimaging, UCL Institute of Neurology, University College London, London, United Kingdom
- 15:00 3631. Reducing a Localized Signal Fluctuation Artifact in fMRI using Spectral-Spatial Fat Saturation**
Dan Xu¹, Jian Zhang², Richard Scott Hinks¹, Kevin F. King¹
¹Applied Science Laboratory, GE Healthcare, Waukesha, WI, United States; ²Applied Science Laboratory, GE Healthcare, Bethesda, MD, United States

 Exhibition Hall Wednesday 13:30-15:30 Computer 56

- 13:30 3632. Utility of T₂-Weighted Anatomical Images for fMRI Physiological Noise Visualization**
Raquel Phillips¹, Vadim Zotev¹, Jonathan Savitz¹, Ruben Alvarez¹, W. Kyle Simmons¹, Patrick Bellgowan¹, Wayne Drevets¹, Jerzy Bodurka¹
¹Laureate Institute for Brain Research, Tulsa, OK, United States
- 14:00 3633. Prediction & Correction of Physiological Noise in fMRI using Machine Learning**
Tom Ash¹, John Suckling², Martin Walter³, Cinly Ooi², Claus Tempelmann⁴, Adrian Carpenter¹, Guy Williams¹
¹Wolfson Brain Imaging Centre, University of Cambridge, Cambridge, United Kingdom; ²Brain Mapping Unit, University of Cambridge, Cambridge, United Kingdom; ³Department of Psychiatry, University of Magdeburg, Magdeburg, Germany; ⁴Department of Neurology, Otto v. Guericke University, Magdeburg, Germany

14:30 3634. Increased SNR & Activation in Hadamard-Encoded fMRI Through Physiological Noise Removal & Phase Correction

Alan Chu^{1,2}, Jon-Fredrik Nielsen¹, Scott J. Peltier¹, Douglas C. Noll¹

¹Biomedical Engineering, University of Michigan, Ann Arbor, MI, United States; ²University of Michigan Medical School, Ann Arbor, MI, United States

15:00 3635. Optimized Physiological Noise Correction for 3D EPI Time Series

Antoine Lutti¹, Oliver Josephs¹, Dave Thomas², Rebecca Lawson³, Jonathan P. Roiser³, Chloe Hutton¹, Nikolaus Weiskopf¹

¹Wellcome Trust Centre for Neuroimaging, Institute of Neurology, University College London, London, United Kingdom; ²Institute of Neurology, Department of Brain Repair & Rehabilitation, University College London, London, United Kingdom; ³Institute of Cognitive Neuroscience, University College London, London, United Kingdom

Exhibition Hall Thursday 13:30-15:30 Computer 56

13:30 3636. Physiological Origin of Systemic Artifacts in Functional Near Infrared Spectroscopy as Revealed by fMRI

Evgeniya Kirilina¹, Alexnader Jelzow², Ruediger Bruehl², Angela Heine¹, Michael Niessing¹, Arthur M. Jacobs¹, Bernd Itermann², Heidrun Wabnitz², Rainer Macdonald², Ilias Tachtsidis³

¹Free University of Berlin, Berlin, Germany; ²Physikalisch-Technische Bundesanstalt, Berlin, Germany; ³Department Medical Physics & Bioengineering, University College London, London, United Kingdom

14:00 3637. Small-Scale Phase & Magnitude Fluctuations in fMRI Time Series

Gisela E. Hagberg^{1,2}, David Balla³, Hannes M. Wiesner⁴, Nikos K. Logothetis

¹Physiology of Cognitive Processes, Max Planck Institute for Biological Cybernetics, Tübingen, Germany, Germany; ²Fondazione Santa Lucia, Rome, Italy; ³High-Field Magnetic Resonance Center, Max Planck Institute for Biological Cybernetics, Tübingen, Germany; ⁴High-Field Magnetic Resonance Center, Max Planck Institute for Biological Cybernetics, Germany

14:30 3638. Fully Automated fMRI Denoising using Multi-Echo fMRI & TE-Dependent Properties

Prantik Kundu¹, Souheil J. Inati¹, Jennifer W. Evans¹, Ziad S. Saad², Peter A. Bandettini¹

¹Section on Functional Imaging Methods, National Institute of Mental Health, Bethesda, MD, United States; ²Scientific & Statistical Computing Core, National Institute of Mental Health, Bethesda, MD, United States

15:00 3639. Effect of Physiological Noise on Densely Sampled Multi-Echo fMRI Data

Mark Chiew^{1,2}, Simon James Graham^{1,3}

¹Medical Biophysics, University of Toronto, Toronto, Ontario, Canada; ²Rotman Research Institute, Toronto, Ontario, Canada; ³Imaging Research, Sunnybrook Health Sciences Centre, Toronto, Ontario, Canada

fMRI Neuroscience Methods & Applications I

Exhibition Hall Monday 14:00-16:00 Computer 57

14:00 3640. Tumor Induced Alterations in Hemodynamic Responses in BOLD fMRI: Implications in Presurgical Functional Brain Mapping

Liya Wang^{1,2}, Dandan Chen³, Jeffery Olson⁴, Shazia Ali¹, Tianning Fan⁵, Hui Mao^{1,2}

¹Radiology, Emory University School of Medicine, Atlanta, GA, United States; ²Center for Systems Imaging, Emory University, Atlanta, GA, United States; ³Physics, Emory University School of Medicine, Atlanta, GA, United States; ⁴Neurosurgery, Emory University School of Medicine, Atlanta, GA, United States; ⁵Center for Systems Imaging, Emory University, Atlanta, GA, United States

14:30 3641. Neural Correlates of Archery Motor Imagery

Jae-Jun Lee¹, Jeehye Seo¹, Hui-Jin Song¹, Seong-Uk Jin¹, Ji-Young Kim², Yongmin Chang^{1,3}

¹medical & Biological Engineering, Kyungpook National University, Daegu, Korea, Republic of; ²School of Medicine, Kyungpook National University, Daegu, Korea, Republic of; ³Diagnostic Radiology, Kyungpook National University, Daegu, Korea, Republic of

15:00 3642. fMRI Assessment of Effects of Technique on Neurological Impairment in High School Football Players

Thomas M. Talavage^{1,2}, Evan L. Breedlove², Katherine E. Morigaki³, Meghan E. Robinson², Ruwan D. Ranaweera¹, Eric A. Nauman^{2,4}, Larry J. Leverenz³

¹School of Electrical & Computer Engineering, Purdue University, West Lafayette, IN, United States; ²Weldon School of Biomedical Engineering, Purdue University, West Lafayette, IN, United States; ³Department of Health & Kinesiology, Purdue University, West Lafayette, IN, United States; ⁴School of Mechanical Engineering, Purdue University, West Lafayette, IN, United States

15:30 3643. Training Shapes Cerebellum & Parieto-Frontal Network in Professional Badminton Players

Senhua Zhu¹, Xin Di¹, Hua Jin², Pin Wang², Lei Mo², Ke Zhou³, Yan Zhuo³, Hengyi Rao⁴

¹Department of Psychology, Sun Yat-sen University, Guangzhou, Guangdong, China, People's Republic of; ²Department of Psychology, South China Normal University, Guangzhou, Guangdong, China, People's Republic of; ³State Key Laboratory of Brain &

Cognitive Science, Beijing, China, People's Republic of; ⁴Center for Functional Neuroimaging, University of Pennsylvania, Philadelphia, PA, United States

Exhibition Hall Tuesday 13:30-15:30 Computer 57

- 13:30 3644. Deactivation in Tinnitus Patients & Controls During a Tone Discrimination Task Studied with fMRI**
Arthur Peter Wunderlich¹, Carlos Schönfeldt-Lecuona², Robert Christian Wolf², Wolfgang Freund¹
¹Dept. for Diagnostic & Interventional Radiology, Univ.-Clinic Ulm, Ulm, Germany; ²Psychiatry Dept., Univ.-Clinic Ulm, Ulm, Germany
- 14:00 3645. Enhanced Synchronization of Local Hymodynamic Activity in Mesial Temporal Epilepsy Network**
Zhiqiang Zhang¹, Guangming Lu¹
¹Department of Radiology, Jinling hospital, Nanjing University School of Medicine, Nanjing, Jiangsu, China, People's Republic of
- 14:30 3646. Reorganization of Functional Networks After Training with Motor Imagery in Healthy Subjects & a Single Case of Lower Limb Amputation**
Barbara Spano¹, Mara Cercignani¹, Marco Bozzali¹, Cristiano Pecchioli², Giacomo Koch^{2,3}, Carlo Caltagirone^{3,4}, Barbara Marconi²
¹Neuroimaging Laboratory, Santa Lucia Foundation, IRCCS, Via Ardeatina 306, 00179 Rome, Italy, Rome, Lazio, Italy; ²Laboratory of Clinical & Behavioral Neurology, Santa Lucia Foundation, IRCCS, Via Ardeatina 306, 00179 Rome, Italy, Rome, Lazio, Italy; ³Department of Neuroscience, University of Rome 'Tor Vergata', Viale Oxford 81, 00133 Rome, Italy, Italy; ⁴Department of Clinical & Behavioural Neurology, Santa Lucia Foundation, IRCCS, Via Ardeatina 306, 00179 Rome, Italy, Rome, Lazio, Italy
- 15:00 3647. Imaginary Toe-Tapping Causes Classic Motor Hand Area Activation in Bilateral Upper Limb Amputees**
Feng Zhao^{1,2}, Hong-Jian He³, Xiao-Jing Yu², Yi-Xiang Wang¹, Shi-Zheng Zhang⁴
¹Department of Imaging & Interventional Radiology, the Chinese University of Hong Kong, Shatin, N.T., Hong Kong, China, People's Republic of; ²Department of Radiology, Sir Run Run Shaw Hospital, Hang Zhou, Zhe Jiang, China, People's Republic of; ³Bio-X laboratory of Physics Department, Zhejiang University, Hang Zhou, Zhe Jiang, China, People's Republic of; ⁴Department of Radiology, Sir Run Run Shaw Hospital, Hang Zhou, Zhe Jiang, China, People's Republic of

Exhibition Hall Wednesday 13:30-15:30 Computer 57

- 13:30 3648. Self-Regulation of Amygdala Activation with Real-Time fMRI Neurofeedback**
Vadim Zotev¹, Frank Kruger², Raquel Phillips¹, Ruben Alvarez¹, W Kyle Simmons¹, Pat Bellgowan¹, Wayne Drevets¹, Jerzy Bodurka¹
¹Laureate Institute for Brain Research, Tulsa, OK, United States; ²Department of Molecular Neuroscience, George Mason University, Fairfax, VA, United States
- 14:00 3649. fMRI of the Human Amygdala using Ultra-High Field MRI. Parcellation of Emotional Human Non-Linguistic Sounds**
Eugenia Solano-Castiella¹, Bibek Dhital¹, Domenica Wilfling¹, Tom Fritz¹, Erik Türke¹, Enrico Reimer¹, Robert Trampel¹, Robert Turner¹
¹Neurophysics, Max Planck Institute for Human Cognitive & Brain Sciences, Leipzig, Sachsen, Germany
- 14:30 3650. Spin-Echo BOLD Temporal Dynamics in the Rat Superior Colliculus & Lateral Geniculate Nucleus**
Condon Lau^{1,2}, Jevin W. Zhang^{1,2}, Matthew M. Cheung^{1,2}, Iris Y. Zhou^{1,2}, Kevin C. Chan^{1,2}, Ed X. Wu^{1,2}
¹Laboratory of Biomedical Imaging & Signal Processing, the University of Hong Kong, Hong Kong, Hong Kong SAR, China, People's Republic of; ²Department of Electrical & Electronic Engineering, the University of Hong Kong, Hong Kong, Hong Kong SAR, China, People's Republic of
- 15:00 3651. Neurophysiological Verification that Unilateral Tactile Stimulation Evokes Contralateral Cortical but Bilateral Thalamic Activations**
Basavaraju G. Sanganahalli^{1,2}, Peter Herman^{1,2}, Douglas L. Rothman^{2,3}, Hal Blumenfeld^{2,4}, Fahmeed Hyder^{2,3}
¹Diagnostic Radiology, Yale University, New Haven, CT, United States; ²Quantitative Neuroscience with Magnetic Resonance in Medicine (QNMR), Yale University, New Haven, CT, United States; ³Diagnostic Radiology & Biomedical Engineering, Yale University, New Haven, CT, United States; ⁴Neurology, Neurosurgery, Neuroscience, Yale University, New Haven, CT, United States

Exhibition Hall Thursday 13:30-15:30 Computer 57

- 13:30 3652. Functional Magnetic Resonance Imaging of the Effects of a 60 Hz 3000 μ T Magnetic Field on Resting State Brain Blood Flow**
Jodi Miller^{1,2}, Julien Modolo^{1,2}, Michael Corbacio^{1,2}, Daniel Goulet³, Jacques Lambrozo⁴, Michel Plante³, Martine Souques⁴, Frank S. Prato^{1,2}, Alex W. Thomas^{1,2}, Alexandre W. Legros^{1,2}
¹Medical Biophysics, University of Western Ontario, London, Ontario, Canada; ²Imaging, Lawson Health Research Institute, London, Ontario, Canada; ³Hydro-Québec; ⁴Service des Études Médicales, EDF

- 14:00 3653. BOLD Responses According to Stimulation Orders & Manipulation Methods**
Geon-Ho Jahng¹, Seong-In Bae², Sabina Lim²
¹Department of Radiology, Kyung Hee University Hospital-Gangdong, Kyung Hee University, Seoul, Korea, Republic of;
²Department of Meridian & Acupuncture, Graduate School of Applied Eastern Medicine, Seoul, Korea, Republic of
- 14:30 3654. GABA, Glutamate, & Perfusion Changes During Working Memory**
Lars Michels¹, Ernst Martin¹, Peter Klaver², Richard Edden³, Daniel Brandeis⁴, Rafael Lüchinger⁴, David Lythgoe⁵, Fernando Zelaya⁵, Ruth L. O'Gorman¹
¹University Children's Hospital, Zürich, Switzerland; ²Department of Psychology, University of Zürich, Zürich, Switzerland; ³Russell H Morgan Department of Radiology & Radiological Sciences, Johns Hopkins University, Baltimore, MD, United States; ⁴Department of Child & Adolescent Psychiatry, University of Zürich, Zürich, Switzerland; ⁵Centre for Neuroimaging Sciences, Institute of Psychiatry, London, United Kingdom
- 15:00 3655. Anesthetic Effects of Propofol on the Brain – Preliminary Results from MRI & MRS in Normal Human Subjects**
Maolin Qiu¹, Ramachandran Raman², R Todd Constable^{1,3}
¹Diagnostic Radiology, Yale University School of Medicine, New Haven, CT, United States; ²Anesthesia, Yale University School of Medicine, New Haven, CT, United States; ³Biomedical Engineering, Neurosurgery, Yale University School of Medicine, New Haven, CT, United States

fMRI Neuroscience Methods & Applications II

Exhibition Hall Monday 14:00-16:00 Computer 58

- 14:00 3656. Event-Related Olfactory fMRI**
Xiaoyu Sun¹, Christopher W. Weitekamp¹, Jianli Wang¹, Jeffrey Vesek¹, Qing X. Yang^{1,2}
¹Radiology, Penn State College of Medicine, Hershey, PA, United States; ²Neurosurgery, Penn State College of Medicine, Hershey, PA, United States
- 14:30 3657. Dynamic Behavior of BOLD Signal in Olfactory Neural Networks**
Prasanna Karunanayaka¹, Christopher W. Weitekamp¹, Jianli Wang¹, Megha M. Patel¹, Jeffrey Vesek¹, Xiaoyu Sun¹, Paul J. Eslinger^{2,3}, James R. Connor⁴, Qing X. Yang^{1,4}
¹Radiology, Center for NMR Research, Penn State University College of Medicine, Hershey, PA, United States; ²Neurology, Penn State University College of Medicine, Hershey, PA, United States; ³Neural & Behavioral Sciences, Penn State University College of Medicine, Hershey, PA, United States; ⁴Neurosurgery, Penn State University College of Medicine, Hershey, PA, United States
- 15:00 3658. Optimized fMRI Imaging Protocol & Hardware for Studying the Orbitofrontal Cortex in the Presence of Olfactory Stimulation**
Johnny Ng^{1,2}, Heather Berlin³, Wayne Goodman³, Emily Eaves¹, David Carpenter¹, Cheuk Tang^{1,3}
¹Radiology, Mount Sinai School of Medicine, New York, NY, United States; ²Biomedical Engineering Dept., City College of New York, New York, NY, United States; ³Psychiatry, Mount Sinai School of Medicine, New York, NY, United States
- 15:30 3659. An MR Compatible Olfactometer for Clinical Research Use**
Johnny Ng^{1,2}, Emily Eaves¹, David Carpenter¹, Cheuk Ying Tang^{1,3}
¹Dept. Radiology, Mount Sinai School of Medicine, New York, United States; ²Biomedical Engineering Dept., City College of New York, New York, United States; ³Dept. Psychiatry, Mt. Sinai School of Medicine, New York, United States

Exhibition Hall Tuesday 13:30-15:30 Computer 58

- 13:30 3660. One Night Total Sleep Deprivation Alters Neural Correlates of Risk-Taking**
Hengyi Rao^{1,2}, Dan Luftig², Julian Lim², John A. Detre³, David F. Dinges²
¹Center for Functional Neuroimaging, University of Pennsylvania, Philadelphia, PA, United States; ²Unit for Experimental Psychiatry, University of Pennsylvania, Philadelphia, PA, United States; ³Center for Functional Neuroimaging, University of Pennsylvania, Philadelphia, PA, United States
- 14:00 3661. Discriminant Analysis & Prediction of AMCI Subjects and Normal Controls using Encoding & Recognition fMRI Tasks**
Dietmar Cordes¹, Mingwu Jin¹, Tim Curran², Victoria Pelak³, Rajesh Nandy⁴
¹C-TRIC & Dept. of Radiology, University of Colorado-Denver, Aurora, CO, United States; ²Dept. of Psychology & Neuroscience, University of Colorado-Boulder, Boulder, CO, United States; ³Dept. of Neurology, University of Colorado-Denver, Aurora, CO, United States; ⁴Depts. of Biostatistic & Psychology, University of California-Los Angeles, Los Angeles, CA, United States
- 14:30 3662. fMRI of Working Memory in Military Traumatic Brain Injury**
John Graner¹, Hai Pan¹, Ping-Hong Yeh¹, Binquan Wang¹, Terrence R. Oakes^{1,2}, Wei Liu^{1,2}, Louis M. French³, Fletcher Munter², Gerard Riedy^{2,4}

¹TBI Image Analysis Lab, Uniformed Services University of the Health Sciences / HJF, Bethesda, MD, United States; ²National Capital Neuroimaging Consortium, Walter Reed Army Medical Center, Washington, DC, United States; ³Defense & Veterans Brain Injury Center, Walter Reed Army Medical Center, Washington, DC, United States; ⁴National Intrepid Center of Excellence, Bethesda, MD, United States

- 15:00 3663. Working Memory Impairment in Fibromyalgia Patients : fMRI Study**
Jeehye Seo¹, Jae-Jun Lee¹, Hui-Jin Song¹, Seong-Uk Jin¹, Ji-Young Kim², Yongmin Chang^{1,3}
¹Medical & Biological Engineering, Kyungpook National University, Daegu, Korea, Republic of; ²School of Medicine, Kyungpook National University, Daegu, Korea, Republic of; ³Diagnostic Radiology, Kyungpook National University, Daegu, Korea, Republic of

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- 13:30 3664. Investigating the Neural Base of Hearing One's Own Name by fMRI**
Toshiki Nakane^{1,2}, Miyakoshi Makoto², Toshi Nakai², Shinji Naganawa¹
¹Nagoya University Graduate School of Medicine, Nagoya, Aichi, Japan; ²NCGG, Ohbu, Aichi, Japan
- 14:00 3665. Empathic Brain Responses to Other's Pain was Modulated by Simple Group Categorization: An fMRI Study**
Yang Hu^{1,2}, Mingxia Fan³, Wenjing Li², Peijia Huang², Zhaoxin Wang^{1,3}
¹Institute of Cognitive Neuroscience, Shanghai Key Laboratory of Brain Functional Genomics, East China Normal University, Shanghai, China, People's Republic of; ²Department of Psychology, School of Psychology & Cognitive Science, East China Normal University, Shanghai, China, People's Republic of; ³Shanghai Key Laboratory of MRI, East China Normal University, Shanghai, China, People's Republic of
- 14:30 3666. Disrupted Sensory Projection & Preserved Integrative Network in Propofol-Induced Anesthesia**
Xiaolin Liu¹, Kathryn K. Lauer², Stephen M. Rao³, Shijiang Li¹, Anthony G. Hudetz²
¹Biophysics, Medical College of Wisconsin, Milwaukee, WI, United States; ²Anesthesiology, Medical College of Wisconsin, Milwaukee, WI, United States; ³Schey Center for Cognitive Neuroimaging, Cleveland Clinic, Cleveland, OH, United States
- 15:00 3667. The Neural Basis of Auditory Processing Disorder**
Vincent Jerome Schmithorst¹, Scott Kerry Holland¹, Elena Plante²
¹Radiology, Children's Hospital Medical Center, Cincinnati, OH, United States; ²Speech, Language, & Hearing Sciences, University of Arizona, Tucson, AZ, United States

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- 13:30 3668. Classical Music Enhances the Local Functional Connectivity Density in the Brain**
Ruiliang Wang¹, Gene-Jack Wang², Frank Telang³, Rita Z. Goldstein, Nora D. Volkow⁴, Dardo Tomasi⁴
¹Medical, Brookhaven National Laboratory, Upton, NY, United States; ²Brookhaven National Laboratory; ³medical, Brookhaven National Laboratory; ⁴National Institute on Drug Abuse, National Institute on Health
- 14:00 3669. Middle Frontal Gyrus as a Potential Neural Indicator for Musical Imagery**
Kirsteen Davidson-Kelly¹, Sujin Hong¹, Janani Dhinakaran², Joseph Sanders³, Calum Gray⁴, Edwin J. R. van Beek⁴, Neil Roberts⁴, Katie Overy¹
¹Music, University of Edinburgh, Edinburgh, United Kingdom; ²Carl von Ossietzky University of Oldenburg, Germany; ³Guildhall School of Music & Drama, London, United Kingdom; ⁴Clinical Research Imaging Centre (CRIC), Queen's Medical Research Institute (QMRI), University of Edinburgh, Edinburgh, United Kingdom
- 14:30 3670. "Dual-Use" fMRI in Children: Assessing Language & Visuospatial Functions with One Task**
Marko Wilke¹, Kathina Ebner², Till-Karsten Hauser³, Karen Lidzba²
¹Pediatric Neurology & Developmental Medicine, University Children's Hospital Tübingen, Tübingen, BW, Germany; ²Pediatric Neurology & Developmental Medicine, University Children's Hospital Tübingen, Tübingen, Germany; ³Diagnostic & Interventional Neuroradiology, Radiological Clinic, Tübingen, Germany
- 15:00 3671. Song & Speech – Perception & Covert Production: New Findings using Multi-Voxel Pattern Analysis**
Dirk Goldhahn¹, Daniel E. Callan², Gabriele Lohmann¹, Robert Turner¹
¹Department of Neurophysics, Max Planck Institute for Human Cognitive & Brain Sciences, Leipzig, Germany; ²ATR Computational Neuroscience Laboratories, Kyoto, Japan

Animal fMRI

Exhibition Hall Monday 14:00-16:00 Computer 59

- 14:00 3672. BOLD fMRI of the Visual System in Awake & Anesthetized Rats**
Der-Yow Chen¹, Stephen Dodd¹, Afonso Silva¹, Alan Koretsky¹
¹LFMI, NINDS, NIH, Bethesda, MD, United States

- 14:30 3673. Neurophysiological Underpinnings of Ketamine-Induced Negative BOLD Response & Interactions with Anaesthesia**
Naranjargal Dashdorj¹, Mirjam I. Schubert¹, Malcolm Prior², Rob Mason³, Dorothee P. Auer¹
¹Academic Radiology, University of Nottingham, Nottingham, Nottinghamshire, United Kingdom; ²Brain & Body Centre, University of Nottingham, Nottingham, United Kingdom; ³School of Biomedical Sciences, University of Nottingham, Nottingham, United Kingdom
- 15:00 3674. Ketamine-Evoked Functional Connectivity Changes in Isoflurane Anaesthetised Rats**
Naranjargal Dashdorj¹, Mirjam I. Schubert¹, Rob Mason², Dorothee P. Auer¹
¹Academic Radiology, University of Nottingham, Nottingham, Nottinghamshire, United Kingdom; ²School of Biomedical Sciences, University of Nottingham, Nottingham, United Kingdom
- 15:30 3675. Alternating Phase Coherence of Spontaneous Hemodynamic Oscillation is Sensitive to Anesthesia Levels**
Xiao Liu¹, Xiao-Hong Zhu¹, Yi Zhang¹, Wei Chen¹
¹CMRR, Radiology, University of Minnesota, Minneapolis, MN, United States

Exhibition Hall Tuesday 13:30-15:30 Computer 59

- 13:30 3676. BOLD fMRI Investigation of Rat Auditory System**
Matthew Man Hin Cheung^{1,2}, Iris Y. Zhou^{1,2}, Kevin C. Chan^{1,2}, Frank Y. Lee^{1,2}, Leon C. Ho^{1,2}, Condon Lau^{1,2}, Ed X. Wu^{1,2}
¹Laboratory of Biomedical Imaging & Signal Processing, the University of Hong Kong, Pokfulam, Hong Kong SAR, China, People's Republic of; ²Department of Electrical & Electronic Engineering, the University of Hong Kong, Pokfulam, Hong Kong SAR, China, People's Republic of
- 14:00 3677. BOLD Response Dependence on the Stimulation Light Intensity in the Rat Superior Colliculus**
Jevin W Zhang^{1,2}, Condon Lau^{1,2}, Matthew M. Cheung^{1,2}, Kyle Xing^{1,2}, Iris Y. Zhou^{1,2}, Kevin C. Chan^{1,2}, Ed X. Wu^{1,2}
¹Laboratory of Biomedical Imaging & Signal Processing, the University of Hong Kong, Hong Kong, Hong Kong SAR, China, People's Republic of; ²Department of Electrical & Electronic Engineering, the University of Hong Kong, Hong Kong, Hong Kong SAR, China, People's Republic of
- 14:30 3678. BOLD fMRI Study of the Rat Superior Colliculus Responding to a Moving Visual Stimulus**
Condon Lau^{1,2}, Jevin W. Zhang^{1,2}, Matthew M. Cheung^{1,2}, Kyle Xing^{1,2}, Iris Y. Zhou^{1,2}, Kevin C. Chan^{1,2}, Ed X. Wu^{1,2}
¹Laboratory of Biomedical Imaging & Signal Processing, the University of Hong Kong, Hong Kong, Hong Kong SAR, China, People's Republic of; ²Department of Electrical & Electronic Engineering, the University of Hong Kong, Hong Kong, Hong Kong SAR, China, People's Republic of
- 15:00 3679. BOLD Signal Differences in the Somatosensory & Visual Pathways**
Daniil Aksenov^{1,2}, Limin Li^{1,2}, Michael Miller^{1,2}, Alice Wyrwicz^{1,2}
¹NorthShore University Health System, Evanston, IL, United States; ²Pritzker School of Medicine, University of Chicago, Chicago, IL, United States

Exhibition Hall Wednesday 13:30-15:30 Computer 59

- 13:30 3680. Anatomical, BOLD, Blood Flow MRI of Non-Human Primate (Baboon) Retina**
Yi Zhang^{1,2}, Hsiao-Ying Wey^{1,2}, Oscar San Emeterio Nateras², Qi Peng^{1,2}, Timothy Q. Duong^{1,2}
¹Research Imaging Institute, University of Texas Health Science Center at San Antonio, San Antonio, TX, United States; ²Radiology, University of Texas Health Science Center at San Antonio, San Antonio, TX, United States
- 14:00 3681. BOLD-fMRI Study of Effect of Dark-Rearing on Postnatal Visual Development**
Joe Shi Cheng^{1,2}, Kevin C. Chan^{1,2}, Iris Y. Zhou^{1,2}, Matthew M. Cheung^{1,2}, Condon Lau^{1,2}, Ed X. Wu^{1,2}
¹Laboratory of Biomedical Imaging & Signal Processing, the University of Hong Kong, Hong Kong SAR, China, People's Republic of; ²Department of Electrical & Electronic Engineering, the University of Hong Kong, Hong Kong SAR, China, People's Republic of
- 14:30 3682. Optogenetically Induced BOLD of Excitatory Neurons in the Mouse Hippocampus at 9.4T: Identification of a Hippocampal Network**
Wolfgang Weber-Fahr¹, Alexander Sartorius², Natlia Gass¹, Zhijun Li³, Wolfgang Kelsch^{2,3}
¹Neuroimaging, Central Institute of Mental Health, Mannheim, Germany; ²Psychiatry, Central Institute of Mental Health, Mannheim, Germany; ³Clinical Neurobiology, Ruprecht-Karls-Universität, Heidelberg, Germany
- 15:00 3683. Study of Brain Activation in Small Animals using PET/MR Imaging**
Hans F. Wehr¹, Florian C. Maier¹, Petros Martirosian², Gerald Reischl³, Fritz Schick², Bernd J. Pichler¹
¹Laboratory for Preclinical Imaging & Imaging Technology of the Werner Siemens-Foundation, University of Tuebingen, Tuebingen, Germany; ²Section on Experimental Radiology, University of Tuebingen, Tuebingen, Germany; ³Radiopharmacy & PET-Center, University of Tuebingen, Tuebingen, Germany

 Exhibition Hall Thursday 13:30-15:30 Computer 59

- 13:30 3684. Rat Brain Possesses a Default Mode Network**
Hanbing Lu¹, Qihong Zou¹, William Rea¹, Elliot A. Stein¹, Yihong Yang¹
¹National Institute on Drug Abuse, NIH, Baltimore, MD, United States
- 14:00 3685. Resting State Networks in (Transgenic) Mice: Differential Effects of Genetic Background, Sensory Stimulation, & Pharmacological Intervention**
Silke Kreitz¹, Cornelia Heindl-Erdmann¹, Roland Axmann², Jochen Zwerina², Josef Penninger³, Georg Schett², Kay Brune¹, Andreas Hess¹
¹Institute for Pharmacology & Toxicology, FAU Erlangen-Nuremberg, Erlangen, Germany; ²Internal Medicine 3, Rheumatology & Immunology, FAU Erlangen-Nuremberg, Erlangen, Germany; ³Institute of Molecular Biology, Austrian Academy of Sciences, Vienna, Austria
- 14:30 3686. Resting-State Functional Connectivity Alterations After Corpus Callosotomy in Rats**
Iris Yuwen Zhou^{1,2}, Y. X. Liang³, Kevin C. Chan^{1,2}, Matthew M. Cheung^{1,2}, Condon Lau^{1,2}, K. F. So³, Ed X. Wu^{1,4}
¹Laboratory of Biomedical & Signal Processing, the University of Hong Kong, Hong Kong SAR, China, People's Republic of; ²Department of Electrical & Electronic Engineering, the University of Hong Kong, Hong Kong SAR, China, People's Republic of; ³Department of Anatomy, the University of Hong Kong; ⁴Department of Electrical & Electronic Engineering, the University of Hong Kong, Hong Kong SAR, China, People's Republic of
- 15:00 3687. Restoration of Interhemispheric Resting-State Connectivity in S₁FL Following Median Nerve Injury & Surgical Repair**
Christopher Paul Pawela^{1,2}, Bharat B. Biswal³, Rupeng Li², Anthony G. Hudetz⁴, James S. Hyde²
¹Department of Plastic Surgery, Medical College of Wisconsin, Milwaukee, WI, United States; ²Department of Biophysics, Medical College of Wisconsin, Milwaukee, WI, United States; ³Department of Radiology, University of Medicine & Dentistry of New Jersey, Newark, NJ, United States; ⁴Department of Anesthesiology, Medical College of Wisconsin, Milwaukee, WI, United States

Targeted Molecular Imaging

 Exhibition Hall Monday 14:00-16:00 Computer 60

- 14:00 3688. Evaluation of a Targeted Nanoglobular Gd Chelate for MRI Molecular Imaging of Prostate Tumor in an Orthotopic Mouse Model**
Mingqian Tan^{1,2}, Zheng-Rong Lu¹
¹Case Western Reserve University, Cleveland, OH, United States; ²National Chromatographic Research & Analysis Center, Dalian Institute of Chemical Physics, the Chinese Academy of Sciences, Dalian, Liaoning, China, People's Republic of
- 14:30 3689. Targeting of Matrix Metalloproteinase-2 Activation with Gd-NBCB-TTDA-MMP-2 for Detection of Vulnerable Atherosclerotic Plaques using a Novel Molecular MR Imaging *In Vivo***
Chiao-Yun Chen^{1,2}, Twei-Shiun Jaw^{1,3}, Hua-Lin Wu⁴, Guey-Yueh Shi⁴, Yun-Ming Wang⁵, Gin-Chung Liu^{1,2}, Yu-Ting Kuo^{1,2}
¹Department of Medical Imaging, Kaohsiung Medical University Hospital, Kaohsiung, Taiwan; ²Department of Radiology, Faculty of Medicine, College of Medicine, Kaohsiung Medical University, Kaohsiung, Taiwan; ³Department of Radiology, Faculty of Medicine, College of Medicine, Kaohsiung Medical University, Kaohsiung, Taiwan; ⁴Department of Biochemistry & Molecular Biology, College of Medicine & Cardiovascular Research Center, National Cheng Kung University, Taiwan; ⁵Department of Biological Science & Technology, National Chiao Tung University, Hsinchu, Taiwan
- 15:00 3690. Quantitative Molecular MR Imaging of U87 Brain Tumor Angiogenesis using a Novel RGD Gd-Based Emulsion**
Benjamin Marty¹, Françoise Geffroy¹, Boucif Djemai¹, Benoit Theze², Aline Perrin¹, Caroline Robic³, Marc Por³, Philippe Robert³, Denis Le Bihan¹, Franck Lethimonnier¹, Sébastien Mériaux¹
¹CEA/DSV/I2BM/Neurospin, Gif-sur-Yvette, France; ²CEA/DSV/I2BM/SHFJ, Orsay, France; ³Research Division, Guerbet, Roissy Charles de Gaulle, France
- 15:30 3691. Atherosclerotic MR Molecular Imaging Strategy with Superparamagnetic Iron Oxide on a Human Clinical Scanner – Rabbit Model**
David C. Zhu¹, Kheireddine El-Boubbou², George S. Abela³, Ruiping Huang³, Medha Kamar², Xuefei Huang²
¹Radiology & Psychology, Michigan State University, East Lansing, MI, United States; ²Chemistry, Michigan State University; ³Medicine, Michigan State University

Exhibition Hall Tuesday 13:30-15:00 Computer 60

- 13:30 3692. Molecular MRI Allows the Detection of Activated Platelets in a New Mouse Model of Coronary Artery Thrombosis**
Mirko Meißner¹, Daniel Dürschmied², Irene Neudorfer², Constantin von Zur Mühlen², Dominik von Elverfeldt¹
¹Dept. of Radiology / Medical Physics, University Medical Center Freiburg, Freiburg, Germany; ²Dept. of Cardiology & Angiology, University Medical Center Freiburg, Freiburg, Germany
- 14:00 3693. Non-Invasive Assessment of Disease Activity in Lupus Nephritis by MRI-Based Molecular Imaging**
Siranush Anna Sargsyan¹, Kendra M. Hasebroock, Brandon Renner, Brian Larsen², Conrad Stoldt², V. Michael Holers, Joshua M. Thurman, Natalie Serkova
¹Medicine, University of Colorado Denver, Aurora, CO, United States; ²University of Colorado Boulder
- 14:30 3694. Molecular Probes for Targeting & Imaging of Epidermal Growth Factor Receptor on Head & Neck Cancer Cells**
Chiwei Hung¹, Yuan-Chia Kuo^{1,2}, Jiachen Zhuo³, Srinivasa R Raghavan^{2,4}, Janet E. Baulch¹, Rao Gullapalli³, Mohan Suntharalingam¹, Warren D. D'souza^{1,2}
¹Department of Radiation Oncology, University of Maryland School of Medicine, Baltimore, MD, United States; ²Fischell Department of Bioengineering, University of Maryland, College Park, MD, United States; ³Department of Diagnostic Radiology & Nuclear Medicine, University of Maryland Medical Center, Baltimore, MD, United States; ⁴Department of Chemical & Biomolecular Engineering, University of Maryland, College Park, MD, United States

Novel Contrast Agents & Labels

Exhibition Hall Monday 14:00-16:00 Computer 61

- 14:00 3695. Development of Iron Oxide Nanoparticles for MRI-SPECT-Optical Imaging of Sentinel Lymph Nodes**
Renata Madru¹, Pontus Kjellman², Pontus Svenmarker, Karin Wingårdh¹, Sarah Fredriksson², Anders Örbom¹, Stefan Andersson-Engels, Christian Ingvar³, Linda Knutsson¹, Johan Olsrud⁴, Jimmy Lätt⁴, Freddy Ståhlberg¹, Sven-Erik Strand¹
¹Medical Radiation Physics, Lund University, Lund, Sweden; ²Genovis AB, Lund, Sweden; ³Surgery, Skane University Hospital, Lund, Sweden; ⁴Center for Medical Imaging & Physiology, Skane University Hospital, Lund, Sweden
- 14:30 3696. Novel Mn-Porphyrin Contrast Probe for Molecular MR Imaging of Glial Reactivity in the Rat Brain**
Timothy J. Amrhein¹, Talaigair N. Venkatraman¹, Haichen Wang², Ines Batinic-Haberle³, Christopher D. Lascola¹
¹Radiology, Duke University Medical Center, Durham, NC, United States; ²Anesthesiology, Duke University Medical Center, Durham, NC, United States; ³Radiation Oncology, Duke University Medical Center, Durham, NC, United States
- 15:00 3697. A Nanoemulsion Based CEST Agent for Hyperpolarized ¹²⁹Xe**
Todd K. Stevens^{1,2}, Richard M. Ramirez^{1,2}, Alexander Pines^{1,2}
¹Chemistry, UC Berkeley, Berkeley, CA, United States; ²Materials Sciences Division, Lawrence Berkeley National Laboratory, Berkeley, CA, United States
- 15:30 3698. A Novel Dual MRI-Fluorescent Contrast Agent to Track T-Cells for *In-Vivo* Imaging**
Li Liu¹, Qing Ye¹, Yijun L. Wu¹, Chih-Lung Chen², Wen-Yuan Hsieh², Hsin-Hsin Shen², T. Kevin Hitchens¹, Brent Barbe¹, Haosen Zhang¹, Shian-Jy Wang², Chien Ho¹
¹Pittsburgh NMR Center for Biomedical Research, Carnegie Mellon University, Pittsburgh, PA, United States; ²Material and Chemical Research Laboratory, Industrial Technology Research Institute, Hsinchu, Taiwan

Exhibition Hall Tuesday 13:30-15:30 Computer 61

- 13:30 3699. Simultaneous T₁ & MR Temperature Monitoring in Case of Release of Gadoteridol from Thermosensitive Liposomes During HIFU Session**
Marc Derieppe¹, Matthieu Lepetit-Coiffé¹, Mariska De Smet², Silke Hey¹, Yasmina Berber¹, Chrit Moonen¹
¹Laboratory for Molecular & Functional Imaging, UMR 5231 CNRS / University Bordeaux 2, Bordeaux, France; ²Department of Biomedical NMR, Eindhoven University of Technology, Eindhoven, Netherlands
- 14:00 3700. A Dysprosium-Based PARACEST Agent for *In-Vivo* Temperature MRI: Dy³⁺-DOTAM-Gly-Lys**
Alex Xuexin Li¹, Mojmir Suchy^{1,2}, Joseph S. Gati¹, Robert H. E. Hudson², Ravi S. Menon^{1,3}, Robert Bartha^{1,3}
¹Robarts Research Institute, the University of Western Ontario, London, ON, Canada; ²Department of Chemistry, the University of Western Ontario, London, ON, Canada; ³Department of Medical Biophysics, the University of Western Ontario, London, ON, Canada

- 14:30 3701. Monitoring of Iron-PLLA Particle Loaded MSCs After Intramuscular Injection in the Rat Model @ 3T**
Volker Rasche¹, Natalie Fekete², Axel Bornstedt¹, Jian Zhu, Ina Vernikouskaya, Martin Urban³, Katharina Landfester³, Gerlinde Schmidtke-Schrezenmeier², Hubert Schrezenmeier²
¹Internal Medicine II, University Hospital Ulm, Ulm, Germany; ²Institute for Transfusion Medicine, University Hospital Ulm; ³Max-Planck-Institute for Polymer Research
- 15:00 3702. Novel Hydroxytryptophan-Based Gd Chelating Substrate for Imaging Myeloperoxidase Activity.**
Alexei A. Bogdanov¹, Yang Xie, Mohammed S. Shazeeb
¹Radiology, UMASS Medical School, Worcester, MA, United States

Exhibition Hall Wednesday 13:30-15:00 Computer 61

- 13:30 3703. In Vivo Labelling of Xenografted B₁₆ Melanoma Cells with a Thiol-Responsive Gd(III) Based MRI Contrast Agent**
Eliana Gianolio¹, Valeria Menchise², Giuseppe Digilio³, Evelina Cittadino⁴, Carla Carrera⁴, Valeria Catanzaro⁴, Silvio Aime⁴
¹Università di Torino, Torino, Italy; ²CNR - IBB, Italy; ³Università del Piemonte Orientale, Italy; ⁴Università di Torino, Italy
- 14:00 3704. Synthesis & Characterization of D-Glucuronic Acid Coated Dysprosium Oxide Nanoparticles for Magnetic Resonance Imaging (MRI) Contrast Agent**
Krishna Kattel¹, Ja Young Young Park¹, Wenlong Xu¹, Eun Jung Lee¹, Han Gyeol Kim¹, Gang Ho Lee^{}*
¹Department of Chemistry, Kyungpook National University, Daegu, Gyeongsangbuk-do, Korea, Republic of
- 14:30 3705. Water-Soluble MnO Nanocolloid for a Molecular T₁ MR Imaging: A Facile One-Pot Synthesis, In Vivo T₁ MR Images, & Account for Relaxivities**
Eun Jung Lee¹, Ja Young Park¹, Wenlong Xu¹, Krishna Kattel¹, Han Gyeol Kim¹, Gang Ho Lee¹
¹Department of Chemistry, Kyungpook National University, Daegu, Gyeongsangbuk-do, Korea, Republic of

Cell Tracking & Gene Responders

Exhibition Hall Monday 14:00-16:00 Computer 62

- 14:00 3706. In Vivo Quantification of Particle Based & Gene Based MRI Reporters in the Rodent Brain**
Janaki Raman Rangarajan¹, Greetje Vande Velde², Caroline Guglielmetti³, Ruth Vreys³, Marleen Verhoye³, Tom Dresselaers², Annemie Van Der Linden³, Uwe Himmelreich², Frederik Maes¹
¹Medical Image Computing - ESAT/PSI, K.U. Leuven, Leuven, Belgium; ²Biomedical NMR Unit, K.U. Leuven, Belgium; ³Bio-Imaging Lab, University of Antwerp, Belgium
- 14:30 3707. Gadolinium-Catalyzed Single Walled Carbon Nanotubes as Advanced Magnetic Resonance Imaging Contrast Agents: Cell Labeling & Biodistribution Studies**
Pramod Kumar Avti¹, Henry Bryant², Youssef Zaim Wadghiri³, Joseph Frank², Kenneth Shroyer⁴, Balaji Sitharaman⁵
¹Biomedical Engineering, Stony Brook University, Stony Brook, NY, United States; ²Frank Laboratory, Radiology & Imaging Sciences, National Institutes of Health, Bethesda, MD 20892, United States; ³Radiology, New York University, Langone Medical Center, New York, New York 10016, United States; ⁴Pathology, Stony Brook University Medical Center, Stony Brook, New York 11794-8691, United States; ⁵Biomedical Engineering, Stony Brook University Medical Center, Stony Brook, New York 11794-5281, United States
- 15:00 3708. Small & Ultra-Small Nanoparticles of Manganese Oxide (SPMnO, USPMnO) for Positive Contrast in Cellular MRI**
Marc-André Fortin^{1,2}, Mélanie Tremblay¹, Jean Laguex², Mathieu Létourneau¹, Luc Faucher¹, Dario Rojas¹
¹Engineering Materials, Université Laval, Québec, Canada; ²Axe métabolisme, santé vasculaire et rénale, Centre hospitalier universitaire de Québec (CHUQ), Québec, Canada
- 15:30 3709. In-Vivo Monitoring of Therapeutic Effects on Bacterial Infection using High-Field ¹⁹F-MRI**
Volker Sturm¹, Tobias Hertlein², Thomas Christian Basse-Lüsebrink¹, Knut Ohlsen², Peter Michael Jakob¹
¹Experimental Physics 5, University of Würzburg, Würzburg, Germany; ²Institute for Molecular Infection Biology, University of Würzburg, Würzburg, Germany

Exhibition Hall Tuesday 13:30-15:30 Computer 62

- 13:30 3710. Imaging of Inflammation in the Peripheral Nervous System by ¹⁹F MRI**
Thomas Christian Basse-Luesebrink¹, Gesa Weise², Carsten Wessig², Peter Michael Jakob¹, Guido Stoll²
¹Experimental Physics 5, University of Würzburg, Würzburg, Bavaria, Germany; ²Neurology, University of Würzburg, Würzburg, Bavaria, Germany

- 14:00 3711. Tracking Metastatic Tumor Cells in Lymphatics in Mice Xenograft Model by MR Imaging**
Ting Liu¹, Haiju Zhou², Rui Xia³, Jichun Liao³, Hui Wang³, Hua Ai⁴, Feng Bi², Fabao Gao¹
¹Department of Radiology, West China Hospital—Sichuan University, CHENGDU, SICHUAN, China, People's Republic of;
²Department of Oncology, West China Hospital—Sichuan University, CHENGDU, SICHUAN, China, People's Republic of;
³Department of Radiology, West China Hospital—Sichuan University, CHENGDU, SICHUAN, China, People's Republic of;
⁴National Engineering Research Center for Biomaterials—Sichuan University, CHENGDU, SICHUAN, China, People's Republic of
- 14:30 3712. Characterization of USPIO Nanoparticles for Non Invasive Monitoring of Inflammation in Tissue Engineered Tissue Vascular Graft using *In Vivo* MRI**
Halima Chahboune^{1,2}, Jamie Harrington³, Jason Criscione², Ragy Ragheb², Narutoshi Hibino³, Toshiharu Shinoka³, Christopher Breuer Breuer³, Tarek Fahmy⁴
¹Diagnostic Radiology, Yale University, New Haven, CT, United States; ²Biomedical Engineering, Yale University, New Haven, CT, United States; ³Interdepartmental Program in Vascular Biology & Therapeutic, Yale University, New Haven, CT, United States; ⁴Biomedical Engineering, Yale University, New Haven, United States
- 15:00 3713. Quantification of Iron Oxide Nanoparticles in Cellular MRI: Assessment of Free Vs. Cell-Internalized Fraction**
Olivier M. Girard¹, Rose Ramirez¹, Stephanie McCarty^{1,2}, Elamprakash N. Savaria³, Robert F. Mattrey¹
¹Department of Radiology, University of California, San Diego, CA, United States; ²New York Medical College, Valhalla, NY, United States; ³Department of Pharmacology, University of California, San Diego, CA, United States

Exhibition Hall Wednesday 13:30-14:00 Computer 62

- 13:30 3714. Silica-Coated Superparamagnetic Iron Oxide Nanoparticles Are More Durable for Labeling Mesenchymal Stem Cells than Poly(Ethylene Glycol)-Coated Counterparts: Pilot *In-Vivo* Assay Results**
Yi-Xiang Wang¹, K. C. Leung², T. Quercy-Jouvet², H. H. Wang³, C. P. Chak², S. Lin³, D. F. Wang³, D. W. Au⁴, P. C. Leung³, K. P. Fung⁵
¹Department of Imaging & Interventional Radiology, the Chinese University of Hong Kong, Shatin, NT, Hong Kong; ²Center of Novel Functional Molecules, Department of Chemistry, the Chinese University of Hong Kong, Hong Kong; ³Department of Imaging & Interventional Radiology, the Chinese University of Hong Kong, Hong Kong; ⁴Department of Biology & Chemistry, City University of Hong Kong, Kowloon, Hong Kong; ⁵Institute of Chinese Medicine, the Chinese University of Hong Kong, Hong Kong

MR Guided Focused Ultrasound, Thermotherapy & Thermometry

Exhibition Hall Monday 14:00-16:00 Computer 63

- 14:00 3715. An MR-Compatible Preclinical Sonication Platform for Focused Ultrasound Therapy & Monitoring in Animal Models**
Adam Christian Waspe^{1,2}, Meaghan O'Reilly¹, Jiawen Zhang¹, Yaseen Khan¹, Anthony Chau¹, Rajiv Chopra^{1,2}, Kullervo Hynynen^{1,2}
¹Imaging Research, Sunnybrook Health Sciences Centre, Toronto, ON, Canada; ²Department of Medical Biophysics, University of Toronto, Toronto, ON, Canada
- 14:30 3716. A Temperature Dependent Perfusion Rate Model for Simulating Temperature Evolution in Tissue for Magnetic Resonance Imaging Guided High Intensity Focused Ultrasound (MR-HIFU) Therapy: Initial Experience in a Pig Model**
Jiming Zhang¹, Pei-Herng Hor¹, John Fischer², Ari Partanen³, Tiina Karjalainen³, Raja Muthupillai²
¹Department of Physics & Texas Center for Superconductivity, University of Houston, Houston, TX, United States; ²Diagnostic & Interventional Radiology, St. Luke's Episcopal Hospital, Houston, TX, United States; ³Clinical Science, Philips Medical Systems, Cleveland, OH, United States
- 15:00 3717. Real-Time Monitoring of Temperature & Magnetization Transfer During HIFU Transmission & Long-Term Follow-Up of Magnetization Transfer Effect : *In Vivo* Rabbit Investigations**
Hsu-Hsia Peng¹, Teng-Yi Huang², Wei-Min Tseng², Yu-Hui Ding³, Hsiao-Wen Chung⁴, Wen-Shiang Chen³, Wen-Yih Isaac Tseng⁵
¹Dept. of Biomedical Engineering & Environmental Sciences, National Tsing Hua University, Hsinchu, Taiwan; ²Department of Electrical Engineering, National Taiwan University of Science & Technology, Taipei, Taiwan; ³Department of Physical Medicine & Rehabilitation, National Taiwan University Hospital, Taipei, Taiwan; ⁴Department of Electrical Engineering, National Taiwan University, Taipei, Taiwan; ⁵Center for Optoelectronic Biomedicine, Medical College of National Taiwan University, Taipei, Taiwan
- 15:30 3718. Thermal Ablative Lesions in Sheep's Renal Cortex using Respiratory Gated MRgHIFU: Spatial Accuracy & Complications**
Lorena Petrusca¹, Magalie Viallon², Thomas Goget², Denis Morel³, Xavier Monte², Vincent Auboiroux², Sylvain Terraz², Christoph D. Becker², Rares Salomir²

¹Radiology Department, University Hospitals of Geneva, Geneva, Switzerland; ²Radiology Department, University Hospitals of Geneva, Geneva, Switzerland; ³Anesthesiology, University Hospitals of Geneva, Geneva, Switzerland

Exhibition Hall Tuesday 13:30-15:30 Computer 63

- 13:30 3719. Volumetric MRgHIFU Rapid Ablation: In Vivo Demonstration of Non-Parametric Automatic Temperature Control**
Lorena Petrusca¹, Magalie Viallon², Thomas Gogel², Denis Morel³, Vincent Auboiroux², Sylvain Terraz², Christoph Becker², Rares Salomir²
¹Radiology Department, University Hospitals of Geneva, Geneva, Switzerland; ²Radiology Department, University Hospitals of Geneva, Geneva, Switzerland; ³Anesthesiology, University Hospitals of Geneva, Geneva, Switzerland
- 14:00 3720. Model-Predictive Controller using MR Thermometry for Dynamic Optimization of Heating/Cooling Pulses for HIFU Therapies**
Joshua de Bever^{1,2}, Allison Payne¹, Nick Todd¹, Robert Roemer³
¹Utah Center for Advanced Imaging Research, University of Utah, Salt Lake City, UT, United States; ²School of Computing, University of Utah; ³Department of Mechanical Engineering, University of Utah, Salt Lake City, UT, United States
- 14:30 3721. MRI Motion Compensation by Positional Ultrasound Biometrics**
Benjamin Schwartz¹, Nathan McDannold^{2,3}
¹Biophysics, Harvard University, Boston, MA, United States; ²Radiology, Harvard Medical School, Boston, MA, United States; ³Radiology, Brigham & Women's Hospital, Boston, MA, United States
- 15:00 3722. Model Based Correction of Triggered MR Thermometry for LITT**
Joshua P. Yung^{1,2}, Florian Maier³, David Fuentes¹, Axel J. Krafft³, Andrew Elliott¹, Michael Bock³, John D. Hazle^{1,2}, Wolfhard Semmler³, R. Jason Stafford^{1,2}
¹Department of Imaging Physics, University of Texas M.D. Anderson Cancer Center, Houston, TX, United States; ²The University of Texas Graduate School of Biomedical Sciences, Houston, TX, United States; ³Medical Physics in Radiology, German Cancer Research Center (DKFZ), Heidelberg, Germany

Exhibition Hall Wednesday 13:30-15:30 Computer 63

- 13:30 3723. Measuring Temperature Rise During Spin Echo MR-ARFI Acquisition**
Elena Kaye¹, Kim Butts Pauly²
¹Electrical Engineering, Stanford University, Palo Alto, CA, United States; ²Radiology, Stanford University, Palo Alto, CA, United States
- 14:00 3724. MR-Acoustic Radiation Force Mapping Can Quantitatively Predict Drug Delivery Following Ultrasound-Induced Blood Brain Barrier Disruption in Rodents**
Benoit Larrat¹, Benjamin Marty¹, Mathieu Pernot², Mickael Tanter², Franck Lethimonnier¹, Sébastien Mériaux¹
¹CEA/DSV/I2BM/Neurospin, Paris, France; ²Institut Langevin - ESPCI Paristech, INSERM U979
- 14:30 3725. Blood-Brain Barrier Disruption in Nonhuman Primates using a Clinical MRI-Guided Focused Ultrasound System: Preliminary Results**
Nathan McDannold¹, Costas D. Arvanitis¹, Natalia Vykhodtseva¹, Margaret S. Livingstone²
¹Radiology, Brigham & Women's Hospital, Harvard Medical School, Boston, MA, United States; ²Neurobiology, Harvard Medical School, Boston, MA, United States
- 15:00 3726. Pain Control in Patients with Locally Advanced Pancreatic Carcinoma using High Intensity Focused Ultrasound Under 3T MR Guidance. Results from a Single Center Preliminary Experience.**
Alessandro Napoli¹, Beatrice Cavallo Marincola¹, Michele Anzidei¹, Guendalina Menichini¹, Gaia Cartocci¹, Carlo Catalano¹, Roberto Passariello¹
¹Radiological Sciences, Policlinico Umberto I, Rome, Italy

Exhibition Hall Thursday 13:30-15:30 Computer 63

- 13:30 3727. Assessing Thermal Tissue Damage with Biexponential Diffusion-Weighted MRI**
Valentina Giannini^{1,2}, Pejman Ghanouni³, Graham Sommer³, Chris Diederich⁴, Andrew Holbrook³, Vasant Salgaonkar⁴, Punit Prakash⁴, Harcharan Gill⁵, Donna Bouley⁶, Kim Butts Pauly³
¹Radiology, FPRC, Candiolo, TO, Italy; ²Radiology, Stanford University, Stanford, Ca, United States; ³Radiology, Stanford University, Stanford, CA, United States; ⁴Radiation Oncology, University of California, San Francisco, San Francisco, Ca, United States; ⁵Urology, Stanford University, Stanford, CA, United States; ⁶Comparative Medicine, Stanford University, Stanford, CA, United States
- 14:00 3728. Comparing Different Drug Carriers for Dynamic Absolute MR Thermometry**

Roel Deckers¹, Sara M. Sprinkhuizen¹, Marina Talelli², Bart Crielaard², Hans Ippel³, Rolf Boelens³, Twan Lammers^{2,4}, Chris J. Bakker¹, Gert Storm², Lambertus W. Bartels¹

¹Image Sciences Institute, University Medical Center Utrecht, Utrecht, Netherlands; ²Department of Pharmaceutics, Utrecht Institute for Pharmaceutical Sciences, Utrecht University, Utrecht, Netherlands; ³Department of NMR Spectroscopy, Bijvoet Center for Biomolecular Research, Utrecht University, Utrecht, Netherlands; ⁴Department of Experimental Molecular Imaging, RWTH Aachen, Aachen, Germany

- 14:30 3729. A Novel Imaging Approach Employing a $\pm 90^\circ$ -Preparation for Fast PRF-Based MR Thermometry**
Axel Joachim Krafft¹, Florian Maier¹, Jaane Rauschenberg¹, Joshua P. Yung², Jürgen Walter Jenne^{3,4}, Wolfhard Semmler¹, Michael Bock¹

¹Medical Physics in Radiology, German Cancer Research Center (DKFZ), Heidelberg, Germany; ²Imaging Physics, University of Texas M.D. Anderson Cancer Center, Houston, TX, United States; ³Mediri GmbH, Heidelberg, Germany; ⁴Clinical Clinical Cooperation Unit Radiation Oncology, German Cancer Research Center (DKFZ), Heidelberg, Germany

- 15:00 3730. Kalman Filtered MR Temperature Imaging**
David Fuentes¹, Joshua Yung¹, Andrew Elliott¹, John D. Hazle¹, Roger Jason Stafford¹

¹Imaging Physics, MD Anderson Cancer Center, Houston, TX, United States

Interventional MRI: Cardiovascular Applications

Exhibition Hall Monday 14:00-16:00 Computer 64

- 14:00 3731. Assessment of the Transmural Extent of Acute Atrial Lesions using Electrogram Amplitude vs. LGE-MRI**
Sathya Vijayakumar^{1,2}, Eugene G. Kholmovski^{1,2}, Ravi Ranjan^{2,3}, Gene Payne^{1,2}, Joshua Blauer^{2,4}, Kamal Vij⁵, Nelly A. Volland^{1,2}, Gaston Vergara^{2,3}, Kimberly Johnson^{2,3}, Gregory Gardner^{4,6}, Steven Shea⁷, Sunil Patil⁷, Julien Barbot⁷, Christopher J. McGann^{2,3}, Peter Piferi⁵, Christine Lorenz⁷, Rob MacLeod^{2,4}, Nassir F. Marrouche^{2,3}

¹UCAIR, Department of Radiology, University of Utah, Salt Lake City, UT, United States; ²CARMA Center, University of Utah, Salt Lake City, UT, United States; ³Department of Cardiology, University of Utah, Salt Lake City, UT, United States; ⁴SCI Institute, University of Utah, Salt Lake City, UT, United States; ⁵SurgiVision Inc., Irvine, CA, United States; ⁶Dept. of BioEngineering, University of Utah, Salt Lake City, UT; ⁷Center for Applied Medical Imaging, Siemens Corporate Research, Princeton, NJ, United States

- 14:30 3732. Characterization of Acute Atrial Lesions by Late Gadolinium Enhancement MRI**
Eugene G. Kholmovski^{1,2}, Sathya Vijayakumar^{1,2}, Christopher J. McGann^{2,3}, Joshua Blauer^{2,4}, Ravi Ranjan^{2,3}, Gaston Vergara^{2,3}, Gene Payne^{1,2}, Nelly Volland^{1,2}, Rob MacLeod^{2,4}, Nassir F. Marrouche^{2,3}

¹UCAIR, Department of Radiology, University of Utah, Salt Lake City, UT, United States; ²CARMA Center, University of Utah, Salt Lake City, UT, United States; ³Department of Cardiology, University of Utah, Salt Lake City, UT, United States; ⁴SCI Institute, University of Utah, Salt Lake City, UT, United States

- 15:00 3733. MR-Guided Endocardial Local Activation Time Map During Programmed Stimulation**
Samuel O. Oduneye¹, Labonny Biswas², Stefan Pintilie², Venkat Ramanan², Jennifer Barry², Tawfiq Zeidan Shwiri³, Ehud Kadmon³, Eugene Crystal³, Graham A. Wright¹

¹Medical Biophysics, University of Toronto, Toronto, Ontario, Canada; ²Imaging Research, Sunnybrook Research Institute, Toronto, Ontario, Canada; ³Arrhythmia Services, Sunnybrook Health Science Centre, Toronto, Ontario, Canada

- 15:30 3734. Atrial Thickness Mapping for EP Ablation using Black-Blood Restricted Field of View MRI**
Peter Koken¹, Ronald Holthuisen², Sascha Krueger¹, Harald Sepp Heese¹, Steffen Weiss¹, Jouke Smink², Reza Razavi³, Tobias Schaeffter³

¹Philips Research Laboratories, Hamburg, Germany; ²Philips Healthcare, Best, Netherlands; ³Division of Imaging Sciences, King's College, London, United Kingdom

Exhibition Hall Tuesday 13:30-15:30 Computer 64

- 13:30 3735. Visualization Platform for Real-Time, MRI-Guided Cardiac Interventions**
Stefan Pintilie¹, Labonny Biswas¹, Samuel Oduneye¹, Kevan Anderson¹, Graham A. Wright^{1,2}, Perry E. Radaul¹

¹Imaging Research, Sunnybrook Hospital, Toronto, Ontario, Canada; ²Medical Biophysics, University of Toronto, Toronto, ON, Canada

- 14:00 3736. Real-Time MR-Guided Transarterial Aortic Valve Implantation (TAVI): *In Vivo* Evaluation in Swine**
Harald H. Quick^{1,2}, Philipp Kahler³, Holger Eggebrecht³, Gernot M. Kaiser⁴, Nina Parohl², Juliane Albert², Lena Schäfer², Ian McDougall⁵, Brad Decker⁵, Raimund Erbel³, Mark E. Ladd²

¹Institute of Medical Physics, University of Erlangen-Nürnberg, Erlangen, Germany; ²Department of Diagnostic Radiology, University Hospital Essen, Essen, Germany; ³Department of Cardiology, University Hospital Essen, Essen, Germany; ⁴Department of Transplantation Surgery, University Hospital Essen, Essen, Germany; ⁵Evase Medical Systems, Vancouver, BC, Canada

- 14:30 3737. XFM-Guided Approach to Intrapericardial Delivery of Cardiac Therapeutics**
Nicole Azene^{1,2}, Yingli Fu¹, Tina Ehtiati³, Aaron Flammang³, Dorota Anna Kedziorek¹, Jens Guehring⁴, Wesley D. Gilson³, Judy Cook¹, Clifford R. Weiss¹, Kathleen L. Gabrielson², Peter V. Johnston⁵, Dara L. Kraitchman¹
¹Russell H. Morgan Department of Radiology & Radiological Science, Johns Hopkins University School of Medicine, Baltimore, MD, United States; ²Molecular & Comparative Pathobiology, Johns Hopkins University School of Medicine, Baltimore, MD, United States; ³Siemens Corporate Research, Baltimore, MD, United States; ⁴Siemens Corporate Research, Erlangen, Germany; ⁵Department of Medicine, Johns Hopkins University School of Medicine, Baltimore, MD, United States
- 15:00 3738. Virtual Dye Angiography: using Endogenous Contrast to Visualize Blood Flow in MRI-Guided Interventional Procedures**
Ashvin Kurian George¹, Anthony Z. Faranesh¹, Kanishka Ratnayaka¹, J. Andrew Derbyshire¹, Robert J. Lederman¹, Michael S. Hansen¹
¹National Institutes of Health, Bethesda, MD, United States

Exhibition Hall Wednesday 13:30-15:30 Computer 64

- 13:30 3739. Online Automated Generation of an Aortic Model for MR Guided Interventions**
Nils Karlsson¹, Klaus J. Kirchberg², Li Pan¹, Aaron J. Flammang¹, Christine H. Lorenz¹, Wesley Gilson¹
¹Center for Applied Medical Imaging, Siemens Corporation, Corporate Research, Baltimore, MD, United States; ²Center for Applied Medical Imaging, Siemens Corporation, Corporate Research, Princeton, NJ, United States
- 14:00 3740. 3D Aortic Motion Estimation for Image-Guided Intervention**
Rachel E. Clough¹, Christian Buerger¹, Christoph Kolbitsch¹, Markus Henningsson¹, Peter Taylor¹, Claudia Prieto¹, Tobias Schaeffter¹
¹Division of Imaging Sciences & Biomedical Engineering, King's College London, Westminster Bridge Road, London, United Kingdom
- 14:30 3741. Intra-Cardiac MRI Catheter for EP Ablation Monitoring: Preliminary Studies**
Ehud J. Schmidt¹, Lei Qin¹, Juan Santos², Gregory F. Michaud³, Raymond K. Kwong³, Kim Butts-Pauly⁴, William G. Stevenson³, Charles L. Dumoulin⁵
¹Radiology, Brigham & Womens Hospital, Boston, MA, United States; ²CardioVista Inc., Palo Alto, CA, United States; ³Cardiology, Brigham & Womens Hospital, Boston, MA, United States; ⁴Radiology, Stanford University, Palo Alto, CA, United States; ⁵Radiology, Cincinnati Childrens Hospital, Cincinnati, OH, United States
- 15:00 3742. System for Real-Time Cardiac MRI Gating, 12-Lead ECG Monitoring, & Non-Invasive Stroke Volume Estimation**
Zion Tsz Ho Tse¹, Charles L. Dumoulin², Gari Clifford³, Michael Jerosch-Herold¹, Daniel Kacher¹, Raymond Kwong⁴, William Gregory Stevenson⁴, Ehud Jeruham Schmidt¹
¹Radiology, Brigham & Women's Hospital, Boston, MA, United States; ²University of Cincinnati College of Medicine, Cincinnati, OH, United States; ³Department of Engineering Science, University of Oxford, Oxford, United Kingdom; ⁴Cardiology, Brigham & Women's Hospital, Boston, MA, United States

Exhibition Hall Thursday 13:30-15:30 Computer 64

- 13:30 3743. Dephased Double Echo Imaging with Outer Volume Suppression for Accelerated White Marker Imaging in MR-Guided Interventions**
Axel Joachim Krafft¹, Alexander Brunner¹, Jaane Rauschenberg¹, Joachim Pfeffer², Klaus Düring², Wolfhard Semmler¹, Michael Bock¹
¹Medical Physics in Radiology, German Cancer Research Center (DKFZ), Heidelberg, Germany; ²MaRVis Technologies GmbH, Aachen, Germany
- 14:00 3744. PRESSURE GRADIENT PREDICTION in AORTIC COARCTATION using a COMPUTATIONAL-FLUID-DYNAMIC (CFD) MODEL: Validation Against Invasive Pressure Catheterization at Rest & Pharmacological Stress**
Israel Valverde¹, Cristina Staicu², Alberto Marzo², Heynric Grotenhuis³, Kawal Rhode¹, Yubing Shi², Aphrodite Tzifa¹, Reza Razavi¹, Patricia Lawford², Rod Hose², Philipp Beerbaum¹
¹Imaging Sciences, King's College London, London, United Kingdom; ²Department of Cardiovascular Science, Medical Physics Group, University of Sheffield, Sheffield, United Kingdom; ³Leiden University Medical Centre, Leiden, Netherlands
- 14:30 3745. Accurate Catheter Tip Tracking for MR-Guided EP Procedures using Realtime Active Detuning**
Venkat Ramanan¹, Samuel O Oduneye², Labonny Biswas¹, Stefan Pintilie¹, Graham a Wright^{1,2}
¹Sunnybrook Research Institute, Toronto, Ontario, Canada; ²Medical Biophysics, Sunnybrook Research Institute, Toronto, Ontario, Canada

- 15:00 3746. Prospective Motion Correction for Intra-Cardiac 3D Delayed Enhancement MRI using an MR-Tracking Tetrahedron**
Lei Qin¹, Ehud J. Schmidt¹, Juan Santos², W. Scott Hoge¹, Clare Tempany-Afdhal¹, Kim Butts-Pauly³, William G. Stevenson⁴, Charles L. Dumoulin⁵
¹Radiology, Harvard Medical School, Boston, MA, United States; ²Heart Vista, Inc, Palo Alto, CA; ³Radiology, Stanford University; ⁴Cardiology, Harvard Medical School; ⁵Radiology, Cincinnati Childrens' Hospital

Interventional MRI: Instrument Visualization, Guidance & Interfaces

Exhibition Hall Monday 14:00-16:00 Computer 65

- 14:00 3747. Highly Efficient 3D Tracking & Visualization of Loopless Active MRI Devices using Slice-Direction-Dephased, Undersampled Projection Imaging**
Ashvin Kurian George¹, J. Andrew Derbyshire¹, Michael S. Hansen¹, Christina E. Saikus¹, Ozgur Kocaturk¹, Robert J. Lederman¹, Anthony Z. Faranesh¹
¹National Institutes of Health, Bethesda, MD, United States
- 14:30 3748. Online Real-Time Visualization of an Active Catheter using Compressed Sensing in Interventional MRI**
Cheng Ouyang^{1,2}, Tobia Wech^{1,3}, Kamal Vij⁴, Li Pan^{1,5}
¹Center for Applied Medical Imaging, Siemens Corporate Research, Baltimore, MD, United States; ²Bioengineering, University of Illinois at Urbana-Champaign, Urbana, IL, United States; ³Institute of Radiology, University of Wuerzburg, Wuerzburg, Bavaria, Germany; ⁴SurgiVision, Inc., Irvine, CA, United States; ⁵Department of Radiology & Radiological Science, Johns Hopkins University, Baltimore, MD, United States
- 15:00 3749. 3D Passive Marker Tracking for MR-Guided Interventions**
Florian Maier¹, Axel J. Kraff², R. Jason Stafford³, Joshua P. Yung^{3,4}, Rüdiger Dillmann⁵, Wolfhard Semmler², Michael Bock²
¹Medical Physics in Radiology, German Cancer Research Center (DKFZ), Heidelberg, Germany; ²Medical Physics in Radiology, German Cancer Research Center (DKFZ), Heidelberg, Germany; ³Department of Imaging Physics, the University of Texas M. D. Anderson Cancer Center, Houston, TX, United States; ⁴The University of Texas Graduate School of Biomedical Sciences, Houston, TX, United States; ⁵Institute of Anthropomatics, Karlsruhe Institute of Technology, Karlsruhe, Germany
- 15:30 3750. MR Active Insertion Mandrel for Improved Delineation of Deep Brain Structures During MR Guided Electrode Insertion**
Alastair Martin¹, Kamal Vij², Paul Larson¹, Philip Starr¹
¹University of California - San Francisco, San Francisco, CA, United States; ²SurgiVision, Inc

