Traditional Poster

Liver - Pancreas

Exhibition Hall Monday 14:00-16:00

794. Quantifying Blood Flow & Perfusion in Liver Tissue using Phase Contrast Angiography & Arterial Spin Labelling
Caroline Hoad[1], Carolyn Costigan[1], Luca Marciani[2], Philip Kaye[3], Robin Spiller[2], Penny Gowland[1], Guru Aithal[2], Susan Francis[1]
[1]School of Physics & Astronomy, University of Nottingham, Nottingham, Nottinghamshire, United Kingdom; [2]Nottingham Digestive Diseases Centre, NIHR Biomedical Research Unit, University Hospitals NHS Trust, Nottingham, Nottinghamshire, United Kingdom; [3]Department of Cellular Pathology, University Hospitals NHS Trust, Nottingham, Nottinghamshire, United Kingdom

795. Toward Non-Invasive Estimation of Portal Pressure Via MR Elastography
Sara Aristizabal[1], Meng Yin[1], Kevin J. Glaser[1], Arunark Kolipaka[1], Armando Manduca[1], Richard L. Ehman[1]
[1]Mayo Clinic, Rochester, MN, United States

796. Multiexponential T_2 Analyses in a Murine Model of Hepatic Fibrosis at 11.7T MRI
Jonathan Scalera[1], Hernan Jara[1], Jorge a Soto[1], James A. Hamilton[2], Michael O'Brien[3], Stephan William Anderson[1]
[1]Radiology, Boston University Medical Center, Boston, MA, United States; [2]Physiology & Biophysics, Boston University Medical Center; [3]Pathology & Laboratory Medicine, Boston University Medical Center

797. Assessment of Liver Fibrosis in Rats with MR Imaging & Elastography
Heiko G. Niessen[1], Michael Neumaier[1], Thomas Kaulisch[1], Ingolf Sack[2], Dieter Klatt[3], Thomas Klein[4], Juergen Braun[3], Detlef Stiller[1]
[1]*In-Vivo* Imaging, Target Discovery Research, Boehringer Ingelheim Pharma GmbH & Co. KG, Biberach, Germany; [2]Dept. of Radiology, Charite-University Medicine Berlin; [3]Dept. of Medical Informatics, Charite-University Medicine Berlin; [4]CardioMetabolic Diseases Research, Boehringer Ingelheim Pharma GmbH & Co. KG, Biberach, Germany

798. Time-Resolved Qualitative & Quantitative Analysis of Normal & Altered 3D Portal Venous Hemodynamics in Liver Cirrhosis Patients
Zoran Stankovic[1], Zoltan Csatari[1], Peter Deibert[2], Wulf Euringer[1], Susanne Eggerking[2], Philipp Blanke[1], Zahra Abdullah Zadeh[1], Mathias Langer[1], Michael Markl[1]
[1]Radiology, University Hospital Freiburg, Freiburg, Ba.-Wü., Germany; [2]Gastroenterology, University Hospital Freiburg, Freiburg, Ba.-Wü., Germany

799. Evaluation of Normal & Altered Hepatic Arterial Und Portal Venous 4D Hemodynamics in Patients with Liver Cirrhosis Before & After Treatment with TIPS
Zoltan Csatari[1], Zoran Stankovic, Peter Deibert, Wulf Euringer, Julia Geiger, Wolfgang Kreisel, Mathias Langer, Michael Markl
[1]University Hospital Freiburg, Freiburg, Baden Württemberg, Germany

800. Performance & Limitations of R_2* Relaxometry Liver Iron Measurements
Greg Colin Brown[1], David James Taylor[1], Donald McRobbie[2]
[1]Radiology, Royal Adelaide Hospital, Adelaide, South Australia, Australia; [2]Radiological Sciences Unit, Imperial College Healthcare NHS Trust, London, United Kingdom

801. Influence of a Connected & Inactive Coil on a MR Exam: Liver Iron Load Measurement
Anou Sewonu[1,2], Marine Beaumont[3,4], Fanny Carbillet[1], Maélène Lohezic[2], René Anxionnat[4], Jacques Felblinger[2,4], Gabriel Hossu[3,4]
[1]Alara-Solutions, Strasbourg, France; [2]IADI Lab., Nancy-Université, Nancy, France; [3]CIT801, INSERM, Nancy, France; [4]IADI Lab., CHU Nancy, Nancy, France

802. Blood-Suppressed T_2* Mapping in Liver with Motion Sensitized Driven Equilibrium (MSDE)
Rexford D. Newbould[1], Giulio Gambarota[1]
[1]GSK Clinical Imaging Centre, Hammersmith Hospital, London, United Kingdom

803. Evaluation of Individual Versus Average T_2* Decay Correction & Single Slice Versus Multislice Sampling in the Two-Point Dixon Method for Liver Fat Quantification
Cemil Kirbas[1], Eric Zalusky[1], Stefan Czerwinski[2], Miryoung Lee[2], Ke Cheng Liu[3], Jason G. Parker[1]
[1]Innovation Center, Kettering Health Network, Kettering, OH, United States; [2]Department of Community Health, Wright State University, Kettering, OH, United States; [3]Siemens Medical Solutions, United States

804. Quantification of Hepatic Steatosis with MRI: Histological Validation
Thomas David Reed[1], Rashmi Agni[2], Catherine Hines[1], Richard Bruce[1], Mona Ranade[1], Benjamin Soriano[3], Kiyarash Mohajer[1], Scott B. Reeder[1]
[1]Radiology, University of Wisconsin, Madison, WI, United States; [2]Pathology, University of Wisconsin, Madison , WI, United States; [3]Pathology, University of Wisconsin, Madison, WI, United States

805. Relationship Between Proton-Density Fat-Fraction & True Fat Concentration for *In Vivo* Fat Quantification with Magnetic Resonance Imaging
Scott Brian Reeder[1], Catherine D. Hines[1], Huanzhou Yu[2], Charles A. McKenzie[3], Jean H. Brittain[4]
[1]Radiology, University of Wisconsin, Madison, WI, United States; [2]Global Applied Science Laboratory, GE Healthcare, Menlo Park, CA, United States; [3]Medical Biophysics, University of Western Ontario, London, Ontario, Canada; [4]Global Applied Science Laboratory, GE Healthcare, Madison, WI, United States

806. *In Vivo* Application of Breath-Hold Single-Voxel ^{1}H Spectroscopy for T_2-Corrected Hepatic Lipid Measurement: Evaluation of Accuracy & Reproducibility
Puneet Sharma[1], Hiroumi D. Kitajima[1], Xiaodong Zhong[2], Bobby Kalb[3], Alton B. Farris[4], Miriam B. Vos[5], Diego R. Martin[3]
[1]Radiology, Emory Healthcare, Atlanta, GA, United States; [2]MR R&D Collaborations, Siemens Healthcare, Atlanta, GA, United States; [3]Radiology, Emory University, Atlanta, GA, United States; [4]Pathology, Emory University, Atlanta, GA, United States; [5]Hepatology, Children's Hospital of Atlanta, Atlanta, GA, United States

807. Respiratory Gated Contrast Enhanced Imaging of the Liver
Pascal Spincemaille[1], Doug Brylka[1], Martin R. Prince[1], Yi Wang[1,2]
[1]Radiology, Weill Cornell Medical College, New York, NY, United States; [2]Biomedical Engineering, Cornell University, Ithaca, NY, United States

808. Development of MRI-Guided Intrabiliary Local Agent Delivery Technique
Feng Zhang[1], Jiakai Li[1], Yanfeng Meng[1], Jihong Sun[1], Stephanie San Juan Soriano[1], Huidong Gu[1], Patrick Willis[1], Xiaoming Yang[1]
[1]Image-Guided Bio-Molecular Intervention Section, Department of Radiology, University of Washington School of Medicine, Seattle, WA, United States

809. Evaluating the Effects of Various Food Ingredients on Gallbladder Contraction
Eleanor F. Cox[1], Caroline L. Hoad[1], John J. Totman[1], Carolyn Costigan[1], Luca Marciani[2], Robin C. Spiller[2], Penny A. Gowland[1]
[1]SPMMRC, School of Physics & Astronomy, University of Nottingham, Nottingham, Nottinghamshire, United Kingdom; [2]NDDC NIHR BRU, Nottingham University Hospitals, Nottingham, United Kingdom

810. Investigating the Pancreatic Function: Robust 3D MR Imaging of Mouse Abdomen
Ekkehard Küstermann[1], Anke Meyer[2], Amod Godbole[2], Wolfgang Dreher[3], Kathrin Maedler[2]
[1]ZKW, University of Bremen, Bremen, Germany; [2]CBIB, University of Bremen; [3]FB2, University of Bremen

811. MRI of Paraduodenal Pancreatitis: Clinical Performance in Distinction from Carcinoma
Bobby Kalb[1], Juan M. Sarmiento[2], N. Volkan Adsay[3], James Costello[1], Hiroumi Kitajima[1], Puneet Sharma[1], Christina Lurie[1], Diego R. Martin[1]
[1]Radiology, Emory University School of Medicine, Atlanta, GA, United States; [2]Surgery, Emory University School of Medicine, Atlanta, GA, United States; [3]Pathology, Emory University School of Medicine, Atlanta, GA, United States

812. Assessment of Chronic Pancreatitis with MR Elastography
Yogesh Kannan Mariappan[1], Kevin Glaser[1], Naoki Takahashi[1], Phillip Young[1], Richard L. Ehman[1]
[1]Department of Radiology, Mayo Clinic, Rochester, MN, United States

813. Ethnic Implications of Pancreatic Steatosis
Lidia S Szczepaniak[1], Edward W Szczepaniak[1], Qi Peng[2], Ildiko Lingvay[3]
[1]The Heart Institute, Cedars-Sinai Medical Center, Los Angeles, CA, United States; [2]Radiology, University of Texas, Health Science Center, San Antonio, TX, United States; [3]Endocrinology, University of Texas, Southwestern Medical Center, Dallas, TX, United States

Kidneys/Adrenals

Exhibition Hall Tuesday 13:30-15:30

814. Variation in GFR Estimates Derived from DCE-MRI Renography Studies in the Presence of Reduced Signal to Noise Ratio
Saeed Kiani[1], Isky Gordon[2], Iosif Mendichovszky[3], Marica Cutajar[2], Kevin Wells[1]

[1]CVSSP, Faculty of Engineering & Physical Sciences, University of Surrey, Guildford, Surrey, United Kingdom; [2]UCL Institute of Child Health, London, United Kingdom; [3]Wolfson Molecular Imaging Centre, University of Manchester, Manchester, United Kingdom

815. A Variational Approach to Image Registration in DCE-MRI of Human Kidney

Andreas D. Merrem[1], Frank G. Zoellner[1], Lothar R. Schad[1]
[1]Computer Assisted Clinical Medicine, Medical Faculty Mannheim, Heidelberg University, Mannheim, Germany

816. A Robust Method for Reducing Inflow Artifacts in the Arterial Input Function of Dynamic Contrast Enhanced Data Sets

Yutong Duan[1,2], Ralf Berthold Loeffler[1], Ruitian Song[1], Aaryani Tipirneni[1], Sheri Spunt[3], Niels Oesingmann[4], Anne Viano[2], Claudia Maria Hillenbrand[1]
[1]Radiological Sciences, St. Jude Children's Research Hospital, Memphis, TN, United States; [2]Physics, Rhodes College, Memphis, TN, United States; [3]Oncology, St. Jude Children's Research Hospital, Memphis, TN, United States; [4]Siemens Medical Solutions USA, Inc., New York, NY, United States

817. Quantification of Renal DCE-MRI with BLADE: Initial Experience

Florian Lietzmann[1], Frank G. Zoellner[1], Ulrike Attenberger[2], Henrik J. Michaely[2], Stefan Haneder[2], Stefan O. Schoenberg[2], Lothar R. Schad[1]
[1]Computer Assisted Clinical Medicine, Heidelberg University, Mannheim, Germany; [2]Institute of Clinical Radiology & Nuclear Medicine, University Medical Centre Mannheim, Mannheim, Germany

818. Comparison of ASL & DCE-MRI for Renal Perfusion Measurements

Jeff D. Winter[1,2], Keith S. St. Lawrence[3,4], Hai-Ling Margaret Margaret Cheng[1,5]
[1]Physiology & Experimental Medicine, The Hospital for Sick Children, Toronto, Ontario, Canada; [2]Research & Development, IMRIS, Winnipeg, Manitoba, Canada; [3]Imaging Division, Lawson Research Institute, London, Ontario, Canada; [4]Medical Biophysics, University of Western Ontario, London, Ontario, Canada; [5]Medical Biophysics, University of Toronto, Toronto, Ontario, Canada

819. A Comparative Study of Arterial Spin Labeling & Dynamic Contrast Enhanced Perfusion Magnetic Resonance Imaging in the Kidneys

Mao-Yuan Su[1], Chin-Chen Chang[1], Kao-Lang Liu[1], Ting-Fang Tiffany Shih[1], Wen-Chau Wu[1,2]
[1]Department of Medical Imaging, National Taiwan University Hospital, Taipei, Taiwan; [2]Graduate Institute of Oncology, National Taiwan University, Taipei, Taiwan

820. High Resolution Respiratory Triggered Multiphase TrueFISP ASL

Eleanor F. Cox[1], Caroline L. Hoad[1], Susan T. Francis[1]
[1]SPMMRC, School of Physics & Astronomy, University of Nottingham, Nottingham, Nottinghamshire, United Kingdom

821. Model-Based Registration for Motion Correction of Inversion Recovery & Multiple-Time Point Renal ASL

Mark Stephen Dobbs[1,2], Neil Woodhouse[3], Geoff J. M. Parker[1,2], Josephine H. Naish[1,2]
[1]Imaging Science & Biomedical Engineering, the University of Manchester, Manchester, Greater Manchester, United Kingdom; [2]The Biomedical Imaging Institute, The University of Manchester, Manchester, Greater Manchester, United Kingdom; [3]AstraZeneca, Macclesfield, Cheshire, United Kingdom

822. k-Means Segmentation of Kidney Cortex & Medulla for BOLD Images

Yin Huang[1], Nathan Hanson[1], Elizabeth Sadowski[2], David Niles[1], Nathan Artz[1], Arjang Djamali[3], Thomas Grist[1,2], Sean Fain[1,2]
[1]Medical Physics, University of Wisconsin Madison, Madison, WI, United States; [2]Radiology, University of Wisconsin Madison, Madison, WI, United States; [3]Nephrology, University of Wisconsin Madison, Madison, WI, United States

823. Longitudinal Evaluation of Renal Oxygenation in Kidney Donors & Recipients using BOLD MRI

David Joseph Niles[1], Sean B. Fain[1,2], Nathan S. Artz[1], Yin Huang[1], Karl K. Vigen[2], Arjang Djamali[3], Thomas M. Grist[1,2], Elizabeth A. Sadowski[2]
[1]Medical Physics, University of Wisconsin, Madison, WI, United States; [2]Radiology, University of Wisconsin, Madison, WI, United States; [3]Nephrology, University of Wisconsin, Madison, WI, United States

824. *In Vivo* $T_1\rho$ Study on Human Kidney

Xiang He[1], Chan-Hong Moon[1], Jung-Hwan Kim[1], Kyongtae Ty Bae[1]
[1]Department of Radiology, University of Pittsburgh, Pittsburgh, PA, United States

825. Quantification of Renal T_1 using a Modified Respiratory Triggered Inversion Recovery TrueFISP Scheme

Eleanor F. Cox[1], Caroline L. Hoad[1], Susan T. Francis[1]
[1]SPMMRC, School of Physics & Astronomy, University of Nottingham, Nottingham, Nottinghamshire, United Kingdom

826. Study of Kidney SWI Under Oxygenation Variation After Water Uptake - Initial Results

Moritz Bernhard Mie[1], Frank Gerrit Zoellner[1], Lothar Rudi Schad[1]
[1]Computer Assisted Clinical Medicine, Heidelberg University, Mannheim, Germany

827. ^{23}Na MRI of the Human Kidney at 3T: Improving Image Quality by Different Image Filters

Frank G. Zoellner[1], Holger Best[1], Simon Konstandin[1], Stefan Haneder[2], Stefan O. Schoenberg[2], Henrik J. Michaely[2], Lothar R. Schad[1]
[1]Computer Assisted Clinical Medicine, Heidelberg University, Mannheim, Germany; [2]Institute of Clinical Radiology & Nuclear Medicine, University Medical Center Mannheim, Heidelberg University, Mannheim, Germany

828. Non-Invasive CEST-MRI Measurement of Ph in the Human Kidneys using an Approved CT Contrast Agent

Jochen Keupp[1], Ivan Dimitrov[2,3], Sander Langereis[4], Osamu Togao[3], Masaya Takahashi[3], A. Dean Sherry[3]
[1]Philips Research Europe, Hamburg, Germany; [2]Philips Healthcare, United States; [3]Advanced Imaging Research Center, UT Southwestern Medical Center, Dallas, TX, United States; [4]Philips Research Europe, Eindhoven, Netherlands

829. MR Phantom Validation of Adrenal Adenoma Signal Intensity Index Normalization

Cory R. Wyatt[1], Brian Dale[2], Elmar Merkle[1], James MacFall[1], Brian Soher[1]
[1]Radiology, Duke University, Durham, NC, United States; [2]Siemens Medical Solutions, Inc., Morrisville, NC, United States

830. Fat Quantification of Adrenal Adenomas using 3D 3-Point Dixon MR Imaging: Comparison with Conventional 2D Dual Echo Chemical Shift MR Imaging

Tomohiro Namimoto[1], Kosuke Morita, Toshinori Hirai, Shinichi Nakamura, Seitaro Oda, Daisuke Utsunomiya, Yasuyuki Yamashita, Makoto Obara[2]
[1]Radiology, Kumamoto University, Kumamoto, Japan; [2]Philips Medical Systems

Fetal & Female Pelvis

Exhibition Hall Wednesday 13:30-15:30

831. MR Spectroscopy of Endometrial Cancer - Initial Results at 3T
Geoff Charles-Edwards[1,2], Robert Johnstone[1], Sarah Natas[1], Audrey Jacques[1]
[1]Guy's & St Thomas' NHS Foundation Trust, London, United Kingdom; [2]King's College London, London, United Kingdom

832. Uterine Fibroids: Quantitative Assessment of Baseline T_1, ADC & Microvascular Properties with T_1w DCE-MRI
Lucy Elizabeth Kershaw[1], Yuexi Huang[1], Hallie Taylor[2,3], Elizabeth David[2], Kullervo Hynynen[1,4], Greg Stanisz[1,4], Laurent Milot[2,3]
[1]Imaging Research, Sunnybrook Research Institute, Toronto, Ontario, Canada; [2]Radiology, Sunnybrook Research Institute, Toronto, Ontario, Canada; [3]Medical Imaging, University of Toronto, Toronto, Ontario, Canada; [4]Medical Biophysics, University of Toronto, Toronto, Ontario, Canada

833. Improved T_2-Weighted Imaging of the Pelvis using T_2-Prepared Single-Slab 3D TSE (SPACE)
John P. Mugler, III[1], Talissa A. Altes[1], Wilhelm Horger[2], Berthold Kiefer[2]
[1]Radiology, University of Virginia, Charlottesville, VA, United States; [2]Siemens Healthcare, Erlangen, Germany

834. Normal Liver T_2* Values in the Fetus
Tammar Kushnir[1], Chen Hoffmann[1], Lisa Raviv-Zilka[1], Yishay Salem[1], Eli Konen[1], Orly Goitein[1]
[1]Dept. of Diagnostic Imaging, MRI Unit, The Chaim Sheba Medical Center, Tel Hashomer, Israel

Body Diffusion: Technique & Clinical Applications

Exhibition Hall Thursday 13:30-15:30

835. ADC Quantification of Continuously Moving Table Whole-Body Diffusion-Weighted Imaging
Yeji Han[1], Sandra Huff[2], HyunWook Park[1], Ute Ludwig[2]
[1]Department of Electrical Engineering, Korea Advanced Institute of Science and Technology, Daejeon, Korea, Republic of; [2]Medical Physics, University Hospital Freiburg, Freiburg, Germany

836. Quantification Accuracy of ADC Measurements from Whole-Body DWIBS
Alan John Stone[1,2], Jacinta E. Browne[3], Brian Lennon[4], James F. Meaney[5], Andrew J Fagan[1,6]
[1]Centre for Advanced Medical Imaging (CAMI), St. James's Hospital / Trinity College,, University of Dublin, Ireland; [2]Cardiff University Brain Research Imaging Centre (CUBRIC), School of Psychology, Cardiff, United Kingdom; [3]School of Physics, Dublin Institute of Technology, Dublin, Ireland; [4]Dept. Medical Physics & Bioengineering, St. James's Hospital, Dublin, Ireland; [5]Centre for Advanced Medical Imaging (CAMI), St. James's Hospital / Trinity College, University of Dublin, Ireland; [6]School of Medicine, Trinity College, University of Dublin, Ireland

837. Correlation of Urinary Bladder Cancer with Stalk Observed on 3-Tesla MRI with Histopathological T Staging & Cystoscopic Findings: Comparison of Diffusion- & T_2-Weighted Imaging in Stalk Detectability
Yoshimitsu Ohgiya[1], Jumpei Suyama[1], Syouei Sai[1], Masaaki Kawahara[1], Jirou Munechika[1], Makoto Saiki[1], Noritaka Seino[1], Masanori Hirose[1], Takehiko Gokan[1]
[1]Showa University School of Medicine, Tokyo, Japan

838. NdH/dT: A New Quantitative Measure for Diffusion Weighted Imaging Based Evaluation of Abdominal Tumor Response to Therapy
Moti Freiman[1], Stephan Voss, Simon K. Warfield[1]
[1]Computational Radiology Laboratory, Dept. of Radiology, Children's Hospital, Harvard Medical School, Boston, MA, United States

839. Simultaneous Compensation of Respiratory & Cardiac Motion Effect on Liver DWI
Tetsuo Ogino[1,2], Tomohiko Horie[3], Hayato Takano[4], Thomas Kwee[5], Taro Takahara[6,7], Marc Van Cauteren[8], Tosiaki Miyati[9]
[1]Healthcare Division, Philips Electronics Japan, LTD, Minato-ku, Tokyo, Japan; [2]Graduate School of Medical Sciences, Kanazawa University, Kanazawa-shi, Ishikawa-ken, Japan; [3]Dept. of Radiology, Tokai Univiersity Hospital, Isehara-shi, Kanagawa, Japan; [4]Dept. of Radiology, Tokai University Hospital, Isehara-shi, Kanagawa, Japan; [5]Department of Radiology, University Medical Center Utrecht, Utrecht, Netherlands; [6]Biomedical Engineering, Tokai University School of Engineering, Hiratsuka-shi, Kanagawa, Japan; [7]Dept. of Radiology, UMC Utrecht, Utrecht , Netherlands; [8]Philips Healthcare; [9]Department of Quantum Medical Technology, Kanazawa University, Kanazawa, Ishikawa, Japan

840. Comparison of Breath-Hold Versus Free-Breathing Versus Respiratory Triggered & Navigator Triggered Diffusion Weighted Imaging of the Liver
Moritz Florian Kircher[1,2], Alan Xu[1], Anja C. Brau[3], Martin Laufik[1], Yuji Iwadate[4], Jarrett Rosenberg[1], Bruce L. Daniel[1], Robert J. Herfkens[1]
[1]Radiology, Stanford University, Stanford, CA, United States; [2]Radiology, Memorial Sloan-Kettering Cancer Center, New York, NY, United States; [3]Global Applied Science Laboratory, GE Healthcare, Menlo Park, CA, United States; [4]Global Applied Science Laboratory, GE Healthcare, Hino, Japan

841. Comparison of Breath-Hold & Free-Breathing Diffusion-Weighted Techniques for Liver MR Diffusivity in Healthy Volunteers & Patients
Mamak Eatesam[1], Susam M. Noworolski[1,2], Phyllis C. Tien[3], Michelle Nystrom[1], Jennifer L. Dodge[4], Raphael B. Merriman[5], Aliya Qayyum[1]
[1]Radiology & Biomedical Imaging, UCSF, San Francisco, CA, United States; [2]Graduate Group in Bioengineering, UC San Francisco & Berkeley, San Francisco & Berkeley, CA, United States; [3]Department of Medicine, UCSF & San Francisco Veterans Affairs Medical Center, San Francisco, CA, United States; [4]Department of Internal Medicine, UCSF, Fresno, CA, United States; [5]Department of Medicine, California Pacific Medical Center, San Francisco, CA, United States

842. Diffusion-Weighted MRI of the Liver at 3T MRI: Effect of Steatosis on ADC at Low & High B Values
Andrew James Gilman[1], Susan Moyher Noworolski[1], Mamak Eatesam[1], Jennifer Lynne Dodge[1], Raphael Brendan Merriman[2], Aliya Qayyum[1]
[1]Radiology & Biomedical Imaging, University of California, San Francisco, San Francisco, CA, United States; [2]Division of Gastroenterology, California Pacific Medical Center, San Francisco, CA, United States

843. Reliability Analysis of Liver Apparent Diffusion Coefficient Measurement: Importance of ROI Size & Image Threshold
Mamak Eatesam[1], Michelle Nystrom[1], Susan M. Noworolski[1,2], Jennifer L. Dodge[3], Raphael B. Merriman[4], Aliya Qayyum[1]
[1]Radiology & Biomedical Imaging, UCSF, San Francisco, CA, United States; [2]Graduate Group in Bioengineering, UC San Francisco & Berkeley, San Francisco & Berkeley, CA, United States; [3]Department of Internal Medicine, UCSF, Fresno, CA, United States; [4]Department of Medicine, California Pacific Medical Center, San Francisco, CA, United States

844. Icewater for Quality Control of Diffusion Measurements in Multi-Center Trials
Thomas L. Chenevert[1], Craig J. Galbán[1], Frank J. Londy[1], Charles R. Meyer[1], Timothy D. Johnson[2], Alnawaz Rehemtulla[3], Brian D. Ross[1]
[1]Radiology - MRI, University of Michigan, Ann Arbor, MI, United States; [2]Biostatistics, University of Michigan, Ann Arbor, MI, United States; [3]Radiation Oncology, University of Michigan, Ann Arbor, MI, United States

845. Monitoring Acellular Matrix-Based Soft Tissue Regeneration: Multiexponential Diffusion & T_2* for Improved Specificity
Hai-Ling Margaret Cheng[1,2], Yasir Loai[2], Walid A. Farhat[2]
[1]Medical Biophysics, University of Toronto, Toronto, Ontario, Canada; [2]Hospital for Sick Children, Toronto, Ontario, Canada

846. Efficient EPI Distortion Correction using Non-Phase Encoded Reference Data
Anne-Sophie Glantenay[1], Chiel J. Den Harder[1], Johan S. Van Den Brink[1], Gwenael Herigault[2], Jos Koonen[3]
[1]Advanced Development, Philips Healthcare, Best, Netherlands; [2]MR Cliniclal Science, Philips Healthcare, Best, Netherlands; [3]MR Development, Philips Healthcare, Best, Netherlands

Body Fat & Body MRS

Exhibition Hall Monday 14:00-16:00

847. Fully Automated Measurement of Total Adipose Tissue Volume using Quantitative Chemical Shift MRI: Phantom Validation
Aziz H. Poonawalla[1], Catherine D. G. Hines[1], Diego Hernando[1], Pablo Irarrazaval[1,2], Scott Brian Reeder[1]
[1]Radiology, University of Wisconsin, Madison, WI, United States; [2]Biomedical Engineering, Pontificia Universidad Catolica de Chile, Santiago, Chile

848. Software for Fully Automatic Quantification of Abdominal Fat with Manual Correction Option
Henriette Bertram[1], Gregor Thörmer[1], Florian Dazinger[1], Matthias Raschpichler[1], Nikita Garnov[1], Thomas Kahn[1], Matthias Blüher[2], Harald Busse[1]
[1]Department of Diagnostic & Interventional Radiology, University Hospital of Leipzig, Leipzig, Saxony, Germany; [2]Department of Endocrinology & Nephrology, University Hospital of Leipzig, Leipzig, Saxony, Germany

849. General Methodology for Accurate MRI Abdominal Adipose Tissue Quantification
Anqi Zhou[1], Horacio Murillo[1], Qi Peng[1]

[1]Radiology, UT Health Science Center at San Antonio, San Antonio, TX, United States

850. Visceral Fat Saturation is Positively Correlated with Liver Fat Content
Jesper Lundbom[1], Antti Hakkarainen, Sanni Söderlund[2], Jukka Westerbacka[2], Nina Lundbom[1], Marja-Riitta Taskinen[2]
[1]HUS Medical Imaging Center, Helsinki, Finland; [2]Department of Medicine, Helsinki University

851. Rapid, Volumetric Segmentation of Visceral Adipose Tissue with Quantitative Chemical Shift MRI at 3T
Aziz H. Poonawalla[1], Brett P. Sjoberg[1], Michael Schroeder[1], Diego Hernando[1], Pablo Irarrazaval[1,2], Scott Brian Reeder[1]
[1]Radiology, University of Wisconsin, Madison, WI, United States; [2]Biomedical Engineering, Pontificia Universidad Catolica de Chile, Santiago, Chile

852. Observation of TCA Cycle Metabolism in Human Liver by Dynamic ^{13}C-MRS
Douglas E. Befroy[1,2], Kitt Falk Petersen[2], Peter B. Brown[1], Douglas L. Rothman[1,3], Gerald I. Shulman[2,4]
[1]Diagnostic Radiology, Yale University School of Medicine, New Haven, CT, United States; [2]Internal Medicine, Yale University School of Medicine, New Haven, CT, United States; [3]Biomedical Engineering, Yale University School of Medicine, New Haven, CT, United States; [4]Howard Hughes Medical Institute, New Haven, CT, United States

853. ^{13}C-Labelling & Non-Invasive Detection of Glutathione in Human Liver
Peter Edward Thelwall[1], Fiona Elizabeth Smith[1], Matthew Clemence[2], Kieren G. Hollingsworth[1], Roy Taylor[1], Michael P. Gamcsik[3]
[1]Newcastle Magnetic Resonance Centre, Newcastle University, Newcastle upon Tyne, Tyne & Wear, United Kingdom; [2]Philips Healthcare - Clinical Science, Guildford, United Kingdom; [3]Joint Department of Biomedical Engineering, University of North Carolina / NC State University, United States

854. Assessment of Liver Fat using Magnetic Resonance Spectroscopic Imaging (MRSI)
Shing-Ru Chen[1], Yi-Ru Lin[2], Posse Stefan[3,4], Shang-Yueh Tsai[5]
[1]Graduate Institute of Biomedical Engineering, National Taiwan University of Science & Technology, Taipei, Taiwan; [2]Department of Electronic Engineering, National Taiwan University of Science & Technology, Taipei, Taiwan; [3]Department of Neurology, School of Medicine, University of New Mexico, Albuquerque, NM, United States; [4]Department of Electrical & Computer Engineering, University of New Mexico, Albuquerque, NM, United States; [5]Department of Electrical Engineering, Chang Gung University, Taoyuan, Taiwan

855. *In Vivo* Characterization of Liver Fat Composition by ^{1}H MR Spectroscopy
Gavin Hamilton[1], Michael S. Middleton[1], Takeshi Yokoo[1], Lisa G. Clark[1], Claude B. Sirlin[1]
[1]Department of Radiology, University of California, San Diego, San Diego, CA, United States

856. Serial ^{1}H Magnetic Resonance Spectroscopy Detects Liver Steatosis Associated with Chemotherapy in Advanced Colorectal Cancer Patients
Kristen Zakian[1], Jing Qi[1], Lawrence Schwartz[2], Yuman Fong[3], Leonard Saltz[4], Nancy Kemeny[4], Michael D'Angelica[3], William Jarnagin[3], Jason Koutcher[1]
[1]Medical Physics, Memorial Sloan-Kettering Cancer Center, New York, NY, United States; [2]Radiology, Columbia University Medical School; [3]Surgery, Memorial Sloan-Kettering Cancer Center; [4]Medicine, Memorial Sloan-Kettering Cancer Center

857. ^{1}H MRS Methodology, Dietary Effects & Impact of Surgical Stress on Hepatic Lipids in NAFLD Animal Models
Jan-Bernd Hövener[1], Uta Dahmen[2], Bernd Merkel[3], Olaf Dirsch[4], Jürgen Hennig[1], Dominik von Elverfeldt[1]
[1]Department of Radiology, Medical Physics, University Medical Center, Freiburg, Germany; [2]Experimentelle Transplantationschirurgie, Klinik für Allgemein-, Viszeral- & Gefäßchirurgie, Jena, Germany; [3]Fraunhofer MEVIS, Germany; [4]Institut für Pathologie, Jena, Germany

858. Reproducibility & Diagnostic Accuracy of *In Vivo* Proton Magnetic Resonance Spectroscopy in Detection of Hepatic Steatosis
Jing Qi[1], Mithat Gönen[2], Jinru Shia[3], Lawrence Schwartz[4], Nancy Kemeny[5], Michael D'Angelica[6], Yuman Fong[6], Jason Koutcher[1], Kristen Zakian[1]
[1]Medical Physics, Memorial Sloan-Kettering Cancer Center, New York, NY, United States; [2]Epidemiology-Biostatistics, Memorial Sloan-Kettering Cancer Center; [3]Pathology, Memorial Sloan-Kettering Cancer Center; [4]Radiology, Columbia University Medical School; [5]Medicine, Memorial Sloan-Kettering Cancer Center; [6]Surgery, Memorial Sloan-Kettering Cancer Center

859. Assessment of Hepatic Lipid Content by MRS in Patients on Home Parenteral Nutrition
Marinette van Der Graaf[1,2], Geert J. Wanten[3]
[1]Clinical Physics Lab of Dept of Pediatrics, Radboud University Nijmegen Medical Centre, Nijmegen, Gelderland, Netherlands; [2]Dept of Radiology, Radboud University Nijmegen Medical Centre, Nijmegen, Netherlands; [3]Dept of Gastroenterology & Hepatology, Radboud University Nijmegen Medical Centre, Nijmegen, Netherlands

860. Fatty Liver Disease in Overweight Adolescent Girls Measured with Quantitative MRI & MR Spectroscopy
Jennifer Leigh Rehm[1], Vanessa A. Curtis[1], Catherine D. G. Hines[2], Ellen L. Connor[1], Aaron L. Carrel[1], David B. Allen[1], Scott B. Reeder[2,3]

[1]Pediatrics, University of Wisconsin Hospital & Clinics, Madison, WI, United States; [2]Radiology, University of Wisconsin Hospital & Clinics, Madison, WI, United States; [3]Biomedical Engineering, University of Wisconsin Hospital and Clinics, Madison, WI, United States

861. ***In Vivo*** **Liver ^{31}P MRS at 7T: Initial Experience**
Marek Chmelik[1], Stephan Gruber[1], Siegfried Trattnig[1], Wolfgang Bogner[1]
[1]MR Centre of Excellence, Department of Radiology, Medical University Vienna, Vienna, Austria

862. **Comparison of *In Vivo* Hepatic Localized Proton Magnetic Resonance Spectroscopy at 9.4T on Ob/ob & Ob/+ Mice**
Qiong Ye[1], Alexander Fuchs[1], Markus Rudin[1,2]
[1]University & ETH Zürich, Institute for Biomedical Engineering, Zürich, 8093, Switzerland; [2]University of Zürich, Institute of Pharmacology & Toxicology, Zürich, Switzerland

863. **Hepatic Fatty Acid Quantification using MRS & GC in a Mouse Model of GSD1A Under Two Different Diets**
Nirilanto Ramamonjisoa[1], Helene Ratiney[1], Elodie Mutel[2], Herve Guillou[3], Gilles Mithieux[2], Frank Pilleul[1,4], Fabienne Rajas[2], Olivier Beuf[1], Sophie Cavassila[1]
[1]CREATIS, CNRS UMR 5220, Inserm U1044, INSA-Lyon, Université Lyon 1, Université de Lyon, Lyon, France; [2]Inserm U855, Université Lyon 1, Université de Lyon, France; [3]INRA ToxAlim – Integrative Toxicology & Metabolism, Toulouse, France; [4]Imagerie Digestive - CHU, Hospices Civils de Lyon, France

864. **Glucose & Intralipid Infusion in Rats: Comparative Quantification of Liver Steatosis by MRI, MRS & Histopathology**
Gaspard d'Assignies[1,2], Ghislaine Fontés[3,4], Louis Gaboury, Yvan Boulanger[5], Gilles Soulez[3], Vincent Poitout[3,4], An Tang[6]
[1]Department of Medical Imaging, Hôpital Saint-Luc, Montreal, Quebec, Canada; [2]Department of Radiology, Beaujon Hospital, Université Paris VII, Paris, France; [3]CRCHUM, Canada; [4]Montréal Diabetes Research Center, Canada; [5]Hôpital Saint-Luc, University of Montreal; [6]Department of Medical Imaging, CRCHUM, Montreal, Quebec, Canada

865. **Properties of Brown & White Adipose Tissues Measured by ^{1}H MRS**
Gavin Hamilton[1], Daniel L. Smith[2], Mark Bydder[1], Krishna S. Nayak[3], Houchun H. Hu[3]
[1]Department of Radiology, University of California, San Diego, San Diego, CA, United States; [2]Department of Nutrition Sciences, University of Alabama at Birmingham, Birmingham, AL, United States; [3]Ming Hsieh Department of Electrical Engineering, University of Southern California, Los Angeles, CA, United States

866. ***In Vivo*** **^{1}H/^{13}C MR Analysis Reveals Visceral Obesity, Hepatic Steatosis & Disorders in Body Fat Composition Upon Long-Term Medium Chain Triglyceride Diet in Mice with a Defect in Fatty Acid Oxidation**
Ulrich Flögel[1], Sara Tucci[2], Jürgen Schrader[1], Ute Spiekerkoetter[2]
[1]Institute for Cardiovascular Physiology, Heinrich Heine University, Düsseldorf, NRW, Germany; [2]Department of General Pediatrics

867. **Changes in Body Tissue Composition During the Transeuropean Footrace 2009 Assessed by Whole-Body MRI in 12 Finishers**
Jürgen Machann[1], Christian Billich[2], Kathrin König[1], Christian Würslin[1], Fritz Schick[1], Uwe Schütz[2]
[1]Section on Experimental Radiology, University Hospital Tübingen, Tübingen, Germany; [2]Department of Diagnostic & Interventional Radiology, University Hospital Ulm, Ulm, Germany

868. **Evaluation of High Fat Diet Induced Obesity in Rats by Longitudinal MRI & MRS in Abdomen, Liver & Skeletal Muscle**
Arunima Pola[1], Sandra Tan[2], Terry Yew Shze Keong[3], Zhihong Zhou[2], Mika Murabayashi[4], Yoshihide Nakano[4], Naoki Furuyama[4], Nicholas Hird[4], Sendhil Sambashivam Velan[3]
[1]Laboratory of Molecular Imaging, Singapore Bioimaging Consortium, , Singapore, Singapore; [2]Takeda Singapore Pte Ltd, Singapore; [3]Laboratory of Molecular Imaging, Singapore Bioimaging Consortium, Singapore, Singapore; [4]Takeda Pharmaceutical Company Ltd, Japan

869. **^{1}H MRS of Pancreatic Juice: An MRS-Based Diagnostic Approach for the Detection of Pancreatic Cancer**
Tedros Bezabeh[1], Omkar B. Ijare[1], Nils Albiin[2], Matthias Lohr[2], Annika Bergquist[2], Urban Arnelo[2], Ian C. P. Smith[1]
[1]National Research Council Institute for Biodiagnostics, Winnipeg, MB, Canada; [2]Karolinska University Hospital, Karolinska Institutet, Huddinge, Stockholm, Sweden

870. ***In Vivo*** **^{1}H MRS of Human Gallbladder Bile using an Optimized 16-Channel Phased Array at 3T**
Sanaz Mohajeri[1,2], Tedros Bezabeh[1], Scott B. King[1], Omkar B. Ijare[1], M. A. Thomas[3], Gerald Minuk[2], Jeremy Lipschitz[2], Iain Kirkpatrick[2], Ian C. P. Smith[1]
[1]National Research Council Institute for Biodiagnostics, Winnipeg, Manitoba, Canada; [2]University of Manitoba, Winnipeg, Manitoba, Canada; [3]University of California, Los Angeles, CA, United States

871. **Spectroscopic Water-Fat Quantification in Human Kidney at 3T**
Qing Yuan[1], Ivan Dimitrov[2], Naim M. Maalouf[3], Khashayar Sakhaee[3], Paul T. Weatherall[1]

[1]Radiology, University of Texas Southwestern Medical Center at Dallas, Dallas, TX, United States; [2]Philips Medical Systems, Cleveland, OH, United States; [3]Internal Medicine, University of Texas Southwestern Medical Center at Dallas, Dallas, TX, United States

872. 1.5T & 7T MR Spectroscopy of Tissue Specific Changes in Ectopic Fat Content in Response to Exercise Training in Type 2 Diabetes Mellitus Patients: The ATLAS-Study

Jacqueline T. Jonker[1], Ralph L. Widya[2], Sebastiaan Hammer[2], Linda D. van Schinkel[1], Rutger W. van Der Meer[2], Eelco J. P. de Koning[3], Henk J. G. Bilo[4], Andrew Webb[2], Hermien E. Kan[2], Hildo J. Lamb[2]

[1]Endocrinology, Leiden University Medical Center, Leiden, Zuid-Holland, Netherlands; [2]Radiology, Leiden University Medical Center, Leiden, Zuid-Holland, Netherlands; [3]Nephrology, Leiden University Medical Center, Leiden, Zuid-Holland, Netherlands; [4]Internal Medicine, Isala klinieken (Sophia), Zwolle, Netherlands

Bowel Motion & Gas

Exhibition Hall Tuesday 13:30-15:30

873. Assessment of Motion Patterns in Free Breathing MRI of the Abdomen using Continuously Tagged Imaging

Andre M. J. Sprengers[1], Matthan W. A. Caan[1], Aart J. Nederveen[1], Jaap Stoker[1], Rolf M. Lamerichs[2]

[1]Radiology, Academic Medical Centre, Amsterdam, Netherlands; [2]Research, Philips, Eindhoven, Netherlands

874. Motility Assessment using Continuously Tagged Imaging

Andre M. J. Sprengers[1], Marije P. van Der Paardt[1], Frank Zijta[1], Matthan W. A. Caan[1], Rolf M. Lamerichs[1,2], Aart J. Nederveen[1], Jaap Stoker[1]

[1]Radiology, Academic Medical Centre, Amsterdam, Netherlands; [2]Research, Philips, Eindhoven, Netherlands

875. Non-Invasive MRI-Based 3D Volumetric Serial Assessments of Physiologic Large Intestine Gas - Proof of Principle

John Butler[1], Jodi Miller[1,2], Harry Marshall[1,2], Ally Silavi[1], John Patrick[1,2], William Pavlosky[3], Gregor Reid[1,4], Don Taves[3], Jamie Gregor[5], Khaleel Sultan[5], Deanna Carlsen[6], Artem Khlebnikov[6], Denis Guyonnet[7], Sophie Legrain-Raspaud[7], Frank S. Prato[1,2], R. Terry Thompson[1,2], Robert Z. Stodilka[1,2]

[1]Lawson Health Research Institute, London, Ontario, Canada; [2]Medical Biophysics, University of Western Ontario, London, Ontario, Canada; [3]Nuclear Medicine, St. Joseph's Hospital, London, Ontario, Canada; [4]Microbiology, University of Western Ontario, London, Ontario, Canada; [5]Gastroenterology, London Health Sciences Center, London, Ontario, Canada; [6]The Dannon Company, White Plains, NY, United States; [7]Danone Research, Palaiseau, Cedex, France

876. Feasibility of 3.0T MR Angiography for Pre-Operative Vascular Evaluation of Pediatric Patients Undergoing Liver/Small Bowel Transplantations.

Conor Meehan[1], Saeed Mirsadrae[1,2], Paul Finn[1]

[1]Department of Radiological Sciences, University of California Los Angeles, Los Angeles, CA, United States; [2]Clinical Research Imaging Centre, University of Edinburgh, Edinburgh, United Kingdom

877. Akt_1 Deficient Mice Show Resistance to DSS-Colitis Induced Leak of Albumin-Based Contrast Media from the Colon Vasculature

Katrien Vandoorne[1], Tegest Aychek[2], Hagit Dafni[1], Brian A. Hemmings[3], Steffen Jung[2], Michal Neeman[1]

[1]Biological Regulation, Weizmann Institute, Rehovot, Israel; [2]Immunology, Weizmann Institute, Rehovot, Israel; [3]Friedrich Miescher Institute for Biomedical Research, Basel, Switzerland

Hyperpolarized Gas: Techniques & Applications

Exhibition Hall Wednesday 13:30-15:30

878. Single-Acquisition Imaging of Hyperpolarized ^{129}Xe in the Gas & Dissolved Phases using an Interleaved 3D-Radial Sequence

Suryanarayanan Sivaram Kaushik[1,2], Gary P. Cofer[2], Matthew S. Freeman[2,3], Zackary I. Cleveland[2], Bastiaan Driehuys[2]

[1]Biomedical Engineering, Duke University, Durham, NC, United States; [2]Center for *In Vivo* Microscopy, Duke University Medical Center, Durham, NC, United States; [3]Medical Physics, Duke University Medical Center, Durham, NC, United States

879. 3D MRI of the Hyperpolarized ^{129}Xe Distribution in the Rat Brain

John Nouls[1,2], Zackary I. Cleveland[1,2], Matthew S. Freeman[3], Harald E. Moeller[4], Laurence W. Hedlund[1,2], Bastiaan Driehuys[1,2]

[1]Department of Radiology, Duke University, Durham, NC, United States; [2]Center for *In Vivo* Microscopy, Duke University, Durham, NC, United States; [3]Medical Physics, Duke University; [4]Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany

880. Quantitative Assessment of Emphysema with Dissolved-Phase & Gas-Phase Hyperpolarized ^{129}Xe MRI in Mice
Hirohiko Imai[1], Atsuomi Kimura[1], Satoshi Iguchi[1], Hideaki Fujiwara[1]
[1]Department of Medical Physics & Engineering, Division of Health Sciences, Graduate School of Medicine, Osaka University, Suita, Osaka, Japan

881. Regional Ventilation Mapping of the Rat Lung using Hyperpolarized ^{3}He & ^{129}Xe Magnetic Resonance Imaging
Marcus John Couch[1,2], Alexei V. Ouriadov[1], Giles E. Santyr[1,3]
[1]Imaging Research Laboratories, Robarts Research Institute, The University of Western Ontario, London, ON, Canada; [2]Department of Physics & Astronomy, the University of Western Ontario, London, ON, Canada; [3]Department of Medical Biophysics, The University of Western Ontario, London, ON, Canada

882. Quantifying Pulmonary Gas Transport Efficiency using Hyperpolarized Xenon-129
Kai Ruppert[1], Jaime F. Mata[1], Isabel M. Dregely[2], Talissa A. Altes[1], G. Wilson Miller[1], Stephen Ketel[3], Jeff Ketel[3], Iulian C. Ruse[2,3], F. William Hersman[2,3], John P. Mugler III[1]
[1]University of Virginia, Charlottesville, VA, United States; [2]University of New Hampshire, Durham, NH, United States; [3]Xemed LLC, Durham, NH, United States

883. 3D Imaging of Pulmonary Ventilation & Perfusion in Rats using Hyperpolarized ^{129}Xe
Zackary I. Cleveland[1], Harald E. Moller[1,2], Laurence W. Hedlund[1], John Nouls[1], Matthew Freeman[1,3], Yi Qi[1], Bastiaan Driehuys[1]
[1]Center for *In Vivo* Microscopy, Duke University Medical Center, Durham, NC, United States; [2]Max Planck Institute for Human Cognitive & Brain Sciences, Leipzig, Germany; [3]Graduate Program in Medical Physics, Duke University, Durham, United States

884. Improved Separation & Quantification of Xe-129 Dissolved-Phase Resonances in the Lung
Jaime Mata[1], Kai Ruppert[1], Peter Sylvester[1], Isabel Dregely[2], Talissa Altes[1], Iulian Ruset[2], William Hersman[2], Grady Miller[1], Steve Ketel[2], Jeff Ketel[2], John Mugler III[1]
[1]Radiology, University of Virginia, Charlottesville, VA, United States; [2]Xemed, LLC, Durham, NH, United States

885. Measurement of ^{129}Xe Gas Apparent Diffusion Coefficient Anisotropy in an Elastase-Instilled Rat Model of Emphysema
Mathieu Boudreau[1,2], Xiaojun Xu[3], William Dominguez-Viqueira[4], Giles Santyr[1,5]
[1]Imaging Research Laboratories, John. P. Robarts Research Institute, London, Ontario, Canada; [2]Dept. of Physics & Astronomy, University of Western Ontario, London, Ontario, Canada; [3]University of Sheffield, Sheffield, United Kingdom; [4]Imaging Research, Sunnybrook Health Sciences Centre, Toronto, Ontario, Canada; [5]Dept. of Medical Biophysics, University of Western Ontario, London, Ontario, Canada

886. Hyperpolarized ^{129}Xe Gas & Dissolved Phase Lung Imaging using IDEAL
Alexei V. Ouriadov[1], Matthew Fox[2,3], Lanette Friesen-Waldner[4], Charles McKenzie[4,5], Giles Santy[4]
[1]Robarts Research Institute, The University of Western Ontario , London, Ontario, Canada; [2]Robarts Research Institute, The University of Western Ontario, London, Ontario, Canada; [3]The Department of Physics, Tthe University of Western Ontario; [4]The Department of Medical Biophysics, The University of Western Ontario; [5]Biomedical Engineering Program, The University of Western Ontario

887. Recovery & Purification of ^{3}He Gas from Pulmonary MRI
Sean Alexander Lourette[1], Allen W. Che[2], Jason C. Woods[1,2], Mark S. Conradi[1,2]
[1]Physics, Washington University, St. Louis, MO, United States; [2]Radiology, Washington University, St. Louis, MO, United States

888. Xenon Hyperpolarized by the Dissolution-DNP Method
Jan Henrik Ardenkjaer-Larsen[1], Haukur Johannesson[1], Jan Wolber[2], Nick Kuzma[3], Rahim Rizi[3]
[1]GE Healthcare, Broendby, Denmark; [2]GE Healthcare, United Kingdom; [3]University of Pennsylvania, United States

889. Enhancement of ^{129}Xe Polarisation by Off-Resonant Optical Pumping
Steven Richard Parnell[1], Martin H. Deppe[1], Juan Parra-Robles[1], Jim M. Wild[1]
[1]Academic Radiology, University of Sheffield, Sheffield, South Yorkshire, United Kingdom

890. Spectrally Narrowed 1.5 KW Optical Pumping Laser for Large-Scale SEOP Production of Hyperpolarized Gases
F. W. Hersman[1,2], Jan H. Distelbrink[2], Jeff Ketel[2], David Watt[2], Stephen Ketel[2], Walter Porter[2], Steve Bryn[2], Aaron Hope[2], Iulian Constantin Ruset[2]
[1]Department of Physics, University of New Hampshire, Durham, NH, United States; [2]Xemed LLC, Durham, NH, United States

891. Hyperpolarized Helium Measurements of P_AO_2 Correlate with Neutrophil Inflammation in the Rat Bleomycin Model
Puttisarn Mongkolwisetwara[1], Evguenia Borissova Arguiri[2], Kiarash Emami[1], Yi Xin[1], Nicholas N. Kuzma[1], Stephen J. Kadlecek[1], Yinan Xu[1], Harilla Profka[1], Melpo Christofidou-Solomidou[2], Milton D Rossman[2], Masaru Ishii[3], Rahim R. Rizi

[1]Radiology, University of Pennsylvania, Philadelphia, PA, United States; [2]Pulmonary Division, University of Pennsylvania, Philadelphia, PA, United States; [3]Otolaryngology–Head & Neck Surgery, Johns Hopkins University, Baltimore, MD, United States

892. Quantitative Assessment of Chronic Exposure to Cigarette Smoke in Mouse Lungs by Hyperpolarized Gas MRI

Yi Xin[1], Kiarash Emami[1], Stephen J. Kadlecek[1], Puttisarn Mongkolwisetwara[1], Nicholas N. Kuzma[1], Harilla Profka[1], Yinan Xu[1], Hooman Hamedani[1], Benjamin M. Pullinger[1], Rajat K. Ghosh[1], Jennia N. Rajaei[1], Stephen Pickup[1], Masaru Ishii[2], Rahim R. Rizi[1]

[1]Radiology, University of Pennsylvania, Philadelphia, PA, United States; [2]Otolaryngology–Head & Neck Surgery, Johns Hopkins University, Baltimore, MD, United States

893. Non-Invasive Assessment of Pulmonary Developmental Deficiency in a Model of Transgenic Mice using Hyperpolarized Gas Diffusion MRI

Amy Barulic[1], Kiarash Emami[2], Yi Xin[1], Puttisarn Mongkolwisetwara[1], Harilla Profka[1], Nicholas N. Kuzma[1], Jeanine M. D'Armiento[3], Takayuki Shiomi[4], Stephen J. Kadlecek[1], Yinan Xu[1], Hooman Hamedani[1], Benjamin Michael Pullinger[1], Rajat Ghosh[1], Jennia Rajaei[1], Stephen Pickup[1], Masaru Ishii[5], Rahim R. Rizi[1]

[1]Radiology, University of Pennsylvania, Philadelphia, PA, United States; [2]Radiology, University of Pennsylvania, PA, PA, United States; [3]Departments of Medicine & Surgery, Columbia University, New York, NY, United States; [4]Department of Molecular Medicine, Columbia University, New York, NY, United States; [5]Otolaryngology–Head & Neck Surgery, Johns Hopkins University, Baltimore, MD, United States

894. Imaging of Airway Remodeling in a Murine Model of Bronchial Hyper-Responsiveness using Hyperpolarized Gas MRI

Kiarash Emami[1], Jennia N. Rajaei[1], Yi Xin[1], Puttisarn Mongkolwisetwara[1], Harilla Profka[1], Stephen J. Kadlecek[1], Hooman Hamedani[1], Yinan Xu[1], Amy Barulic[1], Stephen Pickup[1], Nicholas N. Kuzma[1], Blerina Ducka[2], Angela Haczku[2], Masaru Ishii[3], Rahim R. Rizi[1]

[1]Radiology, University of Pennsylvania, Philadelphia, PA, United States; [2]Pulmonary & Critical Care Division, University of Pennsylvania Medical Center, Philadelphia, PA, United States; [3]Otolaryngology–Head & Neck Surgery, Johns Hopkins University, Baltimore, MD, United States

895. Imaging Lung Microstructure in Mice with Hyperpolarized ^{3}He Diffusion MRI

Wei Wang[1,2], Nguyet M. Nguyen[3], Dmitriy A. Yablonskiy[1,2], Alexander L. Sukstanskii[2], Emir Osmanagic[2], Richard A. Pierce[3], Mark S. Conradi[1,2], Jason C. Woods[1,2]

[1]Physics, Washington University in St. Louis, St. Louis, MO, United States; [2]Radiology, Washington University in St. Louis, St. Louis, MO, United States; [3]Internal Medicine, Washington University in St. Louis, St. Louis, MO, United States

896. Ventilation Strategy to Minimize the Effect of Residual Gas Volume on ADC in Rat Lungs

Laura Carrero-Gonzalez[1,2], Thomas Kaulisch[1], Jesus Ruiz-Cabello[2,3], Jose Manuel Perez-Sanchez[4], German Peces-Barba[5], Detlef Stiller[1], Ignacio Rodriguez[2,3]

[1]Boehringer Ingelheim Pharma GmbH & Co. KG, Biberach an der Riss, Baden-Württemberg, Germany; [2]Universidad Complutense de Madrid, Madrid, Spain; [3]CIBER de Enfermedades Respiratorias, Madrid, Spain; [4]Unité de Recherche en Résonance Magnétique Médicale (UMR 8081), Univ.Paris-Sud, CNRS, Orsay, France; [5]Fundación Jiménez-Díaz, Madrid, Spain

897. Deflation-Induced Changes in Alveolar-Duct Geometry Via ^{3}He Lung Morphometry, with Histological Validation

Adam J Hajari[1,2], Alex L Sukstanskii[2], Dmitriy a Yablonskiy[1,2], Richard a Pierce[3], Gaetan Deslee[4], Jason C Woods[1,2]

[1]Physics, Washington University, St. Louis, MO, United States; [2]Radiology, Washington University, St. Louis, MO, United States; [3]Internal Medicine, Washington University, St. Louis, MO, United States; [4]Service de Pneumologie, INSERM U903, Reims, France

898. Single Lobe Emphysema Induction in the Rat Lung Detected with Diffusion-Weighted ^{3}He-MRI

Laura Carrero-Gonzalez[1,2], Thomas Kaulisch[1], Jesus Ruiz-Cabello[2,3], Detlef Stiller[1], Ignacio Rodriguez[2,3]

[1]Boehringer Ingelheim Pharma GmbH & Co. KG, Biberach an der Riss, Baden-Württemberg, Germany; [2]Universidad Complutense de Madrid, Madrid, Spain; [3]CIBER de Enfermedades Respiratorias, Madrid, Spain

899. Quantitative Imaging of Alveolar Recruitment with Hyperpolarized Gas MRI

Maurizio F. Cereda[1], Kiarash Emami[2], Stephen J. Kadlecek[2], Yi Xin[2], Puttisarn Mongkolwisetwara[2], Harilla Profka[2], Amy Barulic[2], Stephen Pickup[2], Nicholas N. Kuzma[2], Masaru Ishii[3], Hooman Hamedani[2], Benjamin M. Pullinger[2], Rajat Ghosh[2], Jennia Rajaei[2], Clifford S. Deutschman[1], Rahim R. Rizi[2]

[1]Anesthesiology & Critical Care, University of Pennsylvania, Philadelphia, PA, United States; [2]Radiology, University of Pennsylvania, Philadelphia, PA, United States; [3]Otolaryngology–Head & Neck Surgery, Johns Hopkins University, Baltimore, MD, United States

900. Imaging Regional Alterations of Gas Exchange in a Murine Model of Emphysema

Puttisarn Mongkolwisetwara[1], Kiarash Emami[1], Hooman Hamedani[1], Harilla Profka[1], Yi Xin[1], Yinan Xu[1], Nicholas N. Kuzma[1], Stephen J. Kadlecek[1], Masaru Ishii[2], Rahim R. Rizi[1]

[1]Radiology, University of Pennsylvania, Philadelphia, PA, United States; [2]Otolaryngology–Head & Neck Surgery, Johns Hopkins University, Baltimore, MD, United States

901. 3D ^{3}He & ^{1}H MR Imaging of Regional Pulmonary Injury Induced by Ozone

John Nouls[1,2], Erin Potts[3], W Michael Foster[3], Bastiaan Driehuys[1,2]
[1]Department of Radiology, Duke University, Durham, NC, United States; [2]Center for *In Vivo* Microscopy, Duke University, Durham, NC, United States; [3]Department of Pulmonary and Critical Care Medicine, Duke University

902. Signal Distribution in Dissolved ^{129}Xe MR Images of Healthy Subjects & Subjects with Chronic Obstructive Pulmonary Disease

Zackary I. Cleveland[1], S. Sivaram Kaushik[1,2], Gary P. Cofer[1], John Nouls[1], Monica Kraft[3], Jan Wolber[4], H. Page McAdams[5], Bastiaan Driehuys[1]
[1]Center for *In Vivo* Microscopy, Duke University Medical Center, Durham, NC, United States; [2]Department of Biomedical Engineering, Duke University, Durham, NC, United States; [3]Department of Medicine, Duke University Medical Center, Durham, NC, United States; [4]GE Healthcare, Amersham, United Kingdom; [5]Department of Radiology, Duke University Medical Center, Durham, NC, United States

903. Towards Very High Net Acceleration Factors in Hyperpolarized ^{3}He Human Lung Parallel Imaging using SPIRiT

Martin H. Deppe[1], Salma Ajraoui[1], Jim M. Wild[1]
[1]Academic Unit of Radiology, University of Sheffield, Sheffield, South Yorkshire, United Kingdom

904. Helium-3 Magnetic Resonance Imaging of Treatment Response in Exercise Induced Bronchoconstriction

Stanley John Kruger[1], David Niles[1], Grace Parraga[2], Sean Fain[1], Bernard Dardzinski[3], Marcella Ruddy[3], Amy Harman[3], Stephen Choy[2], Scott Nagle[4], Christopher Francois[4], David G. McCormack[2], Nizar Jarjour[5]
[1]Medical Physics, University of Wisconsin, Madison, WI, United States; [2]Robarts Imaging Institution, University of Western Ontario, London, ON, Canada; [3]Merck Research Labs, West Point, PA, United States; [4]Radiology, University of Wisconsin, Madison, WI, United States; [5]Medicine & Public Health, University of Wisconsin, Madison, WI, United States

905. Test-Retest & Inter-Reader Reliability of Hyperpolarized Helium-3 MRI in Patients with Exercise-Induced Bronchoconstriction

David Joseph Niles[1], Stanley J. Kruger[1], Grace Parraga[2,3], Bernard Dardzinski[4], Marcella Ruddy[4], Nizar N. Jarjour[5], David G. McCormack[6], Amy Harman[4], Sean B. Fain[1,7]
[1]Medical Physics, University of Wisconsin, Madison, WI, United States; [2]Imaging Research Laboratories, Robarts Research Institute, University of Western Ontario, London, ON, Canada; [3]Medical Biophysics, University of Western Ontario, London, ON, Canada; [4]Merck Research Laboratories, West Point, PA, United States; [5]Pediatrics, University of Wisconsin, Madison, WI, United States; [6]Division of Respirology, Department of Medicine, University of Western Ontario, London, ON, Canada; [7]Radiology, University of Wisconsin, Madison, WI, United States

906. Evaluating Bronchodilator Effects in Chronic Obstructive Pulmonary Disease using Hyperpolarized Helium-3 Magnetic Resonance Imaging

Miranda Kirby[1,2], Roya Etemad-Rezai[3], David G. McCormack[4], Grace Parraga[1,5]
[1]Imaging Research Laboratories, Robarts Research Institute, London, Ontario, Canada; [2]Medical Biophysics, the University of Western Ontario, London, Ontario, Canada; [3]Department of Medical Imaging, the University of Western Ontario, London, Ontario, Canada; [4]Division of Respirology, Department of Medicine, the University of Western Ontario, London, Ontario, Canada; [5]Graduate Program in Biomedical Engineering, the University of Western Ontario, London , Ontario, Canada

907. Evaluation of Short Term Reproducibility of Hyperpolarized Helium-3 Magnetic Resonance Imaging of Adult Cystic Fibrosis using a Semi-Automated Segmentation Tool

Sarah Svenningsen[1,2], Miranda Kirby[1,2], Hassaan Ahmed[1,2], Nigel Paterson[3], Grace Parraga[1,4]
[1]Imaging Research Laboratories, Robarts Research Institute, London, Ontario, Canada; [2]Department of Medical Biophysics, The University of Western Ontario, London, Ontario, Canada; [3]Division of Respirology, Department of Medicine, the University of Western Ontario, London, Ontario, Canada; [4]Graduate Program in Biomedical Engineering, The University of Western Ontario, London, Ontario, Canada

908. Quantitative Evaluation of Ventilation Dynamics in Asthma During Methacholine Challenge using Hyperpolarized ^{3}He Magnetic Resonance Imaging

Stephen Costella[1,2], Andrew Wheatley[1], David McCormack[3], Grace Parraga[1,2]
[1]Imaging Research Laboratories, Robarts Research Institute, London, Ontario, Canada; [2]Graduate Program in Biomedical Engineering, University of Western Ontario, London, Ontario, Canada; [3]Medicine, Division of Respirology, University of Western Ontario, London, Ontario, Canada

909. Gas Diffusion Image Reduction Metric with Improved Sensitivity to Heterogeneous Lung Disease

Ahsan Samiee[1], Stephen J. Kadlecek[2], Kiarash Emami[2], Yinan Xu[2], Hooman Hamedani[3], Yi Xin[2], Puttisarn Mongkolwisetwara[2], Nicholas N. Kuzma[2], Peter Magnusson[4], Lise Vejby Søgaard[4], Sandra Diaz[5], Wilson Miller[6], Milton D. Rossman[7], Masaru Ishii[8], Rahim R. Rizi[2]
[1]Mechanical & Aerospace Engineering, University of California, San Diego, San Diego, CA, United States; [2]Radiology, University of Pennsylvania, Philadelphia, PA, United States; [3]Radiology, University of Pennsylvania, Philadelphia, United States; [4]Danish Research Centre for Magnetic Resonance, Copenhagen University Hospital Hvidovre, Hvidovre, Denmark; [5]Department of Clinical Sciences,

Malmö University Hospital, Malmö, Sweden; [6]Department of Radiology, University of Virginia, Charlottesville, VA, United States; [7]Pulmonary, Allergy & Critical Care Division, University of Pennsylvania, Philadelphia, PA, United States; [8]Otolaryngology–Head & Neck Surgery, Johns Hopkins University, Baltimore, MD, United States

910. Imaging of Localized Inert Gas Washout Rates with ^{3}He MRI
Martin Heiner Deppe[1], Xiaojun Peggy Xu[1], Steven R. Parnell[1], Jim M. Wild[1]
[1]Academic Unit of Radiology, University of Sheffield, Sheffield, South Yorkshire, United Kingdom

911. Exploring Ventilation & Perfusion Matching in COPD with ^{3}He Ventilation & DCE ^{1}H Perfusion MRI
Helen Marshall[1], Martin H. Deppe[1], Juan Parra Robles[1], Steve R. Parnell[1], Rob H. Ireland[1], David Capener[1], Sue Hillis[1], Smitha Rajaram[1], Catherine Billings[2], David A. Lipson[3], Rod Lawson[2], Jim M. Wild[1]
[1]Academic Radiology, University of Sheffield, Sheffield, South Yorkshire, United Kingdom; [2]Respiratory Medicine, University of Sheffield, Sheffield, South Yorkshire, United Kingdom; [3]GlaxoSmithKline, King of Prussia, PA, United States

912. Improved Phase-Based Transmitter Calibration for Hyperpolarized-Gas MRI using Shinnar-Le Roux RF Pulses
Kun Qing[1], Grady Wilson Miller[2,3], Talissa Altes[2], Jaime F. Horta Coelho Mata[2], Eduard E. De Lange[2], William A. Tobias[3], Gordon D. Cates[3], James R. Brookeman[2], John Philip Mugler[1,2]
[1]Biomedical Engineering, University of Virginia, Charlottesville, VA, United States; [2]Radiology, University of Virginia; [3]Physics, University of Virginia

913. Sensitivity of Transmit Coil B_1+ to Lung Inflation in Hyperpolarised ^{3}He MRI
Jim M. Wild[1], Martin H. Deppe[1], Salma Ajraoui[1], Helen Marshall[1], Graham Norquay[1], Titus Lanz[2], Matthias Behr[2], Francesco Padormo[3], Juan Parra-Robles[1], Sebastian Kozerke[4]
[1]University of Sheffield, Sheffield, Yorkshire, United Kingdom; [2]Rapid Biomedical; [3]Imperial College, United Kingdom; [4]Imaging Sciences, Kings College London

914. Quantification of Aerosol Deposition in the Upper Airways: A Multimodality Study
Mathieu Sarracanie[1], Denis Grebenkov[2], Soule Coulibaly[1], Andrew Martin[3], Kyle Hill[4], Jose Manuel Perez-Sanchez[1], Redouane Fodil[5], Lionel Martin[1], Emmanuel Durand[1], Georges Caillibotte[3], Daniel Isabey[5], Luc Darrasse[1], Jacques Bittoun[1], Xavier Maitre[1]
[1]IR4M (UMR8081), Univ Paris-Sud, CNRS, Orsay, France; [2]Laboratoire de Physique de la Matiere Condensee (UMR7643), Ecole Polytechnique, CNRS, Palaiseau, France; [3]Centre de Recherche Claude Delorme (CRCD), Air Liquide, Les Loges-en-Josas, France; [4]Radiology Research Group, Oxford MRI Centre, Oxford University, Oxford, United Kingdom; [5]Biomecanique Cellulaire et Respiratoire (U955), IMRB, Inserm, Creteil, France

915. Analytical Description of Long Time Scale Diffusion MRI of the Human Lung
Niels Buhl[1,2], Sune Nørhøj Jespersen[2]
[1]Department of Physics & Astronomy, Aarhus University, Aarhus, Denmark; [2]Center of Functionally Integrative Neuroscience, Aarhus University Hospital, Aarhus, Denmark

916. Finite Element Simulations of ^{129}Xe Gas Diffusion in Models of Lung Airways
Juan Parra-Robles[1], Steven R. Parnell[1], Salma Ajraoui[1], Xiaojun Xu[1], Jim M. Wild[1]
[1]Academic Radiology, University of Sheffield, Sheffield, South Yorkshire, United Kingdom

917. Finite Element Simulations of Short-Range ^{3}He Diffusion in a Model of Branching Acinar Airways: Implications for *In Vivo* Lung Morphmetry
Juan Parra-Robles[1], Steven R. Parnell[1], Salma Ajraoui[1], Xiaojun Xu[1], Jim M. Wild[1]
[1]Academic Radiology, University of Sheffield, Sheffield, South Yorkshire, United Kingdom

918. The Impact of Sub-Optimal Pulse Sequence Implementations on XTC MRI Measurements
Kai Ruppert[1], Ching-Ling Teng[1], Isabel M. Dregely[2], Jaime F. Mata[1], Talissa A. Altes[1], G. Wilson Miller[1], John P. Mugler III[1]
[1]University of Virginia, Charlottesville, VA, United States; [2]University of New Hampshire, Durham, NH, United States

Lung MRI

Exhibition Hall Thursday 13:30-15:30

919. Magnetic Resonance Elastography of the Lung Parenchyma: Correlation of Shear Stiffness with Airway Opening Pressures
Yogesh Kannan Mariappan[1], Arunark Kolipaka[1], Rolf D. Hubmayr[2], Richard L. Ehman[1], Phillip Araoz[1], Kiaran P. McGee[1]
[1]Department of Radiology, Mayo Clinic, Rochester, MN, United States; [2]Department of Pulmonary & Critical Care medicine, Mayo Clinic, Rochester, MN, United States

920. Manganese: A New Contrast Agent for Lung Imaging?
Oliviero Gobbo[1], Magdalena Zurek[2], Frederic Tewes[1], Carsten Ehrhardt[1], Yannick Crémillieux[2]
[1]School of Pharmacy & Pharmaceutical Sciences, Trinity College Dublin, Dublin 2, Ireland; [2]University of Lyon, CREATIS-LRMN, Lyon, France

921. ^{3}He & ^{19}F MRI of High Frequency Oscillatory Ventilation (HFOV)
Laura Schreiber[1], Maxim Terekhov[1], Uschi Wolf[2], Alexander Scholz[1], Julien Rivoire[1], Rainer Köbrich[3], Janet Friedrich[1], Florian Meise[1], Sergej Karpuk[4], Lars Krenkel[5], Claus Wagner[5]
[1]Section of Medical Physics, Johannes Gutenberg University Medical Center, Mainz, Germany; [2]Department of Radiology, Johannes Gutenberg University Medical Center, Mainz, Germany; [3]Maquet GmbH, Rastatt, Germany; [4]Institute of Physics, Mainz University, Mainz, Germany; [5]Institute of Aerodynamics & Flow Technology, German Aerospace Center, Göttingen, Germany

922. Oxygen-Enhanced MRI of the Lungs: Intraindividual Comparison between 1.5 & 3 Tesla
Olaf Dietrich[1], Sven F. Thieme, Daniel Maxien, Konstantin Nikolaou, Stefan O. Schoenberg[2], Maximilian F. Reiser[1], Christian Fink[2]
[1]Josef Lissner Laboratory for Biomedical Imaging, Department of Clinical Radiology, Ludwig Maximilian University of Munich, Munich, Germany; [2]Department of Clinical Radiology & Nuclear Medicine, University Medical Center Mannheim, Medical Faculty Mannheim - Heidelberg University, Mannheim, Germany

923. Quantification of Regional Lung Dysfunction in Distal Airway Disease with Tissue Tracking MRI
Ding Xia[1], Elan J. Grossman[1,2], Ke Zhang[1], Jian Xu[3], Kenneth I. Berger[4], Roberta M. Goldring[4], Alexandra Stabile[4], Larry Daugherty[5], Kellyanne McGorty[1], Qun Chen[1]
[1]Center for Biomedical Imaging, Department of Radiology, NYU School of Medicine, New York, United States; [2]Department of Physiology & Neuroscience, NYU School of Medicine, New York, United States; [3]Siemens Medical Solutions, Malvern, PA, United States; [4]Department of Medicine, NYU School of Medicine, New York, United States; [5]Dept of Radiology, University of Pennsylvania, Philadelphia, PA, United States

924. Improved Retrospective Self-Gated Human Lung Imaging using a Quasi Random Sampling Scheme
Stefan Weick[1], Philipp Ehses[2], Martin Blaimer[2], Felix A. Breuer[2], Peter M. Jakob[1,2]
[1]Experimental Physics 5, University of Wuerzburg, Wuerzburg, Bavaria, Germany; [2]Research Center for Magnetic Resonance Bavaria (MRB), Wuerzburg, Germany

925. Ventilation Dependent Blood Volume in Fourier Decomposition ^{1}H Lung Imaging
Samuel Patz[1], James P. Butler[1,2]
[1]Radiology, Brigham & Women's Hospital, Boston, MA, United States; [2]Environmental Health, Harvard School of Publich Health, Boston, MA, United States

926. k-T PCA Reconstruction for Functional Lung MRI by Fourier Decomposition
Grzegorz Bauman[1], Sebastian Kozerke[2,3]
[1]Division of Medical Physics in Radiology, German Cancer Research Center, Heidelberg, Germany; [2]Division of Imaging Sciences, King's College London, London, United Kingdom; [3]Institute for Biomedical Engineering, University & ETH Zurich, Switzerland

927. Block Paradigm Optimization for Dynamic Oxygen-Enhanced MRI of the Lung
Olaf Dietrich[1], Michael Ingrisch[1], Michael Peller[1], Konstantin Nikolaou, Maximilian F. Reiser,[1]
[1]Josef Lissner Laboratory for Biomedical Imaging, Department of Clinical Radiology, Ludwig Maximilian University of Munich, Munich, Germany

928. Physiological Modelling of Dynamic Oxygen-Enhanced MRI in the Lung: Model Fitting & Parameter Interpretation
Chris James Rose[1,2], Penny Louise Hubbard[1,2], Caleb Roberts[1,2], Simon S. Young[3], Josephine H. Naish[1,2], Geoffrey J. Parker[1,2]
[1]The University of Manchester Biomedical Imaging Institute, The University of Manchester, Manchester, Greater Manchester, United Kingdom; [2]Manchester Academic Health Science Centre, The University of Manchester, Manchester, Greater Manchester, United Kingdom; [3]AstraZeneca R&D Charnwood, Loughborough, Leicestershire, United Kingdom

929. Longitudinal & Non-Invasive Assessment of Emphysema Evolution in a Murine Model using Proton MRI
Magdalena Zurek[1], Laurent Boyer[2], Philippe Caramelle[2], Jorge Boczkowski[2], Yannick Crémillieux[1]
[1]University of Lyon, CREATIS-LRMN, Lyon, France; [2]INSERM U955, Paris, France

930. Reproducibility Assessment of High Resolution Imaging of Alveolar Oxygen Tension in Human Subjects
Hooman Hamedani[1], Kiarash Emami[1], Stephen J. Kadlecek[1], Yinan Xu[1], Yi Xin[1], Puttisarn Mongkolwisetwara[1], Amy Barulic[1], Nicholas N. Kuzma[1], Peter Magnusson[2], Lise Vejby Søgaard[2], Sandra Diaz[3], Per Åkeson[2], Milton D. Rossman[4], Masaru Ishii[5], G. Wilson Miller[6], Rahim R. Rizi[1]
[1]Radiology, University of Pennsylvania, Philadelphia, PA, United States; [2]Danish Research Centre for Magnetic Resonance, Copenhagen University Hospital Hvidovre, Hvidovre, Denmark; [3]Department of Clinical Sciences, Malmö University Hospital, Malmö, Sweden; [4]Pulmonary, Allergy & Critical Care Division, University of Pennsylvania, Philadelphia, PA, United States;

[5]Otolaryngology–Head & Neck Surgery, Johns Hopkins University, Baltimore, MD, United States; [6]Radiology, University of Virginia, Charlottesville, VA, United States

931. An Improved Scheme for a Robust High Resolution Measurement of Alveolar Oxygen Tension in Human Lungs

Hooman Hamedani[1], Kiarash Emami[1], Stephen J. Kadlecek[1], Yinan Xu[1], Yi Xin[1], Amy Barulic[1], Puttisarn Mongkolwisetwara[1], Nicholas N. Kuzma[1], Peter Magnusson[2], Lise Vejby Søgaard[2], Sandra Diaz[3], Per Åkeson[2], G. Wilson Miller[4], Milton D. Rossman[5], G. Wilson Miller[6], Rahim R. Rizi[1]

[1]Radiology, University of Pennsylvania, Philadelphia, PA, United States; [2]Danish Research Centre for Magnetic Resonance, Copenhagen University Hospital Hvidovre, Hvidovre, Denmark; [3]Department of Clinical Sciences, Malmö University Hospital, Malmö, Sweden; [4]Radiology, University of Virginia, Charlottesville, VA, United States; [5]Pulmonary, Allergy & Critical Care Division, University of Pennsylvania, Philadelphia, PA, United States; [6]Department of Radiology, University of Virginia School of Medicine, Charlottesville, VA

932. Imaging Regional Heterogeneity of Pulmonary Oxygen Tension as a Diagnostic Tool for Obstructive Lung Diseases

Yinan Xu[1], Hooman Hamedani[1], Kiarash Emami[1], Stephen J. Kadlecek[1], Yi Xin[1], Puttisarn Mongkolwisetwara[1], Amy Barulic[1], Nicholas N. Kuzma[1], Peter Magnusson[2], Lise Vejby Søgaard[2], Sandra Diaz[3], Wilson Miller[4], Milton D. Rossman[5], Masaru Ishii[6], Rahim R. Rizi[1]

[1]Radiology, University of Pennsylvania, Philadelphia, PA, United States; [2]Danish Research Centre for Magnetic Resonance, Copenhagen University Hospital Hvidovre, Hvidovre, Denmark; [3]Department of Clinical Sciences, Malmö University Hospital, Malmö, Sweden; [4]Department of Radiology, University of Virginia, Charlottesville, VA, United States; [5]Pulmonary, Allergy & Critical Care Division, University of Pennsylvania, Philadelphia, PA, United States; [6]Otolaryngology–Head & Neck Surgery, Johns Hopkins University, Baltimore, MD, United States

933. Pulmonary T_2* Dependence on the Lung Volume: Preliminary Results

Iga Muradyan[1], Mirko Hrovat[2], Mikayel Dabaghyan[3], James Butler[4], Hiroto Hatabu[3], Samuel Patz[3]

[1]Brigham & Women's Hospital, Boston, MA, United States; [2]Mirtech, Inc.; [3]Brigham & Women's Hospital; [4]Harvard School of Public Health

934. Fast T_2 Mapping of the Lung Within One Breathhold using Radial TSE Acquisition & PCA Aided Image Reconstruction

Michael Völker[1], Felix Breuer[1], Philipp Ehses[1], Simon Michael Triphan[1], Martin Blaimer[1], Peter Michael Jakob[1,2]

[1]Research Center for Magnetic Resonance Bavaria (MRB), Würzburg, Bavaria, Germany; [2]Department of Experimental Physics 5, University of Würzburg, Germany

935. Accelerating Pixel-By-Pixel Non-Linear Curve Fitting using Parallel Computation on Graphic Processing Units: Application to Pulmonary Perfusion Mapping.

Wei-Min Tseng[1], Teng-Yi Huang[2], Yi-Ru Lin[3], Ming-Ting Wu[4]

[1]Department of Electrical Engineering, National Taiwan University of Science & Technology, Taipei, Taiwan; [2]Department of Electrical Engineering, National Taiwan University of Science & Technology, Taipei, Taiwan; [3]Department of Electronic Engineering, National Taiwan University of Science & Technology, Taipei, Taiwan; [4]Department of Radiology, Kaohsiung Veterans General Hospital, Kao-Hsiung, Taiwan

936. Qualitative & Quantitative Lung Perfusion Imaging of Children with Congenital Diaphragmatic Hernia at 3T: Initial Results

Frank G. Zoellner[1], Katrin Zahn[2], Thomas Schaible[3], Stefan O. Schoenberg[4], Lothar R. Schad[1], K. W. Neff[4]

[1]Computer Assisted Clinical Medicine, Heidelberg University, Mannheim, Germany; [2]Dept. of Pediatric Surgery, University Medical Center Mannheim, Heidelberg University, Mannheim; [3]Dept. of Pediatrics, University Medical Center Mannheim, Heidelberg University, Mannheim; [4]Institute of Clinical Radiology & Nuclear Medicine, University Medical Center Mannheim, Heidelberg University, Mannheim, Germany

937. Pulmonary Arterial Hypertension: First-Pass Contrast Bolus Kinetics Contain Information on RV Function, Remodeling & Lung Resistance

Jens Vogel-Claussen[1,2], Jan Skrok[2], Monda Shehata[2], David A. Bluemke[3], Reda Girgis[2], Paul M. Hassoun[2]

[1]Tübingen University, Tübingen, BW, Germany; [2]Johns Hopkins University, Baltimore, MD, United States; [3]National Institutes of Health

NSF & Contrast Media

Exhibition Hall Monday 14:00-16:00

938. Incidence of Immediate Gadolinium Contrast Media Reactions

Martin R. Prince[1,2], Honglei Zhang[1], Zhitong Zou[1], Ronale B. Staron[2], Paula W. Brill[1]

[1]Radiology, Weill Cornell Medical College, New York, NY, United States; [2]Radiology, Columbia College of Physicians & Surgeons, New York, NY, United States

939. Gadolinium Exposure Before or After Liver Transplantation: No Excess Risk of Nephrogenic Systemic Fibrosis (NSF)?
Elise Eva Saddleton[1], Anne Laumann[2], Dennis P. West[2], Steven M. Belknap[3], Brenda Schmitz[1], Beatrice J. Edwards[3], Nicole Papariello[2], Michael I. Abecassis[4], Frank H. Miller[1]
[1]Radiology, Northwestern University, Chicago, IL, United States; [2]Dermatology, Northwestern University, Chicago, IL, United States; [3]Medicine, Northwestern University, Chicago, IL, United States; [4]Transplant Surgery, Northwestern University, Chicago, IL, United States

940. Nephrogenic Systemic Fibrosis: Portrait in the Medical Literature
Gianpaolo Pirovano[1], Cindy Schultz[2], John R. Parker[2], Miles A. Kirchin[3], Alberto Spinazzi[1]
[1]Worldwide Medical Affairs, Bracco Diagnostics Inc., Princeton, NJ, United States; [2]Medical Communications, Bracco Diagnostics Inc., Princeton, NJ, United States; [3]Medical Communications, Bracco Imaging, Milan, Italy

941. Combined Off-Resonance Imaging & Relaxation in the Rotating Frame for Positive Contrast Imaging of Infection in a Murine Burn Model Testing a Novel Anti-Infective Compound
Valeria Righi[1,2], Melissa Starkey[3], Jianxin He[3], George Dai[2], Vitaliano Tugnoli[4], Laurence G. Rahme[3], Ronald G. Tompkins[5], Aria A. Tzika[1,2]
[1]Department of Surgery, NMR Surgical Laboratory, MGH & Shriners Burn Institute, Harvard Medical School, Boston, MA, United States; [2]Department of Radiology, Athinoula A. Martinos Center of Biomedical Imaging, Boston, MA, United States; [3]Department of Surgery, Molecular Surgery Laboratory, MGH & Shriners Burn Institute, Harvard Medical School, Boston, MA, United States; [4]Departement of Biochemistry, University of Bologna, Bologna, Italy; [5]Department of Surgery, MGH & Shriners Burn Institute, Harvard Medical School, Boston, MA, United States

942. Development of Nanoparticle-Based Magnetic Resonance Colonography
Jihong Sun[1,2], Weiliang Zheng[1], Hong Yuan[3], Tao Wu[1], Xiaoming Yang[1,2], Shizheng Zhang[1]
[1]Radiology, Zhejiang University School of Medicine, Hangzhou, Zhejiang, China, People's Republic of; [2]Radiology, University of Washington School of Medicine, Seattle, WA, United States; [3]College of Pharmaceutical Science, Zhejiang University, Hangzhou, Zhejiang, China, People's Republic of

Body - Animal Models

Exhibition Hall Tuesday 13:30-15:30

943. ^{1}H-MRS Can Be Used to Investigate Creatine Metabolism in Multiple Organs Within a Single Examination in the Mouse
Kiterie Maud Faller[1], Craig A. Lygate[1], Stefan Neubauer[1], Jurgen E. Schneider[1]
[1]Cardiovascular Medicine, University of Oxford, Oxford, Oxfordshire, United Kingdom

944. Characterization of Liver Fibrosis by ^{1}H- & ^{31}P-MRS in CCl4-Treated Rats
Yunjung Lee[1], Hyungjoon Noh[1], Keunhyung Kang[1], Ok-Hee Kim[1], Byung-Chul Oh[1], Hyeonjin Kim[2]
[1]Lee Gil Ya Cancer & Diabetes Institute, Gachon University of Medicine & Science, Incheon, Korea, Republic of; [2]Radiology, Seoul National University Hospital, Seoul, Korea, Republic of

945. A New Technique for the Detection of Liver Damage by Evaluation of Impaired Exocytotic Activity of Kupffer Cells; an Experimental Study of Gadolinium Chloride-Induced Liver Injury in Rats
Toshihiro Furuta[1,2], Masayuki Yamaguchi[1], Ryutaro Nakagami[1,3], Masaaki Akahane[2], Manabu Minami[4], Kuni Ohtomo[2], Hirofumi Fujii[1]
[1]Functional Imaging Division, Research Center for Innovative Oncology, National Cancer Center Hospital East, Kashiwa, Japan; [2]Department of Radiology, The University of Tokyo Hospital, Tokyo, Japan; [3]Graduate School of Human Health Sciences, Tokyo Metropolitan University, Tokyo, Japan; [4]Department of Radiology, Tsukuba University Hospital, Tsukuba, Japan

946. Imaging of Hepatic Steatosis & Hyperpolarized Carbon Metabolism at 14T - Applications to a Murine Model of Non-Alcoholic Fatty Liver Disease
Andrew G. Taylor[1], Kayvan Keshari[1], Robert Bok[1], Subramaniam Sukumar[1], Aliya Qayyum[1], John Kurhanewicz[1]
[1]Radiology & Biomedical Imaging, University of California, San Francisco, San Francisco, CA, United States

947. Comparison of Gd-DTPA & Gd-BOPTA for Studying Renal Perfusion & Filtration
Mike Notohamiprodjo[1], Michael Pedersen[2], Christian Glaser[3], Andreas D. Helck, Klaus-Peter Lodemann[4], Bente Jespersen[5], Michael Fischereder[6], Maximilian F. Reiser, Steven P. Sourbron[7]
[1]Department of Clinical Radiology, University Hospitals Munich, Munich, Bavaria, Germany; [2]MR Research Centre, Aarhus University Hospital; [3]Department of Radiology, NYU Langone Medical Center; [4]Bracco Imaging Germany; [5]Department of Nephrology, Aarhus University Hospital; [6]Department of Nephrology, University Hospitals Munich; [7]Division of Medical Physics, University of Leeds

948. MRI Biomarkers for Monitoring Progression in CKD: Preliminary Experience in a Reversible UUO Mouse Model
Muhammad E. Haque[1], Tammy Franklin[1], Ujala Bokhary[1], Liby Mathew[2], Anthony Chang[3], Tipu Puri[2], Pottumarthi V. Prasad[1,4]
[1]Radiology, NorthShore University HealthSystem, Evanston, IL, United States; [2]Nephrology, University of Chicago, Chicago, IL; [3]Pathology, University of Chicago, Chicago, IL; [4]Radiology, University of Chicago, Chicago, IL, United States

949. MRI Characterization of Pathophysiological Changes in a Mouse Model of Acute Kidney Injury (AKI)
Andreas Pohlmann[1], Lajos Marko[2], Babette Wagenhaus[1], Uwe Hoff[3], Erdmann Seeliger[4], Dominik N Mueller[5], Thoralf Niendorf[1]
[1]Berlin Ultrahigh Field Facility, Max Delbrueck Center for Molecular Medicine, Berlin, Germany; [2]Experimental & Clinical Research Center , Charité University Medicine, Berlin, Germany; [3]Clinic for Nephrology, Charité University Medicine, Berlin, Germany; [4]Institute of Vegetative Physiology, Charité University Medicine, Berlin, Germany; [5]Experimental & Clinical Research Center, Charité University Medicine, Berlin, Germany

950. Real-Time Multi-Slice MRI of Renal Filtration in the Mouse
Amir Moussavi[1], Martin Uecker[1], Tilman Johannes Sumpf[1], Roland Tammer[1,2], Jens Frahm[1], Susann Boretius[1]
[1]Biomedizinische NMR Forschungs GmbH am Max-Planck-Institut fuer biophysikalische Chemie, Goettingen, Germany; [2]DFG Research Center for Molecular Biology of the Brain (CMPB), Goettingen, Germany

Cancer Animal Models - Characterization & Response

Exhibition Hall Wednesday 13:30-15:30

951. *In Vivo* Imaging & Metabolism of Hyperpolarized ^{13}C Diethyl Succinate in Mice
Niki Zacharias[1,2], Napapon Sailasuta[3], Henry Chan[3], Meng Wei[3], Robert W. Grubbs[1], Brian D. Ross[3], Pratip Bhattacharya[3]
[1]California Institute of Technology, Pasadena, CA, United States; [2]Enhanced Magnetic Resonance Laboratory, Huntington Medical Research Institutes, Pasadena, CA, United States; [3]Enhanced Megnetic Resonance Laboratory, Huntington Medical Research Institutes

952. Hyperpolarized ^{13}C MR Imaging & Corresponding Histopathology for the Non-Invasive Characterization of Metabolism in the TRAMP Model
Kayvan R. Keshari[1], Robert Bok, Subramaniam Sukumar, Mark Van Criekinge, Daniel Vigneron, John Kurhanewicz
[1]UCSF, San Francisco, CA, United States

953. Optimized SPION Formulations for Molecular MRI of the Lung using Hyperpolarized Gases
Rosa Tamara Branca[1], Simone Degan, John Nouls[2], Challa Kumar[3], Sanchita Biswas[3], Bastiaan Driehuys[2]
[1]Chemistry, Duke University, Durham, NC, United States; [2]Center for *In Vivo* Microscopy, Duke University; [3]Center for Advanced Microstructures & Devices, Louisiana State University, United States

954. Bifunctional Iron Oxide Nanoparticles for MR Imaging & Hyperthermia Therapy in Cancer
Katherine Louise Parcell[1,2], Tammy Louise Kalber[1,2], Paul Southern[3], Quentin a Pankhurst[3], Sam M Janes[2], Mark F. Lythgoe[1]
[1]UCL Centre for Advanced Biomedical Imaging, Division of Medicine & Institute of Child Health, University College London, London, United Kingdom; [2]Centre for Respiratory Research, University College London, London, United Kingdom; [3]Davy-Faraday Research Laboratories, the Royal Institution of Great Britain, London, United Kingdom

955. Extra-Cranial Measurements of Amide Proton Transfer using Exchange-Modulated Point-Resolved Spectroscopy (EXPRESS)
Simon Walker-Samuel[1], Peter Johnson[2], Barbara Pedley[2], Mark F. Lythgoe[1], Xavier Golay*[3]*
[1]UCL Centre for Advanced Biomedical Imaging, Department of Medicine & Institute of Child Health, University College London, London, United Kingdom; [2]Institute of Cancer, University College London, United Kingdom; [3]Institute of Neurology, University College London, United Kingdom

956. Promoted Growth of Brain Tumor with Severe Hemorrhage by the Transplantation of Neural Progenitor Cells Facilitated by SDF-1
Nai-Wei Yao[1,2], Chiao-Chi V Chen[1,3], Chen Chang[1,3]
[1]Functional & Micro-magnetic Resonance Imaging Center, Academic Sinica, Taipei, Taiwan; [2]Institute of Zoology, National Taiwan University, Taipei, Taiwan; [3]Institute of Biomedical Sciences, Academia Sinica, Taipei, Taiwan

957. High Resolution Magnetic Resonance Elastography of Orthotopic Murine Glioma *In Vivo*
Yann Jamin[1], Jessica K. R. Boult[1], Jeffrey C. Bamber[1], Ralph Sinkus[2], Simon P. Robinson[1]
[1]CRUK & EPSRC Cancer Imaging Centre, The Institute of Cancer Research & Royal Marsden NHS Trust, Sutton, United Kingdom; [2]INSERM U773, CRB3, Centre de Recherches Biomédicales Bichat-Beaujon, Paris, France

958. MRI-Guided Electrochemotherapy (ECT) in a Rat Model of Hepatocellular Carcinoma
Yang Guo[1], Yue Zhang[2,3], Ning Jin[2,4], Jodi Nicolai[2], Rachel Klein[2], Guang-Yu Yang[5], Reed Omary[2,4], Andrew Larson[2,4]
[1]Radiology, Northwestern University, Chicago, IL, United States; [2]Department of Radiology, Northwestern University, Chicago, IL, United States; [3]Biomedical Engineering , University of Illinois at Chicago, Chicago, IL, United States; [4]Department of Biomedical Engineering , Northwestern University, Chicago, IL, United States; [5]Department of Pathology, Northwestern University, Chicago, IL, United States

959. Characterizing Breast Tumor Lipid Metabolism by Integrating Magnetic Resonance Spectroscopic Imaging with MALDI Mass Spectrometric Imaging
Lu Jiang[1], Kamila Chughtai[2], Dmitri Artemov[1], Paul Winnard Jr.[1], Venu Raman[1], Zaver Bhujwalla[1], Ron Heeren[2], Kristine Glunde[1]
[1]ICMIC, Russell H. Morgan Department of Radiology & Radiological Science, Johns Hopkins Medical School, Baltimore, MD, United States; [2]FOM-Institute for Atomic & Molecular Physics, Amsterdam, Netherlands

960. Trifluoromisonidazole Detects Hypoxia - An *In Vivo* & *In Vitro* Multimodality Study
Ellen Ackerstaff[1], Makiko Suehiro[1], Natalia Kruchevsky[1], Sean Carlin[1], Eric H. Rosenfeld[1], Paul Burgman[1], Guangbin Yang[1], Geralda Torchon[1], Ouathek Ouerfelli[1], Pat B. Zanzonico[1], Kristen L. Zakian[1], Clifton C. Ling[1], Jason A. Koutcher[1]
[1]Memorial Sloan-Kettering Cancer Center, New York, NY, United States

961. Chronic Administration of MRSI Agent IEPA Increases Tumor PH; Has Potential to Bias PH Measurement
Heather H. Cornnell[1], Ihor Luhach[1], Gary Martinez[1], Arig Ibrahim Hashim[1], Robert A. Gatenby[2], Robert J. Gillies[1]
[1]Department of Imaging, Moffitt Cancer Center & Research Instutite, Tampa, FL, United States; [2]Department of Radiology, Moffitt Cancer Center & Research Instutite, Tampa, FL, United States

962. Assessment of Tumour Glucose Uptake using Gluco-CEST
Simon Walker-Samuel[1], Peter Johnson[2], Barbara Pedley[2], Mark F. Lythgoe[1], Xavier Golay*[3]*
[1]UCL Centre for Advanced Biomedical Imaging, Department of Medicine & Institute of Child Health, University College London, London, United Kingdom; [2]Institute of Cancer, University College London, United Kingdom; [3]Institute of Neurology, University College London, United Kingdom

963. Localized Hypoxia Results in Spatially Heterogeneous Metabolic Signatures in Breast Tumor Models
Lu Jiang[1], Dmitri Artemov[1], Paul Winnard Jr.[1], Venu Raman[1], Zaver Bhujwalla[1], Kristine Glunde[1]
[1]ICMIC, Russell H. Morgan Department of Radiology & Radiological Science, Johns Hopkins Medical School, Baltimore, MD, United States

964. Metabolic Characterization of the Cachectic Phenotype
Marie-France Penet[1], Paul T. Winnard Jr.[1], Radharani Marik[1], Sridhar Nimmagadda[1], Martin G. Pomper[1], Zaver M. Bhujwalla[1]
[1]JHU ICMIC Program, Russell H. Morgan Department of Radiology & Radiological Science, The Johns Hopkins University School of Medicine, Baltimore, MD, United States

965. *In Vivo* Magnetic Resonance Studies of Glycine Metabolism & Glutathione Distribution in a Rat Mammary Tumour
Peter Edward Thelwall[1], Nicholas E. Simpson[2], Zahid N. Rabbani[3], Daniel Clark[2], Roxana Pourdeyhimi[4], Jeffrey M. Macdonald[4], Stephen J. Blackband[2], Michael P. Gamcsik[4]
[1]Newcastle Magnetic Resonance Centre, Newcastle University, Newcastle upon Tyne, Tyne & Wear, United Kingdom; [2]University of Florida, United States; [3]Duke University Medical Centre, United States; [4]University of North Carolina / NC State University, United States

966. Characterization of Macromolecular Transport in Hypoxic Tumor Environments with Disrupted Collagen I Fibers
Samata M. Kakkad[1], Marie-France Penet[1], Arvind Pathak[1], Meiyappan Solaiyappan[1], Venu Raman[1], Kristine Glunde[1], Zaver M. Bhujwalla[1]
[1]JHU ICMIC Program, Russell H. Morgan Department of Radiology & Radiological Science, Johns Hopkins University School of Medicine, Baltimore, MD, United States

967. Arterial Spin Labeling Perfusion Measurements Reflect Histologic Microvessel Density in an Experimental Model of Tumor Response & Eventual Resistance to Antiangiogenic Therapy
Xiaoen Wang[1], Liang Zhang[2], Michael P. Collins[3], Brittany Bahamon[3], Sabina Signoretti[3], Michael B. Atkins[2], David C. Alsop[4], Rupal S. Bhatt[2]
[1]Department of Radiology, Beth Israel Deaconess Medical Center, Harvard Medical School , Boston, MA, United States; [2]Division of Hematology-Oncology & Cancer Biology, Beth Israel Deaconess Medical Center, Boston, MA, United States; [3]Department of Pathology, Brigham & Women's Hospital, Harvard Medical School, Boston, MA, United States; [4]Department of Radiology, Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA, United States

968. Evaluation of MR Imaging Biomarkers of the Infiltrative & Vascular Phenotype in Orthotopic Murine RG2 Gliomas

Jessica K. R. Boult[1], Lara Perryman[2], Gary Box[3], Chris Jones[2], Suzanne A. Eccles[3], Simon P. Robinson[1]
[1]Cancer Research UK & EPSRC Cancer Imaging Centre, The Institute of Cancer Research & Royal Marsden NHS Trust, Sutton, Surrey, United Kingdom; [2]Paediatric Oncology, The Institute of Cancer Research, Sutton, Surrey, United Kingdom; [3]Cancer Research UK Cancer Therapeutics Unit, The Institute of Cancer Research, Sutton, Surrey, United Kingdom

969. A Dynamic Contrast-Enhanced MRI Comparison of the Perfusion of Spontaneous & Transplanted Pancreatic Ductal Adenocarcinoma in Genetically Engineered Mice

Leanne Bell[1], Davina Honess[2], Dominick McIntyre[2], David Tuveson[2]
[1]CRUK Cambridge Research Institute, Cambridge, United Kingdom; [2]CRUK Cambridge Research Institute, United Kingdom

970. Distribution of DCE-MRI Pharmacokinetic Parameter Maps in Early Murine Mammary Cancer

Xiaobing Fan[1], Sanaz A. Jansen[2], Erica J. Markiewicz[1], Gillian M. Newstead[1], Gregory S. Karczmar[1]
[1]Radiology, The University of Chicago, Chicago, IL, United States; [2]Mouse Cancer Genetics Program, National Cancer Institute, Frederick, MD, United States

971. Development of a Spin Echo Gradient Echo Sequence for Simultaneous Assessment of the Biomarkers Vessel Size Index, Relative Blood Volume & Perfusion

Stefan Zwick[1], Wilfried Reichardt[1], Claudia Weidensteiner[1], Dominik von Elverfeldt[1]
[1]Dept. of Radiology, Medical Physics, University Medical Center, Freiburg, Germany

972. Evaluation of Gd-DTPA Contrast Enhancement of Lung & Metastatic Tumor with Ultra-Short Echo-Time Imaging

Daisuke Kokuryo[1], Ichio Aoki[1], Tsuneo Saga[1]
[1]Molecular Imaging Center, National Institute of Radiological Sciences, Chiba, Japan

973. DCE-MRI of Genetic Mouse Model of Lung Cancer

Kai Henrik Barck[1], Anthony Lima[2], Tim Cao[1], Rafael Molina[2], William F. Forrest[3], Weilan Ye[4], Leisa Johnson[2], Richard A. D. Carano[1]
[1]Biomedical Imaging, Genentech, South San Francisco, CA, United States; [2]Molecular Biology, Genentech, South San Francisco, CA, United States; [3]Biostatistics, Genentech, South San Francisco, CA, United States; [4]Tumor Biology & Angiogenesis, Genentech, South San Francisco, CA, United States

974. Therapeutic Targeting of NG_2 Proteoglycan with MAb & Pre-Armed NK Cells in Human GBM Evaluated with Dynamic Enhanced & Diffusion Weighted MRI in Rats

Marte Thuen[1], Jien Wang[2], Per Øyvind Enger[2], Aurelie Poli[3,4], Guro Løkka[2], Else Marie Huuse[1], Frits Thorsen[2], Cecilie Brekke Rygh[2], Martha Chekenya[2]
[1]Dep of Circulation & Medical Imaging, Norwegian University of Science & Technology, Trondheim, Norway; [2]Department of Biomedicine, University of Bergen, Bergen, Norway; [3]Translational Cancer Research, University of Bergen, Norway; [4]Lab for Immunology & Allergology, CRP sante, Luxembourg, Luxembourg

975. Timing of Anti-Angiogenic Therapy in Brain Tumors using MRI Measures of Relative Cerebral Blood Volume & Apparent Diffusion Coefficient

Kimberly R. Pechman[1,2], Deborah L. Donohoe[2,3], Devyani Bedekar[2,3], Kathleen M. Schmainda[2,4]
[1]Neurosurgery, Medical College of Wisconsin, Milwaukee, WI, United States; [2]Translational Brain Tumor Research Program, Medical College of Wisconsin, Milwaukee, WI, United States; [3]Radiology, Medical College of Wisconsin, Milwaukee, WI, United States; [4]Radiology & Biophysics, Medical College of Wisconsin, Milwaukee, WI, United States

976. Optimization of Combined Bevacizumab Plus Temozolomide Therapy in Brain Tumor Xenograft Models using MRI Measures of Relative Cerebral Blood Volume

Kimberly R. Pechman[1,2], Deborah L. Donohoe[2,3], Devyani P. Bedekar[2,3], Kathleen M. Schmaind[2,4]
[1]Neurosurgery, Medical College of Wisconsin, Millwaukee, WI, United States; [2]Translational Brain Tumor Research Program, Medical College of Wisconsin, Milwaukee, WI, United States; [3]Radiology, Medical College of Wisconsin, Milwaukee, WI, United States; [4]Radiology & Biophysics, Medical College of Wisconsin, Milwaukee, WI, United States

977. MR Visualization of Depot Vaccines & Immune Activation for Cancer Therapies

Drew R. DeBay[1], Sarah A. LeBlanc[1], Genevieve M. Weir[2], Marc Mansour[2], Chris V. Bowen[1,3]
[1]National Research Council - Institute for Biodiagnostics (Atlantic), Halifax, Nova Scotia, Canada; [2]Immunovaccine Inc., Halifax, Nova Scotia, Canada; [3]Department of Physics & Atmospheric Science, Dalhousie University, Halifax, Nova Scotia, Canada

978. DMSO-Based Contrast as a Potential Intermediate Endpoint Biomarker of GBM Response to Therapy.

Teresa Delgado-Goñi[1,2], Juana Martin-Sitjar[1,2], Rui V. Simões[1,2], Milena Acosta[1,2], Silvia Lope-Piedrafita[2,3], Carles Arús[1,2]

[1]Bioquimica i Biologia Molecular, Universitat Autònoma Barcelona, Cerdanyola del Vallès, Barcelona, Spain; [2]Centro de Investigación Biomédica en Red en Bioingeniería, Biomateriales y Nanomedicina (CIBER-BBN), Cerdanyola del Vallès, Barcelona, Spain; [3]Servei de Ressonància Magnètica Nuclear, Universitat Autònoma de Barcelona, Cerdanyola del Valles, Barcelona, Spain

979. Can T_1 or T_2-Weighted MRI Measurements Detect Irreversible Electroporation Ablation Zones in Liver Tumors?

Yue Zhang[1,2], Yang Guo[2], Jodi Nicolai[2], Rachel A. Klein[2], Reed A. Omary[2,3], Andrew C. Larson[2,3]
[1]Bioengineering, University of Illinois at Chicago, Chicago, IL, United States; [2]Radiology, Northwestern University, Chicago, IL, United States; [3]Robert H. Lurie Comprehensive Cancer Center, Northwestern University, Chicago, IL, United States

980. Multi-Parametric MRI Assessment of the Anti-Angiogenic Effects of Liposome-Encapsulated Glucocorticoids

Ewelina Kluza[1], Marieke Heisen[2], Sophie Schmid[1], Daisy W. J. van Der Schaft[3], Raymond M Schiffelers[4], Gert Storm[4], Bart M. ter Haar Romeny[2], Gustav J. Strijkers[1], Klaas Nicolay[1]
[1]Biomedical NMR, Department of Biomedical Engineering, Eindhoven University of Technology, Eindhoven, Netherlands; [2]Biomedical Image Analysis, Department of Biomedical Engineering, Eindhoven University of Technology, Eindhoven, Netherlands; [3]Biomechanics & Tissue Engineering, Department of Biomedical Engineering, Eindhoven University of Technology, Eindhoven, Netherlands; [4]Department of Pharmaceutical Sciences, Utrecht University, Utrecht, Netherlands

981. High Resolution Pre-Clinical MRI in Murine Braf-Induced Thyroid Tumor Targeted Therapy

Aime T. Franco[1], Ronald A. Ghossein[2], H. Carl Le[3], Jason A. Koutcher,[4], Jame Fagin[5]
[1]Medicine & Human Human Oncology & Pathogenesis Program, MSKCC, New York, NY, United States; [2]Pathology, MSKCC, New York, NY, United States; [3]Medical Physics, MSKCC, New York, NY, United States; [4]Medicine, MSKCC; [5]Medicine & Human Oncology & Pathogenesis Program, MSKCC

982. A Multifunctional Nanoparticle Platform for Imaging Guided Therapy of Cancer

Anita Gianella[1,2], Peter A. Jarzyna[1], Venkatesh Mani[1], Sarayu Ramachandran[1], Claudia Calcagno[1], Gert Storm[3], David P. Cormode[1], Victor L. Thijssen[4], Arjan W. Griffioen[4], Zahi A. Fayad[1], Willem J. M. Mulder[1]
[1]Translational & Molecular Imaging Institute, Mount Sinai School of Medicine, New York, NY, United States; [2]Centro Cardiologico Monzino, Milano, Italy; [3]Utrecht Institute for Pharmaceutical Science, Utrecht, Netherlands; [4]Department of Medical Oncology, VU University Medical Center, Amsterdam, Netherlands

983. Evaluation of Gemcitabine as an Alternative Treatment to Temozolomide for High Grade Gliomas.

Benjamin Lemasson[1], Stefanie Galbán[2], Terence M.Willians[2], Fei Li[1], Kevin A. Heist[1], Timothy D. Johnson[3], Alnawaz Rehemtulla[1,2], Craig J. Galbán[1], Brian Dale Ross[1]
[1]Radiology, University of Michigan, Ann Arbor, MI, United States; [2]Radiation Oncology, University of Michigan, Center for Molecular Imaging, Ann Arbor, MI, United States; [3]Biostatistics, University of Michigan, Ann Arbor, MI, United States

984. Comparison of Response to OXi4503 Therapy in Subcutaneous & Orthotopic Liver Metastasis Models using Susceptibility & Diffusion MRI

Peter Johnson[1], Simon Walker-Samuel[2], Vineeth Rajkumar[3], Mathew Robson[3], Mark F. Lythgoe[2], Barbara Pedley*[3]*
[1]Institute of Cancer, University College London, London, United Kingdom; [2]UCL Centre for Advanced Biomedical Imaging, Department of Medicine & Institute of Child Health, University College London, London, United Kingdom; [3]Institute of Cancer, University College London, United Kingdom

985. Combining DCE-MRI & DW-MRI for Evaluating the Early Response of a Hypoxia-Activated Chemotherapy

Julio Cardenas[1], Yuguo Li[2], Christine a Howison[3], Jean-Philippe Galons[4], Amanda F Baker[5], Mark D Pagel[6]
[1]Chemistry & Biochemistry, University of Arizona, Tucson, AZ, United States; [2]Radiology, Case Western Reserve University, Cleveland, OH, United States; [3]Arizona Research Laboratories, University of Arizona, Tucson, AZ, United States; [4]Radiology, University of Arizona, Tucson, AZ, United States; [5]Hematology/Oncology, Arizona Cancer Center, University of Arizona, Tucson, AZ, United States; [6]Biomedical Engineering & Chemistry & Biochemistry, University of Arizona, Tucson, AZ, United States

986. Integration of Diffusion Weighted Magnetic Resonance Imaging Data Into a Simple Mathematical Model of Tumor Growth

Nkiruka C. Atuegwu[1], Daniel C. Colvin[1], Mary E. Loveless[1,2], Lei Xu[3], John C. Gore[1,4], Thomas E. Yankeelov[1,4]
[1]Institute of Imaging Science, Vanderbilt University, Nashville, TN, United States; [2]Biomedical Engineering, Vanderbilt University, Nashville, TN, United States; [3]Biostatistics, Vanderbilt University, Nashville, TN, United States; [4]Radiology, Vanderbilt University, Nashville, TN, United States

987. Native T_1 is a Generic Imaging Biomarker of Response to Chemotherapy in Neuroblastoma

Yann Jamin[1], Elizabeth R. Cullis[2], Lynsey Vaughan[2], Hannah Webber[2], Jessica K. R. Boult[1], Lauren C. Baker[1], Dow-Mu Kow[1], Louis Chesler[2], Simon P. Robinson[1]
[1]CRUK & EPSRC Cancer Imaging Centre, The Institute of Cancer Research & Royal Marsden NHS Trust, Sutton, United Kingdom; [2]Paediatric Oncology, The Institute of Cancer Research, Sutton, United Kingdom

988. The Effect of Cediranib on the Vascular Structure & Function of C_6 Rat Xenografts with Combined Carbogen USPIO (CUSPIO) Imaging
Jake Samuel Burrell[1], Jane Halliday[2], Simon Walker-Samuel[3], Jessica K. R. Boult[1], Yann Jamin[1], John C. Waterton[2], Simon P. Robinson[1]
[1]The Institute of Cancer Research, Sutton, Surrey, United Kingdom; [2]AstraZeneca, Manchester, United Kingdom; [3]Centre for Advanced Biomedical Imaging, UCL, London, United Kingdom

989. Assessment of Early Treatment Response using a Fast & Robust MRI Protocol in Genetically Engineered Mouse Lung Cancer Models
Yanping Sun[1], Juan Wang[1], Amy M. Saur[1], Zandra Walton[2], Val Monrose[1], Kwok-Kin Wong[2], Andrew L. Kung[1,3]
[1]Lurie Family Imaging Center, Dana-Farber Cancer Institute & Harvard Medical School, Boston, MA, United States; [2]Department of Medical Oncology, Dana-Farber Cancer Institute & Harvard Medical School, Boston, MA, United States; [3]Pediatric Oncology, Children's Hospital Boston, Boston, MA, United States

990. Proton & Sodium MRI Follow-Up of Human Colorectal Tumors Implanted in Mice. Comparison between Two Photodynamic Therapy Protocols.
Carole Danielle Thomas[1,2], Florent Poyer[1,2], Philippe Maillard[2,3], Andreas Volk[1,2], Guillaume Garci[2,3], Alain Croisy[1,2], Mihaela Lupu[1,2], Joel Mispelter[1,2]
[1]Research, Curie Institute/INSERM U759, Orsay, France, Metropolitan; [2]University Paris XI, Orsay, France, Metropolitan; [3]Research, Curie Institute/CNRS UMR176, Orsay, France, Metropolitan

991. EPR Study of the Tumor Reoxygenation Following Inhibition of the MAPKinase Pathway: Underlying Mechanisms & Radiosensitizing Effects
Oussama Karroum[1], Julie Kengen[1], Pierre Danhier[1], Julien Verrax[2], Pedro Buc Calderon[2], Pierre Sonveaux[3], Vincent Gregoire[4], Bernard Gallez[1], Benedicte F. Jordan[1]
[1]Louvrain Drug Research Institute, Biomedical Magnetic Resonance Group, Universite Catholique de Louvain, Brussels, Belgium; [2]Louvrain Drug Research Institute, Pharmacokinetics, Metabolism, Nutrition, & Toxicology Group, Universite Catholique de Louvain; [3]IREC, Pole of Pharmacology & Therapeutics, Universite Catholique de Louvain; [4]IREC, Molecular Imaging & Radiotherapy, Universite Catholique de Louvain

992. *In Vivo* MRI of Rat Thyroid Glands for Non-Invasive Virtual Histopathology
Basil Künnecke[1], Barbara Lenz[1], Markus Stephan-Güldner[1], Anna Maria Brändli-Baiocco[1], Jürgen Funk[1], Thomas Pfister[1], Markus von Kienlin[1]
[1]Pharmaceuticals Division, F. Hoffmann-La Roche Ltd, Basel, Switzerland

993. Early Response Assessment Treatment in Metastatic Prostate Cancer to the Bone using Diffusion MRI.
Jean-Christophe Brisset[1], Stefanie Galbán[2], Alnawaz Rehemtulla[2], Kenneth James Pienta[3], Craig J. Galbán[1], Brian Dale Ross[1]
[1]Radiology, University of Michigan, Ann Arbor, MI, United States; [2]Department of Radiation Oncology, University of Michigan, Ann Arbor, MI, United States; [3]Department of Internal Medicine & Urology, University of Michigan, Ann Arbor, MI, United States

994. Multiparametric MR Mapping of Tissue Response to Photodynamic Therapy in an Intramuscular Model of Murine Squamous Cell Carcinoma
Mirabelle Sajisevi[1,2], David A. Bellnier[3], Nestor Rigual[2], Mukund Seshadri[1,4]
[1]Preclinical Imaging Facility, Roswell Park Cancer Institute, Buffalo, NY, United States; [2]Head & Neck Surgery, Roswell Park Cancer Institute, Buffalo, NY, United States; [3]Cell Stress Biology, Roswell Park Cancer Institute; [4]Pharmacology & Therapeutics, Roswell Park Cancer Institute, Buffalo, NY, United States

Cancer - Cells, Biopsies & Biofluids

Exhibition Hall Thursday 13:30-15:30

995. Inhibition of Phosphatidylcholine-Specific Phospholipase C Induces Down-Regulation of CXCR4 Overexpression & Reduction of ^{1}H-MRS-Detected PCho in Human Lymphoblastoid Cells
Alessandro Ricci[1], Serena Cecchetti[1], Maria Elena Pisanu[1], Luisa Paris[1], Luigi Portella[2], Stefania Scala[2], Egidio Iorio[1], Franca Podo[1]
[1]Cell Biology & Neurosciences, Istituto Superiore di Sanità, Rome, RM, Italy; [2]Department of Clinical Immunology, National Cancer Institute, Naples, NA, Italy

996. Effects of Downmodulation of Choline Kinase on MRS Choline Profile & Transcriptome in Ovarian Cancer Cells
Anna Granata[1], Egidio Iorio[2], Maria Teresa Comito[1], Alessandro Ricci[2], Maria Elena Pisanu[2], Zaver M. Bhujwalla[3], Franca Podo[2], Silvana Canevari[1], Delia Mezzanzanica[1], Marina Bagnoli[1]

[1]Fondazione IRCCS Ist. Nazionale Tumori, Milano, Mi, Italy; [2]Cell Biology & Neurosciences, Istituto Superiore di Sanità, Roma, RM, Italy; [3]John Hopkins University, Baltimore, MA, United States

997. Endothelial Cell Proliferation is Not Affected by Downregulation of Choline Kinase
Noriko Mori[1], Mayur Gadiya[2], Flonne Wildes[2], Balaji Krishnamachary[2], Zaver M. Bhujwalla[2]
[1]JHU ICMIC Program, The Russell H. Morgan Department of Radiology & Radiological Science, The Johns Hopkins University, School of Medicine , Baltimore, MD, United States; [2]JHU ICMIC Program, The Russell H. Morgan Department of Radiology & Radiological Science, The Johns Hopkins University, School of Medicine, Baltimore, MD, United States

998. Inflammation & Choline Metabolism Are Linked in Breast Cancer
Ioannis Stasinopoulos[1], Tariq Shah[1], Yelena Mironchik[1], Balaji Krishnamachary[1], Zaver M. Bhujwalla[1,2]
[1]JHU ICMIC Program, Russell H. Morgan Department of Radiology & Radiological Science, The Johns Hopkins University School of Medicine, Baltimore, MD, United States; [2]The Sidney Kimmel Comprehensive Cancer Center, The Johns Hopkins University School of Medicine, Baltimore, MD, United States

999. Comparison of NMR Lipid Profiles in Mitotic Arrest & Apoptosis as Indicators of Drug Resistance.
Dominik Zietkowski[1], Eszter Nagy[2], Margaret A. Mobberley[3], Geoffrey S. Payne[4], Timothy A. Ryder[3], Nandita M. de Souza[4]
[1]CRUK & EPSRC Cancer Imaging Centre , The Institute of Cancer Research, Sutton, Surrey, United Kingdom; [2]Section of Molecular Carcinogenesis, The Institute of Cancer Research, Sutton, Surrey, United Kingdom; [3]Department of Cellular Pathology, Imperial College Healthcare NHS Trust, London, United Kingdom; [4]CRUK & EPSRC Cancer Imaging Centre, The Institute of Cancer Research, Sutton, Surrey, United Kingdom

1000. The Metabolic Profile of Drug-Induced Autophagy in Cancer
Gigin Lin[1], Helen Troy[1], Lauren Elizabeth Jackson[1], Ian R. Judson[2], John R. Griffiths[3], Dow-Mu Koh[1], Simon P. Robinson[1], Martin O. Leach[1], Yuen-Li Chung[1]
[1]CRUK & EPSRC Cancer Imaging Centre, Institute of Cancer Research & Royal Marsden Hospital, Sutton, Surrey, United Kingdom; [2]CRUK Centre of Cancer Therapeutics Unit, Institute of Cancer Research and Royal Marsden Hospital, Sutton, Surrey, United Kingdom; [3]CRUK Cambridge Research Institute, Li Ka Shing Centre, Cambridge, United Kingdom

1001. The Pi3K Inhibitor Ly294002 Downregulates Akt Phosphorylation & Reduces Cell Proliferation Without Decreasing the Phosphocholine Level in Ovarian Cancer Cells
Egidio Iorio[1], Chiara Alberti[2], Paola Alberti[2], Alessandro Ricci[1], Maria Elena Pisanu[1], Patrizia Pinciroli[2], Silvana Canevari[2], Franca Podo[1], Antonella Tomasetti[2]
[1]Cell Biology & Neurosciences, Istituto Superiore di Sanità, Roma, RM, Italy; [2]Fondazione IRCCS Istituto Nazionale dei Tumori, Milano, Italy

1002. Potential of ^{31}P Magnetic Resonance Spectroscopy of Bile in the Detection of Cholestatic Diseases
Omkar B. Ijare[1], Tedros Bezabeh[1], Nils Albiin[2], Annika Bergquist[2], Urban Arnelo[2], Matthias Lohr[2], Ian C. P. Smith[1]
[1]National Research Council Institute for Biodiagnostics, Winnipeg, Manitoba, Canada; [2]Karolinska University Hospital, Karolinska Institutet, Huddinge, Stockholm, Sweden

1003. Investigation of Mobile Lipid Resonances in Cervical Tissue Biopsies & Correlation with Cytoplasmic Lipid Droplets.
Dominik Zietkowski[1], Geoffrey Payne[2], Nandita deSouza[2]
[1]CRUK & EPSRC Cancer Imaging Centre , The Institute of Cancer Research, Sutton, Surrey, United Kingdom; [2]CRUK & EPSRC Cancer Imaging Centre, The Institute of Cancer Research, Sutton, Surrey, United Kingdom

1004. Intracellular Selective Acidification of Human Melanoma Xenografts by Lonidamine: a ^{31}P Magnetic Resonance Spectroscopy Study
Kavindra Nath[1], David S. Nelson[1], Andrew Ho[1], Brian P. Weiser[2], Rong Zhou[1], Stephen Pickup[1], Lin Z. J. Li[1], Deenis Leeper[3], Jerry D. Glickson[1]
[1]Radiology, University of Pennsylvania, Philadelphia, PA, United States; [2]Pharmacology, University of Pennsylvania, Philadelphia, PA, United States; [3]Radiation Oncology, Thomas Jefferson University, Philadelphia, PA, United States

Breast

Exhibition Hall Monday 14:00-16:00

1005. Magnetization Transfer Imaging of the Healthy Breast at 3T
Lori R. Arlinghaus[1,2], Richard D. Dortch[1,2], Adrienne N. Dula[1,2], Seth A. Smith[1,2], John C. Gore[1,2], Thomas E. Yankeelov[1,2]
[1]Institute of Imaging Science, Vanderbilt University, Nashville, TN, United States; [2]Department of Radiology & Radiological Sciences, Vanderbilt University, Nashville, TN, United States

1006. Consistency of Breast Density Measured from the Same Women using Different MR Scanners at 1.5T & 3.0T
Jeon-Hor Chen[1,2], Siwa Chan[3], Daniel H-E Chang[1], Muqing Lin[1], Orhan Nalcioglu[1], Min-Ying L. Su[1]
[1]Center for Functional Onco-Imaging & Department of Radiological Science, University of California Irvine, Irvine, CA, United States; [2]Department of Radiology, China Medical University Hospital, Taichung, Taiwan; [3]Department of Radiology, Taichung Veterans General Hospital, Taichung, Taiwan

1007. Different Types of Errors in Segmentation of Breast Density using Computer-Aided Algorithms
Jeon-Hor Chen[1,2], Muqing Lin[1], Fu-Ju Lei[2], Jia-Pei Wu[2], Siwa Chan[3], Orhan Nalcioglu[1], Min-Ying L. Su[1]
[1]Center for Functional Onco-Imaging & Department of Radiological Science, University of California Irvine, Irvine, CA, United States; [2]Department of Radiology, China Medical University Hospital, Taichung, Taiwan; [3]Department of Radiology, Taichung Veterans General Hospital, Taichung, Taiwan

1008. Rapid Dixon Estimation of Water & Fat Equilibrium Magnetisation for Breast Density Measurements
Maria a Schmidt[1], Antonio de Stefano[2], Erica Scurr[1], James d'Arcy[1], Martin O. Leach[1]
[1]Cancer Research UK & EPSRC Cancer Imaging Centre, Royal Marsden NHS Foundation Trust & Institute of Cancer Research, Sutton, England, United Kingdom; [2]Medical Physics, Portsmouth NHS Hospitals Trust, Portsmouth, England, United Kingdom

1009. Bilateral Breast Imaging using IDEAL Fat-Water Separation & an Undersampled 3D Radial BSSFP Acquisition
Leah C. Henze-Bancroft[1], Catherine J. Moran[2], Scott B. Reeder[3,4], Frederick Kelcz[4], Walter F. Block[3]
[1]Department of Biomedical Engineering, University of Wisconsin - Madison, Madison, WI, United States; [2]Department of Radiology, Stanford University, Stanford, CA; [3]Department of Medical Physics, University of Wisconsin - Madison, Madison, WI; [4]Department of Radiology, University of Wisconsin - Madison, Madison, WI

1010. Associations of Breast MR Derived Vascular, Shape & Texture Parameters with Histological Prognostic Indicators
Martin D. Pickles[1], Peter Gibbs[1], Martin Lowry[1], Lindsay W. Turnbull[1]
[1]Centre for MR Investigations, University of Hull, Hull, East Yorkshire, United Kingdom

1011. Diffusion Tensor Based Reconstruction of the Ductal Tree
Marco Reisert[1], Matthias Weigel[1], Erez Eyal[2], Dov Grobgeld[2], Hadassa Degani[2], Jürgen Hennig[1]
[1]Medical Physics, University Medical Center Freiburg, Freiburg, Baden Württemberg, Germany; [2]Biological Regulation Dept., Weizmann Institute of Science, Rehovot, Israel

1012. Dynamic Contrast-Enhanced Breast MRI using Flexible Radial Undersampling with Compressed Sensing Reconstruction
Rachel Waichung Chan[1], Elizabeth Anne Ramsay[2], Edward Yiuwah Cheung[3], Donald Bruce Plewes[1,2]
[1]Medical Biophysics, University of Toronto, Toronto, Ontario, Canada; [2]Imaging Research, Sunnybrook Health Sciences Centre, Toronto, Ontario, Canada; [3]University of Waterloo, Waterloo, Ontario, Canada

1013. Novel DCE-MRI Technique: Application to Breast Cancer
Dmitri Artemov[1], Wenlian Zhu[1], Yoshinori Kato[1]
[1]Radiology, Johns Hopkins University, Baltimore, MD, United States

1014. Quantitative Magnetic Susceptibility Mapping (QSM) in Breast Disease Reveals Additional Information for MR-Based Characterization of Carcinoma & Calcification
Ferdinand Schweser[1,2], Karl-Heinz Herrmann[1], Andreas Deistung[1], Marie Atterbury[1,3], Pascal A. Baltzer, Hartmut Peter Burmeister, Werner Alois Kaiser, Jürgen R. Reichenbach[1]
[1]Medical Physics Group, Dept. of Diagnostic & Interventional Radiology 1, Jena University Hospital, Jena, Germany; [2]School of Medicine, Friedrich Schiller University of Jena, Jena, Germany; [3]Dept. of Physics, Brown University, Providence, RI, United States

1015. Multicenter, Double-Blind, Randomized, Intraindividual Crossover Comparison of Gadobenate Dimeglumine & Gadopentetate Dimeglumine for MR Imaging of the Breast (DETECT)
Laura Martincich[1], Matthieu Faivre-Pierret[2], Christian M. Zechmann[3], Stefano Corcione[4], Harrie C. M. van Den Bosch[5], Wei-Jun Peng[6], Antonella Petrillo[7], Katja Siegmann[8], Johannes T. Heverhagen[9], Pietro Panizza[10], Hans-Björn Gehl[11], Felix Diekmann[12], Federica Pediconi[13], Lin Ma[14], Fiona J. Gilbert[15], Francesco Sardanelli[16], Paolo Belli[17]
[1]Department of Diagnostic Imaging, Institute for Cancer Research & Treatment (IRCC), Candiolo, Torino, Italy; [2]Center Oscar Lambret, Lille, France; [3]German Cancer Research Center, Heidelberg, Germany; [4]University Hospital "S. Anna", Ferrara, Italy; [5]Catharina Hospital, Eindhoven, Netherlands; [6]Cancer Hospital, Fudan University, Shanghai, China, People's Republic of; [7]National Cancer Institute, Fondazione G. Pascale, Napoli, Italy; [8]University Hospital Tuebingen, Tuebingen, Germany; [9]University Hospital, Philipps University, Marburg, Germany; [10]Ospedale San Raffaele, Milano, Italy; [11]Klinikum Bielefeld, Bielefeld, Germany; [12]Universitätsklinikum Charité, Berlin, Germany; [13]University of Rome "La Sapienza", Rome, Italy; [14]Chinese People's Liberation Army (PLA) General Hospital, Beijing, China, People's Republic of; [15]Aberdeen Biomedical Imaging Centre, Aberdeen, United Kingdom; [16]Policlinico San Donato, San Donato Milanese, Italy; [17]Institute of Radiology, "A. Gemelli", Rome, Italy

1016. Ultrafast Dynamic Imaging of the Breast at Diagnostic Spatial Resolution using TWIST
Ritse M. Mann[1], Roel D. M. Mus[1], Christian Geppert[2], Jelle O. Barentsz[1], Henkjan Huisman[1]

[1]Radiology, Radboud University Nijmegen Medical Centre, Nijmegen, Gld, Netherlands; [2]MR Oncology, Siemens Healthcare, Erlangen, Germany

1017. Prospective Motion Correction for T_2- & Diffusion-Weighted Breast Imaging with FADE

Kristin L. Granlund[1,2], Ernesto Staroswiecki[1,2], Catherine J. Moran[1], Marcus T. Alley[1], Bruce L. Daniel[1], Brian A. Hargreaves[1]

[1]Radiology, Stanford University, Stanford, CA, United States; [2]Electrical Engineering, Stanford University, Stanford, CA, United States

1018. T_1 Mapping for Breast DCE-MRI using Inversion Recovery TrueFISP: Assessment of Phantom & *In Vivo* Data

David Broadbent[1], Peter Wright[1], Daniel Wilson[1]

[1]Medical Physics, Leeds Teaching Hospitals, Leeds, United Kingdom

1019. Analysis of the Normalized Radial Length Reveals Differences in Morphology Between Hormone Receptor Positive & Negative Breast Lesions Imaged with DCE-MRI

Fang Liu[1,2], Anat Kornecki[3], Olga Shmuilovich[3], Yves Bureau[1,2], Neil Gelman[1,2]

[1]Imaging Division, Lawson Health Research Institute, London, Ontario, Canada; [2]Department of Medical Biophysics, University of Western Ontario, London, Ontario, Canada; [3]Department of Diagnostic Imaging, St. Joseph's Health Center, London, Ontario, Canada

1020. Dynamic Contrast-Enhanced MRI in Triple Negative Breast Carcinomas: is there a Distinct Imaging Phenotype?

Sonia P. Li[1], N. Jane Taylor[2], J. James Stirling[2], Mei-Lin W. Ah-See[1], Mark J. Beresford[1], David J. Collins[3], James A. d'Arcy[3], Andreas Makris[1], Anwar R. Padhani[2]

[1]Mount Vernon Hospital, Northwood, Middlesex HA6 2RN, United Kingdom; [2]Paul Strickland Scanner Centre, Mount Vernon Hospital, Northwood, Middlesex HA6 2RN, United Kingdom; [3]CRUK-EPSRC Cancer Imaging Centre, Institute of Cancer Research & Royal Marsden Hospital, Sutton, Surrey SM2 5PT, United Kingdom

1021. Detection of Breast Cancer Aggressiveness with Metabolomic Profiles

Elita DeFeo[1], Elena Brachtel, Yannick Berker, Nathalie Strittmatter, Julia Hein, Dennis Sgroi, Barbara Smith[2], Leo L. Cheng[3]

[1]Pathology, Massachusetts General Hospital, Charlestown, MA, United States; [2]Surgical Oncology, Massachusetts General Hospital; [3]Radiology, Pathology, Massachusetts General Hospital

1022. Utility of Pre-Treatment MR Derived Vascular, Shape & Texture Parameters in the Prediction of Response to Neoadjuvant Chemotherapy in a Cohort of Breast Cancer Patients

Martin D. Pickles[1], Peter Gibbs[1], Martin Lowry[1], Lindsay W. Turnbull[1]

[1]Centre for MR Investigations, University of Hull, Hull, East Yorkshire, United Kingdom

1023. Digital "proximity Mapping" to Assess Radial Dependence of Breast Stromal Enhancement Associated with Response to Neoadjuvant Chemotherapy.

Catherine Klifa[1], David Newitt[2], Catherine Park[3], Sachiko Suzuki[2], Lisa Wilmes[2], Ying Lu[4], Nola Hylton[2]

[1]Radiology & Biomedical Imaging , University of California San Francisco, San Francisco , CA, United States; [2]Radiology & Biomedical Imaging, University of California San Francisco, San Francisco, CA, United States; [3]Department of Radiation Oncology, University of California San Francisco, San Francisco, CA, United States; [4]Department of Health Research & Policy, Stanford University, Stanford, CA, United States

1024. Diagnostic Performance of MRI for Assessing Tumor Response in Her-2 Negative Breast Cancer Receiving Neoadjuvant Chemotherapy

Aida Kuzucan[1], Jeon-Hor Chen[1,2], Rita S. Mehta[3], Shadfar Bahri[1], Philip M. Carpenter[4], Hon J. Yu[1], Orhan Nalcioglu[1], Min-Ying L. Su[1]

[1]Center for Functional Onco-Imaging & Department of Radiological Science, University of California Irvine, Irvine, CA, United States; [2]Department of Radiology, China Medical University Hospital, Taichung, Taiwan; [3]Department of Medicine, University of California Irvine, CA, United States; [4]Department of Pathology, University of California Irvine, CA, United States

1025. Early DCE-MRI Changes Predict Residual Enhancing Volume in Breast Cancer Patients Undergoing Neoadjuvant Chemotherapy

Xia Li[1], Lori R. Arlinghaus[1], E. Brian Welch[1], A. Bapsi Chakravarthy[1], Lei Xu[1], Jaime Farley[1], Ingrid Mayer[1], Mark Kelley[1], Ingrid Meszoely[1], Julie Means-Powell[1], Vandana Abramson[1], Ana Grau[1], Mia Levy[1], John C. Gore[1], Thomas E Yankeelov[1]

[1]Vanderbilt University Institute of Imaging Science, Nashville, TN, United States

1026. Diffusion Weighted MRI of the Breast: Is there a Role for Apparent Diffusion Coefficient Values in the Prediction of Response & in the Early Assessment of Response to Neoadjuvant Chemotherapy?