Exhibition Hall Tuesday 13:30-15:30 Computer 65

- 13:30 3751. Device Monitoring & Dynamic Scanner Feedback Control for Active Device Safety in Interventional MRI**
Christina E. Saikus¹, Ozgur Kocaturk¹, Merdim Sonmez¹, Jamie A. Bell¹, Anthony Z Faranesh¹, J. Andrew Derbyshire¹, Robert J. Lederman¹, Michael S. Hansen¹
¹National Heart, Lung, & Blood Institute, National Institutes of Health, Bethesda, MD, United States
- 14:00 3752. Low-Cost MRI Compatible Interface Device for Interactive Scan Plane Control**
Mihai T. Mazilu¹, Anthony Zahi Faranesh¹, John Andrew Derbyshire¹, Robert J. Lederman¹, Michael Schacht Hansen¹
¹National Heart, Lung, & Blood Institute, National Institutes of Health, Bethesda, MD, United States
- 14:30 3753. Real-Time Scan Plane Selection with a Novel Hand-Held Device for Needle Guidance**
Matthew Joseph Riffe¹, Stephen R. Yutz², Colin Blumenthal^{3,4}, Daniel P. Hsu⁴, Dean A. Nakamoto⁴, Jeffrey L. Sunshine⁴, Chris A. Flask^{1,4}, Vikas Gulani⁴, Jeffrey L. Duerk^{1,4}, Mark A. Griswold⁴
¹Biomedical Engineering, Case Western Reserve University, Cleveland, OH, United States; ²Radiology, University of Pittsburgh, Pittsburgh, PA, United States; ³Electrical & Computer Engineering, Ohio State University, Columbus, OH, United States; ⁴Radiology, University Hospitals of Cleveland, Cleveland, OH, United States
- 15:00 3754. Diagnostic Accuracy & Workflow of 240 Experimental MR Biopsies with a Clinical Navigation Solution Outside the Bore**
Harald Busse¹, Tim Riedel¹, Nikita Garnov¹, Gregor Thörmer¹, Thomas Kahn¹, Michael Moche¹
¹Diagnostic & Interventional Radiology Department, Leipzig University Hospital, Leipzig, Germany

Exhibition Hall Wednesday 13:30-15:30 Computer 65

- 13:30 3755. A Novel Broad-Band, High Power & RF-Safe Cable for MR-Guided Catheter Ablation**
Sascha Krueger¹, Oliver Lips¹, Bernd David¹, Steffen Weiss¹

¹Philips Research Laboratories, Hamburg, Germany

- 14:00 3756. Novel Approach to Real-Time MR-Guided TIPS using an Actively Visualized Excimer Laser Catheter & Delivery System**
Christina E. Saikus¹, Jamie A. Bell¹, Kanishka Ratnayaka^{1,2}, Venkatesh K. Raman¹, Merdim Sonmez¹, Anthony Z. Faranesh¹, Ozgur Kocaturk¹, Robert J. Lederman¹
¹National Heart, Lung, & Blood Institute, National Institutes of Health, Bethesda, MD, United States; ²Children's National Medical Center, Washington DC, United States
- 14:30 3757. Tracking Rotational Orientation of Catheter using Transmit Array System**
Haydar Celik^{1,2}, Davut Ibrahim Mahcicek³, Ergin Atalar^{1,3}
¹Electrical & Electronics Engineering, Bilkent University, Ankara, Turkey; ²National Research Center for Magnetic Resonance (UMRAM), Ankara, Turkey; ³National Research Center for Magnetic Resonance (UMRAM), Ankara, Turkey
- 15:00 3758. Pure Phase Encoding Acquisition for Calibration of High Geometric Fidelity Intervention Applications**
Sjoerd Crijns¹, Bas Raaymakers¹, Jan Lagendijk¹
¹Radiotherapy, UMC Utrecht, Utrecht, Netherlands

Exhibition Hall Thursday 13:30-15:30 Computer 65

- 13:30 3759. MR Guided Percutaneous Embolization of Low-Flow Vascular Malformations: Initial Experience using a Hybrid MR/X-Ray Fluoroscopy System**
Clifford Raabe Weiss¹, Aaron J. Flammang², Wesley Gilson², Dara L. Kraitchman¹, Sally E. Mitchell¹, Frank K. Wacker³, Jonathan S. Lewin¹
¹Radiology & Radiologic Science, Johns Hopkins University School of Medicine, Baltimore, MD, United States; ²Center for Applied Medical Imaging, Siemens Corporate Research, Baltimore, MD, United States; ³Department of Diagnostic & Interventional Radiology, Hannover Medical School, Hannover, Germany
- 14:00 3760. Construction of a MR Compatible Arthroscopic System & Its Clinical Application**
Christian Jürgen Seebauer¹, Jens Rump², Hermann Josef Bail³, Felix Güttler², Bernd Hamm², Ulf Teichgräber²
¹Center for Musculoskeletal Surgery, Charité-Universitätsmedizin Berlin, Berlin, Germany; ²Department of Radiology, Charité-Universitätsmedizin Berlin, Berlin, Germany; ³Department of Trauma & Orthopedic Surgery, Clinic Nuremberg, Nuremberg, Germany
- 14:30 3761. Preliminary Accuracy Evaluation of 3T MRI-Guided Transperineal Prostate Biopsy with Grid Template**
Junichi Tokuda¹, Kemal Tuncali¹, Iulian Iordachita², Sang-Eun Song¹, Andriy Fedorov¹, Sota Oguro¹, Andras Lasso³, Fiona M. Fennessy¹, Yi Tang¹, Clare M. Tempny¹, Nobuhiko Hata¹
¹Department of Radiology, Brigham & Women's Hospital, Boston, MA, United States; ²The Johns Hopkins University, Baltimore, MD, United States; ³School of Computing, Queen's University, Kingston, ON, Canada
- 15:00 3762. Fast & Reliable Localization of Brachytherapy Seeds using Undersampled Co-RASOR**
Peter Roland Seevinck¹, Hendrik de Leeuw¹, Marinus A. Moerland², Chris J. G. Bakker¹
¹Physics of MRI, Image Sciences Institute, University Medical Center Utrecht, Utrecht, Netherlands; ²Department of Radiation Oncology, University Medical Center Utrecht, Utrecht, Netherlands

Safety: Implants & Devices

Exhibition Hall Monday 14:00-16:00 Computer 66

- 14:00 3763. RF Safety Assessment of a Generic Deep Brain Stimulator During 1.5T MRI Exposure**
Eugenia Cabot¹, Tom Lloyd², Andreas Christ¹, Gregg Stenzel², Wolfgang Kainz³, Steve Wedan², Niels Kuster^{1,4}
¹IT'IS Foundation, Zurich, Switzerland; ²Imricor Medical Systems, United States; ³FDA, Rockville, United States; ⁴Swiss Federal Institute of Technology (ETHZ), Zurich, Switzerland
- 14:30 3764. Radio-Frequency Heating at Deep Brain Stimulation Lead Electrodes Due to Imaging with Head Coils in 3 T & 7T**
Devashish Shrivastava¹, Jingeng Tian¹, Aviva Abosch¹, John T. Vaughan¹
¹University of Minnesota, Minneapolis, MN, United States
- 15:00 3765. Measurements of RF Heating During 3.0T MRI of a Pig Implanted with DBS**
Krzysztof R. Gorny¹, Stephan J. Goerss², Michael F. Presti³, Sun Chul Hwang⁴, Dong-Pyo Jang⁴, Inyong Kim⁴, Kendall H. Lee, Matt A. Bernstein¹
¹Radiology, Mayo Clinic, Rochester, MN, United States; ²Neurosurgery, Mayo Clinic, Rochester, MN, United States; ³Neurology, Mayo Clinic, Rochester, MN, United States; ⁴Neurologic Surgery, Mayo Clinic, Rochester, MN, United States

- 15:30 3766. Fast T₁-Thermometry of the RF Induced Heating of Conductive Wires**
Daniel Gensler¹, Florian Fidler¹, Marcus Warmuth², Theresa Reiter², Peter Nordbeck², Oliver Ritter², Mark E. Ladd³, Harald H. Quick⁴, Peter M. Jakob¹, Wolfgang R. Bauer²
¹Forschungszentrum Magnet-Resonanz-Bavaria e.V., Wuerzburg, Bavaria, Germany; ²Medizinische Klinik & Poliklinik I, Universitätsklinikum Würzburg, Wuerzburg, Bavaria, Germany; ³Erwin L. Hahn Institut für Magnetresonanz, Universität Duisburg-Essen; ⁴Institut für Medizinische Physik, Friedrich-Alexander-Universität Erlangen-Nürnberg

Exhibition Hall Tuesday 13:30-15:30 Computer 66

- 13:30 3767. An MR Thermometry-GBHTM ‘Hybrid’ Model to Determine Radiofrequency Heating Near Implanted Leads in High Field Imaging**
Devashish Shrivastava¹, Ute Goerke¹, Shalom Michaeli¹, Jingeng Tian¹, Aviva Abosch¹, John T. Vaughan¹
¹University of Minnesota, Minneapolis, MN, United States

- 14:00 3768. Resonant Traps as a Safety Measure: Influence of Inaccurate Tuning**
Falk Uhlemann¹, Peter Mazurkewitz¹, Oliver Lips¹
¹Philips Research Laboratories, Hamburg, Germany

- 14:30 3769. Influence of Electrical Connections on Catheter Heating**
Oliver Lips¹, Bernd David¹, Sascha Krueger¹, Kai-Michael Luedeke¹, Steffen Weiss¹
¹Philips Research Laboratories, Hamburg, Germany

- 15:00 3770. Assessment of RF Induced Heating of Coronary Stents in 7T MRI**
Davide Santoro¹, Julia Marie Vogt², Wolfgang Renz³, Johanna Gellermann⁴, Frank Seiferl⁵, Valeriy Tkachenko⁴, Jeannette Schulz-Menger⁴, Thoralf Niendorf⁴
¹Berlin Ultra-High Field Facility (BUFF), Max Delbrück Center for Molecular Medicine (MDC), Berlin, Germany; ²Department of Physics, Humboldt University Berlin, Berlin, Germany; ³Siemens Healthcare, Erlangen, Germany; ⁴Experimental & Clinical Research Center (ECRC), Charité Campus Berlin Buch; ⁵Physikalisch-Technische Bundesanstalt (PTB)

Exhibition Hall Wednesday 13:30-15:30 Computer 66

- 13:30 3771. Detection & Countermeasures for RF Unsafe Conditions for MR-Conditional Devices**
Ingmar Graesslin¹, Steffen Weiss¹, Emna Hassani¹, Kai Nehrke¹, Peter Vernickel¹, Sascha Krueger¹
¹Philips Research Laboratories, Hamburg, Germany

- 14:00 3772. Reduction of RF Heating of Metallic Devices by using a Two-Channel Transmit Array System : Application to Arbitrary Lead Geometries**
Yigitcan Eryaman¹, Burak Akin¹, Cagdas Oto², Oktay Algin³, Ergin Atalar¹
¹National Magnetic Resonance Research Center (UMRAM), Bilkent University, Ankara, Turkey; ²Veterinary Medicine, Department of Anatomy, Ankara University, Ankara, Turkey; ³Department of Radiology, Ataturk Training & Research Hospital, Ankara, Turkey

- 14:30 3773. Comparison of RF Heating in Cables Equipped with Different Types of Current Limitations**
Steffen Weiss¹, Bernd David¹, Oliver Lips¹, Jan Hendrik Wuelbern¹, Sascha Krueger¹
¹Philips Research Laboratories, Hamburg, Germany

- 15:00 3774. MR Safety Assessment of Potential RF Heating from Cranial Fixation Plates at 7 Tesla**
Oliver Kraff^{1,2}, Karsten H. Wrede^{1,3}, Stephan Orzada^{1,2}, Philipp Dammann^{1,3}, Mark E. Ladd^{1,2}, Andreas K. Bitz^{1,2}
¹Erwin L. Hahn Institute for MRI, University Duisburg-Essen, Essen, Germany; ²Department of Diagnostic & Interventional Radiology & Neuroradiology, University Hospital Essen, Essen, Germany; ³Clinic for Neurosurgery, University Hospital Essen, Essen, Germany

Exhibition Hall Thursday 13:30-15:30 Computer 66

- 13:30 3775. A Novel Phantom Design to Reduce Thermal Losses During Radio Frequency (RF) Induced Heating Testing According to ASTM F2182-09 Standard**
Christian Koch^{1,2}, Gregor Schaefer¹, Waldemar Zylka²
¹MR:comp GmbH, MR Safety Testing Laboratory, Buschgrundstraße 33, 45894 Gelsenkirchen, North Rhine-Westphalia, Germany; ²Department of Physical Engineering, Medical Physics Laboratory, University of Applied Sciences Gelsenkirchen, Neidenburger Str. 43, 45877 Gelsenkirchen, North Rhine-Westphalia, Germany

- 14:00 3776. MR Thermometry using a Paramagnetic Lanthanide Complex for Evaluation of RF Safety**
Shalmali Dharmadhikari^{1,2}, Navin Bansal^{1,2}
¹Purdue University, West Lafayette, IN, United States; ²Indiana University, Indianapolis, IN, United States

- 14:30 3777. **TEM Cell for Calibration of an Electro-Optic E-Field Sensor in a Clinical Scanner**
Frank Seifert¹, Tobias Klepsch¹, Tomasz David Lindel¹, Werner Hoffmann¹, Bernd Itermann¹
¹Physikalisch-Technische Bundesanstalt, Braunschweig und Berlin, Germany
- 15:00 3778. **Optical Dipole Probes for Quantitative Electric Field Measurements Up to 7T**
Jens Groebner¹, Reiner Umathum¹, Stefan Hoffmann¹, Moritz Cornelius Berger¹, Michael Bock¹, Florian Martin Meise¹, Wolfhard Semmler¹, Jaane Rauschenberg¹
¹Medical Physics in Radiology, German Cancer Research Center (DKFZ), Heidelberg, Germany

Gradient & Shim Coil Design

Exhibition Hall Monday 14:00-16:00 Computer 67

- 14:00 3779. **A Finite-Difference Based Method for the Design of Gradient Coils in MRI**
Ling Xia¹, Minhua Zhu¹, Guofa Shou¹, Feng Liu², Stuart Crozier²
¹Department of Biomedical Engineering, Zhejiang University, Hangzhou, China, People's Republic of; ²School of Information Technology & Electrical Engineering, University of Queensland, Brisbane, Australia
- 14:30 3780. **A Novel Coil Design Method for Manufacturable Configurations at Optimal Performance**
Feng Jia¹, Zhenyu Liu², Jan G. Korvink^{1,3}
¹Freiburg Institute of Advanced Studies (FRIAS), University of Freiburg, Freiburg, Germany; ²Changchun Institute of Optics, Fine Mechanics & Physics (CIOMP), Chinese Academy of Sciences, Changchun, China, People's Republic of; ³Department of Microsystems Engineering (IMTEK), University of Freiburg, Freiburg, Germany
- 15:00 3781. **Behaviour of Gradient Coils Designed with Varying Degrees of Minimised Maximum Current Density**
Michael Stephen Poole¹, Peter While², Hector Sanchez Lopez¹, Larry Forbes², Stuart Crozier¹
¹ITEE, University of Queensland, Brisbane, QLD, Australia; ²Mathematics, University of Tasmania, Hobart, Tasmania, Australia
- 15:30 3782. **Suppressing Local Hot Spots in RF Coils & Shields Due to Gradient Eddy Currents**
Zhen Yao¹, Aaron Shojinaga¹, Yong Wu¹, Timothy Eagan², Shmaryu Shvartsman², Thomas Chmielewski², Robert Brown¹
¹Department of Physics, Case Western Reserve University, Cleveland, OH, United States; ²ViewRay Inc., Oakwood Village, OH, United States

Exhibition Hall Tuesday 13:30-15:30 Computer 67

- 13:30 3783. **Magnetic Particle Imaging: Linear Gradient Array for Imaging with a Traveling Wave**
Peter Klauer^{1,2}, Martin Andreas Rückert^{1,2}, Patrick Vogel^{1,2}, Walter H. Kullmann¹, Peter M. Jakob^{2,3}, Volker Christian Behr²
¹Electrical Engineering, University of Applied Sciences Würzburg-Schweinfurt, Schweinfurt, Germany; ²Department of Experimental Physics 5 (Biophysics), University of Würzburg, Würzburg, Germany; ³Research Center for Magnetic Resonance Bavaria e.V (MRB), University of Würzburg, Würzburg, Germany
- 14:00 3784. **A Hybrid Field-Harmonics Approach for Passive Shimming Design in MRI**
Feng Liu¹, Jianfeng Zhu², Ran Zhang³, Ling Xia², Stuart Crozier¹
¹School of Information Technology & Electrical Engineering, University of Queensland, Brisbane, Queensland, Australia; ²Department of Biomedical Engineering, Zhejiang University, Hangzhou, Zhejiang, China, People's Republic of; ³School of Electrical Engineering, Shandong University, Jinan, Shandong, China, People's Republic of
- 14:30 3785. **Construction & Optimization of Local 3rd Order Passive Shim System for Human Brain Imaging at 4T MRI**
Mohan Lal Jayatilake^{1,2}, Judd Storrs^{1,3}, Jeff Osterhage¹, Jing-Huei Lee^{1,4}
¹Center for Imaging Research, University of Cincinnati, Cincinnati, OH, United States; ²Department of Physics, University of Cincinnati, Cincinnati, OH, United States; ³Department of Psychiatry & Behavioural Neuroscience, University of Cincinnati, Cincinnati, OH, United States; ⁴School of Energy, Environmental, Biological, & Medical Engineering, University of Cincinnati, Cincinnati, OH, United States
- 15:00 3786. **Optimization of Computational Speed for BE Method of Coil Design**
Chad Tyler Harris¹, William B. Handler¹, Blaine A. Chronik¹
¹Physics and Astronomy, University of Western Ontario, London, Ontario, Canada

Exhibition Hall Wednesday 13:30-15:30 Computer 67

- 13:30 3787. **Synergistic Active & Passive Shimming to Optimize B₀ Field Homogeneity in Micro MR Imaging**
Rahul Dewal¹, Zhipeng Cao², Christopher Sica³, Christopher Collins³, Qing Yang^{1,3}

¹Bioengineering, the Pennsylvania State University, Hershey, PA, United States; ²Bioengineering, the Pennsylvania State University, Hershey, PA, United States; ³Radiology, the Pennsylvania State University, Hershey, PA, United States

14:00 3788. Fast Eddy Current Simulation in Thick Split Cylinders of Finite Length Induced by Coils of Arbitrary Geometry

Hector Sanchez-Lopez¹, Michael Poole¹, Limei Liu¹, Stuart Crozier¹

¹School of Information Technology & Electrical Engineering, the University of Queensland, Brisbane, QLD, Australia

14:30 3789. Reducing Short Term Gradient Heating by Usage of Adapted Encoding Schemes

Paul Freitag¹

¹Bruker BioSpin MRI GmbH, Ettlingen, Germany

15:00 3790. Design of Gradient & Shim Coils for a Head-Only, Vertical, HTS MRI System

Michael Stephen Poole¹, Hector Sanchez Lopez¹, Stuart Crozier¹, Iwao Nakajima², Shin-Ichi Urayama³

¹IITEE, University of Queensland, Brisbane, QLD, Australia; ²Takashima Seisakusho Co., Ltd., Tokyo, Japan; ³Human Brain Research Center, Kyoto University Graduate School of Medicine, Kyoto, Japan

Exhibition Hall Thursday 13:30-15:30 Computer 67

13:30 3791. Simple Minimum Energy Method for Calculating Shielding Coils on Arbitrary Geometries

Dustin W. Haw¹, Chad T. Harris¹, William Bradfield Handler¹, Blaine A. Chronik¹

¹Physics & Astronomy, University of Western Ontario, London, Ontario, Canada

14:00 3792. A Design Method for Asymmetric Gradient Coils with Reduced Hot Spot Temperatures

Peter T. While¹, Larry K. Forbes¹, Stuart Crozier²

¹School of Mathematics & Physics, University of Tasmania, Hobart, TAS, Australia; ²IITEE, University of Queensland, Brisbane, QLD, Australia

14:30 3793. Bi-Planar Shim Coil Designed by Stream Function Method Improves B₀ Homogeneity Along Z-Axis

Daiki Tamada¹, Yasuhiko Terada¹, Katsumi Kose¹

¹Institute of Applied Physics, University of Tsukuba, Tsukuba, Ibaraki, Japan

15:00 3794. Design of Compact Planar GC for High Field Open MRI using the Computational Tool DUCAS

Mitsushi Abe¹, Yukinobu Imamura¹, Hiroyuki Takeuchi²

¹Energy & Environmental Systems Lab., Hitachi, Ltd., Hitachi, Ibaraki, Japan; ²Hitachi Medical Corp., Kashiwa, Chiba, Japan

MR+: Multimodality Systems & Methods

Exhibition Hall Monday 14:00-16:00 Computer 68

14:00 3795. On the Effects of Magnetic Fields Up to 9.4T on PET Image Resolution & Quality Measured with an MR-BrainPET

Nadim Jon Shah^{1,2}, Hidehiro Iida³, Christoph Weirich¹, Lutz Tellmann¹, Joachim Kaffanke¹, Liliana Caldeira⁴, Elena Rota Kops¹, Stefan Spellerberg⁵, Hans Herzog¹

¹Institute of Neuroscience & Medicine - 4, Research Centre Jülich, Jülich, Germany; ²Department of Neurology, Faculty of Medicine, JARA, RWTH Aachen University, Aachen, Germany; ³Department of Investigative Radiology, National Cardiovascular Center Research Institute, Osaka; ⁴Instituto de Biofísica e Engenharia Biomédica, Faculdade de Ciências da Universidade de Lisboa, Lisboa, Spain; ⁵Institute of Neuroscience & Medicine - 5, Research Centre Jülich, Jülich, Germany

14:30 3796. Systematic Investigation & Correction of MR Influences on Simultaneous PET Measurements

Christoph Weirich¹, Daniel Brenner¹, Lutz Tellmann¹, Hans Herzog¹, Nadim Jon Shah^{1,2}

¹Institute of Neuroscience & Medicine - 4, Forschungszentrum Juelich, Juelich, Germany; ²Department of Neurology, Faculty of Medicine, JARA, RWTH Aachen University, Aachen, Germany

15:00 3797. Hybrid MR-PET - Simultaneous FET-PET & Chemical Shift Imaging

N. Jon Shah^{1,2}, Irene Neuner^{1,2}, Joachim B. Kaffanke¹, Christian Filss¹, Gabriele Stoffels¹, Hans Herzog¹, Karl-Josef Langen¹

¹Institute of Neuroscience & Medicine 4, Forschungszentrum Juelich, Juelich, Germany; ²Department of Neurology, Faculty of Medicine, JARA, RWTH Aachen University, 52074 Aachen, Germany

15:30 3798. Reproducibility of MRI-DUTE-Based Attenuation Correction Maps in Brain Tumor Patients

Grace Sooyeon Kim¹, Daniel Burje Chonde¹, Thomas Benner¹, Michael Hamm², Alma Gregory Sorensen¹, Ciprian Catana¹

¹A.A. Martinos Center for Biomedical Imaging, Charlestown, MA, United States; ²Siemens Healthcare, Charlestown, MA, United States

Exhibition Hall	Tuesday 13:30-15:30	Computer 68
13:30	3799. PET-MR-US in Drug Delivery <i>Yu Liu¹, Brett Z. Fite¹, Charles F. Caskey¹, Chun-Yen Lai¹, Dustin E. Kruse¹, Jai Woong Seo¹, Benoit Larrat², Erik Dumont³, Katherine W. Ferrara¹</i> ¹ Biomedical Engineering, UC Davis, Davis, CA, United States; ² Laboratoire Ondes et Acoustique, ESPCI, Paris, France; ³ Image Guided Therapy, Pessac, France	
14:00	3800. Simultaneous PET/MRI: Evaluation of Electromagnetic Interactions & In Vivo Imaging in 9.4 T MRI <i>Sri-Harsha Maramraju^{1,2}, S.-David Smith², Sean Stoll², Daniela Schulz², Sergio Rescia², Sachin Junnarkar², Martin Purschke², Bosky Ravindranath^{1,2}, Paul Vaska^{1,2}, Craig Woody², David Schlyer^{1,2}</i> ¹ SUNY Stony Brook University, Stony Brook, NY, United States; ² Brookhaven National Laboratory, Upton, NY, United States	
14:30	3801. RF Coil Design for Simultaneous PET/MR <i>Peter Herrick¹, Richard Ansorge¹, Rob Hawkes², Steve Sawiak², Joe Stevick¹, Adrian Carpenter²</i> ¹ Cavendish Laboratory, University of Cambridge, Cambridge, Cambridgeshire, United Kingdom; ² Wolfson Brain Imaging Centre, Addenbrooke's Hospital, University of Cambridge, Cambridge, Cambridgeshire, United Kingdom	
15:00	3802. Rapid Re-Shimming for Rotated Views in MR-SPECT Imaging <i>Mark Jason Hamamura¹, Seunghoon Ha¹, Werner W. Roeck¹, Orhan Nalcioglu^{1,2}</i> ¹ Tu & Yuen Center for Functional Onco-Imaging, University of California, Irvine, CA, United States; ² Department of Cogno-Mechatronics Engineering, Pusan National University, Pusan, Republic of Korea	
Exhibition Hall	Wednesday 13:30-15:30	Computer 68
13:30	3803. Towards Reliable Calibrated Transducers for MR-Guided Focused Ultrasound <i>Tobias Klepsch¹, Julian Haller¹, Klaus-Vitold Jenderka¹, Werner Hoffmann¹, Bernd Ittermann¹, Frank Seifert¹</i> ¹ Physikalisch-Technische Bundesanstalt, Braunschweig und Berlin, Germany	
14:00	3804. Characterization of a MRI-RF Hyperthermia Dual-Function Coil Element Design <i>Xing Yang¹, Jing Wu², Xu Chu¹, Thomas K. Foo³, Desmond Teck Beng Yeo³</i> ¹ Power Conversion Circuits Lab, GE Global Research, Shanghai, China, People's Republic of; ² Electrical & Computer Engineering, Northeastern University, Boston, MA, United States; ³ Imaging Technologies, GE Global Research, Niskayuna, NY, United States	
14:30	3805. A Unilateral Rf Coil for MR-Scintimammography <i>Seunghoon Ha¹, Mark Jason Hamamura¹, Werner W. Roeck¹, Orhan Nalcioglu¹</i> ¹ University of California Irvine, Irvine, CA, United States	
15:00	3806. Simultaneous, Dynamic SPECT-MRI Demonstrated in Three Small-Animal Prototypes <i>James W. Hugg¹, Benjamin M. W. Tsui², Orhan Nalcioglu³, Dirk Meier⁴, Mark J. Hamamura³, Douglas J. Wagenaar¹, Bradley E. Patt¹</i> ¹ Gamma Medica, Northridge, CA, United States; ² Johns Hopkins University, Baltimore, MD, United States; ³ University of California, Irvine, CA, United States; ⁴ Gamma Medica, Oslo, Norway	
Exhibition Hall	Thursday 13:30-15:30	Computer 68
13:30	3807. Radiation Induced RF Coil Degradation in Hybrid MRI-Accelerator Systems <i>Sjoerd Crijns¹, Bas Raaymakers², Jan Kok², Kimmy Smir², Jan Van Ooijen³, Jan Lagendijk²</i> ¹ Radiotherapy, UMC Utrecht, Utrecht, Netherlands; ² Radiotherapy, UMC Utrecht, Utrecht, Netherlands; ³ Philips Medical Systems, Best, Netherlands	
14:00	3808. A Multi Element Rf Coil & Gamma Ray Radiation Shielding Assembly for Mrspect System <i>Seunghoon Ha¹, Mark Jason Hamamura¹, Werner W. Roeck¹, Orhan Nalcioglu¹</i> ¹ University of California Irvine, Irvine, CA, United States	
14:30	3809. Real-Time Target Displacement Prediction using Dynamic MRI for Radiotherapy <i>Nilesh N. Mistry¹, Jiachen Zhuo², Kathleen Malinowski^{1,3}, Rao Gullapalli², Warren D. D'Souza¹</i> ¹ Radiation Oncology, University of Maryland School of Medicine, Baltimore, MD, United States; ² Radiology, University of Maryland School of Medicine, Baltimore, MD, United States; ³ Fischel Department of Bioengineering, University of Maryland, A. James Clark School of Engineering, College Park, MD, United States	
15:00	3810. Ultra-Low-Field MRI System for Hybrid MEG-MRI <i>Panu Tapani Vesanen¹, Juha Hasse², Jari S. Penttilä³, Jaakko Oskari Nieminen¹, Juhani Dabek¹, Koos Zevenhoven¹, Juho Luomahaara², Sarianna Alanko¹, Nadia Catallo⁴, Fa-Hsuan Lin⁵, Juha Simola⁶, Antti Ahonen⁶, Risto J. Ilmoniemi¹</i>	

¹Dept. of Biomedical Engineering & Computational Science, Aalto University, Espoo, Finland; ²VTT Technical Research Centre of Finland, Espoo, Finland; ³Aivon Oy, Espoo, Finland; ⁴Dept. of Health Sciences, University of L'Aquila, Italy; ⁵Institute of Biomedical Engineering, National Taiwan University, Taiwan; ⁶Elekta Oy, Helsinki, Finland

Coils & Arrays for UHF MRI

Exhibition Hall Monday 14:00-16:00 Computer 69

- 14:00 3811. Remote Tuning and Matching an 8-Channel Transceive Array at 7T**
Carl Snyder¹, Christopher Rogers², Lance DelaBarre¹, Matthew Robson², J. Thomas Vaughan¹
¹University of Minnesota, Minneapolis, MN, United States; ²Oxford University, Oxford, Oxfordshire, United Kingdom
- 14:30 3812. An Improved Constellation Coil**
Arslan Amjad¹
¹GE Healthcare, Waukesha, WI, United States
- 15:00 3813. A Full-Wavelength Dipole RF Coil Element for 7T MRI with Maximized Longitudinal FOV & Two-Peak SAR Distribution**
Andreas Rennings¹, A. Litinsky¹, P. Schneider¹, S. Orzada², S. Otto³
¹General & Theoretical Electrical Engineering (ATE), Faculty of Engineering, University of Duisburg-Essen, 47048 Duisburg, Germany; ²Erwin L. Hahn Institute for Magnetic Resonance Imaging, University of Duisburg-Essen, 45141 Essen, Germany; ³High-Frequency Engineering (HFT), Faculty of Engineering, University of Duisburg-Essen, 47048 Duisburg, Germany
- 15:30 3814. Novel 24 Element Multi-Transmit Volume Coil for High Field MRI**
Can Akgun¹, Hyoungsuk Yoo², Lance DelaBarre¹, Carl J Snyder¹, Gregor Adriany¹, Pierre-Francois Van De Moortele¹, Anand Gopinath³, Kamil Ugurbil¹, John Thomas Vaughan¹
¹Center for Magnetic Resonance Imaging, University of Minnesota, Minneapolis, MN, United States; ²Department of Biomedical Engineering, School of Electrical Engineering, University of Ulsan, Ulsan, Korea, Republic of; ³Department of Electrical & Computer Engineering, University of Minnesota, Minneapolis, MN, United States

Exhibition Hall Tuesday 13:30-15:30 Computer 69

- 13:30 3815. Stepped Impedance Resonators for High Field MRI**
Can Akgun¹, Lance DelaBarre¹, Hyoungsuk Yoo², Carl J Snyder¹, Anand Gopinath³, Kamil Ugurbil¹, John Thomas Vaughan¹
¹Center for Magnetic Resonance Imaging, University of Minnesota, Minneapolis, MN, United States; ²Department of Biomedical Engineering, School of Electrical Engineering, University of Ulsan, Ulsan, Korea, Republic of; ³Department of Electrical & Computer Engineering, University of Minnesota, Minneapolis, MN, United States
- 14:00 3816. Clinical Neuroimaging using High Dielectric Materials at 7T**
Wouter M. Teeuwisse¹, Nadine B. Smith¹, Andrew G. Webb¹
¹Radiology, Leiden University Medical Center, Leiden, Netherlands
- 14:30 3817. Abdominal Imaging at 7T with a 32-Channel Body Array Coil - Initial Results**
Jochen Leupold¹, Florian Meise², Matt Finnerty³, Tsinghua Zheng³, Jürgen Hennig¹, Michael Bock²
¹Dept. of Radiology, Medical Physics, University Medical Center, Freiburg, Germany; ²Abt. Medizinische Physik in der Radiologie, Deutsches Krebsforschungszentrum, Heidelberg, Germany; ³Quality Electrodynamics (QED), Mayfield Village, OH, United States
- 15:00 3818. 30-Channel Unilateral Breast Coil for Ultra-High Resolution MRI at 7T**
Ingmar Jacob Voigt¹, Bart L. van De Bank¹, Peter R. Luijten¹, Dennis W. Klomp¹, Michel Italiaander¹, Rudy Roon¹
¹Radiology, UMC Utrecht, Utrecht, Netherlands

Exhibition Hall Wednesday 13:30-15:30 Computer 69

- 13:30 3819. A 7-Tesla High Density Tx/Rx Mammography Coil**
Tsinghua Zheng¹, Xiaoyu Yang¹, Matthew Finnerty¹, Jeremiah Heilman¹, Joseph Herczak¹, Hiroyuki Fujita^{1,2}, Graham Wiggins³, Ryan Brown³, Bernd Stoeckel⁴
¹Quality Electrodynamics, LLC, Mayfield Village, OH, United States; ²Physics, Case Western Reserve University, Cleveland, OH, United States; ³Radiology, NYU Langone Medical Center, New York, United States; ⁴Siemens Medical Solutions USA, Inc, Malvern, PA, United States
- 14:00 3820. A Prototype Head Coil for 11.7T using the Inductive Birdcage Geometry**
Joseph Murphy-Boesch¹, Stephen Dodd¹, Peter van Gelderen¹, Alan Koretsky¹, Josef H. Duyn¹
¹LFMI/NINDS, National Institutes of Health, Bethesda, MD, United States

- 14:30 3821. A Flexible Microstrip Transceiver Coil for Imaging Flexed Human Knee Joints at 7 Tesla**
Karupppasamy Subburaj¹, Yong Pang¹, Serena Scott¹, Bagrat Amirbekian¹, Richard B. Souza^{1,2}, Sharmila Majumdar¹, Xiaoliang Zhang¹
¹Department of Radiology & Biomedical Imaging, University of California San Francisco, San Francisco, CA, United States; ²Department of Physical Therapy & Rehabilitation Science, University of California San Francisco, San Francisco, CA
- 15:00 3822. Radio-Frequency Heating in Swine with an 8-Channel, 7T (296 MHz) Head Coil**
Devashish Shrivastava¹, Jeremy Kulesa¹, Jinfeng Tian¹, Gregor Adriany¹, Lance DelaBarre¹, J. T. Vaughan¹
¹CMRR, University of Minnesota, Minneapolis, MN, United States

Exhibition Hall Thursday 13:30-15:30 Computer 69

- 13:30 3823. A Loop Coil Design Based on the Broadside-Coupled Split Ring Resonator at 7T**
Marcos Alonso Lopez Terrones¹, Gunthard Lykowsky², Jose Miguel Algarin¹, Manuel J. Freire¹, Maria Castillo Velazquez-Ahumada¹, Peter M. Jakob^{2,3}, Ricardo Marques¹
¹Electronics & Electromagnetism, University of Seville, Seville, Andalusia, Spain; ²Research Center Magnetice Resonance Bavaria, Würzburg, Bavaria, Germany; ³Experimental Physics 5, University of Würzburg, Würzburg, Bavaria, Germany
- 14:00 3824. A Radiofrequency Coil Configuration for Imaging the Human Vertebral Column at 7 Tesla**
Maartje E. Vossen¹, Wouter M. Teeuwisse¹, Monique Reijnierse¹, Nadine B. Smith¹, Chris M. Collins², Andrew G. Webb¹
¹Radiology, Leiden University Medical Center, Leiden, Netherlands; ²Radiology, Hershey Medical College
- 14:30 3825. A 15-Channel Receive Array & 16-Channel Detunable Transmit Coil for Human Brain Imaging at 9.4T**
G. Shajan¹, Jens Hoffmann¹, Rolf Pohmann¹
¹Magnetic Resonance Center, Max Planck Institute for Biological Cybernetics, Tuebingen, Baden Wuttenberg, Germany
- 15:00 3826. Electrically Auto-Tuned RF Coil Design**
Sung-Min Sohn¹, Anand Gopinath¹, J. Thomas Vaughan^{1,2}
¹Electrical & Computer Engineering, University of Minnesota, Minneapolis, MN, United States; ²Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, MN, United States

Transmit Arrays: Coil Design

Exhibition Hall Monday 14:00-16:00 Computer 70

- 14:00 3827. 8-Channel Transmit Body Array for Homogeneous Excitation of the Thorax at 3T**
Yeun Chul Ryu¹, Sukhoon Oh¹, Christopher T. Sica¹, Chien-Ping Kao¹, Yong-Gwon Kim², Christopher M. Collins¹
¹Radiology, the Pennsylvania State University, Hershey, PA, United States; ²Radiological Science, College of Medical Science, Konyang University, Daejeon, Korea, Republic of
- 14:30 3828. Design & Application of 5-Channel Tx/Rx Coil for High Spatial Resolution Laryngeal MRI at 7 Tesla**
Jan Rieger¹, Christof Thalhammer¹, Wolfgang Renz^{1,2}, Tobias Frauenrath¹, Lukas Winter¹, Andreas Goemmel³, Thoralf Niendorf^{1,4}
¹Berlin Ultrahigh Field Facility, Max-Delbrueck Center for Molecular Medicine, Berlin, Germany; ²Siemens Medical Solutions, Erlangen, Germany; ³Chair of Structural Statistics & Dynamics, RWTH, Aachen, Germany; ⁴Experimental & Clinical Research Center (ECRC), Charité Campus Buch, Humboldt-University, Berlin, Germany
- 15:00 3829. Improved B₁₊ Field using a 16-Channel Transmit Head Array & an 8-Channel PTx System at 7T**
Kyoung Nam Kim¹, Niravkumar Darji², Tim Herrmann¹, Johannes Mallow¹, Zang-He Cho³, Oliver Speck², Johannes Bernarding¹
¹Department of Biometry & Medical Informatics, OvG University Magdeburg, Magdeburg, Saxony-Anhalt, Germany; ²Chair of Biomedical Magnetic Resonance, OvG University Magdeburg, Magdeburg, Saxony-Anhalt, Germany; ³Neuroscience Research Institute, Gachon University of Medicine & Science, Incheon, Korea, Republic of
- 15:30 3830. A Fully Tested Head Coil for 7T Compatible with a Dome Gradient Set**
Daniel James Lee¹, Arthur W. Magill^{2,3}, Paul M. Glover¹
¹Physics & Astronomy, University of Nottingham, Nottingham, Nottinghamshire, United Kingdom; ²LIFMET, Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland; ³Radiology, University of Lausanne, Lausanne, Switzerland

Exhibition Hall Tuesday 13:30-15:30 Computer 70

- 13:30 3831. The Inductively Decoupled Transceiver Array: Simulations & Performance at 7T**
Jullie W. Pan¹, Nikolai Avdievich¹, Tamer S. Ibrahim², Hoby P. Hetherington¹

¹Neurosurgery, Yale University School of Medicine, New Haven, CT, United States; ²Bioengineering, University of Pittsburgh, United States

- 14:00 3832. An Easily Integrated Eight Channel Parallel Transmit System for Transmit SENSE Applications**
Neal Anthony Hollingsworth¹, Katherine Lynn Moody², Jon-Fredrik Nielsen³, Douglas C. Noll³, Mary Preston McDougall^{1,2}, Steve M. Wright^{1,2}
¹Electrical & Computer Engineering, Texas A&M University, College Station, TX, United States; ²Biomedical Engineering, Texas A&M University; ³Biomedical Engineering, University of Michigan

- 14:30 3833. Versatile Volume Coil Implementation using a Constellation Coil**
Yudong Zhu¹, Ryan Brown¹, Cem Murat Deniz¹, Bei Zhang¹, Leeor Alon¹, Graham Wiggins¹, Hans-Peter Fautz², Bernd Stoeckel³, Daniel K. Sodickson¹
¹Center for Biomedical Imaging, Department of Radiology, NYU School of Medicine, New York, NY, United States; ²Siemens Medical Solutions, Erlangen, Germany; ³Siemens Medical Solutions USA Inc, New York, NY, United States

- 15:00 3834. Plug & Play Multi Transmit Head Coil with Integrated Receiver Arrays for Clinical 7T MRI.**
Hans Hoogduin¹, Ingmar Voogt, Giel Mens², Hugo Kroeze, Peter Luijten, Dennis Klomp¹
¹University Medical Center Utrecht, Utrecht, Netherlands; ²Philips Medical Systems

Exhibition Hall Wednesday 13:30-15:30 Computer 70

- 13:30 3835. Investigation of 7 Tesla Spine MRI with a 5-Channel Stripline Array & an 8-Channel Loop Array**
Oliver Kraff^{1,2}, Stephan Orzada^{1,2}, Philipp Dammann^{1,3}, Marc Schlamann^{1,2}, Mark E. Ladd^{1,2}, Harald H. Quick^{1,4}, Andreas K. Bitz^{1,2}
¹Erwin L. Hahn Institute for MRI, University Duisburg-Essen, Essen, Germany; ²Department of Diagnostic & Interventional Radiology & Neuroradiology, University Hospital Essen, Essen, Germany; ³Clinic for Neurosurgery, University Hospital Essen, Essen, Germany; ⁴Institute of Medical Physics, Friedrich-Alexander-University Erlangen-Nuernberg, Erlangen, Germany

- 14:00 3836. Actively Detunable 8-Channel Small Animal Transceive Volume Array for 9.4T MRI Systems**
Ewald Weber¹, Yu Li¹, BingKeong Li¹, Feng Liu¹, Stuart Crozier¹
¹School of ITEE, the University of Queensland, Brisbane, QLD, Australia

- 14:30 3837. B₁-Control Loop Array for Reduction of B₁ Inhomogeneity**
Yukio Kaneko¹, Hideta Habara¹, Yoshihisa Soutome¹, Hisaaki Ochi¹, Yoshitaka Bito¹
¹Central Research Laboratory, Hitachi Ltd., Kokubunji-shi, Tokyo, Japan

- 15:00 3838. A 3T Linear Phase Volume Excitation Coil**
Rock Hadley¹, Dennis Parker¹, Glen Morrell¹
¹Radiology -UCAIR, University of Utah, Salt Lake City, UT, United States

Exhibition Hall Thursday 13:30-15:30 Computer 70

- 13:30 3839. Combinations of Weighted First and Second-Order Clockwise CP Modes to Improve Image Homogeneity with a 16-Channel Head Array at 7 Tesla**
Kyoungh Nam Kim¹, Tim Herrmann¹, Johannes Mallow¹, Zang-He Cho², Johannes Bernarding¹
¹Department of Biometry & Medical Informatics, OvG University Magdeburg, Magdeburg, Saxony-Anhalt, Germany; ²Neuroscience Research Institute, Gachon University of Medicine and Science, Incheon, Korea, Republic of

- 14:00 3840. Constellation Coil Design**
Yudong Zhu¹, Bei Zhang¹, Ryan Brown¹, Cem Murat Deniz¹, Leeor Alon¹, Hans-Peter Fautz², Daniel K. Sodickson¹
¹Center for Biomedical Imaging, Department of Radiology, NYU School of Medicine, New York, NY, United States; ²Siemens Medical Solutions, Erlangen, Germany

- 14:30 3841. Self-Decoupling Elements of 8-Channel 7T Head Antenna**
Hideta Habara¹, Yoshitaka Bito¹, Hisaaki Ochi¹, Yoshihisa Soutome¹, Yukio Kaneko¹, Masayoshi Dohata^{1,2}, Hiroyuki Takeuchi², Tetsuhiko Takahashi²
¹Central Research Lab., Hitachi Ltd., Kokubunji, Tokyo, Japan; ²Hitachi Medical Corporation, Kashiwa, Chiba, Japan

- 15:00 3842. Modelling Study of a Hybrid Loop-Sheet Coil Structure for a 8-Channel Small Animal Transceive Array at 9.4T**
Yu Li¹, Feng Liu¹, Jin Jin¹, Ewald Weber¹, BingKeong Li¹, Stuart Crozier¹
¹School of ITEE, the University of Queensland, Brisbane, QLD, Australia

Multichannel Transmit Monitoring & Simulation

Exhibition Hall	Monday 14:00-16:00	Computer 71
14:00	3843. A Robust Concept for Real-Time SAR Calculation in Parallel Transmission <i>Hanno Homann¹, Peter Börner², Olaf Dössel¹, Ingmar Graesslin²</i> ¹ Institute of Biomedical Engineering, Karlsruhe Institute of Technology, Karlsruhe, Germany; ² Philips Research Europe, Hamburg, Germany	
14:30	3844. Ultra-Fast Calculation of SAR-Induced Temperature Increase <i>Giuseppe Carluccio¹, Sukhoon Oh², Christopher Michael Collins²</i> ¹ Electrical & Computer Engineering, University of Illinois at Chicago, Chicago, IL, United States; ² Radiology & Bioengineering, Pennsylvania State University at Hershey, Hershey, PA, United States	
15:00	3845. Simulation Tool for 3T/7T Subject-Specific Multi-Transmission Applications without RF Measurements <i>Tamer S. Ibrahim¹, Lin Tang², Yik-Kiong Hue</i> ¹ University of Pittsburgh, Pittsburgh, PA, United States; ² University of Oklahoma	
15:30	3846. Patient Adapted SAR Calculation on a Parallel Transmission System <i>Ingmar Graesslin¹, Hanno Homann², Sven Biederer³, Peter Börner¹, Giel Mens⁴, Paul Harvey⁴</i> ¹ Philips Research Laboratories, Hamburg, Germany; ² Institute of Biomedical Engineering, Karlsruhe Institute of Technology, Germany; ³ Institute of Medical Engineering, University of Lübeck, Lübeck, Germany; ⁴ Philips Healthcare, Best, Netherlands	
Exhibition Hall	Tuesday 13:30-15:30	Computer 71
13:30	3847. Simple Approaches to Current Control for Transmit Array Elements at 7 Tesla <i>Steven M. Wright^{1,2}, Mary Preston McDougall^{1,2}, Ivan Dimitrov³, Sergey Cheshkov³, Craig Malloy³</i> ¹ Electrical Engineering, Texas A&M University, College Station, TX, United States; ² Biomedical Engineering, Texas A&M University, College Station, TX, United States; ³ University of Texas Southwestern Medical Center, Dallas, TX, United States	
14:00	3848. Threshold Criteria for Real Time RF Monitoring in 7T Parallel Transmit System <i>Borjan Gagoski¹, Himanshu Bhat², Philipp Hoecht², Khaldoun Makhoul^{3,4}, Ulrich Fontius⁵, Josef Pfeuffer⁵, Franz Schmitt⁵, Michael Hamm², Joonsung Lee¹, Kavin Setsompop^{3,4}, Lawrence L. Wald^{3,6}, Elfar Adalsteinsson^{1,6}</i> ¹ Electrical Engineering & Computer Science, Massachusetts Institute of Technology, Cambridge, MA, United States; ² Siemens Healthcare, Charlestown, MA, United States; ³ A.A. Martinos Center for Biomedical Imaging, Department of Radiology, Massachusetts General Hospital, Charlestown, MA, United States; ⁴ Harvard Medical School, Boston, MA, United States; ⁵ Siemens Healthcare, Erlangen, Germany; ⁶ Harvard-MIT Division of Health Sciences & Technology, MIT, Cambridge, MA, United States	
14:30	3849. RF Monitoring of the Complex Waveforms of an 8-Channel Multi-Transmit System at 7T Utilizing Directional Couplers & I/Q Demodulators <i>Irina Brote^{1,2}, Klaus Solbach³, Stephan Orzada^{1,2}, Oliver Kraff^{1,2}, Stefan Maderwald^{1,2}, Mark E. Ladd^{1,2}, Andreas K. Bitz^{1,2}</i> ¹ Erwin L. Hahn Institute for Magnetic Resonance Imaging, Essen, Germany; ² Department of Diagnostic & Interventional Radiology & Neuroradiology, University Hospital Essen, Essen, Germany; ³ High Frequency Engineering, University Duisburg-Essen, Duisburg, Germany	
15:00	3850. Method for Monitoring Safety in Parallel Transmission Systems Based on Channel-Dependent Average Powers <i>Nicolas Boulant¹, Martijn Cloos¹, Michel Luong², Guillaume Ferrand², Christopher Wiggins¹, Alexis Amadon¹</i> ¹ NeuroSpin, CEA Saclay, Saclay, France; ² Irfu, CEA Saclay, Saclay, France	
Exhibition Hall	Wednesday 13:30-15:30	Computer 71
13:30	3851. Tailoring RF Power Distribution for Body Torso MRI at 300MHz <i>Jinfeng Tian¹, Anand Gopinath, J. T. Vaughan</i> ¹ Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, MN, United States	
14:00	3852. B₁-Based Local SAR Estimation for a Parallel Transmit System at 3T: A Simulation Study <i>Stefanie Buchenau¹, Martin Haas¹, Daniel Nicolas Splitthoff¹, Juergen Hennig¹, Maxim Zaitsev¹</i> ¹ Department of Radiology, Medical Physics, University Medical Center Freiburg, Freiburg, Germany	
14:30	3853. Feasibility of a Local SAR Monitoring for a 7T Body Transmit Array with Single Element Power Monitoring <i>Ozlem Ipek¹, Alexander J. E. Raaijmakers¹, Dennis W. J. Klomp², Alessandro Sbrizzi³, Peter R. Luijten², Jan J. W. Legendijk¹, Cornelis A. T. van Den Berg¹</i> ¹ Radiotherapy, UMC Utrecht, Utrecht, Netherlands; ² Radiology, UMC Utrecht, Utrecht, Netherlands; ³ Radiotherapy, UMC Utrecht, Utrecht, Netherlands	

- 15:00 3854. Volumetric Local SAR Mapping for Parallel Transmission**
Leor Alon¹, Cem Murat Deniz¹, Jian Xu^{2,3}, Ryan Brown¹, Daniel K. Sodickson¹, Yudong Zhu¹
¹Center for Biomedical Imaging, Department of Radiology, NYU School of Medicine, New York, NY, United States; ²Center for Biomedical Imaging, Department of Radiology, NYU School of Medicine, New York, United States; ³Siemens Medical Solutions, Malvern, PA, United States

Exhibition Hall Thursday 13:30-15:30 Computer 71

- 13:30 3855. Fast Patient Specific Estimation of Electric Fields for a Transmit Array from B₁+ Measurements**
Alessandro Sbrizzi¹, Hans Hoogduin¹, Gerard L. G. Sleijpen², Jan J. Lagendijk¹, Peter Luijten¹, Cornelis A. T. van Den Berg¹
¹Imaging Division, UMC Utrecht, Utrecht, Netherlands; ²Department of Mathematics, Utrecht University, Utrecht, Netherlands
- 14:00 3856. A Fast Algorithm to Optimize Transmit Efficiency for Local Excitation with a Transmit Array**
Giuseppe Carluccio¹, Christopher Michael Collins², Danilo Erricolo¹
¹Electrical & Computer Engineering, University of Illinois at Chicago, Chicago, IL, United States; ²Radiology & Bioengineering, Pennsylvania State University at Hershey, Hershey, PA, United States
- 14:30 3857. SAR Consequences of Optimization Strategy for a 7T RF Transmit Loop Array in CP Mode**
Mikhail Kozlov¹, Robert Turner¹
¹Max Planck Institute for Human Cognitive & Brain Sciences, Leipzig, Saxony, Germany
- 15:00 3858. A Method for Calibrating Multi-Channel RF Systems**
Francesco Padormo¹, Shaihan J. Malik¹, Giel Mens², Jo V. Hajnal¹
¹Robert Steiner MRI Unit, Imaging Sciences Department, MRC Clinical Sciences Centre, Hammersmith Hospital, Imperial College London, London, United Kingdom; ²Philips Healthcare, Best, Netherlands

RF Modeling

Exhibition Hall Monday 14:00-16:00 Computer 72

- 14:00 3859. Fast Full Wave RF Simulation Scheme for MRI**
Tamer S. Ibrahim¹, Gary Boerger²
¹University of Pittsburgh, Pittsburgh, PA, United States; ²University of Oklahoma
- 14:30 3860. Electro-Dynamic Inverse Method for High-Field RF Transmit Coil Design**
Shumin Wang¹, Jeff Duyn, Alan Koretsky
¹NIH, Bethesda, MD, United States
- 15:00 3861. On the Consequences of Wrapping Patients with RF Shielding Materials**
Paul R. Harvey¹, Johan S. van Den Brink¹
¹Philips Healthcare, Best, Netherlands
- 15:30 3862. Investigation of RF Penetration in Humans at Ultrahigh Magnetic Fields**
Yong Pang¹, Daniel Vigneron^{1,2}, Xiaoliang Zhang^{1,2}
¹Radiology & Biomedical Imaging, University of California San Francisco, San Francisco, CA, United States; ²UCSF/UC Berkeley Joint Graduate Group in Bioengineering, San Francisco & Berkeley, CA, United States

Exhibition Hall Tuesday 13:30-15:30 Computer 72

- 13:30 3863. In-Vi vo Human Forearm Temperature Mapping for Correspondence with Numerical SAR & Temperature Calculations**
Sukhoon Oh¹, Yeun Chul Ryu¹, Andrew Webb², Christopher M. Collins¹
¹Radiology, College of Medicine, the Pennsylvania State University, Hershey, PA, United States; ²Radiology, the Leiden University Medical Center, Netherlands
- 14:00 3864. A Detailed Quantitative Analysis of B₁ Components at 1.5T & 3T**
Xin Chen¹, Michael Steckner¹
¹Toshiba Medical Research Institute USA, Inc., Mayfield Village, OH, United States
- 14:30 3865. A Comparison of FDTD-Solvers for Simulation of a ³¹P Birdcage Coil at 1.5 T**
Andre Kuehne¹, Helmar Waiczies^{1,2}, Sairamesh Raghuraman³, Tobias Wichmann⁴, Titus Lanz⁴, Frank Seifert¹, Bernd Ittermann¹

¹Physikalisch-Technische Bundesanstalt, Berlin, Germany; ²Experimental & Clinical Research Center (ECRC), Max-Delbrueck Center for Molecular Medicine, Berlin, Germany; ³MRB Research Centre, Würzburg, Rimpf, Germany; ⁴Rapid Biomed, Rimpf, Germany

15:00 3866. SAR Comparison for Infant Due to Different Positioning Within an MRI Head Coil

Zhangwei Wang¹, Owen Arthurs², Desmond T. B. Yeo³, Fraser Robb¹

¹GE Healthcare Coils, Aurora, OH, United States; ²University of Cambridge, Cambridgeshire, United Kingdom; ³GE Global Research, Niskayuna, NY, United States

Exhibition Hall Wednesday 13:30-15:30 Computer 72

13:30 3867. Comparison of Deviations in SAR Prediction Between Highly Detailed & Proper Simplified Human Models at 7T

Sebastian Wolf¹, Oliver Speck¹

¹Dept. Biomedical Magnetic Resonance, Otto-von-Guericke University, Magdeburg, Germany

14:00 3868. Method & Tool for Improved, Rapid N-Gram Average SAR Determination

Sukhoon Oh¹, Giuseppe Carluccio², Christopher M. Collins¹

¹Radiology, College of Medicine, the Pennsylvania State University, Hershey, PA, United States; ²Department of Electrical & Computer, University of Illinois at Chicago, IL, United States

14:30 3869. Optimization of Composite Pulses Considering Pulse Duration, Excitation Uniformity & SAR

Bu S. Park^{1,2}, J. McGarrity², Z. Cao², K. Sung³, S. Oh², C. M. Collins²

¹NIH, Bethesda, MD, United States; ²Radiology, the Pennsylvania State University, Hershey, PA, United States; ³Radiology, Stanford University, Stanford, CA, United States

15:00 3870. RF Shimming with Regularization of Maximum & Mean RF Power

Ulrich Katscher¹, Kay Nehrke¹, Peter Vernickel¹, Ingmar Graesslin¹, Peter Börner¹

¹Philips Research Europe, Hamburg, Germany

Exhibition Hall Thursday 13:30-15:30 Computer 72

13:30 3871. How to Reach the Full Potential of the B₁+ Efficiency for a 7T Body Transmit Array?

Ozlem Ipek¹, Alexander J. E. Raaijmakers¹, Dennis W. J. Klomp², Johannes M. Hoogduin², Peter R. Luijten², Jan J. W. Legendijk¹, Cornelis A. T. van Den Berg¹

¹Radiotherapy, UMC Utrecht, Utrecht, Netherlands; ²Radiology, UMC Utrecht, Utrecht, Netherlands

14:00 3872. Ultrahigh Field Body Transmit Arrays using Non-Resonance Method: A Feasibility Study

Xiaoliang Zhang^{1,2}, Chunsheng Wang¹, Sarah Nelson^{1,2}, Daniel Vigneron^{1,2}

¹Dept of Radiology & Biomedical Imaging, University of California San Francisco, San Francisco, CA, United States; ²UCSF/UC Berkeley Joint Graduate Group in Bioengineering, San Francisco and Berkeley, CA, United States

14:30 3873. Electromagnetic Simulations of High Dielectric Materials at 7 Tesla

Wouter M. Teeuwisse¹, Chris M. Collins², Nadine B. Smith¹, Andrew G. Webb¹

¹Radiology, Leiden University Medical Center, Leiden, Netherlands; ²Radiology, Hershey Medical College

15:00 3874. Simulation-Based Phased-Array Optimization using an Efficient Method for Realistic Coil Modeling

Matthias Korn¹, Simon Lambert¹, Xavier Maître¹, Luc Darrasse¹

¹IR4M (UMR8081), Université Paris-Sud XI - CNRS, Orsay, France

Hot Topics in RF

Exhibition Hall Monday 14:00-16:00 Computer 73

14:00 3875. Experimental Comparison of Array Coil Overlap Strategies for Maximal SNR

Tyler Charlton¹, Adam Maunder¹, B. Gino Fallone^{1,2}, Nicola De Zanche^{1,2}

¹Dept. of Oncology, University of Alberta, Edmonton, Alberta, Canada; ²Dept. of Medical Physics, Cross Cancer Institute, Edmonton, Alberta, Canada

14:30 3876. Physical Insights from Ideal Current Patterns Resulting in Ultimate Intrinsic SNR: Efficacy of Traditional Coil Designs at Low Field Strength & the Need for New Designs at High Field

Riccardo Lattanzi^{1,2}, Daniel K. Sodickson^{1,2}

¹Center for Biomedical Imaging, New York University Langone Medical Center, New York, NY, United States; ²Radiology, New York University Langone Medical Center, New York, NY, United States

- 15:00 3877. Optimum SNR Data Compression for Complex Arrays**
Scott B. King¹, Mike J. Smith¹, Boguslaw Tomanek²
¹Institute for Biodiagnostics, National Research Council of Canada, Winnipeg, Manitoba, Canada; ²Institute for Biodiagnostics (West), National Research Council of Canada, Calgary, Alberta, Canada
- 15:30 3878. Ultimate Intrinsic Signal-To-Noise Ratio of the Human Head at 9.4T**
Jörg Felder¹, Nadim Joni Shah^{1,2}
¹Institute of Neuroscience & Medicine-4, Forschungszentrum Juelich GmbH, Juelich, NRW, Germany; ²Department of Neurology, Faculty of Medicine, JARA, RWTH Aachen University, Aachen, Germany

Exhibition Hall Tuesday 13:30-15:30 Computer 73

- 13:30 3879. Predicting Potential SNR Gain for High Field Body Imaging at 7 Tesla using Radiative Coil Array Element Sensitivity Patterns**
Alexander J. E. Raaijmakers¹, Cornelis A. T. van Den Berg¹, Dennis W. J. Klomp²
¹Radiotherapy, UMC Utrecht, Utrecht, Netherlands; ²Radiology, UMC Utrecht, Utrecht, Netherlands
- 14:00 3880. Investigating Parallel Imaging Performance of the 8-Channel Transceiver Array with Tilted Microstrip Elements**
Yong Pang¹, Bing Wu¹, Daniel Vigneron^{1,2}, Xiaoliang Zhang^{1,2}
¹Radiology & Biomedical Imaging, University of California San Francisco, San Francisco, CA, United States; ²UCSF/UC Berkeley Joint Graduate Group in Bioengineering, San Francisco & Berkeley, CA, United States
- 14:30 3881. Effect of Receive Only Array Inserts on B₁₊ Field & Specific Absorption Rate (SAR)**
Narayanan Krishnamurthy¹, Tamer S. Ibrahim¹
¹University of Pittsburgh, Pittsburgh, PA, United States
- 15:00 3882. Effects of Channel Numbers on Signal-To-Noise Ratio in Multi T/Rx Coils at 7.0 Tesla**
Hongbae Jeong¹, Suk-Min Hong¹, Joshua Haekyun Park¹, Myung-Kyun Woo¹, Young-Bo Kim¹, Zang-Hee Cho¹
¹Neuroscience Research Institute, Gachon University of Medicine and Science, Incheon, Korea, Republic of

Exhibition Hall Wednesday 13:30-15:30 Computer 73

- 13:30 3883. Do We Need Preamplifier Decoupling?**
Arne Reykowski¹, Charles Saylor¹, G. Randy Duensing¹
¹ACD, Invivo Corporation, Gainesville, FL, United States
- 14:00 3884. Investigating the Use of Carbon Nanotubes in MRI Receiver Coils**
Mohamed Aly Saad Aly¹, Nibardo Lopez¹, Daniel Weyers², Sarbast Rasheed¹, Eihab M. Abdel-Rahman¹, Arsen Hajian^{2,3}
¹System Design Engineering, University of Waterloo, Waterloo, Ontario, Canada; ²Tornado Medical Systems, Waterloo, Ontario, Canada; ³System Design Engineering, University of Waterloo, Waterloo, Ontario, Canada
- 14:30 3885. 7T Imaging of the Head & Neck Region: B₀ & B₁₊ Challenges**
Johanna Jacoba Bluemink¹, Anna Andreychenko¹, Astrid L. H. M. W. van Lier¹, Marielle Phillippens¹, Jan J. W. Lagendijk¹, Peter R. Luijten², Cornelis A. T. van Den Berg¹
¹Radiotherapy, University Medical Center Utrecht, Utrecht, Netherlands; ²Radiology, University Medical Center Utrecht, Utrecht, Netherlands
- 15:00 3886. Fast Automatic Matching Control: Technical Advances & Initial Results of SNR Optimization**
Matteo Pavan¹, Roger Luchinger², Klaas Paul Pruessmann²
¹Institute for Biomedical Engineering, University & ETH Zurich, Zurich, Switzerland; ²Institute for Biomedical Engineering, University & ETH Zurich, Zurich, Switzerland

Exhibition Hall Thursday 13:30-15:30 Computer 73

- 13:30 3887. Theoretical Determination of the Dielectric Constant for Passive RF Shimming at High Field**
Mohan Lal Jayatilake^{1,2}, Judd Storrs^{1,3}, Wen-Jang Chu^{1,3}, Jing-Huei Lee^{1,4}
¹Center for Imaging Research, University of Cincinnati, Cincinnati, OH, United States; ²Department of Physics, University of Cincinnati, Cincinnati, OH, United States; ³Department of Psychiatry & Behavioural Neuroscience, University of Cincinnati, Cincinnati, OH, United States; ⁴School of Energy, Environmental, Biological, & Medical Engineering, University of Cincinnati, Cincinnati, OH, United States

- 14:00 3888. SVD-Based Hardware Concept to Drive N Transmit Elements of a Phased Array Coil with $M \leq N$ Channels for High Field MRI**
Guillaume Ferrand¹, Michel Luong¹, Martijn A. Cloos^{1,2}, Alain France¹, Alexis Amadon², Nicolas Boulant², Luc Darrasse³
¹IRFU/SACM, CEA-Saclay, Gif s/ Yvette, France; ²12BM/Neurospin, CEA-Saclay, Gif s/ Yvette, France; ³IR4M (UMR8081), Univ Paris-Sud, CNRS, Orsay, France
- 14:30 3889. A Novel Method for Amplitude & Phase Mapping of RF Transmit & Receive Fields**
Alessandro Sbrizzi¹, Hans Hoogduin¹, Gerard L. G. Sleijpen², Astrid L. Van Lier, Jan J. Lagendijk¹, Peter Luijten¹, Cornelis A. T. van Den Berg¹
¹Imaging Division, UMC Utrecht, Utrecht, Netherlands; ²Department of Mathematics, Utrecht University, Utrecht, Netherlands
- 15:00 3890. SAR Reduction through Dark Modes Excitation**
Kawin Setsompop^{1,2}, Lawrence L. Wald^{1,3}
¹Radiology, A. A. Martinos Center for Biomedical Imaging, MGH, Charlestown, MA, United States; ²Harvard Medical School, Boston, MA, United States; ³Harvard-MIT Division of Health Sciences & Technology, MIT, Cambridge, MA, United States

ADC & DTI Methods

Exhibition Hall Wednesday 14:00-16:00 Computer 74

- 14:00 3891. Diffusion Model Complexity Reduces Repeatability in Multiple B-Value DWI Fitting : Impact of Tumour Volume & Fitting Methodology in a Phase I Clinical Trial Setting**
Matthew R. Orton¹, David J. Collins¹, Christina Messiou¹, Jean Tessier², Martin O. Leach¹
¹CR-UK & EPSRC Cancer Imaging Centre, Institute of Cancer Research, Sutton, Surrey, United Kingdom; ²Formerly with Early Clinical Development, AstraZeneca, Alderley Park, Macclesfield, United Kingdom
- 14:30 3892. Evaluation of a Novel Continuously Distributed Diffusion Model in Normal Human Brain**
He Wang¹, Yong Zhang¹, Guang Cao¹
¹Global Applied Science Laboratory, GE Healthcare, Shanghai, China, People's Republic of
- 15:00 3893. New Strategy for Registering DW & Non-DW Images Via Tensor Estimation Metric**
Cheng Guan Koay^{1,2}, Andrew L. Alexander¹, M. Elizabeth Meyerand¹
¹Department of Medical Physics, University of Wisconsin-Madison, Madison, WI, United States; ²STBB, National Institutes of Health, Bethesda, MD, United States
- 15:30 3894. Statistical Comparison of DT-MRI Interpolation Methods using Cardiac DT-MRI Data**
Jin Kyu Gahm^{1,2}, Nicholas Wisniewski³, William S. Klug⁴, Alan Garfinkel^{3,5}, Daniel B. Ennis^{1,6}
¹Department of Radiological Sciences, University of California, Los Angeles, CA, United States; ²Department of Computer Science, University of California, Los Angeles, CA, United States; ³Department of Medicine, University of California, Los Angeles, CA, United States; ⁴Department of Mechanical & Aerospace Engineering, University of California, Los Angeles, CA; ⁵Department of Physiological Science, University of California, Los Angeles, CA, United States; ⁶Biomedical Engineering Interdepartmental Program, University of California, Los Angeles, CA, United States

Exhibition Hall Thursday 13:30-15:30 Computer 74

- 13:30 3895. Six is Enough? Examining the Controversy of 6 Versus 30 Diffusion Encoding Directions for Deterministic Tractography of Human Brain**
Catherine Lebel¹, Thomas Benner², Christian Beaulieu³
¹Biomedical Engineering, University of Alberta, Edmonton, AB, Canada; ²Athinoula Martinos Center for Functional & Structural Biomedical Imaging, Harvard University, Boston, MA, United States; ³Biomedical Engineering, University of Alberta, Edmonton, Alberta, Canada
- 14:00 3896. Effect of SNR of DTI on the Structural Network**
Hu Cheng¹, Dae-Jin Kim¹, Olaf Sporns¹, Yang Wang², Jinhua Sheng², Andrew Saykin²
¹Indiana University, Bloomington, IN, United States; ²Indiana University, Indianapolis, IN, United States
- 14:30 3897. The Reproducibility & Correlation of Phase Errors in Diffusion Weighted Imaging with the Cardiac Cycle**
Rafael Luis O'Halloran¹, Samantha Holdsworth¹, Roland Bammer¹
¹Radiology, Stanford University, Palo Alto, CA, United States
- 15:00 3898. Informed RESTORE for Removal of Physiological Noise Artifacts in Low Redundancy DTI Data**
Lin-Ching Chang¹, Lindsay Walker², Babak Behseta³, Carlo Pierpaoli²

¹Department of Electrical Engineering & Computer Science, the Catholic University of America, Washington, DC, United States; ²STBB, NICHD, National Institutes of Health, Bethesda, MD, United States; ³Pediatric & Developmental Neuroscience Branch, NIMH, National Institutes of Health, Bethesda, MD, United States

Dynamic Contrast Enhancement Methods (DCE-MRI)

Exhibition Hall Monday 14:00-16:00 Computer 75

- 14:00 3899. Arterial Input Functions in Dynamic Contrast-Enhanced MRI: Magnitude Versus Phase**
Paul Wessel de Bruin¹, Maarten J. Versluis¹, Erlangga Yusuf², Monique Reijnierse¹, Matthias J. P. van Osch¹
¹Radiology, LUMC, Leiden, ZH, Netherlands; ²Rheumatology, LUMC, Leiden, ZH, Netherlands
- 14:30 3900. MR Estimation of Arterial Input Function (AIF) in Dual Gradient Echo Sequences using an Adaptive Model Trained by Standard Radiological AIF**
Hassan Bagher-Ebadian^{1,2}, Tavarekere N. Nagaraja³, Robert Knight^{1,2}, Ramesh Paudyal¹, Siamak P. Nejad-Davarani¹, Stephen Brown⁴, Sawyam Panda¹, Polly Whitton¹, Joseph D. Fenstermacher³, James R. Ewing^{1,2}
¹Neurology, Henry Ford Hospital, Detroit, MI, United States; ²Physics, Oakland University, Rochester, MI, United States; ³Anesthesiology, Henry Ford Hospital, Detroit, MI, United States; ⁴Radiation Oncology, Henry Ford Hospital, Detroit, MI, United States
- 15:00 3901. Effects of Artery Input Function on Dynamic Contrast Enhanced MRI for Determining Grades of Gliomas**
Na Zhang¹, Lijuan Zhang¹, Xin Liu¹, Hairong Zheng², Jeffrey Carpenter³, Bob L. Hou³
¹Paul C. Lauterbur Research Center for Biomedical Imaging, Shenzhen Institute of Advanced Technology, Chinese Academy of Science, Shenzhen, Guangdong, China, People's Republic of; ²Paul C. Lauterbur Research Center for Biomedical Imaging, Shenzhen Institute of Advanced Technology, Chinese Academy of Science, Shenzhen, Guangdong, China, People's Republic of; ³Radiology, West Virginia University, Morgantown, WV, United States
- 15:30 3902. Construction of a Model-Based High Resolution Arterial Input Function (AIF) using a Standard Radiological AIF & the Levenberg-Marquardt Algorithm**
Hassan Bagher-Ebadian^{1,2}, Azimeh Noorizadeh³, Siamak P. Nejad-Davarani^{1,4}, Ramesh Paudyal¹, Tavarekere N. Nagaraja⁵, Robert Knight^{1,2}, Stephen Brown⁶, Joseph D. Fenstermacher⁵, James R. Ewing^{1,2}
¹Neurology, Henry Ford Hospital, Detroit, MI, United States; ²Physics, Oakland University, Rochester, MI, United States; ³Mechanical Engineering, Nuclear Engineering, University of Shiraz, Shiraz, Fars, Iran; ⁴Biomedical Engineering, University of Michigan, Ann Arbor, MI, United States; ⁵Anesthesiology, Henry Ford Hospital, Detroit, MI, United States; ⁶Radiation Oncology, Henry Ford Hospital, Detroit, MI, United States

Exhibition Hall Tuesday 13:30-15:30 Computer 75

- 13:30 3903. Intraarterial MR Perfusion Imaging of Meningiomas: Comparison to Digital Subtraction Angiography**
Steven W. Hetts¹, Alastair J. Martin¹, Christopher F. Dowd¹, Van V. Halbach¹, Randall T. Higashida¹, Michael McDermott², Soonmee Cha¹, David Saloner¹
¹Radiology, UCSF, San Francisco, CA, United States; ²Neurosurgery, UCSF, San Francisco, CA, United States
- 14:00 3904. Blood Volume Fraction Mapping for Angiogenesis Assessment in a Novel Human Glioblastoma Stem Cell Model**
Teodora-Adriana Perles-Barbacaru¹, Ferial Tiar², Laurent Pelletier², Didier Wion², Francois Berger², Hana Lahrech¹
¹INSERM U836, Functional & Metabolic Neuroimaging, Grenoble Institute of Neurosciences, University Joseph Fourier, Grenoble, France; ²INSERM U836, Brain Nanomedicine Group, Grenoble Institute of Neurosciences, University Joseph Fourier, Grenoble, France
- 14:30 3905. Comparison of the Uptake of Gadolinium Contrast Agents between Pre-Clinical Colorectal & Other Tumour Models by Dynamic Contrast Enhanced Magnetic Resonance Imaging.**
Ian Wilson¹, G. S. Almeida¹, Huw D. Thomas², David R. Newell², Ross J. Maxwell¹
¹Newcastle MR Centre, Newcastle University, Newcastle Upon Tyne, Tyne and Wear, United Kingdom; ²Northern Institute of cancer Research, Newcastle University, Newcastle Upon Tyne, Tyne and wear, United Kingdom
- 15:00 3906. Quantitative Assessment of Perfusion & Permeability in Osteochondritis Dissecans Lesions: Feasibility & Initial Results**
Andreas P. Arnoldi¹, Michael Ingrischi², Sandra Utzschneider³, Maximilian F. Reiser¹, Sabine Weckbach¹
¹Department of Clinical Radiology, Ludwig-Maximilians-University Munich, Munich, Bavaria, Germany; ²Josef Lissner Laboratory, Department of Clinical Radiology, Ludwig-Maximilians-University Munich, Munich, Germany; ³Department of Orthopedics, Campus Grosshadern, Ludwig-Maximilians-University Munich, Munich, Germany

 Exhibition Hall Wednesday 13:30-15:30 Computer 75

- 13:30 3907. Adaptive Neural Network for Direct Quantification of Longitudinal Relaxation Rate Change (δR_1) in T One by Multiple Read Out (TOMROP) Sequence**
Hassan Bagher-Ebadian^{1,2}, Meser M. Ali³, Ali Seyd Arbab³, Malek Makki⁴, Siamak P. Nejad-Davarani^{1,5}, Sawyam Panda¹, Quan Jiang^{1,2}, James R. Ewing^{1,2}
¹Neurology, Henry Ford Hospital, Detroit, MI, United States; ²Physics, Oakland University, Rochester, MI, United States; ³Radiology, Henry Ford Hospital, Detroit, MI, United States; ⁴Diagnostic Imaging, University of Children Hospital of Zurich, Zurich, Switzerland; ⁵Biomedical Engineering, University of Michigan, Ann Arbor, MI, United States
- 14:00 3908. A Numerical Advection-Diffusion Model to Fit Dynamic Contrast-Enhanced MRI (DCE-MRI) Data**
Nicolas Michoux¹, Denis Rommel¹, Emmanuel Lefrançois²
¹IMAG - Radiology Department, Université Catholique de Louvain, Brussels, Belgium; ²UMR 6253 UTC-CNRS, Université de Technologie de Compiègne, Compiègne, France
- 14:30 3909. Wide Variations in Cellular-Interstitial Water Exchange Rates are within the Experimental Uncertainty of AIF Variations in their Effect on Uptake Curve Shapes for DCE-MRI Modelling**
Matthew R. Orton¹, David J. Collins¹, Martin O. Leach¹
¹CR-UK & EPSRC Cancer Imaging Centre, Institute of Cancer Research, Sutton, Surrey, United Kingdom
- 15:00 3910. A Pharmacokinetic Model Enabling Modelling of DCE-MRI Data of Normal & Cancerous Liver**
Matthew R. Orton¹, David J. Collins¹, Martin O. Leach¹
¹CR-UK & EPSRC Cancer Imaging Centre, Institute of Cancer Research, Sutton, Surrey, United Kingdom

 Exhibition Hall Thursday 13:30-15:30 Computer 75

- 13:30 3911. Bayesian Estimation Improves Plasma Volume Repeatability with Compartmental Modelling of DCE-MRI Data**
Matthew R. Orton¹, David J. Collins¹, Christina Messiou¹, Jean Tessier², M. O. Leach¹
¹CR-UK & EPSRC Cancer Imaging Centre, Institute of Cancer Research, Sutton, Surrey, United Kingdom; ²Formerly with Early Clinical Development, AstraZeneca, Alderley Park, Macclesfield, United Kingdom
- 14:00 3912. Comparison of the Kinetic Parameters Estimated with Different Numerical Methods in DCE-MRI**
Cing-Ciao Ke¹, Shin-Lei Peng¹, Chih-Feng Chen², Ho-Lin Liu³, Fu-Nien Wang¹
¹Biomedical Engineering & Environmental Sciences, National Tsing Hua University, Hsinchu, Taiwan; ²Radiology, Chang Gung Memorial Hospital, Chiayi, Taiwan; ³Medical Imaging & Radiological Sciences, Chang Gung University, Taoyuan, Taiwan
- 14:30 3913. Combined Analysis of Perfusion & Capillary Permeability by Parametric Analysis of the Tissue Residue Function from DCE-MRI**
Atle Bjornerud^{1,2}, Tuva Hope¹, Christopher Larsson¹, Frederic Courivaud¹, Raimo Aleksi Salo¹, Knut Lote³, Inge Andre Rasmussen¹
¹Interventional Centre, Oslo University Hospital, Oslo, Norway; ²Dept. of Physics, Univ. of Oslo, Norway; ³Dept. of Oncology, Oslo University Hospital, Oslo, Norway
- 15:00 3914. Utility of Non-Model Based 'Semi-Quantitative' Indices Derived from Dynamic Contrast Enhanced T₁-Weighted MR Perfusion in Differentiating Treatment Induced Necrosis from Recurrent Progressive Brain Tumor.**
Jayant Narang¹, Rajan Jain^{1,2}, Syed Ali Arbab³, Abbas Babajani-Feremi³
¹Neuroradiology, Henry Ford Health System, Detroit, MI, United States; ²Neurosurgery, Henry Ford Health System, Detroit, MI, United States; ³Radiology, Henry Ford Health System, Detroit, MI, United States

Perfusion & Permeability: DSC - Methods

 Exhibition Hall Monday 14:00-16:00 Computer 76

- 14:00 3915. Reliable Estimation of Capillary Transit Time Distributions at Voxel-Level using DSC-MRI**
Kim Mouridsen¹, Leif Østergaard¹, Søren Christensen², Sune Nørhøj Jespersen¹
¹Center for Functionally Integrative Neuroscience, Aarhus University, Aarhus University Hospital, Aarhus, Denmark; ²Department of Neurology, Royal Melbourne Hospital, Melbourne, Australia
- 14:30 3916. Does R₂* Increase or Decrease When Contrast Agent Extravasates? A Simulation Study.**
Nicolas Pannetier^{1,2}, Clément Debacker^{1,2}, Franck Mauconduit^{1,2}, Thomas Christen^{1,3}, Emmanuel Luc Barbier^{1,2}
¹U836, INSERM, Grenoble, France; ²Grenoble Institut des Neurosciences, Université Joseph Fourier, Grenoble, France; ³Department of Radiology, Stanford University, Stanford, CA, United States

- 15:00 3917. Variability of Model-Based Blood Volume Correction & Vessel Permeability Estimation in Dynamic Susceptibility Contrast MRI: A Computer Simulation Study**
Lin-Wei Hsu¹, Yeng-Peng Liao¹, Ho-Ling Liu^{1,2}
¹Institute of Medical Physics & Imaging Science, Chang Gung University, Taoyuan, Taiwan; ²Department of Medical Imaging & Intervention, Chang Gung Memorial Hospital, Taoyuan, Taiwan
- 15:30 3918. An Efficient Computational Approach to Characterize DSC-MRI Signals Arising from Heterogeneous Vascular Networks**
Natanael B. Semmineh¹, Junzhong Xu¹, Christopher Chad Quarles¹
¹Radiology & Radiological Sciences, Vanderbilt University, Nashville, TN, United States
- Exhibition Hall Tuesday 13:30-15:30 Computer 76
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- 13:30 3919. Effect of Cerebral Hemodynamic Changes on DTI Quantitation: A Hypercapnia Study**
Abby Ying Ding^{1,2}, Ed X. Wu^{1,3}
¹Laboratory of Biomedical Imaging & Signal Processing, the University of Hong Kong, Hong Kong, Hong Kong SAR, China, People's Republic of; ²Department of Electrical & Electronic Engineering, the University of Hong Kong, Hong Kong, Hong Kong SAR, China, People's Republic of; ³Department of Electrical & Electronic Engineering, the University of Hong Kong, Hong Kong, Hong Kong SAR, China, People's Republic of
- 14:00 3920. The Effects of Myelin in FA & QSI Indices: Control vs. Long Evans Shaker Rat Brains**
Debbie Anaby¹, Ian D. Duncan², Yoram Cohen¹
¹School of Chemistry, Tel Aviv University, Tel Aviv, Israel; ²School of Veterinary Medicine, University of Wisconsin-Madison, Madison, WI, United States
- 14:30 3921. On the Time to Peak Factor of Dynamic Susceptibility Contrast of Microbubbles**
Shin-Lei Peng¹, Chih-Kuang Yeh¹, Chung-Hsin Wang¹, Hsu-Hsia Peng¹, Fu-Nien Wang¹
¹Department of Biomedical Engineering & Environme, National Tsing Hua University, Hsin-Chu, Taiwan
- 15:00 3922. DSC MRI on Rat Model: Choosing the Integration Interval for Measuring CBV**
Yi-Ling Wu¹, Chien-Chung Chen¹, Yi-Chun Wu¹, Chia-Hao Chang¹, Fu-Nien Wang¹
¹Biomedical Engineering & Environmental Sciences, National Tsing Hua University, Hsinchu, Taiwan
- Exhibition Hall Wednesday 13:30-15:30 Computer 76
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- 13:30 3923. Altered Hemodynamics of Cortical Lesions in Multiple Sclerosis: A Dynamic Susceptibility Contrast MRI Study using a Kernel-Based Deconvolution Algorithm**
Marco Castellaro¹, Denis Peruzzo¹, Massimiliano Calabrese², Francesca Rinaldi², Valentina Bernardi², Alice Favaretto², Irene Mattisi², Paolo Gallo², Alessandra Bertoldo¹
¹Department of Information Engineering, University of Padova, Padova, Italy; ²Multiple Sclerosis Centre, Department of Neuroscience, University of Padova, Padova, Italy
- 14:00 3924. Tissue Similarity Map of Perfusion Weighted MR Imaging in the Study of Multiple Sclerosis**
E. M. Haacke¹, Meng Li¹, Flavia Juvvigit¹
¹Department of Radiology, Wayne State University, Detroit, MI, United States
- 14:30 3925. Evaluation of Signal Formation in Local Arterial Input Function Measurements of DSC-MRI**
Egbert J. W. Bleeker¹, Andrew G. Webb¹, Marianne A. A. van Walderveen², Mark A. van Buchem^{1,2}, Matthias J. P. van Osch¹
¹Radiology, C.J. Gorter Center for High Field MRI, Leiden University Medical Center, Leiden, Netherlands; ²Radiology, Leiden University Medical Center, Leiden, Netherlands
- 15:00 3926. Comparison of Automatic Localized & Manual Global AIF Perfusion Imaging from DSC MRI by Vascular Territories**
Adam Martin Winchell^{1,2}, Ralf B. Loeffler³, Ruitian Song³, Himanshu Bhat⁴, Michael Hamm⁴, Alberto Broniscer⁵, Claudia M. Hillenbrand³
¹Radiological Sciences, St. Jude Children's Research Hospital, Memphis, TN, United States; ²Biomedical Engineering, University of Memphis, Memphis, TN, United States; ³Radiological Sciences, St. Jude Children's Research Hospital, Memphis, TN, United States; ⁴Siemens Healthcare, Charlestown, MA, United States; ⁵Oncology, St. Jude Children's Research Hospital, Memphis, TN, United States

Diffusion Acquisition & Pulse Sequences

Exhibition Hall	Monday 14:00-16:00	Computer 77
14:00	3927.	Effect of Truncated Sampling on Estimated Fiber Directions in Q-Space Imaging <i>Bryce Wilkins¹, Namgyun Lee¹, Manbir Singh¹</i> ¹ Radiology & Biomedical Engineering, University of Southern California, Los Angeles, CA, United States
14:30	3928.	Improved Precision in the Charmed Model of White Matter through Sampling Scheme Optimization & Model Parsimony Testing <i>Silvia De Santis^{1,2}, Yaniv Assaf³, Christopher John Evans¹, Derek K. Jones¹</i> ¹ CUBRIC, School of psychology, CARDIFF University, United Kingdom; ² Physics Department, Sapienza University, Rome, Italy; ³ Tel Aviv University, Israel
15:00	3929.	Harmonic Analysis of Spherical Sampling in Diffusion MRI <i>Alessandro Daducci¹, Jason McEwen², Dimitri Van De Ville^{3,4}, Jean-Philippe Thiran¹, Yves Wiaux^{2,4}</i> ¹ Signal Processing Laboratory (LTS5), École Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland; ² Institute of Electrical Engineering, École Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland; ³ Institute of Bioengineering, École Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland; ⁴ Department of Radiology & Medical Informatics, University of Geneva (UniGE), Geneva, Switzerland
15:30	3930.	Effect of using Super-Resolution Technique in Slice Direction on DTI Fiber Tractography <i>Daniel Güllmar¹, Christian Ros¹, Jürgen R. Reichenbach¹</i> ¹ Medical Physics Group, Jena University Hospital, Jena, Thuringia, Germany
Exhibition Hall	Tuesday 13:30-15:30	Computer 77
13:30	3931.	High-Resolution Diffusion Imaging of the <i>In Vivo</i> Human Hippocampus <i>Michael Zeineh¹, Samantha Holdsworth¹, Stefan Skare¹, Scott Atlas¹, Roland Bammer¹</i> ¹ Stanford University, Stanford, CA, United States
14:00	3932.	Comparison of Two Alternative Approaches for Diffusion-Weighted Readout-Segmented (RS)-EPI <i>Samantha J. Holdsworth¹, Stefan Skare², Murat Aksoy¹, Rafael O'Halloran¹, Roland Bammer¹</i> ¹ Department of Radiology, Stanford University, Palo Alto, CA, United States; ² Clinical Neuroscience, Karolinska Institute, Stockholm, Sweden
14:30	3933.	Multi Slice Localized Parallel Excitation for Abdominal & Pelvic EPI Applications in Humans <i>Denis Kokorin^{1,2}, Martin Haas¹, Frederik Testud¹, Jürgen Hennig¹, Maxim Zaitsev¹</i> ¹ Medical Physics, University Medical Center Freiburg, Freiburg, Germany; ² International Tomography Center, Novosibirsk, Russian Federation
15:00	3934.	High Spatial-Resolution DTI using 32-Channel Head Coil at Human 7 T <i>Ha-Kyu Jeong^{1,2}, John C. Gore^{1,2}, Adam W. Anderson^{1,2}</i> ¹ Vanderbilt University Institute of Imaging Science, Nashville, TN, United States; ² Radiology & Radiological Sciences, Vanderbilt University, Nashville, TN, United States
Exhibition Hall	Wednesday 13:30-15:30	Computer 77
13:30	3935.	MR Measurements of Anomalous Diffusion Indices α & γ by Means of PGSTE Techniques at Varying of Time & of Gradient Strength in Phantoms <i>Marco Palombo¹, Andrea Gabrielli², Silvia De Santis¹, Silvia Capuani^{1,3}</i> ¹ Physics Department, Sapienza University of Rome, Rome, Italy; ² ISC, CNR, Rome, Italy; ³ IPCF UOS Roma, CNR, Rome, Italy
14:00	3936.	Concatenated Double Wave Vector Diffusion Weighting Experiments <i>Martin A. Koch¹, Jürgen Finsterbusch¹</i> ¹ Systems Neuroscience, University Medical Center Hamburg-Eppendorf, Hamburg, Germany
14:30	3937.	Human Brain Mapping of Orientationally Invariant Axonal Diameter using Q-Space Diffusion Tensor MRI <i>Jun-Cheng Weng^{1,2}</i> ¹ School of Medical Imaging & Radiological Sciences, Chung Shan Medical University, Taichung, Taiwan; ² Department of Medical Imaging, Chung Shan Medical University Hospital, Taichung, Taiwan
15:00	3938.	Measurement of Axon Radii Distribution in Orientationally Unknown Tissue using Angular Double-Pulsed Gradient Spin Echo (Double-PGSE) NMR <i>Wenjin Zhou¹, David Laidlaw¹</i> ¹ Brown University, Providence, RI, United States

Exhibition Hall Thursday 13:30-15:30 Computer 77

- 13:30 3939. Diffusion Tensor Imaging with View Angle Tilting Technique for Distortion Correction**
Sinyeob Ahn¹, Ki Sueng Choi¹, Xiaoping Hu¹
¹Biomedical Engineering, Georgia Institute of Technology & Emory University, Atlanta, GA, United States
- 14:00 3940. Geometric Distortion Correction of DTI using Accelerated PSF Mapping Based Reconstruction at 7 Tesla**
Myung-Ho In¹, Oliver Speck¹
¹Biomedical Magnetic Resonance, Otto-von-Guericke-University, Magdeburg, Germany
- 14:30 3941. Robustness of Echo Planar Imaging (EPI) Distortion Correction in Diffusion Tensor Imaging using Forward/reverse Phase Encode Directional B=0 Scans**
Wanyong Shin¹, Erik B. Beall¹, Ken Sakaie¹, Mingyi Li¹, Dominic Holland², Anders M. Dale³, Mark Lowe¹
¹Radiology, Imaging Institute, Cleveland Clinic, Cleveland, OH, United States; ²Neuroscience, University of California, San Diego, CA, United States; ³Radiology, University of California, San Diego, CA, United States
- 15:00 3942. Implementation of Real Time Motion Correction in Diffusion Tensor Imaging**
Alkathafi ALI Alhamud¹, Aaron Hess¹, Matthew Dylan Tisdall², Ernesta M. Meintjes¹, Andre J. van Der Kouwe²
¹University of Cape Town, Cape Town, South Africa; ²Department of Radiology, Harvard Medical School, MA, United States

Diffusion Applications, Non-Gaussian Diffusion & Diffusion Related Contrasts

Exhibition Hall Monday 14:00-16:00 Computer 78

- 14:00 3943. The Drum is Visible in Nuclear Magnetic Resonance Diffusion Experiments**
Frederik Bernd Laun¹, Wolfhard Semmler¹, Bram Stieltjes²
¹Medical Physics in Radiology, German Cancer Research Center, Heidelberg, Baden-Württemberg, Germany; ²Quantitative Imaging-based Disease Characterization, German Cancer Research Center, Heidelberg, Baden-Württemberg, Germany
- 14:30 3944. Diffusion Relaxation Correlation Spectroscopy at Ultra-Short Echo Times Reveals Two Major Compartments in Human Cadaver Brain White Matter**
Bibek Dhital¹, Marcel Gratz², Robert Turner¹
¹Max Planck Institute for Human Cognitive & Brain Sciences, Leipzig, Germany; ²Faculty of Physics & Geosciences, Department of Interface Sciences, University of Leipzig, Leipzig, Germany
- 15:00 3945. Renormalization Group Method: Effects of Diffusion Retarding on Intracellular Membranes**
*Oleg Posnansky^{*1}, Yuliya Kupriyanova¹, N. Jon Shah^{1,2}*
¹Medical Imaging Physics, Institute of Neurosciences & Medicine - 4, Forschungszentrum Jülich GmbH, 52425 Jülich, Germany; ²Department of Neurology, Faculty of Medicine, JARA, RWTH Aachen University, Aachen, Germany
- 15:30 3946. Efficient Numerical Solution of the Bloch-Torrey Equation for Modeling Multiple Compartment Diffusion**
Jing Rebecca Li¹, Donna Calhoun², Chun-Hung Yeh³, Cyril Poupon⁴, Denis Le Bihan⁴
¹INRIA-Saclay, Palaiseau Cedex, France; ²CEA, Saclay, France; ³National Yang-Ming University, Taiwan; ⁴CEA Neurospin, Saclay, France

Exhibition Hall Tuesday 13:30-15:30 Computer 78

- 13:30 3947. Constrained Maximum Likelihood Estimator for More Accurate Diffusion Kurtosis Tensor Estimates**
Jelle Veraart¹, Wim Van Hecke^{2,3}, Dirk H. J. Poot⁴, Jan Sijbers¹
¹Vision lab, University of Antwerp, Antwerp, Belgium; ²Dept. of Radiology, University Hospitals of the Catholic University of Leuven, Leuven, Belgium; ³Dept. of Radiology, University Hospital Antwerp, Antwerp, Belgium; ⁴Biomedical Imaging Group Rotterdam, Erasmus MC, Rotterdam, Netherlands
- 14:00 3948. Characterization of Neural Tissues in Humans using Diffusion Kurtosis Imaging**
Wenshu Qian¹, Zhongping Zhang¹, Ed Xuekui Wu², Matthew M. Cheung², Queenie Chan^{1,3}, Pek-Lan Khong¹, Mina Kim¹
¹Diagnostic Radiology, the University of Hong Kong, Hong Kong, China, People's Republic of; ²Electrical & Electronic Engineering, the University of Hong Kong, Hong Kong, China, People's Republic of; ³Philips Healthcare, Hong Kong, China, People's Republic of
- 14:30 3949. Apparent Kurtosis in the Motional Narrowing Regime: Analytic Results for Closed Domains**
Frederik Bernd Laun¹, Wolfhard Semmler¹, Bram Stieltjes²
¹Medical Physics in Radiology, German Cancer Research Center, Heidelberg, Baden-Württemberg, Germany; ²Quantitative Imaging-based Disease Characterization, German Cancer Research Center, Heidelberg, Baden-Württemberg, Germany

- 15:00 3950. **Estimation of the Axonal Density using DKI: A Validation Study**
Els Fieremans¹, Jens H. Jensen¹, Ali Tabesh¹, Joseph A Helpert^{1,2}
¹Center of Biomedical Imaging, Department of Radiology, New York University School of Medicine, New York, NY, United States;
²Center for Advanced Brain Imaging, Nathan S. Kline Institute, Orangeburg, NY, United States

Exhibition Hall Wednesday 13:30-15:30 Computer 78

- 13:30 3951. **Electrically Active *In-Vitro* Spinal Cords for the Study of Functional Diffusion Weighted Imaging**
Nitzan Tirosh¹, Uri Nevo¹
¹Biomedical Engineering, Tel Aviv University, Tel Aviv, Israel
- 14:00 3952. **Brain Tissue Water Comes in 2 Pools: Evidence from Diffusion & R₂ Measurements with USPIOs in Non Human Primates**
Denis Le Bihan^{1,2}, Olivier Joly³, Toshihiko Aso², Lynn Uhrig³, Cyril Poupon¹, Naoki Tani³, H. Iwamuro³, Shin-Ichi Urayama², Bechir Jarraya³
¹PBM, NeuroSpin, Gif-sur-Yvette, France; ²HBRC, Kyoto University, Kyoto, Japan; ³NeuroSpin, INSERM-AVENIR unit, Gif-sur-Yvette, France
- 14:30 3953. **Magnetic Susceptibility Local Variations Affect γ-Weighted Maps Contrast in Brain**
Silvia De Santis^{1,2}, Andrea Gabrielli³, Emiliano Macaluso⁴, Marco Bozzali⁴, Silvia Capuan^{2,5}
¹CUBRIC, School of Psychology, CARDIFF, South Glamorgan, United Kingdom; ²Physics Department, Sapienza University, Rome, Italy; ³via dei Taurini 19, ISC-CNR, Rome, Italy; ⁴Neuroimaging Laboratory Santa Lucia Foundation, Rome, Italy; ⁵IPCF UOS Roma, Sapienza University, Rome, Italy
- 15:00 3954. **Susceptibility-Induced Increase in Apparent Diffusion Coefficient**
Dmitry S. Novikov¹, Valerij G. Kiselev²
¹Radiology, NYU School of Medicine, New York, NY, United States; ²Diagnostic Radiology, Uniklinikum Freiburg, Freiburg, Germany

Exhibition Hall Thursday 13:30-15:30 Computer 78

- 13:30 3955. **Gene Therapy Evaluated using *In Vivo* Diffusion Tensor Imaging**
Joong Hee Kim¹, Adarsh S. Reddy², Mark S. Sands², Sheng-Kwei Song¹
¹Radiology, Washington University, St. Louis, MO, United States; ²Internal Medicine, Washington University, St. Louis, MO, United States
- 14:00 3956. **Quantitative DTI of White Matter Abnormalities Upon Early Postnatal Visual Impairments**
Kevin C. Chan^{1,2}, Joe S. Cheng^{1,2}, Shu Juan Fan^{1,2}, Matthew M. Cheung^{1,2}, Ed X. Wu^{1,2}
¹Laboratory of Biomedical Imaging & Signal Processing, the University of Hong Kong, Pokfulam, Hong Kong, China, People's Republic of; ²Department of Electrical & Electronic Engineering, the University of Hong Kong, Pokfulam, Hong Kong, China, People's Republic of
- 14:30 3957. **Neuroregenerative Effect of Mesenchymal Stem Cell Following Hypoxia-Ischemia in the Pup Mouse Brain Assessed by Diffusion Tensor Imaging**
Yohan van De Looij^{1,2}, Cindy T van Velthoven³, Rolf Gruetter^{2,4}, Petra S Hüppi¹, Annemieke Kavelaars³, Cobi J. Heijnen³, Stéphane V. Sizonenko¹
¹Division of Child Growth & Development, University of Geneva, Geneva, Switzerland; ²Laboratory for Functional & Metabolic Imaging, Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland; ³Lab. for Neuroimmunology & Developmental Origins of Disease, University Medical Center Utrecht, Utrecht, Netherlands; ⁴Department of Radiology, Universities of Geneva & Lausanne, Geneva & Lausanne, Switzerland
- 15:00 3958. **Can Diffusion Kurtosis Imaging Provide Better Ischemic Lesion Delineation?**
Edward S. Hui¹, Fang Du¹, Qiang Shen¹, Shiliang Huang¹, Timothy Q. Duong¹
¹Research Imaging Institute, University of Texas Health Science Center San Antonio, San Antonio, TX, United States

Tractography

Exhibition Hall Monday 14:00-16:00 Computer 79

- 14:00 3959. **A New Comprehensive Framework for Probabilistic Tractography of Fanning Fibres**
Jennifer Campbell¹, Parya MamayezSiahkal², Peter Savadjiev³, Ilana R. Leppert¹, Kaleem Siddiqi², G. B. Pike¹
¹McConnell Brain Imaging Centre, Montreal Neurological Institute, McGill University, Montreal, Quebec, Canada; ²Centre for Intelligent Machines, McGill University; ³Brigham & Women's Hospital, Harvard University

- 14:30 3960. A Full Bi-Tensor Neural Tractography Algorithm using the Unscented Kalman Filter**
Stefan Lienhard¹, James Malcolm², Carl-Frederik Westin³, Yogesh Rathi²
¹Information Technology & Electrical Engineering, ETH Zürich, Zürich, Switzerland; ²Harvard Medical School, Psychiatry Neuroimaging Laboratory, Boston, MA, United States; ³Harvard Medical School, Laboratory of Mathematics in Imaging, Boston, MA, United States
- 15:00 3961. Advanced Fiber Tracking using ODF Based Force Fields**
Robert Stefan Vorburget¹, Carolin Reischauer¹, Peter Boesiger¹
¹Institute for Biomedical Engineering, University & ETH Zurich, Zurich, Switzerland
- 15:30 3962. Clinically Feasible Crossing Fiber Tractography Based on Additional Local HARDI**
Kenji Ito¹, Yoshitaka Masutani^{1,2}, Yuichi Suzuki², Shigeki Aoki³, Osamu Abe⁴, Akira Kunimatsu^{1,2}, Kuni Ohtomo^{1,2}
¹Graduate School of Medicine Univ. of Tokyo, Bunkyo-ku, Tokyo, Japan; ²Univ. of Tokyo Hospital, Bunkyo-ku, Tokyo, Japan; ³Radiology, Juntendo Hospital, Bunkyo-ku, Tokyo, Japan; ⁴Radiology, Nihon University Itabashi Hospital, Itabashi-ku, Tokyo, Japan
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- Exhibition Hall Tuesday 13:30-15:30 Computer 79
- 13:30 3963. Voxel-Based Morphometric Analysis of Fiber Tract Volume of Corpus Callosum using Large Deformation Diffeomorphic Metric Mapping & Diffusion Spectrum Tractography**
Hsiao-Chin Cheng¹, Yung-Chin Hsu², Wen-Yih Isaac Tseng^{1,3}
¹Center for Optoelectronic Biomedicine, National Taiwan University College of Medicine, Taipei, Taiwan; ²Department of Biomedical Engineering & Environmental Sciences, National Tsing Hua University, Hsinchu, Taiwan; ³Department of Medical Imaging, National Taiwan University Hospital, Taipei, Taiwan
- 14:00 3964. Fiber Bundle Segmentation using Major Diffusion Orientations in Reduced Position Orientation Space**
Esmail Davoodi-Bojd¹, Mohammadreza Nazem-Zadeh², Hamid Soltanian-Zadeh¹, Quan Jiang²
¹Control & Intelligence Processing Center of Excellence, School of Electrical & Computer Engineering, University of Tehran, Tehran, Iran; ²Neurology, Henry Ford Hospital, Detroit, MI, United States
- 14:30 3965. COMET – a Framework for the Large Scale Cluster Analysis of Major Equivalent Tracts**
Christia Ros¹, Daniel Güllmar¹, Jürgen R. Reichenbach¹
¹Medical Physics Group, Department of Diagnostic & Interventional Radiology I, Jena University Hospital, Jena, Thuringia, Germany
- 15:00 3966. Clustering Method for Estimating Principal Diffusion Directions**
Mohammadreza Nazem-Zadeh¹, Kouros Jafari-Khouzani², Abbas Babajani-Fermi², Siamak Pourabdollah Nejad-Davaran¹, Hamid Soltanian-Zadeh^{2,3}, Quan Jiang¹
¹Neurology, Henry Ford Hospital, Detroit, MI, United States; ²Diagnostic Radiology, Henry Ford Hospital, Detroit, MI, United States; ³Control & Intelligent Processing Center of Excellence, School of Electrical & Computer Engineering, University of Tehran, Tehran, Iran
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- Exhibition Hall Wednesday 13:30-15:30 Computer 79
- 13:30 3967. Accurate Estimation of Local Fiber Orientations for Groupwise Tractography**
Pew-Thian Yap¹, John H. Gilmore², Weili Lin¹, Dinggang Shen¹
¹Radiology & BRIC, University of North Carolina, Chapel Hill, NC, United States; ²Psychiatry, University of North Carolina, Chapel Hill, NC, United States
- 14:00 3968. Auditory Tracts Identified with the Combined Use of fMRI & DTI**
Laura Mancini^{1,2}, Faiza Javad², Jason D. Warren³, John S. Thornton^{1,2}, Xavier Golay^{1,2}, Tarek Yousry^{1,2}, Caroline Micallef^{1,2}
¹Lysholm Dept of Neuroradiology, National Hospital for Neurology & Neurosurgery, UCLH NHS Foundation Trust, London, WC1N 3BG, United Kingdom; ²Academic Neuroradiological Unit, Dept Brain Repair & Rehabilitation, UCL Institute of Neurology, London, WC1N 3BG, United Kingdom; ³Dementia Research Centre, UCL Institute of Neurology, London, WC1N 3BG, United Kingdom
- 14:30 3969. Are Larger Pathways Faster? A Spherical Deconvolution Tractography Study on the Visuo-Spatial Pathways**
Michel Thiebaut De Schotten^{1,2}, Flavio Dell'Acqua^{1,3}, Stephanie Forkel^{1,4}, Marco Catani^{1,3}
¹Natbrainlab, Institute of Psychiatry, London, United Kingdom; ²Hopital de la Salpêtrière, CRICM-INSERM UMRS 975, Paris, France; ³Department of Neuroimaging Sciences, Institute of Psychiatry, London, United Kingdom; ⁴Department of Forensic & Neurodevelopmental Sciences, Institute of Psychiatry, London, United Kingdom
- 15:00 3970. Voxel-Wise Histogram Analysis of Tractography Streamline Length for Assessing Brain Injury**
Kerstin Pannek¹, Thomas Kampf², Jane Mathias³, Greg Brown⁴, Jamie Taylor⁵, Olivier Salvado⁶, Stephen Rose⁷
¹Centre for Advanced Imaging, the University of Queensland, Brisbane, Queensland, Australia; ²Department of Experimental Physics 5, University of Wuerzburg, Wuerzburg, Germany; ³School of Psychology, University of Adelaide, Adelaide, South Australia, Australia; ⁴MRI Unit, Royal Adelaide Hospital, Adelaide, South Australia, Australia; ⁵Radiology, Royal Adelaide Hospital, Adelaide,

South Australia, Australia; ⁶Biomedical Imaging, Australian eHealth Research Centre, Brisbane, Queensland, Australia; ⁷Centre for Clinical Research, the University of Queensland, Brisbane, Queensland, Australia

Brain Across Species

Exhibition Hall Monday 14:00-16:00 Computer 80

- 14:00 3971. *In Vivo* Measurement of T₂ Relaxation Times in Mouse Brain at 17.6 Tesla**
Firat Kara¹, Fu Chen¹, Jörg Matysik¹, Alia Alia¹
¹Leiden Institute of Chemistry, Leiden University, Leiden, South holland, Netherlands
- 14:30 3972. High-Resolution Zebrafish White Matter Fibertracks**
Nyoman Dana Kurniawan¹, Gary Cowin¹, Shaun P. Collin^{2,3}, Jeremy F. P. Ullmann³
¹Centre for Advanced Imaging, the University of Queensland, Brisbane, Queensland, Australia; ²School of Animal Biology, the University of Western Australia, Crawley, Western Australia, Australia; ³School of Biomedical Sciences, the University of Queensland, Brisbane, Queensland, Australia
- 15:00 3973. Characterizing Brain Development in the Ferret *In Vivo* using Diffusion Tensor Imaging**
Yulin V. Chang¹, Philip V. Bayly¹
¹Mechanical Engineering, Washington University, St. Louis, MO, United States
- 15:30 3974. MRI Assessment of the Effect of Different Resuscitation Fluids on Cerebral Blood Flow & Edema Following Experimental Traumatic Brain Injury and Hemorrhagic Shock in Mice**
Lesley M. Foley¹, T. Kevin Hitchens^{1,2}, John A. Melick³, Nancy T. Ho², Tusey C. Tam², Chien Ho^{1,2}, Patrick M. Kochanek^{3,4}
¹Pittsburgh NMR Center for Biomedical Research, Carnegie Mellon University, Pittsburgh, PA, United States; ²Department of Biological Sciences, Carnegie Mellon University, Pittsburgh, PA, United States; ³Safar Center for Resuscitation Research, University of Pittsburgh School of Medicine, Pittsburgh, PA, United States; ⁴Departments of Critical Care Medicine, Pediatrics & Anesthesiology, University of Pittsburgh School of Medicine, Pittsburgh, PA, United States

Diffusion Phantoms

Exhibition Hall Tuesday 13:30-15:30 Computer 81

- 13:30 3975. A Diffusion Tensor Resolution Phantom**
Michael Bach¹, Bram Stieltjes², Klaus Fritzsche³, Wolfhard Semmler¹, Frederik Bernd Laun¹
¹Medical Physics in Radiology, German Cancer Research Center, Heidelberg, Germany; ²Quantitative Imaging-based Disease Characterization, German Cancer Research Center, Heidelberg, Germany; ³Medical Imaging & Biological Informatics, German Cancer Research Center, Heidelberg, Germany
- 14:00 3976. A Selectable Diffusion Coefficient Phantom Based on Restricted Diffusion**
Joseph P. Hornak¹, Hongmei Yuan², Scott Kennedy³, Edmund Kwok³
¹Imaging Science, RIT, Rochester, NY, United States; ²Chemistry, RIT, Rochester, NY, United States; ³University of Rochester, Rochester, NY, United States
- 14:30 3977. Characterization of the TE Dependence of IVIM Biomarkers in a Flow Phantom & *In Vivo***
Gene Young Cho¹, Daniel K. Sodickson¹, Eric E. Sigmund¹
¹Center for Biomedical Imaging - Radiology, NYU School of Medicine, New York, United States
- 15:00 3978. Regional Biomechanical Property of Intracranial Tissue using Dynamic Diffusion MRI: A Phantom Study**
Hirohito Kan¹, Tosiaki Miyati¹, Mitsuhiro Mase², Masaki Hara³, Makoto Kawano³, Yuta Shibamoto³, Harumasa Kasai³, Nobuyuki Arai³, Akihiro Kitanaka¹, Risa Yorimitsu¹
¹Division of Health Sciences, Graduate School of Medical Science, Kanazawa University, Kanazawa, Ishikawa, Japan; ²Department of Neurosurgery & Restorative Neuroscience, Graduate School of Medical Sciences, Nagoya City University, Nagoya, Aichi, Japan; ³Department of Radiology, Nagoya City University Hospital, Nagoya, Aichi, Japan

Arterial Spin Labeling - Methods

Exhibition Hall Monday 14:00-16:00 Computer 82

- 14:00 3979. Velocity Selective Arterial Spin Labeling using an Inversion Pulse Train**
Ruitian Song¹, Ralf B. Loeffler¹, Adam M. Winchell¹, Claudia M. Hillenbrand¹
¹Radiological Sciences, St Jude Children's Research Hospital, Memphis, TN, United States

- 14:30 3980. Optimization of Tagging Efficiency using ECG-Gated Velocity-Matched B₁-Increased Pseudo-Continuous Arterial Spin Labeling**
Wen-Ming Luh¹, Eric C. Wong², S. Lalith Talagala³, Peter A. Bandettini¹
¹Functional MRI Facility, NIMH, National Institutes of Health, Bethesda, MD, United States; ²Departments of Radiology & Psychiatry, University of California, San Diego, La Jolla, CA, United States; ³NMRF, NINDS, National Institutes of Health, Bethesda, MD, United States
- 15:00 3981. Territorial Arterial Spin Labelling at 7T using PICORE**
Rebecca Susan Dewey^{1,2}, Dorothee P. Auer¹, Susan T. Francis³
¹Division of Academic Radiology, the Univeristy of Nottingham, Nottingham, United Kingdom; ²Sir Peter Mansfield Magnetic Resonance Centre, the University of Nottingham, Nottingham, United Kingdom; ³Sir Peter Mansfield Magnetic Resonance Centre, the Univeristy of Nottingham, Nottingham, United Kingdom
- 15:30 3982. Inversion-Prepared Pulsed ASL with Single-Shot FSE Readout for the *In Vivo* Measurement of the T₁ of Arterial Blood**
David Thomas Pilkinton^{1,2}, John a Detre^{2,3}, Ravinder Reddy^{1,2}
¹Biochemistry & Molecular Biophysics, University of Pennsylvania, Philadelphia, PA, United States; ²Center for Magnetic Resonance and Optical Imaging, Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States; ³Center for Functional Neuroimaging, University of Pennsylvania, Philadelphia, PA, United States

Exhibition Hall Tuesday 13:30-15:30 Computer 82

- 13:30 3983. Acquisition Strategy for 3D GRASE with a Sharp Point Spread Function Towards Whole Brain ASL Perfusion Mapping at 3T**
Qin Qin^{1,2}, Alan J. Huang^{2,3}, Jun Hua^{1,2}, Matthias J. P. van Osch⁴, Peter C. M. van Zijl^{1,2}
¹Radiology, Johns Hopkins University, Baltimore, MD, United States; ²F.M. Kirby Center, Kennedy Krieger Institute, Baltimore, MD, United States; ³Biomedical Engineering, Johns Hopkins University, Baltimore, MD, United States; ⁴Radiology, Leiden University Medical Center, Leiden, Netherlands
- 14:00 3984. Look-Locker 3D-EPI ASL at 7T**
Emma Louise Hall¹, Penny A. Gowland¹, Susan T. Francis¹
¹Sir Peter Mansfield Magnetic Resonance Centre, University of Nottingham, Nottingham, Nottinghamshire, United Kingdom
- 14:30 3985. Turbo-Flash Based Arterial Spin Labeling at 7T**
Zhentao Zuo^{1,2}, Rui Wang^{1,2}, Dapeng Liu^{1,2}, Rong Xue¹, Yan Zhuo¹, Danny J. J. Wang³
¹State Key Laboratory of Brain & Cognitive Science, Institute of Biophysics, Chinese Academy of Sciences, Beijing, China, People's Republic of; ²Graduate University, Chinese Academy of Sciences, Beijing, China, People's Republic of; ³Neurology, UCLA, Los Angeles, CA, United States
- 15:00 3986. Dual-Density & Parallel Spiral ASL for Motion Artifact Reduction**
Craig H. Meyer^{1,2}, Li Zhao¹, Michael Lustig³, Manal Jilwan-Nicolas², Max Wintermark², John P. Mugler III², Frederick H. Epstein²
¹Department of Biomedical Engineering, University of Virginia, Charlottesville, VA, United States; ²Department of Radiology, University of Virginia, Charlottesville, VA, United States; ³Department of Electrical & Computer Engineering, UC Berkeley, Berkeley, CA, United States

Exhibition Hall Wednesday 13:30-15:30 Computer 82

- 13:30 3987. Full Model-Based Analysis of QUASAR Arterial Spin Labelling**
Michael A. Chappell^{1,2}, Esben T. Petersen³, Mark W. Woolrich², Xavier Golay⁴, Stephen J. Payne¹
¹Institute of Biomedical Engineering, University of Oxford, Oxford, United Kingdom; ²FMRIB Centre, University of Oxford, Oxford, United Kingdom; ³Clinical Imaging Research Center, NUS-A*STAR, Singapore; ⁴Institute of Neurology, University College, London, United Kingdom
- 14:00 3988. Absolute Regional Gray Matter Perfusion Measured with Arterial Spin Labeling Calibrated using Phase Contrast MRI**
Ahmet Murat Bagci¹, Sang Lee¹, David Adams¹, Clinton Wright¹, Birgit Ertl-Wagner², Noam Alperin¹
¹University of Miami, Miami, FL, United States; ²University of Munich, Munich, Germany
- 14:30 3989. Detection of MR Perfusion Transit Time Effects in Pulsed Arterial Spin Labeling using a 'Model Validity Metric'**
Yang Wang¹, Josef Pfeuffer², Gary D. Hutchins¹, Andrew J. Saykin¹
¹Radiology & Imaging Sciences, Indiana University School of Medicine, Indianapolis, IN, United States; ²MR Applications Development, Siemens Healthcare, Erlangen, Germany

- 15:00 3990. Regional Coherence-Based Denoising (RECODE) for Arterial Spin Labeled Perfusion MRI**
Ze Wang¹, John A. Detre²
¹Dept of Psychiatry, U of Penn, Philadelphia, PA, United States; ²Dept of Neurology, Univ of Penn, Philadelphia, PA, United States
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- Exhibition Hall Thursday 13:30-15:30 Computer 82
- 13:30 3991. WITHDRAWN**
- 14:00 3992. A Total Variation Spatial Prior for the Estimation of Perfusion & Transit Time Maps in PASL-MRI**
Nuno Santos^{1,2}, João M. Sanches¹, Inês Sousa^{1,2}, Patricia Figueiredo¹
¹Institute for Systems & Robotics, Instituto Superior Técnico, Lisbon, Portugal; ²Healthcare Sector, Siemens S.A., Portugal
- 14:30 3993. Absolute CBF Quantification with PASL During Hyperoxia Corrected with the Simultaneous Measurement of the T₁ of Arterial Blood**
David Thomas Pilkinton^{1,2}, John A. Detre^{2,3}, Ravinder Reddy^{1,2}
¹Biochemistry & Molecular Biophysics, University of Pennsylvania, Philadelphia, PA, United States; ²Center for Magnetic Resonance & Optical Imaging, Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States; ³Center for Functional Neuroimaging, University of Pennsylvania, Philadelphia, PA, United States
- 15:00 3994. Comparison of Arterial Transit Times Estimated using Arterial Spin Labeling**
Yufen Chen¹, Danny J. J. Wang², John A. Detre¹
¹Center for Functional Neuroimaging, University of Pennsylvania, Philadelphia, PA, United States; ²Department of Neurology, University of California Los Angeles, Los Angeles, CA, United States

Arterial Spin Labeling - Applications

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- Exhibition Hall Monday 14:00-16:00 Computer 83
- 14:00 3995. Magnetic Resonance Imaging of Blood Flow of the Human Retina**
Qi Peng^{1,2}, Yi Zhang^{1,2}, Oscar San Emeterio Nateras^{1,2}, Timothy Q. Duong^{1,2}
¹Radiology, UT Health Science Center at San Antonio, San Antonio, TX, United States; ²Research Imaging Institute, UT Health Science Center at San Antonio, San Antonio, TX, United States
- 14:30 3996. Blood Flow MRI of the Human Retina During Isometric Exercise-Induced Increase in Blood Pressure**
Yi Zhang¹, Oscar San Emeterio Nateras², Qi Peng^{1,2}, Carlos A. Rosende³, John M. Johnson⁴, Timothy Q. Duong^{1,2}
¹Research Imaging Institute, University of Texas Health Science Center at San Antonio, San Antonio, TX, United States; ²Radiology, University of Texas Health Science Center at San Antonio, San Antonio, TX, United States; ³Ophthalmology, University of Texas Health Science Center at San Antonio, San Antonio, TX, United States; ⁴Physiology, University of Texas Health Science Center at San Antonio, San Antonio, TX, United States
- 15:00 3997. Layer-Specific Blood-Flow MRI of Retina Degeneration at 11.7T**
Guang Li¹, Bryan De La Garza², Yen-Yu I Shih², Eric R. Muir^{2,3}, Timothy Q. Duong²
¹Radiology, UT Health Science Center at San Antonio, San Antonio, TX, United States; ²UT Health Science Center at San Antonio, United States; ³Georgia Institute of Technology, Atlanta, GA, United States
- 15:30 3998. Layer-Specific Retinal & Choroidal Blood-Flow MRI in a Mouse Model of Glaucoma**
Eric R. Muir¹, William Lavery², Jeffrey W. Kiel², René C. Rentería^{3,4}, Timothy Q. Duong¹
¹Research Imaging Institute, University of Texas Health Science Center, San Antonio, TX, United States; ²Department of Ophthalmology, University of Texas Health Science Center, San Antonio, TX, United States; ³Department of Physiology, University of Texas Health Science Center, San Antonio, TX, United States; ⁴Center for Biomedical Neuroscience, University of Texas Health Science Center, San Antonio, TX, United States
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- Exhibition Hall Tuesday 13:30-15:30 Computer 83
- 13:30 3999. Calibrated fMRI using Simultaneous EEG & fMRI & the Effect of Hypercapnia on CMRO₂**
Andrea Federspiel¹, Ariane Orosz¹, Martinus Hauf², Roland Wies², Danny J. J. Wang³, Thomas Dierks¹, Kay Jann¹
¹Department of Psychiatric Neurophysiology, University Hospital of Psychiatry, Bern, Switzerland; ²Institute of Diagnostic & Interventional Neuroradiology, University of Bern, Switzerland; ³Department of Neurology, UCLA, Ahmanson-Lovelace Brain Mapping Center, Los Angeles, CA, United States
- 14:00 4000. Coupling between Resting Cerebral Perfusion & EEG Power**
Lars Michels¹, Ernst Martin¹, Daniel Brandeis², Rafael Lühinger², Peter Klaver³, Ajit Shankaranarayanan⁴, David C. Alsop^{5,6}, Ruth L. O'Gorman¹
¹University Children's Hospital, Zürich, Switzerland; ²Department of Child & Adolescent Psychiatry, University of Zürich, Zürich, Switzerland; ³Department of Psychology, University of Zürich, Zürich, Switzerland; ⁴Global Applied Science Laboratory, GE

Healthcare, Menlo Park, CA, United States; ⁵Beth Israel Deaconess Medical Center, Boston, MA, United States; ⁶Harvard Medical School, Boston, MA, United States

- 14:30 4001. Dynamics of CBF and BOLD Responses to a Cued Deep Breathing Paradigm**
Inês Sousa^{1,2}, Pedro Vilela³, Patricia Figueiredo¹
¹Institute for Systems & Robotics, Instituto Superior Técnico, Lisbon, Portugal; ²Healthcare Sector, Siemens, S.A., Lisbon, Portugal; ³Imaging Department, Hospital da Luz, Lisbon, Portugal
- 15:00 4002. Dosage-Dependent Effects of Isoflurane on Cerebral Blood Flow in Rhesus Monkeys**
Chun-Xia Li¹, Sudeep Patel¹, Eddie Auerbach², Xiaodong Zhang¹
¹Yerkes Imaging Center, Yerkes National Primate Research Center, Emory University, Atlanta, GA, United States; ²Center for MR Research, School of Medicine, University of Minnesota, Minneapolis, United States

Exhibition Hall Wednesday 13:30-15:30 Computer 83

- 13:30 4003. Memory Performance is Negatively Correlated with Resting CBF Level in Hippocampus in Healthy Elderly**
Siyuan Hu¹, Hengyi Rao¹, Lauren Mancuso¹, John A. Detre¹, David Wolk¹
¹Department of Neurology, University of Pennsylvania, Philadelphia, PA, United States
- 14:00 4004. Temporal & Extra-Temporal Perfusion Abnormality in Mesial Temporal Lobe Epilepsy Revealed by Arterial Spin Labeling(ASL)-Based MRI**
Guangming Lu¹, Zhiqiang Zhang¹, Cuiping Yuan¹, Lianfang Shen¹
¹Department of Radiology, Jinling hospital, Nanjing University School of Medicine, Nanjing, Jiangsu, China, People's Republic of
- 14:30 4005. Quantification of Cerebral Blood Flow (CBF) in Acute-On Chronic Liver Failure (ACLF) Patients with 3D Pseudo Continuous Arterial Spin Labeling**
Abhishek Yadav¹, Rakesh Kumar Gupta¹, Santosh Kumar Yadav¹, M Rangan², V. A. Saraswat³, M. A. Thomas⁴, R. K. S. Rathore⁵
¹Radiodiagnosis, Sanjay Gandhi Post Graduate Institute of Medical Sciences, Lucknow, India, Lucknow, Uttar Pradesh, India; ²Pediatric Gastroenterology, Sanjay Gandhi Post Graduate Institute of Medical Sciences, Lucknow, India, Lucknow, UP, India; ³Pediatric Gastroenterology, Sanjay Gandhi Post Graduate Institute of Medical Sciences, Lucknow, India, Lucknow, UP, India; ⁴Department of Radiological Sciences, Sanjay Gandhi Post Graduate Institute of Medical Sciences, Lucknow, India, California, Los Angeles, United States; ⁵Department of Mathematics & Statistics, Indian Institute of Technology, Kanpur, UP, India
- 15:00 4006. Combined Dynamic Susceptibility Contrast (DSC) Imaging & Arterial Spin Labeling (ASL) for Quantitative Perfusion Measurements in Children with Diffuse Pontine Glioma**
Brian A. Taylor¹, Adam Winchell^{1,2}, Jan Sedlacik¹, Alberto Broniscer³, Ruitian Song¹, Ralf B. Loeffler¹, Claudia M. Hillenbrand¹
¹Radiological Sciences, St. Jude Children's Research Hospital, Memphis, TN, United States; ²Biomedical Engineering, University of Memphis, Memphis, TN, United States; ³Oncology, St. Jude Children's Research Hospital, Memphis, TN, United States

Exhibition Hall Thursday 13:30-15:30 Computer 83

- 13:30 4007. Test-Retest Reproducibility Assessment of CBF Measurements with 3D GRASE ASL at 1.5 T in Aged Population with Alzheimer's Disease**
Alexandre Coimbra¹, Dai Feng², Sonia Apreleva², Peter Hu³, S Ramana⁴, A. Bernstein⁵, Matthias Guenther⁶, William Cho⁷, Mark Forman⁸, Ajay Verma⁹, Gary Herman¹⁰, Richard Baumgartner², David Feinberg⁴
¹Imaging, Merck & Co, Inc, West Point, PA, United States; ²Biometrics, Merck & Co, Inc, Rahway, NJ, United States; ³BARDS, Merck & Co, Inc, Upper Gwynedd, PA, United States; ⁴Advanced MRI Technologies, Sebastopol, CA, United States; ⁵Redwood Regional Medical Group, Santa Rosa, CA, United States; ⁶Fraunhofer MEVIS-Institute for Medical Image Computing, Bremen, Germany; ⁷Experimental Medicine, Merck & Co, Inc, Upper Gwynedd, PA, United States; ⁸Clinical Pharmacology, Merck & Co, Inc, Upper Gwynedd, PA, United States; ⁹Translational Neurology, Biogen Idec, Cambridge, MA, United States; ¹⁰Clinical Research, Merck & Co, Inc, Rahway, NJ, United States
- 14:00 4008. A Comparison Study of Imaging Absolute CBF Change in Rat Brain with SR-T₁app Method and CASL Technique**
Xiao Wang¹, Xiao-Hong Zhu¹, Yi Zhang¹, Wei Chen¹
¹Center for Magnetic Resonance Research, Department of Radiology, University of Minnesota Medical School, Minneapolis, MN, United States
- 14:30 4009. Intersubject Variability in Cerebral Blood Flow is Great than Structural Variability**
Yufen Chen¹, Hengyi Rao¹, John A. Detre¹
¹Center for Functional Neuroimaging, University of Pennsylvania, Philadelphia, PA, United States

- 15:00 4010. **An Online Shared Database of ASL-Based CBF Measures with Integrated Processing Pipeline**
David Dongsuk Shin¹, Burak Ibrahim Ozyurt², Thomas T Liu¹
¹Center for Functional MRI, University of California, San Diego, La Jolla, CA, United States; ²Department of Psychiatry, University of California, San Diego, La Jolla, CA, United States

Mapping Structural Anisotropy : Kurtosis

Exhibition Hall Monday 14:00-16:00 Computer 84

- 14:00 4011. **Estimation of Kurtosis in Accelerated Diffusion Spectrum Imaging using Compressed Sensing**
Jonathan Immanuel Sperl¹, Ek Tsoon Tan², Kedar Khare², Kevin F. King³, Xiaodong Tao², Christopher J. Hardy², Luca Marinelli², Marion I. Menzel¹
¹GE Global Research, Garching, Germany; ²GE Global Research, Niskayuna, NY, United States; ³GE Healthcare, Waukesha, WI, United States
- 14:30 4012. **Do Commonly Used B-Values Yield Accurate Apparent Kurtosis Values?**
Tristan Anselm Kuder¹, Bram Stieltjes², Wolfhard Semmler¹, Frederik Bernd Laun¹
¹Medical Physics in Radiology, German Cancer Research Center, Heidelberg, Germany; ²Quantitative Imaging-based Disease Characterization, German Cancer Research Center, Heidelberg, Germany
- 15:00 4013. **Diffusion Gradient Correction in Diffusion Kurtosis Imaging**
Xiaowei Zou¹, Jordan S. Muraskin¹, Melvyn B. Ooi², Truman R. Brown³
¹Biomedical Engineering, Columbia University, New York, NY, United States; ²Stanford University; ³Radiology, Columbia University
- 15:30 4014. **A Novel Diffusion Kurtosis Imaging System using Heteroscedastic Multiple Regression**
Xiaowei Zou¹, Truman R. Brown²
¹Biomedical Engineering, Columbia University, New York, NY, United States; ²Radiology, Columbia University

Mapping Structural Anisotropy : Reconstruction & Morphometry

Exhibition Hall Tuesday 13:30-15:30 Computer 85

- 13:30 4015. **Online Reconstruction & Motion Detection in HARDI**
Emmanuel Caruyer¹, Iman Aganj², Christophe Lenglet³, Guillermo Sapiro², Rachid Deriche¹
¹Athena Project-Team, INRIA Sophia Antipolis - Méditerranée, Sophia Antipolis, France; ²Department of Electrical & Computer Engineering, University of Minnesota, Minneapolis, MN, United States; ³Department of Radiology - CMRR, University of Minnesota Medical School, Minneapolis, MN, United States
- 14:00 4016. **Multiple Kernel Spherical Deconvolution**
Qiuyun Fan^{1,2}, Xin Hong², Nicole Davis^{3,4}, Laurie E. Cutting^{3,5}, Adam W. Anderson^{1,2}
¹Department of Biomedical Engineering, Vanderbilt University, Nashville, TN, United States; ²Vanderbilt University Institute of Imaging Science, Nashville, TN, United States; ³Vanderbilt University Kennedy Center for Research on Human Development, Nashville, TN, United States; ⁴Department of Radiology & Radiological Sciences, Vanderbilt University, Nashville, TN, United States; ⁵Department of Special Education, Vanderbilt Peabody, Nashville, TN, United States
- 14:30 4017. **Brain Atlas-Based Study of the Interplay between Normal Tissue Microstructural MRI Parameters**
Indika S. Walimuni¹, Khader M. Hasan¹
¹Radiology, UTHSCH, Houston, TX, United States
- 15:00 4018. **ODF-Based Morphometry & Application to Brain Asymmetry**
Alvina Goh¹, Neda Jahanshad², Paul M. Thompson², Christophe Lenglet³
¹Department of Mathematics, National University of Singapore, Singapore, Singapore; ²Laboratory of Neuro Imaging, Department of Neurology, UCLA, Los Angeles, CA, United States; ³Department of Radiology - CMRR, University of Minnesota Medical School, Minneapolis, MN, United States

Mapping Structural Anisotropy : Novel Contrast

Exhibition Hall Wednesday 13:30-15:30 Computer 86

- 13:30 4019. **Diffusion Properties of Whole, Post-Mortem Human Brains**
Karla L. Miller¹, Charlotte J. Stagg¹, Saad Jbabdi¹, Heidi Johansen-Berg¹, Jennifer A. McNab²

¹FMRIB Centre, University of Oxford, Oxford, Oxon, United Kingdom; ²A.A. Martinos Center, Massachusetts General Hospital, Boston, MA, United States

- 14:00 4020. White Matter Fiber Orientation Mapping Based on T₂* Anisotropy**
Jongho Lee^{1,2}, Peter van Gelderen¹, Li-Wei Kuo¹, Hellmut Merkle¹, Afonso C. Silva³, Jeff H. Duyn¹
¹Advanced MRI section/LFMI/NINDS, National Institutes of Health, Bethesda, MD, United States; ²Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States; ³CMU/LFMI/NINDS, National Institutes of Health, Bethesda, MD, United States
- 14:30 4021. Temporal Alterations in Brain Water Diffusivity in Acute Radiation Injury**
Richa Trivedi¹, Hemanth Kumar Bhonsle Somu¹, Senthil Veeramani¹, Rajendra P. Tripathi¹, Subash Khushu¹
¹Institute of Nuclear Medicine & Allied Sciences, Delhi, India
- 15:00 4022. DTI Metrics Differentiate Chronic Infective from Chronic Inflammatory Knee Arthritis**
Rishi Awasthi¹, Vikas Agarwal², Deepak Tripathi², Vinita Agarwal³, R. K. S. Rathore⁴, Rakesh K. Gupta¹
¹Departments of Radiodiagnosis, Sanjay Gandhi Post Graduate Institute of Medical Sciences, Lucknow, India, Lucknow, UP, India; ²Departments of Immunology, Sanjay Gandhi Post Graduate Institute of Medical Sciences, Lucknow, India, Lucknow, UP, India; ³Departments of Pathology, Sanjay Gandhi Post Graduate Institute of Medical Sciences, Lucknow, India, Lucknow, UP, India; ⁴Department of Mathematics & Statistics, Indian Institute of Technology, Kanpur, UP

Mapping Structural Anisotropy : Acquisition & Pipeline

Exhibition Hall Thursday 13:30-15:30 Computer 87

- 13:30 4023. Diffusion Weighted MR Nerve Sheath Imaging (DW-NSI) using Diffusion-Sensitized Driven-Equilibrium (DSDE)**
Makoto Obara¹, Taro Takahara², Masatoshi Honda³, Thomas Kwee⁴, Yutaka Imai³, Marc Van Cauteren¹
¹Healthcare, Philips Electronics Japan, Minato-ku, Tokyo, Japan; ²Department of Biomedical Engineering, Tokai University School of Engineering, Hiratsuka, Kanagawa, Japan; ³Department of Radiology, Tokai University Hospital, Isehara, Kanagawa, Japan; ⁴University Medical Center Utrecht, Utrecht, Netherlands
- 14:00 4024. A Novel Interlaced Sampling Scheme for Multi-Shell q-Space Magnetic Resonance Microscopy**
Sharon Portnoy¹, Wenxing Ye², Alireza Entezari², Stephen J. Blackband^{3,4}, Baba C. Vemuri²
¹Department of Neuroscience, University of Florida, Gainesville, FL, United States; ²CISE department, University of Florida, Gainesville, FL, United States; ³Department of Neuroscience, University of Florida, Gainesville, FL, United States; ⁴National High Magnetic Field Laboratory, Tallahassee, FL, United States
- 14:30 4025. Development & Evaluation of a Robust & Efficient Computational Pipeline for Track Density Imaging for Use in a Clinical Research Environment**
Cornelius von Morze¹, Duan Xu¹, Christopher P. Hess¹
¹Department of Radiology & Biomedical Imaging, UCSF, San Francisco, CA, United States
- 15:00 4026. Gaussian Dephasing Due to Finite Gradients in Q-Space Imaging**
Frank Peeters¹
¹Université Catholique de Louvain, Brussels, Belgium

Integrated Software Packages

Exhibition Hall Tuesday 13:30-15:30 Computer 88

- 13:30 4027. Accelerating Diffusion Tensor Estimation using General-Purpose Graphics Processing Unit**
Lin-Ching Chang¹, Mikhail a Gorbachev¹
¹Department of Electrical Engineering & Computer Science, the Catholic University of America, Washington, DC, United States
- 14:00 4028. Diffusion Imaging in the Medical Imaging Interaction Toolkit (MITK)**
Klaus Hermann Fritzsche¹, Marco Nolden¹, Hans-Peter Meinzer¹, Bram Stieltjes¹
¹German Cancer Research Center, Heidelberg, Baden Württemberg, Germany
- 14:30 4029. Extendable Multimodality Imaging Framework with Specific Illustration of DTI**
Divya Kishore Singh Rathore¹, Sanjay K. Verma², Rks Rathore², Rakesh K. Gupta³
¹Imaging R&D, ADISL, Kanpur, UP, India; ²Mathematics and Statistics, Indian Institute of Technology, Kanpur, UP, India; ³Departments of Radiodiagnosis, Sanjay Gandhi Post Graduate Institute of Medical Sciences, Lucknow, UP, India

- 15:00 4030. DTI Processing & Analysis with MedINRIA**
Pierre Fillard¹, Nicolas Toussain²
¹Parietal Research Team, INRIA Saclay Île-de-France, Gif/Yvette, France; ²Imaging Sciences, King's College London, London, United Kingdom

MR Angiography - Cranial

Exhibition Hall Monday 14:00-16:00 Computer 89

- 14:00 4031. Non Contrast Time-Resolved MRA Combining High Resolution Multiple Phase EPISTAR (CINEMA-STAR)**
Masanobu Nakamura¹, Masami Yoneyama¹, Tomoyuki Okuaki¹, Takashi Tabuchi¹, Atsushi Takemura², Makoto Obara², Junko Ogura¹
¹Medical Satellite Yaesu Clinic, Chiyoda-ku, Tokyo, Japan; ²Philips Electronics Japan, Tokyo, Japan
- 14:30 4032. Changes Over Time in Intracranial Aneurysms Monitored with MRA/I**
David Saloner^{1,2}, Daniel Hurwit^{1,2}, Vitaliy Rayz^{1,2}, Loic Bousse³, Alastair Martin¹, William Young⁴, Wade Smith⁵, Nerissa Ko⁵, Michael Lawton⁶
¹Radiology & Biomedical Imaging, University of California San Francisco, San Francisco, CA, United States; ²Radiology, VA Medical Center San Francisco, San Francisco, CA, United States; ³Radiology, Louis Pradel Hospital, Lyon, France; ⁴Anesthesiology, University of California San Francisco, San Francisco, CA, United States; ⁵Neurology, University of California San Francisco, San Francisco, CA, United States; ⁶Neurosurgery, University of California San Francisco, San Francisco, CA, United States
- 15:00 4033. High-Resolution Dynamic Angiography Imaging at 7 Tesla**
Ann-Kathrin Homagk¹, Moritz Cornelius Berger¹, Lars Gerigk¹, Onur Ozyurt², Lydia Schuster¹, Wolfhard Semmler¹, Michael Bock¹
¹German Cancer Research Center, Heidelberg, Germany; ²Bogazici University, Istanbul, Turkey
- 15:30 4034. 4D Vessel-Encoded Arterial Spin Labeling Angiography**
Thomas William Okell¹, Peter Schmitt², Xiaoming Bi³, Michael Andrew Chappell^{1,4}, Rob Hendrikus Tijssen¹, Karla L. Miller¹, Peter Jezzard¹
¹FMRIB Centre, Department of Clinical Neurosciences, University of Oxford, Oxford, Oxfordshire, United Kingdom; ²MR Application & Workflow Development, Siemens AG, Healthcare Sector, Erlangen, Germany; ³Cardiovascular MR R&D, Siemens Healthcare, Chicago, IL, United States; ⁴Institute of Biomedical Engineering, University of Oxford, Oxford, Oxfordshire, United Kingdom