Jyoti Parikh[1], Geoff Charles-Edwards[2]

[1]Clinical Radiology, Guys & St Thomas' Hospitals, London , England, United Kingdom; [2]Medical Physics, Guys & St Thomas' Hospitals, London, England, United Kingdom

1027. Optimisation of B-Values for Diffusion-Weighted Imaging of the Breast
Marco Borri[1], Maria a Schmidt[1], Matthew Blackledge[1], Erica Scurr[1], Elizabeth O'Flynn[1], David Collins[1], Matthew Orton[1], Veronica Morgan[1], Nandita de Souza[1], Martin O. Leach[1]
[1]Cancer Research UK and EPSRC Cancer Imaging Centre, Royal Marsden NHS Foundation Trust and Institute of Cancer Research, Sutton, United Kingdom

1028. Improved Diagnostic Accuracy of Breast MRI through Combined Apparent Diffusion Coefficients & Dynamic Contrast-Enhanced Kinetics
Savannah C. Partridge[1], Habib Rahbar[1], Revathi Murthy[2], Xiaoyu Chai[3], Brenda Kurland[3], Wendy DeMartini[1], Constance Lehman[1]
[1]Radiology, University of Washington, Seattle, WA, United States; [2]Bioengineering, University of Washington, Seattle, WA, United States; [3]Clinical Statistics, Fred Hutchinson Cancer Research Center, Seattle, WA, United States

1029. Magnetization Transfer Rate & Amide Proton Transfer of Dissected Axillary Lymph Nodes of Breast Cancer Patients at 7T MRI
Mies A. Korteweg[1], Daniel L. Polders[1], Willem P. Th. M. Mali[1], Peter R. Luijten[1], Jaco J. M. Zwanenburg[1], Wouter B. Veldhuis[1]
[1]Radiology, University Medical Center Utrecht, Utrecht, Netherlands

1030. 'Real Time' Identification of the Sentinel Lymph Node in Breast Cancer using Dynamic MRI Sequences Following Subcutaneous Injection with Superparamagnetic Nanoparticles
Laura Johnson[1], Geoff Charles-Edwards[2], Jyoti Parikh[3], Margaret Hall-Craggs[4], Tobias Schaeffter[5], Quentin Pankhurst[6], Michael Douek[1]
[1]Research Oncology, Kings College London, London, United Kingdom; [2]Medical Physics, Guy's & St Thomas' NHS Foundation Trust; [3]Radiology, Guy's & St Thomas' NHS Foundation Trust; [4]Department of Imaging & Medical Physics & Bioengineering, University College London; [5]Imaging sciences, Kings College London; [6]Royal Institution of Great Britain

1031. Histological Distribution of Magnetic Nanoparticles in Sentinel Lymph Nodes in Breast Cancer
Laura Johnson[1], Sarah Pinder[1], Margaret Hall-Craggs[2], Michael Douek[1]
[1]Research Oncology, Kings College London, London, England, United Kingdom; [2]Department of Imaging & Medical Physics & Bioengineering, University College London

1032. Detection of Lipid Composition by 7T Proton Spectroscopy of *Ex Vivo* Axillary Lymph Nodes of 10 Breast Cancer Patients
Mies A. Korteweg[1], Suzanne C. E. Diepstraten[1], Willem P. Th. M. Mali[1], Peter R. Luijten[1], Paul J. van Diest[2], Ivan Dimitrov[3], Wouter B. Veldhuis[1], Dennis W. J. Klomp[1]
[1]Radiology, University Medical Center Utrecht, Utrecht, Netherlands; [2]Pathology, University Medical Center Utrecht, Utrecht, Netherlands; [3]Advanced Imaging Research Center, UT Southwestern Medical Center, Dallas, TX, United States

1033. TE-Averaged PRESS for Breast Spectroscopy - Increased Flexibility by using Fractional NEX Averaging
Ralph Noeske[1], Timo Schirmer[2]
[1]Global Applied Science Laboratory, GE Healthcare, Berlin, Germany; [2]Global Applied Science Laboratory, GE Healthcare, Munich, Germany

1034. Validation of Susceptibility-Based Models with Field Map Measurements in the Breast
Caroline D. Jordan[1,2], Bruce L. Daniel[1], Kevin M. Koch[3], Huanzhou Yu[4], Steve Conolly[5], Brian A. Hargreaves[1]
[1]Radiology, Stanford University, Stanford, CA, United States; [2]Bioengineering, Stanford University, Stanford, CA, United States; [3]Applied Science Laboratory, GE, Waukesha, WI, United States; [4]Global Applied Science Laboratory, GE Healthcare, Menlo Park, CA, United States; [5]Bioengineering, UC Berkeley, Berkeley, CA, United States

1035. B_0 Shimming in the Human Breast for 7 Tesla MR Spectroscopy
Mariska Petra Luttje[1], Jannie Petra Wijnen[1], Wybe J. M. van Der Kemp[1], Peter R. Luijten[1], Dennis W. J. Klomp[1]
[1]Radiology, University Medical Center Utrecht, Utrecht, Netherlands

1036. 7T Versus 3T Contrast-Enhanced Magnetic Resonance Imaging of Invasive Breast Cancer
Bertine Luus Stehouwer[1], Dennis W. J. Klomp[1], Mies A. Kortweg[1], Peter R. Luijten[1], Willem P. Th. M. Mali[1], Maurice A. AJ. van Den Bosch[1], Wouter B. Veldhuis[1]
[1]Radiology, UMCU, Utrecht, Netherlands

1037. Distinction of Invasive Lobular Carcinoma, Invasive Ductal Carcinoma & Healthy Breast Tissue *In Vivo* with L-COSY at 3T
Saadallah Ramadan[1], Hayden Nicholas Box[1], Pascal Baltzer[2], Alexander Lin[1], Peter Stanwell[3,4], Eva Gombos[1], Werner a Kaiser[2], Carolyn Mountford[1]
[1]Radiology, Brigham & Women's Hospital, Boston, MA, United States; [2]Radiology, Institute of Diagnostic & Interventional Radiology, Jena, Germany; [3]School of Health Sciences, The University of Newcastle, Newcastle, NSW, Australia; [4]Radiology, Brigham & Women's Hospital, Boston, MA, United States

1038. Quantitative ^{1}H MRS of the Normal Human Breast
Patrick J. Bolan[1], Navneeth Lakkadi[1]
[1]Radiology/CMRR, University of Minnesota, Minneapolis, MN, United States

1039. Lactate Detection in Inducible & Orthotopic Breast Cancer Models
Sergey Magnitsky[1], George Belka[2], Christopher Sterner[2], Lewis A. Chodosh[2], Jerry D. Glickson[1]
[1]Radiology, University of Pennsylvania, Philadelphia, PA, United States; [2]Cancer Biology, University of Pennsylvania, Philadelphia

1040. High-Resolution 3D T_2-Weighted Spin-Echo Imaging with a 16-Channel Breast Coil
Catherine Judith Moran[1], Anderson N. Nnewihe[1,2], Bruce L. Daniel[1], Kristin L. Granlund[1,3], Brian A. Hargreaves[1]
[1]Radiology, Stanford University, Stanford, CA, United States; [2]Bioengineering, Stanford University, Stanford, CA, United States; [3]Electrical Engineering, Stanford University, Stanford, CA, United States

1041. Automated Breast Ultrasound: MRI & Ultrasound CT Imaging Similarities
Marco Vicari[1,2], Ulrich Saueressig[3], James W. Wiskin[4,5], Paolo Pellegretti[6], Michele Zani[6], Vera Ivanovas[3], Marisa Windfuhr-Blum[3], Jonathan Kroschel[3], Elmar Kotter[3], Mathias Langer[3]
[1]Esaote S.p.A. , Genova, Italy; [2]Dept. of Radiology, Medical Physics, University Medical Center Freiburg, Freiburg, Germany; [3]Dept. of Radiology, Clinical Radiology, University Medical Center Freiburg, Freiburg, Germany; [4]Dept. of Bioengineering, University of Utah, Salt Lake City, UT, United States; [5]Techniscan, Inc., Salt Lake City, UT, United States; [6]Esaote S.p.A., Genova, Italy

1042. Quantitative DCE-MRI in Breast with Direct Measurement of AIF using Tofts & ATH Models: A Simulation Study
Bing Wen Zheng[1], Dennis Lai-Hong Cheong[1,2], Christopher Au[1], Eileen Ng[1], Soo Chin Lee[3], Thian chor Ng[1,4]
[1] Clinical Imaging Research Center, A*STAR & National University of Singapore, 117456, Singapore; [2]Neuroradiology Department, National Neuroscience Institute, 308433, Singapore; [3]Departments of Hematology & Oncology, National University of Singapore, 119074, Singapore; [4]Departments of Radiology, National University of Singapore, 119074, Singapore

1043. Diagnostic Performance of DCE-MR Imaging of the Breasts as a Function of Contrast Dose
Lawrence Dougherty[1], Mark Alan Rosen[1], Hee Kwon Song[1], Mitchell D. Schnall[1]
[1]Radiology, Hospital of the University of Pennsylvania, Philadelphia, PA, United States

1044. The Time-to-Peak Hot Spot Volume as an Indicator of Lesion Malignancy in Breast Dynamic Contrast Enhanced-MRI
Fang Liu[1,2], Anat Kornecki[3], Olga Shmuilovich[3], Neil Gelman[1,2]
[1]Department of Medical Biophysics, University of Western Ontario, London, Ontario, Canada; [2]Imaging Division, Lawson Health Research Institute, London, Ontario, Canada; [3]Department of Diagnostic Imaging, St. Joseph's Health Center, London, Ontario, Canada

1045. Multi-Modality Compressed Breast Imaging
Stefan Alexandru Carp[1], Christy M. Wanyo[1], David Alan Boas[1]
[1]Radiology, Massachusetts General Hospital, Charlestown, MA, United States

Prostate Cancer (Clinical Studies)

Exhibition Hall Tuesday 13:30-15:30

1046. Correlation of Histology from MR Guided Transperineal Prostate Biopsy with Multiparametric MR Imaging: A Feasibility Study
Felipe Franco[1], Fiona Fennessy[1], Andriy Fedorov[1], Kemal Tuncali[1], Junichi Tokuda[1], Sandeep Gupta[2], Clare Tempany[1]
[1]Radiology, Brigham & Women's Hospital, Boston, MA, United States; [2]Functional Imaging Lab, General Global Research Center

1047. Geometric Distortion in Diffusion Weighted MR Imaging of the Prostate using Air vs. Per-Fluorocarbon Filled Endorectal Coil at 3.0 T
Maysam Jafar[1], Veronica A. Morgan[1], Sharon Giles[1], David J. Collins[1], Maria A. Schmidt[1], Nandita M. deSouza[1]
[1]Clinical MR, Institute of Cancer Research & Royal Marsden NHS Foundation Trust, Belmont, Sutton SM2 5NG, United Kingdom

1048. Combining Amide-Proton-Transfer MRI with DCE-MRI to Improve Prostate Cancer Detection
Guang Jia[1], Ronney Abaza[2], Joanna D. Williams[3], Debra L. Zynger[3], Jinyuan Zhou[4], Zarine K. Shah[1], Mitva Patel[1], Steffen Sammet[1], Lai Wei[5], Robert R. Bahnson[2], Michael V. Knopp[1]
[1]Wright Center of Innovation in Biomedical Imaging & Department of Radiology, The Ohio State University, Columbus, OH, United States; [2]Department of Urology, The Ohio State University, Columbus, OH, United States; [3]Department of Pathology, The Ohio State University, Columbus, OH, United States; [4]Department of Radiology, Johns Hopkins University, Baltimore, MD, United States; [5]Center for Biostatistics, The Ohio State University, Columbus, OH, United States

1049. Symmetry Based Prostate Cancer Detection
Yi Xie[1,2], Yi Dang[1], Feiyu Li[3], Bing Fan[3], Ling Yang[2], Jue Zhang[1,4], Xiaoying Wang[1,3], Jing Fang[1,4]
[1]Academy for Advanced Interdisciplinary Studies, Peking University, Beijing, China, People's Republic of; [2]Dept. of Electronic Engineering, Chengdu University of Information Technology, Chengdu, Sichuan, China, People's Republic of; [3]Dept. of Radiology, Peking University First Hospital, Beijing, China, People's Republic of; [4]College of Engineering, Peking University, Beijing, China, People's Republic of

1050. Quantitative & Qualitative Sodium Imaging of the Prostate at 3T
Daniel Hausmann[1], Simon Konstandin[2], Stefan Haneder[1], Frank Zoellner[2], Friedrich Wetterling[2], Stefan O. Schönberg[1], Dietmar J. Dinter[1], Lothar R. Schad[2]
[1]Institute of Clinical Radiology & Nuclear Medicine, University Medical Center Mannheim, Mannheim, Baden-Württemberg, Germany; [2]Computer Assisted Clinical Medicine, Heidelberg University, Mannheim, Germany

1051. High Resolution *Ex Vivo* MRI of Prostate Specimen, Correlation with Whole-Mount Histology & *In Vivo* MRI
Chad R. Haney[1], Xiaobing Fan[1], Garima Agrawal[1], Charles A. Pelizzari[2], Gregory S. Karczmar[1], Jonathan Bakst[3], Tatjana Antic[3], Scott E. Eggener[4], Aytekin Oto[1]
[1]Radiology, University of Chicago, Chicago, IL, United States; [2]Radiation & Cellular Oncology, University of Chicago, Chicago, IL, United States; [3]Pathology, University of Chicago, Chicago, IL, United States; [4]Urology/Surgery, University of Chicago, Chicago, IL, United States

1052. Apparent Diffusion Coefficient Values During Magnetic Resonance -Guided Biopsy of the Prostate: Correlation with Histological Results
Martijn Gerjan Schouten[1], N. A. Nagel[1], Thomas Hambrock[1], Caroline M. Hoeks[1], Joyce Gerda Riek Bomers[1], Pieter C. Vos[1], Jurgen J. Futterer[1]
[1]Radiology, Radboud University Nijmegen Medical Centre, Nijmegen, Gelderland, Netherlands

1053. Non-Monoexponential Diffusion Signal Decay in Prostate Cancer
Stephan E. Maier[1], Yi Tang[1], Lawrence P. Panych[1], Robert V. Mulkern[2], Clare M. Tempany[1]
[1]Radiology, Brigham & Women's Hospital, Harvard Medical School, Boston, MA, United States; [2]Radiology, Children's Hospital, Harvard Medical School, Boston, MA

1054. Predicting Gleason Scores of Prostate Cancer using Combined Trace Apparent Diffusion Coefficient & Tumor Volume
Yu-Jen Chen[1], Y-S Pu[2], Woei-Chyn Chu[1], W-Y Isaac Tseng[3,4]
[1]Institute of Biomedical Engineering, National Yang-Ming University, Taipei, Taiwan; [2]Department of Urology; [3]Department of Medical Imaging, National Taiwan University Hospital; [4]Center for Optoelectronic Biomedicine, National Taiwan University College of Medicine, Taipei, Taiwan

1055. Characterization of the Human Prostate by *In Vivo* ^{31}P MR Spectroscopic Imaging at 7 Tesla
Miriam Lagemaat[1], Thiele Kobus[1], Stephan Orzada[2], Andreas Bitz[2], Arend Heerschap[1], Tom Scheenen[1,2]
[1]Radiology, Radboud University Nijmegen Medical Centre, Nijmegen, Netherlands; [2]Erwin L. Hahn Institute for Magnetic Resonance Imaging, Essen, Germany

1056. Zonal & Age-Related Differences of Prostate Spectra at 3 T
Jan Weis[1], Francisco Ortiz-Nieto[1], Håkan Ahlström[1]
[1]Uppsala University Hospital, Uppsala, Sweden

1057. Correlation between Cancer & Altered Proton MR Spectroscopic Imaging in the Prostate's Central Gland
Angel Moreno-Torres[1], Antonia Blanch[2], Cesar Arribas[3], Jose-Maria Gil-Vernet Sedò[4], Isidro Bonet-Palau
[1]Research Department, Cetir Grup Medic, Esplugues de Llobregat, Spain; [2]Unitat Clinica El Pilar, Cetir Grup Medic, Barcelona; [3]Unitat Clinica El Pilar, Cetir Grup Medic, Barcelona, Spain; [4]Centro Gil-Vernet de Urología, Centro Médico Teknon, Barcelona, Spain

1058. Three Dimensional Spectroscopic Imaging in the Prostate with a Surface Combined Endorectal Coil at 7 Tesla
Gregory John Metzger[1], Eddie J Auerbach[1], Gregor Adriany[1]
[1]Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, MN, United States

1059. Evaluations of Human Prostate Cancer Metabolomic Profiles with a Testing Cohort.
Elita DeFeo[1], Johannes Kurth[1], Chin-Lee Wu, Shulin Wu, W. Scott McDougal[2], Leo L. Cheng[3]
[1]Pathology, Massachusetts General Hospital, Charlestown, MA, United States; [2]Urology, Massachusetts General Hospital; [3]Radiology, Pathology, Massachusetts General Hospital

1060. Transrectal MRI-Guided Prostate Biopsy: Evaluation of a Novel Robotic Technique
Martijn Gerjan Schouten[1], Joyce Gerda Riek Bomers[1], Derya Yakar[1], Henkjan Huisman[1], Tom W. J. Scheenen[1], Sarthak Misra[2], Jurgen J. Futterer[1]
[1]Radiology, Radboud University Nijmegen Medical Centre, Nijmegen, Gelderland, Netherlands; [2]Control Engineering Group, MIRA-Institute of Biomedical Technology & Technical Medicine, Enschede, Overijssel, Netherlands

Gastrointestinal & Hepatobiliary Cancer (Clinical Studies)

Exhibition Hall Wednesday 13:30-15:30

1061. Repeatability of Perfusion & Pure Diffusion Parameters in a Bi-Exponential, Multi-B Diffusion Imaging Approach

Sabrina Doblas[1], Mathilde Wagner[1,2], Jean-Luc Daire[1,2], Nathalie Haddad[1,2], Helena Leitao[2,3], Ralph Sinkus[1], Bernard E. Van Beers[1,2], Valérie Vilgrain[1,2]

[1]Centre de Recherche Biomédicale Bichat-Beaujon, INSERM U773, Clichy, France; [2]Department of Radiology, Beaujon University Hospital, University Paris Diderot, Clichy, France; [3]Department of Radiology, Hospitais de Universidade de Coimbra, Coimbra, Portugal

1062. The Added Value of a Bi-Exponential Approach for Processing Multi-B Diffusion-Weighted Imaging Data in the Diagnosis of Hepatic Tumors

Sabrina Doblas[1], Mathilde Wagner[1,2], Jean-Luc Daire[1,2], Nathalie Haddad[1,2], Helena Leitao[2,3], Ralph Sinkus[1], Valérie Vilgrain[1,2], Bernard E. Van Beers[1,2]

[1]Centre de Recherche Biomédicale Bichat-Beaujon, INSERM U773, Clichy, France; [2]Department of Radiology, Beaujon University Hospital, University Paris Diderot, Clichy, France; [3]Department of Radiology, Hospitais de Universidade de Coimbra, Coimbra, Portugal

1063. MRI is Superior to 64-Slice CT in Detection of HCC in the Cirrhotic Liver

Robert F. Hanna[1], Stephen M. Lagana[2], Roger K. Moreira[2], Jean C. Emond[3], Inna Postolov[4], Martin R. Prince[1,5]

[1]Diagnostic Radiology, Columbia University - New York Presbyterian Hospital, New York, NY, United States; [2]Pathology, Columbia University - New York Presbyterian Hospital; [3]Surgery, Columbia University - New York Presbyterian Hospital; [4]Diagnostic Radiology, Columbia University - New York Presbyterian Hospital, New York, NY , United States; [5]Diagnostic Radiology, Weill Cornell Medical Center, New York, NY, United States

1064. Reproducibility of T_2* MR Imaging & Correlation with Diffusion MR Imaging in Liver Metastasis of Colorectal Cancer

E. G. W. ter Voert[1], L. Heijmen[2], W. J. G. Oyen[3], J. H. W. de Wilt[4], C. J. A. Punt[2], L. F. de Geus-Oei[3], H. W. M. van Laarhoven[2], A. Heerschap[1]

[1]Radiology, Radboud University Nijmegen Medical Centre, Nijmegen, Netherlands; [2]Medical Oncology, Radboud University Nijmegen Medical Centre, Nijmegen, Netherlands; [3]Nuclear Medicine, Radboud University Nijmegen Medical Centre, Nijmegen, Netherlands; [4]Surgery, Radboud University Nijmegen Medical Centre, Nijmegen, Netherlands

1065. Reproducibility of the Apparent Diffusion Coefficient in Liver Metastases of Colorectal Cancer & Assessment of Correlation with FDG-PET.

Linda Heijmen[1], Arend Heerschap[2], Edwin ter Voert[2], Wim Oyen[3], Hans de Wilt[4], Cees Punt, Lioe-Fee de Geus- Oei[3], Hanneke van Laarhoven[1]

[1]Medical Oncology, Radboud University Nijmegen, Medical Centre, Nijmegen, Gelderland, Netherlands; [2]Radiology, Radboud University Nijmegen, Medical Centre, Nijmegen, Netherlands; [3]Nuclear Medicine, Radboud University Nijmegen, Medical Centre; [4]Surgery, Radboud University Nijmegen, Medical Centre

1066. Diffusion-Weighted MRI of the Liver: Parameters of Acquisition & Analysis & Predictors of Chemotherapy Response

Renu M. Stephen[1], Denise J. Roe,[12], Abhinav K. Jha[3], Haiyan Cui[1], Georgette Frey[1], Scott Squire[4], Ted P. Trouard,[45], Jean P. Galons[4], Jeff J. Rodriquez[6], Mathew A. Kupinski[3,4], Eric Outwater[7], Robert J. Gillies[7], Alison T. Stopeck[1]

[1]Arizona Cancer Center, University of Arizona, Tucson, AZ, United States; [2]Mel and Enid Zuckerman College of Public Health, University of Arizona, Tucson; [3]College of Optical Sciences, University of Arizona, Tucson; [4]Department of Radiology, University of Arizona, Tucson; [5]Biomedical Engineering, University of Arizona, Tucson; [6]Electrical & Computer Engineering, University of Arizona, Tucson; [7]H.Lee Moffitt Cancer Center & Research Institute, Tampa, FL

1067. An Initial Evaluation of the Role of Diffusion Weighted Imaging in the Nodal Staging of Rectal MRI

Gillian Macnaught[1], Fat-Wui Poon[2], S. Viswanathan[1], Y-T Sim[3], M. Digby[3]

[1]Radiology Department, Glasgow Royal Infirmary, NHS Greater Glasgow & Clyde, Glasgow, Scotland, United Kingdom; [2]Radiology Department , Glasgow Royal Infirmary, NHS Greater Glasgow & Clyde, Glasgow, Scotland, United Kingdom; [3]Radiology Department, Stobhill Ambulatory Care Hospital, NHS Greater Glasgow and Clyde, Glasgow, Scotland, United Kingdom

1068. Dynamic Contrast-Enhanced MRI in Rectal Tumours – Initial Reproducibility Measurements at 3T with & Without Bowel Relaxant

Geoff Charles-Edwards[1,2], Jyoti Parikh[1], Nyree Griffin[1], Robert Johnstone[1], David Landau[1], Andrew Gaya[1]

[1]Guy's & St Thomas' NHS Foundation Trust, London, United Kingdom; [2]King's College London, London, United Kingdom

1069. Rectal Cancer Neoadjuvant Therapy Assessment with Quantitative Diffusion Imaging ?

Olivia Moens[1], Julie Absil[1], Anne Demols[2], Thierry Metens[1], Celso Matos[1]

[1]Magnetic Resonance-Radiology, Université Libre de Bruxelles Hôpital Erasme, Brussels, Belgium; [2]Gastroenterology, Université Libre de Bruxelles Hôpital Erasme, Brussels, Belgium

Tumor Perfusion & Permeability

Exhibition Hall Thursday 13:30-15:30

1070. DCE-MRI in Tumors at 11.7 Tesla Requires the Estimation of Arterial Input Function by Phase Imaging Instead of Magnitude Imaging
Anne-Catherine Fruytier[1], Julie Magat[1], Benedicte F. Jordan[1], Gregory Cron[2], Bernard Gallez[1]
[1]Louvain Drug Research Institute, Biomedical Magnetic Resonance Research Group, University of Louvain, Brussels, Belgium; [2]Ottawa Health Research Institute, Ottawa, Canada

1071. Using DCE-MRI Data to Constrain & Simplify PET Kinetic Modeling
Jacob U. Fluckiger[1], Xia Li[1], Jennifer Whisenant[1], Lei Xu[1], Junzhong Xu[1], Todd E. Peterson[1], John C. Gore[1], Thomas Yankeelov[1]
[1]Institute of Imaging Science, Vanderbilt University, Nashville, TN, United States

1072. Comparison of the Standard Gadolinium Concentration & Signal Difference Methodologies for Computation of Perfusion Parameters in DCE-MRI at Various SNRs
Hee Kwon Song[1], Yiqun Xue[1], Jiangsheng Yu[1], Sarah Englander[1], Hyunseon C Kang[1], Mark a Rosen[1]
[1]Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States

1073. Precision & Accuracy of K^{trans} Estimated by Fitting the Extended Kety Model Parameters to DCE-MRI Time Course Data is Unaffected by the Choice of Optimisation Algorithm or Estimation of T_1 using Linearisation
Anita Banerji[1,2], Josephine H. Naish[1,2], Giovanni A. Buonaccorsi[1], Geoff J. M. Parker[1,2]
[1]Imaging Sciences & Biomedical Engineering, Manchester University, Manchester, United Kingdom; [2]Biomedical Imaging Institute, Manchester, United Kingdom

1074. Anti-Angiogenic Therapy Follow-Up in a Mouse Tumor Model by a Novel 3D Radial Multi-Gradient Echo DCE MRI Technique with Individual AIF Measurement
Nadine El Tannir El Tayara[1,2], Nidhal Ben Achour[1,2], Christine Walczak[1,2], Fariba Nemati[3], Joel Mispelter[1,2], Didier Decaudin[3], Julien Vautier[1,2], Andreas Volk[1,2]
[1]Research Center, Institut Curie, Orsay, France; [2]U759 INSERM, Orsay, France; [3]Translational Research Department, Institut Curie, Paris, France

1075. Model Fitting of Spatially Smoothed DCE-CT & DCE-MRI Data in Bladder Tumours
Penny Louise Hubbard[1,2], Josephine H. Naish[1,2], Caleb Roberts[1,2], Yvonne Watson[1,2], Karen Davies[1,2], John C. Waterton[1,3], Helen Young[3], John P. Logue[4], M. Ben Taylor[4], Geoff J. M. Parker[1,2]
[1]Imaging Sciences & Biomedical Engineering, The University of Manchester, Manchester, United Kingdom; [2]The Biomedical Imaging Institute, The University of Manchester, Manchester, United Kingdom; [3]AstraZeneca R & D, Alderley Park, Macclesfield, Cheshire, United Kingdom; [4]Christie Hospital, Manchester, United Kingdom

1076. Effects of Flip Angle Variations on the Accuracy of Perfusion Parameters in DCE-MRI
Jiangsheng Yu[1], Yiqun Xue[1], Mark a Rosen[1], Christina S. Chu[2], Hee Kwon Song[1]
[1]Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States; [2]Obstetrics & Gynecology, University of Pennsylvania, Philadelphia, PA, United States

1077. Feasibility of Dual Pharmacokinetic Modeling using Gd-DTPA/MRI & ^{18}F-FDG/PET
Éric Poulin[1], Étienne Croteau[1], Réjean Lebel[1], Luc Tremblay[1], Roger Lecomte[1], M'Hamed Bentourkia[1], Martin Lepage[1]
[1]Nuclear Medicine & Radiobiology, Université de Sherbrooke, Sherbrooke, Quebec, Canada

1078. Use of an Individually Measured Hematocrit in DCE-MRI Studies
Caleb Roberts[1,2], Sarah Hughes[3], Josephine H. Naish[1,2], Katherine Holliday[1,2], Yvonne Watson[1,2], Sue Cheung[1,2], Giovanni A. Buonaccorsi[1,2], Helen Young[4], Noel Clarke[3,5], Geoff J. M. Parker[1,2]
[1]Imaging Science & Biomedical Engineering, The University of Manchester, Manchester, Greater Manchester, United Kingdom; [2]Biomedical Imaging Institute, The University of Manchester, Manchester, Greater Manchester, United Kingdom; [3]Paterson Institute for Cancer Research, The University of Manchester, Manchester, Greater Manchester, United Kingdom; [4]AstraZeneca, Macclesfield, Cheshire, United Kingdom; [5]Department of Urology, Salford Royal Hospital NHS Foundation Trust, Salford, Greater Manchester, United Kingdom

1079. Analysis of Signal-Adaptive K-Space Acquisition Schemes in Quantitative Dynamic Contrast-Enhanced MRI
Ina Nora Kompan[1,2], Claudia Prieto[3], Benjamin Richard Knowles[4], Hendrik Laue[1], Geoff Charles-Edwards[3], Matthias Guenther[1,2], Tobias Schaeffter[3]

[1]Fraunhofer MEVIS-Institute for Medical Image Computing, Bremen, Germany; [2]Faculty of Physics & Electronics, University of Bremen, Bremen, Germany; [3]Division of Imaging Sciences, Kings's College London, St. Thomas' Hospital, London, United Kingdom; [4]Cardiovascular Division, Beth Israel Deaconess Medical Center, Harvard School of Medicine, Boston, MA, United States

1080. Improving the Accuracy & Precision of DCE-MRI Tracer Kinetic Modelling by Imposing Inter-Variable Constraints

Leonidas Georgiou[1,2], Chris James Rose[1,2]
[1]The University of Manchester Biomedical Imaging Institute, The University of Manchester, Manchester, Greater Manchester, United Kingdom; [2]Manchester Academic Health Science Centre, The University of Manchester, Manchester, Greater Manchester, United Kingdom

1081. Modeling the Effect of Diffusion on the Assessment of K^{trans} & v_e in DCE-MRI

Stephanie Lynne Barnes[1,2], John C. Gore[1,2], Thomas E. Yankeelov[1,2]
[1]Radiology & Radiological Sciences, Vanderbilt University, Nashville, TN, United States; [2]Institute of Imaging Sciences, Vanderbilt University, Nashville, TN, United States

1082. Analysis of DCE-MRI in Oncology: When Should We Use the Tofts Models?

Steven Sourbron[1], David L. Buckley[1]
[1]Division of Medical Physics, University of Leeds, Leeds, United Kingdom

1083. Quantitative Perfusion MRI of Tumor Model in Mouse

Reshmi Rajendran[1], Jie Ming Liang[1], Torsten Reese[2], Hannes Hentze[2], Susan van Boxtel[2], Brian Henry[2], Kai-Hsiang Chuang[1]
[1]Magnetic Resonance Imaging Group, Laboratory of Molecular Imaging, Singapore Bioimaging Consortium, Singapore, Singapore; [2]Translational Medicine Research Centre, MSD, Singapore

1084. The Assessment of Tumor Cellularity using DSC-MRI

Natenael B. Semmineh[1], Junzhong Xu[1], John C. Gore[1], Christopher C. Quarles[1]
[1]Radiology & Radiological Sciences, Vanderbilt University Institute of Imaging Science, Nashville, TN, United States

1085. Intracellular Water Lifetime Measured by Diffusion Weighted & Dynamic Contrast Enhanced MRI

Jin Zhang[1], Lindsey Decarlo[2], Robert Schneider[3], Sungheon Kim[1]
[1]Center for Biomedical Imaging, Radiology, New York University School of Medicine, New York, United States; [2]Microbiology, New York University School of Medicine, New York, NY, United States; [3]Microbiology, New York University School of Medicine, New York, United States

1086. Comparison of DCE-MRI & Dual Echo DSC-MRI Derived Measures of K^{trans} & v_e

Christopher Chad Quarles[1], John Christopher Gore[1], Thomas Edison Yankeelov[1]
[1]Radiology & Radiological Sciences, Vanderbilt University, Nashville, TN, United States

1087. Combining Nonlinear Least Squares & Random Forest Regression to Increase the Accuracy & Precision of DCE-MRI Tracer Kinetic Model Parameter Estimates

Jakub Palowski[1,2], Chris James Rose[1,2]
[1]The University of Manchester Biomedical Imaging Institute, the University of Manchester, Manchester, Greater Manchester, United Kingdom; [2]Manchester Academic Health Science Centre, Tthe University of Manchester, Manchester, Greater Manchester, United Kingdom

1088. The Effects of Platelet-Derived Growth Factor on Vascular Permeability Studied by MRI

Yann Jamin[1], Jessica K. R. Boult[1], Lauren C. Baker[1], Simon Walker-Samuel[2], Arne Östman[3], Simon P. Robinson[1]
[1]CRUK & EPSRC Cancer Imaging Centre, The Institute of Cancer Research & Royal Marsden NHS Trust, Sutton, United Kingdom; [2]UCL Centre for Advanced Biomedical Imaging, Department of Medicine & Institute of Child Health, University College London, United Kingdom; [3]Cancer Center Karolinska, Karolinska Institutet, Stockholm, Sweden

1089. Quantitative T_1 & T_2* Assessment of VX_2 Tumour Oxygenation in Response to Hyperoxia & Hypercapnia: Comparison with Invasive Measures & DCE-MRI

Jeff D. Winter[1,2], Margarete K. Akens[3], Hai-Ling Margaret Margaret Cheng[1,4]
[1]Physiology & Experimental Medicine, The Hospital for Sick Children, Toronto, Ontario, Canada; [2]Research & Development, IMRIS, Winnipeg, Manitoba, Canada; [3]Orthopaedic Surgery, Sunnybrook Health Sciences, Toronto, Ontario, Canada; [4]Medical Biophysics, University of Toronto, Toronto, Ontario, Canada

1090. Nitrite Induces the Extravasation of Iron Oxide Nanoparticles in C_6 Brain Tumors

Nilesh N. Mistry[1], Jame Van Gambrell[2], Christopher Chad Quarles[2]
[1]Dept of Radiation Oncology, University of Maryland School of Medicine, Baltimore, MD, United States; [2]Dept. of Radiology & Radiological Sciences, Vanderbilt University Institute of Imaging Sciences, Nashville, TN, United States

1091. Tracer-Kinetic Model-Driven Registration Improves Data-Driven Tumour Sub-Segmentation of DCE-MRI Data
Giovanni Alessandro Buonaccorsi[1], Caleb Roberts[1], James P. B. O'Connor[1], Chris J. Rose[1], Susan Cheung[1], Yvonne Watson[1], Alan Jackson[2], Gordon C. Jayson[3], Geoff J. M. Parker[1]
[1]ISBE, University of Manchester, Manchester, United Kingdom; [2]WMIC, University of Manchester, Manchester, United Kingdom; [3]Cancer Research UK Dept of Medical Oncology, Christie Hospital, Manchester, United Kingdom

1092. Improved T_1 Quantification using Post-Gd Contrast Variable Flip Angle Data
Keiko Miyazaki[1], James A. d'Arcy[1], Matthew R. Orton[1], Dow-Mu Koh[2], David J. Collins[1], Martin O. Leach[1]
[1]CR-UK & EPSRC Cancer Imaging Centre, The Institute of Cancer Research & Royal Marsden Hospital, Sutton, Surrey, United Kingdom; [2]Department of Radiology, Royal Marsden NHS Foundation Trust, Sutton, Surrey, United Kingdom

1093. Enhanced Perfusion Measurement Accuracy in DCE-MRI Via Improved Baseline Signal Estimation
Yiqun Xue[1], Jiangsheng Yu[1], Mark A. Rosen[1], Ramesh Rengan[2], Hyun Seon Kang[1], Sarah Englander[1], Rosemarie Mick[3], Hee Kwon Song[1]
[1]Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States; [2]Department of Radiation Oncology, University of Pennsylvania, Philadelphia, PA, United States; [3]Department of Biostatistics and Epidemiology, University of Pennsylvania, Philadelphia, PA, United States

1094. Primed Infusion of Gd.DTPA for Enhanced Imaging of Diffuse Lung Metastasis
Tammy Louise Kalber[1,2], Adrienne E. Campbell[1], Katy L. Parcell[1], Bernard M. Siow[1], Anthony Neil Price[1,3], Simon Walker-Samuel[1], Quentin A. Pankhurst[4], Sam M. Janes[2], Mark F. Lythgoe[1]
[1]Centre for Advanced Biomedical Imaging, Division of Medicine & Institute of Child Health, University College London, London, United Kingdom; [2]Centre for Respiratory Research, Department of Medicine, University College London, University College London, London, United Kingdom; [3]Robert Steiner MRI Unit, Imaging Sciences Department, Hammersmith Hospital, Imperial College London, London; [4]Davy-Faraday Research Laboratories, The Royal Institution of Great Britain, London, United Kingdom

1095. Diagnosis of Ovarian Masses with Multi-Parametric Magnetic Resonance Methods: Preliminary Results
Jori S. Carter[1], Navneeth Lakkadi[2], Jessica E. Kuehn-Hajder[3], Isabelle V. Iltis[2], Levi S. Downs, Jr.[1], Patrick J. Bolan[2]
[1]Obstetrics, Gynecology, & Women's Health, University of Minnesota, Minneapolis, MN, United States; [2]Radiology/CMRR, University of Minnesota, Minneapolis, MN, United States; [3]Radiology, University of Minnesota, Minneapolis, MN, United States

1096. MR Imaging of Early Stage Uterine Cervical Cancer: Diagnostic Impact of Diffusion-Weighted Imaging & 3D-Dynamic Contrast-Enhanced MRI at 3T
Mayumi Takeuchi[1], Kenji Matsuzaki[1], Masafumi Harada[1]
[1]Department of Radiology, University of Tokushima, Tokushima, Japan

1097. Diffusion-Weighted Imaging at 3T for Response Prediction to Chemoradiotherapy in Cervical Cancer
Martine I. Dujardin[1], Abdullah Aldosary[1], Peter Gibbs[1], Martin D. Pickles[1], Lindsay W. Turnbull[1]
[1]Centre for MR Investigations, University of Hull in association with Hull York Medical School, Hull, East Yorkshire, United Kingdom

Articular Cartilage: Quantitative & MRI Analysis

Exhibition Hall Monday 14:00-16:00

1098. T_1 Quantification in the Cartilage of the Knee with a Modified IR-FSE Technique
Gyula Kotek[1], Marcel J. B. Warntjes[2], Piotr Wielopolski[1], Jasper van Tiel[3], Edwin Oei[1], Gabriel P. Krestin[1]
[1]Radiology, Erasmus MC, Rotterdam, Netherlands; [2]Center for Medical Image Science & Visualization (CMIV), Linköping University, Linköping, Sweden; [3]Orthopedics/Radiology, Erasmus MC, Rotterdam, Netherlands

1099. Consistency of $T_1\rho$ Measurements: A Phantom Study
Daniel Ross Thedens[1], Noelle F. Klocke[2], James A. Martin[2], Thomas E. Baer[2], Douglas R. Pedersen[2]
[1]Radiology, University of Iowa, Iowa City, IA, United States; [2]Orthopaedics & Rehabilitation, University of Iowa

1100. Repeatability of Multi-Component T_2* Mapping on Human Knee Cartilages at 3T
Yongxian Qian[1], Ashley A. Williams[2], Constance R. Chu[2], Fernando E. Boada[1]
[1]Radiology, University of Pittsburgh, Pittsburgh, PA, United States; [2]Orthopaedic Surgery, University of Pittsburgh, Pittsburgh, PA, United States

1101. Reproducibility of Magnetic Resonance $T_{1\rho}$ & T_2 Relaxation Time & Morphological Measurements of Articular Hip Cartilage at 3T
Alexander Balcar Dillon[1], Gabby Blumenkrantz Joseph[1], Xiaojuan Li[1], Thomas M. Link[1], Sharmila Majumdar[1]
[1]Radiology and Biomedical Imaging, UCSF, San Francisco, CA, United States

1102. Texture Analysis of $T_1\rho$ Relaxation Times in Knee Osteoarthritis

Joseph Alan Schooler[1], Samuel Paran Yap[2], Gabby Blumenkrantz Joseph[2], Xiaojuan Li[2], Thomas M. Link[2], Sharmila Majumdar[2]
[1]Musculoskeletal & Quantitative Imaging Research, Department of Radiology & Biomedical Imaging, UCSF , San Francisco, CA, United States; [2]Musculoskeletal & Quantitative Imaging Research, Department of Radiology & Biomedical Imaging, UCSF, San Francisco, CA, United States

1103. T_1rho MRI of Menisci & Cartilage in Osteoarthritic Patients at 3T
Ligong Wang[1], Gregory Chang[1], Jian Xu[2], Renata L. R. Vieira[1], Svetlana Krasnokutsky[3], Steven Abramson[3], Michael P. Recht[1], Ravinder R. Regatte[1]
[1]Radiology, NYU Langone Medical Center, New York, United States; [2]Siemens HealthCare, New York, United States; [3]Division of Rheumatology, NYU Langone Medical Center, New York, United States

1104. $T_1\rho$ MRI Quantification of Arthroscopically Confirmed Cartilage Focal Lesions in Knees with Acute ACL Injuries
Riti Gupta[1], Daniel Kuo[2], Warapat Virayavanich[2], Benjamin Ma[3], Xiaojuan Li[2]
[1]University of California, Berkeley, Berkeley, CA, United States; [2]Radiology & Biomedical Imaging, UCSF, San Francisco, CA, United States; [3]Orthopedic Surgery, UCSF, San Francisco, CA, United States

1105. $T_{1\rho}$ Imaging of Articular Cartilage After Implantation of Tibial Fracture Plate
Matthew Fenty[1], Anup Singh[1], Samir Mehta[2], Jaimo Ahn[2], Ravinder Reddy[1]
[1]CMROI, Radiology, University of Pennsylvania, Philadelphia, PA, United States; [2]Division of Orthopaedic Trauma & Fracture Surgery, Department of Orthopaedic Surgery, Hospital of the University of Pennsylvania, Philadelphia, PA, United States

1106. A Fractional-Order Model for T_2 Relaxation in Normal & Degraded Cartilage
David a Reiter[1], Richard L. Magin[2], Weiguo Li[2], Maria Pilar Velasco[3], Juan Trujillo[4], Richard G. Spencer[1]
[1]NIH/NIA, Baltimore, MD, United States; [2]University of Illinois at Chicago; [3]Universidad Complutense de Madrid; [4]Universidad de La Laguna

1107. Mapping Cartilage Degradation through Support Vector Machine Probabilistic Classification
Ping-Chang Lin[1], Onyi Irrechukwu[1], Richard G. Spencer[1]
[1]National Institute on Aging, National Institutes of Health, Baltimore, MD, United States

1108. Multi-Parametric MRI Assessment of Articular Cartilage Degeneration
Elli-Noora Salo[1], Mikko J. Nissi[1], Timo Liimatainen[2], Olli Gröhn[3], Silvia Mangia[4], Shalom Michaeli[4], Jutta Ellermann[4], Miika T. Nieminen[5,6]
[1]Department of Physics & Mathematics, University of Eastern Finland, Kuopio, Finland; [2]Department of Biotechnology & Molecular Medicine, A.I. Virtanen Institute for Molecular Medicine, University of Eastern Finland, Kuopio, Finland; [3]Department of Neurobiology, A.I. Virtanen Institute for Molecular Medicine, University of Eastern Finland, Kuopio, Finland; [4]Center for Magnetic Resonance Research, University of Minnesota, MN, United States; [5]Department of Medical Technology, University of Oulu, Oulu, Finland; [6]Department of Diagnostic Radiology, Oulu University Hospital, Oulu, Finland

Ultrashort TE: MSK Applications

Exhibition Hall Tuesday 13:30-15:30

1109. Bi-Component Analysis of UTE Images: A Feasibility Study
Jiang Du[1], Eric Diaz[1], Michael Carl[2], Won Bae[1], Christine Chung[1], Graeme Bydder[1]
[1]Radiology, University of California, San Diego, San Diego, CA, United States; [2]GE Healthcare, United States

1110. Inverted Double Half RF Pulses: Improved Selective Excitation of Short T_2 Components in 3T Joint Imaging
Habib Al Saleh[1], Kevin Johnson[1], Richard Kijowski[2], Walter F. Block[1,3]
[1]Medical Physics, University of Wisconsin, School of Medicine & Public Health, Madison, WI, United States; [2]Radiology, University of Wisconsin, School of Medicine & Public Health, Madison, WI, United States; [3]Biomedical Engineering, University of Wisconsin, Madison, WI, United States

1111. Comparison of UTE Ratios Based on Magnetization Transfer & T_2 for Quantification of Achilles Tendinopathy
Richard J. Hodgson[1], Peter Wright[2], Andrew J. Grainger[2], Phillip O'Connor[2], Dennis McGonagle, Phillip Helliwell, Paul Emery, Matthew D. Robson[3]
[1]LMBRU, University of Leeds, Leeds, Yorkshire, United Kingdom; [2]Leeds Teaching Hospitals NHS Trust; [3]University of Oxford

1112. Dipolar Anisotropy Fiber Imaging Reveals Structure in a Meniscus Specimen
Nikolaus M. Szeverenyi[1], Won C. Bae[1], Graeme M. Bydder[1]
[1]Radiology, University of California, San Diego, San Diego, CA, United States

1113. Ultra-High Resolution UTE Imaging on Human Knee at 3T
Yongxian Qian[1], Ashley A. Williams[2], Constance R. Chu[2], Fernando E. Boada[1,3]

[1]Radiology, University of Pittsburgh, Pittsburgh, PA, United States; [2]Orthopaedic Surgery, University of Pittsburgh, Pittsburgh, PA, United States; [3]Bioengineering, University of Pittsburgh, Pittsburgh, PA, United States

1114. Susceptibitliy Weighted Imaging of Tendons, Ligaments, Menisci & Cortical Bone using Ute Sequences
Michael Carl[1], Nikolaus M. Szeverenyi[2], Jiang Du[2], Olivier M. Girard[2], Won Bae[2], Graeme M. Bydder[2]
[1]Global Applied Science Laboratory, GE Healthcare, San Diego, CA, United States; [2]University of California, San Diego, United States

1115. Demonstration of Meniscal Fiber Structure *In Vivo* by Radial Imaging with Minimal Phase Excitation & Adiabatic Fat Suppression Pulses at High Field
Ping-Huei Tsai[1], Cheng Li[2], Jeremy Magland[2], Teng-Yi Huang[3], Felix W. Wehrli[2], Hsiao-Wen Chung[1]
[1]Graduate Institute of Biomedical Electronics & Bioinformatics, National Taiwan University, Taipei, Taiwan; [2]Laboratory for Structural NMR Imaging, Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States; [3]Department of Electrical Engineering, National Taiwan University of Science & Technology, Taipei, Taiwan

1116. MRI Derived CT Substitute
Adam Johansson[1], Joakim Jonsson[1], Mikael Karlsson[1], Tufve Nyholm[1]
[1]Department of Radiation Sciences, Umeå University, Umeå, Sweden

1117. Selective Imaging of Bound & Pore Water in Human Cortical Bone
Robert Adam Horch[1,2], Daniel Frank Gochberg[2,3], Jeffry S. Nyman[4,5], Mark D. Does[1,2]
[1]Biomedical Engineering, Vanderbilt University, Nashville, TN, United States; [2]Vanderbilt University Institute of Imaging Science, Vanderbilt University, Nashville, TN, United States; [3]Radiology and Radiological Sciences, Vanderbilt University, Nashville, TN, United States; [4]VA Tennessee Valley Healthcare System; [5]Department of Orthopaedics & Rehabilitation, Vanderbilt University

Spine, Intervertebral Disc, Bone

Exhibition Hall Wednesday 13:30-15:30

1118. *In Vivo* Sodium MR Imaging of Rabbit Lumbar Disc using Dual-Tuned Coil at 3T
Chan Hong Moon[1], Lloydine Jacobs[2,3], Jung-Hwan Kim[1], Bernard Bechara[2,3], Tiejun Zhao[4], James Kang[2,3], Kyongtae Ty Bae[1]
[1]Radiology, University of Pittsburgh, Pittsburgh, PA, United States; [2]Orthopaedic Surgery, University of Pittsburgh Medical Center, Pittsburgh, PA, United States; [3]Ferguson Laboratory for Orthopaedic & Spine Research; [4]MR Research Support, Siemens Healthcare, Pittsburgh, PA, United States

1119. MRI-Based Assessment of Vertebral Deformity
Eual A. Phillips[1], Chamith S. Rajapakse[1], Michael J. Wald[1], Yusuf A. Bhagat[1], Mary B. Leonard[2], Felix W. Wehrli[1], Mary B. Leonard[2]
[1]Laboratory for Structural NMR Imaging, Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States; [2]Childrens Hospital of Philadelphia, Philadelphia, PA, United States

1120. *In Vivo* MRI of the Cartilaginous Endplate of the Intervertebral Disc
Sung M. Moon[1,2], Jon H. Yoder[1], Dawn M. Elliott[1], Felix W. Wehrli[2], Alexander C. Wright[2]
[1]Department of Orthopaedic Surgery, School of Medicine, University of Pennsylvania, Philadelphia, PA, United States; [2]Laboratory for Structural NMR Imaing, Department of Radiology, University of Pennsylvania Medical Center, Philadelphia, PA, United States

1121. Quantification of Intervertebral Disc Tears by High-Resolution 3D MRI at 7T
Sung M. Moon[1,2], Jon H. Yoder[1], Edward J. Vresilovic[3], Dawn M. Elliott[1], Alexander C. Wright[2]
[1]Department of Orthopaedic Surgery, School of Medicine, University of Pennsylvania, Philadelphia, PA, United States; [2]Department of Radiology, University of Pennsylvania Medical Center, Philadelphia, PA, United States; [3]Department of Orthopaedics & Rehabilatation, Penn State University, Hershey, PA, United States

1122. Automated Segmentation of Lumbar Vertebral Bodies & Intervertebral Discs from MRI using Statistical Shape Models
Ales Neubert[1,2], Jurgen Fripp[1], Kaikai Shen[1], Craig Engstrom[2], Raphael Schwarz[3], Lars Lauer[3], Olivier Salvado[1], Stuart Crozier[2]
[1]The Australian E-Health Research Centre, CSIRO, Brisbane, QLD, Australia; [2]Department of Biomedical Engineering, University of Queensland, Brisbane, QLD, Australia; [3]Siemens Healthcare, Erlangen, Germany

1123. Combined Implications of Bone's Structural & Material Impairment Following Renal Transplantation Assessed by µMRI Based Finite-Element Modeling
Chamith S. Rajapakse[1], Yusuf A. Bhagat[1], Mary B. Leonard[2], Jeremy F. Magland[1], James H. Love[1], Wenli Sun[1], Felix W. Wehrli[1]
[1]University of Pennsylvania School of Medicine, Philadelphia, PA, United States; [2]The Children's Hospital of Philadelphia, Philadelphia, PA, United States

1124. A Longitudinal Study of Trabecular Bone in Knees with Acute Anterior Cruciate Ligament (ACL) Injuries at 3T
Jin Zuo[1], Jenny Folkesson[1], Xiaojuan Li[1], Samuel Paran Yap[1], Sharmila Majumdar[1]
[1]Radiology & Biomedical Imaging, Univ. of California, San Francisco, San Francisco, CA, United States

1125. Comparisons of Bone Density Measurements between Quantitative Computed Tomography & Magnetic Resonance IDEAL Imaging
Kai-Yu Ho[1], Houchun Harry Hu[1], Joyce H. Keyak[2], Patrick M. Colletti[1], Christopher M. Powers[1]
[1]University of Southern California, Los Angeles, CA, United States; [2]University of California, Irvine, CA, United States

1126. DDIF: A Novel Contrast for MRI of Trabecular Bone
Dionyssios Mintzopoulos[1], Jerome L. Ackerman[1], Yi-Qiao Song[2]
[1]Martinos Center, Department of Radiology, Massachusetts General Hospital, Charlestown, MA, United States; [2]Schlumberger-Doll Research, Cambridge, MA, United States

1127. Enhanced Algorithm for Desktop PC-Based Micro-Finite Element Modeling of Whole-Section Stiffness from *In Vivo* MR Images
Ning Zhang[1], Jeremy F. Magland[1], Chamith S. Rajapakse[1], Yusuf A. Bhagat[1], Felix W. Wehrli[1]
[1]Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States

1128. Predicting Osteoporosis from T_1-Weighted MR Images
Heather Ting Ma[1,2], James F. Griffith[2], Alvin F. W. Li[2], David K. Yeung[2], Jason Leung[2], Yi-Xiang Wang[2], Ping-Chung Leung[2]
[1]Harbin Institute of Technology Shenzhen Graduate School, Shenzhen, Guangdong, China, People's Republic of; [2]The Chinese University of Hong Kong, Hong Kong, China, People's Republic of

1129. A New Method to Predict Structural Parameters of Trabecular Bone at a Standardized SNR Level in High-Resolution MRI Studies of Distal Tibia
Wenli Sun[1], Chamith S. Rajapakse[1], Yusuf A. Bhagat[1], Jeremy F. Magland[1], Felix W. Wehrli[1]
[1]Radiology, University of Pennsylvania, Philadelphia, PA, United States

1130. IDEAL Fat Image in Bone Marrow: Comparison of Metastatic Neoplasm & Benign Marrow Abnormalities
Shuji Nagata[1], Yusuke Uchiyama[1], Norimitu Tanaka[1], Toshi Abe[1], Masafumi Uchida[1], Kimberly K. Amrami[2], Naofumi Hayabuchi[1]
[1]Kurume University Hospital, Kurume, Fukuoka, Japan; [2]Radiology, Mayo Clinic, Rochester, MN, United States

1131. Implications of Soft-Tissue Suppression on Cortical Bone Water Signal in Ultrashort Echo-Time Imaging
Maximilian James Smith[1], Cheng Li[1], Yusuf A. Bhagat[1], Shing Lam[1], James H. Love[1], Felix W. Wehrli[1]
[1]Radiology, University of Pennsylvania, Philadelphia, PA, United States

1132. Perfusion of the Femoral Head Following Fracture using Dynamic Contrast Enhanced MRI
Jonathan P. Dyke[1], Carolyn Hettrich[2], Keith Hentel[1], Sreevathsa Boraiah[3], Dean Lorich[4]
[1]Radiology, Weill Cornell Medical College, New York, NY, United States; [2]Orthopedics, Vanderbilt University Medical Center, Nashville, TN, United States; [3]Orthopedics, Westchester Medical Center, Hawthorne, NY, United States; [4]Orthopedic Trauma, Hospital for Special Surgery, New York, NY, United States

1133. USPIO-Enhanced δR_2* MR-Relaxometry for *In-Vivo* Monitoring of Fracture Healing
Thorsten Persigehl[1,2], Britta Wieskötter[3], Stefanie Remmele[4], Hannah Tiggemann[3], Janine Ring[1], Jochen Keupp[4], Walter Heindel[1], Christoph Bremer[1], Richard Stange[3], Volker Vieth[1]
[1]Department of Clinical Radiology, University Hospital Muenster, Münster, NRW, Germany; [2]Department of Radiology, Columbia University Medical Center, New York, NY, United States; [3]Department of Trauma, Hand & Reconstructive Surgery, University Hospital Muenster, Münster, NRW, Germany; [4]Philips Research Hamburg, Hamburg, HH, Germany

1134. Perfusion Measurements of Subchondral Bone in Patellofemoral Joint of Rats with Experimental OA Model
Ping-Huei Tsai[1], Cheng-Chieh Cheng[1], Ming-Huang Lin[2], Chien-Yuan Lin[2], Herng-Sheng Lee[3], Hsiao-Wen Chung[1], Guo-Shu Huang[4]
[1]Graduate Institute of Biomedical Electronics & Bioinformatics, National Taiwan University, Taipei, Taiwan; [2]Functional & Micro-Magnetic Resonance Imaging Center, Institute of Biomedical Science, Academia Sinica, Taipei, Taiwan; [3]Department of Pathology, Tri-Service General Hospital, National Defense Medical Center, Taipei, Taiwan; [4]Department of Radiology, Tri-Service General Hospital, National Defense Medical Center, Taipei, Taiwan

1135. 3D Geodesic Topological Analysis of Trabecular Bone Micro-Architecture of the Proximal Femur
Julio Carballido-Gamio[1], Jenny Folkesson[2], Thomas Baum[2], Thomas M. Link[2], Sharmila Majumdar[2], Roland Krug[2]
[1]Grupo Tecnológico Santa Fe, Mexico, DF, Mexico; [2]Department of Radiology & Biomedical Imaging, University of California, San Francisco, San Francisco, CA, United States

MSK, MRS & MRI I

Exhibition Hall Thursday 13:30-15:30

1136. Is Free Carnitine Visible in ^{1}H-MR Spectra of Skeletal Muscle?
Andreas Boss[1], Roland Kreis[1], Pierre Saillen[1], Chris Boesch[1], Peter Vermathen[1]
[1]Department of Clinical Research, University of Bern, Bern, Switzerland

1137. ^{1}H-MRS Detects Differences of Carnosine Profile in Skeletal Muscle of Rats Fed with High-Fat & Placebo Diets
Yew S. K. Terry[1], Arunima Pola[1], Bhaskaran David Prakash[1], Mehdy Ghaeminia[1], S. S. Velan[1]
[1]Laboratory of Molecular Imaging, Singapore Bioimaging Consortium, Singapore, Singapore

1138. Mitochondrial Energy Metabolism in Skeletal Muscle in a Murine Cancer Cachexia Model
Cibely Cristine Fontes De Oliveira[1], Dionyssios Mintzopoulos[2,3], Caterina Constantinou[2,4], Valeria Righi[2,3], Nikolaos Psychogios[3,5], Michael N. Mindrinos[6], Yong-Ming Yu, Alexander A. Shestov[7], Ronald G. Tompkins, Francois Lepine[8], Laurence G. Rahme[9], Josep M. Argiles[1], Aria A. Tzika[2,3]
[1]Cancer Research Group, Departament de Bioquimica i Biologia Molecular, Facultat de Biologia, Universitat de Barcelona, Barcelona, Spain; [2]NMR Surgical Laboratory, Department of Surgery, Massachusetts General Hospital & Shriners Burn Institute, Harvard Medical School, Boston, MA, United States; [3]Department of Radiology, Athinoula A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Charlestown, MA, United States; [4]Molecular Surgery Laboratory, Massachusetts General Hospital & Shriners Burn Institute, Harvard Medical School, Boston, MA, United States; [5]Dept. of Surgery, Massachusetts General Hospital, Boston, MA, United States; [6]Department of Biochemistry, School of Medicine, Stanford University, Stanford, CA, United States; [7]Center for Magnetic Resonance Research, Department of Radiology, University of Minnesota Medical School, Minneapolis, MN, United States; [8]Institut National de la Recherche Scientifique-Institut Armand-Frappier, Quebec, QC, Canada; [9]Molecular Surgery Laboratory, Department of Surgery, Massachusetts General Hospital & Shriners Burn Institute, Harvard Medical School, Boston, MA, United States

1139. Direct Comparison of Parameters of Skeletal Muscle Energy Metabolism
Albrecht Ingo Schmid[1,2], Vera Schrauwen-Hinderling[3], Martin Andreas[4,5], Michael Wolzt[4], Ewald Moser[1,2], Michael Roden[6,7]
[1]MR Center of Excellence, Medical University of Vienna, Wien, Austria; [2]Centre of Medical Physics & Biomedical Engineering, Medical University of Vienna, Wien, Austria; [3]Department of Radiology & Human Biology, Maastricht University Medical Center, Wien, Netherlands; [4]Department of Clinical Pharmacology, Medical University of Vienna, Wien, Austria; [5]Department of Surgery, Medical University of Vienna, Wien, Austria; [6]Institute for Clinical Diabetology, German Diabetes Center, Department of Metabolic Diseases, Heinrich-Heine University, DÃ¼sseldorf, Germany; [7]Karl-Landsteiner Institute of Endocrinology & Metabolism, Wien, Austria

1140. Measuring Energy Diffusion: Phosphocreatine in Human Skeletal Muscle
Refaat E. Gabr[1], AbdelMonem M. El-Sharkawy[1], Michael Schär[2], Robert G. Weiss[1,3], Paul A. Bottomley[1]
[1]Division of MR Research, Johns Hopkins University, Baltimore, MD, United States; [2]Philips Healthcare, Cleveland, OH, United States; [3]Division of Cardiology, Johns Hopkins University, Baltimore, MD, United States

1141. *In Vivo* Assessment of the Effects of Pioglitazone on Muscle Oxidative Capacity & Intramyocellular Lipid Content in Diabetic Rats using ^{31}P & ^{1}H MRS
Bart Wessels[1], Jolita Ciapaite[1], Klaas Nicolay[1], Jeanine Prompers[1]
[1]Biomedical NMR, Eindhoven University of Technology, Eindhoven, Netherlands

1142. Effects of Maltodextrin on Liver & Muscle Glycogen Synthesis During Short-Term Recovery & on Post-Recovery Cycling Performance
Fiona Elizabeth Smith[1], Eva Detko[2], Peter E. Thelwall[3], John O'Hara[2], Rodney King, Michael I. Trenell[4]
[1]Newcastle Magnetic Resonance Centre, Newcastle University, Newcastle upon Tyne, Tyneside, United Kingdom; [2]Carnegie Research Centre, Leeds Metropoliton University, Leeds, United Kingdom; [3]Newcastle Magnetic Resonance Centre, Newcastle University, Newcastle Upon Tyne, Tyneside, United Kingdom; [4]MRC Centre for Brain Ageing & Vitality, Newcastle University, Newcastle upon Tyne, United Kingdom

1143. Morphological & Metabolic Characterization of a New Model of Spinal Cord Injury Without Reloading using ^{1}H MRI & ^{31}P NMR Spectroscopy
Celine Baligand[1], Ravneet S. Vohra[2], Fan Ye[2], Jonathon Keener[3], Wootaek Lim[2], Sean Charles Forbes[2], Prithvi K. Shah[2], Prodip Bose[3,4], Glenn A. Walter[1], Floyd Thompson[3,4], Krista H. E. Vandenborne[2]
[1]Physiology & Functional Genomics, University of Florida, Gainesville, FL, United States; [2]Physical Therapy, University of Florida, Gainesville, FL, United States; [3]North Florida/South Georgia Veterans Health System of Florida, Gainesville, FL, United States; [4]Departments of Physiological Science & Neurology, University of Florida, Gainesville, FL, United States

1144. 'Functional Muscle-Bone Unit' in Osteoporotic Patients
Heather Ting Ma[1,2], James F. Griffith[2], Li Xu[3], Ping-Chung Leung[2]

[1]Harbin Institute of Technology Shenzhen Graduate School, Shenzhen, Guangdong, China, People's Republic of; [2]The Chinese University of Hong Kong, Hong Kong, China, People's Republic of; [3]Beijing Jishuitan Hospital, Beijing, China, People's Republic of

1145. Ischemia-Reperfusion Injury in Rat Skeletal Muscle Assessed with T_2-Weighted & Dynamic Contrast-Enhanced MRI

Sandra Loerakker[1], Cees W. J. Oomens[1], Emmy Manders[1], Tim Schakel[2], Dan L. Bader[1,3], Frank P. T. Baaijens[1], Klaas Nicolay[2], Gustav J. Strijkers[2]

[1]Soft Tissue Biomechanics and Engineering, Department of Biomedical Engineering, Eindhoven University of Technology, Eindhoven, Netherlands; [2]Biomedical NMR, Department of Biomedical Engineering, Eindhoven University of Technology, Eindhoven, Netherlands; [3]Department of Engineering and IRC in Biomedical Materials, Queen Mary, University of London, London, United Kingdom

1146. Interethnic Differences in Fat Metabolism of Overweight Chinese, Malays & Indians by MRI & MRS Approaches

Suresh Anand Sadananthan[1,2], Melvin Khee-Shing Leow[1,3], Chin Meng Khoo[4], Yung Seng Lee[1,4], E. Shyong Tai[1,4], Sambasivam Sendhil Velan[1,5]

[1]Singapore Institute for Clinical Sciences, A*STAR, Singapore; [2]Dept. of Obstetrics & Gynaecology, National University of Singapore, Singapore; [3]Dept. of Endocrinology, Tan Tock Seng Hospital, Singapore; [4]Dept. of Medicine, National University of Singapore, Singapore; [5]Singapore BioImaging Consortium, A*STAR, Singapore

1147. Probing Tissue Microstructure using Oscillating Diffusion Gradients in the Human Calf

Damien Joseph McHugh[1,2], Penny L. Hubbard[1,2], Sha Zhao[1,2], David M. Higgins[3], Geoff J. Parker[1,2], Josephine H. Naish[1,2]

[1]Imaging Sciences & Biomedical Engineering, University of Manchester, Manchester, United Kingdom; [2]The University of Manchester Biomedical Imaging Institute, Manchester, United Kingdom; [3]Philips Healthcare, Guildford , United Kingdom

1148. Evaluation of B_1 Receive Non-Uniformity Correction Techniques for Quantitative Musculoskeletal Nmr Imaging.

Noura Azzabou[1,2], Paulo Loureiro De Sousa[3,4], Pierre G. Carlier[4,5]

[1]NMR Laboratory, , Institute of Myology, Paris, France; [2]NMR Laboratory, CEA, I2BM, MIRCen, IdM,, Paris, France; [3]NMR Laboratory, Institute of Myology, Paris, France; [4]NMR Laboratory, CEA, I2BM, MIRCen, IdM, Paris, France; [5]NMR Laboratory, Institute of Myology, Paris, France

1149. Correlation Between BMLs & Quadriceps Arthogenous Muscle Inhibition

Charles Edward Hutchinson[1,2], David Felson, Michael Callaghan

[1]Radiology, University of Warwick, Coventry, Warkwickshire, United Kingdom; [2]Cancer & Enabling Science, University of Manchester, Manchester, Lancashire, United Kingdom

1150. Gene Transfer of Arginine Kinase to Skeletal Muscle using Adeno-Associated Virus

Sean C. Forbes[1], Larry T. Bish[2], Elizabeth R. Barton[3], Fan Ye[1], Celine Baligand[4], H. L. Sweeney[2], Glenn A. Walter[4]

[1]Department of Physical Therapy, University of Florida, Gainesville, FL, United States; [2]Department of Physiology, University of Pennsylvania, Philadelphia, PA; [3]Department of Anatomy & Cell Biology, University of Pennsylvania, Philadelphia, PA; [4]Department of Physiology & Functional Genomics, University of Florida, Gainesville, FL

1151. *In Vivo* High-Resolution Magic Angle Spinning Proton NMR Spectroscopy of Drosophila Melanogaster Flies as a Model System to Investigate Mitochondrial Dysfunction in Trauma

Nikolaos Psychogios[1,2], Yiorgos Apidianakis[3], Valeria Righi[1,2], Hazel Szeto[4], Ronald G. Tompkins, Laurence G. Rahme[3], Aria A. Tzika[1,2]