Exhibition Hall Tuesday 13:30-15:30 Computer 89

- 13:30 4035. PC-MRI Velocimetry as Improved Initial Approximation in Iterative CFD Modeling**
Vitaliy L. Rayz¹, Loic Bousse², Gabriel Acevedo-Bolton¹, Alastair J. Martin¹, David Saloner¹
¹Radiology, University of California, San Francisco, CA, United States; ²Radiology, Louis Pradel Hospital, CREATIS-LRMN, UMR CNRS 5515, INSERM U630, Lyon, France
- 14:00 4036. Non Contrast 3D Volumetric Time-Resolved MRA Combining Multiple Phase FAIR(CINEMA-FAIR)**
Masanobu Nakamura¹, Masami Yoneyama¹, Tomoyuki Okuaki¹, Takashi Tabuchi¹, Atsushi Takemura², Makoto Obara², Junko Ogura¹, Satoshi Tsutsumi³
¹Medical Satellite Yaesu Clinic, Chiyoda-ku, Tokyo, Japan; ²Philips Electronics Japan, Tokyo, Japan; ³Neurosurgery, Juntendo University Urayasu Hospital, Chiba, Japan
- 14:30 4037. Design of Ramped RF Excitation Pulses with Built-In Out of Slab Saturation for 3D - TOF Angiography**
Daniel Kopeinigg^{1,2}, Roland Bammer¹
¹Stanford University, Stanford, CA, United States; ²Institute of Medical Engineering, Graz, Styria, Austria
- 15:00 4038. 3D Cine Phase-Contrast MRI of Flow Patterns & Turbulent Kinetic Energy in Patient-Specific Models of Carotid Disease Under in Vivo Mimicking Flow Conditions**
Petter Dyverfeldt^{1,2}, Gabriel Acevedo-Bolton¹, Alastair J. Martin¹, David Saloner¹
¹Radiology & Biomedical Imaging, University of California San Francisco, San Francisco, CA, United States; ²CMIV & Linköping University, Linköping, Sweden

Exhibition Hall Wednesday 13:30-15:00 Computer 89

- 13:30 4039. Time-Dependent Wall Shear Stress Measurement in Middle Cerebral Artery (MCA) using Bi-Exponential Curve Fitting of Phase Contrast MR Angiography**
Namkug Kim¹, SeonKyu Lee²

¹Radiology, University of Ulsan College of Medicine, Asan Medical Center, Seoul, Korea, Republic of; ²Radiology, Tufts University, Boston, MA, United States

- 14:00 4040. Improvement of Magnetic Resonance Angiography at 3 Tesla & Clinical Capability in Patients with Cerebral Aneurysms After Endovascular Coiling: Correlation with Standard Digital Subtraction Angiography**
Ulrike Wiesspeiner¹, Robert Vollmann, Hannes Deutschmann, Klaus Leber², Franz Ebner³
¹Department of Radiology, Medical University of Graz, Graz, Austria; ²Neurosurgery, Medical University of Graz; ³Neuroradiology, Medical University of Graz
- 14:30 4041. Mouse MRI & MR Angiography at 9.4T to Study the Role of PKC θ Protein in Neurological Complication of Malaria**
Sandra M \acute{e} me¹, Mathilde Fauconnier², Marie-Laure Bourrigault², Bernard Ryffel², Val \acute{e} rie Quesniaux², Jean-Claude Beloeil¹
¹CBM CNRS UPR4301, orl \acute{e} ans, France; ²IEM CNRS UMR6218, orl \acute{e} ans, France

Normal Aging Brain

Exhibition Hall Monday 14:00-16:00 Computer 90

- 14:00 4042. Does White Matter Lesion Load Affect the Integrity of Normal-Appearing White Matter in the Ageing Brain?**
Susana Mu \acute{n} oz Maniega¹, Maria C. Vald \acute{e} s Hern \acute{a} ndez¹, Catherine Murray², Zoe Morris¹, Natalie A. Royle¹, Alan J. Gow², Mark E. Bastin³, Ian J. Deary², Joanna M. Wardlaw¹
¹Clinical Neurosciences, University of Edinburgh, Edinburgh, Scotland, United Kingdom; ²Psychology, University of Edinburgh, Scotland, United Kingdom; ³Medical Physics, University of Edinburgh, Scotland, United Kingdom
- 14:30 4043. Assessment of Bound Pool Fractions in the Aging Brain with Stimulated Echoes**
Michaela Soellinger¹, Christian Langkammer¹, Franz Fazekas¹, Stefan Ropele¹
¹Neurology, Medical University of Graz, Graz, Austria
- 15:00 4044. Breath-Hold Regulated Blood Oxygenation Level-Dependent MRI of Elderly Adults**
Yuan-Yu Hsu^{1,2}, Wen-Cheng Chu¹, Ho-Ling Liu³, Kun-Eng Lin¹
¹Department of Medical Imaging, Buddhist Tzu Chi General Hospital-Taipei Branch, Taipei, Taiwan; ²School of Medicine, Tzu Chi University, Hualien, Taiwan; ³Department of Medical Imaging & Radiological Science, Chang Gung University, Taoyuan, Taiwan
- 15:30 4045. Multimodal Investigations in Cognitively Normal Elderly with Different Types of Apolipoprotein E (ApoE) Genotype Polymorphism: Brain Volume, Diffusion Anisotropy, & Cerebral Blood Flow MRI Study**
Min-Ji Kim¹, Geon-Ho Jahng¹, Sun-Mi Kim¹, Chang-Woo Ryu¹, Soo-Yeol Lee², Hack-Young Lee³, Won-Chul Shin³
¹Department of Radiology, Kyung Hee University Hospital-Gangdong, Kyung Hee University, Seoul, Korea, Republic of; ²Department of Biomedical Medical Engineering, Kyung Hee University; ³Department of Neurology, Kyung Hee University Hospital-Gangdong, Kyung Hee University, Seoul, Korea, Republic of

Exhibition Hall Tuesday 13:30-15:30 Computer 90

- 13:30 4046. Proton(¹H) Magnetic Resonance Spectroscopy: Absolute Metabolite Concentrations in Normal Aging Human Brain at 3Tesla**
Pui Wai Chiu¹, Henry Ka Fung Mak, Queenie Chan², Kai Wing Kelvin Yau³, Leung Wing Chu⁴
¹Department of Diagnostic Radiology, the University of Hong Kong, HK, Hong Kong; ²Philips Healthcare, Hong Kong; ³Department of Management Sciences, City University of Hong Kong; ⁴Department of Medicine, the University of Hong Kong
- 14:00 4047. Catch Me If You Can: GABA Spectroscopy with Shifted Editing Pulse Frequencies**
Eva Aufhaus¹, Wolfgang Weber-Fahr¹, Gunilla Oberthuer¹, Mareen Hoerst¹, Nuran Tunc-Skarka¹, Markus Sack¹, Andreas Meyer-Lindenberg², Uwe Boettcher³, Gabriele Ende¹
¹Neuroimaging, Central Institute of Mental Health, Mannheim, Germany; ²Psychiatry, Central Institute of Mental Health, Mannheim, Germany; ³Siemens Medical, Erlangen, Germany
- 14:30 4048. Resting Neurotransmitter Levels Correlate with Peak EEG Gamma Frequency and Power**
Ruth L. O'Gorman¹, Lars Michels¹, Richard Edden², Daniel Brandeis³, Rafael L \ddot{u} chinger³, Peter Klaver⁴, Ernst Martin¹
¹University Children's Hospital, Z \ddot{u} rich, Switzerland; ²Russell H. Morgan Department of Radiology & Radiological Sciences, Johns Hopkins University, Baltimore, MD, United States; ³Department of Child & Adolescent Psychiatry, University of Z \ddot{u} rich, Z \ddot{u} rich, Switzerland; ⁴Department of Psychology, University of Z \ddot{u} rich, Z \ddot{u} rich, Switzerland
- 15:00 4049. Increased Levels of Systemic Inflammation in the Elderly Are Associated with Reduced Microstructural Integrity of Brain Tissue**
Stephanie Harmon¹, Debra A. Fleischman², Robert J. Dawe¹, Lisa L. Barnes², Martha C. Morris², David A. Bennett², Konstantinos Arfanakis^{1,2}

¹Illinois Institute of Technology, Chicago, IL, United States; ²Rush University Medical Center, Chicago, IL, United States

Exhibition Hall Wednesday 13:30-15:30 Computer 90

- 13:30 4050. Glutamate & Glutamine Concentrations by MRS in Adult Brain: Age & Sex Dependence**
Florian Schubert¹, Christoph Wirth², Jeff Bierbrauer², Bernd Ittermann¹, Jürgen Gallinat²
¹Physikalisch-Technische Bundesanstalt, Berlin, Germany; ²Psychiatry, Charité University Medicine, Berlin, Germany
- 14:00 4051. Evidence of Long-T₂ Fraction & Higher Myelin Water Fraction in the Corticospinal Tract**
Bretta Adrienne Russell-Schulz¹, Cornelia Laule^{2,3}, David Li³, Alex L. MacKay^{1,3}
¹Physics and Astronomy, University of British Columbia, Vancouver, BC, Canada; ²Pathology and Laboratory Medicine, University of British Columbia, Vancouver, BC, Canada; ³Radiology, University of British Columbia, Vancouver, BC, Canada
- 14:30 4052. Regional Brain T₂-Relaxation Changes with Age in Healthy Adult Subjects**
Rajesh Kumar¹, Mary A. Woo², Sean Delshad¹, Paul M. Macey², Ronald M. Harper¹
¹Neurobiology, University of California at Los Angeles, Los Angeles, CA, United States; ²UCLA School of Nursing, University of California at Los Angeles, Los Angeles, CA, United States
- 15:00 4053. How Many Subjects Should Be Included in a Well-Powered Cross-Sectional Cortical Thickness Analysis?**
Heath Richard Pardoe¹, David F. Abbott¹, Graeme D. Jackson^{1,2}
¹Brain Research Institute, Florey Neuroscience Institutes, Melbourne, Victoria, Australia; ²Department of Medicine, University of Melbourne, Melbourne, Victoria, Australia

Exhibition Hall Thursday 13:30-15:30 Computer 90

- 13:30 4054. Do Cortical GABA Levels Correlate with Age?**
Zaiyang Long^{1,2}, James Brown Murdoch³, Andrew W. Goddard^{2,4}, Ulrike Dydak^{1,2}
¹School of Health Sciences, Purdue University, West Lafayette, IN, United States; ²Department of Radiology & Imaging Sciences, Indiana University School of Medicine, Indianapolis, IN, United States; ³Toshiba Medical Research Institute USA, Mayfield Village, OH, United States; ⁴Department of Psychiatry, Indiana University School of Medicine, Indianapolis, IN, United States
- 14:00 4055. Volume Reduction of Subcortical Grey Matter After Death**
Aikaterini Kotrotsou¹, Robert J. Dawe¹, Julie A. Schneider², David A. Bennett², Konstantinos Arfanakis^{1,2}
¹Department of Biomedical Engineering, Illinois Institute of Technology, Chicago, IL, United States; ²Rush Alzheimer's Disease Center, Rush University Medical Center, Chicago, IL, United States
- 14:30 4056. Age-Related Differences in Metabolites in the Posterior Cingulate Cortex & Hippocampus of Normal Ageing Brain: A ¹H-MRS Study**
Harmen Reingoudt^{1,2}, Tom Claeys^{1,2}, Leslie Vlerick^{1,2}, Stijn Verleden³, Marjan Acou^{1,2}, Karel Deblaere^{1,2}, Yves De Deene¹, Kurt Audenaert³, Ingeborg Goethals¹, Eric Achten^{1,2}
¹Radiology & Nuclear Medicine, Ghent University, Ghent, Belgium; ²Ghent Institute for Functional & Metabolic Imaging, Ghent University, Ghent, Belgium; ³Psychiatry & Medical Psychology, Ghent University, Ghent, Belgium; ⁴Laboratory for Quantitative & Nuclear Magnetic Resonance in Medicine & Biology, Ghent University, Ghent, Belgium
- 15:00 4057. Aging Effect on the Resting State: Two Complementary Approaches with the Same fMRI Datasets**
Makoto Miyakoshi¹, Satoru Miyauchi², Takahiko Koike², Shigeyuki Kan², Toshiharu Nakai¹
¹National Center for Geriatrics & Gerontology, Ohbu, Aichi, Japan; ²National Institute of Information & Communications Technology, Japan

Stroke: Clinical Studies

Exhibition Hall Monday 14:00-16:00 Computer 91

- 14:00 4058. Progression of Blood Brain Barrier Permeability in Patients with Acute Ischemic Stroke: From Acute to Early Subacute Phase**
Kun Huang¹, David John Mikulis², Frank Silver³, Andrea Kassner¹
¹Medical Imaging, University of Toronto, Toronto, Ontario, Canada; ²Medical Imaging, Toronto Western Hospital, Toronto, Ontario, Canada; ³Neurology, Toronto Western Hospital, Toronto, Ontario, Canada
- 14:30 4059. On the Feasibility of Reduced Dose Dynamic Susceptibility Contrast Perfusion MRI for Stroke**
Jeffry R. Alger^{1,2}, T. J. Schaewe, D. S. Liebeskind, J. L. Saver, C. S. Kidwell³
¹Neurology, Geffen School of Medicine at UCLA, Los Angeles, CA, United States; ²Radiological Sciences, Geffen School of Medicine at UCLA, Los Angeles, CA, United States; ³Neurology, Georgetown University, Washington, DC, United States

15:00 4060. **Prediction of Hemorrhagic Transformation in Acute Ischemic Stroke using DCE MRI: Delayed AUC Measures Versus Quantitative Estimates of Permeability**
Alexis Gordon¹, Jackie Leung², Igor Sitartchouk¹, David Mikulis³, Andrea Kassner¹
¹Medical Imaging, University of Toronto, Toronto, Ontario, Canada; ²Diagnostic Imaging, the Hospital for Sick Children, Toronto, Ontario, Canada; ³Medical Imaging, Toronto Western Hospital, Toronto, Ontario, Canada

15:30 4061. **Appropriate Methodology for Automated Scaling of DSC-CBF Images for Stroke Evaluation**
Jeffrey R. Alger^{1,2}, T. J. Schaewe, J. J. Wang, D. S. Liebeskind, Q. Hao, J. X. Qian², J. L. Saver, N. Salamon², UCLA Stroke Investigators
¹Neurology, Geffen School of Medicine at UCLA, Los Angeles, CA, United States; ²Radiological Sciences, Geffen School of Medicine at UCLA

Exhibition Hall Tuesday 13:30-15:30 Computer 91

13:30 4062. **In Vivo Measurement of Oxygenation Changes After Stroke using Susceptibility Weighted Imaging**
Meng Li¹, Jianlin Wu², Yanwei Miao², Zhihong Yang², Waqar Raza¹, Ying Wang³, E. M. Haacke^{1,4}, Jian Hu¹
¹Department of Radiology, Wayne State University, Detroit, MI, United States; ²Department of Radiology, Dalian Medical University, China, People's Republic of; ³Department of Computer Science, Northeastern University, Shenyang, China, People's Republic of; ⁴MRI Institute of Biomedical Research, Detroit, MI, United States

14:00 4063. **Can Fiber Tractography in Capsular Stroke Affected Brain Predict Immediate Neurological Functional Outcome?**
Judy R. James¹, Asif A. Khan², David P. Gordy¹, Majid A. Khan¹, Juebin Huang², Alexander P. Auchus^{2,3}, Razvan Buciu^{1,2}
¹Radiology, University of Mississippi Medical Center, Jackson, MS, United States; ²Neurology, University of Mississippi Medical Center, Jackson, MS, United States; ³Neurology, G.V. (Sonny) Montgomery VA Medical Center, Jackson, MS, United States

14:30 4064. **Acute Stroke Follow-Up Study: Assessing Infarct Volume Change**
Rakesh Mullick¹, Uday Patil¹, Sumit K. Nath¹, Dattesh D. Shanbhag¹, Patrice Hervo², Catherine Oppenheim³
¹Imaging Technologies, GE Global Research, Bangalore, Karnataka, India; ²GE Healthcare, Buc, France; ³Departments of Radiology & Neurology, Centre Hospitalier Sainte-Anne, Paris, France

15:00 4065. **Middle Cerebral Artery Stroke Lesion Pattern Classification After Thrombolysis Based on Diffusion-Weighted Imaging & MR-Angiography**
Alex Foerster¹, Achim Gass¹, Rolf Kern¹, Martin Griebe¹, Angelika Alonso¹, Michael G. Hennerici¹, Kristina Szabo¹
¹Department of Neurology, UniversitaetsMedizin Mannheim, Mannheim, Germany

Exhibition Hall Wednesday 13:30-14:30 Computer 91

13:30 4066. **WITHDRAWN**

14:00 4067. **BOLD Activation Pattern for Motor Task in Chronic Stroke Patients After Administration of Autologous Mononuclear & Mesenchymal Stem Cells**
Ashu Bhasin¹, S. Senthil Kumaran², M. V. Padma¹, Sujata Mohanty³, Rohit Bhatia¹
¹Department of Neurology, All India Institute of Medical Sciences, New Delhi, India; ²Department of N.M.R, All India Institute of Medical Sciences, Delhi, India; ³Stem Cell Facility, All India Institute of Medical Sciences, New Delhi, India

Animal Models of Stroke

Exhibition Hall Monday 14:00-16:00 Computer 92

14:00 4068. **Longitudinal Magnetic Resonance Imaging of Aged Rats with Sildenafil Treatment After Embolic Stroke**
Guangliang Ding¹, Quan Jiang¹, Lian Li¹, Li Zhang¹, Zhenggang Zhang¹, Qingjiang Li¹, James R. Ewing¹, Michael Chopp^{1,2}
¹Neurology, Henry Ford Hospital, Detroit, MI, United States; ²Physics, Oakland University, Rochester, MI, United States

14:30 4069. **MRI Characterization of Secondary Degeneration in Ipsilateral Substantia Nigra Following Experimental Intracerebral Hemorrhage**
Shujuan J. Fan^{1,2}, Frank Yik Hin Lee^{1,2}, Matthew Man Hin Cheung^{1,2}, April Mei Kwan Chow^{1,2}, Zhongwei W. Qiao^{1,2}, Kevin Chuen Wing Chan^{1,2}, Ed X. Wu^{1,2}
¹Laboratory of Biomedical Imaging & Signal Processing, the University of Hong Kong, Hong Kong SAR, China, People's Republic of; ²Department of Electrical & Electronic Engineering, the University of Hong Kong, Hong Kong SAR, China, People's Republic of

- 15:00 4070. Longitudinal DTI of White Matter Injury in Experimental Intracerebral Hemorrhage**
Shujuan J. Fan^{1,2}, Matthew Man Hin Cheung^{1,3}, Abby Ying Ding^{1,2}, Frank Yik Hin Lee^{1,2}, Zhongwei W. Qiao^{1,2}, Jian Yang⁴, Ed X Wu^{1,2}
¹Laboratory of Biomedical Imaging & Signal Processing, the University of Hong Kong, Hong Kong SAR, China, People's Republic of; ²Department of Electrical & Electronic Engineering, the University of Hong Kong, Hong Kong SAR, China, People's Republic of; ³Department of Electrical & Electronic Engineering, the University of Hong Kong, Hong Kong SAR, China, People's Republic of; ⁴Medical Imaging Center of the First Affiliated Hospital, School of Medicine of Xi'an Jiaotong University, Xi'an, Shanxi Province, China, People's Republic of
- 15:30 4071. Diffusion Kurtosis is Sensitive to Hyperacute Cerebral Ischemia & Increases with Ischemic Progression without Renormalization**
Edward S. Hui¹, Fang Du¹, Qiang Shen¹, Shiliang Huang¹, Timothy Q. Duong¹
¹Research Imaging Institute, University of Texas Health Science Center San Antonio, San Antonio, TX, United States

Exhibition Hall Tuesday 13:30-14:30 Computer 92

- 13:30 4072. Non-Invasive Detection of Microvascular Remodeling Enhanced by Erythropoietin Treatment in a Rat Model of Focal Ischemia using MRI**
Asamoah Bosomtwi¹, Michael Chopp^{2,3}, Guang Liang Ding², Li Zhang², Leonard L. Howell¹, Quan Jiang²
¹Yerkes Primate Center, Emory University, Atlanta, GA, United States; ²Neurology, Henry Ford Hospital; ³Physics, Oakland University
- 14:00 4073. USPIO High Resolution Neurovascular Imaging of Rat Middle Cerebral Artery Occlusion Stroke Model**
Yimin Shen¹, Weili Zheng¹, Yu-Chung N. Cheng¹, Yuchuan Ding², Jean Sebastien Raynaud³, E. Mark Haacke¹
¹Radiology, Wayne State University, Detroit, MI, United States; ²Neurological Surgery, Wayne State University, Detroit, MI, United States; ³Guerbet, France

Multiple Sclerosis

Exhibition Hall Monday 14:00-16:00 Computer 93

- 14:00 4074. Characterization of the Perivascular Distribution of White Matter Lesions in Multiple Sclerosis Phenotypes by 7T MRI**
Caterina Mainero¹, Emanuele Tinelli², Allen Nielsen³, Thomas Benner¹, Bruce R. Rosen¹, Revere Philip Kinkel³
¹A. A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Charlestown, MA, United States; ²Dept of Neurological Sciences, University of Rome "La Sapienza", Rome, Italy; ³Neurology, Beth Israel Deaconess Medical Center, Boston, MA, United States
- 14:30 4075. Normal Appearing White Matter Myelin Water Fraction Distribution Analysis in Multiple Sclerosis**
Hagen H. Kitzler^{1,2}, Frank M. Noack¹, Jason Su³, Michael Zeineh³, Cyndi Harper-Little², Andy Leung⁴, Marcelo Kremenchutzky⁵, Ruediger von Kummer¹, Sean Deoni⁶, Brian K. Rutt³
¹Neuroradiology, Technische Universitaet Dresden, Dresden, SN, Germany; ²Robarts Research Institute, University of Western Ontario, London, ON, Canada; ³Department of Radiology, Stanford University, Stanford, CA, United States; ⁴Department of Diagnostic Radiology & Nuclear Medicine, University of Western Ontario, London, ON, Canada; ⁵Department of Clinical Neurological Sciences, University of Western Ontario, London, ON, Canada; ⁶Department of Engineering, Brown University, Providence, RI, United States
- 15:00 4076. mcDESPOT-Derived MWF Improves EDSS Prediction in MS Patients Compared to Only Atrophy Measures**
Jason Su¹, Hagen H. Kitzler², Michael Zeineh¹, Cyndi Harper-Little³, Andy Leung⁴, Marcelo Kremenchutzky⁵, Sean C. Deoni⁶, Brian Keith Rutt¹
¹Department of Radiology, Stanford University, Stanford, CA, United States; ²Department of Neuroradiology, Technische Universitaet Dresden, Dresden, Germany; ³Robarts Research Institute, University of Western Ontario, London, Ontario, Canada; ⁴Department of Diagnostic Radiology & Nuclear Medicine, University of Western Ontario, London, Ontario, Canada; ⁵Department of Clinical Neurological Sciences, University of Western Ontario, London, Ontario, Canada; ⁶Brown University, Providence, RI, United States
- 15:30 4077. Diffusion Tensor Imaging Abnormalities Associated with Cognitive Decline in Relapsing-Remitting Multiple Sclerosis**
Hui Jing Yu¹, Lauren B. Krupp², Christopher Christodoulou³, Mark E. Wagshul⁴
¹Biomedical Engineering, Stony Brook University, Stony Brook, NY, United States; ²Neurology, Stony Brook University; ³Neurology, Stony Brook University, Stony Brook, NY; ⁴Gruss Magnetic Resonance Research Center, Albert Einstein College of Medicine, Bronx, NY

Exhibition Hall Tuesday 13:30-15:30 Computer 93

- 13:30 4078. Whole Brain 3D Spiral Imaging for Multi-Component T₂ Relaxometry of Multiple Sclerosis in 10 Minutes: A Feasibility Study at 3 Tesla**
Thanh D. Nguyen¹, Cynthia Wisnieff², Joseph Comunale¹, Mitchell Cooper², Dushyant Kumar¹, Ashish Raj¹, Martin R. Prince¹, Yi Wang¹, Tim Vartanian³, Susan A. Gauthier³
¹Radiology, Weill Cornell Medical College, New York, NY, United States; ²Biomedical Engineering, Cornell University, Ithaca, NY, United States; ³Neurology, Weill Cornell Medical College, New York, NY, United States
- 14:00 4079. FLAIR-SWI: A Combination of 3 Tesla FLAIR & 7 Tesla SWI Phase for Multiple Sclerosis Research**
Günther Grabner^{1,2}, Assunta Dal-Bianco³, Melanie Scherthauer¹, Karl Vass³, Hans Lassmann⁴, Siegfried Trattnig^{1,2}
¹Department of Radiology, Medical University of Vienna, Vienna, Austria; ²MR Centre of Excellence, Medical University of Vienna, Vienna, Austria; ³Department of Neurology, Medical University of Vienna, Vienna, Austria; ⁴Center for Brain Research, Medical University of Vienna, Vienna, Austria
- 14:30 4080. Regional Gray & White Matter Atrophy are Largely Unrelated in Relapsing Remitting Multiple Sclerosis**
Elisabetta Pagani¹, Maria Assunta Rocca^{1,2}, Gianna Riccitelli¹, Vittorio Martinelli², Marta Radaelli², Andrea Falini³, Giancarlo Comi², Massimo Filippi^{1,2}
¹Neuroimaging Research Unit, Institute of Experimental Neurology, Division of Neuroscience, Scientific Institute & University Hospital San Raffaele, Milan, MI, Italy; ²Department of Neurology, Scientific Institute & University Hospital San Raffaele, Milan, MI, Italy; ³Department of Neuroradiology, Scientific Institute & University Hospital San Raffaele, Milan, Italy
- 15:00 4081. Similar Global N-Acetylaspartate in Benign & Non-Benign Multiple Sclerosis**
Daniel J. Rigotti¹, Lutz Achtmichts², Oded Gonen¹, James S. Babb¹, Yvonne Naegelin², Kerstin Bendtfield², Jochen Hirsch², Michael Amann², Robert I. Grossman¹, Ludwig Kappos², Achim Gass²
¹Radiology, New York University School of Medicine, New York, NY, United States; ²Neurology & Neuroradiology, University Hospital Basel, Basel, Switzerland

Exhibition Hall Wednesday 13:30-15:30 Computer 93

- 13:30 4082. Normalization of Magnetization Transfer Ratio MRI for Multicentre Clinical Trials**
Robert Allan Brown¹, Sridar Narayanan¹, Harold Atkins², Mark S. Freedman³, Douglas L. Arnold¹
¹Montreal Neurological Institute, McGill University, Montreal, QC, Canada; ²Division of Hematology, Ottawa Hospital Regional Cancer Centre, Ottawa, ON, Canada; ³Department of Medicine (Neurology), the Ottawa Hospital, Ottawa, ON, Canada
- 14:00 4083. Sensitive Detection of Myelination Change in Multiple Sclerosis by McDESPOT**
Jason Su¹, Hagen H. Kitzler², Michael Zeineh¹, Cyndi Harper-Little³, Andy Leung⁴, Marcelo Kremenchutzky⁵, Sean C. Deoni⁶, Brian Keith Rutt¹
¹Department of Radiology, Stanford University, Stanford, CA, United States; ²Department of Neuroradiology, Technische Universität Dresden, Dresden, Germany; ³Robarts Research Institute, University of Western Ontario, London, Ontario, Canada; ⁴Department of Diagnostic Radiology & Nuclear Medicine, University of Western Ontario, London, Ontario, Canada; ⁵Department of Clinical Neurological Sciences, University of Western Ontario, London, Ontario, Canada; ⁶Brown University, Providence, RI, United States
- 14:30 4084. A New Quantitative MRI Contrast for Measuring White Matter Myelin**
Aviv A. Mezer¹, Nikola Stikov², Kendrick Kay, Robert Dougherty, Jason Yeatman, Josef Parvizi³, Brian Wandell
¹Psychology, Stanford University, Stanford, CA, United States; ²Electrical Engineering, Stanford University, Stanford, CA, United States; ³Neurology, Stanford University, Stanford, CA, United States
- 15:00 4085. Voxel-Wise Assessment of WM Architecture Integrity in MS Patients with Different Clinical Phenotypes**
Elisabetta Pagani¹, Maria Assunta Rocca^{1,2}, Gianna Riccitelli¹, Vittorio Martinelli², Filippo Martinelli-Boneschi², Andrea Falini³, Giancarlo Comi², Massimo Filippi^{1,2}
¹Neuroimaging Research Unit, Institute of Experimental Neurology, Division of Neuroscience, Scientific Institute & University Hospital San Raffaele, Milan, Italy; ²Department of Neurology, Scientific Institute & University Hospital San Raffaele, Milan, Italy; ³Department of Neuroradiology, Scientific Institute & University Hospital San Raffaele, Milan, Italy

Exhibition Hall Thursday 13:30-15:30 Computer 93

- 13:30 4086. Brain Atlas-Based Lesion Spatial Distribution & Modeling of Wallerian Degeneration in Multiple Sclerosis**
Khader M. Hasan¹, Indika S. Walimuni¹, Sushmita Datta¹, Flavia Nelson², Jerry S. Wolinsky³, Ponnada A. Narayana⁴
¹Radiology, UTHSCH, Houston, TX, United States; ²Neurology, UTHSCH, Houston, TX; ³Neurology, UTHSCH, Houston, Texas, United States; ⁴Radiology, UTHSCH, Houston, Uexasa, United States

- 14:00 4087. Voxel-Wise Assessment of White Matter Architecture Integrity in Patients with Relapsing Remitting Multiple Sclerosis**
Gianna Riccietelli¹, Maria Assunta Rocca^{1,2}, Elisabetta Pagani¹, Vittorio Martinelli², Paolo Rossi², Andrea Falini³, Giancarlo Comi², Massimo Filippi^{1,2}
¹Neuroimaging Research Unit, Institute of Experimental Neurology, Division of Neuroscience, Scientific Institute & University Hospital San Raffaele, Milan, MI, Italy; ²Department of Neurology, Scientific Institute & University Hospital San Raffaele, Milan, MI, Italy; ³Department of Neuroradiology, Scientific Institute & University Hospital San Raffaele, Milan, Italy
- 14:30 4088. FLAIR MIPS: Increased White Matter Lesion Conspicuity**
Kenneth L. Weiss¹, Virginia B. Hill², Kenneth J. Herbert¹, Senthur J Thangasamy¹, Yichun Lin³, Jun Ying⁴, Jane L. Weiss⁵, Maria J. Melanson⁶
¹Department of Radiology, University of Cincinnati, Cincinnati, OH, United States; ²Department of Radiology, Cleveland Clinic Regional Radiology, Cleveland, OH, United States; ³College of Medicine, Cincinnati, OH, United States; ⁴Department of Public Health Science, University of Cincinnati, Cincinnati, OH, United States; ⁵Division of Research, WestImage, Cincinnati, OH, United States; ⁶Department of Neurology, University of Cincinnati, Cincinnati, OH, United States
- 15:00 4089. Is Increased Normal White Matter Glutamate Concentrations a Precursor of Gliosis & Disease Progression in Multiple Sclerosis?**
Olof Dahlqvist Leinhard^{1,2}, Jacek Jaworski³, Anne Aalto⁴, Anders Grönqvist⁵, Anders Tisell^{1,2}, Örjan Smedby^{2,4}, Anne-Marie Landtblom^{3,6}, Peter Lundberg^{5,7}
¹Dept of Radiation physics (IMH), Linköping University, Linköping, Sweden; ²Center for Medical Image Science & Visualization (CMIV), Linköping University, Linköping, Sweden; ³Department of Neurology, Linköping University Hospital, Linköping, Sweden; ⁴Dept of Radiology (IMH), Linköping University, Linköping, Sweden; ⁵Dept of Radiation Physics (CKOC), Linköping University Hospital, Linköping, Sweden; ⁶Division of Clinical Immunology, Unit of Autoimmunity and Immune Regulation (IKE), Linköping University, Linköping, Sweden; ⁷Dept of Radiation physics (IMH), Center for Medical Image Science & Visualization (CMIV), Linköping University, Linköping, Sweden

White Matter Diseases

Exhibition Hall Monday 14:00-16:00 Computer 94

- 14:00 4090. Detecting Histological Changes in Traumatic Brain Injury with Magnetization Transfer Imaging**
Nikolaus Krebs^{1,2}, Michaela Soellinger³, Michael Scarpatetti⁴, Christian Langkammer^{1,3}, Monika Gloor⁵, Stefan Ropele³, Franz Fazekas³, Kathrin Yen¹, Eva Scheurer¹
¹Ludwig Boltzmann Institute for Clinical-Forensic Imaging, Graz, Austria; ²Institute of Forensic Medicine, Medical University of Graz, Graz, Austria; ³Department of Neurology, Medical University of Graz, Graz, Austria; ⁴Institute of Pathology, Medical University of Graz, Graz, Austria; ⁵Division of Radiological Physics, University of Basel Hospital, Basel, Switzerland
- 14:30 4091. Reduced Callosal Thickness & Volume Due to Myelin Deficit in RLS: Thickness Measurement & Volumetric Study**
Byeong-Yeul Lee^{1,2}, Jong M. Kim³, Yeun Chul Ryu¹, James R. Connor⁴, Qing X. Yang^{1,4}
¹Center for NMR Research, Radiology, Penn State College of Medicine, Hershey, PA, United States; ²Bioengineering, Penn State College of Medicine, Hershey, PA, United States; ³Biomedical Engineering, Duke University, Durham, NC, United States; ⁴Neurosurgery, Penn State College of Medicine, Hershey, PA, United States
- 15:00 4092. MR Spectroscopy of the Motor Cortex in Cervical Spondylotic Myelopathy: Pre & Post Surgery Observations**
Izabela Kowalczyk^{1,2}, Neil Duggal^{1,3}, Robert Bartha^{1,2}
¹Medical Biophysics, the University of Western Ontario, London, Ontario, Canada; ²Centre for Functional & Metabolite Mapping, Robarts Research Institute, London, Ontario, Canada; ³Clinical Neurological Sciences, University Hospital, London Health Sciences Centre, London, Ontario, Canada
- 15:30 4093. Loss of Callosal Fibre Integrity in Healthy Elderly with Small Vessel Disease**
Martin Griebel¹, Alex Förster¹, Michèle Wessa², Christina Rossmannith¹, Tamara Sauer¹, Kathrin Zohsel¹, Andrea V. King², Michael G. Hennerici¹, Achim Gass¹, Kristina Szabo¹
¹Department of Neurology, UniversitätsMedizin Mannheim, University of Heidelberg, Mannheim, Germany; ²Department of Cognitive & Clinical Neuroscience, Central Institute of Mental Health, University of Heidelberg, Mannheim, Germany

Exhibition Hall Tuesday 13:30-15:30 Computer 94

- 13:30 4094. Metabolic Characterization of Gray & White Matter in Mild Traumatic Brain Injury with 3D Proton MR Spectroscopy**
Ivan Kirov¹, Assaf Tal¹, James Babb¹, Joseph Reaume¹, Robert Grossman¹, Oded Gonen¹
¹Radiology, New York University, New York, NY, United States

- 14:00 4095. Evaluation of White Matter Integrity, Cortical Thickness & Volume of Subcortical Structures in Patients with Typical Absence Epilepsy**
Thomas Martin Doring^{1,2}, Tadeu Takao Almodovar Kubo¹, Nina Ventura², Bernardo Bizzo², Emerson Leandro Gasparetto^{1,2}
¹CDPI, Rio de Janeiro, RJ, Brazil; ²Federal University of Rio de Janeiro, Rio de Janeiro, RJ, Brazil
- 14:30 4096. Quantitative MRI Study of Non-Cognitively Impaired HIV Patients Shows No Detectable Neurodegeneration**
Nicholas G. Dowell¹, Emilie Ellior², Martin Fisher², Becky I. Haynes¹, Roshani Patel², Paul S. Tofts¹
¹Clinical Imaging Sciences Centre, Brighton & Sussex Medical School, Brighton, Sussex, United Kingdom; ²Brighton & Sussex University Hospital, Brighton, United Kingdom
- 15:00 4097. High-Resolution Small Field-of-View 3 Tesla Mri with 32-Channel Head Coil by Appropriately Selected Coil Elements Reconstruction Method**
Akira Yamamoto¹, Mitsunori Kanagaki¹, Tomohisa Okada¹, Satoshi Kozawa², Koji Sakai³, Kaori Togashi¹
¹Department of Diagnostic Imaging & Nuclear Medicine, Kyoto University Hospital, Kyoto, Japan; ²Clinical Radiology Service, Kyoto University Hospital, Kyoto, Japan; ³Department of Human Health Science, Kyoto University Graduate School of Medicine, Kyoto, Japan

Exhibition Hall Wednesday 13:30-15:30 Computer 94

- 13:30 4098. Automatic WML Segmentation & Quantification using a Machine Learning Approach**
Mariano Rincon¹, Per Selnes², Christopher Alfred Larsson³, Tormod Fladby², Atle Fillibom Bjørnerud³
¹Departement of Artificial Intelligence, UNED, Madrid, Spain; ²Departement of Neurology, Akershus University Hospital, Oslo, Norway; ³Intervention Center, Rikshospitalet, Oslo, Norway
- 14:00 4099. Selective Gray Matter Atrophy in the Pain-Matrix Network in Cluster Headache**
Martina Absinta^{1,2}, Maria Assunta Rocca^{1,2}, Bruno Colombo², Andrea Falini³, Giancarlo Comi², Massimo Filippi^{1,2}
¹Neuroimaging Research Unit, Institute of Experimental Neurology, Division of Neuroscience, Scientific Institute & University Hospital San Raffaele, Milan, Italy; ²Department of Neurology, Scientific Institute and University Ospedale San Raffaele, Milan, Italy; ³Department of Neuroradiology, Scientific Institute & University Hospital San Raffaele, Milan, Italy
- 14:30 4100. Brain & Skeletal Muscle MRS Study in Patients with Myotonic Dystrophy Type 1**
Caterina Tonon¹, Emil Malucelli¹, Patrizia Avoni², David Neil Manners¹, Claudia Testa¹, Sara Contardi², Valerio Carelli³, Bruno Barbiroli¹, Rocco Liguori², Raffaele Lodi¹
¹MR Spectroscopy Unit, University of Bologna, Bologna, Italy, Italy; ²Department of Neurological Sciences, University of Bologna, Bologna, Italy, Italy; ³Department of Neurological Sciences, University of Bologna, Bologna, Italy, Italy
- 15:00 4101. Altered Interhemispheric Brain Connectivity in Neonates with Congenital Heart Disease Following Cardiopulmonary Bypass Surgery.**
Malek I. Makki¹, Rabia Liamlahi², Walter Knirsch², Bea Latal³, Ianina Scheer¹, Achim Schmitz⁴, Hintendu Dave⁵, Vera Berne³, Christian Kellenberger¹
¹Diagnostic Imaging, University Children Hospital, Zurich, Switzerland; ²Cardiology, University Children Hospital, Zurich, Switzerland; ³Child Development, University Children Hospital, Zurich, Switzerland; ⁴Anesthesia, University Children Hospital, Zurich, Switzerland; ⁵Congenital Cardiovascular Surgery, University Children Hospital, Zurich; ⁶Pediatric Intensive Care, University Children Hospital, Zurich, Switzerland

Exhibition Hall Thursday 13:30-15:30 Computer 94

- 13:30 4102. Corticospinal Tract Disease & Sensory-Motor Disability in Multiple Sclerosis**
Fernanda Tovar-Moll¹, Annie Chiu, Sungyoung Auh, Mary Ehrmantraut, Joan Ohayon, Francesca Bagnato
¹NIB-NINDS-NIH, Bethesda, MD, United States
- 14:00 4103. Diffusion Tensor Imaging of Therapy Induced Leukoencephalopathy in Children Treated for Acute Lymphoblastic Leukemia**
John O. Glass¹, Wilburn E. Reddick¹, Sima Jeha²
¹Division of Translational Imaging Research, St. Jude Children's Research Hospital, Memphis, TN, United States; ²Department of Oncology, St. Jude Children's Research Hospital, Memphis, TN, United States
- 14:30 4104. Metabolite Changes in Anatomical Substructures of the Brain Following Traumatic Brain Injury**
Varan Govind¹, Sulaiman Sheriff¹, Gaurav Saigal¹, Leo Harris², Andrew A. Maudsley¹
¹Radiology, University of Miami, Miami, FL, United States; ²Neurological Surgery, University of Miami, Miami, FL, United States
- 15:00 4105. Creation & Validation of a White Matter Importance Map using Traumatic Brain Injury Patient Data**
Amy Kuceyeski¹, Ashish Raj¹
¹Radiology, Weill Cornell Medical College, New York, NY, United States

Functional & Structural MRI in Neurodegeneration

Exhibition Hall	Monday 14:00-16:00	Computer 95
14:00	4106. Neuromelanin Imaging in Dementia with Lewy Body (DLB) <i>Masahiro Ida¹, Shunsuke Sugawara¹, Yuko Kubo¹, Keiko Hino¹, Naoya Yorozu¹, Tomohiro Suzuki¹, Shuzo Ikuta¹, Yuko Kawaguchi¹</i> ¹ Department of Radiology, Tokyo Metropolitan Ebara Hospital, Oota-ku, Tokyo, Japan	
14:30	4107. PRGN Mutation Modulates Brain Damage & Reorganization from Preclinical to Symptomatic Stages of Frontotemporal Dementia <i>Marco Bozzali¹, Mara Cercignani¹, Antonella Alberici², Enrico Premi², Laura Serra¹, Carlo Cerini², Maura Cosseddu², Carla Pettenati², Marina Turla², Silvana Archetti², Roberto Gasparotti², Alessandro Padovani², Barbara Borroni²</i> ¹ Neuroimaging Laboratory, Santa Lucia Foundation, Rome, Italy; ² Neurology Unit, University of Brescia, Brescia, Italy	
15:00	4108. Concordant Brain Structural & Diffusion Changes in Frontotemporal Dementia with & without Motor Neuron Disease <i>Yu Zhang^{1,2}, Norbert Schuff^{1,2}, Maria Carmela Tartaglia², Joel Laxamana^{1,2}, Howard J. Rosen², Maria Luisa Gorno-Tempini², Bruce L. Miller², Michael W. Weiner^{1,3}</i> ¹ Center for Imaging of Neurodegenerative Diseases, VA Medical Center, San Francisco, CA, United States; ² University of California, San Francisco, San Francisco, CA, United States; ³ University California, San Francisco, CA, United States	
15:30	4109. DTI Reveals Abnormal White Matter Pathways to Classic Language Areas in Semantic Dementia <i>Julio Acosta-Cabrero¹, Karalyn Patterson¹, Tim D. Fryer¹, John R. Hodges², George Pengas¹, Guy B. Williams¹, Peter J. Nestor¹</i> ¹ Department of Clinical Neurosciences, University of Cambridge, Cambridge, Cambridgeshire, United Kingdom; ² Neuroscience Research Australia, Randwick, Australia	
Exhibition Hall	Tuesday 13:30-15:30	Computer 95
13:30	4110. Cranio Spinal Hydrodynamic View of Neurodegenerative Disease by 2D-PCMRI <i>Olivier Balédent¹, Soraya El Sankari², Catherine Gondry-Jouet³, Anthony Fichten⁴, Olivier Pottier¹, Roger Bouzerar¹, Jean-Marie Serof⁵, Olivier Godefroy², Hervé Deramond³, Marc-Etienne Meyer¹</i> ¹ Image Processing, University Hospital Jules Verne, Amiens, Picardie, France; ² Neurology, University Hospital Jules Verne, Amiens, Picardie, France; ³ Radiology, University Hospital Jules Verne, Amiens, Picardie, France; ⁴ Neurosurgery, University Hospital Jules Verne, Amiens, Picardie, France; ⁵ Geriatrics, University Hospital Jules Verne, Amiens, Picardie, France	
14:00	4111. High Resolution MTR at 3T using Automated Analysis Targeting Small Functional Brain Regions – a Validation Study on Normal Subjects <i>Ying Wu^{1,2}, Hongyan Du³, Christopher Glielmi⁴, Shawn Sidharthan¹, Ryan Hutten¹, Ann Ragin⁵, Paul S. Tofts⁶, Robert R. Edelman¹</i> ¹ Radiology, NorthShore University HealthSystem, Evanston, IL, United States; ² Radiology, University of Chicago, Chicago, IL, United States; ³ Center for Clinical Research Informatics, NorthShore University HealthSystem, Evanston, IL, United States; ⁴ MR Research & Development, Siemens Healthcare, Chicago, IL, United States; ⁵ Radiology, Northwestern University, Chicago, United States; ⁶ Imaging Physics, Brighton & Sussex Medical School, Brighton, United Kingdom	
14:30	4112. Evaluation of T₁ & T₂* Mapping Reproducibility at 3T using Histogram Analysis <i>Christopher Glielmi¹, Ryan Hutten², Shawn Sidharthan², Hongyan Du², Todd Parrish³, Ann Ragin⁴, Robert R. Edelman², Ying Wu²</i> ¹ Cardiovascular MR R&D, Siemens Healthcare, Chicago, IL, United States; ² NorthShore University HealthSystem, Evanston, IL, United States; ³ Biomedical Engineering, Northwestern University, Chicago, IL, United States; ⁴ Radiology, Northwestern University, Chicago, IL, United States	
15:00	4113. Reproducibility of Apparent Diffusion Coefficient Values at Hippocampus Measured by High-Resolution Readout-Segmented DWI vs. Single-Shot DWI with 2DRF Excitations. <i>Ryo Sakamoto¹, Tomohisa Okada¹, Akira Yamamoto¹, Mitsunori Kanagaki¹, Seiko Kasahara¹, Emiko Morimoto¹, Mami Iima¹, Satoshi Nakajima¹, Taha Mohammed Mehemed¹, Kaori Togashi¹</i> ¹ Diagnostic Imaging & Nuclear Medicine, Kyoto University Graduate School of Medicine, Kyoto, Japan	

Exhibition Hall Wednesday 13:30-15:30 Computer 95

- 13:30 4114. A Multimodal MRI Investigation in Patients with Alzheimer's Disease, Mild Cognitive Impairment, & Cognitively Normal Subjects**
Sun Mi Kim¹, Min Ji Kim¹, Chang-Woo Ryu¹, Eui Jong Kim², Woo Suk Choi², Geon-Ho Jahng¹, Dal-Mo Yang¹
¹Radiology, Kyung Hee University Hospital-Gangdong, Seoul, Korea, Republic of; ²Radiology, Kyung Hee University Hospital, School of Medicine, Kyung Hee University, Seoul, Korea, Republic of
- 14:00 4115. MRI Morphological & Diffusion Tensor Imaging (DTI) Analysis to Early Alzheimer Disease**
Yongxia Zhou¹, Yulin Ge¹, John H. Dougherty²
¹Radiology/Center for Biomedical Imaging, New York University School of Medicine, New York, NY, United States; ²Medicine & Cole Neuroscience Center, University of Tennessee Medical Center at Knoxville, Knoxville, TN, United States
- 14:30 4116. Is Myelin Content Altered in Alzheimer's Disease?**
Sean C. Deoni¹, Stephen Correia², Tanja Su², Jessica Man², Paul Malloy³, Stephen Salloway³
¹School of Engineering, Brown University, Providence, RI, United States; ²Psychiatry & Human Behavior, Brown University, Providence, RI, United States; ³Alpert Medical School, Brown University, Providence, RI, United States
- 15:00 4117. New Insight in the Alzheimer's Disease Progression Revealed by a Combination of Functional & Structural Information**
Eini Niskanen^{1,2}, Mervi Könönen^{2,3}, Sara Määttä³, Merja Hallikainen⁴, Miia Kivipelto^{4,5}, Silvia Casarotto⁶, Marcello Massimini⁶, Ritva Vanninen², Hilikka Soininen^{4,7}
¹Department of Physics & Mathematics, University of Eastern Finland, Kuopio, Finland; ²Department of Clinical Radiology, Kuopio University Hospital, Kuopio, Finland; ³Department of Clinical Neurophysiology, Kuopio University Hospital, Kuopio, Finland; ⁴Institute of Clinical Medicine, Neurology, University of Eastern Finland, Kuopio, Finland; ⁵Aging Research Center, Karolinska Institutet, Stockholm, Sweden; ⁶Department of Clinical Science "L. Sacco", Università degli Studi di Milano, Milan, Italy; ⁷Department of Neurology, Kuopio University Hospital, Kuopio, Finland

Exhibition Hall Thursday 13:30-15:30 Computer 95

- 13:30 4118. Diagnosing Alzheimer Disease in Individuals: Volumetric Imaging**
Song Lai¹, John Lackey¹, Jianrong Shi¹
¹Radiology, Thomas Jefferson University, Philadelphia, PA, United States
- 14:00 4119. CA1 Specific Loss in Patients with Alzheimer's Disease & Mild Cognitive Impairment**
Min-Ji Kim^{1,2}, Geon-Ho Jahng¹, Hyck-Gi Kim¹, Sun-Mi Kim¹, Chang-Woo Ryu¹, Dal-Mo Yang¹, Hack-Young Lee³, Won-Chul Shin³, Dong- Kyun Lee⁴, Jong-Min Lee⁴
¹Department of Radiology, Kyung Hee University Hospital-Gangdong, Kyung Hee University, Seoul, Korea, Republic of; ²East-West Neo Medical Center Kyung Hee University, Seoul, Korea, Democratic People's Republic of; ³Department of Neurology, Kyung Hee University Hospital-Gangdong, Kyung Hee University, Seoul, Korea, Republic of; ⁴Department of Biomedical Engineering, Hanyang University, Seoul, Korea, Republic of
- 14:30 4120. MRI Intensity Tissues Normalisation for Longitudinal Surface Based Analysis of the WM/GM Contrast, Application to Alzheimer's Disease**
Vincent Doré¹, Jurgen Fripp¹, Pierrick Bourgeat¹, Oscar Acosta^{1,2}, Olivier Salvado¹
¹Biomedical Imaging ICT, the Australian e-Health Research Centre, CSIRO, Brisbane, Queensland, Australia; ²Université de Rennes1, France
- 15:00 4121. Correlating White Matter Integrity Loss & Gray Matter Atrophy in Alzheimer's Disease**
Amy Kuceyeski¹, Yu Zhang^{2,3}, Ashish Raj¹
¹Radiology, Weill Cornell Medical College, New York, NY, United States; ²Center for Imaging of Neurodegenerative Diseases, VA Medical Center, San Francisco, CA, United States; ³Radiology, University of California, San Francisco, San Francisco, CA, United States

fMRI in Brain Disorders I

Exhibition Hall Monday 14:00-16:00 Computer 96

- 14:00 4122. Detecting Acute Cortical Plasticity in Rats using High Field fMRI, Part 1- fMRI Maps & Cytoarchitectonic Boundaries**
Carolyn W.-H. Wu^{1,2}, Artem Goloshevsky^{2,3}, Alan P. Koretsky²
¹NeuroSpin / CEA, Gif Sur Yvette, Île-de-France, France; ²NINDS / NIH, Bethesda, MD, United States; ³Bruker BioSpin, Billerica, MA, United States

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- 14:30 4123. Independent Component Analysis of Resting-State fMRI Reveals Diminished Functional Connectivity in Callosal Dysgenesis**
Yi-Ou Li¹, Fan-Pei Yang¹, Charvi Shetty¹, Sandya Venugopal¹, Polina Bukshpun¹, Mari Wakahiro¹, Elliott H. Sherr¹, Pratik Mukherjee¹
¹University of California San Francisco, San Francisco, CA, United States
- 15:00 4124. Detecting Acute Cortical Layer-Specific Plasticity in Rat Model using High Field fMRI, Part 2- a Non-Thresholded, Raw Data Analysis Study**
Alexandra Petiet¹, Carolyn W.-H. Wu¹
¹NeuroSpin / CEA, Gif Sur Yvette, Île-de-France, France
- 15:30 4125. Varying Resting-State Brain Activity in the "default-Mode Network" in Post-Stroke Aphasia**
Quan Zhang¹, Li Sang¹, Ming Song², Yunting Zhang¹, Tianzi Jiang²
¹Department of Radiology, Tianjin Medical University General Hospital, Tianjin, China, People's Republic of; ²National Laboratory of Pattern Recognition, Institute of Automation, Chinese Academy of Sciences
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- Exhibition Hall Tuesday 13:30-15:30 Computer 96
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- 13:30 4126. Developmental Deviation in the Cortico-Striatal Response in Children with ADHD: fMRI Evidence using a Sustained Attention Task**
Vaibhav A. Diwadkar¹, Jacqueline Radwan¹, Mahya Rahimian Mashhad², Dalal Khatib¹, Olivia McGarragle¹, Patrick Pruitt³, Arthur Robin¹, David R. Rosenberg¹, Jeffrey A. Stanley¹
¹Psychiatry & Behavioral Neurosciences, Wayne State University School of Medicine, Detroit, MI, United States; ²Psychology, Eastern Michigan University; ³Neuroscience, University of Michigan
- 14:00 4127. A Combined Optimized Voxel-Based Morphometry & Resting State Functional Connectivity Investigation in Obsessive-Compulsive Disorder**
Fei Li¹, Bin Li², Su Liu¹, Xiaoqi Huang¹, Qizhu Wu¹, Lihua Qiu¹, Yanchun Yang², Qiyong Gong¹
¹Huaxi MR Research Center (HMRR), Department of Radiology, West China Hospital of Sichuan University, Chengdu, Sichuan, China, People's Republic of; ²Department of Psychiatry, West China Hospital of Sichuan University, Chengdu, Sichuan, China, People's Republic of
- 14:30 4128. Modification in Functional Connectivity of Resting State Networks in Patients Affected by Psychogenic Erectile Dysfunction During Visual Erotic Stimulation: An fMRI Study**
Nicoletta Cera¹, Ezio Domenico Di Pierro², Gianni Perrucci¹, Gianna Sepede¹, Francesco Gambi¹, Armando Tartaro¹, Carlo Vicentini², Cosimo Del Gratta¹, Gian Luca Romani¹, Antonio Ferretti¹
¹Dept of Neuroscience & Imaging, ITAB - University G.d'Annunzio of Chieti, Chieti, CH, Italy; ²Department of Health Sciences University of L'Aquila, Hospital "G.Mazzini", Teramo, Italy
- 15:00 4129. Impaired Small World Efficiency in Functional Networks in Liver Cirrhosis Patients**
Tun Wei Hsu^{1,2}, Wei Che Lin³, Chin Po Lin¹
¹Institute of Biomedical Imaging & Radiological Sciences, National Yang-Ming University, Taipei, Taiwan; ²Department of Radiology, Taipei Veterans General Hospital, Taipei, Taiwan; ³Department of Diagnostic Radiology, Chang Gung Memorial Hospital - Kaohsiung Medical Center, Kaohsiung, Taiwan
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- Exhibition Hall Wednesday 13:30-15:30 Computer 96
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- 13:30 4130. Brain & Functional Abnormalities as Results of Genetic Mutation with the DCC (Deleted in Colon Cancer) Gene Deletion**
Liya Wang^{1,2}, Brocha F. Tarshish³, Andres Moreno De Luca³, Michael Rossi³, Hui Mao^{1,2}
¹Radiology, Emory University School of Medicine, Atlanta, GA, United States; ²Center for Systems Imaging, Emory University, Atlanta, GA, United States; ³Human Genetics, Emory University School of Medicine, Atlanta, GA, United States
- 14:00 4131. Thalamo-Cortical Functional Connectivity in Autism Spectrum Disorders**
Mariana Lazar¹, Joy Carol Ming², Laura Miles¹, Jeffrey Donaldson¹
¹Department of Radiology, New York University School of Medicine, New York, United States; ²Livingston High School, Livingston, NJ, United States
- 14:30 4132. Sensorimotor Functional Connectivity Changes in Amyotrophic Lateral Sclerosis**
Federica Agosta¹, Paola Valsasina¹, Martina Absinta¹, Nilo Riva², Stefania Sala¹, Alessandro Prella³, Massimiliano Copetti⁴, Mauro Comola², Giancarlo Comi², Massimo Filippi¹
¹Neuroimaging Research Unit, Institute of Experimental Neurology, Division of Neuroscience, Scientific Institute & University Hospital San Raffaele, Milan, Italy; ²Department of Neurology, Scientific Institute & University Hospital San Raffaele, Milan, Italy; ³Ospedale Fatebenefratelli e Oftalmico, Milan, Italy; ⁴Biostatistics Unit, IRCCS-Ospedale Casa Sollievo della Sofferenza, San Giovanni Rotondo, Italy

- 15:00 4133. Mood Congruent Hippocampal Activation Biases: Double Dissociation of Negative & Positive Contexts in Depressed & Healthy Adults**
Kirstine Carter¹, Wendy Ringe¹, Cybeles Onuegbulem¹, Kaundinya Gopinath², Richard Briggs²
¹Department of Psychiatry, UT Southwestern Medical Center, Dallas, TX, United States; ²Department of Radiology, UT Southwestern Medical Center, Dallas, TX, United States
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- Exhibition Hall Thursday 13:30-15:30 Computer 96
- 13:30 4134. Framework for Studying Changes in the Functional Connectivity Network After Stroke using Resting State fMRI**
Siamak Pourabdollah Nejad-Davarani¹, Michael Chopp¹, Hassan Bagher-Ebadian¹, Scott Peltier², Douglas C. Noll², M. Peter Kostiuik¹, Shiyang Wang^{1,3}, Panayiotis Mitsias¹, Quan Jiang¹
¹Neurology, Henry Ford Health System, Detroit, MI, United States; ²Biomedical Engineering, University of Michigan, Ann Arbor, MI, United States; ³Physics, Oakland University, Rochester, MI, United States
- 14:00 4135. Integration of Structural & Functional Biomarkers of MRI Data Toward Early Diagnosis of Alzheimer's Disease**
Jong-Hwan Lee^{1,2}, Junghoe Kim¹, Yong-Hwan Kim¹, Dong-Youl Kim¹, Soohyun Ha²
¹Brain & Cognitive Engineering, Korea University, Seoul, Korea, Republic of; ²College of Information and Communication, Korea University, Seoul, Korea, Republic of
- 14:30 4136. Resting State Functional Connectivity Correlated with Neuropsychological Tests in Temporal Lobe Epilepsy Patients**
Martha J. Holmes^{1,2}, John C. Gore^{1,2}, Brad S. Folley³, Bassel Abou-Khalil³, Hasan H. Sonmezturk³, Victoria L. Morgan^{1,2}
¹Vanderbilt University Institute of Imaging Science, Nashville, TN, United States; ²Radiology & Radiological Sciences, Vanderbilt University, Nashville, TN, United States; ³Neurology, Vanderbilt University
- 15:00 4137. fMRI of Pain Processing in Diabetic Neuropathy**
Jennifer L. Davies¹, Dinesh Selvarajah², Michael D. Hunter³, Elaine Cachia¹, Adithya Sankar¹, Irene Tracey⁴, Solomon Tesfaye², Iain D. Wilkinson¹
¹Academic Radiology, University of Sheffield, Sheffield, United Kingdom; ²Diabetes, Sheffield Teaching Hospitals; ³Academic Psychiatry, University of Sheffield; ⁴Oxford University

fMRI in Brain Disorders II

- Exhibition Hall Monday 14:00-16:00 Computer 97
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- 14:00 4138. Functional Activation Within Hippocampal Subfields During Scene Memory Encoding in Temporal Lobe Epilepsy**
Sandhitsu Das¹, Dawn Mechanic-Hamilton², Marc Korczykowski², John Pluta¹, John Detre², Paul Yushkevich¹
¹PICSL, Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States; ²CfN, Department of Neurology, University of Pennsylvania, Philadelphia, PA, United States
- 14:30 4139. Spatio-Temporal Mapping of Interictal Epileptic Discharges Based on Mutual Information of Concurrent EEG & fMRI**
Cesar Caballero Gaudes¹, Serge Vulliemoz², Frederic Grouiller³, Magritta Seeck², Dimitri Van De Ville^{1,4}, François Lazeyras¹
¹Radiology Department, CIBM, Hôpitaux Universitaires de Genève, Geneva, Switzerland; ²Neurology Department, Epilepsy Unit, Hôpitaux Universitaires de Genève; ³Neurology Department, Functional Brain Mapping Laboratory, Hôpitaux Universitaires de Genève; ⁴Institute of Bioengineering, EPFL, Lausanne, Switzerland
- 15:00 4140. Presurgical Evaluation using Functional Connectivity Resting-State fMRI**
Leslie Vlerick^{1,2}, Eric Achten^{1,2}
¹Dept. Neuroradiology, Ghent University Hospital, Ghent, Belgium; ²GifMI (Ghent Institute for Functional & Metabolic Imaging), Ghent, Belgium
- 15:30 4141. Loss of Functional Network Efficiency is Associated with Cognitive Decline in Cryptogenic Epilepsy**
Maarten Vaessen^{1,2}, Marielle Vlooswijk^{2,3}, Jacobus Jansen^{1,2}, Marc de Krom³, Marian Majoie^{3,4}, Paul Hofman^{1,2}, Albert Aldenkamp^{3,4}, Walter Backes^{1,2}
¹Radiology, Maastricht University Medical Centre, Maastricht, Netherlands; ²School for Mental Health & Neurosciences, Maastricht University, Maastricht, Netherlands; ³Neurology, Maastricht University Medical Centre, Maastricht, Netherlands; ⁴Epilepsy Centre Kempenhaeghe, Heeze, Netherlands

 Exhibition Hall Tuesday 13:30-15:30 Computer 97

- 13:30 4142. Brain Function Disruption of Thalamus Related Low Frequency Resting State Networks in Patients with Mild Traumatic Brain Injury**
Lin Tang¹, Yulin Ge¹, Daniel K. Sodickson¹, Laura Miles¹, Joseph Reaume¹, Robert I. Grossman¹
¹NYU CBI, New York, NY, United States
- 14:00 4143. Separating Global & Regional Effects of Hydrocortisone Medication using Normalized fMRI**
Hanzhang Lu¹, Daren Denniston², Binu Thomas¹, Jinsoo Uh¹, Thomas J. Carmody², Richard Auchus³, Ramon Diaz-Arristia⁴, Carol Tamminga², E. Sherwood Brown²
¹Advanced Imaging Research Center, University of Texas Southwestern Medical Center, Dallas, TX, United States; ²Department of Psychiatry, University of Texas Southwestern Medical Center, Dallas, TX, United States; ³Internal Medicine, University of Texas Southwestern Medical Center, Dallas, TX, United States; ⁴Department of Neurology, University of Texas Southwestern Medical Center, Dallas, TX, United States
- 14:30 4144. Resting-State Functional Connectivity of the Thalamus is Reduced in Absence Epilepsy**
Richard Andrew James Masterton¹, Patrick W. Carney^{1,2}, Graeme D. Jackson^{1,2}
¹Brain Research Institute, Florey Neuroscience Institutes, Melbourne, Victoria, Australia; ²Department of Medicine, the University of Melbourne, Melbourne, Victoria, Australia
- 15:00 4145. Disruption of Default Mode Network Following Mild Traumatic Brain Injury**
Chandler Sours¹, Josh Betz¹, Steve Roys¹, Bizhan Aarabi, Kathirkamanthan Shanmuganathan, Joel Greenspan², Rao Gullapalli^{1,3}
¹Core for Translational Research in Imaging @ Maryland (CTRIM), University of Maryland School of Medicine, Baltimore, MD, United States; ²Department of Biomedical Sciences & Program in Neuroscience, University of Maryland School of Dentistry, Baltimore, MD, United States; ³Department of Diagnostic Radiology & Nuclear Medicine, University of Maryland School of Medicine, Baltimore, MD, United States

 Exhibition Hall Wednesday 13:30-15:30 Computer 97

- 13:30 4146. Effect of RTMS on Cerebello-Thalamo-Cortical Connectivity in Essential Tremor**
Cécile Gallea¹, Léa Marais¹, Traian Popa¹, David Grabli^{2,3}, Emmanuel Roze^{2,3}, Vincent Perlbarg⁴, David Coynel⁴, Bertrand Degos^{2,3}, Marie Vidailhet^{2,3}, Stéphane Lehericy^{1,2}, Sabine Meunier^{2,3}
¹Centre for Neuroimaging Research - CENIR, Paris, Pitié-Salpêtrière Hospital, France; ²Centre de Recherche de l'Institut du Cerveau et de la Moelle Epinière, UPMC - INSERM UMR S975 - CNRS UMR 7225; ³Fédération des Maladies du Système Nerveux, AP-HP Groupe Hospitalier Pitié-Salpêtrière, Paris; ⁴Laboratoire d'Imagerie Fonctionnelle, INSERM - UPMC - UMR S678
- 14:00 4147. Impaired fMRI Activation in Patients with Primary Brain Tumors**
Zhen Jiang^{1,2}, Alexandre Krainik^{1,3}, Olivier David³, Dominique Hoffmann¹, Irene Tropres⁴, Sylvie Grand^{1,3}, Emmanuel Barbier³, Stephan Chabardes^{1,3}, Jan Warnking³, Jean-Francois Le Bas^{1,3}
¹University Hospital Grenoble, Grenoble, France; ²2nd Affiliated Hospital - Soochow University, Suzhou, China, People's Republic of; ³Grenoble Institute of Neurosciences, Grenoble, France; ⁴Joseph Fourier University, Grenoble, France
- 14:30 4148. Functional Changes in the Cerebro-Cerebellar Verbal Working Memory Network in Schizophrenia**
Kayako Matsuo¹, Annabel S.-H. Chen², Su-Chun Huang¹, Chih-Min Liu³, Chen-Chung Liu³, Hai-Go Hwu³, Wen-Yih Isaac Tseng¹
¹Center for Optoelectronic Biomedicine, National Taiwan University College of Medicine, Taipei, Taiwan; ²Division of Psychology, School of Humanities & Social Sciences, Nanyang Technological University, Singapore; ³Department of Psychiatry, National Taiwan University, Taipei, Taiwan
- 15:00 4149. Combination of Structural & Functional MRI with Rapid Prototyping as a Neurosurgical Tool**
Yu-Chun Chang¹, Fred Nicolls², Bruce S. Spottiswoode^{3,4}
¹Department of Electrical Engineering, University of Cape Town, Cape Town, Western Province, South Africa; ²Department of Electrical Engineering, University of Cape Town, South Africa; ³MRC/UCT Medical Imaging Research Unit, Department of Human Biology, University of Cape Town, South Africa; ⁴Department of Radiology, University of Stellenbosch, Cape Town, South Africa

 Exhibition Hall Thursday 13:30-15:30 Computer 97

- 13:30 4150. Resting State Functional Connectivity Changes with Subthalamic Nucleus Deep Brain Stimulation in a Parkinson's Disease Patient**
Jenny Wu^{1,2}, Erik B. Beall¹, Mark J. Lowe¹, Benjamin L. Walter^{3,4}, Andre Machado⁵, Micheal D. Phillips¹
¹Imaging Institute, Cleveland Clinic, Cleveland, OH, United States; ²New York Medical College, Valhalla, NY, United States; ³Neurological Institute, University Hospitals Case Medical Center, Cleveland, OH, United States; ⁴Case Western Reserve University School of Medicine, Cleveland, OH, United States; ⁵Center for Neurological Restoration, Cleveland Clinic, Cleveland, OH, United States

- 14:00 4151. Functional Connectivity between Areas Involved in Emotion & Executive Control is Abnormal in Patients with Psychogenic Non-Epileptic Seizures**
Sylvie J. M. van Der Kruijs¹, Maarten J. Vaessen², Nynke M. G. Bodde¹, Richard H. C. Lazeron¹, Paul A. M. Hofman², Walter H. Backes², Albert P. Aldenkamp¹, Jacobus F. A. Jansen²
¹Epilepsy Center Kempenhaeghe, Heeze, Netherlands; ²Radiology, Maastricht University Medical Center, Maastricht, Netherlands
- 14:30 4152. Effects of Levodopa Therapy on Resting Brain Perfusion & Functional Connectivity in Parkinson's Disease Patients Measured by ASL Perfusion MRI**
Marta Vidorreta¹, Elisa Mengual^{2,3}, Gonzalo Arrondo¹, María a Pastor¹, María a Fernández-Seara¹
¹Functional Neuroimaging Laboratory, Center for Applied Medical Research (University of Navarra), Pamplona, Navarra, Spain; ²Neuroanatomy of Basal Ganglia Laboratory, Center for Applied Medical Research (University of Navarra), Pamplona, Navarra, Spain; ³Department of Anatomy, Medical School, University of Navarra, Pamplona, Navarra, Spain
- 15:00 4153. Morphometric & Functional Connectivity Correlates of Hippocampal Changes in Migraine Frequency**
Nasim Maleki¹, Gautam Pendse¹, Lauren Natile², Rami Burstein³, Lino Becerra^{1,4}, David Borsook¹
¹P.A.I.N. Group, Brain Imaging Center, McLean Hospital, Department of Psychiatry, Harvard Medical School, Belmont, MA, United States; ²Department of Psychology, Villanova University, Villanova, PA, United States; ³Department of Anesthesia & Critical Care, Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA; ⁴Department of Radiology, Massachusetts General Hospital, Charlestown, MA

fMRI in Brain Disorders III

Exhibition Hall Monday 14:00-16:00 Computer 98

- 14:00 4154. Functional Connectivity in Strabismic Adults During Saccadic Eye Movements**
Suk-Tak Chan¹, Ka-Yue Chan², Sau-Fan Ma², Shuk-Ling Law², Shuk-Yee Ho², Hiu-Kwan Lee², Kwok-Wing Tang³, Andrew Kwok-cheung Lam⁴, James Yuk-ling Cheung³, Kenneth K. Kwong¹
¹Athinoula A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Charlestown, MA, United States; ²Department of Health Technology & Informatics, the Hong Kong Polytechnic University, Hong Kong; ³Department of Diagnostic Radiology & Imaging, Queen Elizabeth Hospital, Hong Kong; ⁴School of Optometry, the Hong Kong Polytechnic University, Hong Kong
- 14:30 4155. Altered Cerebral Perfusion & Functional Connectivity in a Response-Control Network in Parkinson's Disease Measured by ASL**
María A. Fernández-Seara¹, Marta Vidorreta¹, Maite Aznárez-Sanado¹, Francis Loayza¹, Federico Villagra¹, Maria Pastor¹
¹Center for Applied Medical Research, University of Navarra, Pamplona, Navarra, Spain
- 15:00 4156. Altered Medial Temporal Lobe Activations in AMCI Subjects During Encoding & Recognition Tasks**
Mingwu Jin¹, Victoria Pelak¹, Tim Curran², Rajesh Nandy³, Dietmar Cordes¹
¹University of Colorado Denver, Aurora, CO, United States; ²University of Colorado at Boulder, Boulder, CO, United States; ³UCLA, Los Angeles, CA, United States
- 15:30 4157. Aberrant Resting-State Activity in Default Mode Network of Subjects with Amnesic Mild Cognitive Impairment**
Mingwu Jin¹, Victoria S. Pelak¹, Dietmar Cordes¹
¹University of Colorado Denver, Aurora, CO, United States