[1]NMR Surgical Laboratory, Department of Surgery, Massachusetts General Hospital & Shriners Burn Institute, Harvard Medical School, Boston, MA, United States; [2]Department of Radiology, Athinoula A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Charlestown, MA, United States; [3]Molecular Surgery Laboratory, Massachusetts General Hospital & Shriners Burn Institute, Harvard Medical School, Boston, MA, United States; [4]Department of Pharmacology, Joan & Sanford I. Weill Medical College of Cornell University, New Yor, Joan & Sanford I. Weill Medical College of Cornell University, New York, NY, United States

MSK, MRS & MRI II

Exhibition Hall Monday 14:00-16:00

1152. Reduced FOV Spinal Muscle DWI with Single-Shot Interleaved Multi-Slice Inner Volume Stimulated Echo DW-EPI

Dimitrios C. Karampinos[1], Suchandrima Banerjee[2], Kevin F. King[3], Roland Krug[1], Thomas M. Link[1], Sharmila Majumdar[1]

[1]Department of Radiology & Biomedical Imaging, University of California, San Francisco, San Francisco, CA, United States; [2]Global Applied Science Laboratory, GE Healthcare, Menlo Park, CA, United States; [3]Global Applied Science Laboratory, GE Healthcare, Waukesha, WI, United States

1153. *In Vivo* Measurement of Membrane Permeability & Fiber Size in Calf Muscle using Time-Dependent DWI

Els Fieremans[1], Dmitry S. Novikov[1], Eric E. Sigmund[1], Kecheng Liu[2], Jens H. Jensen[1], Joseph A. Helpern[1,3]
[1]Center for Biomedical Imaging, Department of Radiology, New York University School of Medicine, New York, United States; [2]Siemens Medical Systems, United States; [3]Center for Advanced Brain Imaging, Nathan S. Kline Institute, Orangeburg, NY, United States

1154. Reconstruction of 3-D Fabric Structure & Fiber Nets in Skeletal Muscle Via *In Vivo* DTI

Armen Alex Gharibans[1], Curtis Laurence Johnson[1], Danchin Daniel Chen[1], John G. Georgiadis[1]
[1]Mechanical Science & Engineering, University of Illinois at Urbana-Champaign, Urbana, IL, United States

1155. Imaging Regeneration in Dystrophic Muscle using T_2 & Diffusion Mri

Nathan David Bryant[1], Ravneet Vohra[2], Sunita Mathur[3], Krista Vandenborne[4], Glenn A. Walter[5]
[1]Radiology, Vanderbilt University, Nashville, TN, United States; [2]Physical Therapy, University of Florida; [3]Department of Physical Therapy, University of Toronto, Canada; [4]Department of Physical Therapy, University of Florida; [5]The Department of Physiology & Functional Genomic, University of Florida

1156. A Novel Bootstrap Approach for Reducing Noise-Induced Error in DTI-Based Measurements of Muscle Architecture

Amanda K. Wake[1,2], Bruce M. Damon[1,2]
[1]Department of Radiology & Radiological Sciences, Vanderbilt University Medical Center, Nashville, TN, United States; [2]Vanderbilt University Institute of Imaging Science, Vanderbilt University Medical Center

1157. Use of Probabilistic Diffusion Tractography to Improve Visualization in Skeletal Muscle Tractography

Yoshikazu Okamoto[1], Kiichi Tadano[2], Tomohiko Masumoto[3], Yuji Hirano[3], Tomonori Isobe[2], Manabu Minami[3]
[1]University of Tsukuba Hospital , Tsukuba, Ibaraki, Japan; [2]University of Tsukuba, Tsukuba, Ibaraki, Japan; [3]University of Tsukuba Hospital, Tsukuba, Ibaraki, Japan

1158. Muscle Architecture Measurements from DT-MRI Fiber Tracking: Tract Smoothing & Voxel Size Considerations

Bruce M. Damon[1,2]
[1]Radiology & Radiological Sciences, Vanderbilt University, Nashville, TN, United States; [2]Institute of Imaging Science, Vanderbilt University, Nashville, TN, United States

1159. MRI & MRS in the Assessment of Dietary-Induced & Age-Related Changes of the Muscle in an Animal Model for Sarcopenic Obesity

Claudia Fellner[1], Christine Hechtl[2], Marianne Vorbuchner[3], Roland Büttner[2], Christian Stroszczynski[1], Okka W. Hamer[1], Cornelius Bollheimer[2]
[1]Institute of Radiology, University Medical Center Regensburg, Regensburg, Germany; [2]Department of Internal Medicine I, University Medical Center Regensburg, Regensburg, Germany; [3]Siemens Healthcare, Erlangen, Germany

1160. Quantification of Myocellular Lipids Via ^{1}H-MR Spectroscopy in Elderly Women: Effect of Adiposity & Physical Activity

Danchin Daniel Chen[1], Diego Hernando[2], Curtis Laurence Johnson[1], Armen Alex Gharibans[1], Dolores D. Guest[3], Christie Ward[4], Bhibha Das[3], Ellen M. Evans[4], John G. Georgiadis[1,5]
[1]Mechanical Science & Engineering, University of Illinois at Urbana-Champaign, Urbana, IL, United States; [2]Department of Radiology, University of Wisconsin, Madison, WI, United States; [3]Department of Kinesiology & Community Health, University of Illinois at Urbana-Champaign, Urbana, IL, United States; [4]Department of Kinesiology, University of Georgia, Athens, GA, United States; [5]Beckman Institute for Advanced Science & Technology, University of Illinois at Urbana-Champaign, Urbana, IL, United States

1161. Using Long Echo Times in Proton Magnetic Resonance Spectroscopy in the Vastus Lateralis Muscle

Lucas Lindeboom[1], M. Eline Kooi[1], Matthijs Hesselink[2], Patrick Schrauwen[3], Joachim Wildberger[1], Vera Schrauwen-Hinderling[1,3]
[1]Radiology, Maastricht University Medical Center, Maastricht, Netherlands; [2]Human Movement Sciences, Maastricht University Medical Center, Maastricht, Netherlands; [3]Human Biology, Maastricht University Medical Center, Maastricht, Netherlands

1162. Modeling the Hyperemic Response in Skeletal Muscle fMRI

Kiril Schewzow[1,2], Martin Andreas[2,3], Ewald Moser[1,4], Michael Wolzt[2], Albrecht Ingo Schmid[1,4]
[1]MR Center of Excellence, Medical University of Vienna, Wien, Austria; [2]Dpt. of Clinical Pharmacology, Medical University of Vienna, Wien, Austria; [3]Dpt. of Surgery, Medical University of Vienna, Wien, Austria; [4]Centre of Medical Physics & Biomedical Engineering, Medical University of Vienna, Wien, Austria

1163. Fourier Analysis of Muscle BOLD Data After Exercise
Andrew D. Davis[1], Michael D. Noseworthy[2,3]
[1]Medical Physics & Applied Radiation Sciences, McMaster University, Hamilton, ON, Canada; [2]Electrical & Computer Engineering, School of Biomedical Engineering, & Department of Radiology, McMaster University, Hamilton, Ontario, Canada; [3]Brain Body Institute, St. Joseph's Healthcare, Hamilton, Ontario, Canada

1164. Muscle Functional MRI of Exercise-Induced Rotator Cuff
Noriyuki Tawara[1], Osamu Nitta[2], Hironobu Kuruma[2], Mamoru Niitsu[3], Naoyuki Tamura[4], Hideyuki Takahashi[4], Atsuto Hoshikawa[1], Kakuko Nakamura[1], Toru Okuwaki[1], Akiyoshi Itoh[5]
[1]Department of Sports Medicine, Japan Institute of Sports Sciences, Tokyo, Japan; [2]Department of Physical Therapy, Faculty of Health Sciences, Tokyo Metropolitan University, Tokyo, Japan; [3]Department of Radiology, Saitama Medical University, Saitama, Japan; [4]Department of Sports Sciences, Japan Institute of Sports Sciences, Tokyo, Japan; [5]Graduate Course of Computer Sciences, College of Sciences & Technology, Nihon University, Chiba, Japan

1165. Correlation Study Between ^{31}P Magnetic Resonance Spectroscopy & Electromyogram on Muscle Fatigue
Kang-Soo Kim[1], Do-Beom Son[2], Heung-Ho Choi[1], Choong-Ki Eun[3], Chi-Woong Mun[1,4]
[1]Biomedical Engineering, Inje University, Gimhae, Gyoungnam, Korea, Republic of; [2]Radiology, Haeundae Paik Hospital, Busan, Gyoungnam, Korea, Republic of; [3]Medicine, Radiology, Haeundae Paik Hospital, Busan, Gyoungnam, Korea, Republic of; [4]UHRC , Inje University, Gimhae, Gyoungnam, Korea, Republic of

1166. Muscle Boundary Estimation using Interpolated Image Masks
Amanda K. Wake[1,2], Wyatt M. Rose[2,3], Bruce M. Damon[1], Amanda K Wake[1]
[1]Radiology & Radiological Sciences, Vanderbilt University, Nashville, TN, United States; [2]Institute of Imaging Science, Vanderbilt University, Nashville, TN, United States; [3]Biomedical Engineering, Vanderbilt University, Nashville, TN, United States

1167. Parametric MRI for Muscle Degeneration & Regeneration
Donghoon Lee[1], Shu Feng[1], Daniel Chen[1], Martin Kushmerick[1]
[1]University of Washington, Seattle, WA, United States

1168. Detection of Changes in Quadrupolar Peaks by FFC-MRI in Skeletal Muscle
Lionel M. Broche[1], Henning Wackerhage[2], David J. Lurie[1]
[1]ABIC, University of Aberdeen, Aberdeen, Aberdeenshire, United Kingdom; [2]School of Medical Sciences, University of Aberdeen, Aberdeen, Aberdeenshire, United Kingdom

1169. The Reliability of Repeated Measures of the Time Constant for Post-Exercise Phosphocreatine Recovery using a Weighted Intraclass Correlation Coefficient
Howard Smithline[1,2], Long Ngo[3,4], Elyse Linson[1], Robert Greenman[4,5]
[1]Emergency Medicine, Baystate Medical Center, Springfield, MA, United States; [2]Tufts University Medical School, Boston, MA, United States; [3]General Medicine & Primary Care, Beth Israel Deaconess Medical Center, Boston, MA, United States; [4]Harvard Medical School, Boston, MA, United States; [5]Radiology, Beth Israel Deaconess Medical Center, Boston, MA, United States

1170. 3Tesla Gradient-Echo 3-Point Dixon Imaging for Robust Water-Only Imaging of the Extra-Ocular Muscles
Christopher David James Sinclair[1,2], Robert D. S. Pitceathly[1], Indran Davagnanam[2], Michael G. Hanna[1], Mary M. Reilly[1], Tarek A. Yousry[1,2], Xavier Golay[2], John S. Thornton[1,2]
[1]MRC Centre for Neuromuscular Diseases, UCL Institute of Neurology, London, United Kingdom; [2]Department of Brain Repair & Rehabilitation, UCL Institute of Neurology, London, United Kingdom

Cardiovascular Image Processing

Exhibition Hall Tuesday 13:30-15:30

1171. Observation of Cardiovascular Dynamics by Field Recording with an NMR Probe
Klaas Paul Pruessmann[1], Benjamin Emanuel Dietrich[1], Christoph Barmet[1]
[1]Institute for Biomedical Engineering, University and ETH Zürich, Zurich, Switzerland

1172. Automatic Segmentation of Short-Axis Cardiac MRI using a Biventricular Deformable Model with an Explicit Thickness Prior
Paul A. Yushkevich[1], Hui Sun[1], Federico M. Sukno[2], Catalina Tobon-Gomez[2], Hongzhi Wang[1], Alejandro F. Frangi[2]
[1]PICSL, Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States; [2]CISTIB, Universitat Pompeu Fabra, CIBER-BBN, Barcelona, Spain

1173. Myocardial T_1 Mapping with Synthetic Image Estimation Based Motion Correction
Hui Xue[1], Saurabh Shah[2], Andreas Greiser[3], Christoph Guetter[1], Christophe Chefdhotel[1], Marie-Pierre Jolly[1], Sven Zuehlsdorff[2], Jens Guehring[1], Peter Kellman[4]

[1]Imaging & Visualization, Siemens Corporate Research, Princeton, NJ, United States; [2]CMR Research & Development, Siemens Medical Solutions USA, Inc., Chicago, IL, United States; [3]Imaging & IT Division, Siemens AG, Healthcare Sector, Erlangen, Germany; [4]National Heart, Lung & Blood Institute, National Institutes of Health, Bethesda, MD, United States

1174. Cardiac Diffusion Tensor Imaging Registration

Carla S. Gil[1], Niall Colgan[1], A. J. Bakermans[2], B. J. van Nierop[2], G. J. Strijkers[2], H. C. van Assen[3], Kathleen M. Curran[1]

[1]School of Medicine & Medical Sciences, University College of Dublin, Dublin, Belfield, Dublin 16, Ireland; [2]Biomedical NMR, Department of Biomedical Engineering, Eindhoven University of Technology, Eindhoven, Netherlands; [3]Biomedical Image Analysis, Department of Biomedical Engineering, Eindhoven University of Technology, Eindhoven, Netherlands

1175. Accuracy of Automatic Contour Detection for Quantification of Left Ventricular Volumes, Mass & Ejection Fraction

Gilion Hautvast[1], Carol Salton[2], Michael Chuang[2,3], Marcel Breeuwer[1,4], Christopher O'Donnell[3,5], Warren Manning[2]

[1]Philips Healthcare, Best, Netherlands; [2]Beth Israel Deaconess Medical Center, Boston, MA, United States; [3]National Heart, Lung & Blood Institute, Framingham, MA, United States; [4]Eindhoven University of Technology, Eindhoven, Netherlands; [5]Massachusetts General Hospital, Boston, MA, United States

1176. Dark Regions of No-Reflow on LGE-MRI Result in Permanent Scar Post Atrial Fibrillation Ablation

Christopher J. McGann[1], Eugene G. Kholmovski[1], Joshua J. E. Blauer[1], Sathya Vijayakumar[1], Thomas S. Haslam[1], Joshua E. Cates[1], Nazem W. Akoum[1], Edward V. R. Dibella[1], Nathan S. Burgon[1], Alton J. Alexander[1], Marcelinus Prastawa[1], Dennis Parker[1], Rob MacLeod[1], Nassir F. Marrouche[1]

[1]CARMA Center, Salt Lake City, UT, United States

1177. Preserved Ejection Fraction in the Presence of Reduced LV Wall Strain in Hypertension: A Geometric Explanation Validated by MRI

Wei Zha[1], Steven Lloyd[2], Himanshu Gupta[2], Louis Dell'Italia[2], Thomas S. Denney[1]

[1]ECE, Auburn University, Auburn, AL, United States; [2]Medicine & Radiology, University of Alabama at Birmingham, Birmingham, AL, United States

1178. Improved Cardiac MRI of Preterm Infants using Retrospective Cardiac & Respiratory Gating

Anthony N. Price[1], Shaihan J. Malik[1], Kathryn M. Broadhouse[1], Francesco Padormo[1], Giuliana Durighel[1], David J. Cox[1], A. David Edwards[1], Alan M. Groves[1], Jo V. Hajnal[1]

[1]Robert Steiner MRI Unit, Imaging Sciences Department, MRC Clinical Sciences Centre, Hammersmith Hospital, Imperial College London, London, United Kingdom

1179. Segmentation of Carotid Plaque using Multi-Contrast 3D Gradient Echo MR Imaging

Wenbo Liu[1,2], Niranjan Balu[2], Xihai Zhao[1], Huijun Chen[2], Chun Yuan[1,2], Huilin Zhao[3], Jianrong Xu[3], Guangzhi Wang[1], William S. Kerwin[2]

[1]Biomedical Engineering & Center for Biomedical Imaging Research, School of Medicine, Tsinghua University, Beijing, China, People's Republic of; [2]Radiology, University of Washington, Seattle, WA, United States; [3]Radiology, Shanghai Jiao Tong University, Shanghai, China, People's Republic of

1180. Free-Breathing Technique for Myocardial T_2* Measurement with GRE Multi-Echoes Pulse Sequence

Suwit Saekho[1,2], Uten Yarach[1], Petai Buttakote[1], Siriphan Luxsakhum[1], Arintaya Phrommintikul[3], Nipon Chattipakorn[4]

[1]Radiological Technology, Chiang Mai University, Muang, Chiang mai, Thailand; [2]Biomedical Engineering Center, Chiang Mai University, Muang , Chiang Mai University, Thailand; [3]Internal Medicine, Chiang Mai University, Muang, Chiang Mai, Thailand; [4]Cardiac Electrophysiology Research & Training Center , Chiang Mai University, Muang, Chiang Mai, Thailand

1181. Optimal Image Combination with Minimal Total Deformation (MTD) Constrain to Improve Signal-Noise-Ratio (SNR) for Free-Breathing Cardiac Magnetic Resonance Imaging

Hui Xue[1], Ding Yu[2], Saurabh Shah[3], Christoph Guetter[1], Marie-Pierre Jolly[1], Orlando P. Simonetti[2], Peter Kellman[4], Jens Guehring[1]

[1]Imaging & Visualization, Siemens Corporate Research, Princeton, NJ, United States; [2]The Ohio State University, Columbus, OH, United States; [3]CMR Research & Development, Siemens Medical Solutions USA, Inc., Chicago, IL, United States; [4]National Heart, Lung & Blood Institute, National Institutes of Health, Bethesda, MD, United States

1182. Calculation of Mechanical Properties of the Inter-Luminal Septum in DeBakey Type III Aortic Dissection from the Behavior of P-Waves Detected by Cine MRI : Application of Seismic Technology onto Medical Image Data

Pietro Valsecchi[1], Christof Karmonik[2,3], Jean Bismuth[2], Mark G. Davies[2], Dipan J. Shah[2], Bill E. Kline[1], Alan B. Lumsden[2]

[1]ExxonMobil Upstream Research Company, Houston, TX, United States; [2]The Methodist DeBakey Heart & Vascular Center, Houston, TX, United States; [3]The Methodist Hospital Neurological Institute, Houston, TX, United States

1183. Clinical T_1 Mapping in the Heart - Improved T_1 Map Image Quality by Automated Motion Correction for Modified Look-Locker Inversion-Recovery (MOLLI)
Martin Ugander[1], Hui Xue[2], Jens Guehring[3], Saurabh Shah[4], Li-Yueh Hsu[1], Andrew E. Arai[1], Peter Kellman[1]
[1]National Heart, Lung & Blood Institute, National Institutes of Health, Bethesda, MD, United States; [2]Siemens Corporate Research, Princeton, NJ, United States; [3]Siemens AG Healthcare Sector, Erlangen, Germany; [4]Siemens Medical Solutions, Chicago, IL, United States

1184. Phase Unwrapping of PCMRI Data
Johann Baptist Drexl[1], Ola Friman, Anja Hennemuth, Jelena Bock[2], Michael Markl[2], Horst Karl Hahn[1]
[1]Fraunhofer MEVIS, Bremen, Germany; [2]Department of Radiology, Medical Physics, University Hospital Freiburg, Germany

1185. Noise Reduction in Real-Time Phase Velocity Images Via the Karhunen-Loeve Transform
Samuel Ting[1], Yu Ding[2], Yiu-Cho Chung[3], Orlando P. Simonetti[1,2]
[1]Department of Biomedical Engineering, The Ohio State University, Columbus, OH, United States; [2]Dorothy M. Davis Heart & Lung Research Institute, The Ohio State University, Columbus, OH, United States; [3]Siemens Medical Systems, Columbus, OH, United States

1186. Characterization of Carotid Plaque in Three-Dimensional Ultrasound by Registration with Multicontrast MRI
Bernard Chiu[1], Vijay Shamdasani[2], Robert Entrekin[2], Chun Yuan[1], William S. Kerwin[1]
[1]Radiology, University of Washington, Seattle, WA, United States; [2]Ultrasound Investigations, Philips Healthcare, Bothell, WA, United States

1187. Comparison of the Region-Based & Pixel-Wise Methods for Cardiac T_2* Analysis in 50 Transfusion-Dependent Thai Thalassemia Patients
Pairash Saiviroonporn[1], Vip Viprakasit[2], Thananya Boonyasirinant[3], John C. Wood[4], Rungroj Krittayaphong[3]
[1]Radiology Department, Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand; [2]Haematology/Oncology Division, Department of Pediatrics & Thalassemia Center, Faculty of Medicine Siriraj Hospital, Mahidol University; [3]Division of Cardiology, Department of Medicine, Faculty of Medicine Siriraj Hospital, Mahidol University; [4]Divisions of Cardiology, Department of Pediatrics, Children's Hospital Los Angeles, Keck School of Medicine, University of Southern California, United States

1188. Cardiac Image Segmentation using Level Sets with Preserved Topology
Cristobal Arrieta[1,2], Sergio Uribe[2,3], Vicente Parot[1,2], Pablo Irarrazaval[1,2], Carlos Sing-Long[2], Cristian Tejos[1,2]
[1]Department of Electrical Engineering, Pontificia Universidad Catolica de Chile, Santiago, RM, Chile; [2]Biomedical Imaging Center, Pontificia Universidad Catolica de Chile, Santiago, RM, Chile; [3]Department of Radiology, Pontificia Universidad Catolica de Chile, Santiago, RM, Chile

1189. Inter-Site Validation of the Pixel-Wise Method for Cardiac T_2* Analysis in 50 Transfusion-Dependent Thai Thalassemia Patients
Pairash Saiviroonporn[1], Vip Viprakasit[2], Thananya Boonyasirinant[3], Archrob Khuhapinant[4], John C. Wood[5], Rungroj Krittayaphong[3]
[1]Radiology Department, Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand; [2]Haematology/Oncology Division, Department of Pediatrics & Thalassemia Center, Faculty of Medicine Siriraj Hospital, Mahidol University; [3]Division of Cardiology, Department of Medicine, Faculty of Medicine Siriraj Hospital, Mahidol University; [4]Haematology/Oncology Division, Department of Internal Medicine, Faculty of Medicine Siriraj Hospital, Mahidol University; [5]Divisions of Cardiology, Department of Pediatrics, Children's Hospital Los Angeles, Keck School of Medicine, University of Southern California, United States

Flow Quantification & Vessel Function

Exhibition Hall Wednesday 13:30-15:30

1190. Quantitative Assessment of Blood Flow with 4D Phase-Contrast MRI & Autocalibrating Parallel Imaging Compressed Sensing
Albert Hsiao[1], Michael Lustig[2], Marcus T. Alley[1], Mark Murphy[2], Shreyas S. Vasanawala[1,3]
[1]Radiology, Stanford University, Stanford, CA, United States; [2]Electrical Engineering and Computer Science, University of California, Berkeley, CA, United States; [3]Radiology, Lucile Packard Childrens Hospital, Stanford, CA, United States

1191. 4D Aortic Pressure Difference Mapping: An Approach for the Detection of Pressure Wave Changes Associated with Atherosclerosis?
Jelena Bock[1], Ramona Lorenz[2], Andreas Harloff[3], Michael Markl[2]
[1]Radiology, Medical Physics, University Medical Center , Freiburg, Germany; [2]Radiology, Medical Physics, University Medical Center, Freiburg, Germany; [3]Neurology, University Medical Center, Freiburg, Germany

1192. Comparison of Accelerated Velocity Encoded MRI with SENSE & Kt-BLAST in a Beating Heart Phantom
Anja Lutz[1], Fabian Sauter[1], Axel Bornstedt[1], Patrick Etyngier[2], Robert Manzke[3], Wolfgang Rottbauer[1], G. Ulrich Nienhaus[4], Volker Rasche[1]

[1]University Hospital of Ulm, Ulm, BW, Germany; [2]Medisys Research Lab, Philips Healthcare, Sureness, France; [3]Philips Research NA, Briarcliff Manor, United States; [4]Karlsruhe Institute of Technology, Karlsruhe, Germany

1193. Image Based Correction of Phasewraps in 4D PC-MRI Data using Fast Reference Scans

Daniel Stucht[1], Michael Markl[2], Rocco Gasteiger[3], Oliver Speck[1]

[1]Biomedical Magnetic Resonance, Otto-von-Guericke University, Magdeburg, Germany; [2]Dept. of Diagnostic Radiology, Medical Physics, University Hospital, Freiburg, Germany; [3]Institute of Simulation & Graphics, Otto-von-Guericke University, Magdeburg, Germany

1194. Measurement of Morphological & Functional Changes of the Vessel Wall During the Progression of Atherosclerosis in the ApoE-/- Mouse Model by MR-Microscopy at 17.6T

Alexander Gotschy[1,2], Volker Herold[2], Gunthard Lykowsky[2], Elisabeth Bauer[1], Eberhard Rommel[2], Peter M. Jakob[2], Wolfgang Rudolf Bauer[1]

[1]Department of Internal Medicine I, University Hospital Wuerzburg, Julius-Maximilians-University, Wuerzburg, Germany; [2]Department of Experimental Physics 5,, Julius-Maximilians-University, Wuerzburg, Germany

1195. Quantification of Ductus Arteriosus Shunt Volume in Preterm Infants using Phase Contrast CMR

Kathryn Mary Broadhouse[1], Anthony N. Price[1], Giuliana Durighel[1], David J. Cox[1], A. D. Edwards[1], J. V. Hajnal[1], Alan M. Groves[1]

[1]Robert Steiner Unit, Imaging Sciences Department, MRC Clinical Sciences Centre, Hammersmith Hospital, Imperial College London, London, United Kingdom

1196. Evaluation of Nth Order Polynomial Phase Correction in Reprojected Line Scan Phase Contrast MRA

Erik J. Offerman[1], Ioannis Koktzoglou[1,2], Christopher Glielmi[3], Robert R. Edelman[1,4]

[1]Radiology, Northshore University HealthSystem, Evanston, IL, United States; [2]Radiology, The University of Chicago, Chicago, IL, United States; [3]Siemens Healthcare, Chicago, IL, United States; [4]Radiology, Northwestern University, Chicago, IL, United States

1197. PC Velocity Encoding: Temporal Characteristics of 1-Sided, 2-Sided Non-SVE & 2-Sided SVE

Jacob Bender[1,2], Yu Ding[2], Yiu-Cho Chung[3], Subha Ramen[4], Orlando Simonetti[2,5]

[1]Biomedical Engineering, The Ohio State University, Columbus, OH, United States; [2]Dorothy M. Davis Heart & Lung Research Institute, The Ohio State University, Columbus, OH, United States; [3]Siemens Medical Systems, Inc, Malvern, PA, United States; [4]The Ohio State University, Dorothy M. Davis Heart & Lung Research Institute, Columbus, OH, United States; [5]The Ohio State University, Biomedical Engineering, Columbus, OH, United States

1198. Comparison of Pulse Wave Velocity Measurements from 2D PC Slices & Radially Undersampled 4D PC MR

Andrew Louis Wentland[1,2], Oliver Wieben[1], Kevin M. Johnson[1], Chris J. Francois[2], Thomas M. Grist[2], Alex Frydrychowicz[2]

[1]Medical Physics, University of Wisconsin School of Medicine & Public Health, Madison, WI, United States; [2]Radiology, University of Wisconsin School of Medicine & Public Health, Madison, WI, United States

1199. Accuracy of the Cylinder Approximation for Susceptometric Measurement of Intravascular Oxygen Saturation Versus Numerical Calculation of Induced Field

Cheng Li[1], Michael C. Langham[1], Jeremey F. Magland[1], Charles L. Epstein[1,2], Jue Wu[1], James C. Gee[1], Felix W. Wehrli[1]

[1]Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States; [2]Department of Mathematics, University of Pennsylvania, Philadelphia, PA, United States

1200. Distensibility Measurements Along Carotid Atherosclerotic Plaques: How Can We Improve the Mechanical Modeling of Atherosclerosis?

Gador Canton[1], Daniel Scott Hippe[1], Jie Sun[1], Dongxiang Xu[1], Hunter R. Underhill[1], William Sean Kerwin[1], Dalin Tang[2], Chun Yuan[1]

[1]Radiology, University of Washington, Seattle, WA, United States; [2]Mathematical Sciences Department, Worcester Polytechnic Institute, Worcester, MA, United States

1201. Improving 3D MR Velocity-Vector Field Mapping by Divergence-Free Image Reconstruction

Julia Busch[1,2], Daniel Giese[1,3], Lukas Wissmann[1], Sebastian Kozerke[1,3]

[1]Institute for Biomedical Engineering, University & ETH Zurich, Zurich, Switzerland; [2]Ruprecht-Karls University Heidelberg, Heidelberg, Germany; [3]Division of Imaging Sciences & Biomedical Engineering, King's College London, London, United Kingdom

1202. Loss of Hemodynamic Information in Intracranial Aneurysms: Phase Contrast MRI in a Real-Size Phantom at Different Spatial Resolutions

Pim van Ooij[1,2], Annetje Guédon[1,2], Joppe Schneiders[1], Marcel C. M. Rutten[3], Henk Marquering[1,2], Charles B. Majoie[1], Ed vanBavel[2], Aart J. Nederveen[1]

[1]Radiology, Academic Medical Center, Amsterdam, Netherlands; [2]Biomedical Engineering & Physics, Academic Medical Center, Amsterdam, Netherlands; [3]Biomedical Engineering, Eindhoven University of Technology, Eindhoven, Netherlands

1203. Reprojected Line Scan Phase Contrast MRA of Peripheral Arterial Disease

Robert R. Edelman[1,2], Erik Offerman, Christopher Glielmi[3], Eugene Dunkle, Navyash Gupta, Ioannis Koktzoglou,[4]
[1]Radiology, NorthShore University HealthSystem, Evanston, IL, United States; [2]Radiology, Northwestern University, Chicago, IL, United States; [3]Siemens Healthcare; [4]Radiology, University of Chicago, Chicago, IL, United States

1204. Complex Flow in a Real-Size Intracranial Aneurysm Phantom: Phase Contrast MRI Compared with CFD
Pim van Ooij[1,2], Annetje Guédon[1,2], Joppe Schneiders[1], Marcel C. M. Rutten[3], Henk Marquering[1,2], Charles B. Majoie[1], Ed vanBavel[2], Aart J. Nederveen[1]
[1]Radiology, Academic Medical Center, Amsterdam, Netherlands; [2]Biomedical Engineering & Physics, Academic Medical Center, Amsterdam, Netherlands; [3]Biomedical Engineering, Eindhoven University of Technology, Eindhoven, Netherlands

1205. The Effects of Chemically Shifted Perivascular Fat in Quantitative Phase Contrast MRI
Matthew J. Middione[1,2], Abbas N. Moghadam[1,3], Yutaka Natsuaki[4], Daniel B. Ennis[1,5]
[1]Department of Radiological Sciences, Diagnostic Cardiovascular Imaging Section, University of California,, Los Angeles, CA, United States; [2]Biomedical Physics Interdepartmental Program, University of California, Los Angeles, CA, United States; [3]Department of Biomedical Engineering, Amirkabir University of Technology (Tehran Polytechnic),, Tehran, Iran; [4]Siemens Medical Solutions, Malvern, PA, United States; [5]Biomedical Physics Interdepartmental Program, University of California,, Los Angeles, CA, United States

1206. Blood Flow Dynamics in DeBakey Type III Aortic Dissections using Phase Contrast MRI & 4D MRA: Quantification of Inter-Luminal Pressure Differences & Contrast Arrival Times
Christof Karmonik[1,2], Pietro Valsecchi[3], Jean Bismuth[1], Cassidy Duran[1], Dipan J. Shah[1], Mark G. Davies[1], David Purdy[4], Bill E. Kline[3], Alan B. Lumsden[1]
[1]The Methodist DeBakey Heart & Vascular Center, Houston, TX, United States; [2]The Methodist Hospital Neurological Institute, Houston, TX, United States; [3]ExxonMobil Upstream Research Company, Houston, TX, United States; [4]Siemens Healthcare, Malvern, PA, United States

1207. Arterial Pulmonary Flow Analysis Post Bi-Directional Glenn Procedure
Eric Niespodzany[1], Oliver Wieben[1,2], Christopher Francois[2]
[1]Medical Physics, University of Wisconsin-Madison, Madison, WI, United States; [2]Radiology, University of Wisconsin-Madison, Madison, WI, United States

1208. Imaging CSF Flow using Spin Echo Phase Contrast Velocity Encoded MRI at 3T
Bruce Shawn Spottiswoode[1,2], Michael Markl[3]
[1]MRC/UCT Medical Imaging Research Unit, Department of Human Biology, University of Cape Town, Cape Town, Western Cape, South Africa; [2]Radiology, University of Stellenbosch, Cape Town, Western Cape, South Africa; [3]Department of Radiology, Medical Physics, University Medical Center, Freiburg University, Freiburg, Germany

1209. Disagreement Between Cardiovascular Magnetic Resonance & Echo-Doppler Transvalvular Pressure Gradients
Julio Garcia[1], Lyes Kadem[2], Eric Larose[1], Philippe Pibarot[1]
[1]Medicine, Quebec Heart & Lung Institute, Quebec, Canada; [2]Mechanical & Industrial Engineering, Concordia University, Montreal, Quebec, Canada

1210. MRI Assessment of the Arterio-Venous Fistula
Monica Sigovan[1], Vitaliy Rayz[1], Petter Dyverfeldt[1], Warren Gasper[2], Christopher Owens[2], David Saloner[1]
[1]Radiology, UCSF, San Francisco, CA, United States; [2]Vascular Surgery, UCSF, San Francisco, CA, United States

1211. Velocity-Encoded MRI for Assessment of Pulmonary Arterial Stiffness: Comparison of Techniques
Elsayed H. Ibrahim[1], Jean M. Shaffer[1], Richard D. White[1]
[1]Department of Radiology, University of Florida, Jacksonville, FL, United States

1212. Quantification of Blood Oxygenation & Flow in Response to Apneic Challenge
Zachary B. Rodgers[1], Michael C. Langham[1], Jeremy F. Magland[1], Felix W. Wehrli[1]
[1]Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States

1213. Assessment of the Clinical Feasibility of Phase Contrast Ultrashort TE
Kieran R. O'Brien[1,2], Brett R. Cowan[1], Matthew D. Robson[3], Mohammad Latif[4], Andrew J. Kerr[4], Alistair A. Young[1,5]
[1]Centre of Advanced MRI, University of Auckland, Auckland, New Zealand; [2]Université de Genève, Geneva, Switzerland; [3]Oxford University Centre for Clinical Magnetic Resonance Research, University of Oxford, Oxford, United Kingdom; [4]Cardiology, Middlemore Hospital, Auckland, New Zealand; [5]Radiology & Anatomy, University of Auckland, Auckland, New Zealand

1214. Multiparameter Functional MRI Assessment of Vascular Reactivity
Michael Charles Langham[1], Cheng Li[1], Emile R. Mohler III[2], Jeremy Magland[1], Felix Werner Wehrli[1]
[1]Radiology, University of Pennsylvania, Philadelphia, PA, United States; [2]Medicine, University of Pennsylvania, Philadelphia, PA, United States

1215. Probabilistic Streamline Estimation from Accelerated Fourier Velocity Encoded Measurements
Verena Knobloch[1], Julia Kowalski[2], Peter Boesiger[1], Sebastian Kozerke[1]

[1]Institute for Biomedical Engineering, University & ETH Zurich, Zurich, Switzerland; [2]Institute for Technical & Macromolecular Chemistry, RWTH Aachen, Germany

1216. *In Vivo* Measurement of Local Pulse-Wave Velocity in the Right Common Carotid Artery in Mice with PC-Cine-MRI at 17.6 T
Volker Herold[1], Alexander Gotschy[1], Christian Herbert Ziener[1], Eberhard Rommel[1], Wolfgang Rudolf Bauer[2], Peter Michael Jakob[1]
[1]University of Würzburg, Würzburg, Bayern, Germany; [2]Medizinische Universitätsklinik, University of Würzburg

1217. Scan Time Reduction for Three-Directional Phase Contrast Sequences: A Signal Processing Approach
Francesco Santini[1], Michael Markl[2], Klaus Scheffler[1]
[1]Radiological Physics, University of Basel Hospital, Basel, Switzerland; [2]Medical Physics, University Hospital Freiburg, Freiburg, Germany

1218. Improved Time-Resolved, 3D Phase Contrast Imaging through Variable Poisson Sampling & Partial Respiratory Triggering
Marcus T. Alley[1], Mark J. Murphy[2], Kurt Keutzer[2], Michael Lustig[2], Shreyas S. Vasanawala[1]
[1]Radiology, Stanford University, Stanford, CA, United States; [2]Electrical Engineering & Computer Science, University of California, Berkeley, CA, United States

1219. Retrograde Flow in the Vena Cava Superior is Associated with Increased Right Atrium Pressure in Pulmonary Arterial Hypertension
J. Tim Marcus[1], Anton Vonk-Noordegraaf[2]
[1]Physics & Medical Technology, VU University Medical Center, Amsterdam, Netherlands; [2]Pulmonary Diseases, VU University Medical Center, Amsterdam, Netherlands

1220. Voxel-Wise Quantitative Assessment of Myocardial Perfusion: A Comparison of Four Different Deconvolution Algorithms using Real Flow Values
Niloufar Zarinabad Nooralipour[1], Amedeo Chiribiri[1], Gilion Hautvast[2], Aruna Vishnu Arujuna[1], Eike Nagel[1], Philip Batchelor[3]
[1]The Centre of Excellence in Medical Engineering, Kings College London, London, United Kingdom; [2]Imaging Systems- MR, Philips Healthcare, Netherlands; [3]The Centre of Excellence in Medical Engineering, Kings College London, London, United Kingdom

1221. MR Flow Imaging Beyond the Mean Velocity: Estimation of the Skew & Kurtosis of Intravoxel Velocity Distributions
Petter Dyverfeldt[1,2], Andreas Sigfridsson[1], Hans Knutsson[1], Tino Ebbers[1]
[1]CMIV & Linköping University, Linköping, Sweden; [2]University of California San Francisco, San Francisco, CA, United States

1222. Acclerated Dual Venc Phase Contrast VIPR in Healthy Volunteers
Elizabeth Janus Nett[1], Alex Frydrychowicz[2], Kevin M. Johnson[1], Christopher J. Francois[2], Eric Schrauben[1], Oliver Wieben[1,2]
[1]Medical Physics, University of Wisconsin, Madison, WI, United States; [2]Radiology, University of Wisconsin, Madison, WI, United States

1223. Hemodynamic Simulations of Subjects with Vertebro-Basilar Anomalies
Amanda K. Wake[1], James Christopher Gatenby[2], John C. Gore[1]
[1]Vanderbilt University Institute of Imaging Science, Vanderbilt University Medical Center, Nashville, TN, United States; [2]Department of Radiology, University of Washington, United States

1224. Can a Single Phase Contrast Aortic Flow Acquisition Be Used to Define a Surrogate Marker of Cardiac Index?
Frederique Frouin[1,2], Muriel Lefort[1,2], Mourad Bensalah[1,3], Alain De Cesare[1,2], Claire Pellot-Barakat[1,2], Elie Mousseaux[1,3], Alain Herment[1,2]
[1]UMR_S 678, Inserm, Paris, France; [2]UMR_S 678, UPMC, Paris, France; [3]HEGP, AP-HP, Paris, France

1225. MRI Estimate of Central & Peripheral Pulse-Wave Velocity Via Velocity-Encoded Projections
Michael Charles Langham[1], Cheng Li[1], Jeremy Magland[1], Felix Werner Wehrli[1]
[1]Radiology, University of Pennsylvania, Philadelphia, PA, United States

Vessel Wall Imaging (Non Coronary)

Exhibition Hall Thursday 13:30-15:30

1226. Inflammatory Atherosclerotic Plaque Can Be Reproducibly Assessed by 3T Dynamic Contrast Enhanced MRI for Multi-Center Studies

Huijun Chen[1], Jie Sun[1], William S. Kerwin[1], Niranjan Balu[1], Daniel S. Hippe[1], Daniel Isquith[1], Yunjing Xue[1], Suzanne Peck[1], Chun Yuan[1], Kevin O'Brien[1], Xue-Qiao Zhao[1]

[1]University of Washington, Seattle, WA, United States

1227. Intracranial Arterial Wall Imaging using 3D High Isotropic-Resolution Black Blood MRI at 3.0 T

Ye Qiao[1], David A. Steinman[2], Qin Qin[1], Maryam Etesami[1], Michael Schär[1,3], Brad C. Astor[1], Bruce A. Wasserman[1]

[1]The Johns Hopkins Hospital, Baltimore, MD, United States; [2]University of Toronto, Toronto,, ON, Canada; [3]Philips Healthcare, Cleveland, OH, United States

1228. Association between Carotid Plaque Characteristics & Cerebral White Matter Lesions

Robert Kwee[1], Paul Hofman[1], Ed Gronenschild[2], Robert van Oostenbrugge[2], Werner Mess[2], Johannes ter Berg[3], Cees Franke[4], Arthur Korten[5], Bé Meems[6], Jos van Engelshoven[2], Joachim Wildberger[2], Eline Kooi[2]

[1]Maastricht University Medical Center, Maastricht, Limburg, Netherlands; [2]Maastricht University Medical Center, Netherlands; [3]Orbis Medical Center Sittard, Netherlands; [4]Atrium Medical Center Parkstad Heerlen, Netherlands; [5]Laurentius Hospital Roermond, Netherlands; [6]VieCuri Medical Center, Netherlands

1229. Dynamic Contrast Enhanced MRI of Carotid Plaque: Comparison of Pharmacokinetic Models

Michaela Elisabeth Gaens[1], Stefan Rozel[1], Matthijs Lipperts[1,2], Robert M. Kwee[1], Karolien Jaspers[1], Mat J. A. P. Daemen[1], Joachim E. Wildberger[1], Walter H. Backes[1], Marianne Eline Kooi[1]

[1]Department of Radiology, Cardiovascular Research Institute Maastricht (CARIM), Maastricht University Medical Center, Maastricht, Netherlands; [2]Department of ICMT, Atrium Medical Center, Heerlen, Netherlands

1230. Characterization of Morphological Features & Critical Mechanical Condition Along Carotid Plaques using *In Vivo* MRI & Finite Element Simulation

Chengcheng Zhu[1], Zhongzhao Teng[1], Umar Sadat[1], Victoria E. Young[1], Martin J. Graves[1], Zhiyong Li[1,2], Jonathan H. Gillard[1]

[1]Department of Radiology, University of Cambridge, Cambridge, Cambridgeshire, United Kingdom; [2]School of Biological Science & Medical Engineering, Southeast University, Nanjing, Jiangsu, China, People's Republic of

1231. *In Vivo* Singleshot T_1 & T_2* Measurements of Atherosclerosis Plaques in Symptomatic & Asymptomatic Patients using 2D Ss-SGSTEPI Technique

Seong-Eun Kim[1], Eun-Kee Jeong[1], Xianfeung Shi[2], Gerald S. Treiman[3], Dennis L. Parker[1]

[1]Utah Center for Advanced Imaging Research, Department of Radiology, University of Utah, Salt Lake City, UT, United States; [2]Brain Research Institute, University of Utah; [3]Department of Veterans Affairs, VASLCHCS, Salt Lake City, UT

1232. Increasing Spatial Resolution Alters Measurement Variability of Carotid Plaques

Diederik Frank van Wijk[1], Raphael Duivenvoorden[1], D. F. Enklaar[1], Rob J. van Der Geest[2], Eric de Groot[1], Erik S. G. Stroes[1], Aart J. Nederveen[3]

[1]Vascular Medicine, Academic Medical Center, Amsterdam, Netherlands; [2]Radiology, Leiden University Medical Center, Leiden, Netherlands; [3]Radiology, Academic Medical Center, Amsterdam, Netherlands

1233. Scan-Rescan Reproducibility of Carotid Geometric Parameters using Bright Blood MRI at 3.0T

Yunjing Xue[1], Daniel S. Hippe[1], Hunter R. Underhill[1], Marina S. Ferguson[1], Niranjan Balu[1], Rui Li[2], Huijun Chen[1], Li Dong[3], Feiyu Li[4], Gador Canton[1], Chun Yuan[1]

[1]Vascular Imaging Laboratory, Radiology, University of Washington, Seattle, WA, United States; [2]Center for Bio-Medical Imaging Research, Tsinghua University, Beijing, China, People's Republic of; [3]Department of Radiology, Beijing Anzhen Hospital, Beijing, China, People's Republic of; [4]Department of Radiology, Peking University First Hospital, Beijing, China, People's Republic of

1234. Interleaved LOcal Excited Black Blood (LOBBI) & Bright Blood MRI for Improved Vessel Wall DCE

Jinnan Wang[1], Huijun Chen[2], Gregory J. Wilson[3], Niranjan Balu[2], William S. Kerwin[2], Chun Yuan[2], Peter Boernert[4]

[1]Clinical Sites Research Program, Philips Research North America, Seattle, WA, United States; [2]University of Washington; [3]Philips Healthcare; [4]Philips Research Europe

1235. Carotid Plaques in TIA & Stroke Patients: One-Year Follow-Up Study by Magnetic

Robert Kwee[1], Robert van Oostenbrugge[2], Werner Mess[2], Martin Prins[2], Rob van Der Geest[3], Johannes ter Berg[4], Cees Franke[5], Arthur Korten[6], Bé Meems[7], Jos van Engelshoven[2], Joachim Wildberger[2], Eline Kooi[2]

[1]Maastricht University Medical Center, Maastricht, Limburg, Netherlands; [2]Maastricht University Medical Center, Netherlands; [3]Leiden University Medical Center, Netherlands; [4]Orbis Medical Center Sittard, Netherlands; [5]Atrium Medical Center Parkstad Heerlen, Netherlands; [6]Laurentius Hospital Roermond, Netherlands; [7]VieCuri Medical Center Venlo, Netherlands

1236. T_2-Prepared Segmented 3D-Gradient-Echo for Fast T_2-Weighted High-Resolution Three-Dimensional Imaging of the Carotid Artery Wall at 3T: A Feasibility Study
Jian Zhu[1,2], Axel Bornstedt[1], Genshan Ma[2], Nico Merkle[1], Naifeng Liu[2], Wolfgang Rottbauer[1], Volker Rasche[1]
[1]Internal Medicine II, University of Ulm, Ulm, Germany; [2]Department of Cardiology, Zhongda Hospital, Nanjing, Jiangsu, China, People's Republic of

1237. MRI-Detected Intraplaque Hemorrhage in an Animal Model
Stephanie Elaine GarWai Chiu[1], Alan R. Moody[1,2], James Q. Zhan[2], General Leung[1]
[1]Medical Biophysics, University of Toronto, Toronto, Ontario, Canada; [2]Medical Imaging, Sunnybrook Health Sciences Centre, Toronto, Ontario, Canada

1238. MRI of Bone Marrow Cell-Mediated Interleukin-10 Gene Therapy of Atherosclerosis
Jihong Sun[1,2], Xubin Li[1], Hongqing Feng[1], Huidong Gu[1], Tiffany Blair[1], Jiakai Li[1], Yanfeng Meng[1], Feng Zhang[1], Xiaoming Yang[1,2]
[1]Image-Guided Bio-Molecular Interventions Section, Radiology, University of Washington School of Medicine, Seattle, WA, United States; [2]Radiology, Zhejiang University School of Medicine, Hangzhou, Zhejiang, China, People's Republic of

1239. Local Excitation Black Blood Imaging (LOBBI) for Local Transmission Coil at High Field MRI (7T & Above)
Jinnan Wang[1], Niranjan Balu[2], Gregory J. Wilson[3], Chun Yuan[2], Peter Boernert[4]
[1]Clinical Sites Research Program, Philips Research North America, Seattle, WA, United States; [2]University of Washington; [3]Philips Healthcare; [4]Philips Research Europe

1240. Reproducibility of T_2-Measurements in Human Carotid Plaques
Diederik Frank van Wijk[1], S. Gonçalves[2], Raphael Duivenvoorden[3], D. F. Enklaar[3], Paul F. Groot[2], J. B. Warntjes[4,5], Erik S. Stroes[3], Aart J. Nederveen[2]
[1]Vascular medicine, Acedemic Medical Center, Amsterdam, Netherlands; [2]Radiology, Academic Medical Center, Amsterdam, Netherlands; [3]Vascular Medicine, Academic Medical Center, Amsterdam, Netherlands; [4]Center for Medical Imag Science & Visualization , Linköping University, Linköping, Sweden; [5]SyntheticMR AB, Linköping, Sweden

1241. ECG–triggering Improves Blood Suppression in Abdominal Aortic Imaging using the Quadruple Inversion Recovery Sequence.
Sarah Anne Peel[1], Tarique Hussain[1], Marina Cecelja[2], Abeera Abbas[3], Gerald Greil[1], René M Botnar[1]
[1]Division of Imaging Sciences & Biomedical Engineering, King's College London, London, United Kingdom; [2]NIHR Comprehensive Biomedical Research Centre, Guy's & St Thomas' NHS Foundation Trust / King's College London, United Kingdom; [3]Academic Department of Surgery, Cardiovascular Division, King's College London, United Kingdom

1242. Enhanced Intraplaque Hemorrhage Delineation Method in Slab-Selection Phase-Sensitive Inversion-Recovery (SPI) Sequence with MRI
Dongxiang Xu[1], Jinnan Wang[2], Jie Sun, Chun Yuan
[1]Radiology, University of Washington, Seattle, WA, United States; [2]Philips Research North America

1243. *In Vivo* 3D High Resolution Apparent Diffusion Coefficient (ADC) Maps of Carotid Artery Atherosclerosis Plaques using 3D Singleshot Inner Volume Stimulated EPI (3D Ss-IV-STEPI) Technique
Seong-Eun Kim[1], Eun-Kee Jeong[1], Xianfeng Shi[2], Gerald S. Treiman[3], Dennis L. Parker[1]
[1]Utah Center for Advanced Imaging Research, Department of Radiology, University of Utah, Salt Lake City, UT, United States; [2]Brain Research Institute, University of Utah; [3]Department of Veterans Affairs, VASLCHCS, Salt Lake City, UT

1244. Gd-Based Protein Cage Nanoparticles for Vascular Wall MRI at 3T
Hisanori Kosuge[1], Toshiro Kitagawa[1], Masaki Uchida[2], Lars Liepold[2], David Morris[3], Peter E. Prevelige Jr.[3], Trevor Douglas[2], Michael V. McConnell[1]
[1]Cardiovascular Medicine, Stanford University, Stanford, CA, United States; [2]Chemistry & Biochemistry, Montana State University, Bozeman, MT, United States; [3]Microbiology, the University of Alabama at Birmingham, Birmingham, AL, United States

1245. *In Vivo* Assessment of Abdominal Aortic Aneurysm in the Elastase-Induced Mouse Model
Michel a Bartoli[1], Frank Kober[1], Patrick J Cozzone[1], Monique Bernard[1]
[1]Centre de Resonance Magnetique Biologique et Medicale, Faculte de Medecine, Universite de la Mediterranee, Marseille, Provence, France

1246. Zoom Accelerated Quadruple Inversion Recovery Imaging for Fibrous Cap Visualization in the Abdominal Aortic Aneurysm
Tarique Hussain[1], Sarah Peel[1], Abeera Abbas[1], Matthew Waltham[1], Gerald Greil[1], Rene Botnar[1]
[1]King's College London, Westminster, London, United Kingdom

1247. Comparison of SWI & DIR-Prepared TSE Femoral Artery Wall Imaging
Qi Liu[1,2], Qi Yang[3], Zhaoyang Fan[1], Debiao Li[1,4]
[1]Cedars-Sinai Medical Center, Los Angeles, CA, United States; [2]Northwestern University, Chicago, IL, United States; [3]Xuanwu Hospital, Beijing, China, People's Republic of; [4]UCLA, Los Angeles, CA, United States

1248. Evaluation of Aortic Distensibility in Wild Type & ApoE-Knock-Out Mice at 9.4 T.
Peter Fries[1], Florian Custodis[2], Andreas Müller[1], Roland Seidel[1], Alexander Massmann[1], Arno Bücker[1], Günther Schneider[1]
[1]Clinic of Diagnostic & Interventional Radiology, Saarland University Hospital, Homburg, Saarland, Germany; [2]Department of Cardiology, Saarland University Hospital, Homburg, Saarland, Germany

1249. Low B-Value DWI in Assessment of Large Vessel Vasculitis
James F Glockner[1], Christine U Lee[1]
[1]Radiology, Mayo Clinic, Rochester, MN, United States

1250. Identification & Quantification of Atherosclerosis in Arterial Vessels using an Interventional 3T Loopless Detector
Di Qian[1,2], Paul A Bottomley[1,2]
[1]Russell H. Morgan Department of Radiology & Radiological Science, Johns Hopkins University, Baltimore, MD, United States; [2]Electrical & Computer Engineering, Johns Hopkins University, Baltimore, MD, United States

1251. Dynamic T_2prep for Flow-Independent Vessel Wall Imaging
Marcelo E. Andia[1], Rene M. Botnar[1]
[1]Division of Imaging Sciences and Biomedical Engineering, Kings College London, London, United Kingdom

Coronary Artery & Vessel Wall Imaging

Exhibition Hall Monday 14:00-16:00

1252. Simultaneous Left & Right Coronary Artery Wall Imaging with Highly Efficient Beat-To-Beat Respiratory Motion Correction
Andrew David Scott[1,2], Jennifer Keegan[1,2], David Firmin[1,2]
[1]Cardiovascular Magnetic Resonance Unit, Imperial College London, London, United Kingdom; [2]Cardiovascular Magnetic Resonance Unit, The Royal Brompton & Harefield NHS Foundation Trust, London, United Kingdom

1253. Self-Gated Free Breathing 3D Coronary Cine Imaging with Enhanced Artery Contrast by Exploiting the Simultaneously Obtained Water & Fat Visualization
Jing Liu[1], Thanh D. Nguyen[1], Yanchun Zhu[1], Pascal Spincemaille[1], Jonathan W. Weinsaft[1], Martin R. Prince[1], Yi Wang[1]
[1]Radiology, Weill Cornell Medical College, New York, NY, United States

1254. Cross-Sectional Dixon-Enhanced Spiral Cine Coronary Artery Magnetic Resonance Imaging at 3T
Harsh Kumar Agarwal[1], Peter Koken[2], Michael Schär[3], Jing Yu[1], Allison G. Hays[1], Holger Eggers[2], Robert G. Weiss[1], Peter Börnert[2], Matthias Stuber[4,5]
[1]Johns Hopkins University, Baltimore, MD, United States; [2]Philips Research Laboratories, Hamburg, Germany; [3]Philips Healthcare, Cleveland, OH, United States; [4]Department of Radiology, Centre Hospitalier Universitaire Vaudois and University of Lausanne, Lausanne, Switzerland; [5]Center for Biomedical Imaging (CIBM), Lausanne, Switzerland

1255. Respiratory Navigator with Adaptive Acceptance Gating Window Size & Fixed Scan Time for Coronary MRI
Mehdi Hedjazi Moghari[1], Alan O'connor[1], Warren J. Manning[1], Reza Nezafat[1]
[1]Dept. of Medicine (Cardiovascular Div.), Beth Israel Deaconess Medical Center, Harvard Medical Sch., Boston, MA, United States

1256. 2D Image-Based Respiratory Motion Estimation for Free-Breathing Coronary MRA
Taehoon Shin[1], Holden H. Wu[1,2], Michael V. McConnell[1,2], Dwight G. Nishimura[1]
[1]Electrical Engineering, Stanford University, Stanford, CA, United States; [2]Cardiovascular Medicine, Stanford University, Stanford, CA, United States

1257. Prospective Respiratory Motion Correction with an Image Based Navigator
Markus Henningsson[1], Jouke Smink[2], Rene M. Botnar[1]
[1]Division of Imaging Sciences & Biomedical Engineering, King's College London, London, United Kingdom; [2]Philips Healthcare, Best, Netherlands

1258. Self-Navigation with a 1D Pencil Beam Navigator
Markus Henningsson[1], Rene M. Botnar[1]
[1]Division of Imaging Sciences & Biomedical Engineering, King's College London, London, United Kingdom

1259. Robust & Fully Integrated One Dimensional Respiratory Self-Navigation for Whole-Heart Coronary MRI
Davide Piccini[1], Arne Littmann[2], Sonia Nielles-Vallespin[2], Michael O. Zenge[2]
[1]Pattern Recognition Lab, University of Erlangen-Nuremberg, Erlangen, Germany; [2]MR Applications & Workflow Development, Healthcare Sector, Siemens AG, Erlangen, Germany

1260. Reduction of Pulmonary Vein Blood Inflow Artifact in Free Breathing Left Atrial Late Gadolinium Enhancement MRI
Mehdi Hedjazi Moghari[1], Dana C. Peters[1], Jouke Smink[2], Lois Goepfert[1], Kraig V. Kissinger[1], Beth Goddu[1], Thomas H. Hauser[1], Mark E. Josephson[1], Warren J. Manning[1], Reza Nezafat[1]
[1]Dept. of Medicine (Cardiovascular Div.), Beth Israel Deaconess Medical Center, Harvard Medical Sch., Boston, MA, United States; [2]Philips Healthcare, Netherlands

1261. Multi-Phase Coronary MR Angiography using a 3D Cones Trajectory
Holden H. Wu[1,2], Bob S. Hu[2,3], Dwight G. Nishimura[2], Michael V. McConnell[1,2]
[1]Cardiovascular Medicine, Stanford University, Stanford, CA, United States; [2]Electrical Engineering, Stanford University, Stanford, CA, United States; [3]Palo Alto Medical Foundation, Palo Alto, CA, United States

1262. Estimation of Respiratory Tracking Factor Between Pulmonary Vein & Right Hemi-Diaphragm for Free-Breathing PV LGE
Mehdi Hedjazi Moghari[1], Beth Goddu[1], Kraig K. Kissinger[1], Lois Goepfert[1], Warren J. Manning[1], Reza Nezafat[1]
[1]Dept. of Medicine (Cardiovascular Div.), Beth Israel Deaconess Medical Center, Harvard Medical Sch., Boston, MA, United States

1263. Design & Evaluation of an MR Compatible Pneumatic Non-Rigid Moving Heart Phantom for Simulating Respiratory & Cardiac Motion
Doug Stanton[1], Neha Dobhal[1], Michele Casanova[2], Mehdi Hedjazi Moghari[2], Ameet Jain[1], Robert Manzke[1], Warren J. Manning[2], Chris Hall[1], Reza Nezafat[2]
[1]Philips Research, Briarcliff Manor, NY, United States; [2]Dept. of Medicine (Cardiovascular Div.), Beth Israel Deaconess Medical Center, Harvard Medical Sch., Boston, MA, United States

1264. Minimization of Imaging Artifacts from Profile Ordering of Randomly Selected k_y-K_z Lines for Prospective Compressed-Sensing Acqusition in 3D Segmented SSFP & GRE Imaging
Tamer Ahmed Basha[1], Mehmet Akcakaya[1], Mehdi H. Moghari[1], Kraig V. Kissinger[1], Beth Goddu[1], Lois Goepfert[1], Warren J. Manning[1], Reza Nezafat[1]
[1]Dept of Medicine, Cardiovascular Division, Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA, United States

1265. Time-Resolved Contrast-Enhanced Coronary Vessel Wall Imaging
Jingsi Xie[1,2], Xiaoming Bi[3], Debiao Li[1,4]
[1]Northwestern University, Chicago, IL, United States; [2]Cedars-Sinai Medical Center , Los Angeles, CA, United States; [3]Cardiovascular MR R&D, Siemens Healthcare, Chicago, IL, United States; [4]Cedars-Sinai Medical Center, Los Angeles, CA, United States

1266. Diagnostic Accuracy of Different Image Postprocessing Methods for the Detection of Coronary Artery Stenoses by using Contrast Enhanced Coronary MRA at 3.0T
Qi Yang[1], Kuncheng Li[1], Xiangying Du[1], Lixin Jin[2], Jing An[2], Renate Jerecic[2], Debiao Li[3]
[1]Radiology, Xuanwu Hospital, Beijing, China, People's Republic of; [2]Siemens Healthcare, MR Collaboration NE Asia; [3]Cedars-Sinai Medical Center & UCLA, Los Angeles, CA

1267. Characterization of Plaque with SWI Approach: *Ex Vivo* Study
David Muccigrosso[1], Adil Bashir[1], Dongsi Lu[1], Jie Zheng[1]
[1]Washington University School of Medicine, St. Louis, MO, United States

1268. Improving Fat Suppression in Radial Coronary MRA using a Weighted Golden Ratio Acquisition
Claudia Prieto[1], Rene Botnar[1], Tobias Schaeffter[1]
[1]Division of Imaging Sciences & Biomedical Engineering, King's College London, London, United Kingdom

1269. Coronary Vein Imaging is Optimal During the Systolic Rest Period in CRT Patients
Jonathan Suever[1], Pierre Watson[2], John Oshinski[1,2]
[1]Biomedical Engineering, Georgia Institute of Technology / Emory University, Atlanta, GA, United States; [2]Radiology, Emory University School of Medicine, Atlanta, GA, United States

1270. Accelerated Contrast-Enhanced Whole Heart Coronary MRI using Low-Dimensional-Structure Self-Learning & Thresholding (LOST), an Improved Compressed Sensing Reconstruction
Mehmet Akcakaya[1], Tamer Basha*[1], Kraig V. Kissinger[1], Beth Goddu[1], Lois Goepfert[1], Warren J. Manning[1], Reza Nezafat[1]*
[1]Dept. of Medicine (Cardiovascular Division), Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA, United States

1271. The Next Step in Self-Navigated Coronary MRI: A Hybrid Approach for Affine Motion Correction
Davide Piccini[1], Arne Littmann[2], Hui Xue[3], Jens Guehring[3], Michael O. Zenge[2]

[1]Pattern Recognition Lab, University of Erlangen-Nuremberg, Erlangen, Germany; [2]MR Applications & Workflow Development, Healthcare Sector, Siemens AG, Erlangen, Germany; [3]Imaging & Visualization, Siemens Corporate Research, Princeton, NJ, United States

1272. Flexible Phase-Encoding in 3D Coronary MRA with Balanced SSFP
Ek Tsoon Tan[1], Luca Marinelli[1], Thomas K. Foo[1], Christopher J. Hardy[1]
[1]GE Global Research, Niskayuna, NY, United States

1273. MR Detects Coronary Vessel Wall Imaging with Age in Healthy Subjects
Andrew David Scott[1,2], Jennifer Keegan[1,2], Raad H Mohiaddin[1,2], David Firmin[1,2]
[1]Cardiovascular Magnetic Resonance Unit, Imperial College London, London, United Kingdom; [2]Cardiovascular Magnetic Resonance Unit, The Royal Brompton & Harefield NHS Foundation Trust, London, United Kingdom

1274. Monitoring Statin Therapy in Atherosclerotic Rabbits using USPIO-Enhanced MRI & FDG-PET on a New PET/MRI System
Ahmed Klink[1], Steve Davis Dickson[1], David Izquierdo[1], Jason Bini[2], Eric Lancelot[3], Jesus Mateo[4], Phlippe Robert[5], Claire Corot[3], Zahi A. Fayad[6]
[1]Radiology, Translational and Molecular Imaging Institute, New York, NY, United States; [2]Radiology, Translational & Molecular Imaging Institute, New York, 10029, United States; [3]Guerbet, Paris, France; [4]Epidemiology, Atherothrombosis & Imaging, CNIC, Madrid, Spain; [5]Research Department, Guerbet, Paris, France; [6]Radiology, Translational & Molecular Imaging Institute, New York, United States

1275. Accuracy of Magnetic Resonance Imaging to Identify the Coronary Artery Plaque: A Comparative Study with Intravascular Ultrasound
Yi He[1], Zhaoqi Zhang[1], Qinyi Dai[1], Jing An[2], Lixin Jin[3], Renate Jerecic[3], Debiao Li[4]
[1]Department of Radiology, Beijing Anzhen Hospital, Capital Medical University, Beijing, China, People's Republic of; [2]Siemens Mindit Magnetic Resonance, Siemens Healthcare, MR Collaboration NE Asia, Shenzhen, China, People's Republic of; [3]Siemens Limited China, Siemens Healthcare, MR Collaboration NE Asia, Shanghai, China, People's Republic of; [4]Biomedical Imaging Research Institute, Cedars-Sinai Medical Center, United States

Unenhanced MRA

Exhibition Hall Tuesday 13:30-15:30

1276. A Comparison Between Ankle-Brachial Index & Quiescent-Interval Single Shot Non-Enhanced MRA for the Evaluation of Hemodynamically-Significant Peripheral Arterial Disease
Emily V. M. Ward[1,2], Asad a Usman[2], Philip a Hodnett[3], James C. Carr[2], Robert R. Edelman[1]
[1]Department of Radiology, Northshore University HealthSystem, Evanston Hospital, Chicago, IL, United States; [2]Department of Radiology, Northwestern Memorial Hospital, Chicago, IL, United States; [3]Department of Radiology, NYU Langone Center, New York, United States

1277. Non Contrast Enhanced (NCE)-MRA of the Renal Transplant Vessels: A Comparison Between IFIR & VIPR-SSFP
Eric M. Bultman[1], Jessica Klaers[2], Christopher J. François[3], Mark L. Schiebler[3], Scott B. Reeder[1,3], Walter F. Block[1,2]
[1]Biomedical Engineering, University of Wisconsin-Madison, Madison, WI, United States; [2]Medical Physics, University of Wisconsin-Madison, Madison, WI, United States; [3]Radiology, University of Wisconsin-Madison, Madison, WI, United States

1278. Peripheral Angiography using Non-Contrast Enhanced NATIVE SPACE MRI at 3T. a Feasibility Study in a Clinical Setting.
Elise Bannier[1,2], Isabelle Corouge[1,2], Nicolas Wiest-Daesslé[1,2], Delphine Pelletier[3], Pierre-Axel Lentz[3], Antoine Larralde[3], Bernard Langella[3], Nashiely Pineda Alonso[4], Jean-François Heautot[3], Valérie Croisé-Laurent[3,5]
[1]Neurinfo Platform, University Hospital of Rennes, Rennes, France; [2]INRIA, VisAGeS Project-Team, Rennes, France; [3]Radiology Dept., University Hospital of Rennes, Rennes, France; [4]Siemens Healthcare, Paris, France; [5]Laboratoire IADI INSERM 947, CIC IT INSERM 807, University Henri Poincaré, Nancy, France

1279. Diagnostic Quality Assessment of the BSSFP Dixon Method for NCE MRA
Randall B. Stafford[1,2], M. Louis Lauzon[2,3], Mohammad Sabati[4], Linda B. Andersen[2,3], Houman Mahallati[2,5], Richard Frayne[2,3]
[1]Department of Physics & Astronomy, University of Calgary, Calgary, Alberta, Canada; [2]Seaman Family MR Research Centre, Foothills Medical Centre, Calgary, Alberta, Canada; [3]Departments of Radiology & Clinical Neurosciences, University of Calgary, Calgary, Alberta, Canada; [4]Department of Radiology, University of Miami, Miami, FL, United States; [5]Department of Radiology, University of Calgary, Calgary, Alberta, Canada

1280. Non-Contrast-Enhanced Flow-Independent Peripheral Angiography using a 3D Concentric Cylinders Trajectory
Kie Tae Kwon[1], Holden H. Wu[1,2], Taehoon Shin[1], Tolga Çukur[3], Dwight G. Nishimura[1]
[1]Electrical Engineering, Stanford University, Stanford, CA, United States; [2]Cardiovascular Medicine, Stanford University, Stanford, CA, United States; [3]Helen Wills Neuroscience Institute, University of California at Berkeley, Berkeley, CA, United States