Exhibition Hall Tuesday 13:30-15:30 Computer 98

- 13:30 4158. Alterations in Neural Network Activity of Methamphetamine Abusers Performing an Emotion Matching Task: fMRI Study**
Hui-Jin Song¹, Jeehye Seo¹, Seong-Uk Jin¹, Moon-Jung Hwang², Young-Ju Lee², Yongmin Chang^{1,3}
¹Medical & Biological Engineering, Kyungpook National University, Daegu, Korea, Republic of; ²GE healthcare, Seoul, Korea, Republic of; ³Diagnostic Radiology, Kyungpook National University, Daegu, Korea, Republic of
- 14:00 4159. Functional MRI Analysis of a Novel Short-Term Motor Learning Task**
Ryan J. Cassidy¹, Shaun Boe^{2,3}, William McIlroy^{4,5}, Simon J. Graham^{6,7}
¹Institute of Biomaterials & Biomedical Engineering, University of Toronto, Toronto, ON, Canada; ²School of Physiotherapy, Dalhousie University, Halifax, NS, Canada; ³Department of Psychology, Dalhousie University, Halifax, NS, Canada; ⁴Toronto Rehabilitation Institute, University of Toronto, Toronto, ON, Canada; ⁵Department of Kinesiology, University of Waterloo, Waterloo, ON, Canada; ⁶Department of Medical Biophysics, University of Toronto, Toronto, ON, Canada; ⁷Sunnybrook Health Sciences Centre, University of Toronto, Toronto, ON, Canada

- 14:30 4160. Default-Mode Resting Network in Mild Traumatic Brain Injury (MTBI)**
Yongxia Zhou¹, Lin Tang¹, Daniel K. Sodickson¹, Joseph Reaume¹, Laura Miles¹, Robert I. Grossman¹, Yulin Ge¹
¹Radiology/Center for Biomedical Imaging, New York University School of Medicine, New York, NY, United States
- 15:00 4161. fMRI Reveals That Basolateral Amygdala Responsiveness to Aversive Stimuli as a Neural Correlate of Trait Anxiety is Modulated by Neuropeptide S (NPS) Receptor Genotype**
Harald Kugel¹, Udo Dannlowski², Friederike Franke², Christa Hohoff², Peter Zwanzger², Thomas Lenzen², Dominik Grotegerd², Thomas Suslow^{2,3}, Volker Arolt², Walter Heindel¹, Katharina Domschke²
¹Dept. of Clinical Radiology, University of Muenster, Muenster, NRW, Germany; ²Dept. of Psychiatry, University of Muenster, Muenster, NRW, Germany; ³Dept. of Psychosomatic Medicine and Psychotherapy, University of Leipzig, Leipzig, SN, Germany
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- Exhibition Hall Wednesday 13:30-15:30 Computer 98
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- 13:30 4162. An fMRI Study of Cognitive Functions in Adolescents with Spina Bifida**
Xiawei Ou^{1,2}, Jeffrey H. Snow³, John J. Hall³, Amy Byerly³, Charles M. Glasier¹
¹Department of Radiology, University of Arkansas for Medical Sciences, Little Rock, AR, United States; ²Radiology, Arkansas Children's Hospital, Little Rock, AR, United States; ³Department of Pediatrics, University of Arkansas for Medical Sciences, Little Rock, AR, United States
- 14:00 4163. Diminished Resting-State Functional Connectivity in Lateral Occipital Cortex in Early HIV Infection**
Paul Foryt^{1,2}, Xue Wang¹, Renee Ochs¹, Jae-Hon Chung^{1,2}, Ying Wu^{1,3}, Todd Parrish¹, Ann B. Ragin^{1,3}
¹Radiology, Northwestern University, Feinberg School of Medicine, Chicago, IL, United States; ²Engineering, Northwestern University, Evanston, IL, United States; ³Radiology, NorthShore University HealthSystem, Evanston, IL, United States
- 14:30 4164. Reliability Analysis of the Resting State Sensitive & Specifically Identifies Parkinson Disease**
Frank M. Skidmore^{1,2}, Mark Yang³, Lewis Baxter², Karen von Deneen², Guojun He², Keith White⁴, Kenneth Heilman⁵, Mark Gold², Yijun Liu²
¹Neurology, North Florida/South Georgia VA Medical Center, Gainesville, FL, United States; ²Department of Psychiatry, University of Florida, Gainesville, FL, United States; ³Department of Statistics, University of Florida, Gainesville, FL, United States; ⁴Department of Psychology, University of Florida, Gainesville, FL, United States; ⁵Department of Neurology, University of Florida, Gainesville, FL, United States
- 15:00 4165. fMRI Detection of Asperger's Disorder using Support Vector Machine Classification**
Yash Shailesh Shah¹, Daehyun Yoon¹, Opal Ousley¹, Xiaoping Hu², Scott J. Peltier¹
¹University of Michigan, Ann Arbor, MI, United States; ²Emory University, Atlanta, GA, United States
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- Exhibition Hall Thursday 13:30-15:30 Computer 98
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- 13:30 4166. Differential Brain Activation Associated with the Effects of Emotional & Non-Emotional Distracters During a Delayed-Response Working Memory Task in Patients with Schizophrenia**
Gwang-Won Kim¹, Moo-Suk Lee², Heoung-Keun Kang³, Tae-Jin Park⁴, Young-Chul Chung⁵, Jong-Chul Yang⁵, Gyung-Ho Chung⁶, Gwang-Woo Jeong^{1,3}
¹Interdisciplinary Program of Biomedical Engineering, Chonnam National University Medical School, Gwangju, Chonnam, Korea, Republic of; ²Psychiatry, Chonnam National University Hospital, Korea, Republic of; ³Radiology, Chonnam National University Hospital, Korea, Republic of; ⁴Psychology, Chonnam National University, Korea, Republic of; ⁵Psychiatry, Chonbuk National University Hospital, Korea, Republic of; ⁶Radiology, Chonbuk National University Hospital, Korea, Republic of
- 14:00 4167. Central Pain Processing in Chemotherapy Induced Peripheral Neuropathy**
Elaine Cachia¹, Dinesh Selvarajah², Michael D. Hunter³, John Snowden⁴, Sam H. Ahmedzai⁵, Iain D. Wilkinson¹
¹Academic Radiology, University of Sheffield, Sheffield, United Kingdom; ²Diabetes, Sheffield Teaching Hospitals; ³Academic Psychiatry, University of Sheffield; ⁴Haematology, Sheffield Teaching Hospitals; ⁵Palliative Care, University of Sheffield
- 14:30 4168. Slow Fluctuation BOLD Signal Component Analysis During Active Press Pain Stimulation in Fibromyalgia Patients**
Ji-Young Kim¹, Jeehye Seo², Jae-Jun Lee², Hui-Jin Song², Seong-Uk Jin², Yongmin Chang^{2,3}
¹School of Medicine, Kyungpook National University, Daegu, Korea, Republic of; ²Medical & Biological Engineering, Kyungpook National University, Daegu, Korea, Republic of; ³Diagnostic Radiology, Kyungpook National University, Daegu, Korea, Republic of
- 15:00 4169. fMRI Investigation of Voluntary & Involuntary Motor Activation in Hypnotic Paralysis**
Harald Kugel¹, Markus Burgmer², Bettina Pfeleiderer¹, Adrianna Ewert¹, Thomas Lenzen³, Regina Pioch², Martin Pyka⁴, Jens Sommer⁴, Volker Arolt³, Gereon Heuft², Carsten Konrad⁴
¹Dept. of Clinical Radiology, University of Muenster, Muenster, NRW, Germany; ²Dept. of Psychosomatics & Psychotherapy, University of Muenster, Muenster, NRW, Germany; ³Dept. of Psychiatry & Psychotherapy, University of Muenster, Muenster, NRW, Germany; ⁴Dept. of Psychiatry & Psychotherapy, University Marburg, Marburg, HE, Germany

MRS of Animal Brain (except Cancer)

Exhibition Hall	Monday 14:00-16:00	Computer 99
14:00	4170. Neurochemical Profile of the Striatum & Hippocampus in Mice at 16.4T using <i>In Vivo</i> ¹H NMR Spectroscopy <i>Dinesh K. Deelchand¹, Isabelle Iltis¹, Gregor Adriany¹, Emily Colonna¹, Malgorzata Marjanska¹, Kamil Ugurbil¹, Pierre-Gilles Henry¹</i> ¹ Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, MN, United States	
14:30	4171. Neurochemical Profile in the Hippocampus of Aging Mice as Detected by <i>In Vivo</i> ¹H NMR Spectroscopy at 14.1T <i>Joao M. N. Duarte^{1,2}, Rolf Gruetter^{1,3}</i> ¹ Laboratory for Functional & Metabolic Imaging, Center for Biomedical Imaging, Ecole Polytechnique, Lausanne, Vaud, Switzerland; ² Faculty of Biology & Medicine, University of Lausanne, Lausanne, Switzerland; ³ Department of Radiology, Universities of Lausanne & Geneva, Lausanne, Switzerland	
15:00	4172. <i>In Vivo</i> ¹³C NMR Spectroscopy at 14.1T <i>Joao M. N. Duarte^{1,2}, Rolf Gruetter^{1,3}</i> ¹ Laboratory for Functional & Metabolic Imaging, Center for Biomedical Imaging, Ecole Polytechnique, Lausanne, Vaud, Switzerland; ² Faculty of Biology & Medicine, University of Lausanne, Lausanne, Vaud, Switzerland; ³ Departments of Radiology, Universities of Lausanne & Geneva	
15:30	4173. <i>In Vitro</i> & <i>In Vivo</i> Studies of ¹⁷O NMR Sensitivity at 9.4 & 16.4 Tesla <i>Ming Lu^{1,2}, Xiao Wang^{1,2}, Ryan Taylor^{1,2}, Yi Zhang^{1,2}, Kamil Ugurbil^{1,2}, Wei Chen^{1,2}, Xiao-Hong Zhu^{1,2}</i> ¹ Center for Magnetic Resonance Research, University of Minnesota Medical School, Minneapolis, MN, United States; ² Department of Radiology, University of Minnesota Medical School, Minneapolis, MN, United States	

Exhibition Hall	Tuesday 13:30-15:30	Computer 99
13:30	4174. Short Erythropoietin Treatment Following Hypoxia-Ischemia in the Immature Rat Brain: Macro-, Micro-Structural & Metabolic Assessment using Multimodal MR <i>Yohan van De Looij^{1,2}, Alexandra Chatagner¹, Petra S. Hüppi¹, Rolf Gruetter^{2,3}, Stéphane V. Sizonenko¹</i> ¹ Division of Child Growth & Development, University of Geneva, Geneva, Switzerland; ² Laboratory for Functional & Metabolic Imaging, Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland; ³ Department of Radiology, Universities of Lausanne & Geneva, Lausanne & Geneva, Switzerland	
14:00	4175. Dynamics of Cerebral Glucose Analysed <i>In Vivo</i> with a Four-State Conformational Model <i>Joao M. N. Duarte^{1,2}, Rolf Gruetter^{1,3}</i> ¹ Laboratory for Functional & Metabolic Imaging, Center for Biomedical Imaging, Ecole Polytechnique, Lausanne, Vaud, Switzerland; ² Faculty of Biology & Medicine, University of Lausanne, Lausanne, Vaud, Switzerland; ³ Department of Radiology, Universities of Lausanne & Geneva, Switzerland	
14:30	4176. Effects of Chronic Uncontrolled Diabetes on Neurochemical Profile & Glucose Transport in the Rat Brain <i>In Vivo</i> by ¹H MRS at 9.4T <i>Wen-Tung Wang¹, Phil Lee^{1,2}, Irina V Smirnova³, In-Young Choi^{1,4}</i> ¹ Hoglund Brain Imaging Center, University of Kansas Medical Center, Kansas City, KS, United States; ² Molecular & Integrative Physiology, University of Kansas Medical Center, Kansas City, KS, United States; ³ Physical Therapy & Rehabilitation Sciences, University of Kansas Medical Center, Kansas City, KS, United States; ⁴ Neurology, University of Kansas Medical Center, Kansas City, KS, United States	
15:00	4177. Metabolic Changes in the Focal Brain Ischemia in Rats Treated with Human Induced Pluripotent Cell-Derived Neural Precursors <i>Daniel Jirak^{1,2}, Karolina Turnovcova³, Nataliya Kozubenko³, Pavla Jendelova³, Milan Hajek^{1,2}</i> ¹ Department of Diagnostic & Interventional Radiology, Institute for Clinical & Experimental Medicine, Prague, Czech Republic; ² Center for Cell Therapy & Tissue Repair, Prague, Czech Republic; ³ Institute of Experimental Medicine, Czech Republic	

Exhibition Hall	Wednesday 13:30-15:30	Computer 99
13:30	4178. Towards the Assessment of Intracellular Viscosity: Diffusion Spectroscopy at Ultra-Short Diffusion Time in the Rat Brain <i>Charlotte Marchadour¹, Martine Guillermier¹, Diane Houitte¹, Marion Chaigneau¹, Philippe Hantraye¹, Vincent Lebon¹, Julien Valette¹</i> ¹ CEA-MIRCen, Fontenay-aux-Roses, France	

- 14:00 4179. Decrease of Glutamate in the Hippocampus of the *fmr1* Knockout Mouse During Myelogenesis Detected by *In Vivo* ¹H MRS**
Da Shi^{1,2}, *Su Xu*^{1,2}, *Steven Roys*^{1,2}, *Rao Gullapalli*^{1,2}, *Mary Cathrine McKenna*³
¹Core for Translational Research in Imaging @ University of Maryland, University of Maryland School of Medicine, Baltimore, MD, United States; ²Diagnostic Radiology & Nuclear Medicine, University of Maryland School of Medicine, Baltimore, MD, United States; ³Department of Pediatrics, University of Maryland School of Medicine, Baltimore, MD, United States
- 14:30 4180. Early Metabolic Changes in Hippocampus & Cingulate Cortex After Fear Conditioning**
Iris Yuwen Zhou^{1,2}, *Abby Y. Ding*^{1,2}, *Qi Li*^{3,4}, *Shujuan Fan*^{1,2}, *Kevin Chuen Wing Chan*^{1,2}, *Peng Cao*^{1,2}, *April Mei Kwan Chow*^{1,2}, *Grainne M. McAlonan*^{3,4}, *Ed Xuekui Wu*^{1,2}
¹Laboratory of Biomedical Imaging & Signal Processing, the University of Hong Kong, Hong Kong SAR, China, People's Republic of; ²Department of Electrical & Electronic Engineering, the University of Hong Kong, Hong Kong SAR, China, People's Republic of; ³Department of Psychiatry, the University of Hong Kong; ⁴Centre for Reproduction Growth & Development, the University of Hong Kong
- 15:00 4181. Brain N-Acetylaspartate is Increased in Mice with Hypomyelination**
Jun-Ichi Takanashi^{1,2}, *Shigeyoshi Saito*¹, *Ichio Aoki*¹, *A. James Barkovich*³, *Hitoshi Terada*⁴, *Yukiko Ito*⁵, *Ken Inoue*⁵
¹Molecular Imaging Center, National Institute of Radiological Sciences, Chiba, Japan; ²Pediatrics, Kameda Medical Center, Kamogawa, Chiba, Japan; ³Radiology & Biomedical Imaging, University of California San Francisco, San Francisco, CA, United States; ⁴Radiology, Toho University Sakura Medical Center, Sakura, Chiba, Japan; ⁵Mental Retardation & Birth Defect Research, National Center of Neurology & Psychiatry, Kodaira, Tokyo, Japan

Exhibition Hall Thursday 13:30-15:30 Computer 99

- 13:30 4182. The Influence of Physical Activity on the Structure & Metabolism of the Mouse Hippocampus - Combining ¹H MRS & VBM at 9.4T**
*Wolfgang Weber-Fahr*¹, *Sarah Biedermann*¹, *Lei Zheng*^{1,2}, *Claudia Falfán-Melgoza*¹, *Johannes Fuss*³, *Alexander Sartorius*³, *Peter Gass*³, *Gabriele Ende*¹
¹Neuroimaging, Central Institute of Mental Health, Mannheim, Germany; ²Experimental Radiation Oncology, University Medical Center Mannheim, Mannheim, Germany; ³Psychiatry, Central Institute of Mental Health, Mannheim, Germany
- 14:00 4183. Cross-Sectional & Longitudinal Reproducibility of Rhesus Macaque Brain Metabolites: Proton MR Spectroscopy at 3T**
*William E. Wu*¹, *Ivan Kirov*¹, *Ke Zhang*¹, *James S. Babb*¹, *Chan-Gyu Joo*², *Eva-Maria Ratai*², *R. Gilberto Gonzalez*², *Oded Gonen*¹
¹Radiology, New York University Medical Center, New York, NY, United States; ²Neuroradiology, Massachusetts General Hospital, Charlestown, MA, United States
- 14:30 4184. Choline's Relationship to Pro-Inflammatory Monocyte Chemoattractant Protein & Glial Activation**
Eva-Maria Ratai^{1,2}, *Robert Fell*³, *Margaret Lentz*^{2,3}, *Julian He*^{2,3}, *Tricia Burdo*⁴, *Lakshman Annamalai*⁵, *Elkan Halpern*^{2,6}, *Eliezer Masliah*⁷, *Susan Westmoreland*^{2,5}, *Kenneth Williams*⁴, *R. Gilberto González*^{2,3}
¹Department of Radiology, Neuroradiology Division, A. A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Charlestown, MA, United States; ²Harvard Medical School, Boston, MA, United States; ³Department of Radiology, Neuroradiology Division, A. A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Charlestown, MA, United States; ⁴Biology Department, Boston College, Chestnut Hill, MA, United States; ⁵Division of Comparative Pathology, New England Primate Research Center, Southborough, MA, United States; ⁶Institute for Technology Assessment, Department of Radiology, Massachusetts General Hospital, Boston, MA, United States; ⁷Department of Neurosciences, University of California at San Diego, La Jolla, United States
- 15:00 4185. The 1.28 Ppm Signal – a Translational Magnetic Resonance Spectroscopy Marker for Neurogenesis?**
Conny Frauke Waschkes^{1,2}, *Basil Künnecke*¹, *Aline Seuwen*², *Markus von Kienlin*¹, *Markus Rudin*²
¹Magnetic Resonance Imaging & Spectroscopy, F. Hoffmann-La Roche, Basel, Switzerland; ²Animal Imaging Centre, Institute for Biomedical Engineering, ETH & University of Zurich, Zurich, Switzerland

Animal Models of Brain Disease Other than Stroke

Exhibition Hall Monday 14:00-16:00 Computer 100

- 14:00 4186. Efficacy of Ginkgo Biloba in Aluminium Induced Neurotoxicity on Rat Brain: Magnetization Transfer & Diffusion Weighted MRI Study**
*Shatakshi Srivastava*¹, *Sandeep Tripathi*², *Abbas Ali Mahdi*², *Raja Roy*¹
¹Centre of Biomedical Magnetic Resonance, Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow, Uttar Pradesh, India; ²Department of Biochemistry, Chatrapati Shahuji Maharaj Medical University, Lucknow, Uttar Pradesh, India

- 14:30 4187. Correlating Longitudinal & Quantitative MRI Metrics Elucidates White Matter Changes in the Cuprizone Mouse Model of Demyelination**
Jonathan Dale Thiessen¹, Yanbo Zhang², Handi Zhang², Lingyan Wang², Richard Buis³, Jiming Kong⁴, Xin-Min Li², Melanie Martin^{5,6}
¹Physics & Astronomy, University of Manitoba, Winnipeg, Manitoba, Canada; ²Psychiatry, University of Manitoba; ³Radiology, University of Manitoba; ⁴Human Anatomy & Cell Science, University of Manitoba; ⁵Physics & Astronomy/Radiology, University of Manitoba; ⁶Physics, University of Winnipeg
- 15:00 4188. Correlation between Diffusion Tensor Imaging Indices & Sociability, a Behavioral Endophenotype Relevant to Autism: A Longitudinal Study in the BALB/cJ Mouse Strain**
Manoj Kumar¹, Stephen Pickup¹, Ranjit Ittyerah¹, Sunghoon Kim², Andrew H. Fairless³, Ted Abel⁴, Edward S. Brodtkin³, Harish Poptani¹
¹Radiology, University of Pennsylvania, Philadelphia, PA, United States; ²Radiology, New York University, United States; ³Psychiatry, University of Pennsylvania, Philadelphia, PA, United States; ⁴Biology, University of Pennsylvania, Philadelphia, PA, United States
- 15:30 4189. A DTI Investigation of Neuroanatomical Differences in a Mouse Model of Early Life Neglect**
Daniel Coman^{1,2}, Alvaro Duque³, Elizabeth D. George⁴, Xenophon Papademetris^{2,5}, Fahmeed Hyder^{2,5}, Arthur A. Simen⁴
¹Department of Diagnostic Radiology, Yale University, New Haven, CT, United States; ²Quantitative Neuroscience with Magnetic Resonance (QNMR), Yale University, New Haven, CT, United States; ³Department of Neurobiology, Yale University, New Haven, CT, United States; ⁴Department of Psychiatry, Yale University, New Haven, CT, United States; ⁵Department of Diagnostic Radiology & Biomedical Engineering, Yale University, New Haven, CT, United States

Exhibition Hall Tuesday 13:30-15:30 Computer 100

- 13:30 4190. Prediction of Behavioral Deficits using Diffusion Tensor Imaging in Experimental Hydrocephalus**
Mark E. Wagshul^{1,2}, Shams Rashid³, Maria Gulinello⁴, James P. McAllister⁵
¹Radiology, Albert Einstein College of Medicine, Bronx, NY, United States; ²Radiology, Stony Brook University, Stony Brook, NY, United States; ³Biomedical Engineering, Stony Brook University, Stony Brook, NY, United States; ⁴Neuroscience, Albert Einstein College of Medicine, Bronx, NY, United States; ⁵Neurosurgery, University of Utah, Salt Lake City, UT, United States
- 14:00 4191. Cortical Metabolic Alterations Induced by Genetic Redox Deregulation in GCLM KO Mice & the Protective Effect of N-Acetylcysteine Treatment: Relevance for Schizophrenia**
Joao M. N. Duarte^{1,2}, Anita Kulak³, Kim Q. Do³, Rolf Gruetter^{1,4}
¹Laboratory for functional & metabolic imaging, Center for Biomedical Imaging, Ecole Polytechnique, Lausanne, Vaud, Switzerland; ²Faculty of Biology & Medicine, University of Lausanne, Lausanne, Vaud, Switzerland; ³Center for Psychiatric Neuroscience, Univ. Hosp. Lausanne, Switzerland; ⁴Department of Radiology, Universities of Lausanne & Geneva, Lausanne, Switzerland
- 14:30 4192. Cerebral Blood Volume & Metabolite Levels in Mouse Models for Alzheimer (APP/PS1) & Atherosclerosis (ApoE4 & ApoE Knockout): Genotype Differences & Early Effects of DHA & Cholesterol Containing Diets**
Valerio Zerbi^{1,2}, Diane Jansen¹, Andor Veltien², Carola I. F. Janssen¹, Bastian Zinnhardt¹, Daan van Rooij¹, Yang Liu³, Alan J. Wright², P. Jos Dederen¹, Laus M. Broersen⁴, Amanda J. Kiliaan¹, Arend Heerschap²
¹Anatomy, Radboud University Nijmegen Medical Centre, Nijmegen, Netherlands; ²Radiology, Radboud University Nijmegen Medical Centre, Nijmegen, Netherlands; ³Universität des Saarlandes, Homburg, Germany; ⁴Danone Research, Wageningen, Netherlands
- 15:00 4193. Preliminary Characterization of Apolipoprotein E Targeted Replacement Mice using MRI Techniques**
Renuka Sriram¹, James Goodman¹, Zhiyong Xie¹, Kelly Bales¹
¹Pfizer Inc, Groton, CT, United States

Exhibition Hall Wednesday 13:30-15:30 Computer 100

- 13:30 4194. Validation of Neurite Remodeling After TBI using MRI & Histopathology**
Shiyang Wang^{1,2}, Michael Chopp^{1,2}, Guangliang Ding¹, Mohammad-Reza Nazem-Zadeh¹, Siamak Pourabdollah Nejad D.¹, Changsheng Qu³, Zhenggang Zhang¹, Asim Mahmood³, Lian Li¹, Li Zhang¹, Quan Jiang^{1,2}
¹Neurology, Henry Ford Health System, Detroit, MI, United States; ²Physics, Oakland University, Rochester, MI, United States; ³Neurosurgery, Henry Ford Health System, Detroit, MI, United States
- 14:00 4195. Transplantation of Marrow Stromal Cells Restores Cerebral Blood Flow & Reduces Cerebral Atrophy in Rats with Traumatic Brain Injury: In Vivo MRI Study**
Lian Li¹, Quan Jiang¹, Chang Sheng Qu², Guang Liang Ding¹, Qing Jiang Li¹, Shi Yang Wang³, Ji Hyun Lee³, Mei Lu⁴, Asim Mahmood², Michael Chopp^{1,3}

¹Neurology, Henry Ford Hospital, Detroit, MI, United States; ²Neurosurgery, Henry Ford Hospital, Detroit, MI, United States; ³Physics, Oakland University, Rochester, MI, United States; ⁴Biostatistics & Research Epidemiology, Henry Ford Hospital, Detroit, MI, United States

- 14:30 4196. Hemodynamic Response from Ketamine & Effect of MGLuR2/3 Agonist (LY404039) Pretreatment.**
Anders Andersson¹, Mattias Lindberg¹, Fu-Hua Wang¹, Tomas Klason¹
¹AstraZeneca R&D, Sodertalje, Sweden
- 15:00 4197. Multiparametric Imaging of Rat Glioma after Intra Tumoral Injection of Codbait, a Small Molecule Mimicking Dna Damage for Sensitizing Tumors to Radiotherapy**
Nicolas Coquery^{1,2}, Nicolas Pannetier^{1,2}, Régine Farion^{1,2}, Didier Clarençon³, Jian-Sheng Sun⁴, Marie Dutreix⁴, Emmanuel Luc Barbier^{1,2}, Chantal Rémy^{1,2}
¹Grenoble Institute of Neuroscience, Grenoble, France; ²Université Joseph Fourier, Grenoble, France; ³Centre de Recherches du Service de Santé des Armées, La Tronche, France; ⁴Institut Curie Hospital, Department of Translational Research, Orsay, France

Clinical Application of Diffusion Tensor Imaging I

Exhibition Hall Monday 14:00-16:00 Computer 101

- 14:00 4198. Evaluation of Cerebrocerebellar Pathway Integrity in Pediatric Posterior Fossa Tumor Patients with Cerebellar Mutism Syndrome**
Nicole Law^{1,2}, Eric Bouffer³, Douglas Strother⁴, Suzanne Laughlin⁵, Normand Laperriere⁶, Marie-Eve Briere⁴, Dina McConnell⁷, Juliette Hukin⁸, Christopher Fryer⁸, Conrad Rockel¹, Fang Liu¹, Donald Mabbott^{1,9}
¹Department of Psychology, Program in Neuroscience & Mental Health, the Hospital for Sick Children, Toronto, Ontario, Canada; ²Department of Psychology, Collaborative Program in Neuroscience, University of Toronto, Toronto, Ontario, Canada; ³Department of Haematology/Oncology, the Hospital for Sick Children, Toronto, Ontario, Canada; ⁴Southern Alberta Cancer Program, Alberta Children's Hospital, Calgary, Alberta, Canada; ⁵Diagnostic Imaging, the Hospital for Sick Children, Toronto, Ontario, Canada; ⁶Radiation Oncology, Princess Margaret Hospital, Toronto, Ontario, Canada; ⁷Department of Psychology, British Columbia Children's Hospital, Vancouver, British Columbia, Canada; ⁸Department of Oncology, British Columbia Children's Hospital, Vancouver, British Columbia, Canada; ⁹Department of Psychology, University of Toronto, Toronto, Ontario, Canada
- 14:30 4199. Diffusion Spectrum Imaging After Stroke Shows Structural Changes in the Contra-Lateral Motor Network Correlating with Functional Recovery.**
Cristina Granziere^{1,2}, Alessandro Daducci³, Xavier Gigander³, Leila Cammoun³, Meskaldji Eddine Djalel³, Patrik Michel¹, Philippe Maeder⁴, Alma Gregory Sorensen⁵, Jean-Philippe Thiran³, Reto Meuli⁴, Gunnar Krueger⁶
¹Neurology, CHUV, Lausanne, VD, Switzerland; ²BMI, EPFL, Lausanne, VD, Switzerland; ³STI / IEL / LTS5, EPFL, Lausanne, VD, Switzerland; ⁴Radiology, CHUV, Lausanne, VD, Switzerland; ⁵Radiology, Martinos' Center-MGH, Boston, MA, United States; ⁶Healthcare Sector IM&WS S, Siemens Schweiz AG, Renens, VD, Switzerland
- 15:00 4200. Mean Kurtosis: A New Potential Biomarker for Brain Tumor Grading?**
Sofie Van Cauter¹, Jelle Veraart², Jan Sijbers², Uwe Himmelreich³, Ronald Peeters¹, Stefaan Van Gool⁴, Wim Van Hecke^{1,2}, Stefan Sunaert¹
¹Department of Radiology, University Hospitals of Leuven, Leuven, Belgium; ²Vision Lab, Department of Physics, University of Antwerp; ³Biomedical NMR Unit/Molecular Small Animal Imaging Center, Department of Medical Diagnostic Sciences, Catholic University Leuven; ⁴Pediatric Neuro-Oncology, University Hospitals of Leuven
- 15:30 4201. Clinical Assessment of Standard & GRAPPA Parallel Diffusion Imaging: Effects of Spatial Resolution & Reduction Factor.**
Jalal Badi Andre¹, Greg Zaharchuk¹, Nancy J. Fischbein¹, Michael Augustin², Stefan Skare¹, Jarrett Rosenberg¹, Maarten Lansberg³, Stephanie Kemp³, Christine Wijman³, Gregory W. Albers³, Roland Bammer¹
¹Radiology, Stanford University, Stanford, CA, United States; ²Radiology, University of Graz, Graz, Austria; ³Neurology & Neurological Sciences, Stanford University, Stanford, CA, United States

Exhibition Hall Tuesday 13:30-15:30 Computer 101

- 13:30 4202. Distribution of the Functional Atrophy in the Striatum Territory of Huntington's Patients**
Linda Marrakchi-Kacem^{1,2}, Christine Delmaire³, Alan Tucholka^{4,5}, Pauline Roca^{1,2}, Pamela Guevara^{1,2}, Sophie Lecomte^{1,2}, Fabrice Poupon^{1,2}, Jerome Yelnik⁶, Alexandra Durr⁶, Jean-François Mangin^{1,2}, Stéphane Lehericy^{2,3}, Cyril Poupon^{1,2}
¹NeuroSpin, CEA, Gif-Sur-Yvette, France; ²IFR49, Gif-Sur-Yvette, France; ³CENIR, Pitié Salpêtrière Hospital, Paris, France; ⁴Centre de Recherche Hôpital Ste-Justine, Montreal, Canada; ⁵Université de Montréal, Montreal, Canada; ⁶CRICM, Inserm/UPMC, Paris, France

- 14:00 4203. Trends & Differences in DTI Metrics Across Ages & Spinal Cord Levels in Normal Children**
Izlem Izbudak¹, Netsiri Dunrongpisutikul¹, Carol B. Thompson², Wesley Gilson³, Aylin Tekes, Majda M. Thurnher⁴, Thierry A. G. M. Huisman
¹John Hopkins Medical Institution, Baltimore, MD, United States; ²John Hopkins Bloomberg school of Public health; ³Imaging & Visualization, Siemens Corporate Research, Inc.; ⁴Radiology, Medical University of Vienna
- 14:30 4204. ADC with Higher B-Value Correlate Better with Viable Cell Count Quantified from the Cavity of the Brain Abscess**
Vaishali Tomar¹, Abhishek Yadav¹, Vikas Bharadwaj², Bal Kishan Ojha², Kashi Nath Prasad³, Ram Kishan Singh Rathore⁴, Rakesh Kumar Gupta¹
¹Radiodiagnosis, Sanjay Gandhi Post Graduate Institute of Medical Sciences, Lucknow, India, Lucknow, Uttar Pradesh, India; ²Neurosurgery, Chatrapati Sahu ji Maharaj Medical University, Lucknow, Uttar Pradesh, India; ³Microbiology, Sanjay Gandhi Post Graduate Institute of Medical Sciences, Lucknow, India, Lucknow, Uttar Pradesh, India; ⁴Mathematics & Statistics, Indian Institute of Technology, Kanpur, Kanpur, Uttar Pradesh, India
- 15:00 4205. Diffusional Kurtosis Imaging & Perfusion of the Thalamus & White Matter During the First Month of Mild Traumatic Brain Injury**
Elan J. Grossman^{1,2}, Jens H. Jensen^{1,2}, Matilde Inglese^{1,2}, Ali Tabesh¹, Kelly A. McGorty, Joseph Reaume¹, Qun Chen^{1,2}, Robert I. Grossman¹
¹Center for Biomedical Imaging, Department of Radiology, NYU School of Medicine, New York, United States; ²Department of Physiology & Neuroscience, NYU School of Medicine, New York, United States

Exhibition Hall Wednesday 13:30-15:30 Computer 101

- 13:30 4206. Quantitative MRI Studies for Restless Legs Syndrome: Cerebral Iron, Morphology & DTI**
Byeong-Yeul Lee^{1,2}, Jeffrey Vesek¹, James R. Connor³, Qing X. Yang^{1,3}
¹Center for NMR Research, Radiology, Penn State College of Medicine, Hershey, PA, United States; ²Bioengineering, Penn State College of Medicine, Hershey, PA, United States; ³Neurosurgery, Penn State College of Medicine, Hershey, PA, United States
- 14:00 4207. Two-Tensor Residual Bootstrapping on Classified Tensor Morphologies**
Nagulan Ratnarajah¹, Andy Simmons², Ali Hojjatoleslami¹
¹Neurosciences & Medical Image Computing, University of Kent, Canterbury, Kent, United Kingdom; ²Neuroimaging Department, Institute of Psychiatry, Kings College London., United Kingdom
- 14:30 4208. Computational White Matter Atlas for Young Rhesus Macaques**
Nagesh Adluru¹, Hui Zhang², Andrew S. Fox¹, Elizabeth Zakszewski¹, Chad Ennis¹, Anne Bartosic¹, Andrew L. Alexander¹, Steve Shelton¹, Ned Kalin¹
¹University of Wisconsin, Madison, WI, United States; ²University College London, London, United Kingdom
- 15:00 4209. Predicting Effectiveness of Cortical Stimulation Therapy for Tinnitus using DTI**
Wolfgang Gaggl^{1,2}, Brian Harris Kopel³, Christopher R. Butson^{3,4}, Rey R. Ramirez⁴, Sylvain Baillet^{2,4}, Klaus Driesslein⁴, Gang Chen², Shi-Jiang Li²
¹Radiology, Medical College of Wisconsin, Milwaukee, WI, United States; ²Biophysics, Medical College of Wisconsin, Milwaukee, WI, United States; ³Neurosurgery, Medical College of Wisconsin, Milwaukee, WI, United States; ⁴Neurology, Medical College of Wisconsin, Milwaukee, WI, United States

Exhibition Hall Thursday 13:30-15:30 Computer 101

- 13:30 4210. Understanding Evolution of Neurocysticercosis through Diffusion Tensor Imaging**
Rakesh Kumar Gupta¹, Bharti Anand¹, Rishi Awasthi¹, Ram K. S. Rathore², Richa Trivedi³, Vimal Kumar Paliwal⁴, Kashi Nath Prasad⁵
¹Radiodiagnosis, Sanjay Gandhi Post Graduate Institute of Medical Sciences, Lucknow, India, Lucknow, Uttar Pradesh, India; ²Mathematics & Statistics, Indian Institute of Technology, Kanpur, Kanpur, Uttar Pradesh, India; ³Institute of Nuclear Medicine and Allied Sciences, New Delhi, Uttar Pradesh, India; ⁴Neurology, Sanjay Gandhi Post Graduate Institute of Medical Sciences, Lucknow, India, Lucknow, Uttar Pradesh, India; ⁵Microbiology, Sanjay Gandhi Post Graduate Institute of Medical Sciences, Lucknow, India, Lucknow, Uttar Pradesh, India
- 14:00 4211. Serial Diffusion Tensor Imaging Suggests Progressive Pathophysiology for Weeks Following Traumatic Brain Injury, & Possible White Matter Repair Months After Injury**
Virginia Newcombe¹, Guy Williams², Joanne Outtrim¹, Doris Chatfield¹, M. G. Abate¹, T. Geeraerts¹, A. Manktelow¹, Peter Hutchinson³, Jonathon Coles¹, David Menon¹
¹Division of Anaesthesia, University of Cambridge, Cambridge, Cambridgeshire, United Kingdom; ²Wolfson Brain Imaging Centre, University of Cambridge; ³Academic Department of Neurosurgery, University of Cambridge, Cambridge, Cambridgeshire, United Kingdom

- 14:30 4212. Altered White Matter Microstructure in Elderly Major Depressive Disorder Patients: A DTI Study**
Daniel Han-en Chang^{1,2}, L. Tugan Muftuler^{1,2}, Huali Wang³, Orhan Nalcioglu^{1,2}, Min-Ying Lydia Su^{1,2}
¹Tu & Yuen Center for Functional Onco-Imaging, University of California, Irvine, CA, United States; ²Department of Radiological Sciences, University of California, Irvine, CA, United States; ³Department of Geriatric Psychiatry, Peking University Institute of Mental Health, Beijing 10083, China, People's Republic of
- 15:00 4213. Corpus Callosum Wallerian Degeneration in Unilateral Brain Tumors: Evaluation with Diffusion Tensor Imaging**
Sona Saksena¹, Mohammad-Reza Nazem-Zadeh², Jayant Narang¹, Lonni Schultz³, Quan Jiang², Rajan Jain¹
¹Neuroradiology, Henry Ford Health System, Detroit, MI, United States; ²Neurology, Henry Ford Health System, Detroit, MI, United States; ³Epidemiology & Biostatistics, Henry Ford Health System, Detroit, MI, United States

Clinical Application of Diffusion Tensor Imaging II

Exhibition Hall Monday 14:00-16:00 Computer 102

- 14:00 4214. Developmental Differences in Deep Gray Matter Nuclei Tissue Integrity & Neuropsychological Performance in Healthy Children & Patients Treated with Brain Radiation**
Anna Nidecker¹, Jarunee Intrapiromkul¹, Firouzeh Tannazi¹, Todd McNut², Siamak Ardekani³, Rebecca Martin⁴, Moody D. Wharam², Ernest Mark Mahone^{4,5}, Alena Horska¹
¹Russell H. Morgan Department of Radiology & Radiological Science, the Johns Hopkins University, Baltimore, MD, United States; ²Radiation Oncology & Molecular Radiation Sciences, the Johns Hopkins University, Baltimore, MD, United States; ³Institute for Computational Medicine, Baltimore, MD, United States; ⁴Kennedy Krieger Institute, Baltimore, MD, United States; ⁵Department of Psychiatry & Behavior Sciences, the Johns Hopkins University, Baltimore, MD, United States
- 14:30 4215. Secondary Involvement of Optic Radiation in Leber's Hereditary Optic Neuropathy**
Giovanni Rizzo¹, David Neil Manners¹, Caterina Tonon¹, Claudia Testa¹, Emil Malucelli¹, Maria Lucia Valentino², Chiara La Morgia², Piero Barboni², Bruno Barbiroli¹, Valerio Carelli², Raffaele Lodi¹
¹Department of Internal Medicine, Aging & Nephrology, University of Bologna, Bologna, Italy; ²Department of Neurological Sciences, University of Bologna, Bologna, Italy
- 15:00 4216. Cerebral Diffusion Tensor Imaging in Prion Diseases: Voxelwise Analysis & Comparison with VBM**
Harpreet Hyare^{1,2}, Enrico De Vita^{3,4}, Chris Carswell^{1,2}, Andrew Thompson^{1,2}, Ana Lukic^{1,2}, Tarek Youstry^{3,4}, Peter Rudge^{1,2}, Simon Mead^{1,2}, John Collinge^{1,2}, John Thornton^{3,4}
¹MRC Prion Unit, Department of Neurodegenerative Disease, UCL Institute of Neurology, London, United Kingdom; ²National Prion Clinic, National Hospital for Neurology & Neurosurgery, UCLH NHS Trust, London, United Kingdom; ³Lysholm Department of Neuroradiology, National Hospital for Neurology & Neurosurgery, London, United Kingdom; ⁴Academic Neuroradiological Unit, Department of Brain Repair & Rehabilitation, UCL Institute of Neurology, London, United Kingdom
- 15:30 4217. Diffusional Kurtosis Imaging in Mild Cognitive Impairment & Alzheimer's Disease**
Joseph A. Helpert¹, Maria F. Falangola¹, Cathy Hu², Ali Tabesh³, Jane Kwon³, James S. Babb³, Jens H. Jensen³
¹Radiology, Medical University of South Carolina, Charleston, SC, United States; ²The Nathan S. Kline Institute; ³Radiology, New York University School of Medicine

Exhibition Hall Tuesday 13:30-15:30 Computer 102

- 13:30 4218. Thalamic Microstructural Changes in Neonates with Congenital Heart Disease: A DT-MRI Study Before & After Cardiopulmonary Bypass Surgery.**
Malek I. Makki¹, Rabia Liamlahi², Bea Latal³, Walter Knirsch², Hintendu Dave⁴, Achim Schmitz⁵, Vera Bernel⁶, Christian Kellenberger¹, Ianina Scheer¹
¹Diagnostic Imaging, University Children Hospital, Zurich, Switzerland; ²Cardiology, University Children Hospital, Zurich, Switzerland; ³Child Development Center, University Children Hospital, Zurich, Switzerland; ⁴Congenital Cardiovascular Surgery, University Children Hospital, Zurich; ⁵Anesthesia, University Children Hospital, Zurich, Switzerland; ⁶Pediatric Intensive Care, University Children Hospital, Zurich, Switzerland
- 14:00 4219. Do the Language Deficit in Autism & Specific Language Impairment (SLI) have a Common Neuro-Anatomical Substrate?**
Judith S. Verhoeven¹, Elena Prodi^{2,3}, Sabine Deprez³, Nathalie Rommel⁴, Alexander Leemans⁵, Wim Van Hecke³, Ronald Peeters³, Paul De Cock¹, Lieven Lagae¹, Stefan Sunaert³
¹Pediatrics, University Hospitals of the Catholic University of Leuven, Leuven, Belgium; ²Radiology, Istituto Neurologico Besta, University of Milan, Milan, Italy; ³Radiology, University Hospitals of the Catholic University of Leuven, Leuven, Belgium; ⁴Neurosciences, Exp ORL, University Hospitals of the Catholic University of Leuven, Leuven, Belgium; ⁵Image Sciences Institute, University Medical Center Utrecht, Utrecht, Netherlands

- 14:30 4220. **Longitudinal Assessment of Chemotherapy-Induced Structural Changes in Cerebral White Matter & Its Correlation with Impaired Cognitive Functioning in Breast Cancer Patients**
Sabine Deprez¹, Frederic Aman², Judith Verhoeven¹, Ann Smeets², Marie-Rose Christiaens², Alexander Leemans³, Ron Peeters¹, Wim Van Hecke¹, Joris Vandenberghe⁴, Mathieu Vandenbulcke⁴, Stefan Sunaert¹
¹Department of Radiology, University Hospital Gasthuisberg, K.U. Leuven, Leuven, Belgium; ²Multidisciplinary Breast Center, University Hospital Gasthuisberg, K.U. Leuven; ³Image Sciences Institute, Department of Radiology, University Medical Center Utrecht; ⁴Department of Psychiatry, University Hospital Gasthuisberg, K.U. Leuven

- 15:00 4221. **DTI & Tractography of Military-Related Traumatic Brain Injury & Correlation with Neuropsychological Functions**
Ping-Hong Yeh¹, Binqun Wang¹, Terrence R. Oakes¹, Haiying Tang², John Graner¹, Hai Pan¹, Wei Lui³, Lous M. French⁴, Fletcher Munter³, Gerard Riedy^{3,5}
¹Henry Jackson Foundation for the Advancement of Military Medicine, Rockville, MD, United States; ²Uniformed Services University of the Health; ³National Capital Neuroimaging Consortium, Walter Reed Army Medical Center, Washington DC; ⁴Defense & Veterans Brain Injury Center, Walter Reed Army Medical Center, Washington DC; ⁵National Intrepid Center of Excellence, Bethesda, MD, United States

Exhibition Hall Wednesday 13:30-15:30 Computer 102

- 13:30 4222. **MR Diffusion Tensor Imaging in Cervical Spondylotic Myelopathy**
Izabela Kowalczyk^{1,2}, Stuart Malcolm Kenne McGregor³, Neil Duggal^{1,4}, Robert Bartha^{1,2}
¹Medical Biophysics, the University of Western Ontario, London, Ontario, Canada; ²Centre for Functional & Metabolite Mapping, Robarts Research Institute, London, Ontario, Canada; ³Clinical Neurological Sciences, University Hospital, London Health Sciences Centre, London, Ontario, Canada; ⁴Clinical Neurological Sciences, University Hospital, London Health Sciences Centre, London, Ontario, Canada
- 14:00 4223. **Multisite Investigation of the Effect of Site & Protocol Variation on Fractional Anisotropy**
Karl Gerard Helmer¹, Ming-Chung Chou², Allen Song³, Jessica Turner⁴, Barjor Gimi⁵, Susumu Mori⁶
¹Radiology, Massachusetts General Hospital, Charlestown, MA, United States; ²Computer Science & Engineering, National Sun Yat-sen University, Kaohsiung, Taiwan; ³Duke University, Durham, NC, United States; ⁴The Mind Research Network, Albuquerque, NM, United States; ⁵Radiology, Dartmouth Medical School, Hanover, NH, United States; ⁶Radiology, School of Medicine, Johns Hopkins University, Baltimore, MD, United States
- 14:30 4224. **Comparison of White Matter Integrity between Alzheimer's Disease Patients with & without White Matter Lesions Analyzed by Tract-Based Spatial Statistics**
Daniel Han-en Chang^{1,2}, L. Tugan Muftuler^{1,2}, Huali Wang³, Orhan Nalcioglu^{1,2}, Min-Ying Lydia Su^{1,2}
¹Tu & Yuen Center for Functional Onco-Imaging, University of California, Irvine, CA, United States; ²Department of Radiological Sciences, University of California, Irvine, CA, United States; ³Department of Geriatric Psychiatry, Peking University Institute of Mental Health, Beijing 10083, China, People's Republic of
- 15:00 4225. **Diffusivity Alterations in Temporal Lobe Epilepsy**
Paula Bezerra Diniz^{1,2}, Carlos Ernesto Garrido Salmon^{2,3}, Tonicarlo Velasco^{1,2}, Americo Ceiki Sakamoto^{1,2}, João Pereira Leite^{1,2}, Antonio Carlos Santos^{2,4}
¹Neuroscience & Behavior, FMRP, University of São Paulo, Ribeirão Preto, SP, Brazil; ²InAPCe (Cooperação Interinstitucional de Apoio a Pesquisas sobre o Cérebro), Ribeirão Preto, SP, Brazil; ³Physics & Mathematics, FFCLRP, University of São Paulo, Ribeirão Preto, SP, Brazil; ⁴Internal Medicine, FMRP, University of São Paulo, Ribeirão Preto, SP, Brazil

Exhibition Hall Thursday 13:30-15:30 Computer 102

- 13:30 4226. **High Resolution Distortion-Free Diffusion-Tensor Imaging of Optic Radiation using Readout-Segmented Echo-Planar Imaging & a Two-Dimensional Navigator-Based Reacquisition**
Akira Yamamoto¹, Mitsunori Kanagaki¹, Tomohisa Okada¹, Seiko Kasahara¹, Emiko Morimoto¹, Mami Iima¹, Ryo Sakamoto¹, Satoshi Nakajima¹, Taha Mohamed Mehemed¹, Kaori Togashi¹
¹Department of Diagnostic Imaging & Nuclear Medicine, Kyoto University Hospital, Kyoto, Japan
- 14:00 4227. **FA & Tract Changes in Obsessive Compulsive Disorder**
An Vo¹, Patricia Gruner^{1,2}, Toshikazu Ikuta^{1,2}, Katie Mahon^{1,2}, Vivian Kafantaris^{1,2}, Juan Gallego^{1,2}, Katherine E. Burdick^{1,2}, Aziz M. Ulug^{1,3}, Philip R. Szeszko^{1,2}
¹The Feinstein Institute for Medical Research, Manhasset, NY, United States; ²The Zucker Hillside Hospital, Glen Oaks, NY, United States; ³Department of Radiology, Albert Einstein School of Medicine, Bronx, NY, United States
- 14:30 4228. **Diffusion Tensor Imaging & Cognition in Patients with Neuropsychiatric Systemic Lupus Erythematosus**
Becky Ilana Haynes¹, Nicholas G. Dowell¹, Jenny Rusted², Tofts S. Paul¹, Kevin A. Davies¹
¹BSMS, Brighton, East Sussex, United Kingdom; ²University of Sussex, United Kingdom

- 15:00 4229. Brain Function Mapping of Pre-Mild Cognitive Impairment**
Amir M. Abduljalil¹, Doug Scharre², Nicoleta Stoiceda², Ananth Narayanan³, Michael Knopp¹, Petra Schmalbrock¹
¹Wright Center of Innovation, Radiology Department, the Ohio State University, Columbus, OH, United States; ²Neurology Department; ³Interdisciplinary Graduate Studies Program

Clinical Application of Diffusion Tensor Imaging III

Exhibition Hall Monday 14:00-16:00 Computer 103

- 14:00 4230. No Evidence of Acute or Predisposing Structural Abnormalities in Patients with Transient Global Amnesia (TGA): A Tract Based Spatial Statistics (TBSS) Study**
Alex Foerster¹, Martin Griebel¹, Christina Rossmann¹, Achim Gass¹, Rolf Kern¹, Michael G. Hennerici¹, Kristina Szabo¹
¹Department of Neurology, UniversitaetsMedizin Mannheim, Mannheim, Germany
- 14:30 4231. Structural & Functional Changes in Visual Pathways & Visual Cortex Associated with Visual Field Improvement After Therapy in a Case of Hemianopia**
Yi-Ching Lynn Ho^{1,2}, Laura Mancini^{3,4}, Amandine Cheze², Esben Thade Petersen^{2,5}, Kong-Yong Goh⁶, Yih-Yian Sitoh², Xavier Golay^{3,4}
¹Center for Functionally Integrative Neuroscience, Aarhus, Denmark; ²Neuroradiology, National Neuroscience Institute, Singapore; ³Academic Neuroradiological Unit, Dept of Brain Repair & Rehabilitation, UCL Institute of Neurology, London, United Kingdom; ⁴Lysholm Dept of Neuroradiology, National Hospital for Neurology & Neurosurgery, London, United Kingdom; ⁵Clinical Imaging Research Centre, Singapore; ⁶Eye Institute, Tan Tock Seng Hospital, Singapore
- 15:00 4232. The Visual Ventral Stream in Posterior Cortical Atrophy**
Federica Agosta¹, Raffaella Migliaccio^{1,2}, Elisabetta Pagani¹, Elisa Canu¹, Stefania Sala¹, Francesca Caso³, Giuseppe Magnani³, Alessandra Marcone⁴, Stefano Cappa^{4,5}, Elisa Scola⁶, Andrea Falini⁶, Giancarlo Comi³, Paolo Bartolomeo², Massimo Filippi¹
¹Neuroimaging Research Unit, Institute of Experimental Neurology, Division of Neuroscience, Scientific Institute & University Hospital San Raffaele, Milan, Italy; ²U975 Centre de Recherche de l'Institut du Cerveau et de la Moëlle Epinière, INSERM, Paris, France; ³Department of Neurology, Scientific Institute & University Hospital San Raffaele, Milan, Italy; ⁴Department of Clinical Neurosciences, San Raffaele Turro Hospital, Milan, Italy; ⁵Vita Salute University, Milan, Italy; ⁶Department of Neuroradiology & CERMAC, Scientific Institute & University Hospital San Raffaele, Milan, Italy
- 15:30 4233. Relationship between White Matter Tract Damage & Executive Functions in Amyotrophic Lateral Sclerosis: A DT MRI Tractography Study**
Lidia Sarro¹, Federica Agosta¹, Elisa Canu¹, Nilo Riva², Alessandro Prella³, Massimiliano Copetti⁴, Mauro Comola², Giancarlo Comi², Massimo Filippi¹
¹Neuroimaging Research Unit, Institute of Experimental Neurology, Division of Neuroscience, Scientific Institute & University Hospital San Raffaele, Milan, Italy; ²Department of Neurology, Scientific Institute & University Hospital San Raffaele, Milan, Italy; ³Ospedale Fatebenefratelli Oftalmico, Milan, Italy; ⁴Biostatistics Unit, IRCCS-Ospedale Casa Sollievo della Sofferenza, San Giovanni Rotondo, Italy

Exhibition Hall Tuesday 13:30-15:30 Computer 103

- 13:30 4234. Voxel-Based Analysis of High- & Standard B-Value Diffusion Weighted Imaging, & Voxel Based Morphometry, in Alzheimer Disease**
Enrico De Vita^{1,2}, Basil H. Ridha³, Nick C. Fox³, John S. Thornton^{1,2}, H. R. Jager^{1,2}
¹Lysholm Department of Neuroradiology, National Hospital for Neurology & Neurosurgery, London, United Kingdom; ²Academic Neuroradiological Unit, Department of Brain Repair & Rehabilitation, UCL Institute of Neurology, London, United Kingdom; ³Dementia Research Centre, Department of Neurodegenerative Diseases, UCL Institute of Neurology, London, United Kingdom
- 14:00 4235. Dynamic State of Water Molecular Displacement of the Brain During the Cardiac Cycle in Idiopathic Normal Pressure Hydrocephalus**
Hirohito Kan¹, Tosiaki Miyati¹, Naoki Ohno^{1,2}, Mitsuhiro Mase³, Harumasa Kasai⁴, Masaki Hara⁴, Yuta Shibamoto⁴, Kazuo Yamada³, Makoto Kawano⁴
¹Division of Health Sciences, Graduate School of Medical Science, Kanazawa University, Kanazawa, Ishikawa, Japan; ²Department of Radiology, Kanazawa University Hospital, Kanazawa, Ishikawa, Japan; ³Department of Neurosurgery & Restorative Neuroscience, Graduate School of Medical Sciences, Nagoya City University, Nagoya, Aichi, Japan; ⁴Department of Radiology, Nagoya City University Hospital, Nagoya, Aichi, Japan
- 14:30 4236. Anatomical Characterization of Athetotic & Spastic Cerebral Palsy using Atlas-Based Analysis**
Shoko Yoshida¹, Katsumi Hayakawa², Kenichi Oishi³, Susumu Mori⁴, Toyoko Kanda⁵, Yuriko Yamori⁶, Naoko Yoshida⁷, Haruyo Hirota⁷, Mika Iwami⁷, Sozo Okano⁸

¹Department of Radiology & Radiological Science, Johns Hopkins University School of Medicine, Baltimore, Maryland, United States; ²Radiology, Kyoto City Hospital, Kyoto, Japan; ³Department of Radiology & Radiological Science, Johns Hopkins University School of Medicine, Baltimore, MD, United States; ⁴F.M.Kirby Research Center for Functional Brain Imaging, Kennedy Krieger Institute; ⁵Neuropediatrics, St.Joseph Hospital for Handicapped Children, Kyoto, Japan; ⁶St. Joseph Hospital for Handicapped Children; ⁷St. Joseph Hospital for Handicapped Children; ⁸Pediatrics, Kyoto City Hospital

- 15:00 4237. Exploratory Data Analysis of Tractographic Measures: Study of the Cingulum in Autism Spectrum Disorders**
Lucia Billeci^{1,2}, Sara Calderoni², Laura Biagi², Filippo Muratori³, Marco Catani⁴, Michela Tosetti²
¹Interdepartmental Research Center "E.Piaggio", University of Pisa, Pisa, Italy; ²MR Laboratory, Stella Maris Scientific Institute, Pisa, Italy; ³Division of Child Neuropsychiatry, Stella Maris Scientific Institute, Pisa, Italy; ⁴NatBrainLab, Institute of Psychiatry, King's College London, London, United Kingdom

High Resolution Brain Imaging

Exhibition Hall Monday 14:00-16:00 Computer 104

- 14:00 4238. How Does White Matter Orientation Affect Contrast in Gradient-Echo Magnitude & Phase Images? Simulation of a Three Compartment Model**
Andreas Schäfer¹, Bibek Dhital¹, Christopher J. Wiggins^{2,3}, Robert Turner¹
¹Max-Planck-Institute for Human Cognitive & Brain Sciences, Leipzig, Germany; ²CEA NeuroSpin, Gif-sur-Yvette, France; ³IFR 49, Gif-sur-Yvette, France
- 14:30 4239. Reconstruction of Phase Images by Compressed Sensing using Low-Pass Filter**
Sung-Min Gho^{1,2}, Wei Li², Bing Wu², Chunlei Liu^{2,3}, Dong-Hyun Kim^{1,4}
¹Electrical & Electronic Engineering, Yonsei University, Sinchon-dong, Seoul, Korea, Republic of; ²Brain Imaging & Analysis Center, Duke University, Durham, NC, United States; ³Radiology, Duke University, Durham, NC, United States; ⁴Radiology, Yonsei University, Sinchon-dong, Seoul, Korea, Republic of
- 15:00 4240. Cerebral Cortex & Thalamic Sub-Region Contrast at 7T: Magnitude, Phase or Susceptibility?**
Wei Li¹, Bing Wu¹, Nan-Kuei Chen¹, Chunlei Liu^{1,2}
¹Brain Imaging & Analysis Center, Duke University, Durham, NC, United States; ²Radiology, Duke University, Durham, NC, United States
- 15:30 4241. Isotropic Multispectral QMRI with the Mixed-TSE Pulse Sequence & SENSE: Implications for Synthetic-MRI**
Stephan William Anderson¹, Osamu Sakai¹, Memi Watanabe¹, Jorge A. Soto¹, Hernan Jara¹
¹Radiology, Boston University Medical Center, Boston, MA, United States

Exhibition Hall Tuesday 13:30-15:30 Computer 104

- 13:30 4242. Whole Brain High Resolution T₂w 3D TSE at 7Tesla with a Tissue Specific Non Linear Refocus Pulse Angle Sweep; Initial Results.**
Frederik Visser^{1,2}, Jaco Zwanenburg¹, Peter Luijten¹
¹7 Tesla, UMC-Utrecht, Utrecht, Netherlands; ²Philips Healthcare, Best, Netherlands
- 14:00 4243. High-Resolution Clinical 7T Protocol for the Depiction of Cerebral Vascular Structures**
Soeren Johst^{1,2}, Karsten H. Wrede^{1,3}, Sebastian Schmitter⁴, Philipp Dammann^{1,3}, Marc U. Schlamann³, Ibrahim E. Sandalcioğlu⁵, Ulrich Sure⁵, Susanne C. Ladd^{1,2}, Mark E. Ladd^{1,2}, Stefan Maderwald¹
¹Erwin L. Hahn Institute for MRI, University Duisburg-Essen, Essen, Germany; ²Department of Diagnostic & Interventional Radiology & Neuroradiology, University Hospital Essen, Essen, Germany; ³Department of Neurosurgery, University Hospital Essen, Essen, Germany; ⁴Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, MN, United States; ⁵Department of Neurosurgery, University Hospital, Essen, Germany
- 14:30 4244. Acoustic Feedback During Motor Dexterity Training Modulates Brain Structure in Healthy Adult Individuals**
Maria Assunta Rocca^{1,2}, Gianna Riccitelli¹, Elisabetta Pagani¹, Roberto Gatti³, Dennis Acella³, Andrea Falini⁴, Giancarlo Comi², Massimo Filippi^{1,2}
¹Neuroimaging Research Unit, Institute of Experimental Neurology, Division of Neuroscience, Scientific Institute & University Hospital San Raffaele, Milan, Italy; ²Department of Neurology, Scientific Institute & University Hospital San Raffaele, Milan, Italy; ³Laboratory of Movement Analysis, School of Physiotherapy, Scientific Institute & University Hospital San Raffaele, Milan, Italy; ⁴Department of Neuroradiology, Scientific Institute & University Hospital San Raffaele, Milan, Italy
- 15:00 4245. Increased Cross Sectional Area of Genu & Splenium of Corpus Callosum in Professional Musicians Compared to Amateur Musicians & Controls**
Ihssan Abdulkareem¹, Vanessa Sluming²
¹Magnetic Resonance & Image Analysis Research Centre-Liverpool University, Liverpool, Merseyside, United Kingdom; ²Liverpool University

 Exhibition Hall Wednesday 13:30-15:30 Computer 104

- 13:30 4246. Morphometric Changes Detected in Hepatitis C (HCV) & HCV/HIV Co-Infected Adults**
Manoj K. Sarma¹, M. Albert Thomas¹, Rajakumar Nagarajan¹, April Thames², Steven Castellon^{3,4}, Elyse Singer⁵, Jason Smith⁴, Jonathan Truong⁶, Homayoon Khanlou⁷, Ann Ragin⁸, Charles Hinkin^{3,4}
¹Radiological Sciences, UCLA, Los Angeles, CA, United States; ²Psychiatry, UCLA School of Medicine, Los Angeles, CA, United States; ³Psychiatry, UCLA School of Medicine, Los Angeles, CA, United States; ⁴VA Greater Los Angeles Healthcare Service, Los Angeles, CA, United States; ⁵Neurology, UCLA School of Medicine, Los Angeles, CA, United States; ⁶Kaiser Permanente Lancaster, CA, United States; ⁷AIDS Healthcare Foundation, Los Angeles, CA, United States; ⁸Radiology, Northwestern University, Chicago, IL, United States
- 14:00 4247. A Software Tool for Semi-Automated Quantification of Pituitary Volumes**
Zhiyue J. Wang^{1,2}, Dah-Jyuu Wang³, Jonathan M. Chia⁴, Qing Yuan¹, Michael C. Morriss^{1,2}, Nancy K. Rollins^{1,2}
¹University of Texas Southwestern Medical Center, Dallas, TX, United States; ²Children's Medical Center, Dallas, TX, United States; ³Children's Hospital of Philadelphia, Philadelphia, PA, United States; ⁴Philips Healthcare, Cleveland, OH, United States
- 14:30 4248. Anatomical Details in Brainstem & Cisterns Revealed by RESOLVE with Unidirectional MPG; Comparison with Single-Shot EPI Diffusion Weighted Image**
Shinji Naganawa¹, Hisashi Kawai¹, Masahiro Yamazaki¹
¹Department of Radiology, Nagoya University Graduate School of Medicine, Nagoya, Aichi, Japan
- 15:00 4249. Meyer's Loop Delineated on Magnitude Images of Susceptibility-Weighted Imaging: Pre- & Postoperative Perimetric Correlation in Patients with Refractory Temporal Lobe Epilepsy**
Nobuyuki Mori¹, Yukio Miki², Nobuhiro Mikuni³, Riki Matsumoto⁴, Seiko Kasahara⁵, Emiko Morimoto⁵, Mitsunori Kanagaki⁵, Akira Yamamoto⁵, Tomohisa Okada⁵, Satoshi Noma¹, Kaori Togashi⁵
¹Radiology, Tenri Hospital, Tenri, Nara, Japan; ²Radiology, Osaka City University Graduate School of Medicine; ³Neurosurgery, Kyoto University Graduate School of Medicine; ⁴Neurology, Kyoto University Graduate School of Medicine; ⁵Diagnostic Imaging & Nuclear Medicine, Kyoto University Graduate School of Medicine

 Exhibition Hall Thursday 13:30-16:00 Computer 104

- 13:30 4250. Which to Choose for Volumetry: MPRAGE or SPACE?**
Tomohisa Okada¹, Mitsunori Kanagaki¹, Akira Yamamoto¹, Ryo Sakamoto¹, Seiko Kasahara¹, Emiko Morimoto¹, Mami Iima¹, Taha M. Mehemed¹, Satoshi Nakajima¹, Kaori Togashi¹
¹Diagnostic Imaging & Nuclear Medicine, Kyoto University, Kyoto, Japan
- 14:00 4251. Contrast-Enhanced T₁-CUBE Brain Imaging with Compressed Sensing**
Kevin F. King¹, Matt A. Bernstein², Donglai Huo¹, Timothy J. Kaufmann², Kirk M. Welker²
¹GE Healthcare, Waukesha, WI, United States; ²Dept. of Radiology, Mayo Clinic, Rochester, MN, United States
- 14:30 4252. Visualization of Posterior Fossa High-Resolution Anatomy in the Infant Brain using Tract Density Imaging**
Peter Yi Shen¹, Christopher P. Hess¹, Donna Ferriero², Cornelius von Morze¹, Duan Xu¹, A. James Barkovich¹, Donna Ferriero³
¹Radiology & Biomedical Imaging, UCSF Medical Center, San Francisco, Ca, United States; ²Neurology & Pediatrics, UCSF Medical Center, San Francisco, Ca, United States; ³Neurology & Pediatrics, UCSF Medical Center, San Francisco, CA, United States
- 15:30 4253. Using a Mean DSI Dataset & Targeted ROIs can Increase the Specificity & Reproducibility of Manual Tractography in DSI.**
Aki Nikolaidis¹, Wen-Yih Isaac Tseng^{2,3}
¹National Taiwan University, Taipei City, Taipei, Taiwan; ²Center for Optoelectronic Biomedicine, National Taiwan University; ³Institute of Biomedical Engineering, National Taiwan University

Manganese Enhanced MRI

 Exhibition Hall Monday 14:00-15:00 Computer 105

- 14:00 4254. Kinesin Mutations Induce Defects in Mn²⁺ Transport in the Important Memory Circuit from Hippocampus to Basal Forebrain**
Elaine L. Bearer^{1,2}, Octavian Biris³, Xiaowei Zhang², Russell E. Jacobs²
¹Pathology, University of New Mexico, Albuquerque, NM, United States; ²Biology, California Institute of Technology, Pasadena, CA, United States; ³Engineering, Brown University, Providence, Rho Island, United States

14:30 4255. In Vivo MEMRI of Early Postnatal Development in Rat Visual System

Kevin C. Chan^{1,2}, Joe S. Cheng^{2,3}, Ed X. Wu^{1,2}

¹Laboratory of Biomedical Imaging & Signal Processing, the University of Hong Kong, Pokfulam, Hong Kong, China, People's Republic of; ²Department of Electrical & Electronic Engineering, the University of Hong Kong, Pokfulam, Hong Kong, China, People's Republic of; ³Laboratory of Biomedical Imaging & Signal Processing, the University of Hong Kong, Pokfulam, Hong Kong, China, People's Republic of

Exhibition Hall Tuesday 13:30-14:30 Computer 105

13:30 4256. In Vivo MEMRI of Neuronal Plasticity in Retinocollicular Projection

Kevin C. Chan^{1,2}, Iris Y. Zhou^{1,2}, Shu Juan Fan^{1,2}, Joe S. Cheng^{1,3}, Ed X. Wu^{1,2}

¹Laboratory of Biomedical Imaging & Signal Processing, the University of Hong Kong, Pokfulam, Hong Kong, China, People's Republic of; ²Department of Electrical & Electronic Engineering, the University of Hong Kong, Pokfulam, Hong Kong, China, People's Republic of; ³Department of Electrical & Electronic Engineering, the University of Hong Kong, Pokfulam, Hong Kong, China, People's Republic of

14:00 4257. Myelin Mapping in Mouse Brain In Vivo using Contrast-Enhanced Magnetization Transfer MRI

Takashi Watanabe¹, Jens Frahm¹, Thomas Michaelis¹

¹Biomedical NMR Research GmbH, Max Planck Institute for Biophysical Chemistry, Göttingen, Germany

Human Brain Tumors

Exhibition Hall Monday 14:00-16:00 Computer 106

14:00 4258. Correlation of NMR Metabolic Profile & Gene Expression Profiles in High Grade Glioma

Jose Manuel Morales¹, Eva Serna, Ana Gonzalez-Segura², Concha Lopez-Gines, Jose Manuel Gonzalez-Darder³, Ramon Cardona, Miguel Cerda-Nicolas, Daniel Monleon²

¹Universidad de Valencia, Valencia, Spain; ²Fundacion Investigacion HCUV, Valencia, Spain; ³Hospital Clinico Valencia

14:30 4259. Correlation of MRI Contrast Enhancement in Gliomas with Immuno-Histological Vascular Parameters using Image-Guided Biopsy Specimens

Rajan Jain^{1,2}, Jayant Narang¹, Jack P. Rock², Lisa Scarpace², Lonni Schultz³, Syed Ali Arbab⁴, Jorge Gutierrez⁵

¹Neuroradiology, Henry Ford Health System, Detroit, MI, United States; ²Neurosurgery, Henry Ford Health System, Detroit, MI, United States; ³Epidemiology & Biostatistics, Henry Ford Health System, Detroit, MI, United States; ⁴Radiology, Henry Ford Health System, Detroit, MI, United States; ⁵Neuropathology, Henry Ford Health System, Detroit, MI, United States

15:00 4260. Clinical Protocol for Brain Tumour Patients using a 3T Hybrid MR-BrainPET