1281. 3D-Rotational Phase-Contrast MR Angiography
Axel Bornstedt[1], Eberhard Hansis[2], Michael Grass[3], Wolfgang Rottbauer[1], Volker Rasche[1]
[1]Internal Medicine II, University Hospital Ulm, Ulm, Germany; [2]Philips Healthcare; [3]Philips Research Europe

1282. High-Contrast & High-SNR SWI Venography with Multiple Echo Datasets
Tae Han Kim[1], Ung Jang[1], Dosik Hwang[1]
[1]Electrical & Electronic Engineering, Yonsei University, Seoul, Korea, Republic of

1283. High-Field MR Venography using Adiabatic T_2 Magnetization Preparation
Ruud B. van Heeswijk[1,2], Simone Coppo[1,2], Tobias Kober[2,3], Matthias Stuber[1,2]
[1]Department of Radiology, Centre Hospitalier Universitaire Vaudois & University of Lausanne, Lausanne, VD, Switzerland; [2]Center for Biomedical Imaging (CIBM), Lausanne, Switzerland; [3]Advanced Clinical Imaging Technology, Siemens Suisse SA - CIBM, Lausanne, Switzerland

1284. Hybrid Reconstruction Method for Flow-Sensitive Dephasing Non-Contrast MRA
Andrew J. Wheaton[1], Mitsue Miyazaki[2]
[1]Toshiba Medical Research Institute USA, Mayfield, OH, United States; [2]Toshiba Medical Research Institute USA, Vernon Hills, IL, United States

1285. Continuously Moving Table Vessel Scout Imaging using Variable Flip Angles & Autocorrelation Analysis
Sandra Baumann[1], Michael Markl[1], Ute Ludwig[1]
[1]Dept. of Radiology, Medical Physics, University Hospital Freiburg, Freiburg, Germany

1286. Quiescent-Interval Single-Shot Unenhanced Magnetic Resonance Angiography Featuring Continuous Table Movement
Michael O. Zenge[1], Christopher Glielmi[2], Peter Weale[2], Ioannis Koktzoglou[3], Robert R. Edelman[3], Manuela Rick[1], Peter Schmitt[1], Xiaoming Bi[2]
[1]MR Applications Development, Siemens AG, Erlangen, Germany; [2]Cardiovascular MR R&D, Siemens Healthcare, Chicago, IL, United States; [3]Department of Radiology, NorthShore University HealthSystem, Evanston, IL, United States

1287. Improving TOF Angiography Contrast Homogeneity with B_1+ Shimming at 7 Tesla: Benefits & Challenges
Sebastian Schmitter[1], Edward J. Auerbach[1], Gregor Adriany[1], Kamil Ugurbil[1], Pierre-Francois Van De Moortele[1]
[1]Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, MN, United States

1288. Non-Contrast-Enhanced MR Angiography of the Renal Arteries with Inversion-Prepared B-SSFP: A Comparison of Different Imaging Protocols
Peter Schmitt[1], Michaela Schmidt[1], Manuela Rick[1], Michael O. Zenge[1], Peter Weale[2], Xiaoming Bi[2], Edgar Müller[1]
[1]MR Application & Workflow Development, Siemens AG, Healthcare Sector, Erlangen, Germany; [2]Cardiovascular MR R&D, Siemens Healthcare, Chicago, IL, United States

1289. MR Leg Venography: Improved Methodology & Impact of Subject Positioning
Andew Nicholas Priest[1], Martin J. Graves[1], David J. Lomas[1]
[1]Department of Radiology, Addenbrookes Hospital and University of Cambridge, Cambridge, United Kingdom

1290. Magnetic Resonance Angiography (MRA) of the Calf Station at 3T: Intraindividual Comparison between Non-Enhanced ECG-Gated Flow-Dependent MRA, Continuous Table Movement MRA & Time-Resolved MRA
Stefan Haneder[1], Ulrike I. Attenberger[2], Philipp Riffel[2], Thomas Henzler[2], Stefan O. Schönberg[2], Henrik J. Michaely[2]
[1]Institute of Clinical Radiology & Nuclear Medicine , University Medical Center Mannheim, Mannheim, Germany; [2]Institute of Clinical Radiology & Nuclear Medicine, University Medical Center Mannheim, Mannheim, Germany

1291. Non-Contrast-Enhanced 4D MRA using Compressed Sensing Reconstruction
Ti-Chiun Chang[1], Mariappan S. Nadar[1], Jens Guehring[2], Michael O. Zenge[2], Kai Tobias Block[2], Peter Schmitt[2], Edgar Mueller[2]
[1]Siemens Corporate Research, Princeton, NJ, United States; [2]MR Applications Development, Siemens AG, Erlangen, Germany

1292. High-Quality Venography from Multi-Echo MR Dataset using T_2* Relaxation Model
Ung Jang[1], Dosik Hwang[1]
[1]School of Electrical & Electronic Engineering, Yonsei University, Seoul, Korea, Republic of

Contrast Enhanced MRA (Non Coronary)

Exhibition Hall Wednesday 13:30-15:30

1293. Magnetic Resonance T_1 Mapping Predicts Successful Venous Thrombolysis
Prakash Saha[1], Marcelo E. Andia[2], Ulrike Blume[2], Andrea J. Wiethoff[2,3], Tobias Schaeffter[2], Colin Evans[1], Anwar Ahmad[1], Ashish Patel[1], Bijan Modarai[1], Rene M. Botnar[2], Albert Smith[1], Matthew Waltham[1]
[1]Academic Department of Surgery, Cardiovascular Division, Kings College London, London, United Kingdom; [2]Division of Imaging Sciences & Biomedical Engineering, Kings College London, London, United Kingdom; [3]Philips Healthcare, Guildford, United Kingdom

1294. MRI Pulmonary Perfusion Imaging as a Quantitative Predictor of Regional Pulmonary Vascular Resistance in Pulmonary Hypertension
Adam Telfer[1], Robin Condliffe[2], David Capener[1], Andrew Swift[1], Smitha Rajaram[1], Helen Marshall[1], Judith Hurdman[2], Charles Elliot[2], David Kiely[2], Jim Wild[1]
[1]Academic Radiology Unit, University of Sheffield, Sheffield, South Yorkshire, United Kingdom; [2]Pulmonary Vascular Diseases Unit, Sheffield Teaching Hospitals, Sheffield, South Yorkshire, United Kingdom

1295. Method for High Spatial Resolution of Proximal Stations in 3D Time-Resolved Fluoroscopically-Triggered Bolus Chase MRA
Thomas W. Polley[1], Casey P. Johnson[2], Stephen J. Riederer[2]
[1]Electrical Engineering, Brigham Young University, Provo, UT, United States; [2]MR Research Laboratory, Mayo Clinic, Rochester, MN, United States

1296. Assessment of Glenn-Fontan Shunts in Congenital Heart Disease using Low-Dose Time-Resolved & Multi-Phase High Spatial Resolution CEMRA
Moritz Wagner[1,2], Saeed Mirsadraee[3], Pierangelo Renella[4], Gary M. Satou[4], Jamil Aboulhosn[4], John S. Child[4], Carissa Fonseca[2], Roya Saleh[2], Paul Finn[2]
[1]Radiology, Charite - University Hospital, Berlin, Germany; [2]Department of Radiological Sciences, David Geffen School of Medicine, University of California, Los Angeles, CA, United States; [3]Clinical Research Imaging Centre, University of Edinburgh, Edinburg, United Kingdom; [4]Division of Pediatric Cardiology, Mattel Children's Hospital, University of California, Los Angeles, CA, United States

1297. *In Vivo* Fluorine-19 MR Angiography in a Mouse Model
Ruud B. van Heeswijk[1,2], Yves Pilloud[2,3], Ulrich Flögel[4], Juerg Schwitter[5], Matthias Stuber[1,2]
[1]Department of Radiology, Centre Hospitalier Universitaire Vaudois & University of Lausanne, Lausanne, VD, Switzerland; [2]Center for Biomedical Imaging (CIBM), Lausanne, VD, Switzerland; [3]Laboratory for Functional & Metabolic Imaging (LIFMET), Ecole Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland; [4]Institute for Cardiovascular Physiology, Heinrich Heine University, Düsseldorf, Germany; [5]Center for Cardiac Magnetic Resonance & Cardiology Service, Centre Hospitalier Universitaire Vaudois, Lausanne, Switzerland

1298. A Universal Timing Strategy for Moving Table Peripheral MRA
Jeffrey Harold Maki[1,2], George Rachid Oliveira[2], Gregory J. Wilson[3]
[1]Radiology, Puget Sound VAHCS, Seattle, WA, United States; [2]Radiology, University of Washington, Seattle, WA, United States; [3]MR Clinical Science, Philips Healthcare, Cleveland, OH, United States

1299. Accuracy of MRI for the Assessment of the Geometry of Thoracic Stent Grafts
Volker Rasche[1], Stephan Trumpp[1,2], Alexander Oberhuber[2], Nico Merkle[1], Karl Heinz Orend[2], Martin Hoffmann[3], Wolfgang Rottbauer[1], Axel Bornstedt[1]
[1]Internal Medicine II, University Hospital Ulm, Ulm, Germany; [2]Thorax & Vascular Surgery, University Hospital Ulm, Ulm, Germany; [3]Radiology, University Hospital Ulm, Ulm, Germany

1300. Improved Spatial & Temporal Resolution using Parallel Imaging & SOS Trajectory for HYPR Reconstruction
Lauren Ashley Keith[1], Kang Wang[1], James H. Holmes[2], Philip Beatty[2], Frank Korosec[3]
[1]Medical Physics, UW - Madison, Madison, WI, United States; [2]Global Applied Science Laboratory, GE Healthcare; [3]Radiology, UW - Madison, Madison, WI, United States

1301. Time-Resolved Calf-Foot Bolus Chase MRA with Sub-Millimeter Resolution & Real-Time Table Motion Triggering using 3D MR Fluoroscopy
Casey P. Johnson[1], Eric A. Borisch[1], James F. Glockner[1], Petrice M. Mostardi[1], Thomas W. Polley[2], Paul T. Weavers[1], Phillip M. Young[1], Stephen J. Riederer[1]
[1]MR Research Laboratory, Mayo Clinic, Rochester, MN, United States; [2]Electrical Engineering, Brigham Young University, Provo, UT, United States

1302. Total Atherosclerotic Burden by Whole Body Magnetic Resonance Angiography Predicts Future Major Adverse Cardiovascular Events
Christina Lundberg[1], Lars Johansson[1], Charlotte Ebeling Barbier[1], Lars Lind[2], Håkan Ahlström[1], Tomas Hansen[1]
[1]Radiology, Uppsala University, Uppsala, Sweden; [2]Medicine, Uppsala University, Uppsala, Sweden

1303. A Magnetic Resonance Imaging Contrast Agent Targeted Towards Activated Platelets Allows Detection of Platelets on Symptomatic Human Carotid Plaques
Fabian Meixner[1], Constantin von Zur Mühlen[2], Dominik Paul[1], Irene Neudorfer[2], Annette Merkle[1], Mirko Meissner[1], Christoph Bode[2], Jürgen Hennig[1], Dominik von Elverfeldt[1]
[1]Department of Radiology, University Medical Center Freiburg, Freiburg, Baden-Württemberg, Germany; [2]Department of Cardiology & Angiology, University Medical Center Freiburg

1304. Improved Reconstruction of Highly Under-Sampled MR Angiography Images using Modified Nonlocal Means
Yanqiu Feng[1], Yingjie Mei[1], Cong Wang[1], Wufan Chen[1]
[1]School of Biomedical Engineering, Southern Medical University, Guangzhou, Guangdong, China, People's Republic of

1305. Technical Feasibility of Three-Station Time-Resolved Bolus Chase MRA
Casey P. Johnson[1], Eric A. Borisch[1], James F. Glockner[1], Thomas W. Polley[2], Phillip M. Young[1], Stephen J. Riederer[1]
[1]MR Research Laboratory, Mayo Clinic, Rochester, MN, United States; [2]Electrical Engineering, Brigham Young University, Provo, UT, United States

1306. Detection of Renal Dysfunction by Point of Care Creatinine Testing in Patients Undergoing Peripheral MR Angiography
Kevin Kalisz[1], Amir H. Davarpanah[1], Asad A. Usman[1], Jeremy Collins[1], Timothy J. Carroll[1], James C. Carr[1]
[1]Department of Radiology, Northwestern University, Chicago, IL, United States

Myocardial Function: Experimental Models & Human Studies

Exhibition Hall Thursday 13:30-15:30

1307. Detecting Myocardial Hemorrhage in the Setting of Ischemia-Reperfusion Injury: T_2 vs. T_2*
Avinash Kali[1], Andreas Kumar[2], Xiangzhi Zhou[3], Veronica L. M. Rundell[3], Ying Liu[3], Rachel A. Klein[3], Richard L. Q. Tang[3], Rohan Dharmakumar[3]
[1]Biomedical Engineering, Northwestern University, Chicago, IL, United States; [2]Department of Medicine, Laval University, Quebec, QC, United States; [3]Radiology, Northwestern University, Chicago, IL, United States

1308. Cardiac MR Elastography Reveals Increased Stiffness of the Left Ventricular Myocardium in Age & Pathology.
Thomas Elgeti[1], Mark Beling[2], Sebastian Hirsch[1], Bernd Hamm[1], Jürgen Braun[3], Ingolf Sack[1]
[1]Department of Radiology, Charité Universitätsmedizin Berlin, Berlin, Germany; [2]Department of Cardiology, Angiology, Pulmonology, Charité Universitätsmedizin Berlin, Berlin, Germany; [3]Institute of Medical Informatics, Charité Universitätsmedizin Berlin, Berlin, Germany

1309. Inhibition of the Sodium-Calcium Exchanger by SEA0400 Inhibits Manganese Efflux from Isolated Hearts
Ya Chen[1], Kevin Payne[1], Bharath Atthe[1], Akemichi Baba[2], Toshio Matsuda[2], Xin Yu[1]
[1]Department of Biomedical Engineering & Case Center for Imaging Research, Case Western Reserve University, Cleveland, OH, United States; [2]Graduate School of Pharmaceutical Sciences, Osaka University, Osaka, Japan

1310. Three Dimensional Digital Polyhedral Phantom Framework with Analytical Fourier Transform & Application in Cardiac Imaging
Tri Minh Ngo[1], George S. K. Fung[2], Benjamin M.W. Tsui[1,2], Elliot McVeigh[1], Daniel A. Herzka[1]
[1]Department of Biomedical Engineering, Johns Hopkins School of Medicine, Baltimore, MD, United States; [2]Division of Medical Imaging Physics, Department of Radiology, Johns Hopkins School of Medicine, Baltimore, MD, United States

1311. Navigator Gated Volumetric Spiral Cine DENSE MRI using Outer Volume Suppression
Bhairav Bipin Mehta[1], Xiaodong Zhong[2], Frederick H. Epstein[1]
[1]Department of Biomedical Engineering, University of Virginia, Charlottesville, VA, United States; [2]MR R&D Collaborations, Siemens Healthcare, Atlanta, GA, United States

1312. A Comprehensive Quantitative Comparison of Regional Cardiac Motion in Mice & Humans
Bernd André Jung[1], Erica Dall'Armellina[2], Stefan Neubauer[2], Michael Markl[1], Jurgen E. Schneider[2]
[1]Dept. of Radiology, Medical Physics, University Medical Center, Freiburg, Germany; [2]Dept. of Cardiovascular Medicine, University of Oxford, United Kingdom

1313. AAV6-Mediated Delivery of a U7 Exon Skipping Construct Improves Regional Cardiac Function in Golden Retriever Muscular Dystrophy Dogs
Sean C. Forbes[1], Larry T. Bish[2], Meg M. Sleeper[3], Wil Mai[4], H. Sweeney[2], Glenn A. Walter[5]

[1]Department of Physical Therapy, University of Florida, Gainesville, FL, United States; [2]Department of Physiology, University of Pennsylvania, Philadelphia, PA; [3]Department of Clinical Studies, University of Pennsylvania, Philadelphia, PA; [4]School of Veterinary Medicine, University of Florida, Philadelphia, PA; [5]Department of Physiology & Functional Genomics, University of Florida, Gainesville, FL

1314. MR Imaging of Hypertrophy & Cardiac Recovery in the Mouse Aorta & Heart

Bernd Jung[1], Nadine Beetz[2], Michael Markl[1], Annette Merkle[1], Lutz Hein[2], Dominik von Elverfeldt[1]
[1]Dept. of Radiology Medical Physics, University Medical Center, Freiburg, Germany; [2]Dept. Phamacology 2, Institute for Pharmacology, Freiburg, Germany

1315. Three-Dimensional Principal Strain Patterns in Acute Myocardial Infarction

Sahar Soleimanifard[1], Khaled Z. Abd-Elmoniem[2], Emi Z. Murano[1], M. R. Abraham[1], Theodore P. Abraham[1], Jerry L. Prince[1]
[1]The Johns Hopkins University, Baltimore, MD, United States; [2]National Institute of Diabetes & Digestive and Kidney Disease, Bethesda, MD, United States

1316. Estimate of Global Radial, Circumferential & Longitudinal Strain from SSFP Cines: A Study in Controls & Patients with Low to Normal Ejection Fraction

June Cheng-Baron[1], Michael D. Nelson[2], Corey R. Tomczak[3], Kelvin Chow[1], Justin A. Ezekowitz[4], Mark J. Haykowsky[3], D. Ian Paterson[4], Richard B. Thompson[1]
[1]Department of Biomedical Engineering, University of Alberta, Edmonton, Alberta, Canada; [2]Faculty of Physical Education & Recreation, University of Alberta, Edmonton, Alberta, Canada; [3]Faculty of Rehabilitation Medicine, University of Alberta, Edmonton, Alberta, Canada; [4]Division of Cardiology, University of Alberta, Edmonton, Alberta, Canada

1317. Left Ventricular Concentric Hypertrophy & Strain Redirection in M.3243A>G Mutation Carriers: Cardiomyopathy Correlates with Mutation Load

Kieren G. Hollingsworth[1], Grainne S. Gorman[2], Michael I. Trenell[1], Robert McFarland[2], Robert W. Taylor[2], Douglass M. Turnbull[2], Guy A. MacGowan[3], Patrick F. Chinnery[4], Andrew M. Blamire[1]
[1]Newcastle Magnetic Resonance Centre, Newcastle University, Newcastle upon Tyne, Tyne & Wear, United Kingdom; [2]Mitochondrial Research Group, Newcastle University, Newcastle upon Tyne, Tyne & Wear, United Kingdom; [3]Department of Cardiology, Freeman Hospital, Newcastle upon Tyne, Tyne & Wear, United Kingdom; [4]Institute of Human Genetics, Newcastle University, Newcastle upon Tyne, Tyne & Wear, United Kingdom

1318. Spiral DENSE with Short Breath Hold Duration

Shinichi Takase[1], Andreas Sigfridsson[2], Hajime Sakuma[3]
[1]Department of Radiology, Mie University Hospital, Tsu, Mie, Japan; [2]IMH/Cardiovascular Medicine, Linkoping University, Linkoping, Sweden; [3]Department of Radiology, Mie University, Tsu, Mie, Japan

1319. Mechanically Altering Infarct Properties Improves Regional & Global Function Secondary to Acute Myocardial Infarction

Kevin J. Koomalsingh[1], Chun Xu[1], Larry Dougherty[2], Masahito Minakawa[1], Takashi Shuto[1], Joseph H. Gorman, III[1], Robert C. Gorman[1], James J. Pilla[1]
[1]Surgery, University of Pennsylvania, Glenolden, PA, United States; [2]Radiology, University of Pennsylvania, Philadelphia, PA, United States

1320. The Second Generation (2G) K-T GRAPPA: Faster & More Accurate

Feng Huang[1], Wei Lin[1], George Randy Duensing[1], Arne Reykowski[1]
[1]Invivo Corporation, Gainesville, FL, United States

1321. Quantification of *InVivo* Left Ventricular Torsion & Principal Strains in Mouse Models of Hypertrophic & Dilated Cardiomyopathy

Candida Laura Desjardins[1], Yong Chen[2], Julian Stelzer[1], Xin Yu[2,3]
[1]Physiology, Case Western Reserve University, Cleveland, OH, United States; [2]Biomedical Engineering, Case Western Reserve University, Cleveland, OH, United States; [3]Case Center for Imaging Research, University Hospitals, Cleveland, OH, United States

1322. 7 Tesla Cardiac Imaging with a Phonocardiogram Trigger Device

Stefan Maderwald[1], Stephan Orzada[1,2], Zimin Lin[3], Lena C. Schäfer[1,2], Andreas K. Bitz[1,2], Oliver Kraff[1], Irina Brote[1,2], Lars Häring[3], Andreas Czylwik[3], Michael O. Zenge[4], Susanne C. Ladd[1,2], Mark E. Ladd[1,2], Kai Nassenstein[1,2]
[1]Erwin L. Hahn Institute for Magnetic Resonance Imaging, Essen, Germany; [2]Department of Diagnostic & Interventional Radiology & Neuroradiology, University Hospital Essen, Essen, Germany; [3]Department of Communication Systems, University of Duisburg-Essen, Essen, Germany; [4]MR Application Developement, Siemens AG, Erlangen, Germany

1323. Right Ventricular Geometric Shortening in Pulmonary Arterial Hypertension: Follow-Up in Survivors & Non-Survivors

J. Tim Marcus[1], Gert Jan Mauritz[2], T. Kind[2], Marielle van De Veerdonk[2], Nico Westerhof[2], Anton Vonk-Noordegraaf[2]
[1]Physics & Medical Technology, VU University Medical Center, Amsterdam, Netherlands; [2]Pulmonary Diseases, VU University Medical Center, Amsterdam, Netherlands

1324. A Left Ventricular Motion Phantom for Cardiac MRI
Mehmet Ersoy[1,2], Melanie S. Kotys[3], Xiaopeng Zhou[1,2], George P. Chatzimavroudis[2], Randolph M. Setser[1]
[1]Imaging Institute, Cleveland Clinic, Cleveland, OH, United States; [2]Cleveland State University, Cleveland, OH, United States; [3]Philips Healthcare, Cleveland, OH, United States

1325. Accelerating Global Cardiac Function Assessment in Mice using Compressed Sensing
Tobias Wech[1], Angela Lemke[2], Debra Medway[2], Lee-Anne Stork[2], Craig A. Lygate[2], Stefan Neubauer[2], Herbert Köstler[1], Jürgen E. Schneider[2]
[1]Institute of Radiology, University of Wuerzburg, Wuerzburg, Bavaria, Germany; [2]Cardiovascular Medicine, University of Oxford, Oxford, Oxon, United Kingdom

1326. 4D MR Velocity Mapping using PC VIPR to Investigate the Hemodynamics of Acute Pulmonary Hypertension in a Dog Model
Alejandro Roldán-Alzate[1], Heidi B. Kellihan[2], Daniel W. Consigny[1], Eric J. Niespodzany[1], Christopher J. François[1], Oliver Wieben[1,3], Naomi C. Chesler[4], Alex Frydrychowicz[1]
[1]Radiology, University of Wisconsin, Madison, WI, United States; [2]Veterinary Medicine, University of Wisconsin, Madison, WI, United States; [3]Medical Physics, University of Wisconsin, Madison, WI, United States; [4]Biomedical Engineering, University of Wisconsin, Madison, WI, United States

1327. Complementary Radial Tagging for the Assessment of Left Ventricular Function
Zhe Wang[1,2], Abbas N. Moghadam [2,3], Meral Reyhan [2,4], J. Paul Finn [2,4], Daniel B. Ennis[1,2]
[1]Biomedical Engineering Interdepartmental Program, University of California, Los Angeles, CA, United States; [2]Department of Radiological Sciences, Diagnostic Cardiovascular Imaging Section, University of California, Los Angeles, CA, United States; [3]Department of Biomedical Engineering, Amirkabir University of Technology (Tehran Polytechnic), Tehran, Iran; [4]Biomedical Physics Interdepartmental Program, University of California, Los Angeles, CA, United States

1328. Cardiac Magnetic Resonance Imaging in Peripartum Cardiomyopathy: A Comprehensive Imaging Approach
Thomas Elgeti[1], Dietmar E. Kivelitz[2], Dirk Habedank[3], Bernd Hamm[1], Rainer Röttgen[1], Diane Miriam Renz[1]
[1]Department of Radiology, Charité Universitätsmedizin Berlin, Berlin, Germany; [2]Albers-Schönberg-Institut für Strahlendiagnostik, AK St. Georg, Hamburg, Germany; [3]Department of Cardiology, Charité Universitätsmedizin Berlin, Berlin, Germany

1329. Assessment of Cardiac Functions & Inflammation Burden of Ischemic Injury with Integrated Functional & Cellular MRI
Yijen Lin Wu[1], Qing Ye[1], Fang-Cheng Yeh[1,2], Brent D. Barbe[1], Lesley M. Foley[1], Li Liu[1], T. Kevin Hitchens[1], Chien Ho[1,3]
[1]Pittsburgh NMR Center for Biomedical Research, Carnegie Mellon University, Pittsburgh, PA, United States; [2]Department of Biomedical Engineering, Carnegie Mellon University, Pittsburgh, PA, United States; [3]Department of Biological Sciences, Carnegie Mellon University, Pittsburgh, PA, United States

1330. Cardiac Magnetic Resonance Imaging of the Ts65Dn Murine Model of Down Syndrome
Lucas Abraham Citro[1], Sarah E. Sansom[2], Mahmood Khan[2,3], Mickey Mizzell Martin[2], Periannan Kuppusamy[1,2], Terry S. Elton[2,4]
[1]Internal Medicine, The Ohio State University, Columbus, OH, United States; [2]Davis Heart & Lung Research Institute, The Ohio State University, Columbus, OH, United States; [3]Internal Medicine, Division of Cardiovascular Medicine, The Ohio State University, Columbus, OH, United States; [4]College of Medicine, Department of Pathology, The Ohio State University, Columbus, OH, United States

1331. Cardiac Function in an Experimental Model of the Metabolic Syndrome through Pressure Conductance Analysis & Cine MRI
Wouter Oosterlinck[1], Tom Dresselaers[2], Vincent Geldhof[1], Uwe Himmelreich[2], Paul Herijgers[1]
[1]Experimental Cardiac Surgery, K.U.Leuven, Leuven, Belgium; [2]Biomedical NMR unit - MoSAIC, K.U.Leuven, Leuven, Belgium

1332. Non-Invasive Evaluation of Allograft Rejection After Heart Transplantation with Integrated Cellular & Functional MRI
Yijen Lin Wu[1], Qing Ye[1], Brent D Barbe[1], Fang-Cheng Yeh[1,2], Lesley M Foley[1], Li Liu[1], T. Kevin Hitchens[1], Chien Ho[1,3]
[1]Pittsburgh NMR Center for Biomedical Research, Carnegie Mellon University, Pittsburgh, PA, United States; [2]Department of Biomedical Engineering, Carnegie Mellon University, Pittsburgh, PA, United States; [3]Department of Biological Sciences, Carnegie Mellon University, Pittsburgh, PA, United States

Myocardial Perfusion: Experimental Models & Human Studies

Exhibition Hall Monday 14:00-16:00

1333. Quantification of Myocardial Blood Flow & Flow Reserve in Rats using Arterial Spin Labeling MRI, Comparison with a Fluorescent Microsphere Technique

Frank Kober[1], Alexis Jacquier[1], Soksithikun Bun[1], Patrick J. Cozzone[1], Monique Bernard[1]
[1]Centre de Resonance Magnetique Biologique et Medicale, Faculte de Medecine, Universite de la Mediterraneee, Marseille, Provence, France

1334. The Effect of Myocardial Contour Errors on Myocardial Blood Flow Estimates in Cardiac DCE-MRI Perfusion.

John David Biglands[1], Abdulghani Larghat[2], Sven Plein[2], Derek R. Magee[3], Roger D. Boyle[3], Aleksandra Radjenovic[4,5]
[1]Division of Medical Physics, University of Leeds, LEEDS, Yorkshire, United Kingdom; [2]Division of Cardiovascular & Neuronal Remodelling, University of Leeds, LEEDS, Yorkshire, United Kingdom; [3]School of Computing, University of Leeds, LEEDS, Yorkshire, United Kingdom; [4]School of Medicine, University of Leeds, LEEDS, Yorkshire, United Kingdom; [5]Academic Section of Musculoskeletal Disease, University of Leeds, LEEDS, Yorkshire, United Kingdom

1335. Myocardial Contour Error Distance Metrics Do Not Correlate with Myocardial Blood Flow Estimate Errors in DCE-MRI Cardiac Perfusion.

John David Biglands[1], Abdulghani Larghat[2], Sven Plein[2], Derek R. Magee[3], Roger D. Boyle[3], Aleksandra Radjenovic[4,5]
[1]Division of Medical Physics, University of Leeds, LEEDS, Yorkshire, United Kingdom; [2]Division of Cardiovascular & Neuronal Remodelling, University of Leeds, LEEDS, Yorkshire, United Kingdom; [3]School of Computing, University of Leeds, LEEDS, Yorkshire, United Kingdom; [4]School of Medicine, University of Leeds, LEEDS, Yorkshire, United Kingdom; [5]Academic Section of Musculoskeletal Disease, University of Leeds, LEEDS, Yorkshire, United Kingdom

1336. Myocardial Blood Flow Measurement using DCE-MRI: Comparison of Region-Of-Interest & Voxelwise Analysis

Steven Sourbron[1], William Morton[1], David L. Buckley[1], John P. Greenwood[2], Sven Plein[2]
[1]Division of Medical Physics, University of Leeds, Leeds, United Kingdom; [2]Division of Cardiovascular & Neuronal Remodelling, University of Leeds, Leeds, United Kingdom

1337. Comparison of 3D Stress Cardiac Magnetic Resonance PerfusionImaging & Invasive Fractional Flow Reserve Measurements for the Detection of Coronary Artery Disease

Robert Manka[1,2], Cosima Jahnke[3], Peter Boesiger[1], Thomas F. Lüscher[2], Ingo Paetsch[3], Sebastian Kozerke[1]
[1]Institute for Biomedical Engineering University & ETH Zürich, Zürich, Switzerland; [2]Cardiology, Unispital Zürich, Zürich, Switzerland; [3]Cardiology, University Hospital RWTH Aachen, Aachen, Germany

1338. Myocardial Microvascular Function at Rest & Under Adenosine Stress Measured with Dynamic Contrast-Enhanced MRI

David L. Buckley[1], John D. Biglands[1], Abdulghani Larghat[2], Steven P. Sourbron[1], Aleksandra Radjenovic[3], John P. Greenwood[2], Sven Plein[2]
[1]Division of Medical Physics, Leeds Institute of Genetics, Health & Therapeutics, University of Leeds, Leeds, West Yorkshire, United Kingdom; [2]Division Cardiovascular & Neuronal Remodelling, Leeds Institute of Genetics, Health & Therapeutics, University of Leeds, Leeds, West Yorkshire, United Kingdom; [3]Section of Musculoskeletal Disease, Leeds Institute of Molecular Medicine, University of Leeds, Leeds, West Yorkshire, United Kingdom

1339. Mapping of Myocardial ASL Perfusion & Perfusion Reserve Data

Terrence Jao[1], Zungho Zun[2], Padmini Varadarajan[3], Ramdas Pai[3], Krishna Nayak[2]
[1]Keck School of Medicine, University of Southern California, Los Angeles, CA, United States; [2]Electrical Engineering, University of Southern California, Los Angeles, CA, United States; [3]Division of Cardiology, Loma Linda University Medical Center, Loma Linda, CA, United States

1340. High Resolution Whole Heart Cardiac Perfusion Imaging using CAIPIRINHA

Daniel Stäb[1], Felix A. Breuer[2], Christian Oliver Ritter[1], Dietbert Hahn[1], Herbert Köstler[1]
[1]Institute of Radiology, University of Würzburg, Würzburg, Bavaria, Germany; [2]Research Center Magnetic Resonance Bavaria, Würzburg, Germany

1341. AIF Determination for Quantitative Myocardial Perfusion Imaging using a Model Based Reconstruction of Radially Acquired Data

Daniel Stäb[1], Johannes Tran-Gia[1], Christian Oliver Ritter[1], Dietbert Hahn[1], Herbert Köstler[1]
[1]Institute of Radiology, University of Würzburg, Würzburg, Bavaria, Germany

1342. Myocardial Blood Flow Estimates Depend on the Location of the Arterial Input Function Within the Cardiac Cycle in First-Pass DCE-MRI Studies of Myocardial Perfusion

Aleksandra Radjenovic[1,2], John Biglands[1], Abdulghani Larghat[1], John Ridgway[1], John Greenwood[1], Sven Plein[1]

[1]School of Medicine, University of Leeds, Leeds, United Kingdom; [2]Academic Section of Musculoskeletal Disease, University of Leeds, NIHR Leeds Musculoskeletal Biomedical Research Unit, Leeds, United Kingdom

1343. Cardiac Perfusion MRI at 3T for the Assessment of Endothelial Dysfunction in Diabetic Patients
Alessia Tognolini[1], Wanda Marfori[1], Cesar Arellano[1], Golnaz Heidari[1], Christine Darwin[2], Yutaka Natsuaki[1,3], Gerhard Laub[1,3], Mayil Krishnam[4], Stefan Ruehm[1]
[1]Diagnostic Cardiovascular Imaging, UCLA, Los Angeles, CA, United States; [2]Medicine, Endocrinology, UCLA, Los Angeles, CA, United States; [3]Siemens Medical Solution, Los Angeles, CA, United States; [4]Cardiovascular & Thoracic Imaging, UCI, Irvine, CA, United States

1344. An Area-Based Imaging Biomarker for the Characterization of Coronary Artery Stenosis with Blood Oxygen-Sensitive MRI
Sotirios Athanasios Tsaftaris[1,2], Richard Tang[2], Xiangzhi Zhou[2], Debiao Li[2], Rohan Dharmakumar[2]
[1]Electrical Engineering & Computer Science, Northwestern University, Evanston, IL, United States; [2]Radiology, Northwestern University, Chicago, IL, United States

1345. Quantitative Myocardial Perfusion using Conventional Single-Bolus Contrast Imaging Overestimates Absolute Myocardial Blood Flow Compared with Dual-Bolus or Dual-Sequence Cardiac MR Methods
Li-Yueh Hsu[1], Peter Kellman[1], Peter Gatehouse[2], Sven Zuehlsdorff[3], Christopher B. Glielmi[4], Andrew E. Arai[1]
[1]National Heart Lung & Blood Institute, National Institutes of Health, Bethesda, MD, United States; [2]CMR Unit, Royal Brompton Hospital, London, United Kingdom; [3]CMR Research & Development, Siemens Medical Solutions, Chicago, IL, United States; [4]CMR Research & Development, Siemens Medical Solutions, Chicago, IL, United States

1346. Quantification of Myocardial Blood Volume & Water Exchange with Intravascular Contrast Agent
Octavia Biris[1,2], Neil Chatterjee[3], Daniel C. Lee[4,5], James Carr[1,3]
[1]Radiology, Northwestern University, Chicago, IL, United States; [2]Biomedical Engineering, Northwestern University, Evanston, IL, United States; [3]Feinberg School of Medicine, Northwestern University, Chicago, IL, United States; [4]Feinberg School of Medicine, Northwestern University , Chicago, IL, United States; [5]Cardiology, Northwestern University, Chicago, IL, United States

1347. Myocardial Perfusion Study of Heart Failure Swine with Semi-Quantitative Analysis
Ting Song[1,2], Maureen N. Hood[2,3], Jeffrey A. Stainsby[4], Vincent B. Ho[2,3]
[1]Global Applied Science Laboratory, GE Healthcare, Bethesda, MD, United States; [2]Radiology, Uniformed Services University of the Health Sciences, Bethesda, MD, United States; [3]Radiology, National Naval Medical Center, Bethesda, MD, United States; [4]Global Applied Science Laboratory, GE Healthcare, Toronto, ON, Canada

1348. Improved Clinical Performance of a New Myocardial Adenosine Stress Perfusion Technique with SW-CG-HYPR at 3.0T: A Comparison to Conventional IR-Turbo-FLASH Perfusion MRI & X-Ray Angiography in Patients with Suspected Coronary Artery Disease
Heng Ma[1], Lan Ge[2], Jing An[3], David Chen[2], Lixin Jin[4], Xiaoming Bi[5], Renate Jerecic[4], Kuncheng Li[1], Debiao Li[2,6]
[1]Xuanwu Hospital, Capital Medical University, Beijing, China, People's Republic of; [2]Northwestern University; [3]Siemens Healthcare, MR Collaboration NE Asia, Siemens Mindit Magnetic Resonance; [4]Siemens Healthcare, MR Collaboration NE Asia, Siemens Limited China; [5]Siemens Healthcare, Cardiovascular MR R&D, USA; [6]Cedars-Sinai Medical Center and UCLA

1349. Rapid Cardiac T_1 Mapping Within Two Heartbeats
Elodie Breton[1,2], Daniel Kim[1], Sohae Chung[1], Leon Axel[1]
[1]Center for Biomedical Imaging - Radiology Research, New York University Langone Medical Center, New York, NY, United States; [2]LSIIT - eAVR, University of Strasbourg, Strasbourg, France

Myocardial Imaging & Spectroscopy

Exhibition Hall Tuesday 13:30-15:30

1350. Towards Quantification of Tissue Sodium Concentration in Mice with Acute Myocardial Infarction
Mahon L. Maguire[1], L. Stork[1], Kiterie Faller[1], Debra Medway[1], Craig A. Lygate[1], Stefan Neubauer[1], Jurgen E. Schneider[1]
[1]Dept Cardiovascular Medicine, University of Oxford, Oxford, Oxfordshire, United Kingdom

1351. *In Vivo* Temperature Threshold for Myocardial Thermal Damage
Peter Nabil Costandi[1], Ramez Emile Necola Shehada[1], Neha Bharat Butala[1], Ben Anthony Coppola[1], Kevin Jurkowski[1], Ali Dianaty[1]
[1]Cardiac Rhythm Management Division, St. Jude Medical, Sylmar, CA, United States

1352. Direct Detection of Postinfarction Myocardial Fibrosis with Ultrashort TE (UTE) MRI
Sanne de Jong[1], Jaco J. M. Zwanenburg[2,3], Fredy Visser[2,4], Roel van Der Nagel[1], Harold V. M. van Rijen[1], Marc A. Vos[1], Jacques M. T. de Bakker[1,5], Peter R. Luijten[2]

[1]Department of Medical Physiology, University Medical Center Utrecht, Utrecht, Netherlands; [2]Department of Radiology, University Medical Center Utrecht, Utrecht, Netherlands; [3]Image Sciences Institute, University Medical Center Utrecht, Utrecht, Netherlands; [4]Philips Healthcare, Best, Netherlands; [5]Interuniversity Cardiology Institute of the Netherlands, Utrecht

1353. ^{23}Na Chemical Shift Imaging of Myocardial Edema

Eissa Aguor[1], Cees W. A. van De Kolk[1], Marcel G. J. Nederhoff[1], Pieter A. F. M. Doevendans[1], Gerard Pasterkamp[1], Gustav J. Strijkers[2], Fatih Arslan[1], Cees J. A. van Echteld[1]

[1]Department of Cardiology, University Medical Center Utrecht, Utrecht, Netherlands; [2]Biomedical NMR, Department of Biomedical Engineering, Eindhoven University of Technology, Eindhoven, Netherlands

1354. Sensitive MRI Markers for Systemic Amyloidosis: Amide Proton Transfer & Equilibrium Contrast

Adrienne E. Campbell[1,2], Anthony N. Price[1,3], Simon Walker-Samuel[1], Stephan Ellmerich[4], Paul Simons[4], Raya Al-Shawi[4], Philip N. Hawkins[4], Xavier Golay[5], James C. Moon[6], Roger J. Ordidge[2], Mark B. Pepys[4], Mark F. Lythgoe[1]

[1]Centre for Advanced Biomedical Imaging, Division of Medicine & Institute of Child Health, University College London, London, United Kingdom; [2]Department of Medical Physics & Bioengineering, University College London, London, United Kingdom; [3]Robert Steiner MRI Unit, Imaging Science Department, Hammersmith Hostpital, Imperial College London, London, United Kingdom; [4]Centre for Amyloidosis & Acute Phase Proteins, Division of Medicine, University College London, London, United Kingdom; [5]Institute of Neurology, University College London, London, United Kingdom; [6]Heart Hospital & Division of Medicine, University College London, London, United Kingdom

1355. Serial Quantitative MRI of Post-Infarct Macrophage Infiltration of the Mouse Heart using Gd-Liposomes & R1-Mapping

Nivedita K. Naresh[1], Alexander L. Klibanov[1,2], Moriel H. Vandsburger[1,3], Jonathan Leor[4], Yaqin Xu[1], Brent A. French[1,5], Frederick H. Epstein[1,5]

[1]Department of Biomedical Engineering, University of Virginia, Charlottesville, VA, United States; [2]Division of Cardiovascular Medicine, University of Virginia, Charlottesville, VA, United States; [3]Department of Biological Regulation, Weizmann Institute of Science, Rehovot, Israel; [4]Tel-Aviv University, Israel; [5]Department of Radiology, University of Virginia, Charlottesville, VA, United States

1356. Passive Targeting of Paramagnetic Lipid-Based Contrast Agents to Acute Mouse Cardiac Ischemia/reperfusion Injury

Tessa Geelen[1], Leonie E. Paulis[1], Bram F. Coolen[1], Klaas Nicolay[1], Gustav J. Strijkers[1]

[1]Biomedical NMR, Department of Biomedical Engineering, Eindhoven University of Technology, Eindhoven, Netherlands

1357. Characterization of Rodent Heterotopic Heart Transplantation Models with Cellular & Functional MRI

Qing Ye[1], Yijen L. Wu[1], Brent D. Barbe[1], Fang-Cheng Yeh[1], Li Liu[1], Lesley M. Foley[1], T. Kevin Hitchens[1], Chien Ho[1]

[1]Pittsburgh NMR Center for Biomedical Research, Carnegie Mellon University, Pittsburgh, PA, United States

1358. Contrast-Enhanced Cardiac MRI of Vascular Remodeling After Myocardial Infarction using Lipid-Based Nanoparticles

Leonie E. Paulis[1], Tessa Geelen[1], Michael Kuhlmann[2], Bram F. Coolen[1], Klaas Nicolay[1], Gustav J. Strijkers[1]

[1]Biomedical NMR, Department of Biomedical Engineering, Eindhoven University of Technology, Eindhoven, Netherlands; [2]European Institute for Molecular Imaging, University of Muenster, Muenster, Germany

1359. Multi-Channel Proton Spectroscopy of the Heart

Nicola Martini[1], Kilian Weiss[2], Peter Boesiger[2], Dante Chiappino[1], Sebastian Kozerke[2]

[1]Fondazione G. Monasterio CNR-Regione Toscana, Massa, Italy; [2]Institute for Biomedical Engineering, University & ETH Zurich, Zurich,, Switzerland

1360. Identification of Two Myocardial Lipid Pools in Muscular Dystrophy Patients by ^{1}H MRS at 3T

Belen Rial[1], Joseph J Suttie[1], Stefan Neubauer[1], Matthew D. Robson[1], Jurgen E. Schneider[1]

[1]Dept of Cardiovascular Medicine, University of Oxford, Oxford, Oxfordshire, United Kingdom

1361. *In Vivo* Assessment of the Effects of Pioglitazone on Myocardial Triglyceride Content & Cardiac Function in Diabetic Mice using ^{1}H MRS & MRI

Desiree Abdurrachim[1], Klaas Nicolay[1], Jeanine J Prompers[1]

[1]Biomedical Engineering, Eindhoven University of Technology, Eindhoven, Netherlands

1362. Six Hours of Hyperglycemia & Hyperinsulinemia Affects Cardiac Function & Increase Myocardial Lipid Accumulation.

Martin Krssak[1,2], Yvonne Winhofer[3], Drazenka Jankovic[3], Christian Anderwald[3], Gert Reiter[4], Siegfried Trattnig[2,5], Anton Luger[3], Michael Krebs[3]

[1]Center for Medical Physics & Biomedical Engineering, Medical University of Vienna, Wien, Austria; [2]Center of Exellence, HF MR, Medical University of Vienna, Wien, Austria; [3]Internal Medicine III, Medical University of Vienna, Wien, Austria; [4]Siemens AG Healthcare, Wien, Austria; [5]Radiology, Medical University of Vienna, Wien, Austria

1363. Longitudinal Assessment of T_2* Changes in Mouse Myocardium Following Ischemia-Reperfusion Injury
Eissa Aguor[1], Fatih Arslan[1], Cees W. A. van De Kolk[1], Marcel G. J. Nederhoff[1], Pieter A. F. M Doevendans[1], Cees J. A. van Echteld[1], Gerard Pasterkamp[1], Gustav J. Strijkers[2]
[1]Department of Cardiology, University Medical Center Utrecht, Utrecht, Netherlands; [2]Biomedical NMR, Department of Biomedical Engineering, Eindhoven University of Technology, Eindhoven, Netherlands

1364. Detection of Focal Inflammation on Myocardial Disorder using T_2 Contrast Agent-Based MRI: Comparison to Late-Enhanced MRI with T_1 Contrast Agent
Hyeyoung Moon[1,2], Hyo Eun Park[3], Jongeun Kang[1,4], Hee-Seok Kwon[5], Kiyuk Chang[3], Kwan Soo Hong[1,4]
[1]MR Research, Korea Basic Science Institute, Cheongwon, Chungcheongbuk-Do, Korea, Republic of; [2]University of Science & Technology, Daejeon, Korea, Republic of; [3]Department of Internal Medicine, Catholic University, Seoul, Korea, Republic of; [4]Graduate School of Analytical science & Technology, Chungnam National University, Daejeon, Korea, Republic of; [5]Division of Electron Microscopic Research, Korea Basic Science Institute

1365. Free Breathing Independent Respiratory Navigator-Gated Imaging: Concurrent PSIR & T_2-Weighted 3D Imaging of the Left Ventricle
Sangjune Laurence Lee[1], Michael Schär[2,3], M. Muz Zviman[4], Valeria Sena-Weltin[4], Ahmed A. Harouni[5], Sebastian Kozerke[6], Elliot R. McVeigh[1], Henry Halperin[4], Daniel A. Herzka[7]
[1]Department of Biomedical Engineering, Johns Hopkins School of Medicine, Baltimore, MD, United States; [2]Philips Healthcare, Cleveland, OH, United States; [3]Radiology, Johns Hopkins School of Medicine, Baltimore, MD, United States; [4]Division of Cardiology, Johns Hopkins School of Medicine, Baltimore, MD, United States; [5]Department of Electrical & Computer Engineering, Johns Hopkins University, Baltimore, MD, United States; [6]Institute for Biomedical Engineering, University & ETH Zurich, Zurich, Switzerland; [7]Department of Biomedical Engineering , Johns Hopkins School of Medicine, Baltimore, MD, United States

1366. High-Resolution Localization of Fibrosis in a Mouse Model of Viral Chronic Myocarditis using T_2* Weighted MRI
Xavier Helluy[1], Martina Sauter[2], Yu-Xiang Ye[3], Roland Jahns[3], Ali Yilmaz[4], Karin Klingel[2], Karl-Heinz Hiller[1], Peter M. Jakob[1]
[1]Magnetic Resonance Bavaria, Wuerzburg, Germany; [2]Department of Molecular Pathology, University of Tuebingen, Germany; [3]Department of Internal Medicine I, University Hospital of Wuerzburg, Germany; [4]Division of Cardiology, Robert-Bosch-Krankenhaus, Stuttgart, Germany

1367. T_2 Mapping of the Mouse Heart using Segmented MLEV Supercycle Preparation
Bram F. Coolen[1], Frank F. J. Simonis[1], Rik P. M. Moonen[1], Tessa Geelen[1], Leonie E. M. Paulis[1], Klaas Nicolay[1], Gustav J. Strijkers[1]
[1]Biomedical NMR, Department of Biomedical Engineering, Eindhoven University of Technology, Eindhoven, Netherlands

1368. Improved T_2-Weighted Cardiac Imaging using Retrospective Motion Correction & Optimal Image Combination
Hui Xue[1], Xiaoming Bi[2], Christoph Guetter[1], Sven Zuehlsdorff[2], Marie-Pierre Jolly[1], Jens Guehring[1], Peter Kellman[3]
[1]Imaging and Visualization, Siemens Corporate Research, Princeton, NJ, United States; [2]CMR Research and Development, Siemens Medical Solutions USA, Inc., Chicago, IL, United States; [3]National Heart, Lung and Blood Institute, National Institutes of Health, Bethesda, MD, United States

1369. Myocardial ECV Imaging by MRI Compared to Myocardial ECV Imaging by CT – Validation in Experimental Acute Myocardial Infarction
Martin Ugander[1], Marcus Y Chen[1], Billy Chen[1], Li-Yueh Hsu[1], Peter Kellman[1], Andrew E Arai[1]
[1]National Heart, Lung and Blood Institute, National Institutes of Health, Bethesda, MD, United States

1370. Quantitative MRI Can Distinguish Remodeling Mechanisms After Acute Myocardial Infarction Based on the Severity of Ischemic Insult
Nilesh R. Ghugre[1], Mihaela Pop[1], Jennifer Barry[1], Beiping Qiang[1], John J. Graham[2], Kim Connelly[2], Alexander J. Dick[1,3], Graham A. Wright[1]
[1]Imaging Research, Sunnybrook Health Sciences Centre, Toronto, ON, Canada; [2]Division of Cardiology, St. Michael's Hospital, Toronto, ON, Canada; [3]University of Ottawa Heart Institute, Ottawa, ON, Canada

1371. A Real-Time Cine Late Gadolinium Enhancement Imaging Method at 3T
Mo Kadbi[1], Hui Wang[1], Mohammadjavad Negahdar[1], Melanie Kotys[2], Stefan Fischer[2], Amir A. Amini[1]
[1]Department of Electrical & Computer Engineering, University of Louisville, Louisville, KY, United States; [2]Philips Healthcare, Cleveland, OH, United States

1372. Free-Breathing T_1 Mapping MRI for Quantification of Myocardial T_1 Pre & Post Contrast in Swine with Non-Ischemic Heart Failure
Maureen N. Hood[1,2], Ting Song[1,3], Peter Bedocs[4], John Capacchione[4], Mark Haigney[5,6], Christine E. Kasper[7], Vincent B. Ho[1,2]
[1]Radiology, Uniformed Services University, Bethesda, MD, United States; [2]Radiology, National Naval Medical Center, Bethesda, MD, United States; [3]Global Applied Science Laboratory, GE Healthcare, Bethesda, MD, United States; [4]Anesthesiology, Uniformed

Services University, Bethesda, MD, United States; [5]Medicine, Uniformed Services University, Bethesda, MD, United States; [6]Cardiology, National Naval Medical Center, Bethesda, MD, United States; [7]Graduate School of Nursing, Uniformed Services University, Bethesda, MD, United States

1373. Characterization of Myocardial T_1 & Partition Coefficient as a Function of Time After Gadolinium Delivery in Healthy Subjects

Kelvin Chow[1], Jacqueline Flewitt[2], Jordin Green[3], Matthias Friedrich[2,4], Richard Thompson[1]
[1]Department of Biomedical Engineering, University of Alberta, Edmonton, Alberta, Canada; [2]Stephenson CMR Centre at the Libin Institute of Alberta, Department of Cardiac Sciences, University of Calgary, Calgary, Alberta, Canada; [3]Siemens Healthcare, Calgary, Alberta, Canada; [4]Department of Radiology, University of Calgary, Calgary, Alberta, Canada

1374. Myocardial T_1 Mapping at 3T using Variable Flip Angle Method: A Pilot Study

Hélène Poinsignon[1,2], Maelene Lohezic[2,3], Hai-Ling Margaret Cheng[4,5], Pierre-Yves Marie[6], Jacques Felblinger[2,7], Marine Beaumont[1,6]
[1]CIT 801, INSERM, Nancy, France; [2]IADI, Nancy-Université, Nancy, France; [3]Global Applied Science Laboratory., GE Healthcare, Nancy, France; [4]Physiology & Experimental Medicine, The Hospital for Sick Children, Toronto, Ontario, Canada; [5]Medical Biophysics, University of Toronto, Toronto, Ontario, Canada; [6]CHU de Nancy, Nancy, France; [7]U947, INSERM, Nancy, France

1375. Quantitative Measurement of Myocardial T_1 with a Modified Cine Inversion Recovery Pulse Sequence

Matteo Milanesi[1,2], Andrea Barison[3], Vincenzo Positano[1], Luca Marinelli[4], Pier Giorgio Masci[1], Daniele De Marchi[1], Christopher James Hardy[4], Thomas K. Foo[4], Luigi Landini[1], Massimo Lombardi[1]
[1]MRI Laboratory, Fondazione "G. Monasterio" CNR – Regione Toscana, Pisa, Tuscany, Italy; [2]Magnet Technology Center, Agilent Technologies UK Ltd, Oxford, Oxfordshire, United Kingdom; [3]Scuola Superiore Sant'Anna, Pisa, Italy; [4]General Electric Global Research, Niskayuna, NY, United States

1376. Novel Pilot Data - Cardiac MR Imaging Post Catheter Ablation: Does T_2 & DE Ratios Matter in Predicting Clinical Outcome?

Aruna Arujuna[1], Rashed Karim[1], Benjamin Knowles[1], Dennis Caulfield[1], Mark O'Neill[1], Aldo Rinaldi[1], Michael Cooklin[2], Jaswinder Gill[1], Tobias Schaeffter[1], Kawal Rhode[1], Reza Razavi[1]
[1]Imaging Sciences, King's College London, London, United Kingdom; [2]Cardiothoracic Department, Guy's &St Thomas' Hospital, London, United Kingdom

1377. 3D Spiral LGE for Reduced Enhancement Artifacts in PV Imaging of Pre- & Post-Ablation Scar.

Benjamin R. Knowles[1], Warren J. Manning[1], Dana C. Peters[1]
[1]Cardiovascular Research, Havard Medical School, Beth Israel Deconess Medical Center, Boston, MA, United States

1378. Self-Navigated 3D Late Gadolinium Enhancement Imaging of the Left Atrium

Ganesh Adluru[1], Liyong Chen[1], Seong-Eun Kim[1], Eugene Kholmovski[1], Nassir Marrouche[2], Edward V. R. DiBella[1]
[1]Radiology, University of Utah, Salt Lake City, UT, United States; [2]Internal Medicine, University of Utah, Salt Lake City, UT, United States

1379. Patients with Histologically Abnormal Left Atrial Myocardium Demonstrate Greater Left Atrial Late Gadolinium Enhancement

Jaime L. Shaw[1], Susie N. Hong-Zohlman[1], Robert C. Hagberg[1], Benjamin R. Knowles[1], Warren J. Manning[1,2], Dana C. Peters[1]
[1]Cardiology, Beth Israel Deaconess Medical Center, Boston, MA, United States; [2]Radiology, Beth Israel Deaconess Medical Center

1380. Left Atrial Scar Imaging using 3D Dixon Late Gadolinium Enhancement

Jaime L. Shaw[1], Benjamin R. Knowles[1], Warren J. Manning[1], Dana C. Peters[1]
[1]Beth Israel Deaconess Medical Center, Boston, MA, United States

Spectroscopic Quantification

Exhibition Hall Monday 14:00-16:00

1381. Cerebral Glucose Uptake in Humans at Hypoglycemic Plasma Levels Follows Reversible Michaelis-Menten Kinetics

Kim C. C. van De Ven[1], Marinette van Der Graaf[1,2], Bastiaan E. de Galan[3], Cees J. J. Tack[3], Arend Heerschap[1]
[1]Radiology, Radboud University Nijmegen Medical Centre, Nijmegen, Netherlands; [2]Paediatrics, Radboud University Nijmegen Medical Centre, Nijmegen, Netherlands; [3]General Internal Medicine, Radboud University Nijmegen Medical Centre, Nijmegen, Netherlands

1382. Phase-Adjusted Echo Time (PATE)-Averaging: Application for Glutamine Resolution at 3.0 Tesla

Andrew Paul Prescot[1], Todd L. Richards[2], Stephen R. Dager[2], Perry Franklin Renshaw[1]
[1]Brain Institute, University of Utah, Salt Lake City, UT, United States; [2]Radiology, University of Washington, Seattle, WA, United States

1383. Area-Specific GABA Concentration Predicts Tactile Discrimination Performance in Humans
Richard Anthony Edward Edden[1], Nick Adrianus Johannus Puts[2], Christopher John Evans[3], David John McGonigle[2,3]
[1]Russell H Morgan Department of Radiology & Radiological Science, The Johns Hopkins University, Baltimore, MD, United States; [2]School of Biosciences, Cardiff University, Cardiff, United Kingdom; [3]CUBRIC, School of Psychology, Cardiff University, Cardiff, United Kingdom

1384. Quantification of Glycine in the Human Brain by PRESS at 3T
Changho Choi[1], Sandeep Ganji[1]
[1]Advanced Imaging Research Center, University of Texas Southwestern Medical Center, Dallas, TX, United States

1385. Multi-Channel Spectroscopic Imaging Reconstruction using Water-Referencing with Compressed Sensing
Maryam Vareth[1,2], Eugene Ozhinsky[1,2], Sarah J. Nelson[1,3]
[1]Surbeck Laboratory of Advanced Imaging, Department of Radiology & Biomedical Imaging, Univ. of California, San Francisco, San Francisco, CA, United States; [2]UCSF/UCBerkeley Joint Graduate Group in Bioengineering, Univ. of California, San Francisco, San Francisco, CA, United States; [3]Univ. of California, San Francisco, Department of Bioengineering & Therapeutic Sciences, San Francisco, CA, United States

1386. Quantitative ^{31}P Magnetic Resonance Spectroscopy of the Breast at 7 Tesla.
Jannie Petra Wijnen[1], Mariska P. Luttje[1], Wybe J. M. van Der Kemp[1], Peter R. Luijten[1], Dennis W. J. Klomp[1]
[1]Radiology, University Medical Centre Utrecht, Utrecht, Netherlands

1387. T_2^{CSF} Pitfalls using Water as Internal Reference for Metabolite Quantification
Markus Sack[1], Gabriele Ende[1], Wolgang Weber-Fahr[1]
[1]Neuroimaging, Central Institute of Mental Health, Mannheim, Germany

1388. Impact of the Prior Knowledge on the Quantification of *In Vivo* ^{13}C Spectra using Two Different Algorithms: LCModel & AMARES
Cristina Cudalbu[1], Bernard Lanz[2], Joao M. Duarte[2], Nicolas Kunz[2], Rolf Gruetter[2,3]
[1]Laboratory for Functional & Metabolic Imaging (LIFMET), Ecole Polytechnique Fédérale de Lausanne (EPFL) , Lausanne, Switzerland; [2]Laboratory for Functional & Metabolic Imaging (LIFMET), Ecole Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland; [3]Departments of Radiology, Universities of Lausanne and Geneva, Geneva, Switzerland

1389. Serial Proton MRS of the Human Brain After Oral Administration of ^{12}C & ^{13}C Enriched Glucose
Arabhi C. Nagasunder[1,2], Ashok Panigrahy[1,3], Fawzi Boumezbeur[4], Marvin D. Nelson[1], Stefan Bluml[1,2]
[1]Radiology, Childrens Hospital Los Angeles, Los Angeles, CA, United States; [2]Rudi Schulte Research Institute, Santa Barbara, CA, United States; [3]Radiology, Children's Hospital of Pittsburgh of UPMC, Pittsburgh, PA, United States; [4]Commissariat à l'Energie Atomique, Institute for Biomedical Imaging, Gif-sur-Yvette, Paris, France

1390. An Objective Method for Automated Classification of Brain Tumors using Proton MR Spectroscopy
Yu Zhang[1], Sanjeev Chawla[1], Sumei Wang[1], Sangeeta Chaudhary[1], Jaroslaw Krejza[1], E. R. Melhem[1], Harish Poptani[1]
[1]Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States

1391. ERETIC Based *In Vivo* ^{1}H MRSI Quantification
Niklaus Zoelch[1], Susanne Heinzer-Schweizer[2], Peter Boesiger[1], Anke Henning[1]
[1]Institute for Biomedical Engineering, University & ETH Zurich, Zurich, Switzerland; [2]Philips AG Healthcare, Zurich, Switzerland

1392. The Influence of the External Magnetic Field Strength on Correlations Between Metabolites
Reggie Taylor[1,2], Peter Williamson[1,3], Jean Théberge[1,2]
[1]Medical Biophysics, University of Western Ontario, London, ON, Canada; [2]Lawson Health Research Institute, London, ON, Canada; [3]Psychiatry, University of Western Ontario, London, ON, Canada

1393. Mapping T_2 Relaxation Time of Cerebral Metabolites using Three Dimensional Proton-Echo Planar Spectroscopic Imaging (PEPSI)
Hsiang Wei Ho[1], Shang Yueh Tsai[1], Yi Ru Lin[2], Stefan Posse[3,4], Fa Hsuan Lin[5,6]
[1]Electrical Engineering, Chang Gung University, Tao Yuan, Taiwan; [2]Electronic Engineering, National Taiwan University of Science & Technology, Taipei, Taiwan; [3]Neurology, University of New Mexico School of Medicine, Albuquerque, NM, United States; [4]Electrical & Computer Engineering, University of New Mexico, Albuquerque, NM, United States; [5]Biomedical Engineering, National Taiwan University, Taipei, Taiwan; [6]6 MGH-HST Athinoula A. Martinos Center for Biomedical Imaging, Charlestown, MA, United States

1394. Modeling MEGA-PRESS Macromolecules for a Better Grasp of GABA
James B. Murdoch[1], Ulrike Dydak[2,3]
[1]Toshiba Medical Research Institute USA, Mayfield Village, OH, United States; [2]School of Health Sciences, Purdue University, West Lafayette, IN, United States; [3]2Department of Radiology & Imaging Sciences, Indiana University School of Medicine, Indianapolis, IN, United States

1395. *In Vivo* Absolute Quantification for Mouse Muscle Metabolites using an Inductively Coupled Synthetic Signal Injection Method & Newly Developed ^{1}H/^{31}P Dual Tuned Probe

Donghoon Lee[1], Kenneth Marro[1], Mark Mathis[1], Eric Shankland[1], Cecil Hayes[1]
[1]University of Washington, Seattle, WA, United States

1396. Multi-Variate Pattern Analysis for Identification of Metabolites that are Predictive of Malignant Transformation in Gliomas using HRMAS Spectra from Image Guided Tissue Samples
Alexandra Constantin[1], Adam Elkhaled[2], Trey Jalbert[2], Radhika Srinivasan[2], Soonmee Cha[3], Susan M. Chang[3], Ruzena Bajcsy[1], Sarah J. Nelson[2]
[1]Electrical Engineering & Computer Science, University of California, Berkeley, CA, United States; [2]Department of Radiology & Biomedical Imaging, University of California, San Francisco, CA, United States; [3]Department of Neurological Surgery, University of California, San Franisco, CA, United States

1397. *Ex Vivo* Ischemic Kidney Damage ^{23}Na Relaxometry
Christoffer Laustsen[1,2], Steffen Ringaard[1], Mads Damkjær[3], Michael Pedersen[1]
[1]Klinisk Institut, The MR Research Centre, Aarhus University, Aarhus, Denmark; [2]Danish Research Centre for Magnetic Resonance, Hvidovre Hospital, Hvidovre, Denmark; [3]Institute of Molecular Medicine, University of Southern Denmark, Odense, Denmark

1398. Improved Data Analysis for Two-Dimensional J-Resolved ^{1}H-MRS: Application in Brain Tumors
Changho Choi[1], Sandeep Ganji[1], Elizabeth Maher[2]
[1]Advanced Imaging Research Center, University of Texas Southwestern Medical Center, Dallas, TX, United States; [2]Internal Medicine & Neuro-oncology, University of Texas Southwestern Medical Center, Dallas, TX, United States

1399. GABA Fitting for MEGA-PRESS Sequences with Different Selective Inversion Frequencies
Zaiyang Long[1,2], James Brown Murdoch[3], Jun Xu[1,2], Ulrike Dydak[1,2]
[1]School of Health Sciences, Purdue University, West Lafayette, IN, United States; [2]Department of Radiology & Imaging Sciences, Indiana University School of Medicine, Indianapolis, IN, United States; [3]Toshiba Medical Research Institute USA, Mayfield Village, OH, United States

1400. Simple Implementation of an Inductively Coupled Synthetic Signal Injection Method on a Clinical MR Scanner for Absolute Quantification
Donghoon Lee[1], Kenneth Marro[1], Eric Shankland[1], Mark Mathis[1], Timothy Wilbur[1], Gregory Wilson[1,2], Jeff Stevenson[1], Cecil Hayes[1], Kenneth Maravilla[1]
[1]University of Washington, Seattle, WA, United States; [2]MR Clinical Science, Philips Healthcare, Cleveland, OH, United States

1401. Synthetic Signal Injection using a Single RF Channel
Kenneth I. Marro[1], Donghoon Lee[1], Eric G. Shankland[1], C. Mark Mathis[1], Cecil E. Hayes[1]
[1]Radiology, University of Washington, Seattle, WA, United States

1402. Quantitative Measurement of N-Acetylaspartyl Glutamate (NAAG) at 3 Tesla using TE-Averaged PRESS Spectroscopy & Lineshape Deconvolution
Yan Zhang[1], Shizhe Li[1], Christine Rebsch[1], Stefano Marenco[1], Jun Shen[1]
[1]National Institute of Mental Health, Bethesda, MD, United States

1403. A Multi-Purpose Simulator of Coupled Spin Systems for MR Localized Spectroscopy & Spectroscopic Imaging
Zenon Starcuk Jr.[1], Jana Starcukova[1], Danielle Graveron-Demilly[2]
[1]Magnetic Resonance & Bioinformatics, Institute of Scientific Instruments, Academy of Sciences of the Czech Republic, Brno, Czech Republic; [2]Creatis-LRMN, Université Claude Bernard Lyon 1, France

1404. The Classification of *In Vivo* Proton Magnetic Resonance Spectroscopy of Brain Abscesses using Principal Component Analysis (PCA)
Ssu-Ying Lu[1], Cheng-Wen Ko, Tzu-Chao Chuang, Ping-Hong Lai[2,3]
[1]National Sun Yat-sen University, Kaohsiung, Taiwan; [2]Veterans General Hospital-Kaohsiung; [3]School of Medicine, National Yang-Ming University, Taipei, Taiwan

1405. Quantification of Rat Brain Metabolites by ProFit: Preliminary Evaluation of High Fat Diet Induced Obesity
Bhaskaran David Prakash[1], Arunima Pola[1], Na Agarwal[1], Sambasivam S. Velan[1]
[1]Laboratory of Molecular Imaging, Singapore Bioimaging Consortium, Singapore, Singapore