Nadim Jon Shah^{1,2}, Irene Neuner^{1,2}, Joachim B. Kaffanke¹, Christian Filss¹, Gabriele Stoffels¹, Hans Herzog¹, Karl-Josef Langen¹

¹Institute of Neuroscience & Medicine, Research Centre Jülich, Jülich, Germany; ²Department of Neurology, Faculty of Medicine, JARA, RWTH Aachen University, Aachen, Germany

15:30 4261. Diffusion Tensor Invasive Phenotypes Can Predict Time to Progression in Glioblastomas

Laila A. Mohsen^{1,2}, Veronica Shi³, Rajesh Jena⁴, Jonathan H. Gillard¹, Stephen J. Price^{3,5}

¹University Department of Radiology, University of Cambridge, Cambridge, United Kingdom; ²Radiology Department, Al-Menia University, Al-Menia, Egypt; ³Neurosurgery Division, Department of Clinical Neurosciences, University of Cambridge, Cambridge, United Kingdom; ⁴Department of Oncology, Addenbrooke's Hospital, Cambridge, United Kingdom; ⁵Wolfson Brain Imaging Centre, University of Cambridge, Cambridge, United Kingdom

Exhibition Hall Tuesday 13:30-15:30 Computer 106

13:30 4262. Changes in Lipid Droplet Composition Detected by ¹H MRS During Cisplatin Treatment of DAOY Cells

Xiaoyan Pan^{1,2}, Martin Wilson^{1,2}, Carmel McConville¹, Julian L. Griffin³, Theodoros N. Arvanitis^{2,4}, Risto A. Kauppinen⁵, Andrew C. Peet^{1,2}

¹Cancer Sciences, University of Birmingham, Birmingham, United Kingdom; ²Birmingham Children's Hospital NHS Foundation Trust, Birmingham, United Kingdom; ³Biochemistry, University of Cambridge, Cambridge, United Kingdom; ⁴School of Electronic, Electrical & Computer Engineering, University of Birmingham, Birmingham, United Kingdom; ⁵Department of Radiology, Dartmouth College, Hanover, NH, United States

14:00 4263. Three-Dimensional (3D) Amide Proton Transfer (APT) Imaging of Human Brain Tumors at 3T

Jinyuan Zhou^{1,2}, He Zhu^{1,2}, Michael Lim³, Silun Wang¹, Alfredo Quinones-Hinojosa³, Lindsay Blair⁴, John Laterra⁴, Peter Barker^{1,2}, Peter C. M. van Zijl^{1,2}, Jaishri Blakeley⁴

¹Department of Radiology, Johns Hopkins University, Baltimore, MD, United States; ²F.M. Kirby Research Center for Functional Brain Imaging, Kennedy Krieger Institute, Baltimore, MD, United States; ³Department of Neurosurgery, Johns Hopkins University, Baltimore, MD, United States; ⁴Department of Neurology, Johns Hopkins University, Baltimore, MD, United States

- 14:30 4264. Glutamate & Glutamine Concentrations in Recurrent High-Grade Gliomas.**
Alena Horska¹, Antonin Skoch², Eric Ford¹, Stuart S. Grossman¹, Jaishri O. Blakeley¹
¹Johns Hopkins University, Baltimore, MD, United States; ²Institute for Clinical & Experimental Medicine, Prague, Czech Republic
- 15:00 4265. Prognostic Imaging Markers in Patients with GBM: Comparison between Functional Versus Mean KPS Analysis**
Andrea Kassner¹, Igor Sitartchouk¹, Fang Liu², Jeremy Hoisak³, Adam Gladwish³, Normand Laperriere³, Cynthia Menard³
¹Medical Imaging, University of Toronto, Toronto, Ontario, Canada; ²Diagnostic Imaging, Hospital for Sick Children, Toronto; ³Radiation Oncology, University of Toronto, Toronto

Exhibition Hall Wednesday 13:30-15:30 Computer 106

- 13:30 4266. Glioma Grading: Comparison of Parameters from Dynamic Contrast-Enhanced (DCE) MRI, Apparent Diffusion Coefficient (ADC), & Fractional Anisotropy (FA)**
Seung-Koo Lee¹, EunJu Kim², Hyun Seok Choi^{1,3}
¹Department of Radiology, Yonsei University College of Medicine, Seoul, Korea, Republic of; ²Philips Healthcare; ³Department of Radiology, Catholic University School of Medicine, Seoul, Korea, Republic of
- 14:00 4267. Detection of Abnormal Water Exchange Rate in Brain Tumor Patients**
Young Ro Kim¹, Dominique L. Jennings, Thomas Benner, Seonjoo Kwon, Gyunggoo Cho², Jeong Kon Kim, Chris Farrar, Peter Caravan, Bruce Rosen, Greg Sorensen
¹Athinoula A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Charlestown, MA, United States; ²Korea Basic Science Institute
- 14:30 4268. Proton Spectroscopy for Lipid Characterisation in Paediatric Brain Tumours**
Antonio Napolitano¹, Fotios Savvopoulos¹, Timothy Jaspán², Richard G. Grundy², Dorothee P Auer¹
¹Academic Radiology, University of Nottingham, Nottingham, Nottinghamshire, United Kingdom; ²The Children's Brain Tumour Research Centre, University of Nottingham, Nottingham, Nottinghamshire, United Kingdom
- 15:00 4269. Quantitative Susceptibility Mapping of Intracranial Tumors: Correlation with Histologic Grade**
Krishna Surapaneni¹, Craig Horenstein², Tian Liu³, Cynthia Wisnieff⁴, Yi Wang⁴, Robert DeLaPaz²
¹Radiology, Columbia University, New York, NY, United States; ²Radiology, Columbia University, New York, NY, United States; ³Biomedical Engineering, Cornell University, Ithaca, NY, United States; ⁴Radiology, Cornell University, NY, United States

Exhibition Hall Thursday 13:30-15:30 Computer 106

- 13:30 4270. Classification of Tissue Oxygenation Properties Based on Simultaneous Dynamic δR_1 & δR_2^* D(C)O₂E-MRI**
Stefanie Remmele¹, Andreas Müller², Frank Träber², Ingobert Wenningmann³, Marec von Lehe⁴, Juergen Gieseke^{2,5}, Sebastian Flacke^{2,6}, Winfried A. Willinek², Hans H. Schild², Jochen Keupp¹, Petra Mürtz²
¹Philips Research Laboratories, Hamburg, Germany; ²Department of Radiology, University of Bonn, Bonn, Germany; ³Department of Anesthesiology, University of Bonn, Bonn, Germany; ⁴Department of Neurosurgery, University of Bonn, Bonn, Germany; ⁵Philips Healthcare, Best, Netherlands; ⁶Department of Radiology, Lahey Clinic, Tufts University Medical School, MA, United States
- 14:00 4271. SWAN Imaging Substantially Increases the Prevalence of Hemorrhage in the Wall of Brain Abscess -Its Implications in Clinical Interpretation**
Rakesh Kumar Gupta¹, Vaishali Tomar¹, Rishi Awasthi¹, Vikas Bharadwaj², Bal Kishan Ojha², Nuzhat Husain³, Kashi Nath Prasad⁴, Ramesh Venkatesan⁵, Ram K. S. Rathore⁶
¹Radiodiagnosis, Sanjay Gandhi Post Graduate Institute of Medical Sciences, Lucknow, India, Lucknow, Uttar Pradesh, India; ²Neurosurgery, Chatrapati Sahu ji Maharaj Medical University, Lucknow, Uttar Pradesh, India; ³Pathology, Chatrapati Sahu ji Maharaj Medical University, Lucknow, Uttar Pradesh, India; ⁴Microbiology, Sanjay Gandhi Post Graduate Institute of Medical Sciences, Lucknow, India, Lucknow, Uttar Pradesh, India; ⁵Wipro-GE Healthcare, Bangalore, Karnataka, India; ⁶Mathematics & Statistics, Indian Institute of Technology, Kanpur, Kanpur, Uttar Pradesh, India
- 14:30 4272. Functional & Structural Alterations in the Frontal Lobe in Acute Lymphoblastic Leukemia: A Combined fMRI & Voxel-Based Morphometry Study**
Byeong-Yeul Lee^{1,2}, Jianli Wang¹, Kayla Davidson³, Paul J. Eslinger^{1,4}, Qing X. Yang^{1,5}
¹Center for NMR Research, Radiology, Hershey, PA, United States; ²Bioengineering, Penn State College of Medicine, Hershey, PA, United States; ³Psychology, Messiah College, Grantham, PA, United States; ⁴Neurology, Penn State College of Medicine, Hershey, PA, United States; ⁵Neurosurgery, Penn State College of Medicine, Hershey, PA, United States

- 15:00 4273. **Meningioma Metabolic Subgroups Revealed by NMR Spectroscopy**
Daniel Monleon¹, Jose Manuel Morales², Ana Gonzalez-Segura¹, Concha Lopez-Gines, Jose Manuel Gonzalez-Darder³, Rosario Gil-Benso, Miguel Cerda-Nicolas
¹Fundacion Investigacion HCUV, Valencia, Spain; ²Universidad de Valencia, Valencia, Spain; ³Hospital Clinico Valencia

Head & Neck MRI (including Cancer)

Exhibition Hall Monday 14:00-16:00 Computer 107

- 14:00 4274. **Real-Time 3D Motion Correction for High-Resolution MR Imaging of the Larynx**
Joëlle Karine Barral¹, Juan M Santos², Edward J Damrose³, Nancy J. Fischbein^{3,4}, Dwight G. Nishimura⁵
¹Bioengineering, Stanford University, Stanford, CA, United States; ²Heart Vista, Inc., Los Altos, CA, United States; ³Otolaryngology, Stanford University, Stanford, CA, United States; ⁴Radiology, Stanford University, Stanford, CA, United States; ⁵Electrical Engineering, Stanford University, Stanford, CA, United States
- 14:30 4275. **Automatic Generation of Movie with Sound During Speech Production for Assessing Velopharyngeal Insufficiency**
Andre J. W. van Der Kouwe¹, Pallavi Sagar², Amanda L. Silver³, Stephen Maturo³, Katherine Nimkin², Christopher J. Hartnick³
¹Athinoula A. Martinos Center, Department of Radiology, Massachusetts General Hospital, Charlestown, MA, United States; ²Pediatric Radiology, Department of Radiology, Massachusetts General Hospital, Boston, MA, United States; ³Department of Otolaryngology, Massachusetts Eye & Ear Infirmary, Boston, MA, United States
- 15:00 4276. **Efficient CSF Flow Imaging with a Multiple Flexible Labeling Band Sequence at 3.0T**
Hao Shen¹, Nan Sun², Guang Cao³, Jinfeng Li⁴, Ailian Zhang⁴
¹Global Applied Science Laboratory, GE Healthcare, Beijing, China, People's Republic of; ²MR Modality, GE Healthcare, Beijing, China, People's Republic of; ³Global Applied Science Laboratory, GE Healthcare, Hong Kong, China, People's Republic of; ⁴Department of Radiology, Chinese PLA General Hospital, Beijing, China, People's Republic of
- 15:30 4277. **Brain MRI Segmentation for Focal Cortical Dysplasia Lesion Detection**
Ivana Despotovic¹, Ief Segers¹, Ljiljana Platisa¹, Ewout Vansteenkiste¹, Aleksandra Pizurica¹, Karel Deblaere², Wilfried Philips¹
¹Department of Telecommunications & Information Processing TELIN-IPI-IBBT, Ghent University, Ghent, Belgium; ²Department of Radiology, Ghent University Hospital, Ghent, Belgium

Exhibition Hall Tuesday 13:30-15:30 Computer 107

- 13:30 4278. **Effects of Nonrigid Registrations on DBM Analysis using SSD Model**
Zhaoying Han^{1,2}, Xue Yang¹, Bennett a Landman^{1,2}, John C. Gore², Benoit M. Dawant¹
¹Electrical Engineering, Vanderbilt University, Nashville, TN, United States; ²Institute of Imaging Science, Vanderbilt University, Nashville, TN, United States
- 14:00 4279. **Characterization of the Vestibulo-Cochlear Nerve Motion *In Vivo* using a Phase Contrast MRI Sequence**
Marc Labrousse^{1,2}, Guillaume Calmon¹, Gabriela Hossu^{1,3}, André Chays², Jacques Felblinger¹, Marc Braun^{1,4}
¹IADI, INSERM U947, NANCY, France; ²Faculty of Medecine & University Hospital, REIMS, France; ³CIC-IT NANCY (INSERM CIT801), NANCY, France; ⁴Faculty of Medecine & University Hospital, NANCY, France
- 14:30 4280. **Diffusion-Weighted Zoomed EPI of the Larynx & Oral Cavity/oropharynx**
Daniel Guo Quae Chong¹, Dechen Wangmo Tshering Vogel¹, Josef Pfeuffer², Andre de Oliveira², Berthold Kiefer², Johannes Micheal Froehlich^{1,3}, Harriet Thoeny¹
¹Dept. of Diagnostic, Interventional & Pediatric Radiology (DIPR), Inselspital, Bern, Switzerland; ²Siemens AG, Erlangen, Germany; ³Guerbet AG, Zurich, Switzerland
- 15:00 4281. **Comparison of Vascularity Characteristics Between Primary Tumor & Metastatic Nodes in Head & Neck Cancer by DCE- & IVIM-MRI**
Yonggang Lu¹, Jacobus F. A. Jansen², Hilda E. Stambuk¹, Nancy Lee¹, Jason A. Koutcher¹, Amita Shukla-Dave¹
¹Memorial Sloan-Kettering Cancer Center, New York, NY, United States; ²Maastricht University Medical Center, Maastricht, Netherlands

Exhibition Hall Wednesday 13:30-15:30 Computer 107

- 13:30 4282. **Coil Comparison for *In Vivo* Eye Imaging at 7T**
Peter A. Wassenaar¹, Kathryn Richdale², Petra Schmalbrock¹, Michael V. Knopp¹

¹Wright Center of Innovation, Department of Radiology, the Ohio State University, Columbus, OH, United States; ²College of Optometry, the Ohio State University, Columbus, OH, United States

- 14:00 4283. High Resolution Distortion-Free Diffusion-Tensor Imaging of Craniovertebral Junction**
Mami Iima¹, Akira Yamamoto¹, Tomohisa Okada¹, Mitsunori Kanagaki¹, Denis Le Bihan^{2,3}, Seiko Kasahara¹, Emiko Morimoto¹, Satoshi Nakajima¹, Ryo Sakamoto¹, Taha Mohamed Mehemed¹, Kaori Togashi¹
¹Department of Diagnostic Imaging & Nuclear Medicine, Kyoto University Graduate School of Medicine, Kyoto, Japan; ²Human Brain Research Center, Kyoto University Graduate School of Medicine, Kyoto, Japan; ³Neurospin, CEA-Saclay Center, Gif-sur-Yvette, France
- 14:30 4284. Detection of Bone Metastases in Nasopharyngeal Carcinoma Patients: Accuracy of 3T Whole-Body MRI & FDG-PET-CT**
Charng-Chyi Shieh^{1,2}, Yu-Chun Lin^{1,2}, Jiun-Jie Wang^{2,3}, Yau-Yau Wai^{1,2}, Chun-Huang Hsieh¹, Sheng-Chieh Chan^{3,4}, Tzu-Chen Yen^{3,4}, Shu-Hang Ng^{1,2}
¹Medical Imaging & Intervention, Linkou Chang Gung Memorial Hospital, Taoyuan, Taiwan; ²Medical Imaging & Radiological Science, Chang Gung University, Taoyuan, Taiwan; ³Molecular Imaging Center, Linkou Chang Gung Memorial Hospital, Taoyuan, Taiwan; ⁴Nuclear Medicine, Linkou Chang Gung Memorial Hospital, Taoyuan, Taiwan
- 15:00 4285. "Flow-Void Enhanced" Volumetric Black-Blood Angiography using 3D-TSE with Very Low-Constant Refocusing Flip Angles & Sensitized Flow Compensation**
Masami Yoneyama¹, Masnobu Nakamura¹, Tomoyuki Okuaki¹, Takashi Tabuchi¹, Atsushi Takemura², Makoto Obara², Junko Ogura¹
¹Medical Satellite Yaesu Clinic, Tokyo, Japan; ²Philips Electronics Japan, Tokyo, Japan

Exhibition Hall Thursday 13:30-15:30 Computer 107

- 13:30 4286. Measuring the Change in Mechanical Properties of Upper Airway Soft Tissues in Obstructive Sleep Apnea using Magnetic Resonance Elastography**
Elizabeth Nye¹, Shaokoon Cheng¹, Simon Gandevia², David McKenzie³, Ralph Sinkus⁴, Lynne Bilston²
¹Neuroscience Research Australia, Sydney, NSW, Australia; ²Neuroscience Research Australia, Australia; ³University of New South Wales, Australia; ⁴Centre de Recherches Biomédicales Bichat-Beaujon, France
- 14:00 4287. MRI of Head & Neck Cancer Patients for Radiotherapy Treatment Planning**
Scott Hanvey¹, Martin Glegg, John Foster²
¹Department of Clinical Physics & Bioengineering, Beatson West of Scotland Cancer Centre, Glasgow, Lanarkshire, United Kingdom; ²Glasgow Cardiac Magnetic Resonance Unit
- 14:30 4288. Echo-Planar Versus PROPELLER Diffusion-Weighted Imaging at 3T for Assessment of Thyroid Tumors**
Sidhartha Nagala¹, Mary A. McLean², Daniel Scoffings³, Andrew N. Priest³, Piyush Jani¹, John R. Griffiths²
¹Otolaryngology, Addenbrooke's Hospital, Cambridge, Cambridgeshire, United Kingdom; ²Cancer Research UK, Cambridge Research Institute, United Kingdom; ³Radiology, Addenbrooke's Hospital, Cambridge, United Kingdom
- 15:00 4289. Evaluation of the Vocal Tract with Real Time MRI in Professional Male Altos**
Matthias Echtermach¹, Louisa Traser², Bernhard Richter¹, Michael Markl³
¹Institute of Musicians' Medicine, Freiburg University Medical Center, Freiburg, Germany; ²Charite, Berlin, Germany; ³Department of Radiology, Medical Physics, Freiburg University Medical Center, Freiburg, Germany

Spine/Spinal Cord

Exhibition Hall Monday 14:00-16:00 Computer 108

- 14:00 4290. Spinal Cord ¹H-MR Spectroscopy in Patients After Brachial Plexus Root Re-Implantation**
Enrico De Vita^{1,2}, Carolina Kachramanoglou¹, Claudia A. M. Wheeler-Kingshott³, David L. Thomas¹, David Choi¹, Alan Thompson¹, Olga Ciccarelli¹
¹Department of Brain Repair & Rehabilitation, UCL Institute of Neurology, London, United Kingdom; ²Lysholm Department of Radiology, National Hospital for Neurology & Neurosurgery, London, United Kingdom; ³Department of Neuroinflammation, UCL Institute of Neurology, London, United Kingdom
- 14:30 4291. Diffusion Weighted Imaging of Spinal Tumors with Reduced Field of View EPI**
Samantha J. Holdsworth¹, Rafael O'Halloran¹, Kristen Yeom¹, Murat Aksoy¹, Stefan Skare², Roland Bammer¹
¹Department of Radiology, Stanford University, Palo Alto, CA, United States; ²Clinical Neuroscience, Karolinska Institute, Stockholm, Sweden

15:00 4292. **4D Flow Characteristics of Cerebrospinal Fluid Dynamics at the Craniocervical Junction & the Cervical Spinal Canal in Patients with Chiari Malformation Type I**
Alexander Christian Bunck¹, Jan-Robert Kröger¹, Alena Jüttner¹, Angela Brentrup², Barbara Fiedler³, Gerard R. Crelier⁴, Wolfram Schwandt¹, Walter Heindel¹, Thomas Niederstadt¹, David Maintz¹
¹Department of Clinical Radiology, University Hospital of Münster, Münster, Germany; ²Department of Neurosurgery, University Hospital of Münster, Münster, Germany; ³Department of Pediatrics, University Hospital of Münster, Münster, Germany; ⁴Institute for Biomedical Engineering, ETH & University of Zurich, Zurich, Switzerland

15:30 4293. **Detection of Spinal Cord Abnormality on Diffusion Tensor Imaging (DTI) in Patients with Unilateral Deficit using Pattern Classification**
Arturo Cardenas-Blanco¹, Santanu Chakraborty², Fahad Alkherayf³, Eve Tsai³, Mark Schweitzer², Thanh Nguyen²
¹Diagnostic Imaging Department, the Ottawa Hospital, Ottawa, Ontario, Canada; ²Radiology, the Ottawa Hospital, Ottawa, Ontario, Canada; ³Neurosurgery, the Ottawa Hospital, Ottawa, Ontario

Exhibition Hall Tuesday 13:30-15:30 Computer 108

13:30 4294. **Detection of Nerve Injury with Diffusion Weighted Wide Band Steady State Free Precession (DW-WBSSFP) in the Lumbar Spine**
Giovanna Danagouljian¹, Rivka R. Colen, Krishna Nayak², Srinivasan Mukundan, Ferenc Jolesz, Ehud J. Schmidt
¹Brigham & Women's Hospital, Boston, MA, United States; ²University of Southern California

14:00 4295. **Spatial Normalization of Cervical Cord 3D T₁-Weighted Images & Regional Assessment of Cord Atrophy with a Voxel-Based Approach**
Paola Valsasina¹, Maria Assunta Rocca¹, Stefania Sala¹, Mark Andrew Horsfield², Patrick Stroman³, Martina Absinta¹, Giancarlo Comi⁴, Massimo Filippi¹
¹Neuroimaging Research Unit, Institute of Experimental Neurology, Division of Neuroscience, San Raffaele Hospital, Milan, Italy; ²Department of Cardiovascular Sciences, University of Leicester, Leicester, United Kingdom; ³Centre for Neuroscience Studies, Queen's University, Kingston, Ontario, Canada; ⁴Department of Neurology, San Raffaele Hospital, Milan, Italy

14:30 4296. **Peripheral Nerve Imaging with 3D Gradient Recalled Echo-Selective Species Imaging Sequence at 3.0T: A Preliminary Study**
Hao Shen¹, Guang Cao², Xin Lou³, Ailian Zhang³, Jinfeng Li³, Zhikui Xiao¹, Qian Jiang⁴, Anthony T. Vu⁵
¹Global Applied Science Laboratory, GE Healthcare, Beijing, China, People's Republic of; ²Global Applied Science Laboratory, GE Healthcare, Hong Kong, China, People's Republic of; ³Department of Radiology, Chinese PLA General Hospital, Beijing, China, People's Republic of; ⁴MR Modality, GE Healthcare, Shanghai, China, People's Republic of; ⁵MR PSD/Applications Engineering, GE Healthcare, Waukesha, WI, United States

15:00 4297. **Pain or No Pain: Paradigm to Image Lower Back Pain with fMRI**
Harish A. Sharma¹, Raj Gupta², William Olivero³
¹Department of Medical Biophysics, University of Western Ontario, London, ON, Canada; ²Medicine, University of Illinois; ³Neurosurgery, Carle Foundation Hospital

Exhibition Hall Wednesday 13:30-15:30 Computer 108

13:30 4298. **Magnetic Resonance Spectroscopy of Human Cervical Spondylosis at 3T**
Rajakumar Nagarajan¹, Michael Albert Thomas¹, Benjamin M. Ellingson¹, Langston Holly², Noriko Salamon¹
¹Radiological Sciences, University of California Los Angeles, Los Angeles, CA, United States; ²Neurosurgery, University of California Los Angeles

14:00 4299. **Evidence of Wallerian Degeneration in the Human Spinal Cord using *In Vivo* High-Resolution DTI & Magnetization Transfer**
Julien Cohen-Adad^{1,2}, Bradley Buchbinder^{2,3}, Lawrence L. Wald^{1,4}, Anne Louise Oaklander^{2,3}
¹A.A. Martinos Center for Biomedical Imaging, Department of Radiology, Massachusetts General Hospital, Charlestown, MA, United States; ²Harvard Medical School, Boston, MA, United States; ³Massachusetts General Hospital, Boston, MA, United States; ⁴Harvard-MIT Division of Health Sciences and Technology, MIT, Cambridge, MA, United States

14:30 4300. **Understanding the fMRI Response to Thermal Stimuli in the Human Spinal Cord**
Christopher Alan Kidd¹, Rachael Lee Bosma¹, Patrick W. Stroman^{1,2}
¹Centre for Neuroscience Studies, Queen's University, Kingston, Ontario, Canada; ²Departments of Diagnostic Radiology & Physics, Queen's University, Kingston, Ontario, Canada

15:00 4301. **MRI Monitoring of Neural Precursor Cell Transplantation Therapy in a Rat Spinal Cord Injury Model**
Rafal Janik¹, Greg Hawryluk^{2,3}, Kimberly Lara Desmond⁴, Ryan Fobel⁴, Micheal Fehlings^{2,3}, Greg J. Stanisz^{1,4}

¹Imaging Research, Sunnybrook Health Sciences Centre, Toronto, Ontario, Canada; ²Division of Neurosurgery, University of Toronto, Toronto, Ontario, Canada; ³Krembil Neuroscience Centre, Toronto Western Research Institute, Toronto, Ontario, Canada; ⁴Department of Biophysics, University of Toronto, Toronto, Ontario, Canada

Exhibition Hall Thursday 13:30-15:30 Computer 108

- 13:30 4302. BLADE in Sagittal T₂-Weighted Imaging of the Cervical Spine: Value for Spinal Cord Lesions**
Claudia Fellner¹, Cynthia Menzel^{1,2}, Christian Stroszczynski¹, Thomas Finkenzeller^{1,3}
¹Institute of Radiology, University Medical Center Regensburg, Regensburg, Germany; ²Institute of Radiology & Neuroradiology, Krankenhaus Barmherzige Brüder, Regensburg, Germany; ³Institute of Diagnostic & Interventional Radiology, Klinikum Weiden, Weiden, Germany
- 14:00 4303. Improved T₁ Weighted Dynamic Contrast Enhanced MRI to Probe Microvasculature & Assessment of Spine Bone Marrow**
Mohan Pauliah¹, Kyung K. Peck^{1,2}, Yoshiya Josh Yamada³, Eric Lis^{1,4}, Michelle S. Bradbury^{1,5}, Sasan Karimi¹
¹Radiology, Memorial Sloan Kettering Cancer Center, New York, United States; ²Medical Physics, Memorial Sloan Kettering Cancer Center, New York, United States; ³Radiation Oncology, Memorial Sloan Kettering Cancer Center, New York, United States; ⁴Interventional Radiology, Memorial Sloan Kettering Cancer Center, New York, United States; ⁵Molecular Imaging, Memorial Sloan Kettering Cancer Center, New York, United States
- 14:30 4304. Diffusion Tensor Imaging Characteristics of Normal Human Cervical Spinal Cord at 3T**
Khin Khin Tha¹, Satoshi Terae², Kinya Ishizaka², Tomoyuki Okuaki³, Makoto Hirotsu⁴, Kentaro Kobayashi², Marc van Cauteren⁵, Hiroki Shirato¹
¹Dept. of Radiobiology & Medical Engineering, Hokkaido University Graduate School of Medicine, Sapporo, Hokkaido, Japan; ²Dept. of Radiology, Hokkaido University Hospital; ³Medical Satellite Yaesu Clinic; ⁴Dept. of Neurology, Hokkaido University Graduate School of Medicine; ⁵Philips Healthcare Asia Pacific
- 15:00 4305. Diffusion Tensor Imaging Changes in the Spinal Cord of Amyotrophic Lateral Sclerosis Patients**
Wim Van Hecke¹, Louise Emsell², Caroline Sage³, Stefan Sunaert³, Paul M. Parizel⁴
¹University of Antwerp, Antwerp, Belgium; ²The Murdoch Childrens Research Institute, Australia; ³University of Leuven, Belgium; ⁴University of Antwerp, Belgium

Developing Brain I

Exhibition Hall Monday 14:00-16:00 Computer 109

- 14:00 4306. Infant 0-1-2 Brain Atlases for MRI Segmentation & Normalization**
Feng Shi¹, Guorong Wu¹, Pew-Thian Yap¹, Hongjun Jia¹, John H. Gilmore², Weili Lin¹, Dinggang Shen¹
¹Department of Radiology & BRIC, University of North Carolina at Chapel Hill, Chapel Hill, NC, United States; ²Department of Psychiatry, University of North Carolina at Chapel Hill, Chapel Hill, NC, United States
- 14:30 4307. Longitudinal DTI in Young Children with Prenatal Methamphetamine Exposure: A 3 Year Follow-Up Study**
Linda Chang¹, Kazim Gumus¹, Ashley Saito¹, Aaron Hoo¹, Alexandra Pritchett¹, Daniel Alicata¹, Christine Cloak¹, Thomas Ernst¹
¹Department of Medicine, John A. Burns School of Medicine, University of Hawaii at Manoa, Honolulu, HI, United States
- 15:00 4308. Age Associated Changes in Subcortical Structures in Preadolescent Children**
L. Tugan Muftuler¹, Angela T. Cheriyan², Kevin M. Head³, Min-Ying Su¹, Claudia Buss³, Curt A. Sandman³, Elysia P. Davis³
¹Center for Functional Onco-imaging, University of California, Irvine, CA, United States; ²Biological Sciences, University of California, Irvine, CA; ³Psychiatry & Human Behavior, University of California, Orange, CA
- 15:30 4309. Feasibility of Non-Invasive Quantitative MRI Measurements of Cerebral Vascular Reactivity using a Computer Controlled Stimulus in Children with Sickle Cell Disease**
Andrea Kassner^{1,2}, Jackie Leung², Fatima Nathoo³, Stephanie Dorner⁴, Joseph A. Fisher⁵, Manohar Shroff², Gabrielle de Veber⁶, Suzan Williams⁷
¹Medical Imaging, University of Toronto, Toronto, Ontario, Canada; ²Diagnostic Imaging, the Hospital for Sick Children, Toronto, Ontario, Canada; ³Respiratory therapy, the Hospital for Sick Children, Toronto, Ontario, Canada; ⁴Thornhill Research Inc., Toronto, Ontario, Canada; ⁵Physiology, University of Toronto, Toronto, Ontario, Canada; ⁶Neurology, Hospital for Sick Children, Toronto, Ontario, Canada; ⁷Hematology, Hospital for Sick Children, Toronto, Ontario, Canada

Exhibition Hall Tuesday 13:30-15:30 Computer 109

- 13:30 4310. Neurogenetics in the Pediatric Brain: A ¹H MRS Study of Brain Development**
Jack Knight-Scott¹, Sarah Andrea Wijtenburg¹

¹Radiology, CHOA, Atlanta, GA, United States

- 14:00 4311. Identifying Growth Velocity Discontinuities in the First Postnatal Year Brain Development with Diffusion Tensor Imaging**
Yasheng Chen¹, Hongtu Zhu², Jiaping Wang², Hongyu An¹, Dinggang Shen¹, Weili Lin¹
¹Radiology, Univ. of North Carolina at Chapel Hill, Chapel Hill, NC, United States; ²Biostatistics, Univ. of North Carolina at Chapel Hill, Chapel Hill, NC, United States
- 14:30 4312. Development of Axonal Pathways in Preadolescent Children**
L. Tugan Muftuler¹, Anna Wiebel², Sandra Waeldin², Min-Ying Su¹, Claudia Buss³, Curt A. Sandman³, Elysia P. Davis³
¹Center for Functional Onco-imaging, University of California, Irvine, CA, United States; ²University of Trier, Germany; ³Psychiatry & Human Behavior, University of California, Orange, CA
- 15:00 4313. Temporal Evolution of Brain Metabolic Substrates Differs Among Major Anatomical Lobes During the First Months of Life in Human**
Yang Yang¹, Hongyu An², Feng Shi², Wei Gao², Dinggang Shen², Weili Lin²
¹Department of Biomedical Engineering & BRIC, University of North Carolina at Chapel Hill, Chapel Hill, NC, United States; ²Department of Radiology & BRIC, University of North Carolina at Chapel Hill, Chapel Hill, NC, United States

Exhibition Hall Wednesday 13:30-15:30 Computer 109

- 13:30 4314. Elastic Registration Based Neonatal Brain Segmentation**
Petronella Anbeek¹, Britt J. M. van Kooij¹, Floris Groenendaal¹, Linda S. de Vries¹, Manon J. N. L. Benders¹
¹Neonatology, Wilhelmina Children's Hospital, Utrecht, Netherlands
- 14:00 4315. Absolute Brain Metabolite Concentrations in Non-Acute Maple Syrup Urine Disease**
Emilie Ruth Muelly¹, Don C. Bigler¹, Kevin A. Strauss², Pavlina Todorova³, D. Holmes Morton², Julie Mack⁴, Arabinda Choudhary⁴, David O. Aleman¹, Jeff Vesek⁴, Megan Taylor Sutton¹, Scott C. Bunce¹, Gregory J. Moore⁵
¹Center for Emerging Neurotechnology & Imaging, Penn State Hershey Neurosciences Institute, Penn State College of Medicine, Hershey, PA, United States; ²Clinic for Special Children, Strasburg, PA; ³Division of Basic Sciences, University of Texas Southwestern Medical Center, Dallas, TX; ⁴Radiology, Penn State College of Medicine, Hershey, PA, United States; ⁵Radiology, Geisinger Medical Center, Danville, PA
- 14:30 4316. Longitudinal Guided Level-Sets for Consistent Neonatal Image Segmentation**
Li Wang¹, Feng Shi¹, John H. Gilmore², Weili Lin³, Dinggang Shen¹
¹IDEA Lab, Department of Radiology & BRIC, University of North Carolina at Chapel Hill, Chapel Hill, NC, United States; ²Department of Psychiatry, University of North Carolina at Chapel Hill, Chapel Hill, NC, United States; ³MRI Lab, Department of Radiology & BRIC, University of North Carolina at Chapel Hill, Chapel Hill, NC, United States
- 15:00 4317. Sharp Curvature in Frontal Lobe White Matter Pathways of Children with Autism Spectrum Disorder**
Jeong-Won Jeong^{1,2}, Ajay Kumar^{1,2}, Senthil K. Sundaram^{1,2}, Harry T. Chigani^{1,2}, Diane C. Chugani^{2,3}
¹Pediatrics, Neurology, Wayne State University, Detroit, MI, United States; ²PET Center, Children's Hospital of Michigan, Detroit, MI, United States; ³Radiology, Wayne State University, Detroit

Exhibition Hall Thursday 13:30-15:30 Computer 109

- 13:30 4318. Impairment of the Medullary Veins on Neonatal Subependymal Hemorrhage using Susceptibility-Weighted Imaging**
Tetsu Niwa¹, Noriko Aida¹, Yasuhiko Tachibana¹, Reiko Watanabe¹, Tetsuhiko Okabe^{1,2}, Jun Shibasaki³
¹Radiology, Kanagawa Children's Medical Center, Yokohama, Kanagawa, Japan; ²Radiology, Yokohama City University, Yokohama, Japan; ³Neonatology, Kanagawa Children's Medical Center
- 14:00 4319. 3-Tesla Cerebral Proton Magnetic Resonance Spectroscopy in Healthy Term & Extremely Preterm Infants**
Yuxiang Zhou¹, Nehal A. Parikh², Katrina Burson², Ponnada A. Narayana¹
¹Diagnostic & Interventional Imaging, University of Texas Health Science Center at Houston, Houston, TX, United States; ²Dept. of Pediatrics, University of Texas Health Science Center at Houston, Houston, TX, United States
- 14:30 4320. Longitudinal Analysis of Tissue Property Changes in Multi-Modal MRI of the Developing Preterm Brain**
Ahmed Serag¹, Paul Aljabar¹, Gareth Ball¹, Serena J. Counsell², James P. Boardman^{2,3}, Daniel Rueckert¹, Jo V. Hajnal²
¹Department of Computing, Imperial College London, London, United Kingdom; ²Imaging Sciences Department, MRC Institute of Clinical Sciences, Imperial College London, London, United Kingdom; ³Simpson Centre for Reproductive Health, Royal Infirmary of Edinburgh, Edinburgh, United Kingdom
- 15:00 4321. Automated Partial Volume Tissue Classification in Preterm Neonates**
Dallas Card¹, Revital Nossin-Manor^{1,2}, John G. Sled^{3,4}

¹Diagnostic Imaging, the Hospital for Sick Children, Toronto, Ontario, Canada; ²Neurosciences & Mental Health, Research Institute, the Hospital for Sick Children, Toronto, Ontario, Canada; ³Physiology & Experimental Medicine, Research Institute, the Hospital for Sick Children, Toronto, Ontario, Canada; ⁴Medical Biophysics, the University of Toronto, Toronto, Ontario, Canada

Developing Brain II

Exhibition Hall Monday 14:00-16:00 Computer 110

- 14:00 4322. Assessment of the Maturation of the Optic Radiation in Children & Adolescents with Probabilistic Tractography**
Michael Dayan¹, Monica Munoz^{2,3}, Sebastian Jentschke^{2,4}, Martin J. Chadwick^{2,5}, Janine Cooper², Kate Riney⁶, Faraneh Vargha-Khadem², Chris Alan Clark¹
¹Imaging & Biophysics, UCL Institute of Child Health, London, United Kingdom; ²Developmental Cognitive Neuroscience Unit, UCL Institute of Child Health, London, United Kingdom; ³School of Medicine, University of Castilla-La Mancha, Albacete, Spain; ⁴Free University, Cluster of Excellence "Languages of Emotion", Berlin, Germany; ⁵Wellcome Trust Centre for Neuroimaging, UCL Institute of Neurology, London, United Kingdom; ⁶Neurosciences Unit, UCL Institute of Child Health, London, United Kingdom
- 14:30 4323. Time Course of Diffusion Restriction in Neonates with Hypoxic Ischemic Encephalopathy Treated with Hypothermia**
Nathalie Bednarek¹, Jared Wilkinson¹, Amit Mathur¹, Preethi Srinivasakumar¹, Jeff Neil¹, Terrie Inder¹, Joshua Shimony¹
¹Washington University School of Medicine, St. Louis, MO, United States
- 15:00 4324. Swi Post Processing to Enhance Clinical Utility of Conventional 2D Gre in the Pediatric Neuroimaging**
Salil Soman¹, Samantha J. Holdsworth², Patrick David Barnes¹, Roland Bammer², Kristen Yeom¹
¹Department of Radiology, Stanford University, Stanford, CA, United States; ²Department of Radiology, Lucas Center, Stanford University, Stanford, CA, United States
- 15:30 4325. Grey & White Matter Differences in ¹H-MRS Metabolic Ratios in the Preterm Brain**
Dallas Card¹, John G. Sled^{2,3}, Aileen M. Moore^{4,5}, Hilary E. Whyte^{4,5}, Margot J. Taylor^{1,6}
¹Diagnostic Imaging, the Hospital for Sick Children, Toronto, Ontario, Canada; ²Physiology & Experimental Medicine, Research Institute, the Hospital for Sick Children, Toronto, Ontario, Canada; ³Medical Biophysics, the University of Toronto, Toronto, Ontario, Canada; ⁴Neonatology, the Hospital for Sick Children, Toronto, Ontario, Canada; ⁵Paediatrics, the University of Toronto, Toronto, Ontario, Canada; ⁶Medical Imaging, the University of Toronto, Toronto, Ontario, Canada

Exhibition Hall Tuesday 13:30-15:30 Computer 110

- 13:30 4326. Feasibility of Functional Resting-State Measurements of the Fetal Brain**
Veronika Schöpf^{1,2}, Gregor Kasprian¹, Christian M. Mitter¹, Peter C. Brugger³, Daniela Prayer¹
¹Department of Radiology, Division of Neuroradiology, Medical University Vienna, Vienna, Austria; ²MR Centre of Excellence, Medical University Vienna, Vienna, Austria; ³Center of Anatomy & Cell Biology, Integrative Morphology Group, Medical University Vienna, Vienna, Austria
- 14:00 4327. DTI Based Tractography of Fetal Periventricular Crossroad Regions *In Utero***
Christian Mitter¹, Gregor Kasprian¹, Peter Christian Brugger², Laura Perju-Dumbrava³, Ivica Kostovic⁴, Daniela Prayer¹
¹Department of Radiology, Division of Neuroradiology, Medical University of Vienna, Vienna, Austria; ²Center of Anatomy & Cell Biology, Medical University of Vienna, Vienna, Austria; ³Institute of Neurology, Medical University of Vienna, Vienna, Austria; ⁴Croatian Institute for Brain Research, University of Zagreb School of Medicine, Zagreb, Croatia
- 14:30 4328. Atlas-Based T₂ Relaxometry of the Developing Child Brain: Serial & Cross-Sectional Analysis**
Khader M. Hasan¹, Indika S. Walimuni¹, Larry A. Kramer¹, Linda Ewing-Cobbs²
¹Radiology, UTHSCH, Houston, TX, United States; ²Pediatrics, UTHSCH, Houston, TX, United States
- 15:00 4329. Simultaneous High Resolution *Ex-Vivo* Diffusion Imaging of White Matter & Muscles**
Thomas Benner¹, Allison Stevens¹, Michelle Roy¹, Bruce Fischl¹
¹Radiology, Athinoula A. Martinos Center, Charlestown, MA, United States

Exhibition Hall Wednesday 13:30-15:30 Computer 110

- 13:30 4330. Relationship between the Arcuate Fasciculus & Cortical Structure in Pediatric Patients with Polymicrogyria: A Pilot Study.**
Michael John Paldino¹, Rudolph Pienaar², Annapurna Poduri³, Katyucia Macedo Rodrigues¹, Patricia Ellen Grant¹
¹Radiology, Children's Hospital Boston, Boston, MA, United States; ²Newborn Medicine, Children's Hospital Boston, Boston, MA, United States; ³Neurology, Children's Hospital Boston, Boston, MA, United States

- 14:00 4331. Do DTI Indices Correlate with Neurological Status of Neonates with Congenital Heart Disease Before & After Cardiopulmonary Bypass Surgery?**
Rabia Liamlahi¹, Walter Knirsch¹, Bea Latal², Michael von Rhein³, Ianina Scheer⁴, Hintendu Dave⁵, Achim Schmitz⁶, Vera Berner⁷, Christian Kellenberger⁴, Malek I. Makki⁴
¹Cardiology, University Children Hospital, Zurich, Switzerland; ²Child Development, University Children Hospital, Zurich, Switzerland; ³Child Development Center, University Children Hospital, Zurich, Switzerland; ⁴Diagnostic Imaging, University Children Hospital, Zurich, Switzerland; ⁵Congenital Cardiovascular Surgery, University Children Hospital, Zurich; ⁶Anesthesia, University Children Hospital, Zurich, Switzerland; ⁷Pediatric Intensive Care, University Children Hospital, Zurich, Switzerland
- 14:30 4332. Application of Snapshot Inversion Recovery (SNAPIR) in Neonatal Patients with Snapshot-to-Volume-Reconstruction (SVR): A Pilot Study at 3 Tesla**
Ash Ederies¹, Amy K. McGuinness², Nora Tusor¹, Joanna M. Allsop², Serena J. Counsell², Rita G. Nunes², Zhi Qing Wu², Jo V. Hajnal², Mary A. Rutherford², Christina Malamateniou²
¹Neonatal Imaging Group, Imaging Sciences Department, MRC Clinical Sciences Centre, Hammersmith Hospital, Imperial College London, London, United Kingdom; ²Robert Steiner MRI Unit, Imaging Sciences Department, MRC Clinical Sciences Centre, Hammersmith Hospital, Imperial College London, London, United Kingdom
- 15:00 4333. Comparison of DTI Metrics in Neonates Obtained with Manual ROI Analysis vs. Modified TBSS**
Nancy K. Rollins^{1,2}, Youngseob Seo^{1,2}, Lina Chalak^{1,2}, Jonathan M. Chia³, Gareth Ball⁴, Zhiyue J. Wang^{1,2}
¹University of Texas Southwestern Medical Center, Dallas, TX, United States; ²Children's Medical Center, Dallas, TX, United States; ³Philips Healthcare, Cleveland, OH, United States; ⁴Imperial College and MRC Clinical Science Center, London, United Kingdom

Exhibition Hall Thursday 13:30-15:30 Computer 110

- 13:30 4334. Quantitative Assessment of the Cortico-Spinal Tracts in Neonates with Congenital Heart Disease Following Cardiopulmonary Bypass Surgery.**
Malek I. Makki¹, Rabia Liamlahi², Hintendu Dave³, Ianina Scheer¹, Walter Knirsch², Bea Latal⁴, Achim Schmitz⁵, Vera Berner⁶, Christian Kellenberger¹
¹Diagnostic Imaging, University Children Hospital, Zurich, Switzerland; ²Cardiology, University Children Hospital, Zurich, Switzerland; ³Congenital Cardiovascular Surgery, University Children Hospital, Zurich; ⁴Child Development Center, University Children Hospital, Zurich, Switzerland; ⁵Anesthesia, University Children Hospital, Zurich, Switzerland; ⁶Pediatric Intensive Care, University Children Hospital, Zurich, Switzerland
- 14:00 4335. The Application of T₂ Star Weighted Angiography (SWAN) in Hypoxic-Ischemic Encephalopathy**
Zhengrong Xia¹, Yuhua Li¹, He Wang²
¹Department of Radiology, Xinhua Hospital Affiliated to Shanghai Jiaotong University School of Medicine, Shanghai, China, People's Republic of; ²Global Applied Science Laboratory Global Applied Science Laboratory, GE Healthcare
- 14:30 4336. 3D Proton MR Spectroscopy of Normal-Appearing Brain in Tuberous Sclerosis Complex**
Ivan Kirov¹, Sarah Milla¹, Joseph Oved², Orrin Devinsky³, Howard Weiner³, Oded Gonen¹
¹Radiology, New York University, New York, NY, United States; ²School of Medicine, New York University, New York, United States; ³Neurosurgery, New York University, New York, NY, United States
- 15:00 4337. A Lobar-Based Curvature Analysis of Normal & Polymicrogyria Brain Surfaces in Children**
Michael Paldino^{1,2}, Daniel Ginsburg¹, Patricia Ellen Grant^{1,2}, Rudolph Pienaar^{1,2}
¹Radiology, Children's Hospital Boston, Boston, MA, United States; ²Radiology, Harvard Medical School, Boston, MA, United States

Imaging of Psychiatric Disorders

Exhibition Hall Monday 14:00-16:00 Computer 111

- 14:00 4338. Brain Functional Connectivity Reveals Abnormal Brain Development in High Risk Bipolar Infants**
Wei Gao¹, John Gilmore², Shun Xu³, Weili Lin
¹Radiology & BRIC, University of North Carolina at Chapel Hill, Chapel Hill, NC, United States; ²Psychiatry, University of North Carolina at Chapel Hill, Chapel Hill, NC, United States; ³Computer Science, University of North Carolina at Chapel Hill
- 14:30 4339. Emotional Processing & Brain Metabolism After Pharmacological Stimulation with Ketamine**
Milan Scheidegger^{1,2}, Simone Grimm^{3,4}, Alexander Fuchs⁵, Rainer Kraehenmann⁴, Heinz Boeker⁴, Erich Seifritz⁴, Peter Boesiger⁵, Martin Walter⁶, Anke Henning⁵
¹Institute for Biomedical Engineering, University & ETH Zurich, Zurich, Switzerland; ²Clinic of Affective Disorders & General Psychiatry, Psychiatric University Hospital Zurich, Zurich, Switzerland; ³Cluster Languages of Emotion, Freie Universität Berlin, Berlin, Germany; ⁴Clinic of Affective Disorders & General Psychiatry, Psychiatric University Hospital Zurich, Zurich, Switzerland; ⁵Institute for Biomedical Engineering, University & ETH Zurich, Zurich, Switzerland; ⁶Clinical Affective Neuroimaging Laboratory, Psychiatric University Hospital, Magdeburg, Germany

- 15:00 4340. Blunted Hemodynamic Response to a Methylphenidate Challenge in Regular Users of Amphetamine: An ASL Based Pharmacological MRI Study**
Marieke L. J. Schouw¹, Matthan W. A. Caan¹, Aart J. Nederveen¹, Liesbeth Reneman¹
¹Radiology, AMC, Amsterdam, Netherlands
- 15:30 4341. New Insight Into Mechanism of Epileptogenesis with Dynamic T₁ Contrast Perfusion MRI in Calcified Neurocysticercosis**
Rakesh Kumar Gupta¹, Rishi Awasthi¹, Prativa Sahoo², Avantika Verma³, Vimal Kumar Paliwal⁴, Ramesh Venkatesan⁵, Kashi Nath Prasad³, Ram K. S. Rathore²
¹Radiodiagnosis, Sanjay Gandhi Post Graduate Institute of Medical Sciences, Lucknow, India, Lucknow, Uttar Pradesh, India; ²Mathematics & Statistics, Indian Institute of Technology, Kanpur, Kanpur, Uttar Pradesh, India; ³Microbiology, Sanjay Gandhi Post Graduate Institute of Medical Sciences, Lucknow, India, Lucknow, Uttar Pradesh, India; ⁴Neurology, Sanjay Gandhi Post Graduate Institute of Medical Sciences, Lucknow, India, Lucknow, Uttar Pradesh, India; ⁵Wipro-GE Healthcare, Bangalore, Karnataka, India

Exhibition Hall Tuesday 13:30-15:30 Computer 111

- 13:30 4342. DTI Detection of Fear Conditioning Induced Microstructural Plasticity**
Abby Ying Ding^{1,2}, Iris Y. Zhou^{1,2}, Qi Li^{3,4}, Grainne M. McAlonan^{3,4}, Ed X. Wu^{1,2}
¹Laboratory of Biomedical Imaging & Signal Processing, the University of Hong Kong, Hong Kong, Hong Kong SAR, China, People's Republic of; ²Department of Electrical & Electronic Engineering, the University of Hong Kong, Hong Kong, Hong Kong SAR, China, People's Republic of; ³Department of Psychiatry, the University of Hong Kong, Hong Kong, Hong Kong SAR, China, People's Republic of; ⁴Centre for Reproduction Growth & Development, the University of Hong Kong, Hong Kong, Hong Kong SAR, China, People's Republic of
- 14:00 4343. Correlation between Clinical Data & Metabolic Abnormalities in Inferior Colliculus for Schizophrenic Patients with Auditory Hallucinations**
Bernardo Celda¹, MCarmen Martínez-Bisbal², Julio Sanjuan³, Eduardo J. Aguilar⁴, Luis Martí-Bonmati⁵, Enrique Molla⁶, Beatriz Martínez-Granados⁷
¹Química Física, Universitat Valencia-CIBER-BBN, Burjassot, Valencia, Spain; ²Química Física, CIBER-BBN/Universitat de Valencia, Burjassot, Valencia, Spain; ³Psychiatry, Universitat de Valencia-CIBERSAM, Valencia, Spain; ⁴Psychiatry, Hospital Sagunto-CIBERSAM, Sagunto, Valencia, Spain; ⁵Radiology, Hospital Dr. Peset, Valencia, Spain; ⁶Radiology, Hospital La Ribera, Alzira, Valencia, Spain; ⁷Química Física, Universitat de Valencia, Burjassot, Valencia, Spain
- 14:30 4344. Effects of Prenatal Cocaine Exposure on Human Brain Structures**
Xiangchuan Chen¹, Claire D. Coles², Mary E. Lynch², Zhihao Li¹, Xiaoping Hu¹
¹Biomedical Imaging Technology Center, Emory University, Atlanta, GA, United States; ²Department of Psychiatry & Behavioral Sciences, Emory University, Atlanta, GA, United States
- 15:00 4345. Gray Matter Differences Due to Weeks of Excessive Long-Distance Running & After Recovery Revealed by Voxel-Based Morphometry (VBM)**
Arthur Peter Wunderlich¹, Sonja Faust², Wolfgang Freund¹, Uwe Schütz¹, Christan Billich¹
¹Dept. for Diagnostic & Interventional Radiology, Univ.-Clinic Ulm, Ulm, Germany; ²Univ.-Clinic Ulm, Germany

Exhibition Hall Wednesday 13:30-15:30 Computer 111

- 13:30 4346. Real-Time Monitoring of In Vivo Human Brain Amino Acid Neurotransmitter Response to a Single Intravenous Dose of Ketamine in Major Depressive Disorder using the ¹H MRS J-Editing Technique**
Dikoma C. Shungu¹, Matthew S. Milak², Larence S. Kegeles², Caitlin Proper², Xiangling Mao¹, J. John Mann²
¹Radiology, Weill Cornell Medical College, New York, NY, United States; ²Psychiatry, College of Physicians & Surgeons of Columbia University, New York, NY
- 14:00 4347. Brain Stem Motion in Aqueductal Stenosis Hydrocephalus**
Guillaume Calmon^{1,2}, Olivier Balédent³, Marc Labrousse^{1,4}, Catherine Gondry-Jouet³, Anthony Fichten³, Gabriela Hossu⁵, Jacques Felblinger^{1,5}, Marc Braun^{1,6}
¹IADI, INSERM U947, Nancy, France; ²GE Healthcare, Buc, France; ³Amiens University Hospital, Amiens, France; ⁴Faculty of Medicine & University Hospital, Reims, France; ⁵INSERM CIT801, CIC-IT, Nancy, France; ⁶Faculty of Medicine & University Hospital, Nancy, France
- 14:30 4348. A Multimodal Imaging Study of Never-Medicating Adults with Schizophrenia**
Elisa Canu¹, Roberto Gasparotti², Federica Agosta¹, Paolo Valsecchi³, Giancarlo Comi⁴, Elisabetta Pagani¹, Emilio Sacchetti³, Massimo Filippi¹
¹Neuroimaging Research Unit, Institute of Experimental Neurology, Division of Neuroscience, Scientific Institute & University Hospital San Raffaele, Milan, Italy; ²Department of Diagnostic Imaging, University of Brescia, Spedali Civili, Brescia, Italy; ³Department of Psychiatry, Brescia University School of Medicine, Brescia, Italy; ⁴Department of Neurology, Scientific Institute & University Hospital San Raffaele, Milan, Italy

- 15:00 4349. Correlating Functional & Structural Connectivity of Default Mode Network with Dosage of Two Candidate Vulnerability Genes of Schizophrenia**
Su-Chun Huang^{1,2}, Chih-Min Liu³, Hai-Go Hwu³, Chen-Chung Liu³, Fa-Hsuan Lin¹, Wen-Yih Isaac Tseng^{1,2}
¹Institute of Biomedical Engineering, National Taiwan University, Taipei, Taiwan; ²Center for Optoelectronic Biomedicine, National Taiwan University College of Medicine, Taipei, Taiwan; ³Department of Psychiatry, National Taiwan University Hospital, Taipei, Taiwan
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- Exhibition Hall Thursday 13:30-15:00 Computer 111
- 13:30 4350. Proinflammatory Cytokines Correlates with MR Imaging in Patients with Extrahepatic Portal Venous Obstruction Patients Having Minimal Hepatic Encephalopathy**
A. Yadav¹, S. K. Yadav², A. Srivastava³, S. K. Yachha³, M. A. Thomas⁴, V. A. Saraswat, R. K. Gupta¹
¹Departments of Radiodiagnosis, Sanjay Gandhi Post Graduate Institute of Medical Sciences, Lucknow, India, Lucknow, UP, India; ²Departments of Radiodiagnosis, Sanjay Gandhi Post Graduate Institute of Medical Sciences, Lucknow, India, Lucknow, UP, India; ³Pediatric Gastroenterology, Sanjay Gandhi Post Graduate Institute of Medical Sciences, Lucknow, India, Lucknow, UP, India; ⁴Department of Radiological Sciences, David Geffen School of Medicine at UCLA, California, California, Los Angeles, United States
- 14:00 4351. MRI Morphological & Functional Connectivity Analysis of Thalamus in Mild Traumatic Brain Injury**
Yongxia Zhou¹, Lin Tang¹, Daniel K. Sodickson¹, Joseph Reaume¹, Robert I. Grossman¹, Yulin Ge¹
¹Radiology/Center for Biomedical Imaging, New York University School of Medicine, New York, NY, United States
- 14:30 4352. γ -Aminobutyric Acid (GABA) Modulates Functional Connectivity Network Strength in Adolescent Major Depressive Disorder**
Vilma Gabbay¹, Benjamin Ely¹, Soraja Bangaru¹, Michael Milham¹, Xiangling Mao², Francisco X. Castellanos¹, Dikoma C. Shungu²
¹Child Study Center, New York University School of Medicine, New York, NY, United States; ²Radiology, Weill Cornell Medical College, New York, NY, United States

Pulse Sequences & Applications

- Exhibition Hall Monday 14:00-16:00 Computer 112
- 14:00 4353. Superbalanced Steady State Free Precession**
Oliver Bieri¹
¹Department of Medical Radiology, Radiological Physics, University of Basel Hospital, Basel, Switzerland
- 14:30 4354. Measurement of Cerebral Metabolic Rate of Oxygen (CMRO2) using QBOLD Technique in Resting State**
Xiang He¹, Dmitriy A. Yablonskiy², Kyongtae Ty Bae¹
¹Department of Radiology, University of Pittsburgh, Pittsburgh, PA, United States; ²Mallinckrodt Institute of Radiology, Washington University in St Louis, St Louis, MO, United States
- 15:00 4355. Dynamic 3D Visualization of Vocal Tract Shaping During Speech**
Yinghua Zhu¹, Yoon-Chul Kim¹, Michael I. Proctor¹, Shrikanth S. Narayanan¹, Krishna S. Nayak¹
¹Ming Hsieh Department of Electrical Engineering, University of Southern California, Los Angeles, CA, United States
- 15:30 4356. Measurement of Eye PO2 using T₁ Mapping Has Precision ~8 MmHg & Shows Oxygenation Gradient between Retina & Lens**
Nicholas G. Dowell¹, Edward H. Hughes², Paul S. Tofts¹
¹Clinical Imaging Sciences Centre, Brighton & Sussex Medical School, Brighton, Sussex, United Kingdom; ²Sussex Eye Hospital, Brighton, Sussex, United Kingdom

Pulse Sequences - Methods

- Exhibition Hall Wednesday 13:30-15:30 Computer 113
- 13:30 4357. Retrospective Reconstruction of Black-Blood Golden Ratio Radial Imaging for Visualization of Heart Valves at Arbitrary Dynamic Time Points**
Claudia Prieto¹, Tobias Schaeffter¹
¹Division of Imaging Sciences & Biomedical Engineering, King's College London, London, United Kingdom
- 14:00 4358. Highly Efficient Isotropic Whole-Heart Imaging using Radial Phase Encoding PAWS**
Christoph Kolbitsch¹, Claudia Prieto¹, Jouke Smink², Tobias Schaeffter¹
¹Division of Imaging Sciences & Biomedical Engineering, King's College London, London, United Kingdom; ²Philips Healthcare, Best, Netherlands

- 14:30 4359. Five-Dimensional Free-Breathing Cardiac MRI using a 3D Cones Trajectory**
Holden H. Wu^{1,2}, Dwight G. Nishimura², Michael V. McConnell^{1,2}, Bob S. Hu^{2,3}
¹Cardiovascular Medicine, Stanford University, Stanford, CA, United States; ²Electrical Engineering, Stanford University, Stanford, CA, United States; ³Palo Alto Medical Foundation, Palo Alto, CA, United States
- 15:00 4360. Ultra-Fast Volumetric Functional Imaging using Single Shot Concentric Shells Trajectories**
Benjamin Zahneisen¹, Thimo Grotz¹, Maxim Zaitsev¹, Juergen Hennig¹
¹University Hospital Freiburg, Freiburg, Germany

Exhibition Hall Thursday 13:30-15:30 Computer 113

- 13:30 4361. Improved through Slice Resolution in Continuously Moving Table MRI by using a Modified Helical Trajectory**
Florian Hoffmann¹, Philipp Ehses², Michael Völker², Felix A. Breuer², Martin Blaimer², Peter M. Jakob^{1,2}
¹Department of Experimental Physics 5, University of Würzburg, Würzburg, Bayern, Germany; ²Research Center Magnetic Resonance Bavaria (MRB), Würzburg, Germany
- 14:00 4362. 3D Fast Spin Echo Novel View Ordering for Variable TE**
Mitsuharu Miyoshi¹, Naoyuki Takei¹, Ananth J. Madhuranthakam², Hiroyuki Kabasawa¹
¹Global Applied Science Laboratory, GE Healthcare Japan, Hino, Tokyo, Japan; ²Global Applied Science Laboratory, GE Healthcare, Boston, MA, United States
- 14:30 4363. Fast Susceptibility Weighted Imaging (SWI) using Readout-Segmented (RS)-EPI**
Samantha J. Holdsworth¹, Rafael O'Halloran¹, Stefan Skare², Roland Bammer¹
¹Department of Radiology, Stanford University, Palo Alto, CA, United States; ²Clinical Neuroscience, Karolinska Institute, Stockholm, Sweden
- 15:00 4364. Golden Step Phase Encoding: Simultaneous Real-Time & ECG Gated-Cine Parallel MRI with Retrospective Selection of Temporal Resolution, Acceleration Rate & Acquisition Duration**
J. Andrew Derbyshire¹, Haris Saybasili¹, Liheng Guo², Ozan Sayin², Peter Kellman¹, Robert J. Lederman¹, Daniel A. Herzka²
¹National Heart, Lung & Blood Institute, NIH, Bethesda, MD, United States; ²Department of Biomedical Engineering, Johns Hopkins School of Medicine, Baltimore, MD, United States

Pulse Sequences - Water & Fat

Exhibition Hall Thursday 13:30-16:00 Computer 114

- 13:30 4365. Simultaneous T₂ & Lipid Quantitation using IDEAL-CPMG**
Robert Leonard Janiczek^{1,2}, Giulio Gambarota², Christopher D. J. Sinclair¹, Tarek A. Yousry¹, John S. Thornton¹, Xavier Golay¹, Rexford D. Newbould^{1,2}
¹University College London, London, United Kingdom; ²GSK Clinical Imaging Centre, London, United Kingdom
- 14:30 4366. Rapid Fat-Water-Separated Cardiac Cine Imaging using Concentric Rings & K-T BLAST**
Holden H. Wu^{1,2}, Taehoon Shin², Dwight G. Nishimura², Michael V. McConnell^{1,2}
¹Cardiovascular Medicine, Stanford University, Stanford, CA, United States; ²Electrical Engineering, Stanford University, Stanford, CA, United States
- 15:00 4367. T₂/PD Weighted Water & Fat Separation on Low-Field Scanner**
Cong Zhao¹, Guobin Li¹, Dehe Weng¹, Weijun Zhang¹, Mathias Nittka², Vladimir Jellus²
¹Siemens Mindit Magnet Resonance Co. Ltd, ShenZhen, GuangDong, China, People's Republic of; ²Siemens Healthcare Sector, Erlangen, Germany

Dynamic Imaging & Compressed Sensing

Exhibition Hall Monday 14:00-16:00 Computer 115

- 14:00 4368. Combination of Compressed Sensing, Parallel Imaging & Partial Fourier for Highly-Accelerated 3D First-Pass Cardiac Perfusion MRI**
Li Feng^{1,2}, Jian Xu^{3,4}, Daniel Kim², Leon Axel², Daniel K Sodickson², Ricardo Otazo²
¹Sackler Institute of Graduate Biomedical Sciences, New York University School of Medicine, New York, NY, United States; ²Department of Radiology, New York University School of Medicine, New York, NY, United States; ³Siemens Medical Solutions USA; ⁴Polytechnic Institute of NYU, Brooklyn, NY, United States

- 14:30 4369. Accelerated Multi-TI Spiral MRI using Compressed Sensing with Temporal Constraints**
Xiao Chen¹, Michael Salerno^{2,3}, Frederick H. Epstein², Craig H. Meyer¹
¹Biomedical Engineering, University of Virginia, Charlottesville, VA, United States; ²Radiology, University of Virginia, Charlottesville, VA, United States; ³Cardiology, University of Virginia, Charlottesville, VA, United States
- 15:00 4370. Golden Angle Radial Cardiac Imaging without ECG Gating using Nonconvex Compressed Sensing**
André Fischer^{1,2}, Nicole Seiberlich³, Mark A. Griswold³, Peter M. Jakob^{1,2}, Felix A. Breuer¹
¹Research Center Magnetic Resonance Bavaria (MRB) e.V., Wuerzburg, Germany; ²Department of Experimental Physics 5, University of Wuerzburg, Wuerzburg, Germany; ³Department of Radiology, University Hospitals, Cleveland, OH, United States
- 15:30 4371. Local Versus Global Low-Rank Promotion in Dynamic MRI Series Reconstruction**
Joshua Trzasko¹, Armando Manduca¹
¹Mayo Clinic, Rochester, MN, United States

Exhibition Hall Tuesday 13:30-15:30 Computer 115

- 13:30 4372. On the Spatiotemporal Bandwidth of Cardiac Motion**
Marijn E. Brummer¹, Mireia Sanz-Blasco², Sumati Krishnan³, Lei Hou Hamilton⁴, Senthil Ramamurthy³, David Morata⁵
¹Pediatrics & Radiology, Emory University, Atlanta, GA, United States; ²Universitat Politècnica de València, València, Spain; ³Pediatrics, Emory University, Atlanta, GA, United States; ⁴Bioengineering, Georgia Institute of Technology, Atlanta, GA, United States; ⁵Center for Biomaterials & Tissue Engineering, Universitat Politècnica de València, València, Spain
- 14:00 4373. 3D Dynamic Contrast Enhanced Imaging of Liver at 250ms Temporal Resolution**
Bo Xu^{1,2}, Pascal Spincemaille², Mukta Agrawal², Gang Chen³, Martin Prince², Yi Wang^{1,2}
¹Biomedical Engineering, Cornell University, New York, NY, United States; ²Weill Cornell Medical College, New York, NY, United States; ³Polytechnic Institute of New York University, New York, NY, United States
- 14:30 4374. Parallel Reconstruction for Cartesian Golden Step MRI with Arbitrary Temporal Resolution, Field-Of-View & Acceleration Rate.**
Haris Saybasili¹, J. Andrew Derbyshire¹, Liheng Guo², Ozan Sayin², Annette M. Stine¹, Robert J. Lederman¹, Daniel A. Herzka²
¹National Heart Lung & Blood Institute, National Institutes of Health, Bethesda, MD, United States; ²Department of Biomedical Engineering, Johns Hopkins School of Medicine, Baltimore, MD, United States
- 15:00 4375. Image Reconstruction from Highly Undersampled (K, T)-Space Data with Joint Partial Separability & Sparsity Constraints**
Bo Zhao¹, Justin Haldar¹, Anthony Christodoulou¹, Zhi-Pei Liang¹
¹Electrical & Computer Engineering, University of Illinois at Urbana-Champaign, Urbana, IL, United States

Exhibition Hall Wednesday 13:30-15:30 Computer 115

- 13:30 4376. Cardiac Perfusion Imaging using a Combination of CAIPIRINHA & Compressed Sensing**
Daniel Stäb¹, Tobias Wech¹, Christian Oliver Ritter¹, Dietbert Hahn¹, Herbert Köstler¹
¹Institute of Radiology, University of Würzburg, Würzburg, Bavaria, Germany
- 14:00 4377. k-T ISD: Dynamic Cardiac Imaging using Compressed Sensing with Iterative Support Detection**
Dong Liang¹, Edward V. R. DiBella², Rong-Rong Chen³, Leslie Ying¹
¹Department of Electrical Engineering & Computer Science, University of Wisconsin – Milwaukee, Milwaukee, WI, United States; ²Department of Radiology, University of Utah, Salt Lake City, UT, United States; ³Department of Electrical & Computer Engineering, University of Utah, Salt Lake City, UT, United States
- 14:30 4378. Accelerating Phase Contrast MR Angiography by Simplified Skipped Phase Encoding & Edge Deghosting with Array Coil Enhancement (S-SPEED-ACE)**
Zheng Chang¹, Xiang Qing-San^{2,3}, Hao Shen⁴, Jim Ji⁵, Fang-Fang Yin¹
¹Department of Radiation Oncology, Duke University, Durham, NC, United States; ²Department of Physics & Astronomy, University of British Columbia, Vancouver, BC, Canada; ³Department of Radiology, University of British Columbia, Vancouver, BC, Canada; ⁴Applied Science Laboratory, GE Healthcare, Beijing, China, People's Republic of; ⁵Department of Electrical & Computer Engineering, Texas A&M University, College Station, TX, United States
- 15:00 4379. Improved Compressed Sensing Reconstruction in Dynamic Contrast Enhanced MR Angiography by Means of Principal Component Analysis (PCA)**
Felix A. Breuer¹, Andre Fischer¹, Nicole Seiberlich², Philipp Ehse¹, Martin Blaimer¹, Daniel Neumann¹, Peter M. Jakob^{1,3}, Mark A. Griswold²
¹Research Center Magnetic Resonance Bavaria, Würzburg, Germany; ²Radiology, Case Western Reserve University, Cleveland, OH, United States; ³Experimental Physics 5, University of Würzburg, Würzburg, Germany

 Exhibition Hall Thursday 13:30-15:30 Computer 115

- 13:30 4380. **k-T Sparse GROWL: A Fast & Accurate Algorithm for Highly Accelerated Dynamic Imaging**
Feng Huang¹, Wei Lin¹, George Randy Duensing¹, Arne Reykowski¹
¹In vivo Corporation, Gainesville, FL, United States
- 14:00 4381. **Fast Functional Imaging using Interleaved Data Acquisition & Compressed Sensing**
Thimo Grotz¹, Benjamin Zahneisen¹, Maxim Zaitsev¹, Jürgen Hennig¹
¹Dept. of Radiology - Medical Physics, University Medical Center Freiburg, Freiburg, BW, Germany
- 14:30 4382. **High Resolution Structural Free-Breathing Cardiac MRI using K-T SLR**
Yue Hu¹, Sajan Goud Lingala², Mathews Jacob²
¹Electrical & Computer Engineering, University of Rochester, Rochester, NY, United States; ²Biomedical Engineering, University of Rochester, Rochester, NY, United States
- 15:00 4383. **A Model-Based Compressed Sensing Method for Fast Cardiac T₁ Mapping in Small Animals**
Wen Li^{1,2}, Mark Griswold^{1,3}, Xin Yu^{1,3}
¹Biomedical Engineering Department, Case Western Reserve University, Cleveland, OH, United States; ²Case Center for Imaging Research, Case Western Reserve University, Cleveland, OH, United States; ³Radiology Department, Case Western Reserve University