1406. Experimental Errors as Alternative to the Theoretical Cramér-Rao Minimum Variance Bounds in MRS: ER-ARSOS - Error Estimation by Multiple Quantification of Recombined ARSOS-Filtered Output Signals
Johannes Slotboom[1], Dirk van Ormondt[2], Olivier Scheidegger[1], Caspar Brekenfeld[1], Roland Wiest[1], Gerhard Schroth[1], Danielle Graveron-Demilly[3]
[1]DRNN-DIN/SCAN, University Hospital Berne, Berne, Switzerland; [2]Applied Physics, Delft University of Technology, Delft, Netherlands; [3]Laboratoire Creatis-LRMN, Université Claude Bernard LYON 1, Lyon, France

1407. Cross-Validation of PRESS, MEGA-PRESS Editing & 2D JPRESS for Neurotransmitter & Antioxidant Detection at 3T using the ERETIC Reference Standard
Mariska Petra Luttje[1], Michael Wyss[1,2], Niklaus Zölch[1,2], Alexander Fuchs[1], Richard A. E. Edden[3,4], Susanne Heinzer[5], Peter Bösiger[1], Anke Henning[1]
[1]Institute for Biomedical Engineering, University & ETH Zurich, Zurich, Switzerland; [2]Contributed equally; [3]Russell H. Morgan Department of Radiology & Radiological Science, Johns Hopkins University School of Medicine, Baltimore, MD, United States; [4]F.M. Kirby Research Center for Functional Brain Imaging, Kennedy Krieger Institute, Baltimore, MD, United States; [5]Philips AG, Zurich, Switzerland

1408. Measuring Tissue PH Heterogeneity by ^{31}P NMR Spectroscopy
Norbert W. Lutz[1], Yann LeFur[1], Patrick J. Cozzone[1]
[1]Dept. of Medicine La Timone, Marseille, France

1409. Quantitative *In Vivo* Magnetic Resonance Spectroscopy using Synthetic Signal Injection
Kenneth I. Marro[1], Donghoon Lee[1], Eric G. Shankland[1], C. Mark Mathis[1], Cecil E. Hayes[1], Martin J. Kushmerick[1,2]
[1]Radiology, University of Washington, Seattle, WA, United States; [2]Physiology & Biophysics, University of Washington, Seattle, WA, United States

1410. VeSPA: Integrated Applications for RF Pulse Design, Spectral Simulation & MRS Data Analysis
Brian J. Soher[1], Philip Semanchuk[1], David Todd[2], Jeffrey Steinberg[1,3], Karl Young[2]
[1]Radiology, Duke University Medical Center, Durham, NC, United States; [2]Radiology, Northern California Institute of Research & Education, San Francisco, CA, United States; [3]Singapore Bioimaging Consortium, Agency for Science, Technology & Research

1411. Repeatability of 2D Magnetic Resonance Spectroscopic Imaging
Lawrence Kenning[1], Martin Lowry[1], David John Manton[1], Lindsay W. Turnbull[1]
[1]Centre for MR Investigations, University of Hull, Hull, United Kingdom

1412. New Technique for Metabolite Cycled Non-Water-Suppressed Proton Spectroscopy in the Human Brain at 7T
Erin Leigh MacMillan[1], Roland Kreis[1], Alex Fuchs[2], Maarten J. Versluis[3], Chris Boesch[1], Peter Boesiger[2], Anke Henning[2]
[1]Dept. of Clinical Research, University of Bern, Bern, Switzerland; [2]Institute for Biomedical Engineering, University & ETH Zurich, Zurich, Switzerland; [3]Dept. of Radiology, Leiden University Medical Center, Leiden, Netherlands

1413. Detection Strategies at 7 Tesla using Clinical MRS Pulse Sequences
Subechhya Pradhan[1,2], John C. Gore[2,3], Kevin W. Waddell[3,4]
[1]Vanderbilt University Institute of Imaging Science, Vanderbilt University, Nashville, 37232, United States; [2]Department of Physics & Astronomy, Vanderbilt University, Nashville, TN, United States; [3]Vanderbilt University Institute of Imaging Science, Vanderbilt University, Nashville, TN, United States; [4]Department of Radiology & Radiological Sciences, Vanderbilt University, Nashville, TN, United States

Spectroscopy Localization

Exhibition Hall Tuesday 13:30-15:30

1414. Hadamard Encoding of 2D-Selective RF Excitations for Simultaneous Acquisition of Multiple, Irregularly Shaped Voxel in MR Spectroscopy
Martin G. Busch[1,2], Jürgen Finsterbusch[1,2]
[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

1415. Segmented 2D-Selective RF Excitations with Weighted Averaging & Flip Angle Adaptation for MR Spectroscopy of Irregularly Shaped Voxel
Jürgen Finsterbusch[1,2], Martin G. Busch[1,2]
[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

1416. Lactate Detection using Double Quantum Coherence Filtering with Spectral-Spatial Refocusing RF Pulses in a PRESS Sequence
Haoyang Xing[1,2], Yi Sui[1], Qiyong Gong[3], Xiaohong Joe Zhou[1,4]
[1]Center for MR Research, University of Illinois Medical Center at Chicago, Chicago, IL, United States; [2]College of Physical Science & Technology, Huaxi MR Research Center, Sichuan University, Chengdu, Sichuan, China, People's Republic of; [3]Huaxi MR Research Center, West China Hospital of Sichuan University, Chengdu, Sichuan, China, People's Republic of; [4]Departments of Radiology, Neurosurgery & Bioengineering, University of Illinois Medical Center at Chicago

1417. Accelerated ^{1}H-MRSI: Artifact Reduction by Target-Driven Reconstruction
Thomas Kirchner[1], Anke Henning[1], Klaas Paul Pruessmann[1], Peter Boesiger[1]

[1]Institute for Biomedical Engineering, University & ETH Zurich, Zurich, Switzerland

1418. Spectroscopic Imaging using Concentrically Circular Echo-Planar Trajectories
Jon Furuyama[1], Neil Wilson[1], M. Albert Thomas[1]
[1]Radiology, UCLA, Los Angeles, CA, United States

1419. Algorithm for Lipid Suppression by Real-Time Isotropic Filter Design in Spectroscopic Brain Imaging
Joonsung Lee[1], Elfar Adalsteinsson[1,2]
[1]Electrical Engineering & Computer Science, Massachusetts Institute of Technology, Cambridge, MA, United States; [2]Harvard-MIT Division of Health Sciences &, Massachusetts Institute of Technology, Cambridge, MA, United States

1420. Reproducibility & Variance of Serial Short Echo Time ^{1}H Magnetic Resonance Spectroscopic Imaging of the Human Brain at 3T with Automated Planning Software
Sofie Van Cauter[1], Diana Sima[2], Leon ter Beek[3], Jan Luts[2], Yuqian Li[4], Maria Isabel Osorio Garcia[2], Stefan Sunaert[1], Sabine Van Huffel[2], Uwe Himmelreich[5]
[1]Department of Radiology, University Hospitals Leuven, Leuven, Belgium; [2]Department Electrical Engineering – ESAT/SCD, Catholic University Leuven; [3]Philips Medical Systems; [4]School of Electronical Engineering, University of Electronic science & Technology of China, Chengdu, China, People's Republic of; [5]Biomedical NMR Unit/Molecular Small Animal Imaging Center, Department of Medical Diagnostic Sciences, Catholic University Leuven

1421. High-Resolution ^{1}H-FID-MRSI of the Human Brain at 7T
Wolfgang Bogner[1], Stephan Gruber[1], Siegfried Trattnig[1], Marek Chmelik[1]
[1]MR Center of Excellence, Department of Radiology, Medical University of Vienna, Vienna, Austria

1422. Composite Localization with Adiabatic Slice Selective Excitation & Refocusing (CLASER) for Improved ^{1}H MRSI in Non Uniform B_1 Fields
Catalina Sofia Arteaga De Castro[1,2], Uulke A. van Der Heide[1], Marco van Vulpen[1], Peter R. Luijten[2], Dennis W. J. Klomp[2]
[1]Radiotherapy, UMC Utrecht, Utrecht, Netherlands; [2]Radiology, UMC Utrecht, Utrecht, Netherlands

1423. Short-Echo Spin-Echo Localization MRSI in Gliomas at 7 Tesla
Yan Li[1], Albert P. Chen[2], Peder Larson[1], Eugene Ozhinsky[1], Janine M. Lupo[1], Duan Xu[1], Sarah J. Nelson[1,3]
[1]Department of Radiology & Biomedical Imaging, University of California, San Francisco, CA, United States; [2]GE Healthcare, Toronto, ON, Canada; [3]Department of Bioengineering & therapeutic sciences, University of California, San Francisco, CA, United States

1424. Short Echo-Time MRSI of Human Brain at 7 Tesla with Improved Shimming & Fat-Suppression
Indrajit Saha[1,2], Jay Moore[1,3], Saikat Sengupta[1,4], Subechhya Pradhan[1,3], James M. Joers[5,6], John C. Gore[1,2]
[1]Vanderbilt University Institute of Imaging Science, Vanderbilt University, Nashville, TN, United States; [2]Department of Radiology & Radiological Sciences, Vanderbilt University, Nashville, TN, United States; [3]Department of Physics & Astronomy, Vanderbilt University, Nashville, TN, United States; [4]Department of Biomedical Engineering, Vanderbilt University, Nashville, TN, United States; [5]Department of Radiology, Children's Hospital of Wisconsin, Milwaukee, WI, United States; [6]The Medical College of Wisconsin, Milwaukee, WI, United States

1425. Short Acquisition Time 3D High Resolution (1cc) *In Vivo* Brain ^{1}H MRSI using LASER-RSI
Claudiu Schirda[1], Ovidiu Andronesi[2], Tiejun Zhao[3], Gregory Sorensen[2], Fernando Boada[1]
[1]Radiology, University of Pittsburgh School of Medicine, Pittsburgh, PA, United States; [2]Radiology, Massachusetts General Hospital, Boston, MA, United States; [3]Siemens Medical Solutions, United States

1426. Hadamard Encoded 3D MRSI of Human Brain at 7T
Hoby Patrick Hetherington[1], Nikolai I Avdievich[1], Oded Gonen[2], Jullie W Pan[1]
[1]Neurosurgery, Yale University, New Haven, CT, United States; [2]Radiology, New York University, New York, NY, United States

1427. Simultaneous Up- & Downfield Spectroscopy using SPECIAL at 7T
Alexander Fuchs[1], Anke Henning[1], Mariska P. Luttje[2], Maarten J. Versluis[3], Roland Kreis[4], Peter Boesiger[2]
[1]Institute for Biomedical Engineering , University & ETH Zurich, Zurich, Switzerland; [2]Institute for Biomedical Engineering, University & ETH Zurich, Zurich, Switzerland; [3]Dept. of Radiology, Leiden University Medical Center, Leiden, Netherlands; [4]Dept. of Clinical Research, University of Bern, Bern, Switzerland

1428. 3D GABA Spectroscopic Imaging using MEGA-PEPSI
Ulrike Dydak[1,2], Jun Sai Xu[1,2], Malgorzata Marjanska[3], Stefan Posse[4,5]
[1]School of Health Sciences, Purdue University, West Lafayette, IN, United States; [2]Department of Radiology & Imaging Sciences, Indiana University School of Medicine, Indianapolis, IN, United States; [3]Center for Magnetic resonance Research & Department of Radiology, University of Minnesota, Minneapolis, MN, United States; [4]Department of Neurology, University of New Mexico School of Medicine, Albuquerque, NM, United States; [5]Department of Electrical & Computer Engineering, University of New Mexico, Albuquerque, NM, United States

1429. Whole Liver ^{31}P Metabolite Mapping with 3D CSI
Scott Jones[1,2], Anshuman Panda[1,2], Ulrike Dydak[1,2]
[1]Health Sciences, Purdue University, West Lafayette, IN, United States; [2]Department of Radiology & Imaging Sciences, Indiana University School of Medicine, Indianapolis, IN, United States

1430. Simultaneous Acquisition of Metabolites & Water Signals using Multi-Coil Sensitivities
Toru Shirai[1], Satoshi Hirata[1], Yoshihisa Soutome[1], Yoshitaka Bito[1]
[1]Central Research Laboratory, Hitachi, Ltd., Kokubunji, Tokyo, Japan

1431. Implementation of GOIA-Wurst Pulse in a SPECIAL Localization Sequence at 7T
Isabell Kristin Steinseifer[1], Ralf Mekle[2], Rolf Gruetter[3], Tom W. J. Scheenen[1], Arend Heerschap[1]
[1]Radiology, Radboud University Nijmegen Medical Centre, Nijmegen, Netherlands; [2]Physikalisch-Technische Bundesanstalt, Berlin, Germany; [3]LIFMET, Ecole Politechnique Federale de Lausanne, Lausanne, Switzerland

1432. MRS Localization in the Human Brain at 7T with Adiabatic Refocusing at Short Echo Time using RF Focusing with a Dual Channel Volume Transmit Coil
Vincent Oltman Boer[1], Astrid L. H. M. W. van Lier[2], Johannes M. Hoogduin[1], Jannie P. Wijnen[1], Peter R. Luijten[1], Dennis W. J. Klomp[1]
[1]Radiology, UMC Utrecht, Utrecht, Netherlands; [2]Radiotherapy, UMC Utrecht, Utrecht, Netherlands

1433. Single Voxel Spectroscopy in 5 Year Old Children using an EPI VNav
Aaron T. Hess[1], André J. W. van Der Kouwe[2], Ernesta M. Meintjes[1]
[1]MRC/UCT Medical Imaging Research Unit, Human Biology, University of Cape Town, Cape Town, South Africa; [2]Radiology, Massachusetts General Hospital, Boston, MA, United States

1434. Signal Normalization for MR Spectroscopic Imaging using Brain Tissue Water: Variability & Pathologic Detectability
Mohammad Sabati[1], Varan Govind[1], Andrew a Maudsley[1]
[1]Radiology, University of Miami, Miami, FL, United States

1435. Multi-Echo Based Correlated Spectroscopic Imaging
Jon Furuyama[1], M. Albert Thomas[1]
[1]UCLA, Los Angeles, CA, United States

1436. Spatiotemporal Denoising of MR Spectroscopic Imaging Data by Low-Rank Approximations
Hien Nguyen[1], Xi Peng[2,3], Minh Do[4], Zhi-Pei Liang[4]
[1]Department of Electrical & Computer Engineering, University of Illinois at Urbana-Champaign, Urbana, IL, United States; [2]School of Electronic Information, Wuhan University, China, People's Republic of; [3]Department of Electrical & Computer Engineering, University of Illinois at Urbana-Champaign, United States; [4]Department of Electrical & Computer Engineering, University of Illinoist at Urbana-Champaign, United States

1437. Non-Linear Concentration Effects in Magnetic Particle Imaging
Volker Christian Behr[1], Thomas Kampf[1], Jan-Philip Gehrcke[1], Martin Andreas Rückert[1,2], Patrick Vogel[1,2], Walter H. Kullmann[2], Peter Michael Jakob[1,3]
[1]Experimental Physics 5, University of Würzburg, Würzburg, Germany; [2]Medical Engineering, University of Applied Sciences Würzburg-Schweinfurt, Schweinfurt, Germany; [3]Magnetic Resonance Bavaria e.V., Würzburg, Germany

1438. Encoding of Pre-Selected Compartments Produces Large SNR & Speed Advantages for ^{31}P MRS
Yi Zhang[1,2], Refaat E. Gabr[1], Michael Schär[1,3], Robert G. Weiss[1,4], Paul A. Bottomley[1,2]
[1]Division of MR Research, Johns Hopkins Univesity, Baltimore, MD, United States; [2]ECE, Johns Hopkins University, Baltimore, MD, United States; [3]Philips Healthcare, Cleveland, OH, United States; [4]Division of Cardiology, Johns Hopkins Univesity, Baltimore, MD, United States

Spectroscopy - Other

Exhibition Hall Wednesday 13:30-15:30

1439. T_2 Relaxation Times in the Human Brain at 7T
Malgorzata Marjanska[1], Edward J. Auerbach[1], Romain Valabregue[2], Pierre-Francois Van De Moortele[1], Gregor Adriany[1], Michael Garwood[1]
[1]Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, MN, United States; [2]Hôpital Pitié-Salpêtrière, Paris, France

1440. Precision Evolution of the Neuroglial Metabolic Fluxes with the Experimental Conditions, When using Two-Compartment Modeling Applied to [2-^{13}C] Acetate Dynamic MRS Studies
Bernard Lanz[1], Lijing Xin[1], Rolf Gruetter[1,2]

[1]Laboratory for Functional & Metabolic Imaging, Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland; [2]Department of Radiology, Universities of Lausanne & Geneva, Lausanne & Geneva, Switzerland

1441. *In Vivo* Detection of ^{13}C Isotopomer Turnover in the Human Brain
Shizhe S. Li[1], Yan Zhang[1], Maria Ferraris Araneta[1], Christopher Johnson[1], Yun Xiang[1], Robert B. Innis[1], Jun Shen[1]
[1]National Institutes of Health, Bethesda, MD, United States

1442. *In Vivo* L-COSY MRS of Healthy Brain & Glioblastoma
Saadallah Ramadan[1], Ovidiu C. Andronesi[2], Peter Stanwell[1], Alexander Lin[1], Gregory A. Sorensen[2], Carolyn Mountford[1]
[1]Radiology, Brigham & Women's Hospital, Boston, MA, United States; [2]Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Boston, MA, United States

1443. Physiological Brain Temperature Change is Detectable by MRS
Yoshichika Yoshioka[1,2], Hiroshi Oikawa[3], Yoshiyuki Kanbara[4], Yutaka Matsumura[4], Takashi Inoue[5], Tsuyoshi Matsuda[6], Akira Nabetani[6], Junji Seki[7]
[1]Immunology Frontier Research Center, Osaka University, Suita, Osaka, Japan; [2]CREST, JST, Kawaguchi, Saitama, Japan; [3]Radiology, Ninohe Haspital, Iwate, Japan; [4]High Field MRI Research Institute, Iwate Medical University, Iwate, Japan; [5]Neurosurgery, Kohnan Hospital, Sendai, Japan; [6]GE Healthcare Japan Corp., Tokyo, Japan; [7]National Cerebral & Cardiovascular Center Research Institute, Suita, Japan

1444. 2D Diffusion Weighted Chemical Shift Imaging of Brain Metabolites at 7T
Aranee Techawiboonwong[1], Hermien Kan[2], Maarten Versluis[2], Andrew Webb[2], Itamar Ronen[2]
[1]Electrical Engineering, Mahidol University, Puttamonton, Nakornpathom, Thailand; [2]C. J. Gorter Center for High Field MRI, Radiology, Leiden University Medical Center, Netherlands

1445. Single Voxel MR Spectroscopy Data Quality & Metabolite Signature of the Isolated Amygdala
Lisa Angelos[1], Brendon M. Nacewicz[1], Andrew L. Alexander[1,2], Richard J. Davidson[1,3]
[1]Waisman Brain Imaging Laboratory, University of Wisconsin -- Madison, Madison, WI, United States; [2]Department of Medical Physics, University of Wisconsin -- Madison, Madison, WI, United States; [3]Department of Psychology, University of Wisconsin -- Madison, Madison, WI, United States

1446. Define Impact of Fasting on Human Brain Acid-Base Homeostasis using Natural Abundance ^{13}C & ^{31}P MRS
Napapon Sailasuta[1], Kent C. Harris[1], Thao Tran[1], Brian D. Ross[1]
[1]Magnetic Resonance Spectroscopy Unit, Huntington Medical Research Institute, Pasadena, CA, United States

1447. Changes in Foot Orientation Alters Residual Dipolar Couplings of Creatine & Phosphocreatine in the Skeletal Muscle of Rats
Nikita Agarwal[1], Loyola D'Silva[1], Sambasivam S. Velan[1]
[1]Laboratory of Molecular Imaging, Singapore Bioimaging Consortium, Singapore, Singapore

1448. Multi Task Bayesian Compressed Sensing in Sparse 2D Spectroscopy
Trina Kok[1], Berkin Bilgic[1], Elfar Adalsteinsson[1,2]
[1]Electrical Engineering & Computer Science, Massachusetts Institute of Technology, Cambridge, MA, United States; [2]Harvard-MIT Division of Health Sciences & Technology, Cambridge, MA, United States

1449. Bringing Quantitative Clinical Routine MR-Spectroscopy & Clinical MR-Image Viewing Together: Novel JMRUI Plug-Ins for DICOM-Network File Transfer DICOM Image Stack Analysis
Johannes Slotboom[1], Dirk van Ormondt[2], Danielle Graveron-Demilly[3], Dan Stefan[4], Caspar Brekenfeld[1], Roland Wiest[1], Gerhard Schroth[1], Olivier Scheidegger[1]
[1]DRNN-DIN/SCAN, University Hospital Berne, Berne, Switzerland; [2]Applied Physics, Delft University of Technology, Delft, Netherlands; [3]Laboratoire Creatis-LRMN, Université Claude Bernard LYON 1, Lyon, France; [4]Alter Systems

1450. Highly Resolved 2D ISIS CT-PRESS in Human Brain using Enhanced Window for Shifted Echoes
Hidehiro Watanabe[1], Nobuhiro Takaya[1], Fumiyuki Mitsumori[1]
[1]Environmental Chemistry Division, National Institute for Environmental Studies, Tsukuba, Ibaraki, Japan

1451. Improved SNR Efficiency in MR Spectroscopy with the Fast Pade Transform
Sun Kim[1], Glen Morrell[2]
[1]School of Medicine, University of Utah, Salt Lake City, UT, United States; [2]Radiology, University of Utah, Salt Lake City, UT, United States

1452. Ultrafast High-Resolution J-Resolved Spectroscopy in Inhomogeneous Fields
Zhong Chen[1], Yulan Lin[1], Zhiyong Zhang[1], Shuhui Cai[1]
[1]Department of Physics, Fujian Key Laboratory of Plasma and Magnetic Resonance, Xiamen University, Xiamen, Fujian, China, People's Republic of

1453. Grid-Based Shimming of Single-Voxel MRS
Judd M. Storrs[1,2], Mohan Jayatilake[1,3], Wen-Jang Chu[1,2], Jing-Huei Lee[1,4]
[1]Center for Imaging Research, University of Cincinnati, Cincinnati, OH, United States; [2]Department of Psychiatry & Behavioral Neuroscience, University of Cincinnati, Cincinnati, OH, United States; [3]Department of Physics, University of Cincinnati, Cincinnati, OH, United States; [4]School of Energy, Environmental, Biological & Medical Engineering, University of Cincinnati, Cincinnati, OH, United States

1454. Analysis of Saturated T_2 Curves for Rapid Relaxometry Measurements in PRESS Localization
Jack Knight-Scott[1]
[1]Radiology, CHOA, Atlanta, GA, United States

MRS of Cells, Body Fluids & Others

Exhibition Hall Thursday 13:30-15:30

1455. A Novel 5mm NMR-Compatible Micro-Spindle Bioreactor for Steady-State & Dynamic in Cell NMR
Kayvan R. Keshari[1], Mark Van Criekinge, Daniel Vigneron, John Kurhanewicz
[1]UCSF, San Francisco, CA, United States

1456. Insight Into Neural Cell Metabolism by NMR – Employing UDP-GlcNAc as a Unique Metabolic Marker
Anika Gallinger[1], Mailin Doepkens[1], Thorsten Biet[1], Luc Pellerin[2], Thomas Peters[1]
[1]Institute of Chemistry, University of Luebeck, Luebeck, Germany; [2]Department of Physiology, University of Lausanne, Lausanne, Switzerland

1457. A New Small-Volume MR-Compatible Hollow-Fiber Bioreactor Cell Culture System
Jean-Philippe Galons[1,2], Logan Robinson[3], Mike Bower[4], Joseph Divijak[4], Greg Russell[5], Ted Trouard[1,4]
[1]Radiology, University of Arizona, Tucson, AZ, United States; [2]Cancer Center, University of Arizona, Tucson, AZ, United States; [3]Chemical Engineering, University of Arizona, Tucson, AZ, United States; [4]Biomedical Engineering, University of Arizona, Tucson, AZ, United States; [5]Physics, University of Arizona, Tucson, AZ, United States

1458. Application of Excitation Sculpting in the Quantification of Conjugated Bile Acids in Bile
Omkar B. Ijare[1], Tedros Bezabeh[1], Nils Albiin[2], Annika Bergquist[2], Urban Arnelo[2], Matthias Lohr[2], Ian C. P. Smith[1]
[1]National Research Council Institute for Biodiagnostics, Winnipeg, Manitoba, Canada; [2]Karolinska University Hospital, Karolinska Institutet, Huddinge, Stockholm, Sweden

1459. 'Mycolates & Phenolic Glycolipids as Biomarker for Tubercular Ascites' : A Proton Magnetic Resonance Spectroscopic Approach
Abhinav Arun Sonkar[1], Shatakshi Shrivastav[2], Raghuvendra Kumar[3], Amita Jain[4], Raja Roy[5]
[1]Surgery, CSM Medical University, Lucknow, Uttar pPradesh, India; [2]Center for Bio Magnaetic Resonance , SGPGI, Lucknow, Uttar Pradesh, India; [3]Surgery, CSM Medical University(King Georges Medical University), Lucknow, Uttar Pradesh, India; [4]Microbiology, CSM Medical University, Lucknow, Uttar Pradesh, India; [5]Center for Bio Magnetic Resonance, SGPGI, Lucknow, Uttar Pradeshi, India

1460. *In Vivo* High-Resolution Magic Angle Spinning Proton NMR Spectroscopy of Drosophila Melanogaster Flies as a Model System to Investigate Mitochondrial Dysfunction in Trauma
Valeria Righi[1,2], Georgios Apidianakis[3], Nikos Psychogios[1,2], Laurence G. Rahme[3], Ronald G. Tompkins[4], Aria A. Tzika[1,2]
[1]Department of Surgery, NMR Surgical Laboratory, MGH & Shriners Burn Institute, Harvard Medical School, Boston, MA, United States; [2]Department of Radiology, Athinoula A.Martinos Center of Biomedical Imaging, Boston, MA, United States; [3]Department of Surgery, Molecular Surgery Laboratory, MGH & Shriners Burn Institute, Harvard Medical School, Boston, MA, United States; [4]Department of Surgery, MGH & Shriners Burn Institute, Harvard Medical School, Boston, MA, United States

1461. Preliminary Study on MR Spectroscopy Measurements for Metabolomic Change During Adipogenic Differentiation of Human Mesenchymal Stem Cell
Song I. Chun[1], Dong Hwa Kim[1], Jee Hyun Cho[2], Kwan Soo Hong[2], Jung Woog Shin[1], Chi Woong Mun[1,3]
[1]Biomedical Engineering, Inje University, Gimhae, Korea, Republic of; [2]Korea Basic Science Institute, Cheongwon-Gun, Chungcheongbuk-Do, Korea, Republic of; [3]First Research Group, Inje University, Korea, Republic of

Microscopy

Exhibition Hall Monday 14:00-16:00

1462. Balanced SSFP Imaging using a Biplanar MR Microscope
Andrey V. Demyanenko[1], Julian Michael Tyszka[1]

[1]Biology, California Institute of Technology, Pasadena, CA, United States

1463. Ultra-High Resolution 3D Anatomical MRI of the *Ex Vivo* Retina at 10x10x14µm
Bryan H. De La Garza[1], Timothy Q. Duong[1]
[1]Research Imaging Institute, Opthamology/Radiology, University of Texas Health Science Center at San Antonio, San Antonio, TX, United States

1464. Mitigation of Transmit Crosstalk in Multiple-Mouse MRI
Jonathan Bishop[1], Brige Chugh[2], R. Mark Henkelman[1,2], John G. Sled[1,2]
[1]Hospital for Sick Children, Toronto, ON, Canada; [2]Medical Biophysics, University of Toronto

1465. Non-Invasive Monitoring of Alterations in Rabbit Hearts with Aging using MR Microscopy
Min-Sig Hwang[1,2], Katja E. Odening[3], Bum-Rak Choi[3], Gideon Koren[3], Stephen J. Blackband[1,2], John R. Forder[1,4]
[1]McKnight Brain Institute, Gainesville, FL, United States; [2]Neuroscience, University of Florida, Gainesville, FL, United States; [3]Cardiovascular Research Center, the Rhode Island Hospital, Alpert Medical School of Brown University, Providence, RI, United States; [4]Radiology, University of Florida, Gainesville, FL, United States

1466. Histological Confirmation of Aplysia Californica Neuron Structure Observed using MR Microscopy
Choong H. Lee[1,2], Jeremy Joseph Flint[3,4], Michael Fey[5], Franck Vincent[5], Stephen Blackband[4,6]
[1]Electrical Engineering, University of Florida, Gainesville, Fl, United States; [2]McKnight Brain Institute, Gainesville , Fl, United States; [3]Neuroscience, University of Florida, Gainesville, Fl, United States; [4]McKnight Brain Institute, Gainesville, Fl, United States; [5]Bruker Biospin; [6]National High Magnetic Field Laboratory, Tallahassee, Fl, United States

1467. Magnetic Microparticle Size Optimization for Susceptibility Contrast Imaging
Nina Olamaei[1], Frederick Gosselin, Farida Cheriet, Sylvain Martel
[1]École Polytechnique Montréal, Montreal, QC, Canada

1468. *In-Ute ro* Imaging of the Early Mouse Embryo
Prodromos Parasoglou[1,2], Cesar a Berrios-Otero[2,3], Brian J. Nieman[4], Daniel H. Turnbul[2,3]
[1]Skirball Institute of Biomolecular Medicine, New York University School of Medicine , New York, United States; [2]Department of Radiology, New York University School of Medicine, New York, United States; [3]Skirball Institute of Biomolecular Medicine, New York University School of Medicine, New York, United States; [4]Mouse Imaging Centre, The Hospital for Sick Children, Toronto, Ontario, Canada

ESR

Exhibition Hall Tuesday 13:30-15:30

1469. Detection of Blood-Brain Barrier Disruption in a Mouse Model of Transient Cerebral Ischemia by EPR Imaging
Hirotada G. Fujii[1], Katsuya Kawanishi[2], Hideo Sato-Akaba[3], Miho Emoto[1], Hiroshi Hirata[4]
[1]Center for Medical Education, Sapporo Medical Univeristy, Sapporo, Hokkaido, Japan; [2]Health Sciences University of Hokkaido, Japan; [3]Osaka University, Japan; [4]Hokkaido University, Japan

1470. Simultaneous CW-EPR Imaging of Isotopic Nitroxyl Radicals
Anna Pawlak[1], Ryohei Ito[1], Hirotada Fujii[2], Hiroshi Hirata[1]
[1]Division of Bioengineering & Bioinformatics, Graduate School of Information Science & Technology, Hokkaido University, Sapporo, Hokkaido, Japan; [2]Center for Medical Education, Sapporo Medical University, Sapporo, Hokkaido, Japan

1471. EPR-Based PH Mapping with a Method of Partially Scanned Spectral-Spatial Imaging
Shunichi Koda[1], Jonathan Goodwin[1], Valery Khramtsov[2], Hirotada Fujii[3], Hiroshi Hirata[1]
[1]Division of Bioengineering & Bioinformatics, Graduate School of Information Science & Technology, Hokkaido University, Sapporo, Hokkaido, Japan; [2]Davis Heart & Lung Research Institute & The Division of Cardiovascular Medicine, The Ohio State University, Columbus, OH, United States; [3]Center for Medical Education, Sapporo Medical University, Sapporo, Hokkaido, Japan

1472. Effects of a Novel Mitochondrial Peptide on Redox Status as Measured by EPR in Drosophila Melanogaster Post-Trauma
Nikolaos Psychogios[1], Harold M Swartz[2], Hazel Szeto[3], Ronald G. Tompkins, Nadeem Khan[2], Aria A. Tzika[1]
[1]NMR Surgical Laboratory, Department of Surgery, Massachusetts General Hospital & Shriners Burn Institute, Harvard Medical School, Boston, MA, United States; [2]EPR Center for Viable Systems, Department of Diagnostic Radiology, Dartmouth Medical School, Hanover, NH, United States; [3]Department of Pharmacology, Joan & Sanford I. Weill Medical College of Cornell University, Joan & Sanford I. Weill Medical College of Cornell University, New York, NY, United States

1473. Characterization of Human Melanomas by EPR Imaging
Quentin Godechal[1], Philippe Leveque[1], Liliane Marot[2], Jean-Francois Baurain[2], Bernard Gallez[1]
[1]Louvain Drug Research Institute, Biomedical Magnetic Resonance Research Group, University of Louvain, Brussels, Belgium; [2]Cliniques Universitaires Saint Luc, Brussels, Belgium

Elastography

Exhibition Hall Wednesday 13:30-15:30

1474. Interleaved Spiral Sequence for MR Elastography of the Brain
Curtis L. Johnson[1], Danchin D. Chen[1], Armen A. Gharibans[1], William C. Olivero[2,3], Bradley P. Sutton[3,4], John G. Georgiadis[1,3]
[1]Department of Mechanical Science & Engineering, University of Illinois at Urbana-Champaign, Urbana, IL, United States; [2]Department of Neurosurgery, University of Illinois at Urbana-Champaign, Urbana, IL, United States; [3]Beckman Institute for Advanced Science & Technology, University of Illinois at Urbana-Champaign, Urbana, IL, United States; [4]Department of Bioengineering, University of Illinois at Urbana-Champaign, Urbana, IL, United States

1475. Revealing the Origin of Attenuation in Tissue: Pure Absorption or Multiple Scattering?
Ralph Sinkus[1], Sverre Holm[2], Bojan Guzina[3], Sven Peter Näsholm[2], Philippe Garteiser[1], Sabrina Doblas[1], Bernard E. Van Beers[1], Valérie Vilgrain[1]
[1]Dept. of Radiology, CRB3, Hôpital Beaujon (U773), INSERM, Clichy, France; [2]Dept. of Informatics, University of Oslo, Norway; [3]Department of Civil Engineering, University of Minnesota, Minneapolis, United States

1476. MR Elastography of Mice in Experimental Autoimmune Encephalitis
Kerstin Riek[1], Isabell Hamann[2], Jason Millwald, Caspar Pfueller, Sebastian Hirsch[1], Dieter Klatt, Jürgen Braun[3], Carmen Infante-Duarte, Ingolf Sack[1]
[1]Department of Radiology, Charité University Medicine, Berlin, Germany; [2]Cecilie-Vogt-Klinik für Neurologie, Charité University Medicine; [3]Institute of Medical Informatics, Charité University Medicine, Berlin, Germany

1477. Prostate MRE at 3T: Trans-Perineal Wave Propagation
Ramin Sebastian Sahebjavaher[1], Ali Baghani[1], Ralph Sinkus[2], Septimiu E. Salcudean[1]
[1]Electrical & Computer Engineering, University of British Columbia, Vancouver, British Columbia, Canada; [2]Laboratoire Ondes et Acoustique, ESPCI, Paris, France

1478. Progressive Change in Biomechanical Properties of *Ex Vivo* Prostate with Pathology Fixation as Measured by MR Elastography at 7 Tesla, & Correlation with Changes in T_1, T_2 & ADC
Deirdre Maria McGrath[1], Warren D. Foltz[1], Kristy K. Brock[1,2]
[1]Radiation Medicine Program, Princess Margaret Hospital, Toronto, Ontario, Canada; [2]Department of Radiation Oncology, University of Toronto, Toronto, Ontario, Canada

1479. Combined MRE & SPAMM Tagged MRI for the Analysis of Large Strain Soft Tissue Mechanical Properties
Kevin Mattheus Moerman[1,2], Andre M. J. Sprengers[2], Ciaran Knut Simms[1], Anneloes E. Bohte[2], Rolf M. Lamerichs[3], Ralph Sinkus[4], Aart J. Nederveen[2]
[1]Trinity Centre for Bioengineering, University of Dublin, Trinity College, Dublin, Ireland; [2]Radiology Department, Academic Medical Centre, Amsterdam, Netherlands; [3]Philips Research, Eindhoven, Netherlands; [4]Radiology Department, CRB3, Hôpital Beaujon (U773), INSERM, Clichy, France

1480. Investigation of the Anisotropic Properties of White Matter Tracts in the Human Brain using Waveguide Constrained MR Elastography
Anthony Joseph Romano[1], Michael Scheel[2], Sebastian Hirsch[3], Juergen Braun[4], Ingolf Sack[3]
[1]Physical Acoustics, Naval Research Laboratory, Washington, DC, United States; [2]Department of Radiology, Charite Universitatsmedizin, Berlin, Germany; [3]Department of Radiology, Charite-Universitatsmedizin, Berlin, Germany; [4]Institute of Medical Informatics, Charite-Universitatsmedizin, Berlin, Germany

1481. Magnetic Resonance Elastography of the Cerebellum
John Zhang[1], Michael Green[1,2], Ralph Sinkus[3], Lynne Bilston[1,4]
[1]Neuroscience Research Australia, Randwick, NSW, Australia; [2]University of NSW, Sydney, NSW, Australia; [3]Centre de Recherches Biomédicales Bichat-Beaujon, INSERM U773, CRB3, Paris, France; [4]Prince of Wales Clinical School, University of NSW, Sydney, NSW, Australia

1482. Wide Frequency Range Shear Modulus Dispersion of Soft Tissue Samples Measured by Magnetic Resonance Elastography
Dieter Klatt[1], Kerstin Riek[2], Hassan Nuzha[1], Susanne Müller[3], Ingolf Sack[1], Jürgen Braun[2]
[1]Radiology, Charité - Universitätsmedizin Berlin, Berlin, Germany; [2]Medical Informatics, Charité - Universitätsmedizin Berlin, Berlin, Germany; [3]Neurology, Charité - Universitätsmedizin Berlin, Berlin, Germany

1483. Biomechanical Property Quantification of Prostate Cancer by Quasi-Static MR Elastography at 7 Telsa of Radical Prostatectomy & Correlation with Whole Mount Histology
Deirdre Maria McGrath[1], Warren D. Foltz[1], Navid Samavati[1], Jenny Lee[1], Michael A. Jewett[2], Theodorus H. van Der Kwast[3], Cynthia Ménard[1], Kristy K. Brock[1,4]

[1]Radiation Medicine Program, Princess Margaret Hospital, Toronto, Ontario, Canada; [2]Department of Surgical Oncology, Princess Margaret Hospital, Toronto, Ontario, Canada; [3]Department of Pathology, University Health Network, Toronto, Ontario, Canada; [4]Department of Radiation Oncology, University of Toronto, Toronto, Ontario, Canada

1484. Magnetic Resonance Elastography with an Air Ball-Vibrator
Tomokazu Numano[1], Yoshihiko Kawabata[2], Toshikatsu Washio[3], Kazuyuki Mizuhara[4], Naotaka Nitta[3], Kazuhiro Homma[3]
[1]Radiological Science, Tokyo Metropolitan University, Arakawa,, Tokyo, Japan; [2]Takashima Seisakusho Co.,Ltd., Hino, Tokyo, Japan; [3]National Institute of Advanced Industrial Science & Technology (AIST), Tsukuba, Ibaraki, Japan; [4]TOKYO DENKI UNIVERSITY, Tokyo, Japan

1485. MR Elastography of Liver Transplant Patients using Parallel Imaging Techniques
Dieter Klatt[1], Patrick Asbach[1], Carsten Kamphues[2], Sebastian Hirsch[1], Sebastian Papazoglou[1], Jürgen Braun[3], Ingolf Sack[1]
[1]Institute of Radiology, Charite - University Medicine, Berlin, Germany; [2]Dept Gen Visceral & Transplantat Surg, Charite - University Medicine, Berlin, Germany; [3]Institute of Medical Informatics, Charite - University Medicine, Berlin, Germany

1486. Three Dimensional Shear Wave Scattering MR Elastography.
Sebastian Papazoglou[1], Sebastian Hirsch[1], Dieter Klatt[1], Jürgen Braun[2], Ingolf Sack[1]
[1]Department of Radiology, Charité University Medicine, Berlin, Germany; [2]Institute of Medical Informatics, Charité University Medicine, Berlin, Germany

1487. Validation of Fast Dynamic SPAMM Tagged MRI Based Measurement of Non-Linear 3D Soft Tissue Deformation
Kevin Mattheus Moerman[1,2], Andre M. J. Sprengers[2], Ciaran Knut Simms[1], Rolf M. Lamerichs[3], Jaap Stoker[2], Aart J. Nederveen[2]
[1]Trinity Centre for Bioengineering, University of Dublin, Trinity College, Dublin, Ireland; [2]Radiology Department, Academic Medical Centre, Amsterdam, Netherlands; [3]Philips Research, Eindhoven, Netherlands

1488. Cross-Platform Comparison of Brain MRE
Matthew C. Murphy[1], Kevin .J Glaser[1], Bradley D. Bolster, Jr.[2], Daniel V. Litwiller[3], Scott A. Kruse[1], Richard L. Ehman[1]
[1]Department of Radiology, Mayo Clinic, Rochester, MN, United States; [2]MR R&D Collaborations, Siemens Healthcare, Rochester, MN, United States; [3]Global Applied Science Laboratory, GE Healthcare, Rochester, MN, United States

Non-Proton MRI

Exhibition Hall Thursday 13:30-15:30

1489. *In Vivo* Sodium Imaging of Kidney using 3D Ultrshort Echo Time Sequence
Raffi Kalayciyan[1], Friedrich Wetterling[1], Sabine Neudecker[2], Lothar R. Schad[1]
[1]Computer Assisted Clinical Medicine, Heidelberg University, Mannheim, Germany; [2]Medical Research Center, Heidelberg University, Mannheim, Germany

1490. High Resolution *In-Vivo* Measurement of Sodium T_1 of Human Knee Cartilage
Rebecca Emily Feldman[1], Robb Stobbe[1], Ander Watts[1], Christian Beaulieu[1]
[1]Biomedical Engineering, University of Alberta, Edmonton, Alberta, Canada

1491. Chemical Shift Sodium Imaging of the Rat Brain During $TmDOTP^{5-}$ Infusion
Patrick Michael Heiler[1], Saema Ansar[2], Saskia Grudzenski[2], Friedrich Wetterling[1], Simon Konstandin[1], Stephen Meairs[2], Marc Fatar[2], Lothar Rudi Schad[1]
[1]Computer Assisted Clinical Medicine, Heidelberg University, Mannheim, Germany; [2]Experimental Neurology, Heidelberg University, Mannheim, Germany

1492. Intracellular Volume Fraction Measurements using Single Quantum Sodium MRI.
Lazar Fleysher[1], Donatello Arienzo[1,2], Niels Oesingmann[3], Matilde Inglese[1,4]
[1]Radiology, NYU School of Medicine, New York, United States; [2]Biobehavioral SCI, UCLA, United States; [3]Siemens Medical Solutions USA, Malvern, PA, United States; [4]Neurology, NYU School of Medicine, New York, United States

1493. A Comparison of Imaging Sequences for Sodium MR Imaging on a 9.4T Whole Body Machine
Sandro Romanzetti[1], Christian Carlo Mirkes[1], Daniel Fiege[1], A. A. Celik[1], Jörg Felder[1], N. J. Shah[1,2]
[1]Institute of Neuroscience & Medicine, Research Centre Juelich, 52425 Juelich, NRW, Germany; [2]Department of Neurology, Faculty of Medicine, JARA,, RWTH Aachen University, 52074 Aachen, Germany

1494. Clinically-Constrained Resolution-Optimized FlexTPI Acquisition Parameters for the Tissue Sodium Concentration Bioscale
Ian C. Atkinson[1], AIming Lu[1], Keith R. Thulborn[1]
[1]Center for Magnetic Resonance Research, University of Illinois at Chicago, Chicago, IL, United States

1495. High-Resolution Sodium Imaging of the Human Brain at 4T
Daniel Pascal Fiege[1], Christian Carlo Mirkes[1], Ana-Maria Oros-Peusquens[1], Sandro Romanzetti[1], N. Jon Shah[1,2]
[1]Institute of Neuroscience & Medicine, Forschungszentrum Jülich, Jülich, NRW, Germany; [2]Department of Neurology, Faculty of Medicine, JARA, RWTH Aachen University, Aachen, NRW, Germany

1496. Total Sodium Brain Concentrations in Compartments of Patient with Multiple Sclerosis. a Preliminary *In Vivo* ^{23}Na MRI Study
Wafaa Zaaraoui[1], Simon Konstandin[2], Armin M. Nagel[3], Tobias Wichmann[4], Dominik Berthel[4], Sylviane Confort-Gouny[1], Patrick J. Cozzone[1], Bertrand Audoin[1,5], Jean Pelletier[1,5], Lothar R. Schad[2], Jean-Philippe Ranjeva[1]
[1]CRMBM UMR CNRS 6612, Marseille, France, Metropolitan; [2]Computer Assisted Clinical Medicine, Heidelberg University, Mannheim, Germany; [3]Department of Medical Physics in Radiology, Heidelberg, Germany; [4]Rapid Biomedical GmbH, Rimpar, Germany; [5]Pôle de Neurosciences Cliniques, Service de Neurologie, Hôpital de La Timone, Marseille, France, Metropolitan

1497. Simultaneous Single-Quantum & Triple-Quantum Filtered Sodium Images at 4T *In Vivo*
Daniel Pascal Fiege[1], Sandro Romanzetti[1], N. Jon Shah[1,2]
[1]Institute of Neuroscience & Medicine, Forschungszentrum Jülich, Jülich, NRW, Germany; [2]Department of Neurology, Faculty of Medicine, JARA, RWTH Aachen University, Aachen, Germany

1498. *In Vivo* Quantification of Tissue Sodium Concentration in the Human Brain by Means of a Centric SPRITE Sequence at 4T
Sandro Romanzetti[1], N. J. Shah[1,2]
[1]Institute of Neuroscience & Medicine, Research Centre Juelich, Juelich, Germany; [2]Department of Neurology, Faculty of Medicine, JARA, RWTH Aachen University, 52074 Aachen, Germany

1499. Intracellular Lithium by ^{7}Li MRS: Effect of Total Li Concentration in Brain
Richard A. Komoroski[1], Diana M. Lindquist[2], John M. Pearce[1]
[1]Center for Imaging Research, University of Cincinnati, Cincinnati, OH, United States; [2]Imaging Research Center, Cincinnati Children's Hospital Medical Center, Cincinnati, OH, United States

1500. Measurement of $CMRO_2$ Changes by Somatosensory Stimulation in Rat using Oxygen-17 at 16.4 T
Hannes Michel Wiesner[1], Rolf Pohmann[1], David Zsolt Balla[1], Wei Chen[2], Kâmil Ugurbil[2], Kamil Uludag[3]
[1]High-Field Magnetic Resonance Center, Max Planck Institute for Biological Cybernetics, Tübingen, Germany; [2]Radiology, Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, MN, United States; [3]MBIC, Department of Cognitive Neuroscience, Maastricht University, Maastricht, Netherlands

1501. Simultaneous ^{23}Na/^{1}H Imaging with Dual Excitation & Double Tuned Birdcage Coil
Christian Stehning[1], Jochen Keupp[1], Jürgen Rahmer[1]
[1]Philips Research Laboratories, Hamburg, Germany

1502. Application of Compressed Sensing to ^{19}F Turbo Spin Echo Chemical Shift Imaging
Thomas Christian Basse-Luesebrink[1,2], Johannes Beck[1], Thomas Kampf[1], Andre Fischer[1,3], Gesa Weise[2], Guido Stoll[2], Peter Michael Jakob[1,3]
[1]Experimental Physics 5, University of Wuerzburg, Wuerzburg, Bavaria, Germany; [2]Neurology, University of Wuerzburg, Wuerzburg, Bavaria, Germany; [3]Magnetic Resonance Bavaria, Wuerzburg, Bavaria, Germany

Hyperpolarized ^{13}C

Exhibition Hall Monday 14:00-16:00

1503. Comparison of Models for Analysis of Flux Through Lactate Dehydrogenase in Glioblastoma Cells using Hyperpolarized [1-^{13}C]Pyruvate
Crystal Harrison[1], Ralph J. DeBerardinis[2,3], Chendong Yang[2], Ashish K. Jindal[1], A. Dean Sherry[1,4], Craig R. Malloy[1,5]
[1]Advanced Imaging Research Center, UT Southwestern, Dallas, TX, United States; [2]Pediatrics, UT Southwestern, Dallas, TX, United States; [3]McDermott Center for Human Growth & Development, UT Southwestern, Dallas, TX, United States; [4]Chemistry, UT Dallas, Richardson, TX, United States; [5]Veterans Affairs, North Texas Health Care System, Dallas, TX, United States

1504. In Situ Polarization Measurement of Hyperpolarized Solutions Prior to *In Vivo* 9.4T MR Experiments
Tian Cheng[1], Mor Mishkovsky[1,2], Arnaud Comment[1,2]
[1]Laboratory for Functional & Metabolic Imaging, Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland; [2]Department of Radiology, Université de Lausanne, Lausanne, Switzerland

1505. Hyperpolarized [1-^{13}C]-Lactate as a Tool for the *In Vivo* Investigation of Cardiac Metabolism
Dirk Mayer[1,2], Yi-Fen Yen[3], Ralph Hurd[3], Sonal Josan[1,2], Jae Mo Park[2], Adolf Pfefferbaum[1,4], Daniel Spielman[2]
[1]Neuroscience Program, SRI International, Menlo Park, CA, United States; [2]Radiology, Stanford University, Stanford, CA, United States; [3]GE Healthcare; [4]Psychiatry & Behavioral Sciences, Stanford University, Stanford, CA, United States

1506. Design & Performance of a Multi-Sample Dissolution Dynamic Nuclear Polarization Setup
Michael Batel[1], Marcin Krajewski[2], Kilian Weiss[2], Oliver With[1], Alexander Däpp[1], Andreas Hunkeler[1], Martin Gimersky[3], Matthias Ernst[1], Sebastian Kozerke[2]
[1]Laboratory of Physical Chemistry, ETH Zürich, Zürich, Switzerland; [2]Institute for Biomedical Engineering, University & ETH Zürich, Zürich, Switzerland; [3]Laboratory for Electromagnetic Fields and Microwave Electronics, ETH Zürich, Zürich, Switzerland

1507. Multi-Band Frequency Encoding Method for Metabolic Imaging with Hyperpolarized [1-^{13}C]Pyruvate
Cornelius von Morze[1], Galen Reed[1], Peter J. Shin[1], Peder E. Larson[1], Robert Bok[1], Simon Hu[1], Daniel B. Vigneron[1]
[1]Department of Radiology & Biomedical Imaging, UCSF, San Francisco, CA, United States

1508. The Spin-Lattice Relaxation of Hyperpolarized ^{89}Y Complexes
Ashish K. Jindal[1], Lloyd Lumata[1], Yixun Xing[2], Matthew E. Merritt[1], Piyu Zhao[2], Craig R. Malloy[1], A. Dean Sherry[1,2], Zoltan Kovacs[1]
[1]Advanced Imaging, UT Southwestern Medical Center, Dallas, TX, United States; [2]Department of Chemistry, University of Texas at Dallas, Richardson, TX, United States

1509. Novel Contrast Mechanism Via ParaHydrogen SElf Rfocussing
Jan Falk Dechent[1,2], Lisandro Buljubasich[2], Laura Maria Scheiber[1], Hans Wolfgang Spiess[2], Kerstin Münnemann[2]
[1]Section of Medical Physics, Johannes Gutenberg University Medical Center, Mainz, Germany; [2]Max Planck Institute for Polymer Research, Mainz, Germany

1510. The Effect of Hyperpolarized [1-^{13}C]Pyruvate Concentration on Metabolism in the Perfused Heart
Daniel Ball[1], Marie Schroeder[1], George Radda[1], Kieran Clarke[1], Damian Tyler[1]
[1]Department of Physiology, Anatomy and Genetics, Oxford University, Oxford, Oxfordshire, United Kingdom

1511. *In Vivo* Measurement of Normal Rat Intracellular Pyruvate & Lactate Levels After Injection of Hyperpolarized [1-^{13}C]Alanine
Simon Hu[1], Hikari Yoshihara[1], Robert Bok[1], Peder E. Larson[1], John Kurhanewicz[1], Daniel B. Vigneron[1]
[1]Dept. of Radiology & Biomedical Imaging, University of California at San Francisco, San Francisco, CA, United States

1512. Effect of Lanthanide Ions on Dynamic Nuclear Polarization Enhancement & Liquid State T_1 Relaxation
Jeremy Gordon[1], Ian Rowland[1,2], Eric Peterson[3], Sean Fain[1,2]
[1]Department of Medical Physics, University of Wisconsin-Madison, Madison, WI, United States; [2]Department of Radiology, University of Wisconsin-Madison, Madison, WI, United States; [3]Department of Biomedical Engineering, University of Wisconsin-Madison, Madison, WI, United States

1513. Probing the Relaxation Mechanism that Interferes with Polarization Measurement using the C_2 Doublet of 1,2-[^{13}C]$_2$-Pyruvate
Justin Yat Cheong Lau[1,2], Albert P. Chen[3], Jianfeng Zhu[4], Gang Wu[4], Charles H. Cunningham[1,2]
[1]Department of Medical Biophysics, University of Toronto, Toronto, Ontario, Canada; [2]Imaging Research, Sunnybrook Health Sciences Centre, Toronto, Ontario, Canada; [3]GE Healthcare, Toronto, Ontario, Canada; [4]Department of Chemistry, Queen's University, Kingston, Ontario, Canada

1514. The Influence of Bovine Serum Albumin on the T_1 Relaxation of [1-^{13}C]Pyruvate – a Study at Low Fields
Benjamin M. Pullinger[1], Stephen J. Kadlecek[1], Nicholas N. Kuzma[1], Rahim R. Rizi[1]
[1]Radiology, University of Pennsylvania, Philadelphia, PA, United States

1515. Optimisation of Murine Cardiac Hyperpolarized Magnetic Resonance Spectroscopy using Dynamic Nuclear Polarization
Michael Samuel Dodd[1], Beat Schuler[1], Vicky Ball[1], Daniel Ball[1], George K. Radda[1], Houman Ashrafian[2], Hugh Watkins[2], Kieran Clarke[1], Damian J Tyler[1]
[1]Physiology, Anatomy & Genetics, Oxford University, Oxford, United Kingdom; [2]Cardiovascular Medicine, Oxford University, Oxford, United Kingdom

1516. Hepatic Hyperpolarized ^{13}C Pyruvate Studies: Origin of Additional *In Vivo* Pyruvate Resonances
Eric T. Peterson[1], Jeremy W. Gordon[2], Sean B. Fain[2], Ian J. Rowland[2]
[1]Biomedical Engineering, University of Wisconsin - Madison, Madison, WI, United States; [2]Medical Physics, University of Wisconsin - Madison, Madison, WI, United States

1517. Retaining Polarization by Exploiting Reduced T_1 Relaxation of Hyperpolarized Spins at Low Field in Solution
Mark Van Criekinge[1], Kayvan R. Keshari, Daniel Vigneron, John Kurhanewicz
[1]UCSF, San Francisco, CA, United States

1518. Determination of Optimal Model Sampling Parameters for Hyperpolarized Contrast Agents
Eric T. Peterson[1], Matthew R. Smith[2], Joseph J. Grudzinski[2], Jeremy W. Gordon[2], Sean B. Fain[1,2]
[1]Biomedical Engineering, University of Wisconsin - Madison, Madison, WI, United States; [2]Medical Physics, University of Wisconsin - Madison, Madison, WI, United States

1519. Generation of Hyperpolarised Materials for Magnetic Resonance using High-Field Cryogenics
David G. Gadian[1], Kuldeep S. Panesar[2], Angel J. Perez Linde[3], Waldemar Senczenko[3], Anthony J. Horsewill[2], Walter Kockenberger[3], John R. Owers-Bradley[2]
[1]Imaging & Biophysics Unit, UCL Institute of Child Health, London, United Kingdom; [2]School of Physics & Astronomy, University of Nottingham, Nottingham, United Kingdom; [3]Sir Peter Mansfield MR Centre, School of Physics & Astronomy, University of Nottingham, Nottingham, United Kingdom

1520. Surface Coils for Cardiac Imaging using Hyperpolarized ^{13}C at 3T
William Dominguez-Viqueira[1], Angus Z. Lau[1,2], Albert P. Chen[3], Charles H. Cunningham[2,4]
[1]Imaging Research , Sunnybrook Health Sciences Centre, Toronto, Ontario, Canada; [2]Medical Biophysics, University of Toronto, Toronto, Ontario, Canada; [3]GE Healthcare, Toronto, Ontario, Canada; [4]Imaging Research, Sunnybrook Health Sciences Centre, Toronto, Ontario, Canada

1521. First Step to ^{19}F Hyperpolarization of Biocompatible Substrates Generated Via Parahydrogen-Transfer
Ute Bommerich[1], Thomas Trantzschel[2], Joachim Bargon[3], Gerd Buntkowsky[4], Johannes Bernarding[2]
[1]SLNIB, Leibniz Institute for Neurobiology, Magdeburg, Germany; [2]IBMI, University of Magdeburg, Magdeburg, Germany; [3]Institute of Physical Chemistry, University of Bonn, Bonn; [4]Eduard-Zintl-Institute for Inorganic & Physical Chemistry, Technical University Darmstadt

1522. Advanced Parallel Imaging Techniques for Metabolic Imaging with Hyperpolarised ^{13}C
Rolf F. Schulte[1], Jonathan I. Sperl[1], Axel Haase[2], Marco Irkens[3], Michael Manglberger[3], Eliane Weidl[4], Guido Kudielka[1], Markus Schwaiger[4], Florian Wiesinger[1]
[1]GE Global Research, Munich, Germany; [2]IMETUM, Technische Universitaet Muenchen, Munich, Germany; [3]Rapid Biomedical, Würzburg, Germany; [4]Department for Nuclear Medicine, Technische Universitaet Muenchen, Munich, Germany

Perfusion & Permeability Methodology

Exhibition Hall Tuesday 13:30-15:30

1523. Classification of Two-Site Exchange Models for DCE-MRI
Steven Sourbron[1], David L. Buckley[1]
[1]Division of Medical Physics, University of Leeds, Leeds, United Kingdom

1524. Effect of T_1 & Flip Angle Errors on Hepatic Arterial Fraction Calculation
Daniel Wilson[1]
[1]Medical Physics, Leeds Teaching Hospitals, Leeds, West Yorkshire, United Kingdom

1525. Quantification of Blood-Brain Barrier Permeability in the Mouse Brain *In Vivo*: A Longitudinal Study
Jieun Kim[1], Nancy Berman[2], Phil Lee[1]
[1]Hoglund Brain Imaging Center, University of Kansas Medical Center, Kansas City, KS, United States; [2]Department of Anatomy & Cell Biology, University of Kansas Medical Center, Kansas City, KS, United States

1526. Utility of Cardiac Gating for Pulmonary Perfusion MRI
Kang Wang[1], Mark Schiebler[2], Christopher Francois[2], Alejandro Munoz Del Rio[1,2], Frank Korosec[1], Sean Fain[1], Scott Nagle[2]
[1]Medical Physics, University of Wisconsin-Madison, Madison, WI, United States; [2]Radiology, University of Wisconsin-Madison, Madison, WI, United States

1527. *In Vitro* Skin Penetration Measurement with Contrast-Enhanced MRI at 7 Tesla
Maximilian N. Voelker[1], Jan M. Burg[2], Peggy Schlupp[3], Ulf Maeder, Alexander M. Koenig[1], Johannes T. Heverhagen[1]
[1]Diagnostic Radiology, Philipps University Marburg, Marburg, Hessen, Germany; [2] Institute of Medical Physics & Radiation Protection, University of Applied Sciences Giessen-Friedberg, Giessen, Germany; [3]Institute of Biopharmaceutical Technology, University of Applied Sciences Giessen-Friedberg, Giessen, Germany

1528. Series Expansion of Multi-Compartment Models for DCE-MRI
Steven Sourbron[1]
[1]Division of Medical Physics, University of Leeds, Leeds, United Kingdom

1529. Pulsed Arterial Spin Labelling Perfusion Imaging at 3T: Estimating the Number of Subjects Required in Common Designs of Clinical Trials
Kevin Murphy[1], Ashley D. Harris[1], Ana Diukova[1], Christopher John Evans[1], David J. Lythgoe[2], Fernando Zelaya[2], Richard G. Wise[1]
[1]CUBRIC, School of Psychology, Cardiff University, Cardiff, Wales, United Kingdom; [2]King's College London, Institute of Psychiatry, Centre for Neuroimaging Sciences, DeCrespigny Park, Denmark Hill, London, United Kingdom

1530. Approximating Water Exchange *In Vivo* in a Rat Model
Colleen Bailey[1,2], Firas Moosvi[1,2], Greg J. Stanisz[1,2]
[1]Sunnybrook Health Sciences Centre, Toronto, ON, Canada; [2]Medical Biophysics, University of Toronto, Toronto, ON, Canada

1531. The Impact of Water Exchange on Dynamic Contrast Enhanced MRI: Can We Estimate Tissue Water Residence Times *In Vivo*?
Lauren Jean Bains[1,2], Josephine H. Naish[1,2], David L. Buckley[3]
[1]Imaging Sciences Research Group, University of Manchester, Manchester, Greater Manchester, United Kingdom; [2]Biomedical Imaging Institute, Manchester, Greater Manchester, United Kingdom; [3]Division of Medical Physics, University of Leeds, Leeds, United Kingdom

1532. Correction of Base-Line [Gd] Offsets Due to Effective Saturation Pulse Flip-Angle Variations in 3T Liver DCE-MRI
Andrew Brian Gill[1,2], Andrew N. Priest[2], Richard T. Black[1], David J. Bowden[2], Martin J. Graves[2], David J. Lomas[2]
[1]Medical Physics, Addenbrooke's Hospital, Cambridge, United Kingdom; [2]Radiology, University of Cambridge, Cambridge, United Kingdom

Drug Discovery

Exhibition Hall Thursday 13:30-15:30

1533. Pharmacological MRI with Continuous ASL in Conscious Rats: Characterizing the Relationship Between CBF Response to CNS Compounds & Plasma Concentration Levels
Alexandre Coimbra[1], Denise Welsh[1], Diane Posavec[1], Amy Vanko[1], Richard Baumgartner[2], Christopher Regan[3], Andrew Danziger[3], Matthew Baran[3], Kristina Groover[3], Jacquelynn Cook[1], Joseph Lynch[3], Jason Uslaner[3], Donald Williams[1]
[1]Imaging, Merck & Co, Inc, West Point, PA, United States; [2]Biometrics, Merck & Co, Inc, Rahway, NJ, United States; [3]Central Pharm, Merck & Co, Inc, West Point, PA

1534. Assessment of DCEMRI with Gadoxetate as a Biomarker of Drug Induced Cholestasis
Jose Ulloa[1], Simone Stahl[2], Neil Woodhouse[1], Guy Healing[2], Gerry Kenna[2], John C. Waterton[1], Paul Hockings[1]
[1]Translational Sciences, AstraZeneca, Macclesfield, Cheshire, United Kingdom; [2]Safety Assessment, AstraZeneca, Macclesfield, Cheshire, United Kingdom

1535. Antibiotic Minocycline Suppressess the PhMRI Response to Acute Ketamine Challenge
Duncan Jack Hodkinson[1], Diana Cash[2], Steve C. R. Williams[2], Shane McKie[3], John Francis W. Deakin[3], Steve R. Williams[1]
[1]Imaging Science & Biomedical Engineering, University of Manchester, Manchester, United Kingdom; [2]Neuroimaging Research Group, Institute of Psychiatry, King's College London, London, United Kingdom; [3]Neuroscience & Psychiatry Unit, University of Manchester, Manchester, United Kingdom

1536. *In Vivo* Target Analysis by MRI in a Murine Model of Pulmonary Fibrosis
Nicolau Beckmann[1], Anna L. Babin[2], Christelle Gerard[1], Catherine Cannet[1], Helmut Sparrer[3], Pierre Saint-Mezard[4], Gabor Jarai[5], Tetsuya Matsuguchi[6]
[1]Global Imaging Group, Novartis Institutes for BioMedical Research, Basel, Switzerland; [2]Sackler Institute of Pulmonary Pharmacology, Kings College London, London, United Kingdom; [3]Autoimmune Diseases Department, Novartis Institutes for BioMedical Research, Basel, Switzerland; [4]Developmental & Molecular Pathways Department, Novartis Institutes for BioMedical Research, Basel, Switzerland; [5]Respiratory Diseases Department, Novartis Institutes for BioMedical Research, Horsham, United Kingdom; [6]Department of Developmental Medicine, Kagoshima University Graduate School of Medical & Dental Sciences, Kagoshima, Japan

1537. Cerebral Amyloid Angiopathy in APP_{23} Mice Modelling Alzheimer's Disease Studied Non-Invasively by MRI: Application to Passive Amyloid-Beta Immunotherapy
Nicolau Beckmann[1], Christelle Gerard[1], Dorothee Abramowski[2], Catherine Cannet[1], Matthias Staufenbiel[2]
[1]Global Imaging Group, Novartis Institutes for BioMedical Research, Basel, Switzerland; [2]Neuroscience Discovery, Novartis Institutes for BioMedical Research, Basel, Switzerland

1538. *In Vivo* MR Approaches to Validate the Capacity of a New Vanadium Compound as a Promising Anti-Diabetic Drug
Ana Marguerita Martins Metelo[1], Rocio Pérez-Carro[1], Maria M. C. A. Castro[2], Pilar López-Larrubia[1]
[1]Instituto de Investigaciones Biomédicas "Alberto Sols", CSIC/UAM, Madrid, Spain; [2]Dept. Life Sciences, Faculty of Science and Technology, University of Coimbra, Coimbra, Portugal

fMRI Characteristics

Exhibition Hall Wednesday 13:30-15:30

1539. Spin Echo Hemodynamic Impulse Response at 7T
Jeroen Cornelis Willem Siero[1,2], Nick F. Ramsey[1], Johannes Marinus Hoogduin[1,2], Peter R. Luijten[2], Natalia Petridou[1,2]
[1]Rudolf Magnus Institute, University Medical Center Utrecht, Utrecht, Netherlands; [2]Radiology, University Medical Center Utrecht, Utrecht, Netherlands

1540. Correlation of Post-Stimulus Undershoot with BOLD Response in Event-Related FMRI
Xiaopeng Zong[1], Jie Huang[1,2]
[1]Department of Radiology, Michigan State University, East Lansing, MI, United States; [2]Neuroscience Program, Michigan State University, East Lansing, MI, United States

1541. Stimulus-Evoked Response in Cutaneous Veins as Measured by Whole Brain FMRI
Evgeniya Kirilina[1], Ruediger Bruehl[2], Bernd Ittermann[2], Arthur Jacobs[1]
[1]Free University of Berlin, Berlin, Germany; [2]Physikalisch-Technische Bundesanstalt, Berlin, Germany

1542. Quantitative OEF Determination by Separate T_2 & T_2* Mapping
Moritz Bernhard Mie[1], Lothar Rudi Schad[1]
[1]Computer Assisted Clinical Medicine, Heidelberg University, Mannheim, Germany

1543. Subtle Physiologic Rate Differences Affect Group fMRI Studies
Erik B. Beall[1], Lael Stone[2], Robert J. Fox[2], Michael D. Phillips[1], Mark J. Lowe[1]
[1]Imaging Institute, Cleveland Clinic, Cleveland, OH, United States; [2]Neurologic Institute, Cleveland Clinic, Cleveland, OH, United States