The Many Faces of Image Reconstruction

 Exhibition Hall Monday 14:00-16:00 Computer 116

- 14:00 4384. **Bloch Equation Based Algebraic Reconstruction for MRI using Frequency-Modulated Pulses**
Naoharu Kobayashi¹, Steen Moeller¹, Jang-Yeon Park², Michael Garwood¹
¹Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, MN, United States; ²School of Biomedical Engineering, College of Biomedical & Health Science, Konkuk University, Chungju, Korea, Republic of
- 14:30 4385. **Correcting K-Trajectory by using Multiple Function Models of Gradient Waveform for Ultrashort TE(UTE)**
Masahiro Takizawa¹, Hikaru Hanada¹, Kuniharu Oka¹, Tetsuhiko Takahashi¹
¹MRI System Division, Hitachi Medical Corporation, Kashiwa, Chiba, Japan
- 15:00 4386. **A Wavelet Fusion Approach to the Reconstruction of Isotropic-Resolution MR Images from Anisotropic Orthogonal Scans**
Iman Aganj¹, Christophe Lenglet², Essa Yacoub², Guillermo Sapiro¹, Noam Harel²
¹Electrical Engineering, University of Minnesota, Minneapolis, MN, United States; ²Center for Magnetic Resonance Research, University of Minnesota, United States
- 15:30 4387. **MR Based Limited-Field-of-View SPECT Image Reconstruction**
Keumil S. Lee^{1,2}, Werner W. Roock^{1,3}, Grant T. Gullberg⁴, Orhan Nalcioglu^{1,3}
¹Tu & Yuen Center for Functional Onco-Imaging, University of California, Irvine, Irvine, CA, United States; ²Department of Electrical Engineering & Computer Science, University of California, Irvine, Irvine, CA, United States; ³Department of Radiological Sciences, University of California, Irvine, Irvine, CA, United States; ⁴Ernest Orlando Lawrence Berkeley National Laboratory, Berkeley, CA, United States

 Exhibition Hall Tuesday 13:30-15:30 Computer 116

- 13:30 4388. **Lesion & Deep Grey Matter Visualization in Phase Images using a Local Polynomial Filter with Moving Window**
Sarah E. Riske¹, Amir Eissa¹, Sandra M. Meyers², Alan H. Wilman¹
¹University of Alberta, Edmonton, Alberta, Canada; ²University of Alberta, Edmonton, Alberta, Canada
- 14:00 4389. **Improved Interleaved Single-Shot Z-Shim EPI Via Spatial & Temporal Encoding**
W. Scott Hoge¹, Hong Pan¹, Huan Tan², Emily Stern¹, Robert A. Kraft²
¹Radiology, Brigham & Women's Hospital, Boston, MA, United States; ²Virginia-Tech Wake Forest School of Biomedical Engineering, Winston-Salem, NC, United States
- 14:30 4390. **Rapid Sample Density Estimation for 3D Trajectories**
Nicholas Ryan Zwart¹, James Grant Pipe¹
¹Neuroimaging Research, Barrow Neurological Institute, Phoenix, AZ, United States
- 15:00 4391. **Correction of EPI Nyquist Ghosts Via GESTE with Spatial Calibration**
W. Scott Hoge¹, Huan Tan², Zhikui Xiao³, Robert A. Kraft²

¹Radiology, Brigham & Women's Hospital, Boston, MA, United States; ²Virginia-Tech Wake Forest School of Biomedical Engineering, Winston-Salem, NC, United States; ³Global Applied Science Laboratory, GE Healthcare, Beijing, China, People's Republic of

Parallel Imaging

Exhibition Hall Monday 14:00-16:00 Computer 117

- 14:00 4392. Through-Time Spiral GRAPPA for Real-Time Cardiac Imaging**
Nicole Seiberlich¹, Gregory Lee¹, Philipp Ehse², Jeffrey Duerk^{1,3}, Mark Griswold^{1,3}
¹Radiology, University Hospitals of Cleveland, Cleveland, OH, United States; ²Research Center for Magnetic Resonance Bavaria (MRB), Wuerzburg, Germany; ³Biomedical Engineering, Case Western Reserve University, Cleveland, OH, United States
- 14:30 4393. 3D Radial Parallel Imaging for Bandwidth Limited Acquisitions.**
Steen Moeller¹, Curtis A. Corum¹, Djaudat Idiyatullin¹, Michael Garwood¹
¹University of Minnesota, Minneapolis, 55455, United States
- 15:00 4394. Kernel GRAPPA: A GENERAL NONLINEAR FRAMEWORK for GRAPPA REGULARIZATION**
Yuchou Chang¹, Dong Liang¹, Leslie Ying¹
¹Electrical Engineering, University of Wisconsin - Milwaukee, Milwaukee, WI, United States
- 15:30 4395. CS-GRAPPA: Improving GRAPPA using Cross Sampling**
Haifeng Wang¹, Dong Liang¹, Kevin F. King², Gajanan Nagarsekar¹, Leslie Ying¹
¹Department of Electrical Engineering & Computer Science, University of Wisconsin-Milwaukee, Milwaukee, WI, United States; ²Global Applied Science Lab, General Electric Healthcare, Waukesha, WI, United States

Exhibition Hall Tuesday 13:30-15:30 Computer 117

- 13:30 4396. IMPATIENT MRI: Illinois Massively Parallel Acceleration Toolkit for Image Reconstruction with ENhanced Throughput in MRI**
Xiao-Long Wu¹, Jiading Gai², Fan Lam^{1,2}, Maojing Fu^{1,2}, Justin P. Haldar^{1,2}, Yue Zhuo^{2,3}, Zhi-Pei Liang^{1,2}, Wen-Mei Hwu^{1,2}, Bradley P. Sutton^{2,3}
¹Electrical & Computer Engineering, University of Illinois at Urbana-Champaign, Urbana, IL, United States; ²Beckman Institute, University of Illinois at Urbana-Champaign, Urbana, IL, United States; ³Bioengineering Department, University of Illinois at Urbana-Champaign, Urbana, IL, United States
- 14:00 4397. Parallel Imaging using a Non-Uniform Undersampling Trajectory**
Yu Li¹, Charles L. Dumoulin¹
¹Radiology, Cincinnati Children's Hospital Medical Center, Cincinnati, OH, United States
- 14:30 4398. Hadamard Encoded Time-Dependent Phase Constraint Parallel Image Reconstruction**
Jacob R. Hoberg¹, Nan-Kuei Chen¹
¹BIAC, Duke University, Durham, NC, United States
- 15:00 4399. Simultaneous Acquisition of Image & Navigator Slices using CAIPIRINHA**
Zarko Celicanin¹, Frank Preiswerk², Patrik Arnold², Philippe Cattin², Klaus Scheffler¹, Francesco Santini¹
¹Radiological Physics, University of Basel Hospital, Basel, Switzerland; ²Medical Imaging Analysis Center, University of Basel, Basel, Switzerland

Exhibition Hall Wednesday 13:30-15:30 Computer 117

- 13:30 4400. The Accuracy of Noise Covariance Estimation & Its Relationship with Signal-To-Noise Ratio in Parallel Magnetic Resonance Imaging**
Yu Ding¹, Yiu-Cho Chung², Orlando Simontetti
¹The Ohio State University, Columbus, OH, United States; ²Siemens Medical Solutions
- 14:00 4401. Theoretical Signal-to-Noise Penalty in Parallel Ultra-Low-Field Magnetic Resonance Imaging**
Fa-Hsuan Lin^{1,2}, Panu Vesänen³, Jaakko O. Nieminen³, John W. Belliveau², Risto J. Ilmoniemi³
¹Institute of Biomedical Engineering, National Taiwan University, Taipei, Taiwan; ²Martinos Center, Massachusetts General Hospital, Charlestown, MA, United States; ³Department of Biomedical Engineering and Computational Science (BECS), Aalto University, Espoo, Finland
- 14:30 4402. G-Factor as Regularization Parameter in Regularized SENSE Reconstruction**
Hammad Omer¹, Robert Dickinson
¹Imperial College London, London, United Kingdom

- 15:00 4403. Suppression of Residual Noise & Artifact in Parallel Imaging by Iterative Noquist**
Lei Hou Hamilton¹, Sumati Krishnan², Senthil Ramamurthy², David Moratal³, Marijn Brummer²
¹School of Electrical & Computer Engineering, Georgia Institute of Technology, Atlanta, GA, United States; ²School of Medicine, Emory University, Atlanta, GA, United States; ³Center for Biomaterials & Tissue Engineering, Universitat Politècnica de València, Valencian, Spain
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- Exhibition Hall Thursday 13:30-15:30 Computer 117
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- 13:30 4404. Optimized RX Field Homogeneity for SENSE Imaging in Parallel Transmit MR**
Hanno Homann¹, Tim Nielsen², Kay Nehrke², Ingmar Graesslin², Olaf Dössel¹, Peter Börnert²
¹Institute of Biomedical Engineering, Karlsruhe Institute of Technology, Karlsruhe, Germany; ²Philips Research Europe, Hamburg, Germany
- 14:00 4405. Temporal Filtering Effects in Dynamic Parallel MRI: Comparing Radial & Cartesian Sampling**
Irene Paola Ponce Garcia¹, Martin Blaimer², Felix Breuer², Peter M. Jakob^{1,2}, Mark A. Griswold³, Peter Kellman⁴
¹Experimental Physics 5, University of Würzburg, Würzburg, Bavaria, Germany; ²Research Center Magnetic Resonance Bavaria e.V (MRB), Würzburg, Bavaria, Germany; ³Department of Radiology, University Hospitals of Cleveland & Case Western Reserve University, Cleveland, OH, United States; ⁴Laboratory of Cardiac Energetics, National Institutes of Health, National Heart, Lung & Blood Institute, Bethesda, MD, United States
- 14:30 4406. Time-Resolved MRA with Data-Driven Parallel Imaging using Calibration Over Multiple Time-Frames & Interleaved Variable Density Cartesian Acquisition**
James H. Holmes¹, Kang Wang², Philip J. Beatty³, Reed F. Busse⁴, Frank R. Korosec⁵, Lauren A. Keith², Christopher J. Francois⁶, Scott B. Reeder⁵, Jean H. Brittain
¹Global Applied Science Laboratory, GE Healthcare, Madison, WI, United States; ²Medical Physics, University of Wisconsin-Madison, Madison, WI; ³Global Applied Science Laboratory, GE Healthcare, Thornhill, ON, Canada; ⁴MR Research, GE Healthcare, Waukesha, WI; ⁵Radiology, University of Wisconsin-Madison, Madison, WI; ⁶Radiology, University of Wisconsin-Madison, Madison, WI
- 15:00 4407. Adaptive Self-Calibrating in K-Space Parallel Magnetic Resonance Imaging using Kalman Filter**
Suhyung Park¹, Jin-Suck Suh^{1,2}, Jaeseok Park²
¹Medical Science, Yonsei University, Seoul, Korea, Republic of; ²Radiology, Yonsei University, Seoul, Korea, Republic of

Pulse Sequences - RF

- Exhibition Hall Tuesday 13:30-15:30 Computer 118
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- 13:30 4408. Simultaneous B₁ & B₀ Mapping using Dual Echo Actual Flip Angle Imaging (DE-AFI)**
Claudia Lenz¹, Oliver Bieri¹, Klaus Scheffler¹, Francesco Santini¹
¹Radiological Physics, University of Basel Hospital, Basel, Switzerland
- 14:00 4409. T₁-Nonlinearity Corrections for Fast Transmit-Array B₁⁺-Mapping of the Human Brain in the Small-Tip-Angle Regime**
Martijn Anton Cloos^{1,2}, Nicolas Boulant¹, Guillaume Ferrand², Michel Luong², Christopher J. Wiggins¹, Denis Le Bihan¹, Alexis Amadon¹
¹LRMN, CEA, DSV, I2BM, NeuroSpin, Gif-Sur-Yvette, ile-de-France, France; ²CEA, DSM, IRFU, Gif-Sur-Yvette, ile-de-France, France
- 14:30 4410. An Experimental Comparison of B₁-Mapping Techniques at Two Field Strengths**
Rolf Pohmann¹
¹Magnetic Resonance Center, Max Planck Institute for Biological Cybernetics, Tübingen, Germany
- 15:00 4411. Fast B₁ Mapping using a STEAM-Based Bloch-Siegert Preparation Pulse**
Kay Nehrke¹, Peter Börnert¹
¹Philips Research Laboratories, Hamburg, Germany
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- Exhibition Hall Wednesday 13:30-15:30 Computer 118
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- 13:30 4412. Gradient & Frequency Modulated Excitation for a Tailored Spatial Trajectory with Two-Dimensional Time Encoding for Fourier-Free Imaging**
Angela Lynn Styczynski Snyder¹, Curt Corum², Steen Moeller², Nathan Powell³, Michael Garwood²
¹Department of Biomedical Engineering, University of Minnesota, Minneapolis, MN, United States; ²Department of Radiology, University of Minnesota; ³Department of Neuroscience, University of Minnesota

- 14:00 4413. Simultaneous Bloch Siegert B_1^+ & T_2 Mapping in One Experiment using a Multi Spin Echo Sequence**
Volker Sturm¹, Thomas Christian Basse-Lüsebrink^{1,2}, Thomas Kampf¹, Guido Stoll², Peter Michael Jakob¹
¹Experimental Physics 5, University of Würzburg, Würzburg, Germany; ²Neurology, University of Würzburg, Würzburg, Germany
- 14:30 4414. A Novel B_1 -Insensitive Outer Volume Suppression Pulse**
Travis Benjamin Smith¹, Krishna S. Nayak¹
¹Electrical Engineering, University of Southern California, Los Angeles, CA, United States
- 15:00 4415. Time Interleaved Acquisition of Modes (TIAMO): An Analysis of SAR & Image Contrast Implications**
Stephan Orzada^{1,2}, Stefan Maderwald^{1,3}, Benedikt A. Poser^{1,4}, Sören Johst^{1,2}, Mark E. Ladd^{1,2}, Stephan Kannengiesser⁵, Andreas K. Bitz^{1,2}
¹Erwin L. Hahn Institute for Magnetic Resonance Imaging, Essen, NRW, Germany; ²Department of Diagnostic & Interventional Radiology & Neuroradiology, University Hospital Essen, Essen, NRW, Germany; ³University of Duisburg-Essen, Essen, NRW, Germany; ⁴Donders Institute for Brain, Cognition & Behaviour, Centre for Cognitive Neuroimaging, Radboud University Nijmegen, Nijmegen, Netherlands; ⁵Siemens Healthcare Sector, Erlangen, Germany

B₁ & Mapping

Exhibition Hall Monday 14:00-16:00 Computer 119

- 14:00 4416. Saturated Double Angle Method with Radial Sampling**
Liyong Chen^{1,2}, Edward V. R. DiBella^{1,2}
¹Utah Center for Advanced Imaging Research, Department of Radiology, University of Utah, Salt Lake City, UT, United States; ²Department of Bioengineering, University of Utah, Salt Lake City, UT, United States
- 14:30 4417. A New Phase-Based Method for Rapid 3D B_1 Mapping using Double RF Pulses**
Yulin V. Chang¹
¹Mechanical Engineering, Washington University, St. Louis, MO, United States
- 15:00 4418. Comparison of Four Phase Based Methods for the B_1^+ Mapping at 7T**
Flavio Carinci^{1,2}, Federico von Samson-Himmelstjerna^{1,3}, Davide Santoro¹, Tomasz Lindel^{1,4}, Matthias Dieringer^{1,5}, Frank Seifert^{1,4}, Jan Sobesky^{3,6}, Thoralf Niendorf^{4,5}
¹Berlin Ultra-High Field Facility (BUFF), Max Delbrück Center for Molecular Medicine (MDC), Berlin, Germany; ²Department of Physics, Insubria University, Como, Italy; ³Center for Stroke Research Berlin (CSB), Charité Universitätsmedizin Berlin, Berlin, Germany; ⁴Physikalisch-Technische Bundesanstalt (PTB); ⁵Experimental & Clinical Research Center (ECRC), Charité Campus Berlin, Berlin, Germany; ⁶Department of Neurology, Charité Universitätsmedizin Berlin, Berlin, Germany
- 15:30 4419. Reduction of Required Gradient Spoiler Size for AFI B_1 Mapping**
Kim Shultz¹, Greig Scott¹, John Pauly¹
¹Electrical Engineering, Stanford University, Stanford, CA, United States

Exhibition Hall Tuesday 13:30-15:30 Computer 119

- 13:30 4420. On the Effectiveness of RF Spoiling at 7T**
Douglas A. C. Kelley^{1,2}, Janine M. Lupo²
¹Global Applied Science Laboratory, GE Healthcare, San Francisco, CA, United States; ²Radiology and Biomedical Imaging, University of California, San Francisco, San Francisco, CA, United States
- 14:00 4421. Asymmetric Field Distribution in B_1^+ & B_1^- Maps are Caused by Phase Differences in Field Components in the Laboratory Frame**
Hidehiro Watanabe¹, Nobuhiro Takaya¹, Fumiyuki Mitsumori¹
¹Environmental Chemistry Division, National Institute for Environmental Studies, Tsukuba, Ibaraki, Japan
- 14:30 4422. 3D Slab Selective AFI Utilizing a Thin Slab Approach**
Christopher Thomas Sica¹, Christopher M. Collins¹
¹Radiology, the Pennsylvania State University, Hershey, PA, United States
- 15:00 4423. Sa2RAGE Sequence Improvements & *In-Vivo* Brain RF-Shimming at 7 Tesla**
Florent Eggenschwiler¹, Arthur William Magill^{1,2}, Tobias Kober¹, Rolf Gruetter^{1,3}, José Pedro Marques^{1,2}
¹EPFL, Laboratory for Functional & Metabolic Imaging, Lausanne, Vaud, Switzerland; ²University of Lausanne, Department of Radiology, Lausanne, Vaud, Switzerland; ³Universities of Geneva & Lausanne, Department of Radiology, Switzerland

Exhibition Hall Wednesday 13:30-15:30 Computer 119

- 13:30 4424. Statistical Analysis of B_1 Mapping Techniques**
Daniel Joseph Park¹, Ahsan Javed¹, Neal Kepler Bangarter^{1,2}, Mohammad Mehdi Khalighi³, Glen R. Morrell²
¹Electrical & Computer Engineering, Brigham Young University, Provo, UT, United States; ²Department of Radiology, University of Utah, Salt Lake City, UT, United States; ³Global Applied Science Laboratory, GE Healthcare, Menlo Park, CA, United States
- 14:00 4425. Theoretical & Experimental Efficiency & Optimization of Flip Angle Mapping Techniques**
Trevor Wade^{1,2}, Charles McKenzie^{2,3}, Brian Rutt⁴
¹Robarts Research Institute, London, Ontario, Canada; ²Biomedical Engineering, the University of Western Ontario, London, Ontario, Canada; ³Medical Biophysics, the University of Western Ontario, London, Ontario, Canada; ⁴Department of Radiology, Stanford University, Stanford, CA, United States
- 14:30 4426. A Short TR, MFA Approach to Simultaneous B_{1+} & T_1 Mapping**
Christopher Thomas Sica¹, Christopher M. Collins¹
¹Radiology, the Pennsylvania State University, Hershey, PA, United States
- 15:00 4427. B_1 -Mapping with the Transient Phase of SSFP**
Carl Ganter¹, Marcus Settles¹, Klaus Scheffler², Oliver Bieri²
¹Department of Radiology, Technische Universität München, Munich, Germany; ²Division of Radiological Physics, University of Basel Hospital, Basel, Switzerland

Exhibition Hall Thursday 13:30-15:30 Computer 119

- 13:30 4428. Fast 3D B_1 Mapping with Single-Shot EPI**
Jay Moore^{1,2}, Marcin Jankiewicz^{1,3}, Adam W. Anderson^{1,4}, John C. Gore^{1,4}
¹Institute of Imaging Science, Vanderbilt University, Nashville, TN, United States; ²Department of Physics & Astronomy, Vanderbilt University, Nashville, TN, United States; ³Department of Radiology & Radiological Sciences, Vanderbilt University; ⁴Department of Biomedical Engineering, Vanderbilt University
- 14:00 4429. In-Vivo RF Receiver Sensitivity Measurement using Phase-Based B_{1+} Mapping on a Reverse-Oriented Subject**
Seung-Kyun Lee¹, William Thomas Dixon¹
¹GE Global Research, Niskayuna, NY, United States
- 14:30 4430. Multi-Slice B_{1+} Shimming for 7T MRI**
Andrew T. Curtis¹, Kyle M. Gilbert¹, Martyn L. Klassen¹, Joseph S. Gati¹, Ravi S. Menon¹
¹Centre for Functional & Metabolic Mapping, University of Western Ontario, London, Ontario, Canada
- 15:00 4431. RF Pulse Optimization for Bloch-Siegert B_{1+} Mapping**
Mohammad Mehdi Khalighi¹, Brian K. Rutt², Manojkumar Saranathan², Adam B. Kerr³
¹Global Applied Science Laboratory, GE Healthcare, Menlo Park, CA, United States; ²Department of Radiology, Stanford University, Stanford, CA, United States; ³Department of Electrical Engineering, Stanford University, Stanford, CA, United States

Tailoring Excitation with Parallel Transmission & Advanced Pulse Design

Exhibition Hall Monday 14:00-16:00 Computer 120

- 14:00 4432. Relaxation-Enhanced Multiple Inner-Volume Imaging using Parallel 3D Spatially Selective Excitation**
Johannes Thomas Schneider^{1,2}, Martin Haas², Wolfgang Ruhm¹, Juergen Hennig², Peter Ullmann¹
¹Bruker BioSpin MRI GmbH, Ettlingen, Germany; ²Dept. of Radiology, Medical Physics, University Medical Center Freiburg, Freiburg, Germany
- 14:30 4433. Selective Excitation of Arbitrary Three-Dimensional Targets on a Human MR System using Parallel Transmit**
Martin Haas¹, Jeff Snyder¹, Johannes T. Schneider^{1,2}, Peter Ullmann², Denis Kokorin^{1,3}, Hans-Peter Fautz⁴, Jürgen Hennig¹, Maxim Zaitsev¹
¹Department of Radiology Medical Physics, University Medical Center Freiburg, Freiburg, Germany; ²Bruker BioSpin MRI GmbH, Ettlingen, Germany; ³International Tomography Center, Novosibirsk, Russian Federation; ⁴Siemens Healthcare, Erlangen, Germany
- 15:00 4434. Sparse Parallel Transmit Excitation Trajectory Design for Rapid Inner-Volume Excitation**
Cem Murat Deniz^{1,2}, Dong Chen³, Leeor Alon^{2,4}, Ryan Brown⁴, Hans-Peter Fautz⁵, Daniel K. Sodickson⁴, Yudong Zhu⁴
¹Center for Biomedical Imaging, Department of Radiology, NYU School of Medicine, New York, NY, United States; ²Sackler Institute of Graduate Biomedical Sciences, NYU School of Medicine, New York, NY, United States; ³Center for Mathematical Science, Technical University of Munich, Munich, Germany; ⁴Center for Biomedical Imaging, Department of Radiology, NYU School of Medicine, New York, NY, United States; ⁵Siemens Medical Solutions, Erlangen, Germany

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- 15:30 4435. Volume Localization using Adiabatic Inversion Pulses in FAIR Imaging**
Ziqi Sun¹, Sergey Petryakov¹, George Caia¹, Alex Samouilov¹, Jay L. Zweier¹
¹Davis Heart & Lung Research Institute, the Ohio State University, Columbus, OH, United States
- Exhibition Hall Tuesday 13:30-15:30 Computer 120
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- 13:30 4436. Large Tip Angle Segmented RF Design for Multi-Dimensionally Selective Imaging & Spectroscopy with Parallel Transmit**
Martin Haas¹, Jeff Snyder¹, Peter Ullmann², Jürgen Hennig¹, Maxim Zaitsev¹
¹Department of Radiology Medical Physics, University Medical Center Freiburg, Freiburg, Germany; ²Bruker BioSpin MRI GmbH, Ettlingen, Germany
- 14:00 4437. Flexibly Shaped Saturation Band Excitation using 7T Parallel Transmit System**
Borjan Gagoski¹, Khaldoun Makhoul^{2,3}, Dieter Ritter⁴, Kawin Setsompop^{2,3}, Josef Pfeuffer⁴, Himanshu Bhat⁵, Philipp Hoecht⁵, Michael Hamm⁵, Ulrich Fontius⁴, Lohith Kini¹, Joonsung Lee¹, Lawrence L. Wald^{2,6}, Elfar Adalsteinsson^{1,6}
¹Electrical Engineering & Computer Science, Massachusetts Institute of Technology, Cambridge, MA, United States; ²A.A. Martinos Center for Biomedical Imaging, Department of Radiology, Massachusetts General Hospital, Charlestown, MA, United States; ³Harvard Medical School, Boston, MA, United States; ⁴Siemens Healthcare, Erlangen, Germany; ⁵Siemens Healthcare, Charlestown, MA, United States; ⁶Harvard-MIT Division of Health Sciences & Technology, MIT, Cambridge, MA, United States
- 14:30 4438. In Vivo Zoom Imaging using Transmit SENSE**
Ingmar Graesslin¹, Sebastian Boetzl¹, Ulrich Katscher¹, Kay Nehrke¹, Bjoern Annighoefer², Giel Mens³, Peter Börner¹
¹Philips Research Laboratories, Hamburg, Germany; ²TU Hamburg-Harburg, Hamburg, Germany; ³Philips Healthcare, Best, Netherlands
- 15:00 4439. Practical Considerations for the Design of Parallel Transmission Pulses at Ultra-High Field**
Tiejun Zhao¹, Hai Zheng², Yik-Kiong Hue³, Tamer Ibrahim^{1,3}, Yongxian Qian³, Fernando Boada^{2,3}
¹Siemens Medical Solutions, Pittsburgh, PA, United States; ²Bioengineering, University of Pittsburgh, Pittsburgh, PA, United States; ³Radiology, University of Pittsburgh, Pittsburgh, PA, United States
- Exhibition Hall Wednesday 13:30-15:30 Computer 120
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- 13:30 4440. Characterization & Correction of Eddy Currents for Ultra-High Field Parallel Transmission with RF Pulse Design**
Hai Zheng¹, Tiejun Zhao², Yongxian Qian³, Tamer Ibrahim^{1,3}, Fernando Boada^{1,3}
¹Bioengineering, University of Pittsburgh, Pittsburgh, PA, United States; ²Siemens Medical Solutions, Pittsburgh, PA, United States; ³Radiology, University of Pittsburgh, Pittsburgh, PA, United States
- 14:00 4441. Parallel Transmission in Human Brain at 9.4T Counteracting Eddy Current Induced Excitation Errors in RF Pulse Design**
Xiaoping Wu¹, Gregor Adriany¹, Kamil Ugurbil¹, P-F. Van De Moortele¹
¹CMRR, Radiology, University of Minnesota, Minneapolis, MN, United States
- 14:30 4442. An Interleaved Spatial-Spectral Pulse for Imaging Large Chemical-Shift Components**
Jing Chen¹, Jing An², Yan Zhuo¹
¹State Key Laboratory of Brain & Cognitive Science, Inst. of Biophysics, Chinese Academy of Sciences, Beijing, China, People's Republic of; ²Siemens Healthcare, MR Collaboration NE Asia, Siemens Mindit Magnetic Resonance, China, People's Republic of
- 15:00 4443. RF Energy Reduction by Parallel Transmission using Large-Tip-Angle Composite Pulses**
Rene Gumbrecht^{1,2}, Elfar Adalsteinsson^{3,4}, Paul Müller², Hans-Peter Fautz¹
¹Siemens Healthcare, Erlangen, Germany; ²Department of Physics, Friedrich-Alexander University, Erlangen, Germany; ³Electrical Engineering & Computer Science, Massachusetts Institute of Technology, Cambridge, MA, United States; ⁴Harvard-MIT Division of Health Sciences & Technology, Massachusetts Institute of Technology, Cambridge, MA, United States
- Exhibition Hall Thursday 13:30-15:30 Computer 120
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- 13:30 4444. B₁ Inhomogeneity Mitigation in the Human Brain at 7T with Selective Pulses by using Average Hamiltonian Theory**
Nicolas Boulant¹, Martijn Cloos¹, Alexis Amadon¹
¹NeuroSpin, CEA Saclay, Saclay, France
- 14:00 4445. Non-Slice Selective Uniform Tipping RF Pulse Design for 3D MRI at High Field**
Hui Liu^{1,2}, Gerald B. Matson^{1,3}

¹Center for Imaging of Neurodegenerative Diseases (CIND), Veterans Affairs Medical Center, San Francisco, CA, United States; ²Northern California Institute for Research & Education, San Francisco, CA, United States; ³University of California, San Francisco, CA, United States

14:30 4446. T₂-Weighting Enhancement using Pseudo-Echoes Generated by Selective Adiabatic Refocusing Pulses in a CPMG Pulse Sequence

Ziqi Sun¹

¹Davis Heart & Lung Research Institute, the Ohio State University, Columbus, OH, United States

15:00 4447. Fast Spin Echo Imaging with Quadratic Phase-Modulated Non-CPMG Echo Train in Parallel Transmit – a Simulation Study

Seung-Kyun Lee¹, Mika W. Vogel², William A. Grissom², Graeme C. McKinnon³, Patrick H. Le Roux⁴

¹GE Global Research, Niskayuna, NY, United States; ²Advanced Medical Applications Laboratory, GE Global Research, Munich, Bavaria, Germany; ³Applied Science Lab, GE Healthcare, Waukesha, WI, United States; ⁴Applied Science Lab, GE Healthcare, Palaiseau, France

Quantitative MRI

Exhibition Hall Monday 14:00-16:00 Computer 121

14:00 4448. Experimental Evaluation of RF Non-Uniformity Correction in the Mapping of the Proton Density

Vincent Gras¹, Zaheer Abbas¹, Nadim Jon Shah^{1,2}

¹Institute of Neuroscience & Medicine 4, Medical Imaging Physics, Forschungszentrum Jülich GmbH, Jülich, Germany; ²Faculty of Medicine, Department of Neurology, RWTH Aachen University, Aachen, Germany

14:30 4449. Quantitative Water Content Mapping at 1.5 & 3 Tesla Field Strength

Vincent Gras¹, Zaheer Abbas², Anna-Maria Oros-Peusquens³, Klaus Hans Manfred Möllenhoff³, Fabian Keil³, Miriam Rabea Kubach¹, Nadim Jon Shah^{1,4}

¹Institute of Neuroscience & Medicine 4, Medical Imaging Physics, Forschungszentrum Jülich GmbH, Jülich, Germany; ²Institute of Neuroscience & Medicine 4, Medical Imaging Physics, Forschungszentrum Jülich GmbH, Jülich, Germany; ³Institute of Neuroscience & Medicine 4, Medical Imaging Physics, Forschungszentrum Jülich GmbH, Jülich, Germany; ⁴Faculty of Medicine, Department of Neurology, RWTH Aachen University, Aachen, Germany

15:00 4450. Quantitative Magnetic Resonance Imaging in Light-Chain (AL) Amyloidosis: Preliminary Experience

Stephan William Anderson¹, Jennifer Ellis-Ward², Erskine Hawkins³, James A. Hamilton⁴, Carl J. O'Hara⁵, Lawreen H. Connors⁶, Jorge A. Soto¹, David C. Seldin², Hernan Jara¹

¹Radiology, Boston University Medical Center, Boston, MA, United States; ²Hematology & Medical Oncology, Boston University Medical Center; ³Boston University School of Medicine; ⁴Physiology & Biophysics, Boston University Medical Center; ⁵Pathology & Laboratory Medicine, Boston University Medical Center; ⁶Biochemistry, Boston University School of Medicine

15:30 4451. Characterization of Modified Look Locker (MOLLI) using Bloch Simulations & Corroboration with Scan Measurements

Neville D. Gai¹, Christian Stehning², Marcelo Nacif¹, David A. Bluemke^{1,3}

¹Radiology & Imaging Sciences, National Institutes of Health, Bethesda, MD, United States; ²Philips Research Europe, Hamburg, Germany; ³NIBIB, Bethesda, MD, United States

Exhibition Hall Tuesday 13:30-15:30 Computer 121

13:30 4452. Comparison of Different EPI-Based Approaches to Measure T₂' in Human Brain for the Purpose of Oxygenation Measurements

Thomas Christen¹, Heiko Schmiedeskamp¹, Matus Straka¹, Roland Bammer¹, Greg Zaharchuk¹

¹Department of radiology, Stanford University, Stanford, CA, United States

14:00 4453. On the T₁ of Fat Calculated from a Segmented Look Locker Scout Scan & Its Implications in Cardiac Imaging

Neville D. Gai¹, Christian Stehning², Saman Nazarian³, Evrim Turkbey¹, David A. Bluemke^{1,4}

¹Radiology & Imaging Sciences, National Institutes of Health, Bethesda, MD, United States; ²Philips Research Europe, Hamburg, Germany; ³Division of Cardiology, Johns Hopkins University, Baltimore, United States; ⁴NIBIB, Bethesda, MD, United States

14:30 4454. Accurate T₁ Measurement with IR-Prepared Segmented Gradient Echo & a New Regression Algorithm

Haosen Zhang¹, Kevin Hitchens¹, Qing Ye¹, Erik B. Schelbert², Chien Ho¹

¹Pittsburgh NMR Center for Biomedical Research, Department of Biological Science, Carnegie Mellon University, Pittsburgh, PA, United States; ²Department of Medicine, University of Pittsburgh, Pittsburgh, PA, United States

15:00 4455. Non-Exponential T₂* Decay in White Matter

Peter van Gelderen¹, Jacco A. de Zwart¹, Jongho Lee¹, Pascal Sati², Daniel S. Reich², Jeff H. Duyn¹

¹Advanced MRI section, LFMI, NINDS, National Institutes of Health, Bethesda, MD, United States; ²Translational Neuroradiology Unit, Neuroimmunology Branch, NINDS, National Institutes of Health, Bethesda, MD, United States

Exhibition Hall Wednesday 13:30-15:30 Computer 121

- 13:30 4456. Fast Radio-Frequency Enforced Steady State (FRESS) Spin Echo MRI for Quantitative T₂ Mapping**
Jerry S. Cheung¹, Enfeng Wang^{1,2}, XiaoAn Zhang², Emiri Mandeville³, Eng H. Lo³, A. Gregory Sorensen¹, Phillip Zhe Sun¹
¹Athinoula A. Martinos Center for Biomedical Imaging, Department of Radiology, MGH & Harvard Medical School, Charlestown, MA 02129, United States; ²Department of Radiology, 3rd Affiliated Hospital, Zhengzhou University, China, People's Republic of; ³Neuroprotection Research Laboratory, Department of Radiology & Neurology, MGH and Harvard Medical School, Charlestown, MA 02129, United States
- 14:00 4457. Quantitative T₁ Estimation using Tissue Specific Imaging**
Arezou Koochi¹, Vasiliki N. Ikonomidou¹
¹Electrical & Computer Engineering, George Mason University, Fairfax, VA, United States
- 14:30 4458. Single-Slice Mapping of Submillisecond T₂ using Spin Echo Prepared Ultra-Short Echo Time Imaging**
Stefan Kirsch¹, Lothar R. Schad¹
¹Computer Assisted Clinical Medicine, Heidelberg University, Mannheim, Germany
- 15:00 4459. Effect of the Slice Profile on the T₁ Measurement with Steady-State Magnetization**
Jung-Jiin Hsu¹
¹Radiology, University of Miami School of Medicine, Miami, FL, United States

Exhibition Hall Thursday 13:30-15:30 Computer 121

- 13:30 4460. T₂* Myelin Water Imaging with BmGESEPI for Macroscopic Field Inhomogeneity Compensation**
Yoonho Nam¹, Eung-Yeop Kim², Dosik Hwang¹, Dong-Hyun Kim¹
¹Electrical & Electronic Engineering, Yonsei University, Seoul, Korea, Republic of; ²Radiology, Yonsei University, Seoul, Korea, Republic of
- 14:00 4461. Simulation of the Filtering Effect of the FLASH Readout on Saturation Recovery T₁ Evaluation**
Moritz Cornelius Berger¹, Wolfhard Semmler¹, Michael Bock¹
¹Medical Physics in Radiology, German Cancer Research Center (DKFZ), Heidelberg, Germany
- 14:30 4462. Rapid T₂ Mapping of Mouse Heart using CPMG Sequence & Model-Based Compressed Sensing Reconstruction**
Yong Chen^{1,2}, Wen Li^{1,2}, Xin Yu^{1,2}
¹Department of Biomedical Engineering, Case Western Reserve Univ, Cleveland, OH, United States; ²Case Center for Imaging Research, Case Western Reserve Univ, Cleveland, OH, United States
- 15:00 4463. Multi-Slice Look-Locker T₁ Mapping for the Mouse Heart**
Adrienne E. Campbell^{1,2}, Anthony N. Price³, Bernard M. Siow¹, Jack A. Wells¹, Mark F. Lythgoe¹, Roger J. Ordidge²
¹Centre for Advanced Biomedical Imaging, Division of Medicine & Institute of Child Health, University College London, London, United Kingdom; ²Department of Medical Physics & Bioengineering, University College London, London, United Kingdom; ³Robert Steiner MRI Unit, Imaging Science Department, Hammersmith Hospital, Imperial College London, London, United Kingdom

Electromagnetic Tissue Property Mapping

Exhibition Hall Monday 14:00-16:00 Computer 122

- 14:00 4464. Electrical Conductivity Imaging of Brain Tumours.**
Astrid L. H. M. W. van Lier¹, Johannes M. Hoogduin², Daniel L. Polders², Vincent O. Boer², Jeroen Hendrikse², Pierre A. Robe³, Peter A. Woerdeman³, Jan J. W. Lagendijk¹, Peter R. Luijten², Cornelis A. T. van Den Berg¹
¹Radiotherapy, UMC Utrecht, Utrecht, Netherlands; ²Radiology, UMC Utrecht, Utrecht, Netherlands; ³Neurosurgery, UMC Utrecht, Utrecht, Netherlands
- 14:30 4465. Electrical Impedance Tomography using Magnetic Resonance as the Voltage Source**
Michiro Negishi¹, Tangji Tong¹, Peter Brown¹, Terrence Nixon¹, R. Todd Constable^{1,2}
¹Diagnostic Radiology, Yale University, New Haven, CT, United States; ²Neurosurgery, Yale University, New Haven, CT, United States
- 15:00 4466. In Vivo Conductivity Mapping using Double Spin Echo for Flow Effect Removal**
Narae Choi¹, Minoh Ghim¹, Seungwook Yang¹, Sang-Young Cho¹, Dong-Hyun Kim^{1,2}

¹Electrical & Electronic Engineering, Yonsei University, Sinchon dong, Seoul, Korea, Republic of; ²Radiology, Yonsei University, Sinchon dong, Seoul, Korea, Republic of

- 15:30 4467. **Rapid Estimation of Conductivity & Permittivity using Bloch-Siegert B₁ Mapping at 3.0T**
Selaka Bandara Bulumulla¹, Seung-Kyun Lee¹, Teck Beng Desmond Yeol¹, W. Thomas Dixon¹, Thomas K. Foo¹
¹GE Global Research, Niskayuna, NY, United States

Exhibition Hall Tuesday 13:30-15:30 Computer 122

- 13:30 4468. **MREIT & EPT: A Comparison of Two Conductivity Imaging Modalities**
Dong-Hyun Kim¹, Min-Oh Ghim¹, Ohin Kwon², Hyung Joong Kim³, Jin Keun Seo⁴, Eung Je Woo³
¹Electrical & Electronic Engineering, Yonsei University, Seoul, Korea, Republic of; ²Mathematics, Konkuk University, Korea, Republic of; ³Biomedical Engineering, Kyung Hee University, Korea, Republic of; ⁴Mathematics, Yonsei University, Seoul, Korea, Republic of
- 14:00 4469. **Mechanism of Conductivity Image Contrast in MREIT: Numerical Simulation & Phantom Experiment**
Young Tae Kim¹, Tong In Oh¹, Atul Singh Minhas¹, Hyung Joong Kim¹, Jin Keun Seo², Oh In Kwon³, Eung Je Woo¹
¹Biomedical Engineering, Kyung Hee University, Yongin, Gyeonggi, Korea, Republic of; ²Computational Science & Engineering, Yonsei University, Seoul, Korea, Republic of; ³Mathematics, Konkuk University, Seoul, Korea, Republic of
- 14:30 4470. **Quantitative Susceptibility Imaging using L₁ Regularized ReConstruction with Sparsity Promoting Transformation: SILC**
Deqiang Qiu¹, Greg Zaharchuk¹, Shangping Feng¹, Thomas Christen¹, Kyunghyun Sung¹, Michael E. Moseley¹
¹Lucas Imaging Center, Stanford University, Stanford, CA, United States
- 15:00 4471. **In Vivo Whole Brain Susceptibility Mapping using Compressed Sensing**
Bing Wu¹, Wei Li¹, Chunlei Liu¹
¹Brain imaging & analysis center, Duke University, Durham, NC, United States

Exhibition Hall Wednesday 13:30-15:30 Computer 122

- 13:30 4472. **Regularized Quantitative Susceptibility Mapping for Phase-Based Regional Oxygen Metabolism (PROM) at 7T**
Audrey Peiwen Fan¹, Berkin Bilgic¹, Thomas Benner², Bruce R. Rosen^{2,3}, Elfar Adalsteinsson^{1,3}
¹Electrical Engineering & Computer Science, Massachusetts Institute of Technology, Cambridge, MA, United States; ²Radiology, Athinoula A. Martinos Center for Biomedical Imaging, Charlestown, MA, United States; ³Health Sciences & Technology, Harvard-MIT, Cambridge, MA, United States
- 14:00 4473. **A Theoretical Analysis of the Morphology Enabled Dipole Inversion (MEDI) Method: using Anatomical Information to Improve the Calculation of Susceptibility**
Tian Liu^{1,2}, Weiyu Xu³, Amir Salman Avestimehr³, Yi Wang^{1,2}
¹Biomedical Engineering, Cornell University, Ithaca, NY, United States; ²Radiology, Weill Cornell Medical College, New York, NY, United States; ³School of Electrical & Computer Engineering, Cornell University, Ithaca, NY, United States
- 14:30 4474. **Fast In Vivo Susceptibility Imaging using Compressed Sensing & Parallel Imaging**
Bing Wu¹, Wei Li¹, Chunlei Liu¹
¹Brain Imaging & Analysis Center, Duke University, Durham, NC, United States
- 15:00 4475. **Susceptibility Mapping: Computation of the Field Map using Water-Fat Separation at 7T**
Ildar Khalidov¹, Tian Liu¹, Martin R. Prince¹, Yi Wang¹
¹Radiology, Weill Cornell Medical College, NYC, NY, United States

Exhibition Hall Thursday 13:30-15:30 Computer 122

- 13:30 4476. **Improving Susceptibility Mapping of Veins using a K-Space Iterative Approach**
Jin Tang¹, Saifeng Liu¹, Jaladhar Neelavalli², E. Mark Haacke^{2,3}
¹School of Biomedical Engineering, McMaster University, Hamilton, Ontario, Canada; ²The MRI Institute for Biomedical Research, Detroit, MI, United States; ³Academic Radiology, Wayne State University, Detroit, MI, United States
- 14:00 4477. **Susceptibility Mapping in Rat Deep Brain Structures using UHF MRI**
David A. Rudko¹, L. M. Klassen¹, Sonali N. de Chickera², Greg A. Dekaban², Ravi S. Menon¹
¹Centre for Functional & Metabolic Mapping, Robarts Research Institute, London, Ontario, Canada; ²Biotherapeutics Research Group, Robarts Research Institute, London, Ontario, Canada
- 14:30 4478. **Susceptibility Mapping of Human Brain Reflects Spatial Variation in Tissue Composition**
Wei Li¹, Bing Wu¹, Chunlei Liu^{1,2}

¹Brain Imaging & Analysis Center, Duke University, Durham, NC, United States; ²Radiology, Duke University, Durham, NC, United States

15:00 4479. **Susceptibility Quantification in MRI using Phase Gradient Mapping**

Luning Wang¹, Qun Zhao¹

¹Department of Physics & Astronomy, University of Georgia, Athens, GA, United States

Pulse Sequences - Contrast Mechanisms

Exhibition Hall Monday 14:00-16:00 Computer 123

14:00 4480. **Feasibility of Myelin Water Fraction Quantification using Multi-Component Gradient Echo Sampling of Spin Echoes**

Yann Gagnon^{1,2}, Neil Gelman^{1,2}, Jean Théberge^{1,2}

¹Medical Biophysics, University of Western Ontario, London, Ontario, Canada; ²Lawson Health Research Institute, London, Ontario, Canada

14:30 4481. **2D Multi-Slice Quantitative Myelin Water Imaging at 3T**

Junyu Guo¹, Qing Ji¹, Wilburn E. Reddick¹

¹Radiological Sciences, St Jude Children's Research Hospital, Memphis, TN, United States

15:00 4482. **Simulation of Double Pulsed Field Gradient Experiments**

Gregory T. Baxter¹, Evren Ozarlan^{2,3}, Peter J. Basser², Lawrence R. Frank^{1,4}

¹Radiology, UCSD, La Jolla, CA, United States; ²STBB / PPITS / NICHD, National Institutes of Health, Bethesda, MD, United States; ³Center for Neuroscience & Regenerative Medicine, USUHS, Bethesda, MD, United States; ⁴VASDHS, La Jolla, CA, United States

15:30 4483. **Intermolecular Double-Quantum Coherence Imaging without Coherence Selection Gradients**

Yanqin Lin¹, Guiping Sheng¹, Congbo Cai¹, Shuhui Cai¹, Jianhui Zhong², Zhong Chen¹

¹Department of Physics, Xiamen University, Xiamen, Fujian, China, People's Republic of; ²Department of Imaging Sciences, University of Rochester, Rochester, NY, United States

Endogenons Contrast: Relaxation, CEST & MT

Exhibition Hall Monday 13:30-15:30 Computer 124

14:00 4484. **Self-Justification Fitting to Improve Reliability of Relaxometry Quantification**

Dan Ma¹, Kecheng Liu², Mark Griswold¹

¹Biomedical Engineering, Case Western Reserve University, Cleveland, OH, United States; ²Siemens Medical Solution

14:30 4485. **Simultaneous Quantification of the Arterial Input Function & Myocardial T₁ in Small Animals using Saturation Recovery Look-Locker**

Wen Li¹, Bernadette Erowku², Chris Flask^{2,3}, Mark Griswold^{1,3}, Xin Yu^{1,3}

¹Biomedical Engineering Department, Case Western Reserve University, Cleveland, OH, United States; ²Case Center for Imaging Research; ³Radiology Department

15:00 4486. **Anatomical Brain Scans Derived from Quantitative T₁maps: Investigation of SNR, CNR & Signal Uniformity in Comparison to Conventional Methods**

Ulrike Nöth¹, Steffen Volz¹, Ralf Deichmann¹

¹Brain Imaging Center (BIC), Goethe University Frankfurt/Main, Frankfurt/Main, Germany

15:30 4487. **Phantom Verification of B₁ Inhomogeneity Correction for 3D-Variable Flip Angle T₁ Measurements**

Carl Siversson¹, Carina Dahlberg², Carl Johan Tiderius³, Tallal Charles Mamisch⁴, Jonas Svensson¹, Young jo Kim⁵

¹Department of Radiation Physics, Lund University, Malmö, Sweden; ²Lund Bioimaging center, Lund University, Lund, Sweden; ³Department of Orthopaedics, Lund University, Malmö, Sweden; ⁴Department of Orthopaedics, University of Bern, Bern, Switzerland; ⁵Department of Orthopaedics, Children's Hospital Boston, Boston, MA, United States

Exhibition Hall Tuesday 13:30-15:30 Computer 124

13:30 4488. **Spoiling Properties of the VAFI Method for Fast Simultaneous T₁ & B₁ Mapping from Actual Flip-Angle Imaging (AFI) & Variable Flip-Angle (VFA) Data.**

Samuel Anthony Hurley¹, Vasily L. Yarnykh², Alexey A. Samsonov³

¹Medical Physics, University of Wisconsin, Madison, WI, United States; ²Radiology, University of Washington, Seattle, WA, United States; ³Radiology, University of Wisconsin, Madison, WI, United States

- 14:00 4489. In Vivo Correlation of T₁ & Methemoglobin in a Mouse Model of Deep Vein Thrombosis**
Prakash Saha¹, Marcelo E. Andia², Ulrike Blume^{2,3}, Bijan Modarai¹, Matthew Waltham¹, Alberto Smith¹, Tobias Schaeffter², Andrea J. Wiethoff^{2,4}
¹Department of Academic Surgery, Cardiovascular Division, King's College London, London, United Kingdom; ²Division of Imaging Sciences & Biomedical Engineering, King's College London, London, United Kingdom; ³Philips Healthcare, Best, Netherlands; ⁴Philips Healthcare, Guildford, United Kingdom
- 14:30 4490. Quantitative Model-Based Analysis of Amide Proton Transfer MRI**
Michael A. Chappell^{1,2}, Manus J. Donahue³, Yee Kai Tee¹, Peter Jezzard², Stephen J. Payne¹
¹Institute of Biomedical Engineering, University of Oxford, Oxford, United Kingdom; ²FMRIB Centre, University of Oxford, Oxford, United Kingdom; ³School of Medicine, Vanderbilt University, Nashville, TN, United States
- 15:00 4491. CEST Sensitivity Functions Based Sampling Schedule**
Yee Kai Tee¹, Michael A. Chappell^{1,2}, Jingyi Xie², Stephen J. Payne¹
¹Institute of Biomedical Engineering, Department of Engineering Science, University of Oxford, Oxford, Oxfordshire, United Kingdom; ²Oxford Centre for Functional MRI of the Brain, University of Oxford

Exhibition Hall Wednesday 13:30-15:30 Computer 124

- 13:30 4492. Enhancement of Endogenous CEST Effects by Optimizing Pre-Saturation Pulse Train Properties**
Moritz Zaiss¹, Benjamin Schmitt¹, Peter Bachert¹
¹Department of Medical Physics in Radiology, German Cancer Research Center, Heidelberg, Germany
- 14:00 4493. Simulation & Optimization of Pulsed RF Irradiation Scheme for Chemical Exchange Saturation Transfer (CEST) MRI – Demonstration of PH-Weighted Pulsed-CEST MRI in Acute Ischemic Stroke Animal Model**
Phillip Zhe Sun¹, Enfeng Wang¹, Jerry S. Cheung¹, Thomas Benner¹, A. Gregory Sorensen¹
¹Radiology, Athinoula. A. Martinos Center for Biomedical Imaging, MGH & Harvard Medical School, Charlestown, MA, United States
- 14:30 4494. Center-Corrected GagCEST Assessment of Intervertebral Disc Degeneration**
Boyang Zhang¹, Xiang Xu¹, Jae-Seung Lee^{1,2}, Gil Navon³, Ravinder R. Regatte², Alexej Jerschow¹
¹Department of Chemistry, New York University, New York, NY, United States; ²Department of Radiology, New York University School of Medicine, New York, NY, United States; ³School of Chemistry, Tel Aviv University, Tel Aviv, Israel
- 15:00 4495. Chemical Exchange Saturation Transfer & R₁rho Dispersions of Polypeptides with Varying Complexities**
Ke Li^{1,2}, Jared G. Cobb^{1,3}, Jingping Xie^{1,2}, Zhongliang Zu^{1,2}, Daniel F. Gochberg^{1,2}, John C. Gore^{1,2}
¹Institute of Imaging Science, Vanderbilt University, Nashville, TN, United States; ²Department of Radiology, Vanderbilt University, Nashville, TN, United States; ³Department of Biomedical Engineering, Vanderbilt University, Nashville, TN, United States

Exhibition Hall Thursday 13:30-15:30 Computer 124

- 13:30 4496. Characterization of Iopamidol Chemical Exchange Saturation Transfer (CEST) MRI for Ratiometric Imaging of PH**
Phillip Zhe Sun¹, Dario L. Longo², Silvio Aime²
¹Radiology, Athinoula. A. Martinos Center for Biomedical Imaging, MGH & Harvard Medical School, Charlestown, MA, United States; ²Chemistry, IFM & Molecular Imaging Centre, University of Torino, Torino, Italy
- 14:00 4497. In Vivo LipoCEST CA Accumulation Around U87 Mice Brain Tumor Demonstrated by In Vivo CEST MRI & Ex Vivo Fluorescence Microscopy**
Julien Flament¹, Françoise Geffroy¹, Boucif Djemai¹, Benoit Theze², Aline Perrin¹, Christelle Medina³, Caroline Robic³, Marc Port³, Franck Lethimonnier¹, Gilles Bloch¹, Denis Le Bihan¹, Fawzi Boumezbeur¹
¹NeuroSpin, I2BM, DSV, Commissariat à l'Energie Atomique, Gif-sur-Yvette, France; ²SHFJ, I2BM, DSV, Commissariat à l'Energie Atomique, Gif-sur-Yvette, France; ³Guerbet, Research Division, Roissy-Charles de Gaulle, France
- 14:30 4498. Optimal Parameters for a Fixed Imaging Time Acquisition of Quantitative Magnetization Transfer Data**
Mara Cercignani¹, Gareth J. Barker², Daniel C. Alexander³
¹Neuroimaging Laboratory, Santa Lucia Foundation, Rome, Italy; ²CNS, Department of Neuroimaging, King's College London, Institute of Psychiatry, London, United Kingdom; ³Centre for Medical Image computing, Department of Computer Science, UCL, London, United Kingdom
- 15:00 4499. Magnetic Field-Dependent Magnetisation Transfer Contrast MRI with Fast Field-Cycling**
Chang-Hoon Choi^{1,2}, David J. Lurie¹
¹Aberdeen Biomedical Imaging Centre, University of Aberdeen, Aberdeen, Scotland, United Kingdom; ²MR Solutions Ltd., Guildford, Surrey, United Kingdom

Endogenons Contrast Relaxometry

Exhibition Hall Monday 14:00-16:00 Computer 125

- 14:00 4500. Magic Angle Effects on T₂, T₂* & T_{1ρ} Relaxation Times**
Jiang Du¹, Eric Diaz¹, Won Bae¹, Sheronda Statum¹, Nikolaus Szeverenyi¹, Darryl DLima², Graeme Bydder¹, Christine Chung¹
¹Radiology, University of California, San Diego, San Diego, CA, United States; ²Scripps Reseach Institution, San Diego, CA, United States
- 14:30 4501. Dynamic Changes of On-Resonance T_{1ρ} Dispersion During Global Ischemia: A 9.4 T Study**
Tao Jin¹, Seong-Gi Kim¹
¹Neuroimaging Laboratory, Department of Radiology, University of Pittsburgh, Pittsburgh, PA, United States
- 15:00 4502. Fluid Suppressed T_{1ρ} Mapping of Human Liver on Clinical Scanners**
Anup Singh¹, Mohammad Haris¹, Kejia Cai¹, Walter R. T. Witschey², Hari Hariharan¹, Ravinder Reddy¹
¹CMROI, Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States; ²Department of Radiology, University Hospital Freiburg, Freiburg, Germany
- 15:30 4503. T_{1ρ} Changes in the Human Brain During Respiratory Acidosis & Alkalosis**
Hye Young Heo¹, Brian J. Dlouhy², Nader S. Dahdaleh², Daniel R. Thedens³, Bradley D. Bolster⁴, John A. Wemmie^{2,5}, Vincent A. Magnotta^{1,3}
¹Biomedical Engineering, University of Iowa, Iowa City, IA, United States; ²Neurosurgery, University of Iowa, Iowa City, IA, United States; ³Radiology, University of Iowa, Iowa City, IA, United States; ⁴Siemens Healthcare, Rochester, MN, United States; ⁵Psychiatry, University of Iowa, Iowa City, IA, United States

Exhibition Hall Tuesday 13:30-15:30 Computer 125

- 13:30 4504. Age Related Differences in Brain Iron Detected *In Vivo* at 3T with Quantitative MRI: Comparison of R₂, R₂* & R₂***
Catherine Anusha Mallik¹, David J. Lythgoe¹, Gareth J. Barker¹
¹Centre for Neuroimaging Sciences, Institute of Psychiatry, King's College London, London, United Kingdom
- 14:00 4505. Different Patterns of Myocardial Iron Overload by Multislice T₂* Cardiovascular MR as Markers of Risk for Cardiac Dysfunction in Thalassemia Major.**
Antonella Meloni¹, Pasquale Pepe¹, Maria Chiara Dell'Amico¹, Gennaro Restaino², Gianluca Valeri³, Massimo Midiri⁴, Vincenzo Positano¹, Petra Keilberg¹, Antonio Cardinale⁵, Massimo Lombardi¹, Alessia Pepe¹
¹Fondazione G.Monasterio CNR-Regione Toscana & Institute of Clinical Physiology, Pisa, Italy; ²Università Cattolica del Sacro Cuore, Campobasso, Italy; ³Azienda Ospedaliero-Universitaria Ospedali Riuniti "Umberto I-Lancisi-Salesi", Ancona, Italy; ⁴Policlinico "Paolo Giaccone", Palermo, Italy; ⁵Ospedale S Maria alla Gruccia, Montevarchi, Italy
- 14:30 4506. Characterization of Chelation Therapies in Thalassemia Patients by Longitudinal Analysis of MRI-Assessed Cardiac & Hepatic Iron Overload**
Antonella Meloni¹, John C. Wood², Alessia Pepe¹, Leila J. Noetzli², Maria Chiara Dell'Amico¹, Gianluca Valeri³, Claudio Ascoti⁴, Petra Keilberg¹, Massimo Lombardi¹, Vincenzo Positano¹
¹Fondazione G.Monasterio CNR-Regione Toscana & Institute of Clinical Physiology, Pisa, Italy; ²Children's Hospital, Los Angeles, United States; ³Azienda Ospedaliero-Universitaria Ospedali Riuniti "Umberto I-Lancisi-Salesi", Ancona, Italy; ⁴P.O. "Giovanni Paolo II", Lamezia Terme, Italy
- 15:00 4507. *In Vivo* & *In Vitro* T₂* Quantification of Carious Lesions by Ultra-Short Echo-Time (UTE) MRI**
Anna-Katinka Bracher¹, Axel Bornstedt¹, Erich Hell², Johannes Ulrici², Volker Rasche¹
¹Department of Internal Medicine II, University Hospital of Ulm, Ulm, Germany; ²Sirona Dental Systems, Bensheim, Germany

Exhibition Hall Wednesday 13:30-15:30 Computer 125

- 13:30 4508. Potential Sources for MR Signal Delay**
Yongxian Qian¹, Fernando E. Boada^{1,2}
¹Radiology, University of Pittsburgh, Pittsburgh, PA, United States; ²Bioengineering, University of Pittsburgh, Pittsburgh, PA, United States
- 14:00 4509. Tumor Angiogenesis & Vasculature MRI with Endogenous BOLD Effect**
Kejia Cai¹, Adam Shore¹, Anup Singh¹, Mohammad Haris¹, Damodar Reddy¹, Hari Hariharan¹, Mark Elliott¹, Ravinder Reddy¹
¹CMROI, Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States

14:30 4510. Accelerated Gradient-Recalled Echo, Asymmetric Spin-Echo (GREASE-II) for Production of High-Resolution Human T₁, T₂, & T₂* Maps

Daniel Lee Shefchik¹, Andrew Scott Nencka¹, Andrzej Jesmanowicz¹, James S. Hyde¹

¹Department of Biophysics, Medical College of Wisconsin, Milwaukee, WI, United States

15:00 4511. Understanding the Effects of Oriented Susceptibility Inclusions on the Phase & Magnitude of Gradient Echo Signals

Anna Izabella Blazejewska¹, Samuel Wharton¹, Penny A. Gowland¹, Richard Bowtell¹

¹Sir Peter Mansfield Magnetic Resonance Centre, University of Nottingham, Nottingham, United Kingdom

Exhibition Hall Thursday 13:30-15:30 Computer 125

13:30 4512. Determinants of T₂* Relaxation in White Matter: Insights from Postmortem Analyses

Christian Langkammer^{1,2}, Nikolaus Krebs², Walter Goessler³, Eva Scheurer², Michaela Soellinger¹, Kathrin Yen², Franz Fazekas¹, Stefan Ropele¹

¹Department of Neurology, Medical University of Graz, Graz, Austria; ²Ludwig Boltzmann Institute for Clinical-Forensic Imaging, Graz, Austria; ³Institute of Chemistry - Analytical Chemistry, University of Graz, Graz, Austria

14:00 4513. Quantitative Iron Mapping in Human Brain Based on the Apparent Transverse Relaxation Time

Fumiyuki Mitsumori¹, Hidehiro Watanabe¹, Nobuhiro Takaya¹

¹Natl. Inst. Environmental Studies, Tsukuba, Ibaraki, Japan

14:30 4514. Effects of Fat Particle Size on R₂* in Fat-Water-SPIO Emulsion Phantoms: Implications for Fat Quantification with Phantoms

Catherine D. G. Hines¹, Calista Roen¹, Diego Hernando¹, Scott B. Reeder^{1,2}

¹Radiology, University of Wisconsin-Madison, Madison, WI, United States; ²Biomedical Engineering, University of Wisconsin-Madison, Madison, WI, United States

15:00 4515. A Simplified Approach for Anisotropic Susceptibility Map Calculation

Sam Wharton¹, Richard Bowtell¹

¹Sir Peter Mansfield Magnetic Resonance Centre, University of Nottingham, Nottingham, United Kingdom

Novel Tissue Contrast

Exhibition Hall Monday 14:00-16:00 Computer 126

14:00 4516. Orientation & Microstructure Effects on Susceptibility Reconstruction: A Diffusion Phantom Study

Johannes Lindemeyer¹, Ana-Maria Oros-Peusquens¹, Ezequiel Farrher¹, Farida Grinberg¹, Nadim Jon Shah^{1,2}

¹Institute of Neuroscience & Medicine - 4, Forschungszentrum Juelich, Juelich, Germany; ²Department of Neurology, Faculty of Medicine, JARA, RWTH Aachen, Aachen, Germany

14:30 4517. Effect of Orientation of 2D Phase High-Pass Filter on Susceptibility Mapping of Veins & Microbleeds

Jaladhar Neelavalli¹, Saifeng Liu², YuChung Norman Cheng³, Ewart Mark Haacke^{1,3}, Zhifeng Kou⁴

¹The Magnetic Resonance Imaging Institute for Biomedical Research, Detroit, MI, United States; ²Biomedical Engineering, McMaster University, Hamilton, Ontario, Canada; ³Academic Radiology, Wayne State University, Detroit, MI, United States; ⁴Biomedical Engineering, Wayne State University, Detroit, MI, United States

15:00 4518. Dependence of White Matter Orientation to Magnet Field on Gradient-Echo Imaging at 17.2 Tesla in Mice.