1544. Error Analysis of QBOLD Technique for Measurement Brain Hemodynamics
Xiaoqi Wang[1], Alexander L. Sukstanskii[2], Dmitriy a Yablonskiy[1,2]
[1]Department of Physics, Washington University, St. Louis, MO, United States; [2]Department of Radiology, Washington University, St. Louis, MO, United States

1545. Relationship between fMRI Signals in the Resting-State (R-fMRI) & Task (T-fMRI)
Sridhar Kannurpatti[1], Bart Rypma[2], Bharat Biswal[1]
[1]Radiology, UMDNJ-New Jersey Medical School, Newark, NJ, United States; [2]School of Behavioral & Brain Sciences, University of Texas at Dallas, Dallas, TX, United States

1546. Cerebral Arterial Blood R_2^* & Volume Measurements During Stimulation
Tae Kim[1], Soeng-Gi Kim[1]
[1]Neuroimaging Laboratory, Radiology, University of Pittsburgh, Pittsburgh, PA, United States

1547. Arterial Contribution to the BOLD fMRI Response to Somatosensory Stimulation in Rats
Yoshiyuki Hirano[1], Afonso C. Silva[2]
[1]Cerebral Microcirculation Unit, Laboratory of Functional & Molecular Imaging, National Institute of Neurological Disorders & Stroke, National Institutes of Health, Bethesda, MD, United States; [2]Cerebral Microcirculation Unit, Laboratory of Functional & Molecular Imaging,, National Institute of Neurological Disorders & Stroke, National Institutes of Health, Bethesda, MD, United States

1548. Functional Changes in Cerebral Blood Flow & Transit-Time to Somatosensory Stimulation Measured with Dynamic Arterial Spin Labeling
Renata Ferranti Leoni[1,2], Draulio Barros de Araujo[2], Afonso Costa Silva[1]
[1]Cerebral Microcirculation Unit, National Institute of Neurological Disorders & Stroke - NIH, Bethesda, MD, United States; [2]Department of Physics & Mathematics, University of Sao Paulo, Ribeirao Preto, Sao Paulo, Brazil

EEG & fMRI

Exhibition Hall Monday 14:00-16:00

1549. Thalamic & Cortical Substrates of Large-Scale Neuronal Oscillations Assessed with Simultaneous EEG-fMRI
Zhongming Liu[1], Jacco A. de Zwart[1], Peter van Gelderen[1], Li-Wei Kuo[1], Jeff H. Duyn[1]
[1]Advanced MRI section, Laboratory of Functional & Molecular Imaging, NINDS, National Institutes of Health, Bethesda, MD, United States

1550. The Electrophysiological Basis of Negative BOLD in Default Mode Network
Joanne R. Hale[1], Peter G. Morris[1], Matthew J. Brookes[1]
[1]SPMMRC, University of Nottingham, Nottingham, Nottinghamshire, United Kingdom

1551. Neuroelectrical Basis of the Resting-State BOLD Global Signal as Determined with Simultaneous EEG-fMRI
Chi Wah Wong[1], Valur Olafsson[1], Omer Tal[1], Anna Leigh Rack-Gomer[1], Thomas T. Liu[1]
[1]Center for Functional MRI, University of California San Diego, La Jolla, CA, United States

1552. Identifying the Sources of the Pulse Artefact in EEG Recordings Made Inside an MR Scanner.
Karen J. Mullinger[1], Jade Havenhand[1], Richard W. Bowtell[1]
[1]Sir Peter Mansfield Magnetic Resonance Centre, School of Physics & Astronomy, University of Nottingham, Nottingham, Nottinghamshire, United Kingdom

1553. Morphology of the fMRI Magnitude Response to Interictal Spikes: Timing, Amplitude & the Dip
Padmavathi Sundaram[1,2], William M. Wells[2], Robert V. Mulkern[1], Mukund Balasubramanian[1], Ellen J. Bubrick[3], Darren B. Orbach[1,2]
[1]Radiology, Children's Hospital Boston, Boston, MA, United States; [2]Radiology, Brigham & Women's Hospital, Boston, MA, United States; [3]Neurology, Brigham & Women's Hospital, Boston, MA, United States

1554. A Spatiotemporal Signal Space Projection Method for Artifact Reduction in Simultaneous EEG-fMRI Acquisitions
Valur Olafsson[1], Omer Tal[1], Chi Wah Wong[1], Thomas Liu[1]
[1]Department of Radiology, University of California San Diego, La Jolla, CA, United States

1555. Simultaneous Intracranial EEG-fMRI in Humans: Data Quality
David William Carmichael[1], Serge Vulliemoz[1,2], Roman Rodionov[1], Karin Rosenkranz[1], Andrew McEvoy[3], Louis Lemieux[1,4]
[1]Clinical & Experimental Epilepsy, UCL Institute of Neurology, London, United Kingdom; [2]Epilepsy Unit, University Hospital & University of Geneva, Geneva, Switzerland; [3]Victor Horsley Dept. Neurosurgery, National Hospital for Neurology & Neurosurgery, London, United Kingdom; [4]MRI Unit, National Society for Epilepsy, Chalfont St. Peter, United Kingdom

1556. An Empirical Investigation of Motion Effects During EMRI of Interictal Epileptiform Spikes
Padmavathi Sundaram[1,2], Robert V. Mulkern[1], William M. Wells[2], Christina Triantafyllou[3], Tobias Loddenkemper[4], Ellen J. Bubrick[5], Darren B. Orbach[1,2]
[1]Radiology, Children's Hospital Boston, Harvard Medical School, Boston, MA, United States; [2]Radiology, Brigham & Women's Hospital, Harvard Medical School, Boston, MA, United States; [3]Brain & Cognitive Sciences, Massachusetts Institute of Technology, Cambridge, MA, United States; [4]Neurology, Children's Hospital Boston, Harvard Medical School, Boston, MA, United States; [5]Neurology, Brigham & Women's Hospital, Harvard Medical School, Boston, MA, United States

1557. EEG Acquisition in Ultra-High Static Magnetic Field Up to 9.4T
Irene Neuner[1,2], Tracy Warbrick[1], Martina Reske[1], Jörg Felder[1], Aydo Celik[1], Nadim Jon Shah[1,3]
[1]Institute of Neuroscience and Medicine - 4, Forschungszentrum Juelich, Juelich, Germany; [2]Department of Psychiatry & Psychotherapy, JARA, RWTH Aachen University, Aachen, Germany; [3]Department of Neurology, Faculty of Medicine, JARA, RWTH Aachen University, Aachen, Germany

1558. Delayed BOLD in the Somatosensory Cortex & Its Possible Relationship to Beta Band Event Related Synchronisation
Fan Wang[1], Claire Stevenson[1], Matthew Brookes[1], Peter Morris[1]
[1]Sir Peter Mansfield MR Centre, Nottingham, Nottinghamshire, United Kingdom

1559. Spatial & Temporal Characteristics of Evoked & Induced Neural & Vascular Responses Assessed with Simultaneous EEG-fMRI
Zhongming Liu[1], Jacco A. de Zwart[1], Peter van Gelderen[1], Li-Wei Kuo[1], Jeff H. Duyn[1]
[1]Advanced MRI Section, Laboratory of Functional & Molecular Imaging, NINDS, National Institutes of Health, Bethesda, MD, United States

1560. Evoked & Induced Somatosensory EEG Responses Predict Activity in Resting State Networks in Simultaneous fMRI Data During Median Nerve Stimulation.
Stephen D. Mayhew[1], Karen J. Mullinger[2], Andrew P. Bagshaw[1], Richard W. Bowtell[2], Susan T. Francis[2]
[1]Birmingham University Imaging Centre, School of Psychology, University of Birmingham, Birmingham, United Kingdom; [2]Sir Peter Mansfield Magnetic Resonance Centre, School of Physics & Astronomy, University of Nottingham, Nottingham, Nottinghamshire, United Kingdom

Human fMRI

Exhibition Hall Tuesday 13:30-15:30

1561. Effects of Autonomic Stimulation on the Brain at Rest & Engaged by Cognitive Task: An fMRI Investigation
Barbara Basile[1], Andrea Bassi[2], Giovanni Calcagnini[3], Pietro Cortelli[4], Carlo Caltagirone[2,5], Marco Bozzali[1]
[1]Neuroimaging Laboratory, Santa Lucia Foundation, Rome, Italy; [2]Department of Clinical & Behavioural Neurology, Santa Lucia Foundation, Rome, Italy; [3]Department of Technology & Health, Italian Institute of Health, Rome, Italy; [4]Department of Neurological Science, University of Bologna, Bologna, Italy; [5]Department of Neuroscience, University of Rome 'Tor Vergata', Rome, Italy

1562. Effects of Inspiratory & Expiratory Loading Upon Global & Stimulus Evoked CBF
Anja Hayen[1,2], Mari Herigstad[1,2], Richard G. Wise[3], Kyle T. S. Pattinson[1,2]
[1]Nuffield Department of Clinical Neurosciences, University of Oxford, Oxford, Oxfordshire, United Kingdom; [2]Oxford Centre for Functional Magnetic Resonance Imaging of the Brain, Oxford, Oxfordshire, United Kingdom; [3]School of Psychology, Cardiff University, CUBRIC, Cardiff, United Kingdom

1563. Relationship of Basal Cerebral Blood Flow, Thickness of Cortical Gray Matter & Fractional Anisotropy of Cerebral White Matter in Adolescents
Ai-Ling Lin[1], Peter Kochunov[1], Peter T. Fox[1], Amy Ramage[1], Hsiao-Ying Wey[1], Timothy Q. Duong[1], Douglas Williamson[2]
[1]Research Imaging Institute, University of Texas Health Science Center, San Antonio, TX, United States; [2]Department of Psychiastry, University of Texas Health Science Center, San Antonio, TX, United States

1564. Cerebral Blood Flow & BOLD MRI During Isometric Exercise-Induced Increase in Blood Pressure
David A. Ravaee[1], Claudia Huerta[1], Hsiao-Ying Wey[1], Ai-Ling Lin[1], Timothy Duong[1]
[1]University of Texas Health Science Center, San Antonio, TX, United States

1565. Transient Neural Plasticity in Human Motor Cortex
Kuang-Chi Tung[1], Feng Xu[1], Jinsoo Uh[1], Hanzhang Lu[1]
[1]Advanced Imaging Research Center, University of Texas Southwestern Medical Center, Dallas, TX, United States

1566. Performance Related Brain Differences in Real-Time fMRI Neurofeedback of Imagined Hand Motor Activity
Mark Chiew[1,2], Stephen M. LaConte[3], Simon James Graham[1,4]
[1]Medical Biophysics, University of Toronto, Toronto, Ontario, Canada; [2]Rotman Research Institute, Toronto, Ontario, Canada; [3]School of Biomedical Engineering, Virginia Tech, Blacksburg, VA, United States; [4]Imaging Research, Sunnybrook Health Sciences Centre, Toronto, Ontario, Canada

1567. Between-Group Racial Differences in the Relation of Brain Function to Intelligence
Vincent Jerome Schmithorst[1], Scott Kerry Holland[1]
[1]Radiology, Children's Hospital Medical Center, Cincinnati, OH, United States

1568. Is BA 44 Part of the Human Mirror Neuron System? a fMRI Study.
Monia Cabinio[1,2], Gabriella Cerri[3], Paola Borroni[4], Valeria Blasi[1], Antonella Iadanza[1], Andrea Falini[1,2]
[1]Neuroradiology - CERMAC, San Raffaele Scientific Institute, Milan, Italy; [2]Vita-Salute San Raffaele University, Milan, Italy; [3]Department of Human Physiology, University of Milan, Milan, Italy; [4]Department of Medicine, Surgery & Dental Sciences, University of Milan, Milan, Italy

1569. The Functional Selectivity for Lexical Search Guided by Letter, Semantic Category & Sentential Cues: an fMRI Investigation
Yunqing Li[1,2], Prasanna Karunanayaka[1], Jianli Wang[1], Paul J. Eslinger[3], Dana M. Lochman[1], Ping Li[4], Qing Yang[1,5]
[1]Radiology, The Pennsylvania State University, Hershey, PA, United States; [2]Radiology, Tianjin Medical University, Tianjin, China, People's Republic of; [3]Neural & Behavioral Sciences, The Pennsylvania State University, Hershey, PA, United States; [4]Psychology, The Pennsylvania State University, University Park, PA, United States; [5]Neurosurgery, The Pennsylvania State University, Hershey, PA, United States

1570. Probing the Brain's Valuation & Choice Systems with 7T fMRI
Fabian Grabenhorst[1], Stefan Maderwald[2], Frank P. Schulte[2,3], Matthias Brand[2,3]

[1]University of Cambridge, Department of Physiology, Development & Neuroscience, Cambridge, United Kingdom; [2]Erwin L. Hahn Institute for Magnetic Resonance Imaging, Essen, Germany; [3]University Duisburg-Essen, General Psychology: Cognition, Duisburg, Germany

1571. Brain Activation in Response to Visually Evoked Sexual Arousal Ln Male-To-Female Transsexuals: 3.0 Tesla Functional MRI

Seok-Kyun Oh[1], Gwang-Won Kim[2], Jong-Chul Yang[3], Seok-Kwun Kim[4], Gwang-Woo Jeong[2,5]
[1]Research Institute for Medical Imaging (RIMI), Department of Radiology, Chonnam National University Hospital, Gwangju, Korea, Republic of; [2]Interdisciplinary Program of Biomedical Engineering, Chonnam National University, Gwangju, Korea, Republic of; [3]Department of Psychiatry, Chonbuk National University Medical School, Jeonju, Korea, Republic of; [4]Department of Plastic & Reconstructive Surgery, Dong-A University College of Medicine, Busan, Korea, Republic of; [5]Department of Radiology, Chonnam National University Medical School and Hospital, Gwangju, Korea, Republic of

1572. Cortical Activation in Superior Temporal Gyrus & Fusiform Gyrus Modulated by Congruence of Emotional Content in Music & Face

Jeong-Won Jeong[1], Vaibhav Diwadkar[2], Carla D. Chugani[3], Harry T. Chugani[4], Diane C. Chugani[5]
[1]Pediatrics, Neurology, Wayne State University, Detroit, MI, United States; [2]Psychiatry, Behavioral Neuroscience, Wayne State University, Detroit, MI, United States; [3]Florida Gulf Coast University; [4]Pediatrics, Neurology, Radiology, Wayne State University, Detroit, MI, United States; [5]Pediatrics, Radiology, Wayne State University, Detroit, MI, United States

Non-Human fMRI

Exhibition Hall Wednesday 13:30-15:30

1573. Resting Functional Connectivity Between Amygdala & DlPFC Predicts Anxious Temperament in the Rhesus Monkey

Rasmus Matthias Birn[1], Steven E. Shelton[1], Jonathan A. Oler[1], Andrew S. Fox[2], Richard J. Davidson[1,2], Ned H. Kalin[1]
[1]Department of Psychiatry, University of Wisconsin, Madison, WI, United States; [2]Department of Psychology, University of Wisconsin, Madison, WI, United States

1574. Functional Interpretations of the Resting-State Networks in Nonhuman Primates

Hsiao-Ying Wey[1,2], Angela R. Laird[1,2], Peter T. Fox[1,2], Timothy Q. Duong[1,2]
[1]Research Imaging Institute, University of Texas Health Science Center at San Antonio, San Antonio, TX, United States; [2]Radiology, University of Texas Health Science Center at San Antonio, San Antonio, TX, United States

1575. Optimizing Negative fMRI Response in the Rat Striatum Under Isoflurane Anesthesia

Yen-Yu Ian Shih[1], Shiliang Huang[1], Timothy Q Duong[1]
[1]Research Imaging Institute, University of Texas Health Science Center at San Antonio, San Antonio, TX, United States

1576. Layer-Specific fMRI of Visual Stimulation in the Rat Retina: Responses to Different Stimulation Luminance, Frequency & Color

Yen-Yu Ian Shih[1], Bryan H. De La Garza[1], Eric R. Muir[1], Li Guang[1], Timothy Q. Duong[1]
[1]Research Imaging Institute, University of Texas Health Science Center at San Antonio, San Antonio, TX, United States

1577. Flow-Metabolism Uncoupling & Extended Longevity as Observed with a Transgenic Mice Model

Ai-Ling Lin[1], Peter T. Fox[1], Holly Van Remmen[2], Arlan G. Richardson[2], Timothy Q. Duong[1]
[1]Research Imaging Institute, University of Texas Health Science Center, San Antonio, TX, United States; [2]Barshop Institute for Logevity & Aging Studies, University of Texas Health Science Center, San Antonio, TX, United States

1578. Facilitation of the BOLD Response to Bilateral Somatosensory Stimulation in Awake Marmosets

Yoshiyuki Hirano[1], Junjie Liu[2], Afonso C. Silva[2]
[1]Cerebral Microcirculation Unit, Laboratory of Functional & Molecular Imaging, National Institute of Neurological Disorders & Stroke, National Institutes of Health, Bethesda, MD, United States; [2]Cerebral Microcirculation Unit, Laboratory of Functional & Molecular Imaging,, National Institute of Neurological Disorders & Stroke, National Institutes of Health,, Bethesda, MD, United States

1579. BOLD fMRI of the Mouse Barrel Cortex

Nathalie Just[1,2], Carl Petersen[3], Rolf Gruetter[1,4]
[1]LIFMET, CIBM/EPFL, Lausanne, Switzerland; [2]Department of Radiology, UNIL, Lausanne, Switzerland; [3]LSENS, EPFL, Lausanne, Switzerland; [4]Department of Radiology, UNIL& HUG, Lausanne & Geneve, Switzerland

1580. Resting-State Functional Connectivity Across Primate Species: Implications of Evolutionary Hemispheric Asymmetry

Hsiao-Ying Wey[1,2], Peter Kochunov[1,2], Peter T. Fox[1,2], Angela R. Laird[1,2], Timothy Q. Duong[1,2]
[1]Research Imaging Institute, University of Texas Health Science Center at San Antonio, San Antonio, TX, United States; [2]Radiology, University of Texas Health Science Center at San Antonio, San Antonio, TX, United States

1581. Analgesic Action Sites of Pregabalin by fMRI of Spinal Cord & Brain in Anesthetized Rats & Its Qualification Against Behavioral Assay in Awake Rats
Fuqiang Zhao[1], Denise Welsh[1], Mangay Williams[1], Hongyu Annie Liang[2], Alexandre Coimbra[1], Mark O. Urban[2], Mark Bowlby[2], Richard Hargreaves[2], Jeffrey L. Evelhoch[1], Donald S. Williams[1]
[1]Imaging, Merck, West Point, PA, United States; [2]Neuroscience, Merck, West Point, PA, United States

1582. Comparing Results of Median Nerve Stimulation between Healthy & C7 Donor Rats Utilizing BOLD fMRI at 9.4T
Jack B. Stephenson, IV[1], Rupeng Li[2], Patrick Hettinger[1], Matthew Runquist[2], Christopher P. Pawela[2], Ji Geng Yan[1], Hani Matloub[1], James Hyde[2]
[1]Plastic Surgery, Medical College of Wisconsin, Milwaukee, WI, United States; [2]Biophysics, Medical College of Wisconsin, Milwaukee, WI, United States

1583. TRPV1-Mediated Entry of QX-314 Leads to Inhibition of Nociceptive Input as Measured by BOLD fMRI in Mice using Thermal Stimulation
Simone Claudia Bosshard[1], Florian Stuker[1], Constantin von Deuster[1], Markus Rudin[1,2]
[1]Institute for Biomedical Engineering, University & ETH Zurich, Zurich, Switzerland; [2]Institute of Pharmacology & Toxicology, University Zürich, Zurich, Switzerland

1584. Characterization of Somatosensory BOLD Response Deficit & Recovery after Traumatic Brain Injury in Rat
Juha-Pekka Niskanen[1,2], Antti M. Airaksinen[1], Alejandra Sierra[1], Joanna K. Huttunen[1], Pasi A. Karjalainen[2], Jari Nissinen[1], Asla Pitkänen[1,3], Olli Gröhn[1]
[1]Department of Neurobiology, A. I. Virtanen Institute for Molecular Sciences, University of Eastern Finland, Kuopio, Finland; [2]Department of Physics & Mathematics, University of Eastern Finland, Kuopio, Finland; [3]Department of Neurology, Kuopio University Hospital, Kuopio, Finland

1585. Cocaine-Induced Activity in the Rat Hippocampus using PhMRI
S. K. Hekmatyar[1], Madhu M. Keralapurath[2], Jason Clark[2], Sherri Hammond[2], John J. Wagner[2]
[1]BioImaging Research Center, University of Georgia, Athens, GA, United States; [2]Department of Physiology & Pharmacology, University of Georgia, Athens, GA, United States

1586. Evaluation of Pharmacological Responses by Quantitative T_2 fMRI
Joanna K. Huttunen[1], Antti M. Airaksinen[1], Kimmo Lehtimäki[2], Juha-Pekka Niskanen[1,3], Juha Yrjänheikki[2], Olli Gröhn[1]
[1]A. I. Virtanen Institute for Molecular Sciences, University of Eastern Finland, Kuopio, Finland; [2]Discovery & Imaging Services, Cerebricon Ltd / Charles River Labs, Kuopio, Finland; [3]Department of Physics & Mathematics, University of Eastern Finland, Kuopio, Finland

1587. Pain fMRI Response in Anesthetized Rats Correlates with Behavioral Response to Pain in Awake Rats
Fuqiang Zhao[1], Denise Welsh[1], Mangay Williams[1], Hongyu Annie Liang[2], Alexandre Coimbra[1], Mark O. Urban[2], Mark Bowlby[2], Richard Hargreaves[2], Jeffrey L. Evelhoch[1], Donald S. Williams[1]
[1]Imaging, Merck, West Point, PA, United States; [2]Neuroscience, Merck, West Point, PA, United States

1588. Neural Source of Laminar fMRI Responses Examined with Temporal Frequency Visual Stimuli
Cecil Chern-Chyi Yen[1], Hiro Fukuda[2], Seong-Gi Kim[2]
[1]Bioengineering, University of Pittsburgh, Pittsburgh, PA, United States; [2]Neuroimaging Lab Radiology, University of Pittsburgh, Pittsburgh, PA, United States

1589. Direct Imaging of Microvascular & Macrovasular Contributions by Time Resolved BOLD fMRI Allows Better Separation of Whisker Rows in the Rodent Barrel Cortex
Xin Yu[1], Stephen Dodd[1], Afonso Silva[1], Alan Koretsky[1]
[1]NINDS, NIH, Bethesda, MD, United States

1590. Functional Magnetic Resonance Spectroscopy of the Rat Barrel Cortex
Nathalie Just[1], Rolf Gruetter[1]
[1]LIFMET, CIBM/EPFL, Lausanne, Switzerland

1591. Orthogonal Diffusion Measurements in the Mouse Hypothalamus by MRI Reveal Cerebral Activity in the Fed or Fasted States
Blanca Lizarbe[1], Ania Benitez[1], Pilar Lopez-Larrubia[1], Sebastian Cerdan[1]
[1]Instituto Investigaciones Biomedicas "Alberto Sols", Madrid, Spain

Functional Connectivity Studies

Exhibition Hall Thursday 13:30-15:30

1592. Reliability of Functional & Effective Connectivity of the Resting State Motor Network in Healthy Subjects
Tejaswini Kavallappa[1], Steven Roys[2], Anindya Roy[3], Joel Greenspan[2], Rao Gullapalli[2], Alan McMillan[2]
[1]Dept. of Nuclear Medicine & Diagnostic Radiology, Univeristy of Maryland School of Medicine, Baltimore, MD, United States; [2]University of Maryland School of Medicine; [3]University of Maryland Baltimore County

1593. Two New-Discovered Functional Networks of Resting Brains
Yi Chia Li[1], Jyh Horng Chen[2]
[1]Graduate Institute of Biological Engineering & Bioinformatics, National Taiwan University, Taipei, Taiwan; [2]Interdisciplinary MRI/MRS Lab, Department of Electrical Engineering, National Taiwan University, Taipei, Taiwan

1594. Stimulating Brain Tissue with Light - Resting State fMRI Analysis
Tuomo Starck[1,2], Juuso Nissilä[3], Antti Aunio[3], Ahmed Abou Elseoud[1,2], Jukka Remes[1], Juha Nikkinen[1], Markku Timonen[4,5], Timo Takala[6], Osmo Tervonen[1,2], Vesa Kiviniemi[1,2]
[1]Diagnostic Radiology, Oulu University Hospital, Oulu, Finland; [2]Diagnostic Radiology, Oulu University, Oulu, Finland; [3]Valkee Ltd, Finland; [4]Department of Psychiatry, Oulu University, Finland; [5]Institute of Health Sciences, Oulu University, Finland; [6]ODL Health ltd, Oulu, Finland

1595. Self-Organizing Group Level Independent Component Analysis Reveals Task-Related Activity as Well as Resting State Networks During Auditory Stimulation
Elizabeth Quattrocki Knight[1,2], Xiaoying Fan[3], Blaise Frederick[4], Marc Kaufman[4], Bruce Cohen[2,3]
[1]Psychiatry, McLean Hospital, Belmont, MA, United States; [2]Psychiatry, Harvard Medical School, Boston, MA, United States; [3]Frazier Research Institute, McLean Hospital, Belmont, MA, United States; [4]Brain Imaging Center, McLean Hospital, Belmont, MA, United States

1596. Interference of Default Mode Neural Network by Visual Stimulation & Subject's Attention Depending on the Resting Functional MRI
Yasuhiro Funakoshi[1], Tomomi Sumiyoshi, Masafumi Harada[2], Hitoshi Kubo[2]
[1]Medidcal Imaging, University of Tokushima, Tokushima, Japan; [2]Health Biosciences, University of Tokushima

1597. Functional Network of Hand Prehension : Validation by fMRI Network Connectivity
Tzu-Chen Yeh[1,2], Chou-Ming Cheng[1], Bi-Yu Hsu[1], Jo-Mei Huang[2]
[1]Department of Medical Research & Education, Taipei Veterans General Hospital, Taipei, Taiwan; [2]Insitute of Brain Science, National Yang-Ming University, Taipei, Taiwan

1598. Hippocampal Connectivity Modulated by Menstrual Cycle:a Resting State Study
Xinyuan Miao[1], Thomas Zeffiro[2], Yan Zhuo[1]
[1]Institute of Biophysics, Chinese Academy of Sciences, Beijing, China, People's Republic of; [2]Neural Systems Group, Massachusetts General Hospital, United States

1599. Task Modulation of Intrinsic Low-Frequency Temporal Connectivity in the Brain Default Mode Network
Jingyuan Chen[1], Catie Chang[2], Kui Ying[1], Yan Zhu[1], Gary Glover[2]
[1]Tsinghua University, Beijing, China, People's Republic of; [2]Stanford University, Stanford, CA, United States

Functional Connectivity Analysis

Exhibition Hall Monday 14:00-16:00

1600. Impact of the Global Average in Resting State Functional Connectivity: Quantification of Anti-Correlations
Felix Carbonell[1], Pierre Bellec[2], Amir Shmuel[1]
[1]Montreal Neurological Institute, Montreal, Quebec, Canada; [2]Centre de recherche de l'institut de Gériatrie de Montréal

1601. A Graph-Theory Approach to Study the Effect of Cognitive Load on Resting State Networks
Tommaso Gili[1], Paolo Barucca[2], Francesco De Santis[2], Guido Caldarelli[3], Emiliano Macaluso[4], Bruno Maraviglia[2], Federico Giove[2]
[1]Cardiff University Brain Research Imaging Centre (CUBRIC), School of Psychology, Cardiff University, Cardiff, Wales, United Kingdom; [2]Dipartimento di Fisica, Università di Roma Sapienza, Roma, Italy; [3]CNR-ISC Dipartimento di Fisica, Università di Roma Sapienza, Roma, Italy; [4]Neuroimaging Laboratory, Santa Lucia Foundation, Roma, Italy

1602. Incorporation of Regional Homogeneity in Seed Definition for the Resting-State Functional MRI Analysis
Feng-Xian Yan[1], Yuan-Yu Hsu[2], Shi-Yu Cheng[3], Kun-Eng Lim[2], Ho-Ling Liu[3,4]

[1]Department of Medical Imaging & Radiological Sciences, Chang Gung University, Kwei-Shan, Tao-Yuan, Taiwan; [2]Department of Medical Imaging, Buddhist Tzu Chi General Hospital, Taipei, Taiwan; [3]Department of Medical Imaging & Radiological Sciences, Chang Gung University, Kwei-Shan, Tao-Yuan, Taiwan; [4]Department of Medical Imaging & Intervention, Chang Gung Memorial Hospital, Tao-Yuan, Taiwan

1603. Beyond Thresholding: Fully-Weighted Graph Representations of Brain Functional Connectivity
Adam J. Schwarz[1], John McGonigle[2]
[1]Psychological & Brain Sciences, Indiana University, Bloomington, IN, United States; [2]Computer Science, University of Bristol, Bristol, United Kingdom

1604. A Resting-State Connectivity Index with No Dependence on SNR & CNR
Ali Mohammad Golestani[1], Bradley G. Goodyear[1,2]
[1]Biomedical Engineering, University of Calgary, Calgary, Alberta, Canada; [2]Radiology & Clinical Neuroscience, University of Calgary, Calgary, Alberta, Canada

1605. Estimation of Resting State Network Activity using Multivariate Prediction Analysis Regression (MVPA-R)
Cameron Craddock[1], Stephen M. LaConte[1]
[1]School of Biomedical Engineering & Sciences, Virginia Tech, Blacksburg, VA, United States

1606. Individual Brain Parcellation Based on Single Subject ICA
Erik van Oort[1], David Norris[1]
[1]MR Techniques in Brain Function, Radboud University Nijmegen, Donders Institute, Nijmegen, Gelderland, Netherlands

1607. Principal Components Analysis Reveals the Correlation Structure of Resting-State fMRI Data
Hongjian He[1], Thomas T. Liu[2]
[1]Zhejiang University, Hangzhou, Zhejiang, China, People's Republic of; [2]Center for Functional MRI & Department of Radiology, UC San Diego, La Jolla, CA, United States

1608. On Connectivity Within the Default Mode Network: An ICA & Tractography Approach
Erik van Oort[1], David Norris[1]
[1]MR Techniques in Brain Function, Radboud University Nijmegen, Donders Institute, Nijmegen, Gelderland, Netherlands

1609. Dynamic Functional Connectivity Measures using FcMRI
Thomas W. Allan[1], Matthew J. Brookes[1], Susan T. Francis[1], Penny A. Gowland[1]
[1]SPMMRM, University of Nottingham, Nottingham, United Kingdom

1610. The Spectral Power of Brain Oscillations Predicts the Functions of Brain Networks
Yi Chia Li[1], Jyh Horng Chen[2]
[1]Graduate Institute of Biological Engineering & Bioinformatics, National Taiwan University, Taipei, Taiwan; [2]Interdisciplinary MRI/MRS Lab, Department of Electrical Engineering, National Taiwan University, Taipei, Taiwan

fMRI Analysis

Exhibition Hall Tuesday 13:30-15:30

1611. Complex & Magnitude-Only Preprocessing of 2D & 3D BOLD fMRI Data at 7 Tesla
Robert L. Barry[1,2], Stephen C. Strother[3,4], John C. Gore[1,2]
[1]Vanderbilt University Institute of Imaging Science, Nashville, TN, United States; [2]Department of Radiology & Radiological Sciences, Vanderbilt University Medical Center, Nashville, TN, United States; [3]Rotman Research Institute, Baycrest, Toronto, ON, Canada; [4]Department of Medical Biophysics, University of Toronto, Toronto, ON, Canada

1612. Detecting fMRI Activation in K-Space for High Acceleration Factors
Gigi Galiana[1], Robert Todd Constable[1]
[1]Diagnostic Radiology, Yale University, New Haven, CT, United States

1613. The Bleeding Artifact of Spatially Constrained Canonical Correlation Analysis in Functional MRI
Dietmar Cordes[1], Mingwu Jin[1], Tim Curran[2], Rajesh Nandy[3]
[1]C-TRIC & Dept. of Radiology, University of Colorado-Denver, Aurora, CO, United States; [2]Dept. of Psychology & Neuroscience, University of Colorado-Boulder, Boulder, CO, United States; [3]Depts. of Biostatistic & Psychology, University of California-Los Angeles, Los Angeles, CA, United States

1614. Investigation of Efficient Implementation of Local Constrained Canonical Correlation Analysis for fMRI
Mingwu Jin[1], Rajesh Nandy[2], Dietmar Cordes[1]
[1]University of Colorada Denver, Aurora, CO, United States; [2]UCLA, Los Angeles, CA, United States

1615. A Multivariate Regression Framework for the Analysis of fMRI Data Accounting for Spatial Correlation
Rajesh Ranjan Nandy[1]

[1]Psychology & Biostatistics, University of California, Los Angeles, CA, United States

1616. Model-Free fMRI Group Analysis using FENICA

Veronika Schöpf[1,2], Christian Windischberger[1,2], Simon Robinson[1,3], Christian Kasess[1,4], Florian Ph. S. Fischmeister[1,5], Rupert Lanzenberger[4], Jessica Albrecht[6], Anna M. Kleemann[6], Rainer Kopietz[6], Martin Wiesmann[6,7], Ewald Moser[1,2]
[1]MR Centre of Excellence, Medical University Vienna, Vienna, Austria; [2]Center of Medical Physics & Biomedical Engineering, Medical University Vienna, Vienna, Austria; [3]Department of Radiology, Division of Neuroradiology, Medical University Vienna, Vienna, Austria; [4]Division of Biological Psychiatry, Department of Psychiatry & Psychotherapy, Medical University Vi, Vienna, Austria; [5]Faculty of Psychology, University of Vienna, Vienna, Austria; [6]Department of Neuroradiology, Ludwig-Maximilians-University, Munich, Germany; [7]Department of Neuroradiology, Technical University Aachen RWTH, Aachen, Germany

1617. Model-Based & Data-Driven Analysis of Whole Brain EVI Demonstrates Increased Statistical Power Compared to EPI at 3T

Radu Mutihac[1,2], Elena Ackley[1], Jochen Rick[3], Akio Yoshimoto[4], Maxim Zaitsev[3], Oliver Speck[5], Stefan Posse[1,6]
[1]Department of Neurology, University of New Mexico, Albuquerque, NM, United States; [2]Department of Electricity & Biophysics, University of Bucharest, Bucharest, Romania; [3]Department of Radiology - Medical Physics, University Medical Center Freiburg, Freiburg, Germany; [4]Polytechnic Institute of New York University, New York, United States; [5]Department Biomedical Magnetic Resonance, Otto-von-Guericke-University Magdeburg, Magdeburg, Germany; [6]Department of Physics & Astronomy, University of New Mexico, Albuquerque, NM, United States

1618. Use of Independent Component Analysis to Define Regions of Interest for fMRI Studies

Jolinda Carol Smith[1], Scott H. Frey[1,2]
[1]Lewis Center for Neuroimaging, University of Oregon, Eugene, OR, United States; [2]Department of Psychology, University of Oregon, Eugene, OR, United States

1619. One-Step Thresholding for BOLD Signal Detection in Accelerated fMRI

Samir D. Sharma[1], Bosco S. Tjan[2], Krishna S. Nayak[1]
[1]Electrical Engineering, University of Southern California, Los Angeles, CA, United States; [2]Psychology, University of Southern California, Los Angeles, CA, United States

1620. Development of a Reasonable Lateralization Index for Functional Magnetic Resonance Imaging

Kayako Matsuo[1], Annabel S.-H. Chen[2], Wen-Yih Isaac Tseng[1]
[1]Center for Optoelectronic Biomedicine, National Taiwan University College of Medicine, Taipei, Taiwan; [2]Division of Psychology, School of Humanities & Social Sciences, Nanyang Technological University, Singapore

1621. Multivariate Discrimination in Natural & Urban Scene Viewing

Scott James Peltier[1,2], Marc G. Berman[3], Yash Shah[2], Stephen Kaplan[3], John Jonides
[1]Functional MRI Laboratory, University of Michigan, Ann Arbor, MI, United States; [2]Biomedical Engineering, University of Michigan, Ann Arbor, MI, United States; [3]Psychology, University of Michigan, Ann Arbor, MI, United States

1622. Assessing (fMRI) Brain-Computer Interface Stability in ALS with Support Vector Machine

Robert Cary Welsh[1], Laura Jelsone-Swain[1], Veronika Schoepf[2], Scott J. Peltier[3]
[1]Radiology, University of Michigan, Ann Arbor, MI, United States; [2]Radiology, Division of Neuroradiology, Medical University of Vienna, Vienna, Austria; [3]Functional MRI Laboratory, University of Michigan, Ann Arbor, MI, United States

1623. Class-Wise Contributions to Spatio-Temporal SVM Classification of fMRI Data

Rainer Boegle[1,2], Carolin Cyran[3], Stefan Glasauer[1,2], Marianne Dieterich[2,3]
[1]Center for Sensorimotor Research, Ludwig-Maximilians University, Munich, Germany; [2]Integrated Center for Research & Treatment of Vertigo, Ludwig-Maximilians University (IFBLMU), Munich, Germany; [3]Department of Neurology, Ludwig-Maximilians-University, Munich, Germany

1624. Automated Classification of SLE & APL Patients & Normal Controls using fMRI & DTI Features

An Vo[1], Aziz M. Ulug[1,2], E. Kozora[3,4], G. Ramon[5], J. Vega[5], R. D. Zimmerman[6], D. Erkan[5], M. D. Lockshin[5]
[1]The Feinstein Institute for Medical Research, Manhasset, NY, United States; [2]Department of Radiology, Albert Einstein School of Medicine, Bronx, NY, United States; [3]National Jewish Health, Denver, CO, United States; [4]University of Colorado Medical Center, Denver, CO, United States; [5]Hospital for Special Surgery, New York, United States; [6]Weill Medical College of Cornell University, New York, United States

1625. Sub Millimiter Coregistration of Functional Maps Across Imaging Sessions

Jeremy Lecoeur[1], Feng Wang[2], Li Min Chen[2], Benoit M. Dawant[1], Malcolm J. Avison[2]
[1]Electrical Engineering & Computer Science, Vanderbilt University, Nashville, TN, United States; [2]Radiology & Radiological Science, Vanderbilt University Medical Center, Nashville, TN, United States

1626. Spatial Modeling of PhMRI Data with a Functional Basis Set

Adam J. Schwarz[1], Vesa Kiviniemi[2], Sara de Simoni[3], Steven C. R. Williams[3], Mitul A. Mehta[3]
[1]Translational Medicine, Eli Lilly & Company, Indianapolis, IN, United States; [2]Diagnostic Radiology, Oulu University Hospital, Oulu, Finland; [3]Centre for Neuroimaging Sciences, Institute of Psychiatry, London, United Kingdom

1627. BOLD Susceptibility Map Reconstruction from fMRI by 3D Total Variation Regularization
Zikuan Chen[1], Arvind Caprihan[1], Vince Calhoun[1,2]
[1]Mind Research Network, Albuquerque, NM, United States; [2]Electrical & Computer Engineering, University of New Mexico, Albuquerque, NM, United States

fMRI Acquisition & Artifacts

Exhibition Hall Wednesday 13:30-15:30

1628. Sensitivity & Specificity of MHASTE BOLD fMRI on MT/V5 Activation
Yongquan Ye[1], Jiani Hu[1], Jie Yang[1], Mark Haacke[1]
[1]Radiology, WSU, Detroit, MI, United States

1629. T_2- & T_2*-Weighted High-Resolution fMRI at 7T using Non-Balanced SSFP
Pål Erik Goa[1,2], Peter Jan Koopmans[2,3], Benedikt Andreas Poser[2,3], Markus Barth[2,3], David Gordon Norris[2,3]
[1]Department of Medical Imaging, St.Olav University Hospital, Trondheim, Norway; [2]Erwin L. Hahn Institute for Magnetic Resonance Imaging, University Duisburg-Essen, Essen, Germany; [3]Donders Institute for Brain, Cognition & Behaviour, Radboud University Nijmegen, Nijmegen, Netherlands

1630. fMRI using High Flip-Angle Alternating Steady State Balanced SSFP Supported by Monte Carlo Studies
Steven Andrew Patterson[1,2], Steven Donald Beyea[1,3], Chris Van Bowen[1,3]
[1]Institute for Biodiagnostics (Atlantic), National Research Council Canada, Halifax, Nova Scotia, Canada; [2]Physics, Dalhousie University, Halifax, Nova Scotia, Canada; [3]Physics, Biomedical Engineering & Radiology, Dalhousie University, Halifax, Nova Scotia, Canada

1631. A Real-Time Feedback Optimization Method for Automatic Calibration of Functional Sensitivity-Band of Transition-Band BSSFP fMRI Sequence
Yu-Wei Tang[1], Teng-Yi Huang[1]
[1]Electrical Engineering, National Taiwan University of Science & Technology, Taipei, Taiwan

1632. A Novel Approach to Investigate the Impact of RF Pulses on the BOLD Contrast in Steady-State Pulse Sequences
Ute Goerke[1], Kamil Ugurbil[1]
[1]Radiology, Center for Magnetic Resonance Research, Minneapolis, MN, United States

1633. Spectral-Spatial Pulse Design with Spectral Decomposition
Cungeng Yang[1], Victor Andrew Stenger[1]
[1]University of Hawaii, Honolulu, HI, United States

1634. Matched Filter EPI Increases BOLD-Sensitivity in Human Functional MRI
Lars Kasper[1,2], Maximilian Häberlin[1], Christoph Barmet[1], Bertram Jakob Wilm[1], Christian C. Ruff[2,3], Klaas Enno Stephan[2,3], Klaas Paul Prüssmann[1]
[1]University & ETH Zurich, Institute for Biomedical Engineering, Zurich, Switzerland; [2]University of Zurich, Laboratory for Social & Neural Systems Research, Zurich, Switzerland; [3]University College of London, Wellcome Trust Centre for Neuroimaging, London, United Kingdom

1635. Improved Partial Fourier EPI using Tissue Susceptibility Matched Pyrolytic Graphite Foams
Gary Chiaray Lee[1], Caroline Jordan[2], Carlos Ruiz[3], Pamela Tiet[3], Brian Hargreaves[2], Ben Inglis[4], Steven Conolly[1]
[1]Berkeley/UCSF Bioengineering Joint Graduate Group, Berkeley, CA, United States; [2]Radiology, Stanford University; [3]Bioengineering, UC Berkeley, Berkeley, CA, United States; [4]Helen Wills Neuroscience Institute, Berkeley, CA

1636. Human fMRI at 9.4 T: Preliminary Results
Juliane Budde[1], Frank Mühlbauer[1], G. Shajan[1], Maxim Zaitsev[2], Rolf Pohmann[1]
[1]Max Planck Institute for Biological Cybernetics, Tuebingen, Germany; [2]University Hospital Freiburg, Freiburg, Germany

1637. Improved Detection of Functional Connectivity MRI with 32-Channel Phased Array Head Coil
Sheeba Arnold[1], Susan Whitfield-Gabrieli[2], Steven Shannon[1], John D. E. Gabrieli[2], Christina Triantafyllou[1,3]
[1]A.A. Martinos Imaging Center, McGovern Institute for Brain Research, MIT, Cambridge, MA, United States; [2]Deparment of Brain & Cognitive Sciences, Cambridge, MA, United States; [3]A.A. Martinos Center for Biomedical Imaging, Department of Radiology, MGH, Charlestown, MA, United States

1638. Resting-State Networks at Higher Frequencies: A Preliminary Study
Hsu-Lei Lee[1], Benjamin Zahneisen[1], Thimo Grotz[1], Pierre LeVan[1], Jürgen Hennig[1]
[1]Medical Physics, University Medical Center Freiburg, Freiburg, Germany

fMRI: Respiratory Challenges

Exhibition Hall Thursday 13:30-15:30

1639. Characterization of Static Field Effects of Paramagnetic Molecular Oxygen on BOLD-Modulated Hyperoxic Contrast Studies of the Human Brain

David Thomas Pilkinton[1,2], Santosh R Gaddam[2], Ravinder Reddy[1,2]

[1]Biochemistry & Molecular Biophysics, University of Pennsylvania, Philadelphia, PA, United States; [2]Center for Magnetic Resonance & Optical Imaging, Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States

1640. Field Shift Due to Paramagnetic Effect of Molecular Oxygen

Kejia Cai[1], Kalli Grasley[1], Anup Singh[1], David Pilkinton[1], Mohammad Haris[1], Hari Hariharan[1], Mark Elliott[1], Ravinder Reddy[1]

[1]CMROI, Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States

1641. Quantifying the Artefacts Caused by Hyperoxic Challenges

Ian Driver[1], Jack Harmer[1], Emma Hall[1], Susan Pritchard[1], Susan Francis[1], Penny Gowland[1]

[1]Sir Peter Mansfield Magnetic Resonance Centre, University of Nottingham, Nottingham, United Kingdom

1642. Quantitation of Changes in Cerebral Blood Flow & Longitudinal Relaxation Rate ($R_1 = 1/T_1$) Induced by Mild Hyperoxia

Hajime Tamura[1], Tatsuo Nagasaka[2], Kazuki Shimada[2], Junki Nishikata[1], Miho Shidahara[1], Shunji Mugikura[3], Yoshio Machida[4]

[1]Department of Medical Physics, Tohoku University, Graduate School of Medicine, Sendai, Miyagi, Japan; [2]Department of Radiology, Tohoku University Hospital, Sendai, Miyagi, Japan; [3]Department of Diagnostic Radiology, Tohoku University Hospital, Sendai, Miyagi, Japan; [4]Department of Medical Imaging & Applied Radiology, Tohoku University, Graduate School of Medicine, Sendai, Miyagi, Japan

1643. Venous Vessel Size MRI in the Human Brain using Transient Hyperoxia

Yuji Shen[1], Trevor Ahearn[1], Matthew Clemence[2], Christian Schwarzbauer[1]

[1]Aberdeen Biomedical Imaging Centre, University of Aberdeen, Aberdeen, United Kingdom; [2]Clinical Science MRI, Philips Healthcare, Surrey, United Kingdom

1644. Quantitative Evaluation of the Dynamic BOLD & CBF Responses to Breath Hold in Different Brain Territories

Wen-Cheng Chu[1], Yuan-Yu Hsu[2], Kun-Eng Lim[2], Ho-Ling Liu[1,3]

[1]Department of Medical Imaging & Radiological Sciences, Chang Gung University, Taoyuan County, Taiwan; [2]Buddhist Tzu Chi General Hospital, Taipei County, Taiwan; [3]Division of Medical Imaging & Intervention, Chang Gung Memorial Hospital, Taoyuan County, Taiwan

1645. Characterizing the BOLD Response to Transient Respiratory Challenges at 7 Tesla

Molly Gallogly Bright[1,2], Daniel P. Bulte[2], Peter Jezzard[2], Jeff H. Duyn[1]

[1]Advanced MRI Section, LFMI, NINDS, National Institutes of Health, Bethesda, MD, United States; [2]FMRIB Centre, University of Oxford, Oxford, Oxfordshire, United Kingdom

1646. Determination of R_2* Across Multiple Postlabeling Delays in ASL & Comparison with Flow, Arterial Volume & Transit Times in Physiological Challenges

Yi-Ching Lynn Ho[1,2], Esben Thade Petersen[3], Xavier Golay[4]

[1]Center for Functionally Integrative Neuroscience, Aarhus, Denmark; [2]Neuroradiology, National Neuroscience Institute, Singapore, Singapore; [3]Clinical Imaging Research Centre, Singapore; [4]UCL Institute of Neurology, United Kingdom

1647. Hemodynamic Changes Can Be Detected in Rat White Matter using a Hypercapnic Challenge

Erin Lindsay Mazerolle[1,2], Chris V. Bowen[1,3], Drew R. DeBay[1], Kirk W. Feindel[1], James A. Rioux[1], Douglas D. Rasmusson[4], Kazue Semba[5], Ryan C. D'Arcy[1,6]

[1]Institute for Biodiagnostics (Atlantic), National Research Council, Halifax, Nova Scotia, Canada; [2]Neuroscience Graduate Program, Dalhousie University, Halifax, Nova Scotia, Canada; [3]Physics, Dalhousie University, Halifax, Nova Scotia, Canada; [4]Physiology & Biophysics, Dalhousie University, Halifax, Nova Scotia, Canada; [5]Anatomy & Neurobiology, Dalhousie University, Halifax, Nova Scotia, Canada; [6]Neuroscience, Dalhousie University, Halifax, Nova Scotia, Canada

1648. Comparison of Physiologic Modulators in Event-Related fMRI

Peiying Liu[1], Andrew C. Hebrank[2], Blair Flicker[2], Denise C. Park[2], Hanzhang Lu[1]

[1]Advanced Imaging Research Center, University of Texas Southwestern Medical Center, Dallas, TX, United States; [2]Center for Vital Longevity, University of Texas at Dallas, Dallas, TX, United States

1649. Dynamics of Cerebral Lactate During Acute Hypoxia

Ashley D. Harris[1], Richard A. E. Edden[2,3], Kevin Murphy[1], C. John Evans[1], Victoria Roberton[1], Danielle Huckle[4], Judith E. Hall[4], Neeraj Saxena[4], Damian M. Bailey[5], Richard G. Wise[1]

[1]CUBRIC - School of Psychology, Cardiff University, Cardiff, United Kingdom; [2]Russell H Morgan Department of Radiology & Radiological Science, The Johns Hopkins University, Baltimore, MD, United States; [3]FM Kirby Research Centre for Functional MRI, Kennedy Krieger Institute, Baltimore, MD, United States; [4]Department of Anaethetics, Cardiff University, Cardiff, United Kingdom; [5]Department of Health, Sport & Science, University of Glamorgan, Pontypridd, United Kingdom

1650. T_1 & T_2* Responses to Hypercapnic & Hyperoxic Gases in Normal Tissue Are Independent of the Order of Gas Delivery

Jeff D. Winter[1,2], Marvin Estrada[1], Hai-Ling Margaret Margaret Cheng[1,3]
[1]Physiology & Experimental Medicine, The Hospital for Sick Children, Toronto, Ontario, Canada; [2]Research & Development, IMRIS, Winnipeg, Manitoba, Canada; [3]Medical Biophysics, University of Toronto, Toronto, Ontario, Canada

Targeted Molecular Imaging

Exhibition Hall Monday 14:00-16:00

1651. Brain Tumor Angiogenesis can be Imaged by ^{19}F MRI: High Sensitivity Detection of Targeted PFOB Emulsion in U87 Human Glioblastoma Mouse Model

Céline Giraudeau[1], Françoise Geffroy[1], Aline Perrin[1], Boucif Djemaï[1], Benoît Thézé[2], Philippe Robert[3], Marc Port[3], Caroline Robic[3], Denis Le Bihan[1], Franck Lethimonnier[1], Julien Valette[1]
[1]NeuroSpin, Commissariat à l'Energie Atomique, Gif sur Yvette, France; [2]SHFJ, Commissariat à l'Energie Atomique, Orsay, France; [3]Guerbet, Research Division, Roissy Charles de Gaulle, France

1652. Targeted Iron Oxide Probes for Enhanced Macrophage Visualization by MRI & PET

Thomas S. C. Ng[1,2], Chuqiao Tu[3], Hargun Sohi[1], Heather Palko[3], Adrian House[3], Russell E. Jacobs[1], Angelique Y. Louie[3]
[1]Beckman Institute, California Institute of Technology, Pasadena, CA, United States; [2]Keck School of Medicine, University of Southern California, Los Angeles, CA, United States; [3]Biomedical Engineering, University of California, Davis, Davis, CA, United States

1653. Molecular MRI of Neurovascular Inflammation in a Mouse Stroke Model using Bimodal ICAM-1 Targeted Nanoparticles

Lisette Helene Deddens[1], Geralda A. Van Tilborg[1], Annette Van Der Toorn[1], Leonie E. Paulis[2], Gustav J. Strijkers[2], Klaas Nicolay[2], Gert Storm[3], Willem J. Mulder[4], Helga E. De Vries[5], Rick M. Dijkhuizen[1]
[1]Image Sciences Institute, University Medical Center Utrecht, Utrecht, Netherlands; [2]Biomedical NMR, Department of Biomedical Engineering, Eindhoven University of Technology, Eindhoven, Netherlands; [3]Biopharmacy & Pharmaceutical Techonology, Utrecht University, Utrecht, Netherlands; [4]Translational & Molecular Imaging Institute, Mount Sinai School of Medicine, New York, United States; [5]Molecular Cell Biology and Immunology, VU University Medical Center, Amsterdam, Netherlands

1654. Ultra-Short Echo Time ^{19}F/^{1}H Imaging of Gadolinium-Free Perfluoro-Carbon Nanoparticles: A Robust Method for in *Vivo* Angiogenesis Imaging

Jochen Keupp[1], Anne H. Schmieder[2], Todd A. Williams[2], J. S. Allen[2], Samuel A. Wickline[2], Gregory M. Lanza[2], Shelton D. Caruthers[2]
[1]Philips Research Europe, Hamburg, Germany; [2]C-TRAIN, Washington University School of Medicine, St. Louis, United States

1655. Dual-Targeting of αvβ3 –integrin & Galectin-1 Improves the Specificity of Paramagnetic, Fluorescent Liposome Association with Tumor Endothelium *In Vivo*

Ewelina Kluza[1], Igor Jacobs[1], Stefanie J. Hectors[1], Kevin H. Mayo[2], Arjan W. Griffioen[3], Gustav J. Strijkers[1], Klaas Nicolay[1]
[1]Biomedical NMR, Department of Biomedical Engineering, Eindhoven University of Technology, Eindhoven, Netherlands; [2]Department of Biochemistry, Molecular Biology & Biophysics, University of Minnesota, Minneapolis, United States; [3]Angiogenesis Laboratory, Department of Medical Oncology, VU Medical Center, Amsterdam, Netherlands

1656. Combined *In Vivo* Confocal Laser Scanning Microscopy & Magnetic Resonance Imaging to Study an αvβ3-Integrin Targeted Nanoemulsion

Sjoerd Hak[1], Marte Thuen[1], Peter A. Jarzyna[2], Willem J. M. Mulder[2], Tore Syversen[3], Catharina De Lange Davies[4], Olav Haraldseth[1]
[1]Department of Circulation & Medical Imaging, NTNU, Trondheim, Norway, Norway; [2]Translational & molecular imaging institute, Mount Sinai School of Medicine, New York, United States; [3]Department of Neuroscience, NTNU, Trondheim, Norway, Norway; [4]Department of Physics, NTNU, Trondheim, Norway, Norway

1657. αvβ3 -Targeted Nanoemulsions for Tumor Angiogenesis Phenotyping with MRI & NIRF Imaging

Peter Adalbert Jarzyna[1], Lisette Helene Deddens[2], Benjamin H Kann[1], Sarayu Ramachandran[1], Claudia Calcagno[1], Wei Chen[1], Anita Gianella[1], Rick M. Dijkhuizen[2], Arjan W. Griffioen[3], Zahi Adel Fayad[1], Willem J. M. Mulder[1]

[1]Translational & Molecular Imaging Institute, Radiology, Mount Sinai School of Medicine, New York, NY, United States; [2]Image Sciences Institute, University Medical Center Utrecht, Utrecht, Netherlands; [3]Angiogenesis Laboratory, Department of Medical Oncology, VU University Medical Center, Amsterdam, Netherlands

1658. Molecular MR Imaging of Liver Fibrosis with a Collagen-Targeting Gadolinium-Based Contrast Agent
Miloslav Polasek[1], Daniel T. Schühle[1], Bryan C. Fuchs[2], Jamu K. Alford[1], Ronald J. H. Borra[1], Kenneth K. Tanabe[2], Peter Caravan[1]
[1]Radiology, A. A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital/Harvard Medical School, Charlestown, MA, United States; [2]Surgical Oncology, Massachusetts General Hospital/Harvard Medical School, Boston, MA, United States

1659. Multi-Functional Imaging Agents for Site-Specific Detection of Prostate Cancer
Quan-Yu Cai[1,2], Huifang Zhai[1], Prasanta nanda[1,2], Charles Smith[1,2], Lixin Ma[1,2]
[1]Radiology, University of Missouri, Columbia, MO, United States; [2]Harry S. Truman Memorial Veterans' Hospital, Columbia, MO, United States

1660. *In Vivo* Molecular MRI of ICAM-1 Expression in Murine Cardiac Ischemia/Reperfusion using a Liposomal Nanoparticle
Leonie E. Paulis[1], Igor Jacobs[1], Nynke M. van Den Akker[2], Bram F. Coolen[1], Tessa Geelen[1], Klaas Nicolay[1], Gustav J. Strijkers[1]
[1]Biomedical NMR, Department of Biomedical Engineering, Eindhoven University of Technology, Eindhoven, Netherlands; [2]Department of Cardiology, University of Maastricht, Maastricht, Netherlands

1661. Targeted MnFe2O4-Erbitux-CyTE777 Nanoparticles Toward High EGFR Expressing Cancer Cells for *In Vitro* & *In Vivo* MR Imaging
Gin-Chung Liu[1,2], Yun-Ming Wang[3], Ming-Hong Chen[3], Kun-Liang Lin[3], Chiao-Yun Chen[1,4]
[1]Department of Medical Imaging, Kaohsiung Medical University Hospital, Kaohsiung, Taiwan; [2]Department of Radiology, Kaohsiung Medical University, Kaohsiung, Taiwan; [3]Biological Science & Technology, National Chiao Tung University, Hsin Chu, Taiwan; [4]Department of Radiology, Kaohsiung Medical University, Taiwan

1662. A Peptide-Targeted MRI Contrast Agent for Cancer Molecular Imaging
Xueming Wu[1], Mingqian Tan[1], Zheng-Rong Lu[1]
[1]Biomedical Engineering, Case Western Reserve University, Cleveland, OH, United States

1663. The Binding of CNA-35 Conjugated Nanoparticles to Assembled Versus Disassembled Collagen Fibrils
Honorius M. H. F. Sanders[1,2], M. Iafisco[3], E. M. Pouget[2], P. H. H. Bomans[2], F. Nudelman[2], G. Fallini[3], G. de With[2], Maarten Merkx[4], N. A. J. M. Sommerdijk[2], Gustav J. Strijkers[1], Klaas Nicolay[1]
[1]Biomedical NMR, Department of Biomedical Engineering, Eindhoven University of Technology, Eindhoven, Netherlands; [2]Laboratory of Materials & Interface Chemistry, Department of Chemistry, Eindhoven University of Technology, Eindhoven, Netherlands; [3]Università del Piemonte Orientale, Novara, Italy; [4]Biomedical Chemistry, Department of Biomedical Engineering, Eindhoven University of Technology, Eindhoven, Netherlands

1664. Multifunctional Nanoparticles Incorporating a Gadolinium Labelled Peptide for Therapuetic Delivery & Switchable MR Contrast Monitoring of Delivery
Gavin D. Kenny[1,2], Katharina Welser[3], Frederick Campbell[3], Aristides D. Tagalakis[1], Helen C. Hailes[3], Alethea B. Tabor[4], Mark F. Lythgoe[2], Stephen L. Hart[1]
[1]Molecular Immunology Unit ICH, University College London, London, United Kingdom; [2]UCL Centre for Advanced Biomedical Imaging, Division of Medicine & Institute of Child Health, University College London, London, United Kingdom; [3]Department of Chemistry, University College London, London, United Kingdom; [4]Department of Chemistry, UCL, London, United Kingdom

1665. VEGFR2 Expression in C6 & RG2 Glioma Models using Molecular MRI
Ting He[1], Nataliya Smith[1], Debra Saunders[1], Robert Silasi-Mansat[2], Florea Lupu[2], Megan Lerner[3], Rheal Towner[1]
[1]Advanced Magnetic Resonance Center, Oklahoma Medical Research Foundation, Oklahoma City, OK, United States; [2]Cardiovascular Biology, Oklahoma Medical Research Foundation, Oklahoma City, OK, United States; [3]Surgery, University of Oklahoma Health Sciences Center, Oklahoma City, OK, United States

1666. Magnetic Resonance Imaging of c-Fos Gene Transcription After Burn Trauma using a Superior Contrast Agent
Valeria Righi[1,2], Aristarchos Papagiannaros[1,2], Jianxin He[3], George Dai[2], Laurence Rahme[3], Vitaliano Tugnoli[4], Philip K Liu[2], Ronald G. Tompkins[5], Bruce R. Rosen[2], Aria A. Tzika[1,2]
[1]Department of Surgery, NMR Surgical Laboratory, MGH & Shriners Burn Institute, Harvard Medical School, Boston, MA, United States; [2]Department of Radiology, Athinoula A. Martinos Center of Biomedical Imaging, Boston, MA, United States; [3]Department of Surgery, Molecular Surgery Laboratory, MGH & Shriners Burn Institute, Harvard Medical School, Boston, MA, United States; [4]Departement of Biochemistry, University of Bologna, Bologna, Italy; [5]Department of Surgery, MGH & Shriners Burn Institute, Harvard Medical School, Boston, MA, United States

Novel Contrast Agents & Labels

Exhibition Hall Tuesday 13:30-15:30

1667. Reduced Glutathione Rather than Oxygen Concentration Determines the Reduction Rate of Nitroimizadol Probes Used as Hypoxia Markers.
Jesus Pacheco-Torres[1,2], Paloma Ballesteros[2], Pilar Lopez-Larrubia[1], Sebastian Cerdan[1]
[1]Biomedical Research Institute "Alberto Sols" - CSIC/UAM, Madrid, Spain; [2]Laboratory of Organic Synthesis & Molecular Imaging, UNED, Madrid, Spain

1668. *In Vivo* Magnetic Resonance Imaging of Eu^{3+}-Based PARACEST Contrast Agents using SWIFT
Todd C. Soesbe[1], Osamu Togao[1], Masaya Takahashi[1], A. Dean Sherry[1,2]
[1]Advanced Imaging Research Center, The University of Texas Southwestern Medical Center, Dallas, TX, United States; [2]Department of Chemistry, The University of Texas at Dallas, Dallas, TX, United States

1669. Nano-Size MR Probe Detects T Cells Infiltration in Bone Marrow & Growth Plate in Rat Model of Rheumatoid Arthritis
Chih-Lung Chen[1], Cheng-Hung Chou[2], Ming-Huang Lin[2], Wen-Yuan Hsieh[1], Hsin-Hsin Shen[1], Shian-Jy Wang[1], C. Chang[2]
[1]Industrial Technology Research Institute, Hsinchu, 310, Taiwan; [2]Academic Sinica, Taiwan

1670. R_2 Enhancement by Formation of a Tungsten-Iron Alloy Crystal in the Apoferritin Cavity
Veronica Clavijo Jordan[1], Kevin M. Bennett[1]
[1]School of Biological & Health Systems Engineering, Arizona State University, Tempe, AZ, United States

1671. Dual MRI-SPECT Agent for PH-Mapping
Eliana Gianolio[1], Luca Maciocco[2], Daniela Imperio[3], Giovanni Battista Giovenzana[3], Federica Simonelli[4], Kamel Abbas[4], Gianni Bisi[5], Silvio Aime[1]
[1]Dept. Chemistry IFM & Molecular Imaging Center, University of Torino, Torino, Italy, Italy; [2]Advanced Accelerator Applications (AAA), St. Genis Pouilly, France; [3]DiSCAFF, University of Eastern Piedmont "A. Avogadro", Novara, Italy; [4]European Commission Cyclotron, Institute for Health and Consumer Protection Joint Research Centre, Ispra (VA), Italy; [5], Nucl Med Serv, Azienda Osped San Giovanni Battista, Dipartimento Med Interna, University of Torino, Torino, Italy

1672. Imaging Hypoxia using a Nitroimidazole Based T_1 MR Contrast Agent
Praveen Kumar Gulaka[1], Federico a Rojas-Quijano[2], Zoltan Kovacs[2], Ralph P Mason[1,3], A. D. Sherry[2,3], Vikram D. Kodibagkar[1,3]
[1]Joint graduate program in Biomedical Engineering, UT Arlington & UT Southwestern Medical Center, Dallas, Tx, United States; [2]Advanced Imaging Research Center, UT Southwestern Medical Center; [3]Radiology, UT Southwestern Medical Center

1673. Measuring *In Vivo* Tumor PHe with a PARACEST MRI Contrast Agent
Vipul R. Sheth[1], Yuguo Li[2], Liu Qi Chen[3], Christine A. Howison[4], Mark D. Pagel[5]
[1]Biomedical Engineering, Case Western Reserve University, Cleveland, OH, United States; [2]Radiology, Case Western Reserve University, Cleveland, OH, United States; [3]Chemistry & Biochemistry, University of Arizona, Tucson, AZ, United States; [4]Arizona Research Laboratories, University of Arizona, Tucson, AZ, United States; [5]Biomedical Engineering and Chemistry & Biochemistry, University of Arizona, Tucson, AZ, United States

1674. Targeted Magnetoliposomes for Visualization of Hepatocytes
Ashwini A. Ketkar-Atre[1], Stefaan J. Soenen[2], Philip Roelandt[3], Tineke Notelaers[3], Greetje Vande Velde[4], Catherine Verfaillie[3], Marcel De Cuyper[5], Uwe Himmelreich[4]
[1]Biomedical NMR Unit/MoSAIC, , KULeuven Campus Gasthuisberg, Leuven, Flanders, Belgium; [2]Department of Pharmaceutical Sciences, Ghent University , Belgium; [3]Interdepartmental Stem Cell Institute, KULeuven Campus Gasthuisberg; [4]Biomedical NMR Unit/MoSAIC, KULeuven Campus Gasthuisberg, Leuven, Flanders, Belgium; [5]Lab of BioNanoColloids, KULeuven Campus Kortrijk, IRC, Belgium

1675. A Self-Calibrating PARACEST MRI Contrast Agent That Detects Esterase Enzyme Activity
Yuguo Li[1], Vipul R Sheth[2], Guanshu Liu[3,4], Mark D. Pagel[5]
[1]Radiology, Case Western Reserve University, Cleveland, OH, United States; [2]Biomedical Engineering, Case Western Reserve University, Cleveland, OH, United States; [3]Department of Radiology, Johns Hopkins University, Baltimore, MD, United States; [4]F.M. Kirby Research Center for Functional Brain Imaging, Kennedy Krieger Institute, Baltimore, MD, United States; [5]Biomedical Engineering & Chemistry & Biochemistry, University of Arizona, Tucson, AZ, United States

1676. Magnetic Resonance Imaging of Organic Contrast Agents: Applications to Redox Imaging & Radioprotection
Ryan Miller Davis[1], Shingo Matsumoto[1], Marcelino Bernardo[2,3], Anastasia Sowers[1], Ken-Ichiro Matsumoto[4], Murali C Krishna[1], James B Mitchell[1]

[1]Radiation Biology Branch, National Cancer Institute, Bethesda, MD, United States; [2]Molecular Imaging Program, National Cancer Institute, Bethesda, MD, United States; [3]National Cancer Institute-Frederick, Frederick, MD, United States; [4]National Institute of Radiological Sciences, Molecular Imaging Center, Chiba, Japan

1677. Release Activated Iron Oxide Nanoparticles (REACTION) of Cellulose: A Magnetic Relaxation Switch for Environmentally Sensitive MRI

Michael K. Nkansah[1], Erik M. Shapiro[1,2]
[1]Department of Biomedical Engineering, Yale University, New Haven, CT, United States; [2]Department of Diagnostic Radiology, Yale University School of Medicine, New Haven, CT, United States