Christopher John Wiggins¹, Denis Le Bihan¹, Luisa Ciobanu¹

¹LRMN, CEA/NeuroSpin, Gif-Sur-Yvette cedex, France

15:30 4519. Use of a Non-Fixed Brain Tissue Sample to Examine the Effect of White Matter Orientation to the Magnetic Field on MRI Signals

Christopher John Wiggins¹, Denis Le Bihan¹

¹LRMN, CEA/NeuroSpin, Gif-Sur-Yvette cedex, France

Exhibition Hall Tuesday 13:30-15:30 Computer 126

13:30 4520. Positive-Contrast Imaging with Phase-Perturbed Differenced SSFP

R. Reeve Ingle¹, Dwight G. Nishimura¹

¹Electrical Engineering, Stanford University, Stanford, CA, United States

14:00 4521. Characterizing Tissue Microstructure Orientation by Multi-Directional Sub-Pixel Enhancement of Nonuniform Tissue (SPENT) Sequence

Bailiang Chen¹, Bernard Siow², David Carmichael³, Freddy Odille², Roger Ordidge¹, Andrew Todd-Pokropek¹

¹Medical Physics & Bioengineering, University College London, London, United Kingdom; ²Centre for Medical Image Computing, University College London, London, United Kingdom; ³Department of Clinical & Experimental Epilepsy, UCL, Institute of Neurology, , London, United Kingdom

- 14:30 4522. Macroscopic Meets Microscopic: The Use of Multi Acquisition Variable Resonance Image Combination (MAVRIC) for Detection of Microscopic Objects by Means of Off-Resonance Excitation**
Gerrit Hendrik van De Maat¹, U. A. Blume², C. J. den Harder², Clemens Bos³, Chris J. Bakker¹
¹Image Sciences Institute, University Medical Center, Utrecht, Netherlands; ²MR CTO, Philips Healthcare, Best, Netherlands; ³MR Clinical Science, Philips Healthcare, Best, Netherlands
- 15:00 4523. Improving Susceptibility Weighted Contrast using Gradient Echo Plural Contrast Imaging**
Jie Luo¹, Bharathi Jagadeesan², Dmitriy A. Yablonskiy²
¹Chemistry, Washington University in St.Louis, St. Louis, MO, United States; ²Radiology, Washington University School of Medicine, St. Louis, MO, United States

Exhibition Hall Wednesday 13:30-15:30 Computer 126

- 13:30 4524. A Simple 3D Susceptibility Model to Simulate Magnetic Field Patterns in White Matter Microstructure**
Way Cherng Chen¹, Karla Loreen Miller¹
¹FMRIB, University of Oxford, Oxford, Oxon, United Kingdom
- 14:00 4525. Study of Chemical Exchange Effect on Water MR Frequency Shifts using CEST**
Xiang He¹, Jie Luo², Dmitriy A. Yablonskiy², Kyongtae Ty Bae¹
¹Department of Radiology, University of Pittsburgh, Pittsburgh, PA, United States; ²Mallinckrodt Institute of Radiology, Washington University in St Louis, St Louis, MO, United States
- 14:30 4526. Accurate Determination of Water-Macromolecule Exchange Independent of Reference Interaction**
Tobias Leutritz¹, Liane Hilfert², Karl-Heinz Smalla³, Oliver Speck¹, Kai Zhong¹
¹Biomedical Magnetic Resonance, Otto-von-Guericke-University, Magdeburg, Germany; ²Institute for Chemistry, Otto-von-Guericke-University, Magdeburg, Germany; ³Leibniz-Institute for Neurobiology, Magdeburg, Germany
- 15:00 4527. Non-Linear Evolution of GRE Phase as a Means to Investigate Tissue Microstructure**
Ferdinand Schweser^{1,2}, Andreas Deistung¹, Daniel Güllmar¹, Marie Atterbury^{1,3}, Berengar Wendel Lehr¹, Karsten Sommer^{1,4}, Jürgen R. Reichenbach¹
¹Medical Physics Group, Dept. of Diagnostic & Interventional Radiology 1, Jena University Hospital, Jena, Germany; ²School of Medicine, Friedrich Schiller University of Jena, Jena, Germany; ³Dept. of Physics, Brown University, Providence, RI, United States; ⁴School of Physics & Astronomy, Friedrich Schiller University of Jena, Jena, Germany

Exhibition Hall Thursday 13:30-15:30 Computer 126

- 13:30 4528. In Vivo Acquisition of CEST MRI using Length & Offset VARIation of Saturation CEST (LOVARS-CEST) for Artifact Reduction**
Xiaolei Song^{1,2}, Guanshu Liu^{1,3}, Amnon Bar-Shir^{1,2}, Michael Gorelik^{1,2}, Assaf A. Gilad^{1,2}, Peter C. M. Van Zijl^{1,3}, Jeff W. M. Bulte,² Michael T. McMahon^{1,3}
¹Division of MR Research, the Russell H. Morgan Department of Radiology & Radiological Science, the Johns Hopkins University, Baltimore, MD, United States; ²Cellular Imaging Section, Institute for Cell Engineering, Johns Hopkins University, Baltimore, MD, United States; ³F.M. Kirby Research Center, Kennedy Krieger Institute, Baltimore, MD, United States
- 14:00 4529. The Removal of Blood Contributions in Phase & Susceptibility Contrast Imaging**
Alexandru Vlad Avram^{1,2}, Arnaud Guidon^{1,2}, Chunlei Liu², Allen W. Song²
¹Biomedical Engineering Department, Duke University, Durham, NC, United States; ²Brain Imaging & Analysis Center, Duke University Medical Center, Durham, NC, United States
- 14:30 4530. Improving Contrast to Noise Ratio of Resonance Frequency Contrast Images (Phase Images) using BSSFP**
Jongho Lee^{1,2}, Masaki Fukunaga^{1,3}, Jeff H. Duyn¹
¹Advanced MRI section/LFMI/NINDS, National Institutes of Health, Bethesda, MD, United States; ²Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States; ³Biofunctional Imaging, WPI Immunology Frontier Research Center, Osaka University, Osaka, Japan
- 15:00 4531. Frequency Mapping without Phase Wraps**
Issel Anne Lei Lim^{1,2}, Jonathan A. D. Farrell^{2,3}, Craig K. Jones^{2,3}, Deepti S. Vikram^{2,3}, Carlos Augusto Renjifo⁴, Peter C. M. van Zijl^{2,3}
¹Biomedical Engineering, Johns Hopkins University, Baltimore, MD, United States; ²F. M. Kirby Research Center for Functional Brain Imaging, Kennedy Krieger Institute, Baltimore, MD, United States; ³Neuroscience Section, Division of MR Research, Department of Radiology, Johns Hopkins University School of Medicine, Baltimore, MD, United States; ⁴The Johns Hopkins University Applied Physics Laboratory, Laurel, MD, United States

Image Analysis Advances

Exhibition Hall	Monday 14:00-16:00	Computer 127
14:00	4532. An Automated Method for Scan Geometry Planning for MR Knee Imaging <i>Xiaodong Tao¹</i> ¹ Imaging Technologies, GE Global Research Center, Niskayuna, NY, United States	
14:30	4533. Automated Scan Prescription for MRI Liver Scans <i>Takao Goto¹, Hiroyuki Kabasawa¹</i> ¹ Global Applied Science Laboratory, GE Healthcare, Hino-shi, Tokyo, Japan	
15:00	4534. Automatic Derivation of Scan Plane Angles Along the Vertebral Column of the Human Spine <i>Anand Narasimhamurthy¹, Akshay Pai¹, Vivek Vaidya², Uday Patil¹</i> ¹ GE Global Research Centre, Bangalore, Karnataka, India; ² GE Global Research Centre, Bangalore, Bangalore, Karnataka, India	
15:30	4535. Automated Scan Plane Planning for Spine MRI using 2D Scout Images <i>Suguru Yokosawa¹, Yo Taniguchi¹, Yoshitaka Bito¹, Hisako Nagao², Miki Tachibana², Hiroyuki Itagaki²</i> ¹ Central Research Laboratory, Hitachi, Ltd., Kokubunji, Tokyo, Japan; ² Hitachi Medical Corporation, Kashiwa, Chiba, Japan	
Exhibition Hall	Tuesday 13:30-15:30	Computer 127
13:30	4536. Effects of Multichannel Transmission on DTI Metrics <i>Geng Guangqiang¹, Roland Henry², Caroline Rae^{1,3}</i> ¹ Neuroscience Research Australia, Sydney, NSW, Australia; ² Departments of Radiology & Biomedical Imaging, Neurology, & Bioengineering Graduate Group, University of California, San Francisco, United States; ³ UNSW, Sydney, Australia	
14:00	4537. Brain Tissue Segmentation for Diffusion Tensor Imaging (DTI) Data using Multi-Tensor Estimation <i>Seiji Kumazawa¹, Takashi Yoshiura¹, Hiroshi Honda¹, Fukai Toyofuku¹</i> ¹ Kyushu University, Fukuoka, Japan	
14:30	4538. Improved Morphological Information using the Dixon Technique in Conjunction with DWI for Detection of Bone Metastases <i>Matthew David Blackledge¹, Duncan Brown¹, Toni Wallace¹, Nina Tunariu¹, Martin O. Leach¹, Dow-Mu Koh¹, David J. Collins¹</i> ¹ CR-UK & EPSRC Cancer Imaging Centre, Institute of Cancer Research & Royal Marsden Hospital, Sutton, Surrey, United Kingdom	
15:00	4539. Diffusion Kurtosis Imaging (DKI) Reconstruction - Linear or Non-Linear? <i>Jiachen Zhuo^{1,2}, Jonathan Simon², Rao Gullapalli¹</i> ¹ Radiology, University of Maryland School of Medicine, Baltimore, MD, United States; ² Electrical & Computer Engineering, University of Maryland College Park, College Park, MD, United States	
Exhibition Hall	Wednesday 13:30-15:30	Computer 127
13:30	4540. A Variational Approach to Susceptibility Estimation that is Insensitive to B₀ Inhomogeneity <i>Clare Poynton^{1,2}, William Wells III^{1,3}</i> ¹ Computer Science & Artificial Intelligence Lab (CSAIL), MIT, Cambridge, MA, United States; ² Harvard-MIT Division of HST, MIT, Cambridge, MA, United States; ³ Brigham & Women's Hospital, Harvard Medical School, Boston, MA, United States	
14:00	4541. Differentiation of Superparamagnetic Iron Oxide Nanoparticles & Air Pockets using Independent Component Analysis <i>Jason A. Langley^{1,2}, Joonsang Lee^{1,2}, Luning Wang^{1,2}, Qun Zhao^{1,2}</i> ¹ Department of Physics & Astronomy, the University of Georgia, Athens, GA, United States; ² Bioimaging Research Center, the University of Georgia, Athens, GA, United States	
14:30	4542. USPIOs Quantification in Brain Mice 2D MR Images by Default Field Deconvolution <i>Delphine Charpigny¹, Jean-Christophe Brisset¹, Thomas Grenier¹, Marlene Wiart¹, Hugues Benoit-Cattin¹</i> ¹ CREATIS, Lyon, France	
15:00	4543. Quantification of Different Superparamagnetic Iron Oxide (SPIO) Concentrations in Diffuse Medium using 4.7T Magnetic Resonance Imaging <i>Bang-Bon Koo¹, Vibhu Sachdev¹, Ronald J. Killiany^{1,2}</i> ¹ Multimodal Whole Animal Imaging Core, National Emerging Infectious Disease Laboratories Institute Boston University Medical Campus, Boston, MA, United States; ² Department of Anatomy & Neurobiology, Boston University School of Medicine, Boston, MA, United States	

Exhibition Hall Thursday 13:30-15:30 Computer 127

- 13:30 4544. Feasibility of Cortical Thickness Measures in Survivors of Childhood Acute Lymphoblastic Leukemia**
Wilburn E. Reddick¹, John O. Glass¹, Qing Ji¹, David C. Carver¹, Kevin R. Krull²
¹Translational Imaging Research, St. Jude Children's Research Hospital, Memphis, TN, United States; ²Epidemiology & Cancer Control, St. Jude Children's Research Hospital, Memphis, TN, United States
- 14:00 4545. SyN Based Multimodal Investigation on a Small Cohort of Patients Affected with Amnesic Mild Cognitive Impairment**
Fabrizio Fasano¹, Chiara Ganazzoli¹, Simona Gardini¹, Fabio Sambataro², Letizia Concarì¹, Paolo Caffarra¹
¹Department of Neurosciences, Università degli Studi di Parma, Parma, Italy; ²Italian Institute of Technology, Parma, Italy
- 14:30 4546. Comparison of Longitudinal & Cross-Sectional Cortical Thickness Measurements**
Kunio Nakamura¹, Robert J. Fox², Elizabeth Fisher¹
¹Biomedical Engineering, Cleveland Clinic, Cleveland, OH, United States; ²Mellen Center for Multiple Sclerosis Treatment & Research, Cleveland Clinic
- 15:00 4547. Cerebellar GM-WM Segmentation Accuracy in Assessing Brain Atrophy**
Sushmita Datta¹, Xiaojun Sun¹, Ponnada A. Narayana¹
¹Diagnostic & Interventional Imaging, Medical School, the University of Texas Health Science Center at Houston, Houston, TX, United States

Image Analysis: Noise, Artifact & Parameter Maps

Exhibition Hall Monday 14:00-16:00 Computer 128

- 14:00 4548. Use of the Noise Covariance Matrix in Array Coil Quality Assurance**
Elizabeth Mary Tunnicliffe^{1,2}, Martin John Graves^{1,3}, Matthew D. Robson⁴
¹Department of Medical Physics & Clinical Engineering, Addenbrooke's Hospital, Cambridge, United Kingdom; ²AVIC, Nuffield Department of Clinical Medicine, University of Oxford, Oxford, United Kingdom; ³Department of Radiology, University of Cambridge, Cambridge, United Kingdom; ⁴OCMR, Department of Cardiovascular Medicine, University of Oxford, Oxford, United Kingdom
- 14:30 4549. Spatially Variable Rician Noise in DTI**
Ivan I. Maximov¹, Ezequiel A. Farrher¹, Farida Grinberg¹, Nadim Jon Shah^{1,2}
¹Institute of Neuroscience & Medicine 4, Forschungszentrum Juelich, Juelich, Germany; ²Department of Neurology, Faculty of Medicine, JARA, RWTH Aachen University, Aachen, Germany
- 15:00 4550. Validity of the Noncentral Chi Model in Multiple-Coil Systems with Noise Correlations**
Santiago Aja-Fernandez¹, Antonio Tristan-Vega²
¹Universidad de Valladolid, Valladolid, VA, Spain; ²Harvard Medical School, Boston, MA, United States
- 15:30 4551. Modification of the Simulated-Multi-Image Method Allows SNR Measurement using Sum-Of-Squares Reconstruction**
Elizabeth Mary Tunnicliffe^{1,2}, Martin John Graves^{1,3}, Matthew D. Robson⁴
¹Department of Medical Physics & Clinical Engineering, Addenbrooke's Hospital, Cambridge, United Kingdom; ²AVIC, Nuffield Department of Clinical Medicine, University of Oxford, Oxford, United Kingdom; ³Department of Radiology, University of Cambridge, Cambridge, United Kingdom; ⁴OCMR, Department of Cardiovascular Medicine, University of Oxford, Oxford, United Kingdom

Exhibition Hall Tuesday 13:30-15:30 Computer 128

- 13:30 4552. Roemer Reconstruction Yields Significant SNR Gain Over Sum-Of-Squares @ 7T.**
Anna Andreychenko¹, Sjoerd Crijns¹, Ingmar Voogt¹, Wouter Koning¹, Peter Luijten¹, Jan J. W. Lagendijk¹, Cornelis A. T. van Den Berg¹
¹University Medical Center Utrecht, Utrecht, Netherlands
- 14:00 4553. Tissue-Based Intensity Standardization Technique: Application to the ADNI Multi-Centric Dataset**
Nicolas Robitaille¹, Abderazzak Mouiha¹, Simon Duchesne^{1,2}
¹Laboratoire MEDICS, Centre de Recherche Université Laval Robert-Giffard, Québec, Canada; ²Radiology Department, Université Laval, Québec, Canada
- 14:30 4554. A New Intensity Inhomogeneity Correction Method for Improved Segmentation of Breast Density on MRI**
Muqing Lin¹, Siwa Chan², Jeon-Hor Chen^{1,3}, Daniel H-E. Chang¹, Ke Nie¹, Shih-Ting Chen⁴, Cheng-Ju Lin⁴, Tzu-Ching Shih⁴, Orhan Nalcioglu¹, Min-Ying Lydia Su¹

¹Tu & Yuen Center for Functional Onco-Imaging & Department of Radiological Sciences, University of California, Irvine, CA, United States; ²Department of Radiology, Taichung Veterans General Hospital, Taichung, Taiwan; ³Department of Radiology, China Medical University, Taichung, Taiwan; ⁴Department of Biomedical Imaging & Radiological Science, China Medical University, Taichung, Taiwan

15:00 4555. Joint Restoration of Bi-Contrast MRI Data for Intensity Non-Uniformities

Stathis Hadjidemetriou¹, Michael Weiner², Juergen Hennig¹

¹Department of Radiology, Medical Physics, University Medical Center Freiburg, Freiburg, Germany; ²Department of Radiology, VA UCSF, San Francisco, CA 94121, United States

Exhibition Hall Wednesday 13:30-15:30 Computer 128

13:30 4556. Fuzzy Partial Volume Correction of Spinal Cord DTI Parameters

Torben Schneider¹, David L. Thomas², Carolina Kachramanoglou², Olga Ciccarelli², Daniel C. Alexander³, Claudia A. M. Wheeler-Kingshott¹

¹Department of Neuroinflammation, UCL Institute of Neurology, London, United Kingdom; ²Department of Brain Repair & Rehabilitation, UCL Institute of Neurology, London, United Kingdom; ³Centre for Medical Image Computing, Department of Computer Science, UCL, London, United Kingdom

14:00 4557. Adaptive Iterative T₂ Mapping with Maximum Pearson Correlation in the Presence of Noise

Stephan William Anderson¹, Jorge A. Soto¹, Osamu Sakai¹, Hernan Jara¹

¹Radiology, Boston University Medical Center, Boston, MA, United States

14:30 4558. Accurate T₂ Mapping with Dual Echo-FSE: Effect of Phase Encoding Profile Orders

Stephan William Anderson¹, Osamu Sakai¹, Jorge A. Soto¹, Hernan Jara¹

¹Radiology, Boston University Medical Center, Boston, MA, United States

15:00 4559. Elimination of Susceptibility-Induced Distortion in the T₂*-Decay Curve with an Improved Fitting Procedure

Pei-Hsin Wu¹, Nan-Kuei Chen², Hsiao-Wen Chung¹

¹Department of Electrical Engineering, National Taiwan University, Taipei, Taiwan, Taiwan; ²Brain Imaging & Analysis Center, Duke University Medical Center, Durham, NC, United States

Exhibition Hall Thursday 13:30-15:30 Computer 128

13:30 4560. Simultaneous T₁, T₂, & B₁ Mapping using Partially RF-Spoiled Gradient Echo

Yo Taniguchi¹, Suguru Yokosawa¹, Yoshitaka Bito¹

¹Central Research Laboratory, Hitachi, Ltd., Kokubunji, Tokyo, Japan

14:00 4561. A Simplified Nonlinear Fitting Strategy for Estimating T₁ from Variable Flip Angle Sequences

Joshua Trzasko¹, Petrice M. Mostardi¹, Stephen J. Riederer, Armando Manduca¹

¹Mayo Clinic, Rochester, MN, United States

14:30 4562. Strong Regularization for Brain Myelin Water Quantification in T₂ Relaxation MRI Obtained in 3.0T

Qing Ji¹, Junyu Guo¹, John O. Glass¹, Wilburn E. Reddick¹

¹Radiological Science, St.Jude Children's Research Hospital, Memphis, TN, United States

15:00 4563. A Pixel is an Artifact: On the Necessity of Zero-Filling in Fourier Imaging

Xiaolu Zhu¹, Boguslaw Tomanek¹, Jonathan Sharp¹

¹Institute for Biodiagnostics (West), National Research Council of Canada, Calgary, AB, Canada

Artifacts & Correction - Eddy Currents & B₀ Homogeneity

Exhibition Hall Monday 14:00-16:00 Computer 129

14:00 4564. Correcting High Order Eddy Current Induced Distortion for Diffusion Weighted Echo Planar Imaging

Dan Xu¹, Joe K. Maier, Kevin F. King¹, Bruce D. Collick, Hong Huang, Tony M. Linz, Gaohong Wu

¹Applied Science Laboratory, GE Healthcare, Waukesha, WI, United States

14:30 4565. A 3D Eddy Current Model for the Prediction of Geometric Image Distortions in Stejskal-Tanner Diffusion Weighted EPI

Kieran R. O'Brien^{1,2}, Nils Kickler³, Francois Lazeyras¹, Rolf Gruetter³, Thorsten Feiweier⁴, Gunnar Krueger⁵

¹Department of Radiology, Université de Genève, Geneva, Switzerland; ²Laboratory for Functional & Metabolic Imaging, Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland; ³Laboratory for Functional & Metabolic Imaging, Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland; ⁴Siemens Healthcare Sector, Erlangen, Germany; ⁵Advanced Clinical Imaging Technology, Siemens Suisse SA, Lausanne, Switzerland

- 15:00 4566. Efficient Correction of Static & Dynamic (Including Eddy Current) Field Inhomogeneity in DTI Data**
Erik B. Beall¹, Wanyong Shin¹, Kecheng Liu², Ken E. Sakaie¹, Mingyi Li¹, Dominic Holland³, Anders M. Dale⁴, Mark J. Lowe¹
¹Imaging Institute, Cleveland Clinic, Cleveland, OH, United States; ²Siemens Medical Solutions USA, Inc, Malvern, PA, United States; ³Neurosciences, University of California, San Diego, La Jolla, CA, United States; ⁴Radiology, University of California, San Diego, La Jolla, CA, United States

- 15:30 4567. A Simple Model for Eddy Currents Correction in High B-Values Acquisitions**
Silvia De Santis^{1,2}, Shani Ben Amitay³, Yaniv Assaf³, Derek K. Jones¹
¹CUBRIC, School of psychology, CARDIFF University, United Kingdom; ²Physics department, Sapienza University, Rome, Italy; ³Tel Aviv University, Israel

Exhibition Hall Tuesday 13:30-15:30 Computer 129

- 13:30 4568. Automatic Geometric Distortion Correction for Single-Shot Echo Planar Imaging**
Thomas Benner¹, Andre J. W. van Der Kouwe¹, Caterina Mainero¹, Dominic Holland², Anders M. Dale²
¹Radiology, Athinoula A. Martinos Center, Charlestown, MA, United States; ²Multimodal Imaging Laboratory, University of California, San Diego, La Jolla, CA, United States

- 14:00 4569. Distortion Correction of Single-Shot Spin-Echo EPI of the Liver at 3T**
Kevin M. Koch¹, Dominic Holland², Dan Xu¹, Ajit Shankaranarayanan³, Anders Dale²
¹Global Applied Science Laboratory, GE Healthcare, Waukesha, WI, United States; ²Department of Neurosciences, University of California, San Diego, United States; ³Global Applied Science Laboratory, GE Healthcare, Menlo Park, CA, United States

- 14:30 4570. Point Spread Function Map for Distortion Correction with Double EPI Readout Acquisition Strategy at 3T**
Yu Cai¹, Qingwei Liu², Mark Woods¹, Craig Hamilton³, Hongyu An²
¹Advanced Imaging Research Center, Oregon Health & Science University, Portland, OR, United States; ²University of North Carolina at Chapel Hill; ³Wake Forest University

- 15:00 4571. Improved PSF Mapping Acceleration Technique for EPI Geometric Distortion Correction at 7 Tesla**
Myung-Ho In¹, Oliver Speck¹
¹Biomedical Magnetic Resonance, Otto-von-Guericke-University, Magdeburg, Germany

Exhibition Hall Wednesday 13:30-15:30 Computer 129

- 13:30 4572. 3D Magnetic Susceptibility Correction with Application to Diffusion-Weighted Imaging**
Anh Tu Van¹, Bradley P. Sutton²
¹Electrical & Computer Engineering, University of Illinois at Urbana-Champaign, Urbana, IL, United States; ²Bioengineering, University of Illinois at Urbana-Champaign, Urbana, IL, United States

- 14:00 4573. Distortion Correction of Multi-Coil Diffusion-Weighted EPI using the Phase-Based Method: PLACE**
Sofia Chavez¹, Elizabeth Ramsay¹, Masoom Haider^{1,2}, Qing-San Xiang³, Greg Stanisz^{1,4}
¹Imaging Research, Sunnybrook Research Institute, Toronto, ON, Canada; ²Department of Radiology, University of Toronto, Toronto, ON, Canada; ³Department of Radiology, University of British Columbia, Vancouver, B.C., Canada; ⁴Department of Medical Biophysics, University of Toronto, Toronto, ON, Canada

- 14:30 4574. A Correction of Amplitude Variation using Navigators in an Interleave-Type Multi-Shot EPI at 7T**
Dae-Hun Kang¹, Se-Hong Oh¹, Jun-Young Chung¹, Young-Bo Kim¹, Seiji Ogawa¹, Zang-Hee Cho¹
¹Neuroscience Research Institute, Gachon University of Medicine and Science, Incheon, Korea, Republic of

- 15:00 4575. Dynamic Correction of Artifacts Due to Susceptibility Effects & Time-Varying Eddy Currents in DTI**
Trong-Kha Truong¹, Nan-Kuei Chen¹, Allen W. Song¹
¹Brain Imaging & Analysis Center, Duke University, Durham, NC, United States

Exhibition Hall Thursday 13:30-15:30 Computer 129

- 13:30 4576. Dynamic Distortion Correction of SE EPI Data using Phase Maps from Simultaneously-Acquired GE-EPI Data**
Jack Harmer¹, Susan Francis¹, Richard Bowtell¹
¹SPMMRC, the University of Nottingham, Nottingham, Nottinghamshire, United Kingdom

- 14:00 4577. Dynamic Phase Echo-Planar Imaging - Detection & Correction of Dynamic Off-Resonance**
Josef Pfeuffer¹, Dingxin Wang², Christina Triantafyllou³
¹MR Application Development, Siemens Healthcare, Erlangen, D, Germany; ²US R&D, Siemens Healthcare, Minneapolis, MN, United States; ³McGovern Institute for Brain Research, MIT, Cambridge, MA, United States

- 14:30 4578. Dynamic Fieldmap Estimation for Respiration Correction Based on Single Shot 3D Images**

Benjamin Zahneisen¹, Thimo Grotz¹, Maxim Zaitsev¹, Juergen Hennig¹

¹University Hospital Freiburg, Freiburg, Germany

15:00 4579. Recovering Fine-Scale Features in Spiral Imaging with Piecewise Linear Off Resonance Correction (PLORC)

Travis Benjamin Smith¹, Krishna S. Nayak¹

¹Electrical Engineering, University of Southern California, Los Angeles, CA, United States

Pulse Sequences - Corrections

Exhibition Hall Tuesday 13:30-15:30 Computer 130

13:30 4580. K-Space Trajectory Correction in Spiral-In/Out Bssfp Imaging

Xue Feng^{1,2}, Sameul William Fielden¹, Hao Tan¹, Craig H. Meyer^{1,2}

¹Biomedical Engineering, University of Virginia, Charlottesville, VA, United States; ²Radiology, University of Virginia, Charlottesville, VA, United States

14:00 4581. UTILE – A Fast Combined UTE-DIXON Four Class Attenuation Correction Technique for PET/MR

Jochen Franke^{1,2}, Hank Donker³, Felix Mottaghy⁴, Christiane Kuhl³, Fabian Kiessling², Volkmar Schulz^{1,2}

¹Molecular Imaging Systems, Philips Research Europe, Aachen, North Rhine-Westphalia, Germany; ²Experimental Molecular Imaging, University of Aachen (RWTH), Aachen, North Rhine-Westphalia, Germany; ³Diagnostic & Interventional Radiology, University Hospital Aachen, Aachen, North Rhine-Westphalia, Germany; ⁴Nuclear Medicine, University Hospital Aachen, Aachen, North Rhine-Westphalia, Germany

14:30 4582. An Accelerating Method for FSE Phase Correction

Weiwei Zhang¹, Yongchuan Lai¹

¹GE Healthcare, Beijing, China, People's Republic of

15:00 4583. STAGES: Dynamic Shimming by Nonlinear Phase Preparation & K-Space Parcellation in Steady-State MRI

Walter R. T. Witschey¹, Christian A. Cocosco¹, Daniel Gallichan¹, Gerrit Schultz¹, Hans Weber¹, Anna Masako Welz¹, Jürgen Hennig¹, Maxim Zaitsev¹

¹Medical Physics, University Medical Center Freiburg, Freiburg i. Breisgau, Germany

Artifacts & Correction: Motion I

Exhibition Hall Monday 14:00-16:00 Computer 131

14:00 4584. External Calibration Parallel Imaging for Improved Motion Correction Capabilities with T₁ FLAIR PROPELLER

James H. Holmes¹, Philip J. Beatty², Howard A. Rowley³, Zhiqiang Li⁴, Ajeetkumar Gaddipati⁵, Xiaoli Zhao⁵, Reed F. Busse⁶, Jean H. Brittain¹

¹Global Applied Science Laboratory, GE Healthcare, Madison, WI, United States; ²Global Applied Science Laboratory, GE Healthcare, Toronto, ON, Canada; ³Radiology, University of Wisconsin-Madison; ⁴MR Engineering, GE Healthcare, Phoenix, AZ; ⁵MR Engineering, GE Healthcare, Waukesha, WI; ⁶MR Research, GE Healthcare, Waukesha, WI

14:30 4585. Measuring Effect of Embedded Navigators on MEMPRAGE Tissue Contrast

M. Dylan Tisdall^{1,2}, Martin Reuter^{1,3}, Andre van Der Kouwe^{1,2}

¹Athinoula A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Charlestown, MA, United States; ²Radiology, Harvard Medical School, Brookline, MA, United States; ³Neurology, Harvard Medical School, Brookline, MA, United States

15:00 4586. Motion-Insensitive Structural MRI Based on Repeated Imaging with Echo-Planar Navigation & Acceleration (RIENA): Demonstrated with Susceptibility-Weighted Imaging in the Presence of Frequent Intra-Scan Tremors

Nan-Kuei Chen¹

¹Brain Imaging & Analysis Center, Duke University Medical Center, Durham, NC, United States

15:30 4587. Comparison of MR-Navigator & Optical Tracking Methods for Adaptive Motion Correction

Kazim Z. Gumus¹, Brian Keating¹, Brian Andrews-Shigaki², Brian Armstrong³, Anders Dale⁴, Thomas M. Ernst¹

¹John A. Burns School of Medicine, University of Hawaii, Honolulu, HI, United States; ²Department of Military & Emergency Medicine, Uniformed Services University of the Health Sciences, Bethesda, MD, United States; ³Electrical Engineering & Computer Science, University of Wisconsin-Milwaukee, Milwaukee, WI, United States; ⁴Department of Radiology, University of California, San Diego, La Jolla, CA, United States

Exhibition Hall Tuesday 13:30-15:30 Computer 131

- 13:30 4588. Motion-Corrected Single Shot Fast Spin-Echo MRI using Prospective Motion Tracking & Retrospective Super-Resolution Volume Reconstruction**
Ali Gholipour¹, Martin Polak¹, Andre van Der Kouwe², Erez Nevo³, Simon K. Warfield¹
¹Computational Radiology Laboratory, Children's Hospital Boston, & Harvard Medical School, Boston, MA, United States; ²Martinos Center for Biomedical Imaging, Massachusetts General Hospital, & Harvard Medical School, Boston, MA, United States; ³Robin Medical, Inc., Baltimore, MD, United States
- 14:00 4589. Combined Real-Time Prospective Motion Correction & Concurrent Field Monitoring**
Maximilian Haeblerlin¹, Lars Kasper¹, Christoph Barmet¹, Signe Johanna Vannesjö¹, Sebastian Kozerke¹, Klaas Paul Pruessmann¹
¹Institute for Biomedical Engineering, University & ETH Zurich, Zurich, Switzerland
- 14:30 4590. Impact of Motion on Parallel Transmission**
Roland Bammer¹, Bei Zhang², Weiran Deng³, Graham C. Wiggins², Andy V. Stenger³, Daniel K. Sodickson²
¹Radiology, Stanford University, Stanford, CA, United States; ²Radiology, New York University Langone Medical Center, New York, United States; ³JABSOM, University of Hawaii, Honolulu, HI, United States
- 15:00 4591. Correction of Subject Motion in Quantitative T₂*-Mapping**
Joerg Magerkurth^{1,2}, Steffen Volz², Marlies Wagner¹, Alina Jurcoane¹, Sandra Anti², Elke Hattingen¹, Ralf Deichmann²
¹Institute of Neuroradiology, Goethe University Frankfurt, Frankfurt/Main, Germany; ²Brain Imaging Center (BIC), Goethe University Frankfurt, Frankfurt/Main, Germany

Exhibition Hall Wednesday 13:30-15:30 Computer 131

- 13:30 4592. DTI with Prospective Motion Correction & Reacquisition in a Clinical Subject Population**
Thomas Benner¹, Andre J. W. van Der Kouwe¹, A. G. Sorensen¹
¹Radiology, Athinoula A. Martinos Center, Charlestown, MA, United States
- 14:00 4593. Combined Prospective Rigid-Body Motion Correction with Retrospective Non-Rigid Distortion Correction for EPI**
Melvyn B. Ooi¹, Roland Bammer¹, Truman R. Brown²
¹Radiology, Stanford University, Stanford, CA, United States; ²Radiology, Medical University of South Carolina, Charleston, SC, United States
- 14:30 4594. Inherent Correction of Motion-Induced Phase Errors in Multishot Spiral Imaging using Iterative Phase Cycling**
Trong-Kha Truong¹, Nan-Kuei Chen¹, Allen W. Song¹
¹Brain Imaging & Analysis Center, Duke University, Durham, NC, United States
- 15:00 4595. Retrospective Registration-Based Motion Correction with Interleaved Radial Trajectories**
Ashley Gould Anderson III¹, Julia Velikina¹, Oliver Wieben^{1,2}, Alexey Samsonov²
¹Medical Physics, University of Wisconsin, Madison, WI, United States; ²Radiology, University of Wisconsin, Madison, WI, United States

Exhibition Hall Thursday 13:30-15:00 Computer 131

- 13:30 4596. Non-Iterative Navigator-Based Approach: Advances Towards Real Time 3D Motion Correction**
Junmin Liu^{1,2}, Maria Drangova^{1,2}
¹Robarts Research Institute, the University of Western Ontario, London, Ontario, Canada; ²Schulich School of Medicine & Dentistry, the University of Western Ontario, London, Ontario, Canada
- 14:00 4597. Comparison of K-Space Based Parallel Imaging Approaches for Reducing Non-Rigid Motion Induced Ghosting**
Suchandrima Banerjee¹, Philip J. Beatty², Ajit Shankaranarayanan¹
¹Global Applied Science Laboratory, GE Healthcare, Menlo Park, CA, United States; ²Global Applied Science Laboratory, GE Healthcare, Toronto, Canada
- 14:30 4598. Combined Prospective-Retrospective Motion Correction for High-Resolution Brain Imaging**
Julian Maclaren¹, Kuan Lee¹, Chaiya Luengviriyaa^{2,3}, Michael Herbst¹, Oliver Speck², Maxim Zaitsev¹
¹Medical Physics, Dept. of Radiology, University Medical Center Freiburg, Freiburg, Germany; ²Dept. of Biomedical Magnetic Resonance, Otto-von-Guericke University, Magdeburg, Germany; ³Dept. of Physics, Kasetsart University, Thailand

Artifacts & Correction: Motion II

Exhibition Hall Monday 14:00-16:00 Computer 132

- 14:00 4599. Phase Correction in Multi-Breath-Hold MRI with Tracking using Information Entropy**
Yuji Iwadate¹, Hiroyuki Kabasawa¹
¹Global Applied Science Laboratory, GE Healthcare, Hino, Tokyo, Japan
- 14:30 4600. Comparison of Algorithms for Prediction of Respiratory Motion**
Tejas Nair¹, H. Michael Gach¹
¹Research Imaging, Nevada Cancer Institute, Las Vegas, NV, United States
- 15:00 4601. Advantages of Digital vs. Analog Accelerometer-Based Sensor for Respiratory Motion Correction**
Laure Rousselet^{1,2}, Slavisa Jovanovic^{1,2}, Cédric Pasquier^{3,4}, Jacques Felblinger^{1,2}
¹IADI, Nancy-Université, Nancy, France; ²U947, INSERM, Nancy, France; ³CIT 801, INSERM, Nancy, France; ⁴CIC-IT, CHU de Nancy, Nancy, France
- 15:30 4602. Real Time Velocity-Based Navigator Triggering in the Abdomen: Initial Results**
Gabriele Beck¹, Jeroen Stout¹, Vincent Denolin², Kenneth Coenegrachts³, Gwenael Herigault¹
¹Philips Healthcare, Best, Netherlands; ²Philips Healthcare Benelux, Brussels, Belgium; ³Department of Radiology, AZ St.-Jan, Brugge, Belgium

Exhibition Hall Tuesday 13:30-15:30 Computer 132

- 13:30 4603. Motion Artifact Removal by Retrospective Resolution Reduction (MARS)**
Candice Bookwalter¹, Nicole Seiberlich¹, Mark Griswold^{1,2}, Vikas Gulani¹
¹Department of Radiology, University Hospitals Case Medical Center, Cleveland, OH, United States; ²Department of Biomedical Engineering, Case Western Reserve University, Cleveland, OH, United States
- 14:00 4604. Improvements of Respiratory Motion Recording: Optical Belt vs. Pneumatic Belt**
Laure Rousselet^{1,2}, Julien De Jonckheere³, François Narbonneau⁴, Slavisa Jovanovic^{1,2}, Cédric Pasquier^{5,6}, Jacques Felblinger^{1,2}
¹IADI, Nancy-Université, Nancy, France; ²U947, INSERM, Nancy, France; ³CIC-IT 807, INSERM, Lille, France; ⁴Multitel, Mons, Belgium; ⁵CIT 801, INSERM, Nancy, France; ⁶CHU de Nancy, Nancy, France
- 14:30 4605. Multiple-Region Affine Motion Correction using Localized Coil Sensitivities**
Ghislain Vaillant¹, Christian Buerger¹, Graeme Penney¹, Claudia Prieto¹, Tobias Schaeffter¹
¹Division of Imaging Sciences & Biomedical Engineering, King's College London, London, United Kingdom
- 15:00 4606. Subject Specific Respiratory Motion in Cardiac MR**
Ian Hamilton Burger¹, Ernesta Meintjes¹
¹MRC/UCT Medical Imaging Research Unit, Department of Human Biology, University of Cape Town, Cape Town, Western Cape, South Africa

Exhibition Hall Wednesday 13:30-15:30 Computer 132

- 13:30 4607. A First Step Towards Multi Slices Fast Spin Echo Cine Imaging of the Heart in Free Breathing using GRICS**
Pierre-André Vuissoz^{1,2}, Marine Beaumont^{3,4}, Gabriela Hossu^{3,4}, Damien Mandry^{1,4}, Jacques Felblinger^{1,3}
¹Imagerie Adaptative Diagnostique et Interventionnelle, Nancy-Université, Nancy, France; ²U947, INSERM, Nancy, France; ³CIT801, INSERM, Nancy, France; ⁴CHU-Nancy, Nancy, France
- 14:00 4608. Free-Breathing Cardiac Black Blood Imaging using 1D Navigator Driven Reconstruction**
Maelene Lohezic^{1,2}, Brice Fernandez^{1,2}, Damien Mandry^{2,3}, Jacques Felblinger^{2,4}, Pierre-André Vuissoz^{2,5}
¹Global Applied Science Laboratory, GE Healthcare, Nancy, France; ²IADI Lab., Nancy-Université, Nancy, France; ³CHU de Nancy, Nancy, France; ⁴CIT801, INSERM, Nancy, France; ⁵U947, INSERM, Nancy, France
- 14:30 4609. Association of Several Motion Sensors for Free Breathing Reconstruction Method**
Laure Rousselet^{1,2}, Slavisa Jovanovic^{1,2}, Maélène Lohezic^{2,3}, Marina Filipovic^{1,2}, Cédric Pasquier^{4,5}, Jacques Felblinger^{1,2}
¹IADI, Nancy-Université, Nancy, France; ²U947, INSERM, Nancy, France; ³Global Applied Science Lab., GE Healthcare, Nancy, France; ⁴CIT 801, INSERM, Nancy, France; ⁵CIC-IT, CHU de Nancy, Nancy, France
- 15:00 4610. Motion Correction using Coil Arrays (MOCCA) for Free-Breathing Cardiac Cine MRI**
Peng Hu¹, Susie Hong, Mehdi H. Moghari, Beth Goddu, Lois Goepfert, Thomas H. Hauser, Warren J. Manning, Reza Nezafat
¹Beth Israel Deaconess Medical Center, Boston, MA, United States

Exhibition Hall Thursday 13:30-14:00 Computer 132

- 13:30 4611. **Assessment of Accuracy & Reproducibility of ECG, Pulse Oximetry & Phonocardiogram Gating of Cardiac MRI at 7T**
Tobias Frauenrath¹, Thibaut de Geyer D'Orth¹, Thoralf Niendorf^{1,2}
¹Berlin Ultrahigh Field Facility, MDC Berlin, Berlin, Germany; ²Charité Campus Buch, Humboldt-University, Experimental & Clinical Research Center (ECRC), Berlin, Germany

Artifacts & Correction: Non-Motion

Exhibition Hall Monday 14:00-16:00 Computer 133

- 14:00 4612. **PROPELLER-EPI-DWI with Oblique N/2 Ghost Correction using 2D Linear Phase Correction & Interlaced Fourier Transform Reconstruction**
Hing-Chiu Chang^{1,2}, Chun-Jung Juan³, Tzu-Chao Chuang⁴, Hsiao-Wen Chung^{2,3}
¹Global Applied Science Laboratory, GE Healthcare, Taipei, Taiwan; ²Institute of Biomedical Electronics & Bioinformatics, National Taiwan University, Taipei, Taiwan; ³Department of Radiology, Tri-Service General Hospital, Taipei, Taiwan; ⁴Electrical Engineering, National Sun Yat-sen University, Kaohsiung, Taiwan
- 14:30 4613. **A Generalized Phase Correction Technique for EPI-PROPELLER**
Novena Rangwala^{1,2}, Xiaohong Joe Zhou^{2,3}
¹Department of Bioengineering, University of Illinois at Chicago, Chicago, IL, United States; ²Center for Magnetic Resonance Research, University of Illinois Medical Center, Chicago, IL, United States; ³Departments of Radiology, Neurosurgery & Bioengineering, University of Illinois Medical Center, Chicago, IL, United States
- 15:00 4614. **EPI Ghost Correction with LTI k-Space Trajectory Estimation**
Nii Okai Addy¹, Holden H. Wu^{1,2}, Dwight G. Nishimura¹
¹Electrical Engineering, Stanford University, Stanford, CA, United States; ²Cardiovascular Medicine, Stanford University, Stanford, CA, United States
- 15:30 4615. **Two-Dimensional Phase Cycled Reconstruction for Inherent Correction of EPI Nyquist Artifacts**
Nan-Kuei Chen¹, Alexandru V. Avram¹, Allen W. Song¹
¹Brain Imaging & Analysis Center, Duke University Medical Center, Durham, NC, United States

Exhibition Hall Tuesday 13:30-15:30 Computer 133

- 13:30 4616. **Simulations of Stent Artifacts in MRI**
Yan Guo¹, Jiangbo Chen¹, Xiaohua Jiang¹
¹Department of Electrical Engineering, Tsinghua University, Beijing, China, People's Republic of
- 14:00 4617. **Frequency Adjustments in TIDE BSSFP Imaging to Compensate for Banding Artifacts Caused by Dental Braces**
Yin-Cheng Kris Huang¹, Chun-Jung Juan², Te-Son Kuo¹
¹Department of Electrical Engineering, National Taiwan University, Taipei City, Taiwan; ²Department of Radiology, Tri-Service General Hospital, Taipei City, Taiwan
- 14:30 4618. **Spiral Imaging with View Angle Tilting for Application to Metal Artifact Correction**
Sang-Young Cho¹, Dong-Hyun Kim^{1,2}
¹Electrical & Electronic Engineering, Yonsei University, Shinchon-dong, Seoul, Korea, Republic of; ²Radiology, Yonsei University College of Medicine, Shinchon-dong, Seoul, Korea, Republic of
- 15:00 4619. **MRI Near Metal Objects: Investigating the Effects of Induced RF Currents & Currents Induced by Gradient Switching on SE Phase Images using a Simple Model System**
Hanne Wojtczyk¹, Petros Martirosian¹, Verena Ballweg¹, Hansjoerg Graf¹, Fritz Schick¹
¹Section on Experimental Radiology, University Hospital Tuebingen, Tuebingen, Baden-Wuerttemberg, Germany

Exhibition Hall Wednesday 13:30-15:30 Computer 133

- 13:30 4620. **Reducing Artefacts in Inversion Recovery Prepared MRI Caused by Varying Heart Rate Through Real-Time Adaptation of the Inversion Time**
Jedrzej Burakiewicz¹, Christoph Kolbitsch¹, Geoffrey David Charles-Edwards^{1,2}, Tobias Schaeffter¹
¹Division of Imaging Sciences, King's College London, London, United Kingdom; ²Guy's & St Thomas' NHS Foundation Trust, London, United Kingdom

- 14:00 4621. The Inner Lives of Voxels: Revisiting the Basics for Nonlinear Gradient Imaging**
Gigi Galiana¹, Jason Stockmann², Leo K. Tam², Robert Todd Constable^{1,2}
¹Diagnostic Radiology, Yale University, New Haven, CT, United States; ²Biomedical Engineering, Yale University, New Haven, CT, United States
- 14:30 4622. Partial Volume Corrections of Myelin Water Fraction Values**
Sonya Bells¹, Sean Deoni^{2,3}, Ofer Pasternak⁴, Derek K. Jones¹
¹CUBRIC, School of Psychology, Cardiff, United Kingdom; ²School of Engineering, Brown University, Providence, RI, United States; ³Centre of Neuroimaging Sciences-Institute of Psychiatry, King's College, London, United Kingdom; ⁴Brigham & Women's Hospital, Harvard Medical School, Boston, MA, United States
- 15:00 4623. Post Processing Correction of Ghosting Artefacts in Arterial Input Function Determination for Fast Dynamic Contrast Enhanced MRI**
Hendrik Laue¹, Dennis Doelschel², Felix Gremse², Matthias Günther¹, Fabian Kiessling², Heinz-Otto Peitgen¹
¹Fraunhofer MEVIS, Bremen, Germany; ²Experimental Molecular Imaging, RWTH (University of Aachen), Aachen, Germany

Educational E-Poster

Body - Non-Cancer

Exhibition Hall	Available Monday thru Thursday	Educational E-Poster Tables
4624.	Tissue- & Magnetic Resonance-Based Metrics for Quantifying Hepatic Content: Implications for Validation Studies using Tissue as the Reference Standard <i>Scott Brian Reeder^{1,2}, Catherine D. Hines¹, Charles A. McKenzie³, Claude B. Sirlin⁴</i> ¹ Radiology, University of Wisconsin, Madison, WI, United States; ² Medical Physics, University of Wisconsin, Madison, WI, United States; ³ Medical Biophysics, University of Western Ontario, London, Ontario, Canada; ⁴ Department of Radiology, University of California, San Diego, San Diego, CA, United States	
4625.	Whole Body MRI; Improve Lesion Detection & Characterization with Diffusion Weighted Techniques <i>Rajpaul Attariwala¹, Wayne Picker¹</i> ¹ AIM Medical Imaging, Vancouver, BC, Canada	
4626.	Non-Contrast-Enhanced Hepatic MR Angiography with Time Spatial Labeling Inversion Pulse <i>Hiroyoshi Isoda¹, Tomohisa Okada¹, Kotaro Shimada¹, Seiya Kawahara¹, Hironori Shimizu¹, Kaori Togashi¹</i> ¹ Kyoto University, Kyoto, Japan	
4627.	Magnetic Resonance Enterography in the Assessment of Inflammatory Bowel Disease in Pediatric Population Including DWI, Cine MR & Post Gadolinium Dynamic MR. <i>Jorge Humberto Davila Acosta^{1,2}, Nagwa Wilson³, Elka Miller</i> ¹ Diagnostic Imaging, Children's Hospital of Eastern Ontario, Ottawa, Ontario, Canada; ² Radiology, University of Ottawa, Ottawa, Ontario, Canada; ³ Children's Hospital of Eastern Ontario, Canada	
4628.	MRI of Inflammatory Bowel Disease: Review of the Findings with Comparison to CT & Fluoroscopy & Discussion of the Role of MR-Enterography in Establishing & Following the Disease. <i>Joseph Yacoub¹, Christine Schmid-Tannwald¹, Barbra White¹, Xiaobing Fan¹, David Rubin², Aytakin Oto¹</i> ¹ Radiology, University of Chicago, Chicago, IL, United States; ² Gastroenterology, University of Chicago, Chicago, IL, United States	
4629.	Imaging Features of Ovarian Cystic Lesions with Emphasis on Differential Diagnosis <i>Sung Bin Park¹</i> ¹ Radiology, Cheil General Hospital & Women's Healthcare Center, Kwandong University College of Medicine, Seoul, Korea, Republic of	
4630.	Imaging Features of the Hypointense Solid Lesions on T₂-Weighted MR Images in the Genitourinary Tract <i>Sung Bin Park¹</i> ¹ Radiology, Cheil General Hospital & Women's Healthcare Center, Kwandong University College of Medicine, Seoul, Korea, Republic of	
4631.	How to Differentiate Medically Treated vs. Surgically Treated Crohn's Disease on MR Enterography <i>Andrew Dean Hardie¹</i> ¹ Radiology, Medical University of South Carolina, Charleston, SC, United States	
4632.	Functional Imaging of the Female Pelvis <i>Helen Clare Addley¹, Penelope Moyle², Caroline Reinhold¹, Evis Sala³</i>	

¹Radiology, Montreal General Hospital, Montreal, Quebec, Canada; ²Hinchingbrooke Hospital, United Kingdom; ³Addenbrooke's Hospital, United Kingdom

4633. Diffusion-Weighted Imaging of the Kidney

Helen Clare Addley¹, Nesreen Abourobah¹, Alla Khashper¹, Caroline Reinhold¹

¹Radiology, Montreal General Hospital, Montreal, Quebec, Canada

4634. Real-Time MRI with Synchronous Polysomnography of the Upper Airway in Patients with Obstructive Sleep Apnea.

Lewis K. Shin^{1,2}, Andrew B. Holbrook¹, Catherine E. Chang¹, Juan M. Santos³, Nancy J. Fischbein⁴, Robson Capasso⁵, Clete A. Kushida⁶

¹Radiology / Lucas Center for MRI, Stanford University, Stanford, CA, United States; ²PAVAHCS, Palo Alto, CA, United States; ³HeartVista Inc, Palo Alto, CA; ⁴Radiology, Stanford University, Stanford, CA, United States; ⁵Otolaryngology/Head & Neck Surgery, Stanford University, Stanford, CA, United States; ⁶Psychiatry & Behavioral Sciences, Stanford University, Stanford, CA, United States

Cancer

Exhibition Hall	Available Monday thru Thursday	Educational E-Poster Tables
4635. Optimizing Breast Magnetic Resonance Imaging at 3.0 Tesla	<i>Habib Rahbar^{1,2}, Savannah Partridge^{1,2}, Wendy DeMartini^{1,2}, Constance Lehman^{1,2}</i>	¹ Radiology, University of Washington, Seattle, WA, United States; ² Radiology, Seattle Cancer Care Alliance, Seattle, WA, United States
4636. Optimizing Clinical Breast MRI: How to Identify Common Artifacts & Correct Them	<i>Basak Erguvan Dogan¹, Jigfei Ma², Gary J. Whitman</i>	¹ Diagnostic Radiology, the University of Texas M. D. Anderson Cancer Center, Houston, TX, United States; ² Imaging Physics, the University of Texas M. D. Anderson Cancer Center, Houston, TX, United States
4637. MRI Staging of Endometrial Carcinoma According to New FIGO Staging System (2009).	<i>Alla Khashper¹, Helen Addley¹, Nesreen H. AbouRokbah¹, Evis Sala², Caroline Reinhold¹</i>	¹ McGill University Health Center, Montreal, Quebec, Canada; ² Addenbrooke's Hospital, Cambridge, United Kingdom
4638. Applications of Perfusion MRI in Radiation Therapy of Lung Cancers	<i>Jing Cai¹, Fang-Fang Yin¹</i>	¹ Duke University Medical Center, Durham, NC, United States
4639. Evaluation of Focal Liver Lesions with Diffusion Weighted MRI & ADC Maps	<i>Omar Saleh¹, Judy Rose James¹, Manohar Roda²</i>	¹ Radiology, University of Mississippi Medical Center, Jackson, MS, United States; ² Radiology, University of Mississippi Medical Center, Jackson, MS, United States
4640. Preoperatively Mapping Perforator Flap Artery for Autologous Breast Reconstruction	<i>Mukta Dilipkumar Agrawal¹, Zou Zhitong¹, Tiffany M. Newman¹, Michelle Cerilles¹, Julie Vasile², Joshua L. Levine², David R. Greenspun³, Martin R. Prince^{1,3}</i>	¹ Radiology, Weill Cornell Medical College, New York, NY, United States; ² Center of Microsurgical Breast Reconstruction, New York, NY, United States; ³ Radiology, Columbia College of Physicians & Surgeons, New York, United States

Musculoskeletal

Exhibition Hall	Available Monday thru Thursday	Educational E-Poster Tables
4641. Soft Tissue Lipomatous Tumors : Review of MR Imaging Characteristics with Emphasis on Differentiation Between Benign & Malignant Lesions	<i>Isabelle Drolet¹, Patricia Noël²</i>	¹ Radiology Department, Laval University, Quebec City, Quebec, Canada; ² Radiology Department, CHUQ - Hôtel-Dieu de Québec, Quebec City, Quebec, Canada
4642. Ankylosing Spondylitis from Well Known to Some Less Observed Findings	<i>Hatice Tuba Sanal¹, Sedat Yilmaz², Muhammet Cinar², Ayhan Dinc², Cem Tayfun²</i>	¹ Gulhane Military Medical Academy, Ankara, NA, Turkey; ² Gulhane Military Medical Academy, Turkey

- 4643. Rare Involvement in Behcet Disease: Myositis**
Sedat Yilmaz¹, Muhammet Cinar¹, Hatice Tugba Sana², Omer Karadag¹, Yıldırym Karslioglu³, Ismail Simsek¹, Hakan Erdem¹, Salih Pay¹, Ayhan Dinc¹
¹Division of Rheumatology, Gulhane School of Medicine, Kecioren, Ankara, Turkey; ²Department of Radiology, Gulhane School of Medicine, Kecioren, Ankara, Turkey; ³Department of Pathology, Gulhane School of Medicine, Kecioren, Ankara, Turkey
- 4644. Imaging of Internal Derangement of Various Joints with Isotropic Turbo-Spin Echo Sequence**
Young Cheol Yoon¹
¹Samsung Medical Center, Seoul, Korea, Republic of

Cardiovascular

Exhibition Hall	Available Monday thru Thursday	Educational E-Poster Tables
4645. MRI "Triple Rule-Out": MRI for Acute Chest Pain Evaluation <i>Christopher J. François¹, Mark L. Schiebler¹, Scott B. Reeder¹, Michael P. Hartung¹, Scott K. Nagle¹</i> ¹ Radiology, University of Wisconsin, Madison, WI, United States		
4646. Contrast Agents & MR Protocols for Molecular Imaging of Murine Myocardial Infarction <i>Leonie Elisabeth Paulis¹, Bram Franciscus Coolen¹, Tessa Geelen¹, Klaas Nicolay¹, Gustav Jacobus Strijkers¹</i> ¹ Biomedical NMR, Biomedical Engineering, Eindhoven University of Technology, Eindhoven, Netherlands		
4647. Techniques & Applications of Mouse Cardiac MRI for the Study of Heart Function & Failure. <i>Moriel Vandsburger¹</i> ¹ Biological Regulation, Weizmann Institute of Science, Rehovot, Israel		
4648. MR Imaging in Cardiomyopathy <i>Tirur Raman. KAPILAMOORTHY Kapilamoorthy¹, Narendra Bodhey², Vk Ajit Kumar²</i> ¹ RADIOLOGY, S.C.T.I.M.S.T., TRIVANDRUM, KERALA, India; ² SCTIMST		
4649. Practical Tricks for 3.0T Whole-Heart Coronary MRA <i>Qi Yang¹, Kuncheng Li¹, Xiangying Du¹, Debiao Li²</i> ¹ Radiology, Xuanwu Hospital, Beijing, China, People's Republic of; ² Biomedical Imaging Research Institute, Cedars-Sinai Medical Center		
4650. Role of MRI in Venacaval Anomalies of Complex Congenital Heart Disease <i>Tirur Raman. KAPILAMOORTHY Kapilamoorthy¹, Narendra Bodhey², Thomas Titus²</i> ¹ RADIOLOGY, S.C.T.I.M.S.T., TRIVANDRUM, KERALA, India; ² SCTIMST		
4651. What is the Role of Pulmonary MRA in this "Medical Radiation Sensitized" Era? <i>Mark L. Schiebler¹, Scott K. Nagle¹, Christopher J. Francois¹, Azita G. Hamedani², Michael D. Repplinger, Thomas M. Grist¹, Scott B. Reeder^{1,3}</i> ¹ Radiology, UW-Madison, Madison, WI, United States; ² Emergency Medicine, UW-Madison; ³ Medical Physics, UW-Madison		
4652. Non-Contrast Magnetic Resonance Angiography for Renal Transplant Patients: Current State of the Art <i>Mark L. Schiebler¹, Scott B. Reeder^{1,2}, Eric Bultman^{2,3}, Scott K. Nagle¹, Oliver Wieben², Christopher J. François¹</i> ¹ Radiology, UW-Madison, Madison, WI, United States; ² Medical Physics, UW-Madison; ³ School of Medicine, UW-Madison		
4653. Non-Contrast MRA of the Finger & Toe using Time-Spatial Labeling Inversion Pulse (Time-SLIP) Technique <i>Jun Isogai¹, Takeshi Shimada², Hideo Hatakeyama², Mitsue Miyazaki³, Kenji Yodo⁴, Tomoko Miyata⁴</i> ¹ Shuwa General Hospital, Kasukabe, Saitama, Japan; ² Hasuda Hospital; ³ Toshiba Medical Research Institute, USA, United States; ⁴ Toshiba Medical Systems Corp.		
4654. Thoracic DCE-MRI for Estimating Pharmacokinetic Parameters using Diffusible Tracer <i>Jae-Hun Kim¹, Yoo Na Kim¹, In Young Song¹, Chin A. Yi¹</i> ¹ Radiology, Samsung Medical Center, Sungkyunkwan University, Seoul, Korea, Republic of		

Functional MRI

Exhibition Hall	Available Monday thru Thursday	Educational E-Poster Tables
4655. Functional Connectivity: Biophysical Underpinnings & Ramifications <i>Yash Shah¹, Cameron Craddock², Stephen LaConte, Scott James Peltier¹</i> ¹ University of Michigan, Ann Arbor, MI, United States; ² Baylor College of Medicine, Waco, TX, United States		

4656. Optimal Sampling & Reconstruction Patterns for Magnetic Resonance Inverse Imaging & MR-Encephalography

Irtiza Ali Gilani¹, Raimo Sepponen²

¹Advanced Magnetic Resonance Imaging Centre, Low Temperature Laboratory, Aalto University, Espoo, Uusima, Finland;

²Department of Electronics, Aalto University, Espoo, Uusima, Finland

Engineering

Exhibition Hall	Available Monday thru Thursday	Educational E-Poster Tables
4657.	Lots of Loops: Constructing a Highly Parallel Brain Array Coil <i>Boris Keil¹, Christin Y. Sander^{1,2}, Veneta Tountcheva¹, Jennifer A. McNab¹, Kyoko Fujimoto¹, Christina Triantafyllou^{1,3}, Lawrence L. Wald^{4,5}</i> ¹ A. A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Harvard Medical School, Charlestown, MA, United States; ² Department of Electrical Engineering & Computer Science, MIT, Cambridge, MA, United States; ³ McGovern Institute for Brain Research, MIT, Cambridge, MA, United States; ⁴ A. A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Harvard Medical School, Charlestown, MA, United States; ⁵ Harvard-MIT Division of Health Sciences & Technology, Cambridge, MA, United States	
4658.	Interpreting “Spatial Field Gradient” MR Conditional Device Labeling & the IEC 60601-2-33 3rd Edition Fringe-Field Compatibility Technical Specification Sheet Requirements <i>Michael C. Steckner¹, Georg Frese², Johan van Den Brink³, Daniel J. Schaefer⁴</i> ¹ TMRU, Mayfield Village, OH, United States; ² Siemens Medical Solutions, Erlangen, Germany; ³ Philips Medical Systems, Best, Netherlands; ⁴ General Electric Healthcare, Waukesha, WI, United States	
4659.	A Unified Framework for SNR Comparisons of Four Array Image Combination Methods <i>Nicola De Zanche^{1,2}, Adam Maunder¹, Tyler Charlton¹, Keith Wachowicz^{1,2}, B. Gino Fallone^{1,2}</i> ¹ Dept. of Oncology, University of Alberta, Edmonton, Alberta, Canada; ² Dept. of Medical Physics, Cross Cancer Institute, Edmonton, Alberta, Canada	
4660.	Common Modes & Cable Traps <i>Benoit Michel Schaller¹, Arthur William Magill^{1,2}, Rolf Gruetter³</i> ¹ Laboratory of Functional & Metabolic Imaging, Ecole Polytechnique Fédérale de Lausanne, Lausanne, Vaud, Switzerland; ² Department of Radiology, University of Lausanne, Switzerland; ³ Department of Radiology, Universities of Lausanne & Geneva, Switzerland	

Diffusion + Perfusion – Neuro

Exhibition Hall	Available Monday thru Thursday	Educational E-Poster Tables
4661.	Mapping the Human Connectome with Lausanne Neuroimaging Tools <i>Patric Hagmann¹, Stephan Gerhard^{1,2}, Alessandro Daducci², Leila Cammoun², Elda Fischl², Alia Lemkaddem², Djalel Meskaldji², Xavier Gigandet², Reto Meuli¹, Jean-Philippe Thiran²</i> ¹ Radiology, CHUV-UNIL, Lausanne, VD, Switzerland; ² LTS5, EPFL, Lausanne, VD, Switzerland	
4662.	Understanding the Principles & the Challenges of Intravoxel Voxel Incoherent Motion MRI <i>Christian Federau¹, Reto Meuli¹, Philippe Maeder¹, Patric Hagmann¹</i> ¹ Department of Radiology, University Hospital Center & University of Lausanne, Switzerland, Lausanne, Switzerland	
4663.	The Angular Signal Modulation Observed in Double-Wave-Vector Diffusion-Weighting Experiments at Short Mixing Time: A Phase Evolution Perspective <i>Jürgen Finsterbusch^{1,2}</i> ¹ Department of Systems Neuroscience, University Medical Center Hamburg-Eppendorf, Hamburg, Germany; ² Neuroimage Nord, University Medical Centers Hamburg-Kiel-Lübeck, Hamburg-Kiel-Lübeck, Germany	
4664.	Methods for Reorienting and Retrtransforming Diffusion Weighted Imaging Data <i>Thijs Dhollander^{1,2}, Wim Van Hecke^{1,3}, Frederik Maes^{1,2}, Stefan Sunaert^{1,3}, Paul Suetens²</i> ¹ Medical Imaging Research Center (MIRC), K.U.Leuven, Leuven, Belgium; ² Department of Electrical Engineering (ESAT), K.U.Leuven, Leuven, Belgium; ³ Department of Radiology, University Hospitals of the K.U.Leuven, Leuven, Belgium	

Neuro

- | Exhibition Hall | Available Monday thru Thursday | Educational E-Poster Tables |
|-----------------|---|-----------------------------|
| 4665. | Applications of Arterial Spin Labeling (ASL) Perfusion MRI in Clinical Pediatric Neuroimaging
<i>Arastoo Vossough¹, Robert A. Zimmerman¹, Tamara Feygin¹</i>
¹ Radiology, Children's Hospital of Philadelphia, University of Pennsylvania, Philadelphia, PA, United States | |
| 4666. | Intracranial Dural Arteriovenous Fistula: Which MR Angiography is the Best for Diagnosis?
<i>Masaaki Hori¹, Shigeki Aoki², Koji Kamagata², Atsushi Nakanishi², Keigo Shimoji², Koichi Asahi², Haruyoshi Houshito², Ryohei Kuwatsuru², Keisuke Sasa²</i>
¹ Radiology, School of Medicine, Juntendo University, Tokyo, Japan; ² Radiology, School of Medicine, Juntendo University, Tokyo, Japan | |
| 4667. | MRI & MRA of Spinal Cord Arterio Venous Shunts
<i>Stéphanie Condet-Auliac¹, Anne Boulin¹, Oguzhan Coskun¹, Georges Rodesch¹</i>
¹ NEURORADIOLOGY, Hôpital FOCH, SURESNES, France | |
| 4668. | Future Clinical Applications of High Resolution Anatomical Imaging of the Brain at 7.0 Tesla MRI
<i>Anja Gwendolyn van Der Kolk¹, Jaco J. M. Zwanenburg^{1,2}, Fredy Visser^{1,3}, Peter R. Luijten¹, Jeroen Hendrikse¹</i>
¹ Department of Radiology, University Medical Center Utrecht, Utrecht, Netherlands; ² Image Sciences Institute, University Medical Center Utrecht, Netherlands; ³ Philips Healthcare, Best, Netherlands | |
| 4669. | MR Characterization of Autism Spectrum Disorders
<i>Yash Shah¹, Scott James Peltier¹</i>
¹ University of Michigan, Ann Arbor, MI, United States | |
| 4670. | MR Imaging of Epidermoid Tumors-Histopathological Correlation & Surgical Implications
<i>Bejoy Thomas¹, Divyata Rajendra Hingwala¹, Chandrasekharan Kesavadas¹, Girish Menon², Vishnupuri Venkataraman Radhakrishnan³</i>
¹ Imaging Sciences & Interventional Radiology, Sree Chitra Tirunal Institute for Medical Sciences & Technology, Thiruvananthapuram, Kerala, India; ² Neurosurgery, Sree Chitra Tirunal Institute for Medical Sciences & Technology, Thiruvananthapuram, Kerala, India; ³ Pathology, Sree Chitra Tirunal Institute for Medical Sciences & Technology, Thiruvananthapuram, Kerala, India | |
| 4671. | High-Resolution 3D MR Imaging of the Sellar & Parasellar Space using SPACE at 3.0 T
<i>Emiko Morimoto¹, Mitsunori Kanagaki¹, Akira Yamamoto¹, Tomohisa Okada¹, Seiko Kasahara¹, Satoshi Nakajima¹, Mami Iima¹, Ryo Sakamoto¹, Kaori Togashi¹</i>
¹ Department of Diagnostic Imaging & Nuclear Medicine, Graduate School of Medicine, Kyoto University, Kyoto, Japan | |
| 4672. | Diffusion Kurtosis Imaging <i>In Vivo</i>; from Basics to Clinical Applications.
<i>Masaaki Hori¹, Yoshitaka Masutani², Ryo Sato^{3,4}, Koji Kamagata³, Koichi Asahi³, Nozomi Hamasaki³, Shuji Satou³, Atsushi Nakanishi³, Keigo Shimoji³, Haruyoshi Houshito³, Ryohei Kuwatsuru³, Keisuke Sasa³, Masaru Takashima⁵, Yuriko Suzuki⁵, Shigeki Aoki³</i>
¹ Radiology, School of Medicine, Juntendo University, Tokyo, Japan; ² Radiology, The University of Tokyo Hospital, Tokyo, Japan; ³ Radiology, School of Medicine, Juntendo University, Tokyo, Japan; ⁴ Radiological Sciences, Graduate School of Human Health Sciences, Tokyo Metropolitan University, Tokyo, Japan; ⁵ Philips Electronics Japan, Tokyo, Japan | |
| 4673. | Anatomic, Functional & Postprocessing MRI Techniques in the Evaluation of Epileptic Patients
<i>Diego A. Herrera^{1,2}, Sergio A. Vargas^{1,2}, Jon E. Duque^{1,2}, Arthur B. Dublin³</i>
¹ Universidad de Antioquia, Medellin, Antioquia, Colombia; ² CediMed, Colombia; ³ University of California Davis Medical Center, United States | |
| 4674. | Neonatal Perfusion Imaging with Pulsed Continuous Arterial Spin Labelling (PCASL)
<i>Ruth L. O'Gorman¹, Cornelia Hagmann¹, Hadwig Speckbacher¹, Brigitte Koller¹, Ajit Shankaranarayanan², David C. Alsop^{3,4}, Ernst Martin¹</i>
¹ University Children's Hospital, Zürich, Switzerland; ² Global Applied Science Laboratory, GE Healthcare, Menlo Park, CA, United States; ³ Beth Israel Deaconess Medical Center, Boston, MA, United States; ⁴ Harvard Medical School, Boston, MA, United States | |
| 4675. | Focal Cortical Dysplasia: Classification & Role of Advanced MRI Techniques in Evaluation
<i>Chandrasekharan Kesavadas¹, Bejoy Thomas², Divyata Hingwala, Ashalatha Radhakrishnan, Kurupath Radhakrishnan</i>
¹ Imaging Sciences & Interventional Radiology, SCTIMST, Trivandrum, Kerala, India; ² SCTIMST, India | |
| 4676. | Using MR-Measured Cerebral Blood Flow to Assess Stroke Risk in Pediatric Sickle Cell Patients
<i>Amanda K. Wake¹, John C. Gore¹</i> | |

- ¹Vanderbilt University Institute of Imaging Science, Vanderbilt University Medical Center, Nashville, TN, United States
- 4677. Two Dynamic Studies in One MR Examination: Three Alternative Combinations of Different Dynamic Studies**
Keiichi Kikuchi¹, Yoshiyasu Hiratsuka¹, Shogo Oda¹, Shohei Kohno², Hideaki Watanabe², Shiro Ohue², Teruhito Mochizuki¹, Kenya Murase³
¹Radiology, Ehime University, Ehime, Japan; ²Neurosurgery, Ehime University, Ehime, Japan; ³Medical Engineering, Osaka University, Suita, Japan
- 4678. Conventional & Advanced MR Imaging of Parkinson's Disease**
Koji Kamagata¹, Shigeki Aoki¹, Yumiko Motoi¹, Masaaki Hori¹, Atsushi Nakanishi¹, Keigo Shimoji¹, Ryohei Kuwatsuru¹, Keisuke Sasaki¹, Nobutaka Hattori¹
¹Juntendo University, Tokyo, Bunkyo-ku, Japan
- 4679. Grading Glioma- Moving Closer to Pathology with Advanced MRI Techniques**
Chandrasekharan Kesavadas¹, Bejoy Thomas², Tirur Raman Kapilamoorthy, V. V. Radhakrishnan
¹Imaging Sciences & Interventional Radiology, SCTIMST, Trivandrum, Kerala, India; ²SCTIMST, India
- 4680. In Vivo Sodium MRI: Biomedical Applications**
Guillaume Madelin¹, Alexej Jerschow², Ravinder R. Regatte¹
¹Radiology Department, New York University Medical Center, New York, NY, United States; ²Chemistry Department, New York University, New York, NY, United States
- 4681. Proton Spectral Editing with the PRESS Sequence**
Atiyah Yahya^{1,2}
¹Department of Oncology, University of Alberta, Edmonton, Alberta, Canada; ²Department of Medical Physics, Cross Cancer Institute, Edmonton, AB, Canada
- 4682. Bright Stuff on T₁ – Applications in Clinical Neuroradiology**
Ulf Jensen-Kondering¹, Olav Jansen¹
¹University of Schleswig-Holstein, Campus Kiel, Institute of Neuroradiology, Kiel, Schleswig-Holstein, Germany

Pulse Sequences, Reconstruction + Analysis

Exhibition Hall	Available Monday thru Thursday	Educational E-Poster Tables
4683. Biophysical Principles & Models of SSFP Functional MRI Contrast Mechanisms in the Brain at High & Ultra-High Magnetic Fields <i>Irtiza Ali Gilani¹, Raimo Sepponen²</i> ¹ Advanced Magnetic Resonance Imaging Centre, Low Temperature Laboratory, Aalto University, Espoo, Uusima, Finland; ² Department of Electronics, Aalto University, Espoo, Uusima, Finland		
4684. T₁ Mapping: Methods & Challenges <i>Nikola Stikov¹, Christine L. Tardif¹, Joelle K. Barral², Ives Levesque², G. Bruce Pike¹</i> ¹ Montreal Neurological Institute, McGill University, Montreal, QC, Canada; ² Electrical Engineering, Stanford University, Stanford, CA, United States		
4685. Prospective Motion Correction: The Benefits & the Challenges <i>Julian Maclaren¹, Oliver Speck², Maxim Zaitsev¹</i> ¹ Medical Physics, University Medical Center Freiburg, Freiburg, Germany; ² Department of Biomedical Magnetic Resonance, Otto-von-Guericke University, Magdeburg, Germany		
4686. A Visual, Interactive Introduction to Basic & Advanced Magnetic Resonance Techniques <i>Lars G. Hanson^{1,2}</i> ¹ Danish Research Centre for Magnetic Resonance, Copenhagen University Hospital, Hvidovre, Denmark; ² Biomedical Engineering, Technical University of Denmark, Kgs. Lyngby, Denmark		
4687. An Overview of Registration Methods Used for the Automatic Analysis of Abdominal DCE-MRI <i>David Pilutti¹, Claudia Weidensteiner¹, Martin Büchert¹, Ulrike Fasol¹, Stathis Hadjidemetriou¹</i> ¹ Radiology - Medical Physics, University Medical Center, Freiburg, Germany		
4688. Metal-Induced Artifacts in MRI <i>Brian A. Hargreaves¹, Garry E. Gold¹, John M. Pauly², Kim Butts Pauly¹, Kevin M. Koch³</i> ¹ Radiology, Stanford University, Stanford, CA, United States; ² Electrical Engineering, Stanford University, Stanford, CA, United States; ³ Applied Science Lab, General Electric Healthcare, Waukesha, WI, United States		

- 4689. Accuracy & Precision in Quantitative Rotating Frame Relaxometry at High & Ultra-High Magnetic Fields**
Irtiza Ali Gilani¹, Raimo Sepponen²
¹Advanced Magnetic Resonance Imaging Centre, Low Temperature Laboratory, Aalto University, Espoo, Uusima, Finland;
²Department of Electronics, Aalto University, Espoo, Uusima, Finland
- 4690. T₁rho & Steady-State MRI: The Odd Couple**
Walter R. T. Witschey¹, Silvia Mangia², Shalom Michaeli², Michael Garwood², Ravinder Reddy³, Jürgen Hennig¹, Maxim Zaitsev¹
¹Medical Physics, University Medical Center Freiburg, Freiburg i. Breisgau, Baden Württemberg, Germany; ²CMRR, University of Minnesota, Minneapolis, MN, United States; ³CMROI, University of Pennsylvania, Philadelphia, PA, United States
- 4691. What is Magnetic Resonance?**
Lars G. Hanson^{1,2}
¹Danish Research Centre for Magnetic Resonance, Copenhagen University Hospital, Hvidovre, Denmark; ²Biomedical Engineering, Technical University of Denmark, Kgs. Lyngby, Denmark
- 4692. Fundamentals & Visualization of the SWIFT Sequence**
Curtis Andrew Corum¹, Djaudat Idiyatullin¹, Steen Moeller¹, Ryan Chamberlain¹, Robert O'Connell¹, Michael Garwood¹
¹CMRR, University of Minnesota, Minneapolis, MN, United States
- 4693. Normalized Cuts Method for Biomedical MRI Segmentation**
Esmeralda Ruiz Pujadas¹, Martin Buechert¹, Michael Weiner², Stathis Hadjidemetriou¹
¹Department of Radiology, Medical Physics, University Medical Center Freiburg, Freiburg, Germany; ²Department of Radiology, VA Medical Center, Center for Imaging of Neurodegenerative Diseases, San Francisco, United States