1678. Graphene- Based MRI Contrast Agents: Synthesis, Characterization & *In Vitro* MRI

Bhavna S. Paratala[1], Lindsay K. Hill[2], Lilliane Mujica-Parodi[1], Elisabeth de Castro Caparelli[3,4], Youssef Zaim Wadghiri[2], Balaji Sitharaman[1]
[1]Biomedical Engineering, Stony Brook University, Stony Brook, NY, United States; [2]Department of Radiology, New York University Langone Medical Center, New York, United States; [3]Medical Department, Brookhaven National Laboratory, Upton, NY, United States; [4]Social, Cognitive & Affective Neuroscience Center, Stony Brook University, Stony Brook, NY, United States

1679. Mechanical Release from Paramagnetic Liposomes Triggered by Low Frequency Ultrasound

Enzo Terreno[1], Pierangela Giustetto[1], Daniela Delli Castelli[1], Cinzia Boffa[1], Davide Durando[1], Silvio Aime[1]
[1]Molecular & Preclinical Imaging Center, University of Torino, Torino, Italy

1680. Gd-Complex of Macrocyclic DTPA Conjugate of 2,2'-Diaminobiphenyl: A New MR Contrast Agent for both Angiography & Brain-Tumor Imaging

Ki-Hye Jung[1], Hee-Kyung Kim[2], Min-Kyoung Kang[2], Ji-Ae Park[3], Seung-Tae Woo[4], Joo-Hyun Kim[4], Tae-Jeong Kim[1], Yongmin Chang[2,5]
[1]Department of Applied Chemistry, Kyungpook National University, Daegu, Korea, Republic of; [2]Department of Medical & Biological Engineering, Kyungpook National University, Daegu, Korea, Republic of; [3]Laboratory of Nuclear Medicine Research, Molecular Imaging Center, Korea Institute of Radiological & Medical Science, Seoul, Korea, Republic of; [4]Bayer Schering Pharma Korea, Seoul, Korea, Republic of; [5]Department of Diagnostic Radiology and Molecular Medicine, Kyungpook National University, Daegu, Korea, Republic of

1681. Gd-Complexes of DOTA Conjugates of Tranexamates: A New Class of Non-Aromatic, Non-Ionic MRI Blood-Pool Contrast Agents

Hee-Kyung Kim[1], Ki-Hye Jung[2], Min-Kyoung Kang[1], Ji-Ae Park[3], Seung-Tae Woo[4], Joo-Hyun Kim[4], Tae-Jeong Kim[2], Yongmin Chang[1,5]
[1]Department of Medical & Biological Engineering, Kyungpook National University, Daegu, Korea, Republic of; [2]Department of Applied Chemistry, Kyungpook National University, Daegu, Korea, Republic of; [3]Laboratory of Nuclear Medicine Research, Molecular Imaging Center, Korea Institute of Radiological & Medical Science, Seoul, Korea, Republic of; [4]Bayer Schering Pharma Korea, Seoul, Korea, Republic of; [5]Department of Diagnostic Radiology & Molecular Medicine, Kyungpook National University, Daegu, Korea, Republic of

1682. Gadolinium Oxide for Molecular & Cellular MRI: A Cautionary Tale

Simone S. Williams[1,2], Tricia L. Lobo[3], Erik M. Shapiro[1,3]
[1]Department of Biomedical Engineering, Yale University, New Haven, CT, United States; [2]Xavier University of Louisiana, New Orleans, LA, United States; [3]Department of Diagnostic Radiology, Yale University School of Medicine, New Haven, CT, United States

1683. Alginate-Coated Magnetic Nanoparticles as a New Platform for Noninvasive Calcium MR Imaging *In Vivo*

Debbie Anaby[1], Liat Avram[1], Amnon Bar-Shir[2], Ofer Sadan[3], Smadar Cohen[4], Niva Segev-Amzaleg[5], Dan Frenkel[5], Daniel Offen[3], Yoram Cohen[1]
[1]School of Chemistry, Tel Aviv University, Tel Aviv, Israel; [2]Johns Hopkins University, Baltimore, MD, United States; [3]Department of neurology, Rabin Medical Center, Tel Aviv University, Tel Aviv; [4]Avram & Stella Goldstein-Goren Department of Biotechnology Engineering, Ben Gurion University of the Negev, Beer Sheva, Israel; [5]Department of Neurobiology, The Goerge Weiss Faculty of Life Sciences, Tel Aviv University, Tel Aviv, Israel

1684. Measurement of the Singlet-State Lifetime of N_2O in Rat Blood: Its Potential as an MRI Tracer

Rajat K. Ghosh[1], Stephen J. Kadlecek[1], Kiarash Emami[1], Benjamin M. Pullinger[1], Giuseppe Pileio[2], Malcolm H. Levitt[2], Nicholas N. Kuzma[1,3], Rahim R. Rizi[1]
[1]Radiology, University of Pennsylvania, Philadelphia, PA, United States; [2]School of Chemistry, Southampton University, Southampton, Hampshire, United Kingdom; [3]Departments of Biomedical Engineering & Imaging Sciences, University of Rochester, Rochester, NY, United States

1685. Extravasation of a New High Molecular Weight Contrast Agent in Tumour Vasculature, Probed by MRI & Histology

Kelly Catherine McPhee[1], Jennifer E. H. Baker[1,2], Katayoun Saatchi[3], Urs O. Häfeli[3], Stefan a Reinsberg[1]

[1]Physics & Astronomy, University of British Columbia, Vancouver, British Columbia, Canada; [2]Radiation Biology Unit, BC Cancer Research Centre, Vancouver, British Columbia, Canada; [3]Pharmaceutical Sciences, University of British Columbia, Vancouver, British Columbia, Canada

1686. Isostructural Re & ^{99m}Tc Complexes of Gd-DTPA-Histidine for Dual-Modality MR/SPECT Imaging Agents

Ji-Ae Park[1], Jung Young Kim[1], Byoung Soo Kim[1], Wonho Lee[1], In Ok Ko[1], Joo Hyun Kang[1], Sang Moo Lim[2], Hee-Kyung Kim[3], Yongmin Chang[3], Tae-Jeong Kim[4], Kyeong Min Kim[1]

[1]Molecular Imaging Research Center, Korea Institute of Radiological & Medical Science, Seoul, Nowon-Gu, Korea, Republic of; [2]Department of nuclear Medicine, Korea Institute of Radiological & Medical Science; [3]Department of Medical & Biological Engineering, Kyungpook National University; [4]Department of Applied Chemistry, Kyungpook National University, Korea, Republic of

1687. Heteroditopic Binding of MR Contrast Agents for Increased Relaxivity

Zhaoda Zhang[1], Matthew Greenfield[2], Andrew Kolodziej[2], Peter Caravan[1]

[1]A. A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital & Harvard Medical School, Charlestown, MA, United States; [2]Epix Pharmaceuticals, Lexington, MA, United States

1688. A New R_2/R_1 Ratiometric Method to Measure PH with a Dendrimer-Based PH-Responsive MRI Contrast Agent

Meser M. Ali[1], Parvez Ismail Bhuiyan[1], Hassan Bagher-Ebadian[2,3], Branislava Janic[1], Robert a knight[2,3], James R. Ewing[2,3], Ali Syed Arbab[1]

[1]Radiology, Henry Ford Hospital, Detroit, MI, United States; [2]Neurology, Henry Ford Hospital; [3]Physics, Oakland University

1689. New Biodegradable Multimeric MPIO Contrast Agent Shows Rapid *In Vitro* & *In Vivo* Degradation & High Sensitivity Contrast

Francisco Perez-Balderas[1,2], Benjamin G. Davis[2], Sander IvanKasteren[2], Alexandr Khrapichev[1], Andrew Jefferson[3], Claire Bristow[1], Sebastien Serres[1], Robin P. Choudhury[3], Daniel C. Anthony[4], Nicola R. Sibson[1]

[1]CR/UK Gray Institute for Radiation Oncology & Biology, University of Oxford, Oxford, Oxfordshire, United Kingdom; [2]Chemistry Research Laboratory, University of Oxford, Oxford, Oxfordshire, United Kingdom; [3]Department of Cardiovascular Medicine, University of Oxford, Oxford, Oxfordshire, United Kingdom; [4]Department of Pharmacology, University of Oxford, Oxford, Oxfordshire, United Kingdom

1690. Synthesis & Evaluation of PARACEST MRI Contrast Agents Containing an Amino Acid Arginine

Mojmir Suchy[1,2], Alex X. Li[2], Mark Milne[1], Robert Bartha[2], Robert H. E. Hudson[1]

[1]Chemistry, University of Western Ontario, London, Ontario, Canada; [2]Robarts Research Institute, University of Western Ontario, London, Ontario, Canada

1691. A Novel Gadolinium-Based Contrast Agent Targeted to Cathepsin-D

Robert Ta[1,2], Alex X Li[1], Mojmir Suchy[3], Robert H. E. Hudson[3], Stephen Pasternak[4,5], Robert Bartha[1,2]

[1]Imaging Research Laboratories, Robarts Research Institute, London, Ontario, Canada; [2]Medical Biophysics, the University of Western Ontario, London, Ontario, Canada; [3]Chemistry, the University of Western Ontario, London, Ontario, Canada; [4]Molecular Brain Research Group, Robarts Research Institute, London, Ontario, Canada; [5]Clinical Neurological Sciences, the University of Western Ontario, London, Ontario, Canada

1692. Gd-Albumin Relaxivity in the Rat Thalamus *In Vivo* at 11.1 T

Garrett William Astary[1], Svetlana Kantorovich[2], Paul Richard Carney[1,3], Malisa Sarntinoranont[4], Thomas Harold Mareci[5]

[1]Biomedical Engineering, University of Florida, Gainesville, FL, United States; [2]Neuroscience, University of Florida; [3]Division of Pediatric Neurology, University of Florida; [4]Mechanical & Aerospace Engineering, University of Florida; [5]Biochemistry & Molecular Biology, University of Florida

1693. Efficacy of Different Lipid-Coated Nanoclusters of Iron Oxide for Image-Based Detection of Labeled Cells

Geralda A. F. van Tilborg[1], David P. Cormode[2], Peter A. Jarzyna[2], Annette van Der Toorn[1], Susanne M. A. van Der Pol[3], Louis van Bloois[4], Gert Storm[4], Willem J. M. Mulder[2], Helga E. de Vries[3], Rick M. Dijkhuizen[1]

[1]Image Sciences Institute, University Medical Center Utrecht, Utrecht, Netherlands; [2]Translational & Molecular Imaging Institute, Mount Sinai School of Medicine, New York, United States; [3]3Department of Molecular Cell Biology & Immunology, VU University Medical Center, Amsterdam, Netherlands; [4]Department of Pharmaceutics, Institute for Pharmaceutical Sciences, Utrecht, Netherlands

1694. Copper Nanoparticles for T_1-Weighted MR Molecular Imaging

Shelton D. Caruthers[1], Dipanjan Pan[1], Angana Senpan[1], Anne H. Schmieder[1], Patrick J. Gaffney[2], Samuel A. Wickline[1], Gregory M. Lanza[1]

[1]C-TRAIN, Washington University School of Medicine, St. Louis, MO, United States; [2]Dept. of Surgery, St. Thomas' Hospital, London, United Kingdom

1695. Multi-Modality PET-MR Perfluorocarbon Nanoparticle Contrast Agent for Ligand-Targeted Quantitative Imaging

Shelton D. Caruthers[1], Monica Shokeen[2], Ricardo Ferdani[2], Hua Pan[1], Samuel A. Wickline[1], Carolyn J. Anderson[2]

[1]C-TRAIN, Washington University School of Medicine, St. Louis, MO, United States; [2]Mallinckrodt Institute of Radiology, Washington University School of Medicine, St. Louis, MO, United States

1696. A New Biodegradable MR Contrast Agent with High Kinetic Chelation Stability for Cancer Imaging
Zhen Ye[1,2], Xueming Wu[2], Mingqian Tan[2], Zheng-Rong Lu[2]
[1]Department of Pharmaceutics and Pharmaceutical Chemistry, University of Utah, Salt Lake City, UT, United States; [2]Department of Biomedical Engineering, Case Western Reserve University, Cleveland, OH, United States

1697. Magnetoliposomes Open Up New Horizons as MRI Contrast Agents.
Stefaan Soenen J. H. Soenen[1], Michel Hodenius[1], Marcel De Cuyper[1], Uwe Himmelreich[2]
[1]Lab of BioNanoColloids, IRC, Katholieke Universiteit Leuven Campus Kortrijk, Kortrijk, Belgium; [2]Biomedical NMR Unit/ MoSAIC, Katholieke Universiteit Leuven, Leuven, Flandern, Belgium

1698. Detection of *In Vivo* Enzyme Activity with PARACEST MRI
Byunghee Yoo[1], Vipul R. Sheth[2], Christine A. Howison[3], Matthew Douglas[4], Carlos T. Pineda[5], Amanda F. Baker[6], Mark D. Pagel[7]
[1]Biomedical Engineering, University of Arizona, Tucson, AZ, United States; [2]Biomedical Engineering, Case Western Reserve University, Cleveland, OH, United States; [3]Arizona Research Laboratories, University of Arizona, Tucson, AZ, United States; [4]College of Medicine, University of Arizona, Tucson, AZ, United States; [5]Arizona Cancer Center, University of Arizona, Tucson, AZ, United States; [6]Hematology/Oncology, Arizona Cancer Center, University of Arizona, Tucson, AZ, United States; [7]Biomedical Engineering & Chemistry & Biochemistry, University of Arizona, Tucson, AZ, United States

1699. Development of an Activatable MRI T_2 Agent Sensitive to NADH
Elizabeth A. Osborne[1], Angelique Y. Louie[2]
[1]Chemistry, University of California, Davis, Davis, CA, United States; [2]Biomedical Engineering, University of California, Davis, Davis, CA, United States

1700. Measurement of T_1,T_2 Relaxation Time as Assembly Conditions of Gold Nanoparticles
Dong-Hyuk Kim[1], Yong-Hee Han[1], Moo-Young Jang[1], Chi -Woong Mun[1,2]
[1]Biomedical Engineering, Inje University, KimHae, KyeongNam, Korea, Republic of; [2]UHRC

Cell Tracking & Gene Reporters

Exhibition Hall Wednesday 13:30-15:30

1701. Imaging of DIACEST Microcapsules Containing Hepatocytes using Length Variation of Saturation & Principal Component Analysis
Xiaolei Song[1,2], Kannie W. Y. Chan[1,2], Guanshu Liu[1,3], Dian A. Arifin[1,2], Assaf A. Gilad[1,2], Peter C. M. Van Zijl[1,3], Jeff W. M. Bulte[1,2], Mike T. McMahon[1,3]
[1]Division of MR Research, The Russell H. Morgan Department of Radiology & Radiological Science, The Johns Hopkins University, Baltimore, MD, United States; [2]Cellular Imaging Section, Institute for Cell Engineering, Johns Hopkins University, Baltimore, MD, United States; [3]F.M. Kirby Research Center, Kennedy Krieger Institute, Baltimore, MD, United States

1702. Longitudinal Evaluation of MPIO-Labeled Stem Cell Biodistribution in a GBM Model using MR Imaging & DCE-MRI at 14.1Tesla
Myriam Marianne Chaumeil[1], Christopher G. Boyd[2], Beatrice Gini[3], Raquel Santos[2], Jacqueline de La Torre[2], Christina Ng[2], Huijan Yang[3], Akio Iwanami[3], Subramanian Sukumar[1], Tomoko Ozawa[2], Russel O. Pieper[2], Paul Mischel[3], C. David James[2], Sabrina M. Ronen[1]
[1]Radiology, University of California, San Francisco, San Francisco, CA, United States; [2]Neurological Surgery, University of California San Francisco, San Francisco, CA, United States; [3]Pathology & Lab. Medicine, University of California Los Angeles, Los Angeles, CA, United States

1703. High Sensitivity ^{19}F MRI Allows Dynamic Biodistribution Study & Oxygen Tension Mapping at Pharmaceutical Doses of a PFOB Emulsion in the Mouse Reticuloendothelial System
Céline Giraudeau[1], Boucif Djemai[1], Sidi Mohamed Ould Ahmed Ghaly[1], Philippe Robert[2], Marc Port[2], Caroline Robic[2], Denis Le Bihan[1], Franck Lethimonnier[1], Julien Valette[1]
[1]NeuroSpin, Commissariat à l'Energie Atomique, Gif sur Yvette, France; [2]Guerbet, Research Division, Roissy Charles de Gaulle, France

1704. *In Vivo* MRI-Based Cell Tracking using Bio-MPIOs
Michael K. Nkansah[1], Dorit Granot[2], Tricia L. Lobo[2], Erik M. Shapiro[2]
[1]Department of Biomedical Engineering, Yale University, New Haven, CT, United States; [2]Department of Diagnostic Radiology, Yale University School of Medicine, New Haven, CT, United States

1705. Bimodal Labelling of S. Aureus for Detection of Bacterial Colonization in Skin Infections by MRI
Verena Hoerr[1], Lorena Tuchscherr[2], Bettina Loeffler[2], Lydia Wachsmuth[1], Klaus Strobel[1], Florian Schmid[1], Cornelius Faber[1]
[1]Department for Clinical Radiology, University Hospital Muenster, Muenster, Germany; [2]Institute of Medical Microbiology, University Hospital Muenster, Muenster, Germany

1706. 3D Ultra-Short TE MRI for Whole Subject Imaging of Perfluorocarbon-Labeled Cell Biodistribution
T. Kevin Hitchens[1,2], Qing Ye[1], Chien Ho[1,2]
[1]Pittsburgh NMR Center for Biomedical Research, Carnegie Mellon University, Pittsburgh, PA, United States; [2]Department of Biological Sciences, Carnegie Mellon University, Pittsburgh, PA, United States

1707. Cellular MRI for Mapping Proliferation During Tumour Development
Lisa Michelle Gazdzinski[1], Brian J. Nieman[1]
[1]Mouse Imaging Centre, Hospital for Sick Children, Toronto, ON, Canada

1708. Verification of Metabolite Peak Change During Chondrogenesis of Human Mesenchymal Stem Cells using Proton NMR
Moo-Young Jang[1], So-Hee Park[1], Jung-Woog Shin[1,2], Chi-Woong Mun[1,2]
[1]Biomedical Engineering, Inje University, Gimhae, Gyeongnam, Korea, Republic of; [2]UHRC, Inje University, Gimhae, Gyeongnam, Korea, Republic of

1709. Intra-Cellular Sodium Concentration & Intra-Cellular Volume Fraction Quantification in the Human Brain using 7T MRI *In-Vivo*.
Lazar Fleysher[1], Niels Oesingmann[2], Ryan Brown[1], Hina Jaggi[1], Graham Wiggins[1], Daniel Sodickson[1], Matilde Inglese[1,3]
[1]Radiology, NYU School of Medicine, New York, United States; [2]Siemens Medical Solutions USA, Malvern, PA, United States; [3]Neurology, NYU School of Medicine, New York, United States

1710. Improving Detection of Micron Size Magnetic Particles using Linear Phase Ramps
Stephen J. Dodd[1], Gary Zabow[1], James P. Sumner[1], Alan P. Koretsky[1]
[1]Laboratory of Functional & Molecular Imaging, NINDS, National Institutes of Health, Bethesda, MD, United States

1711. Targeting Mesenchymal Stem Cells (MSC) using Pulsed Focused Ultrasound: Implications for Stem Cell Therapy
Ali Ziadloo[1], Scott R. Burks[1], Aneeka Chaudhry[1], Eric M. Gold[1], Dana D. Dean[1], Bobbi K. Lewis[1], Kay Jordan[1], Victor Frenkel[1], Joseph A. Frank[1]
[1]Radiology & Imaging Sciences, Clinical Center, NIH, Bethesda, MD, United States

1712. Non-Invasive Evaluation of Chronic Cardiac Rejection After Heart Transplantation with Multi-Parameter Cellular & Functional MRI
Qing Ye[1], Yijen L. Wu[1], Lesley M. Foley[1], Brent D. Barbe[1], Fang-Cheng Yeh[1], T. Kevin Hitchens[1], Li Liu[1], Chien Ho[1]
[1]Pittsburgh NMR Center for Biomedical Research, Carnegie Mellon University, Pittsburgh, PA, United States

1713. Enhanced MRI Visualization of Endogenous Neuroblasts Migration by Optimizing MPIO Formulations
Dorit Granot[1], Erik M. Shapiro[1,2]
[1]Department of Diagnostic Radiology, Yale University School of Medicine, New Haven, CT, United States; [2]Department of Biomedical Engineering, Yale University, New Haven, CT, United States

1714. R_2*-ρ Imaging on Rat Allograft Cardiac Transplantation with Acute Rejection: A Preliminary Study
Fang-Cheng Yeh[1], Yijen L. Wu[2], Qing Ye[2], T. Kevin Hitchens[2], Chien Ho[2]
[1]Department of Biomedical Engineering, Carnegie Mellon University, Pittsburgh, PA, United States; [2]Pittsburgh NMR Center for Biomedical Research, Department of Biological Sciences, Carnegie Mellon University, Pittsburgh, PA

1715. Intralymphatic Cancer Cell Tracking with Two MRI Contrast Agents: SPIO / Quantum Dot Cell Labeling with Gd-Dendrimer Lymphangiography in the Mouse Model
Nobuyuki Kosaka[1], Marcelino Bernardo[1], Makoto Mitsunaga[1], Peter L. Choyke[1], Hisataka Kobayashi[1]
[1]Molecular Imaging Program, National Cancer Institute, Bethesda, MD, United States

1716. *In-Vivo* MRI of Cell Migration Towards QA Induced Lesions in the Mouse Brain
Prodromos Parasoglou[1], Joe J. Rodriguez[2], Cesar A. Berrios-Otero[2], Brian J. Nieman[3], Daniel H. Turnbull[2]
[1]Skirball Institute of Biomolecular Medicine, New York University School of Medicine , New York, United States; [2]Skirball Institute of Biomolecular Medicine, New York University School of Medicine, New York, United States; [3]Mouse Imaging Centre, the Hospital for Sick Children, Toronto, Ontario, Canada

1717. Repetitive Imaging of Tumor Cell Growth using Gene-Based, Iron Contrast: Maga Vs. Modified Ferritin Subunits

Roja Rohani[1], Rene Figueredo[2], Jim Koropatnick[2], Paula Foster[3], R. Terry Thompson[1], Frank S. Prato[1], Donna Elizabeth Goldhawk[1]
[1]Imaging, Lawson Health Research Institute, London, ON, Canada; [2]London Regional Cancer Program, London, ON, Canada; [3]Imaging, Robarts Research Institute, London, ON, Canada

1718. Modifying Polyethylene Glycol Effects Liposome Relaxivity & Enhances Tumour Cell Uptake for Drug Delivery
Tammy Louise Kalber[1,2], Nick J Mitchell[3], Simon Walker-Samuel[1], Quentin A. Pankhurst[4], Helen C. Hailes[3], Alethea B. Tabor[3], Sam M. Janes[2], Mark F. Lythgoe[1]
[1]Centre for Advanced Biomedical Imaging, Division of Medicine & Institute of Child Health, University College London, London, United Kingdom; [2]Centre for Respiratory Research, Department of Medicine, University College London, University College London, London, United Kingdom; [3]Department of Chemistry, University College London, London, United Kingdom; [4]Davy-Faraday Research Laboratories, The Royal Institution of Great Britain, London, United Kingdom

1719. Neuralized IPSCs Can Migrate to Gliomas: MRI Findings
Tyler James McKay[1], Samuel E. Nutt[2], Jiakai Li[1], Norman J. Beauchamp[1], Xiaoming Yang[1], Philip J. Horner[2], Bensheng Qiu[1]
[1]Radiology, University of Washington, Seattle, WA, United States; [2]Neurosurgery, University of Washington, Seattle, WA, United States

1720. The Use of Cellular MRI to Study the Role of Cancer Stem Cells in Metastasis Development *In Vivo*
Emeline Julie Ribot[1], Carmen Simedrea[2], Ann F. Chambers[2], Paula J. Foster[1]
[1]Imaging Laboratories, Robarts Research Institute, London, Ontario, Canada; [2]London Regional Cancer Program, London, Ontario, Canada

1721. *In Vivo* Implementation of REACTION (Release Activation of Iron Oxide Nanoparticles)
Dorit Granot[1], Erik M. Shapiro[1,2]
[1]Department of Diagnostic Radiology, Yale University School of Medicine, New Haven, CT, United States; [2]Department of Biomedical Engineering, Yale University, New Haven, CT, United States

1722. Design of Thymidine Analogs as CEST Reporters for Imaging of HSV1-TK Expression
Amnon Bar-Shir[1,2], Guanshu Liu[1,3], Michael T. McMahon[1,3], Martin G. Pomper[4], Peter C. van Zijl[1,3], Jeff W. Bulte[1,2], Assaf A. Gilad[1,2]
[1]Division of MR Research, The Russel H. Morgan Department of Radiology, The Johns Hopkins University School of Medicine, Baltimore, MD, United States; [2]Cellular Imaging Section, Institute for Cell Engineering, The Johns Hopkins University School of Medicine, Baltimore, MD, United States; [3]F.M. Kirby Research Center for Functional Brain Imaging, Kennedy Krieger Institute, Baltimore, MD, United States; [4]The Russel H. Morgan Department of Radiology, The Johns Hopkins University School of Medicine, Baltimore, MD, United States

1723. The Magnetosome Membrane Protein Mms6 Produces MR Contrast *In Vitro*
Xiaoyong Zhang[1], Brenda Robledo[1], Steven Harris[1], Xiaoping Hu[1]
[1]Biomedical Engineering, Georgia Institute of Technology & Emory University, Atlanta, GA, United States

1724. Monitoring Tissue Response to Hyperbaric Oxygen Intervention using PISTOL
Praveen Kumar Gulaka[1], Edmond Richer[2], Vikram D. Kodibagkar[1,3]
[1]Joint Graduate Program in Biomedical Engineering, UT Arlington & UT Southwestern Medical Center, Dallas, Tx, United States; [2]Mechanical Engineering, Southern Methodist University; [3]Radiology, UT Southwestern Medical Center

1725. Genetic Engineering of Human Protamine-1 for Use as MRI Reporter Gene Based on Proton Exchange
Amnon Bar-Shir[1,2], Guanshu Liu[1,3], Xiaolei Song[1,2], Piotr Walczak[1,2], Michael T. McMahon[1,3], Peter C. van Zijl[1,3], Jeff W. Bulte[1,2], Assaf A. Gilad[1,2]
[1]Division of MR Research, The Russel H. Morgan Department of Radiology, The Johns Hopkins University School of Medicine, Baltimore, MD, United States; [2]Cellular Imaging Section, Institute for Cell Engineering, The Johns Hopkins University School of Medicine, Baltimore, MD, United States; [3]F.M. Kirby Research Center for Functional Brain Imaging, Kennedy Krieger Institute, Baltimore, MD, United States

Interventional MRI: MR-Guided Focused Ultrasound

Exhibition Hall Thursday 13:30-15:30

1726. Design & Evaluation of RF Coils for Magnetic Resonance Guided High Intensity Focused Ultrasound
Emilee Shaw Minalga[1], Allison Payne[1], Robb Merrill[1], Dennis L. Parker[1], J. Rock Hadley[1]
[1]UCAIR, University of Utah, Salt Lake City, UT, United States

1727. Large Aperture Transducer Designed for MR-HIFU Treatment of Breast Tumors
Charles Mougenot[1], Max Köhler[2], Matti Tillander[2], Chrit Moonen[3], Wilbert Bartels[4], Gösta Ehnholm[2]

[1]Philips Healthcare, Suresnes, France; [2]Philips Healthcare, Vantaa, Finland; [3]IMF, CNRS / Univ. Bordeaux 2, Bordeaux, France; [4]University Medical Center Utrecht, Utrecht, Netherlands

1728. Ultrasound-Transparent RF Coil Design for Improved MR Thermometry of HIFU Therapy
Max Oskar Köhler[1], Matti Tillander[1], Antti Syrjä[1], Risto Nakari[1], Mika Ylihautala[1]
[1]Philips Healthcare, Vantaa, Finland

1729. Magnetic Resonance Imaging of Continuous Ultrasound Holograms
Yoni Hertzberg[1,2], Omer Naor[3], Alex Volovick[2], Shy Shoham[3], Gil Navon[4]
[1]School of Physics and Astronomy, Tel-Aviv University, Tel-Aviv, Israel; [2]Insightec Ltd., Tirat Carmel, Israel; [3]Faculty of Biomedical Engineering, Technion, Israel; [4]School of Chemistry, Tel-Aviv University, Israel

1730. Adaptive Volumetric MR-Guided High-Intensity Focused Ultrasound Ablations
Silke Hey[1], Baudouin D. de Senneville[1], Charles Mougenot[2], Max Köhler[3], Chrit Moonen[1], Mario Ries[1]
[1]IMF, CNRS / Univ. Bordeaux 2, Bordeaux, France; [2]Philips Healthcare, Suresnes, France; [3]Philips Healthcare, Vantaa, Finland

1731. MR-ARFI & SWI to Detect Calcifications in the Brain in MRgHIFU Treatments
Rachel Rinat Bitton[1], Elena Kaye[1,2], Kim Butts Pauly[1]
[1]Radiology, Stanford University, Stanford, CA, United States; [2]Electrical Engineering, Stanford University, Stanford, CA, United States

1732. Evaluation of Bipolar Encoding Configurations for Spin Echo MR-ARFI
Elena Kaye[1], Kim Butts Pauly[2]
[1]Electrical Engineering, Stanford University, Palo Alto, CA, United States; [2]Radiology, Stanford University, Palo Alto, CA, United States

1733. MRgHIFU Safety Issue: Validation of Targeting Accuracy using an MR Compatible Ballistic Model
Magalie Viallon[1], Lorena Petrusca[1], Sylvain Terraz[1], Thomas Goget[1], Vincent Auboiroux[1], Christoph Becker[1], Patrick Gross[2], Rares Salomir[1]
[1]Radiology, Hopital Universitaire de Genève, GENEVE, Switzerland; [2]Siemens Healthcare, Erlangen, Germany

1734. MRgHIFU Safety Issue: Multi-Layer Protection Against Tissue-To-Air Interface Heating
Magalie Viallon[1], Sylvain Terraz[1], Thomas Goget[1], Lorena Petrusca[1], Denis Morel[2], Vincent Auboiroux[1], Christoph Becker[1], Patrick Gross[3], Rares Salomir[1]
[1]Radiology, Hopital Universitaire de Genève, GENEVE, Switzerland; [2]Anesthesiology, Hopital Universitaire de Genève, GENEVE, Switzerland; [3]Siemens HealthCare, Erlangen, Germany

1735. Online Temperature Control of Focused Ultrasound Heating using an Adaptive PID Feedback Loop
Silke Hey[1], Mario Ries[1], Chrit Moonen[1]
[1]IMF, CNRS / Univ. Bordeaux 2, Bordeaux, France

1736. Full Coverage 3D Temperature Mapping for Transcranial MRgHIFU Applications
Nick Todd[1], Henrik Odeen[1], Allison Payne[1], Laurent Marsac[2], Dorian Chauvet[3], Mathieu Pernot[4], Anne-Laure Boch[3], Jean-Francois Aubry[4], Mickael Tanter[4], Dennis L. Parker[1]
[1]University of Utah, Salt Lake City, UT, United States; [2]SuperSonic Imagine, Aix en Provence, France; [3]Département de Neurochirurgie, Hôpital Pitié Salpêtrière, Paris, France; [4]Institut Langevin, ESPCI ParisTech, France

1737. Investigating the Use of Short Pulses in MRI-Guided Focused Ultrasound Disruption of the Blood Brain Barrier
Meaghan O'Reilly[1], Kullervo Hynynen[1,2]
[1]Imaging Research, Sunnybrook Research Institute, Toronto, Ontario, Canada; [2]Medical Biophysics, University of Toronto

1738. Blood-Brain Barrier Disruption in Pigs by Transcranial Focused Ultrasound: Correlation of Cavitation Signals & MR Imaging for Treatment Monitoring
Yuexi Huang[1], Junho Song[1], Kullervo Hynynen[1,2]
[1]Imaging Research, Sunnybrook Research Institute, Toronto, ON, Canada; [2]Department of Medical Biophysics, University of Toronto, Toronto, ON, Canada

1739. Changes in Attenuation Coefficient in MRgFUS Treatments of *In-Vivo* Rabbit Thigh Estimated using MRTI-Derived Specific Absorption Rate Patterns
Urvi Vyas[1], Allison Payne[1], Nick Todd[1], Dennis L. Parker[1], Robert B. Roemer[1], Douglas A. Christensen[1]
[1]University of Utah, Salt Lake City, UT, United States

1740. *In-Vivo* MR Guided High Intensity Focused Ultrasound Ablation of Pig Liver Tissues: Preliminary Results of a Survival Study.
Frederic Courivaud[1], Airazat M. Kazaryan[1], Alice Lund[2], Per Steinar Halvorsen[1], Bjørn Edwin[1], Per Kristian Hol[1]
[1]The Intervention Centre, Oslo University Hospital, Oslo, Norway; [2]Department of Pathology, Oslo University Hospital, Oslo, Norway

1741. Detection & Exploitation of Acoustic Cavitation for Enhancement of MR Guided High Intensity Focused Ultrasound Heating in *Ex Vivo* Liver
Delphine Elbes[1], Benjamin Robert[2], Max O Köhler[3], Mickael Tanter[2], Chrit Moonen[1], Bruno Quesson[1]
[1]Laboratory for Molecular and Functional Imaging, UMR 5231, CNRS/Université Bordeaux 2, Bordeaux, France; [2]Inserm U979 physique des ondes pour la médecine, institut Langevin (CNRS UMR 7587), ESPCI ParisTech, Paris, France; [3]Philips healthcare, Vantaa, Finland

1742. MRI-Controlled Focused Ultrasound Hyperthermia in Bone for Thermally Mediated Drug Delivery
Robert Staruch[1,2], Melissa Togtema[1], Rajiv Chopra[1,2], Kullervo Hynynen[1,2]
[1]Centre for Research in Image-Guided Therapeutics, Sunnybrook Health Sciences Centre, Toronto, Ontario, Canada; [2]Department of Medical Biophysics, University of Toronto, Toronto, Ontario, Canada

1743. Pain Palliation of Bone Metastasis: Initial Clinical Experience using High Intensity Focused Ultrasound Therapy with Magnetic Resonance Guidance
Alessandro Napoli[1], Michele Anzidei[1], Giulia Brachetti[1], Luisa Molisso[1], Carlo Catalano[1], Roberto Passariello[1]
[1]Radiological Sciences, Policlinico Umberto I, Rome, Italy

1744. Quality Assurance of Volumetric Feedback MR-Guided HIFU Ablation Technique in Human Uterine Fibroids
Heikki Juhani Nieminen[1], Charles Mougenot[2], Bilgin Keserci[3], Jouko Soini[1], Sham Sokka[4], Max Oskar Köhler[1], Teuvo Vaara[1]
[1]Philips Healthcare, Vantaa, Finland; [2]Philips Healthcare, Bordeaux, France; [3]Philips Healthcare, Seoul, Korea, Republic of; [4]Philips Healthcare, Andover, MA, United States

Interventional MRI: Instrument Visualization, Guidance & Interfaces

Exhibition Hall Monday 14:00-16:00

1745. Latex-Based Dual Contrast Hybrid Catheter for Passive MR-Guided Angiographic Interventions
Robert R. Edelman[1,2], Wei Li, Anthony Farrell, Eugene Dunkle, Ioannis Koktzoglou,[3]
[1]Radiology, NorthShore University HealthSystem, Evanston, IL, United States; [2]Radiology, Northwestern University, Chicago, IL, United States; [3]Radiology, University of Chicago, Chicago, IL, United States

1746. Hyperpolarised Gas Filled MRI Catheter with MR Pressure Measurement Sensitivity
Jim M. Wild[1], Salma Ajraoui[1], X. Xu[1], Martin H. Deppe[1], Andrew J. Swift[1], Smitha Rajaram[1], David J. Kiely[2], Juan Parra-Robles[1]
[1]University of Sheffield, Sheffield, Yorkshire, United Kingdom; [2]Sheffield Pulmonary Vascular Disease Clinic, United Kingdom

1747. Accurate Localization of Active Devices During Interventional MR Imaging
Julien Barbot[1], Tobias Wech[2], Steven Shea[2], Li Pan[2], Klaus Kirchberg[1], Kamal Vij[3], Christine H. Lorenz[2], Sunil Patil[2]
[1]Center for Applied Medical Imaging, Siemens Corporate Research, Princeton, NJ, United States; [2]Center for Applied Medical Imaging, Siemens Corporate Research, Baltimore, MD, United States; [3]SurgiVision, Inc., Irvine, CA, United States

1748. Active MR Tracking using Micro Coils for Both Transmit & Receive
Barret Daniels[1,2], Yu Li[1], Randy Giaquinto[1], Wolfgang Loew[1], Ronald Pratt[1], Charles Dumoulin[1]
[1]Imaging Research Center, Cincinnati Children's Hospital Medical Center, Cincinnati, OH, United States; [2]Bioengineering, University of Cincinnati, Cincinnati, OH, United States

1749. Parallel Transmit with Toroidal Transceiver for Enhanced Visualization & RF Safety
Maryam Etezadi-Amoli[1], Pascal Stang[1], John M. Pauly[1], Adam B. Kerr[1], Greig C. Scott[1]
[1]Stanford University, Stanford, CA, United States

1750. Suppression of RF Heating Due to Intravascular Devices using Non-Resonant In-Line Coaxial Choke Baluns
Krishna N. Kurpad[1], Madhav Venkateswaran[2], Orhan Unal[1,3]
[1]Radiology, University of Wisconsin, Madison, WI, United States; [2]Electrical & Computer Engineering, University of Wisconsin, Madison, WI, United States; [3]Medical Physics, University of Wisconsin, Madison, WI, United States

1751. A Miniaturized Optical Link for an Active Intravascular MR-Device
Stephan Fandrey[1], Steffen Weiss[2], Jörg Müller[1]
[1]Hamburg University of Technology, Hamburg, Germany; [2]Imaging Systems & Intervention, Philips Research Europe, Hamburg, Germany

1752. Optoelectronic CMOS Power Supply Unit for Interventional MRI Devices
Baykal Sarioglu[1], Ozan Aktan[1], Umut Cindemir[1], Gunhan Dundar[1], Cengizhan Ozturk[1], Senol Mutlu[1], Arda Deniz Yalcinkaya[1]
[1]Bogazici University, Istanbul, Turkey

1753. Measurement Accuracy of Different Active Tracking Sequences for Interventional MRI
Tobias Wech[1,2], Steven M. Shea[1], Li Pan[1], Julien Barbot[1], Kamal Vij[3], Christine H. Lorenz[1], Sunil Patil[1]
[1]Center for Applied Medical Imaging, Siemens Corporate Research, Baltimore, MD, United States; [2]Institute of Radiology, University of Wuerzburg, Wuerzburg, Bavaria, Germany; [3]SurgiVision Inc, Irvine, CA, United States

1754. Accuracy Evaluation of Phase-Only Cross Correlation (POCC) Guidance Sequence for Real-Time 3T MR-Interventions
Patrik Zamecnik[1], Axel Joachim Krafft[2], Florian Maier[2], Jens Groebner[2], Heinz-Peter Schlemmer[1], Michael Bock[2]
[1]Radiology, German Cancer Research Center (DKFZ), Heidelberg, Germany; [2]Medical Physics in Radiology, German Cancer Research Center (DKFZ), Heidelberg, Germany

1755. eXTernal Control (XTC): A Flexible, Real-Time, Low-Latency, Bi-Directional Scanner Interface
Jouke Smink[1], Marko Häkkinen[2], Ronald Holthuizen[1], Sascha Krueger[3], Mario Ries[4], Yasmina Berber[4], Chrit Moonen[4], Max Köhler[2], Erkki Vahala[2]
[1]Philips Healthcare, Best, Netherlands; [2]Philips Healthcare, Helsinki, Finland; [3]Philips Research, Hamburg, Germany; [4]IMF, Bordeaux, France

1756. Impact of Reduced K-Space Acquisition on the Visibility of Moving Puncure Needles - a Phantom Study
Jens Christian Rump[1], Martin Jonczyk[1], Christian Jürgen Seebauer[1], Felix Güttler[1], Ulf Teichgräber[1], Bernd Hamm[1]
[1]Radiology, Charité-University Medicine, Berlin, Germany

1757. Direct on Patient Image Display with a Laser PicoP Projector for Medical Device Placement
Andrew B. Holbrook[1,2], Mark Freeman[3], Yoav Medan[4], Kim Butts Pauly[1]
[1]Radiology, Stanford University, Stanford, CA, United States; [2]Bioengineering, Stanford University, Stanford, CA, United States; [3]Microvision, Redmond, WA, United States; [4]InSightec, Tirat Carmel, Israel

1758. Catheter Tracking with Phase Information
Kevan James Thompson Anderson[1], Greig Scott[2], Graham A. Wright[1,3]
[1]Medical Biophysics, University of Toronto, Toronto, Ontario, Canada; [2]Electrical Engineering, Stanford University, United States; [3]Imaging Research, Sunnybrook Health Sciences Centre, Toronto, Ontario, Canada

1759. MR Endoscope with Software-Controlled Tuning, Device Tracking & Video
Jerome L Ackerman[1,2], Erez Nevo[3], Evan J. Zucker[1,4], Alec J. Poitzsch[1,5], Katherine Vandenberg[1,6], Andrew Zhigalin[7], Barry Fetics[3]
[1]Martinos Center/Department of Radiology, Massachusetts General Hospital, Charlestown, MA, United States; [2]Harvard Medical School, Boston, MA, United States; [3]Robin Medical, Inc., Baltimore, MD, United States; [4]Tufts Medical Center, Boston, MA; [5]Massachusetts Institute of Technology, Cambridge, MA, United States; [6]Florida International University, Miami, FL, United States; [7]Johns Hopkins School of Medicine, Baltimore, MD, United States

Interventional MRI: Thermotherapy & Thermometry

Exhibition Hall Tuesday 13:30-15:30

1760. Feasibility of RF Ablation at the Larmor Frequency for RF Field Visualization
Kim Shultz[1], Pascal Stang[1], John Pauly[1], Greig Scott[1]
[1]Electrical Engineering, Stanford University, Stanford, CA, United States

1761. MR-Mediated Radio Frequency Ablation
Jerome L Ackerman[1,2], Yi K. Kiong Hue[1,2], Erez Nevo[3], Alexander R. Guimaraes[1,2], Martin Polak[1,4], Kyum S. Lee[1], Daniel E. Ackerman[1]
[1]Martinos Center/Department of Radiology, Massachusetts General Hospital, Charlestown, MA, United States; [2]Harvard Medical School, Boston, MA, United States; [3]Robin Medical, Inc., Baltimore, MD, United States; [4]Children's Hospital, Boston, MA, United States

1762. Enhanced Intra-Operative Control During Cryoablation by using the PRF Method: *In Vivo* Imaging & Histopathologic Correlation
Eva Rothgang[1,2], Wesley D. Gilson[2], Steffi Valdeig[3], Li Pan[2], Jörg Roland[4], Aaron Flammang[2], Christine H. Lorenz[2], Frank Wacker[3], Bernd Frericks[5]
[1]Pattern Recognition Lab, University Erlangen-Nuremberg, Erlangen, Germany; [2]Center for Applied Medical Imaging, Siemens Corporate Research, Baltimore, MD, United States; [3]Russell H. Morgan Department of Radiology & Radiological Science, Johns Hopkins University, Baltimore, MD, United States; [4]Siemens Healthcare, Erlangen, Germany; [5]Department of Radiology & Nuclear Medicine, Universitätsmedizin Berlin–Charité Campus Benjamin Franklin, Berlin, Germany

1763. Real-Time Hybrid MR Thermometry of Human Ventricular Myocardium with & Without Blood Suppression
Viola Rieke[1], Andrew B. Holbrook[1], William Grissom[2], Juan M. Santos[3], Michael V. McConnell[4], Kim Butts Pauly[1]

[1]Department of Radiology, Stanford University, Stanford, CA, United States; [2]Imaging Technologies Laboratory, GE Global Research, Munich, Germany; [3]Heart Vista, Inc., Los Altos, CA, United States; [4]Division of Cardiovascular Medicine, Stanford University, Stanford, CA, United States

1764. Limited FOV MR Thermometry using a Local Cardiac RF Coil in Atrial Fibrillation Treatment
Nelly A. Volland[1,2], Eugene G. Kholmovski[1,2], J. R. Hadley[1], Dennis L. Parker[1]
[1]Radiology / Utah Center for Advanced Imaging Research, University of Utah, Salt Lake City, UT, United States; [2]Comprehensive Arrhythmia Research & Management Center, University of Utah, Salt Lake City, UT, United States

1765. Feasibility of Fast MR-Thermometry During Cardiac RF Ablation
Baudouin Denis De Senneville[1], Sébastien Roujol[1], Pierre Jaïs[2], Chrit T. W. Moonen[1], Gwenaël Herigault[3], Bruno Quesson[1]
[1]Laboratory for Molecular & Functional Imaging: From Physiology to Therapy, CNRS/University of Bordeaux 2, Bordeaux, Gironde, France; [2]Hôpital Cardiologique du Haut-Lévèque, Bordeaux, France; [3]Philips Healthcare, France

1766. Modified Turbo Spin Echo Sequence for PRF Based Thermometry
Mahamadou Diakite[1], Rock Hadley[2], Dennis L. Parker[2]
[1]Physics, University of Utah, Salt Lake City, UT, United States; [2]Radiology, University of Utah, Salt Lake City, UT, United States

1767. Modified EPI Sequence for Improved MR Thermometry
Bruno Madore[1], Renxin Chu[1], Chang-Sheng Mei[1], Jing Yuan[2], Tzu-Cheng Chao[1], Lawrence P. Panych[1]
[1]Department of Radiology, Harvard Medical School, Brigham and Women's Hospital, Boston, MA, United States; [2]Department of Imaging & Interventional Radiology, the Chinese University of Hong Kong

1768. Improved Hybrid PRF-T_1 Pulse Sequence for Accurate T_1 Mapping in High Field (3T)
Mahamadou Diakite[1], Nick Todd[2], Dennis L. Parker[2]
[1]Physics, University of Utah, Salt Lake City, UT, United States; [2]Radiology, University of Utah, Salt Lake City, UT, United States

1769. ^{1}H MRS Temperature Calibrations in Tissue-Equivalent Gel Phantoms Show Dependence on Macromolecular Concentration
Nigel Paul Davies[1], Maryam Kalantari Saghafi[2], Xiaoyan Pan[3], Theodoros N. Arvanitis[4], Andrew C. Peet[3]
[1]Medical Physics, University Hospitals Birmingham NHS Foundation Trust, Birmingham, United Kingdom; [2]School of Physics & Astronomy, University of Birmingham, Birmingham, United Kingdom; [3]Cancer Sciences, University of Birmingham, Birmingham, United Kingdom; [4]Department of Electrical, Electronic & Computer Engineering, University of Birmingham, Birmingham, United Kingdom

1770. Fat-Referenced MR Thermometry using 3-Echo Phase-Based Fat Water Separation Method
Lorne Hofstetter[1], Desmond Yeo[1], W. Thomas Dixon[1], Cynthia Davis[1], Thomas K. Foo[1]
[1]GE Global Research, Niskayuna, NY, United States

1771. Hybrid Multibaseline & Referenceless PRF-Shift Thermometry using Both Water & Fat Images
William A. Grissom[1], Lorne W. Hofstetter[2], Viola Rieke[3], Yoav Medan[4], Kim Butts Pauly[3], Cynthia E. Davis[2]
[1]GE Global Research, Munich, Germany; [2]GE Global Research, Niskayuna, NY, United States; [3]Radiology, Stanford University, Stanford, CA, United States; [4]Insightec, Ltd, Tirat Carmel, Israel

1772. Measurement of the T_1 & T_2 Temperature Dependence of Human Breast Adipose Tissue
Paul Baron[1], Roel Deckers[1], Sara M. Sprinkhuizen[1], Laura G. Merckel[2], Ronald L. A. W. Bleys[3], Chris J. G. Bakker[1], L. W. Bartels[1]
[1]Image Sciences Institute, University Medical Center Utrecht, Utrecht, Netherlands; [2]Department of Radiology, University Medical Center Utrecht, Utrecht, Netherlands; [3]Department of Anatomy, University Medical Center Utrecht, Utrecht, Netherlands

1773. Automatic B_0 Drift Correction for MR Thermometry
Eva Rothgang[1,2], Jörg Roland[3], Wesley D. Gilson[2], Joachim Hornegger[1], Christine H. Lorenz[2]
[1]Pattern Recognition Lab, University Erlangen-Nuremberg, Erlangen, Germany; [2]Center for Applied Medical Imaging, Siemens Corporate Research, Baltimore, MD, United States; [3]Siemens Healthcare, Erlangen, Germany

1774. Correction of Errors in PRFS Thermometry Due to Heat Induced Susceptibility Changes of Fat
Paul Baron[1], Roel Deckers[1], Sara M. Sprinkhuizen[1], Chris J. G. Bakker[1], L. W. Bartels[1]
[1]Image Sciences Institute, University Medical Center Utrecht, Utrecht, Netherlands

1775. Movement Artifacts in Monitoring the Brain Temperature During Induction of Mild Hypothermia
Jan Weis[1], Lucian Covaciu[2], Sten Rubertsson[2], Mats Allers[3], Anders Lunderquist[3], Francisco Ortiz-Nieto[1], Håkan Ahlström[1]
[1]Department of Radiology, Uppsala University Hospital, Uppsala, Sweden; [2]Department of Surgical Sciences, Anesthesiology & Intensive Care, Uppsala University Hospital, Uppsala, Sweden; [3]Department of Clinical Sciences, Division of Thoracic Surgry, University Hospital, Lund, Sweden

Interventional MRI: Preclinical Drug Delivery & Clinical Applications

Exhibition Hall Wednesday 13:30-15:30

1776. High-Resolution MRI of SPIO-Labeled Yttrium Microsphere Biodistribution in the Rodent Liver at 7T
Weiguo Li[1], Zhuoli Zhang[1], Daniel Procissi[1], Andrew Gordon[1], Jodi Nicolai[1], Reed Omary[1], Andrew Larson[1]
[1]Department of Radiology, Northwestern University, Chicago, IL, United States

1777. Electro-Nanotherapy Enhanced Delivery of Superparamagnetic Iron Oxide Nanoparticles in Liver Tumors: A Novel Means of Locoregional Drug Delivery
Samdeep Mouli[1], Noam Belkind[1], Weiguo Li[1], Jason Sandberg[1], David Magill[1], Rachel Klein[1], Daniel Procissi[1], Jodi Nicolai[1], Yang Guo[1], Andrew Larson[1], Reed Omary[1]
[1]Radiology, Northwestern University, Chicago, IL, United States

1778. A Model for Magnetic Delivery of Cells with an MRI Scanner & its Validation via Confocal Endoscopy
Johannes Riegler[1,2], Baptiste Allain[3,4], Richard J. Cook[4], Quentin A. Pankhurst[5], Mark F. Lythgoe[1]
[1]Centre for Advanced Biomedical Imaging, University College London, London, United Kingdom; [2]Centre for Mathematics & Physics in the Life Sciences & Experimental Biology (CoMPLEX), University College London, London, United Kingdom; [3]Centre for Medical Image Computing (CMIC), University College London, London, United Kingdom; [4]KCL Dental Institute, Biomaterials, Biomimetics & Biophotonics Group, Guy's Hospital Campus, London, United Kingdom; [5]Davy-Faraday Research Laboratory, the Royal Institution of Great Britain, London, United Kingdom

1779. Towards Translation of MRI-Detectable Hydrogels for Cell Therapy & Tissue Regeneration
Bradley D. Hann[1], Kevin M. Bennett[1]
[1]School of Biological & Health Systems Engineering, Arizona State University, Tempe, AZ, United States

1780. Pre-Procedural MRI & 3D Finite Element Modeling for Prediction of Irreversible Electroporation Ablation Zones in a Rat Liver Tumor Model
Yue Zhang[1,2], Haitham M. Al-Angari[3], Yang Guo[2], Jodi Nicolai[2], Rachel A. Klein[2], Alan V. Sahakian[3], Reed A. Omary[2,4], Andrew C. Larson[2,4]
[1]Bioengineering, University of Illinois at Chicago, Chicago, IL, United States; [2]Radiology, Northwestern University, Chicago, IL, United States; [3]Electrical Engineering & Computer Science, Northwestern University, Evanston, IL, United States; [4]Robert H. Lurie Comprehensive Cancer Center, Northwestern University, Chicago, IL, United States

1781. Using Statistical Fiber Anatomy in Combination with Electromagnetic Field Simulation in Deep Brain Stimulation for Improved Characterization of Specific Target Areas in Tremor & Parkinson's Disease Patients
Burkhard Mädler[1], Kaveh Mehdiani[1], Volker A. Coenen[1]
[1]Dep. of Neurosurgery, Div. of Stereotaxy & MR-based OR-Techniques, University Bonn, Bonn, Germany

1782. Improved Visualization of Brain Anatomy & Function, for Surgery, through Real-Time Non-Rigid Registration
Arne Hans[1], Adam Wittek[2], Grand Joldes[2], Karol Miller[2], Neil I. Weisenfeld[1], Mark Alexiuk[3], John Saunders[3], Einat Liebenthal[4], Garnette R. Sutherland[5], Simon K. Warfield[1]
[1]Radiology, Children's Hospital Boston & Harvard Medical School, Boston, MA, United States; [2]University of Western Australia, Perth, Australia; [3]IMRIS, Winnipeg, Canada; [4]National Research Council Canada, Canada; [5]University of Calgary

1783. MR-Guided Percutaneous Lumbar Mechanical Disc Decompression
Christian Jürgen Seebauer[1], Jens Rump[2], Hermann Josef Bail[3], Felix Güttler[2], Bernd Hamm[2], Carsten Perka, Christian Gross, Ulf Teichgräber[2]
[1]Center for Musculoskeletal Surgery, Charité-Universitätsmedizin Berlin, Berlin, Germany; [2]Department of Radiology, Charité-Universitätsmedizin Berlin, Berlin, Germany; [3]Department of Trauma & Orthopedic Surgery, Clinic Nuremberg, Nuremberg, Germany

1784. Development of a MR-Compatible Cardiotocograph for the Non-Invasive Assessment of the Birth Process Via MRI.
Andreas Heinrich[1], Jens Rump[1], Felix Güttler[1], Christian Seebauer[2], Bernd Hamm[1], Ulf Teichgräber[1]
[1]Department of Radiology, Charité-Universitätsmedizin Berlin, Berlin, Germany; [2]Center for Musculoskeletal Surgery, Charité-Universitätsmedizin Berlin, Berlin, Germany

Safety: Non-RF

Exhibition Hall Wednesday 13:30-15:30

1785. Cardiac Pacing in an MRI Environment
Gene Hilton Payne[1,2], Gaston Vergara[2,3], Ravi Ranjan[2,3], Kamal Vij[4], Nelly Volland[1,2], Eugene Kholmovski[1,2], Sathya Vijayakumar[1,2], Josh Blauer[2,5], Kimberly Johnson[2,3], Greg Gardner[2,5], Glenn Meredith[6], Tongbai Meng[6], Rob MacLeod[2,5], Nassir F. Marrouche[2,3]
[1]UCAIR, Department of Radiology, University of Utah, Salt Lake City, UT, United States; [2]CARMA Center, University of Utah, Salt Lake City, UT; [3]Department of Cardiology, University of Utah, Salt Lake City, UT, United States; [4]SurgiVision, Inc., Irvine, CA, United States; [5]SCI, University of Utah, Salt Lake City, UT, United States; [6]Center for Applied Medical Imaging, Siemens Corporate Research, Princeton, NJ, United States

1786. Increased PNS Thresholds using a Novel Composite Gradient System
Kenneth Craig Goodrich[1], William Bradfield Handler[2], Seong-Eun Kim[1], John Rock Hadley[1], Ulrich A. Rassner[3], Blaine A. Chronik[2], Dennis L. Parker[1]
[1]UCAIR, University of Utah, Salt Lake City, UT, United States; [2]Physics and Astronomy, University of Western Ontario, London, Ontario, Canada; [3]Radiology, University of Utah, Salt Lake City, UT, United States

1787. Threshold for Peripheral Nerve Stimulation with Ultra-Fast Gradients
Irving N. Weinberg[1], Pavel Stepanov, Steven C. Glidden[2], Howard D. Sanders, Daniel Warnow, Alan B. McMillan[3], Rao P. Gullapalli, Piotr M. Starewicz[4], Kai-Ming Lo, Amnon Fisher[5], J. Patrick Reilly[6], Michael S. Niziol[7], Stanley T. Fricke[8]
[1]Weinberg Medical Physics LLC, Bethesda, MD, United States; [2]Applied Pulsed Power Inc., Freeville, NY, United States; [3]Radiology, University of Maryland, Baltimore, MD; [4]Resonance Research, Inc,, Billerica, MA; [5]Physics, Technion-Israel Institute of Technology, Haifa, Israel; [6]Applied Physics Laboratory, Johns Hopkins University, Laurel, MD; [7]Family Practice Associates, Dryden, NY; [8]Radiology, Children's National Medical Center, Washington, DC

1788. Maximum DB/dt & Switching Noise in 1.5T MRI Scanners for Safety Evaluation of Active Implantable Medical Device
Neha Bharat Butala[1], Ramez Emile Necola Shehada[1], Peter Nabil Costandi[1], Ali Dianaty[1], Kevin Jurkowski[1]
[1]Cardiac Rhythm Management Division, St. Jude Medical, Sylmar, CA, United States

1789. Magnetic Field Monitoring using a Novel Wireless Sensor System in an Intra-Operative MRI Workflow
Kirk Champagne[1,2], Tim Hoeppner[2], David Weber[2], Ta-Yung Liu[1], Mehran Fallah-Rad[1], Mark Alexiuk[1,3]
[1]IMRIS, Winnipeg, Manitoba, Canada; [2]Electrical & Computer Engineering, University of Manitoba, Winnipeg, Manitoba, Canada; [3]Institute of Industrial Mathematical Sciences, University of Manitoba, Canada

1790. In-Situ Study of Active Noise Control Applied to MRI Noise
Mingfeng Li[1], Brent Rudd[1], Teik C. Lim[2], Jing-Huei Lee[3,4]
[1]Mechanical Engineering, University of Cincinnati, Cincinnati, OH, United States; [2]Mechanical Engineering, University of Cincinnati, Cincinnati, United States; [3]School of Energy, Environment, Biological & Medical Engineering, University of Cincinnati, Cincinnati, OH, United States; [4]Center for Imaging Reserch, University of Cincinnati, Cincinnati, OH, United States

1791. Methods for the Quantitative Assessment of Image Artifacts Caused by Implantable Devices
Benjamin Anthony Coppola[1], Ramez Emile Necola Shehada[1], Peter Nabil Costandi[1], Kevin Jurkowski[1], Ali Dianaty[1]
[1]Cardiac Rhythm Management Division, St Jude Medical, Sylmar, CA, United States

1792. Evaluation of Magneto Alert Sensor (MALSE) to Improve MR Safety by Decreasing the Incidence of Ferromagnetic Projectile Accidents
Conrad Steven Martin[1], Tobias Frauenrath[1], Celal Özerdem[1], Wolfgang Renz[1,2], Thoralf Niendorf[1,3]
[1]Berlin Ultrahigh Field Facility, Max-Delbrueck Center for Molecular Medicine, Berlin, Germany; [2]Siemens Medical Solutions, Siemens, Erlangen, Germany; [3]Charité Campus Buch, Humboldt-University, Experimental & Clinical Research Center (ECRC), Berlin, Germany

1793. How Safe Are Intrauterine Devices at MRI Procedures with Field Strength Beyond 1.5T?
Jaane Rauschenberg[1], Jens Groebner[1], Wolfhard Semmler[1], Michael Bock[1]
[1]Medical Physics in Radiology, German Cancer Research Center, Heidelberg, Germany

1794. Experimental Design to Measure Neurocognitive Effects Due to Static Magnetic Field & to Movement Within the Stray Field at 0T, 1.5T, 3T & 7T
Jaane Rauschenberg[1], Jens Groebner[1], Angela Heinrichs[2], Anne Szostek[2], Patric Meyer[2], Frauke Nees[2], Georgios Paslakis[3], Maria Gilles[3], Michael Bock[1], Michael Deuschle[3], Herta Flor[2], Wolfhard Semmler[1]

[1]Medical Physics in Radiology, German Cancer Research Center, Heidelberg, Germany; [2]Department of Cognitive & Clinical Neuroscience, Central Institute of Mental Health, Mannheim, Germany; [3]Department of Psychiatry & Psychotherapy, Central Institute of Mental Health, Mannheim, Germany

1795. Understanding of the Existing & Future Medical Procedures with MR Scanners: A Novel Tool for Estimation of Occupational Exposure
Valentina Hartwig[1], Rossana Tortorelli[2], Nicola Vanello[2], Giulio Giovannetti[1], Vincenzo Positano[3], Luigi Landini[2], Maria Filomena Santarelli[1]
[1]Institute of Clinical Physiology - CNR, Pisa, Italy; [2]Department of Information Engineering, University of Pisa, Italy; [3]Fondazione Toscana Gabriele Monasterio, Pisa, Italy

1796. Subject Tolerance for a Whole Body 7T Scanner
Maarten J. Versluis[1,2], Wouter M. Teeuwisse[1,2], Hermien E. Kan[1,2], Andrew G. Webb[1,2], Matthias J.P. van Osch,[2]
[1]Radiology, Leiden University Medical Center, Leiden, Netherlands; [2]C .J. Gorter Center for High Field MRI, Leiden University Medical Center, Leiden, Netherlands

1797. Development of a Template Driven, Adaptive, Active Noise Cancellation (ANC) System for Reduction of MR Acoustic Noise – Initial Results
Daniel Güllmar[1], Lucas A. Bitzer[1,2], Jürgen R. Reichenbach[1]
[1]Medical Physics Group, Jena University Hospital, Jena, Thuringia, Germany; [2]School of Physics & Astronomy, Friedrich-Schiller-University, Jena, Thuringia, Germany

1798. Daily Longitudinal Quality Assessment in MRI: From Short-Term Fluctuations to Long-Term Stability
Peter Brunecker[1], Claudia Kunze[1], Anja Grebe[1], Chao Xu[1], Ivana Galinovic[1], Jochen B. Fiebach[1]
[1]Center for Stroke Research Berlin (CSB), Charité, Berlin, Germany

1799. Benchtop Measurements of Gradient Induced Heating
William Bradfield Handler[1], Chad Tyler Harris[1], Blaine Alexander Chronik[1]
[1]Physics & Astronomy, University of Western Ontario, London, Ontario, Canada

MR Engineering: Other

Exhibition Hall Thursday 13:30-15:30

1800. MRI Magnet Coils Stray Capacitance Effects & the Circuit Analysis Method
Yihe Hua[1], Anbo Wu[1], Chao Yang[2], Yan Zhao[1], Ye Bai[2], Fengshun Tan[2], Shike Huang[2]
[1]Global Research Center, GE, Shanghai, China, People's Republic of; [2]GE Healthcare, China, People's Republic of

1801. Initial Performance of a Multiple-Magnet Helium Recovery System
Albert R. Cross[1]
[1]University of Lethbridge, Lethbridge, Alberta, Canada

1802. Development of a Temperature Variable MRI System using a 1.0 Tesla Yokeless Permanent Magnet
Yasuhiko Terada[1], Katsumi Kose[1], Tomoyuki Haishi[2]
[1]Institute of Applied Physics, University of Tsukuba, Tsukuba, Ibaraki, Japan; [2]MRTechnology, Tsukuba, Ibaraki, Japan

1803. Performance of SQUID Sensor Arrays for MRI of the Brain
Koos Zevenhoven[1], Risto J. Ilmoniemi[1]
[1]Department of Biomedical Engineering & Computational Science (BECS), Aalto University, Helsinki, Finland

1804. Non-Contact Cardiac Gating with Ultra-Wideband Radar Sensors for High Field MRI
Olaf Kosch[1], Florian Thiel[1], Bernd Ittermann[1], Frank Seifert[1]
[1]Physikalisch-Technische Bundesanstalt, Braunschweig und Berlin, Germany

1805. Metamaterial Media for MRI Applications
Marcos Alonso Lopez Terrones[1], Jose Miguel Algarín[1], Manuel J. Freire[1], Peter M. Jakob[2,3], Volker C. Behr[2], Ricardo Marques[1]
[1]Electronics & Electromagnetism, University of Seville, Seville, Andalucia, Spain; [2]Experimental Physics 5, University of Würzburg, Würzburg, Bavaria, Germany; [3]Research Center Magnetice Resonance Bavaria, Würzburg, Bavaria, Germany

1806. Fast EPR Acquisition with Adaptive Heterogeneous Clocking (AHC)
Zhiyu Chen[1], David Johnson[1], George Caia[1], Ziqi Sun[1], Sergey Petryakov[1], Alexandre Samouilov[1], Jay Zweier[1]
[1]Davis Heart & Lung Research Institute, Ohio State University, Columbus, OH, United States

1807. A Mechanism to Produce Translational & Rotational Motion of a Phantom Inside an MR Scanner
Thomas Prieto[1], Brian Armstrong[2], Michael Brzeski[2], Robert Barrows[2], Todd Kusik[2], Maxim Zaitsev[3], Oliver Speck[4], Thomas Ernst[5]
[1]Neurology, Medical College of Wisconsin, Milwaukee, WI, United States; [2]Electrical Engineering, University of Wisconsin-Milwaukee, Milwaukee, WI, United States; [3]Radiology, Medical Physics, University Medical Center Freiburg, Freiburg, Germany; [4]Biomedical Magnetic Resonance, Otto-von-Guericke University, Magdeburg, Germany; [5]Medicine, University of Hawaii, Honolulu, HI, United States

1808. Feasibility Study of MREIT in Clinical Applications
Volkan Emre Arpinar[1], Mark J. Hamamura[1], Lutfu Tugan Muftuler[1]
[1]Tu & Yuen Center for Functional Onco-Imaging, University of California, Irvine, Irvine, CA, United States

1809. Bimodal MRI-Optics Endoluminal Probe for Early Stage Colorectal Cancer Diagnosis: Design & Preliminary *In-Vivo* Results.
Anoop Ramgolam[1], Raphaël Sablong[1], Sandrine Bouvard[2], Hervé Saint-Jalmes[3], Olivier Beuf[1]
[1]CREATIS-LRMN, CNRS UMR 5220; Inserm U1044; INSA-Lyon; Université Lyon 1, Lyon, Rhone-Alpes, France; [2]TIGER/IDEE, Neuroscience Research Center, Lyon, Rhone-Alpes, France; [3]LTSI, Inserm U642, University Rennes1; Département d'Imagerie, centre Eugène Marquis, Rennes, Ille et Vilaine, France

1810. MR-Based Attenuation Correction in an Animal for Radiotracer Quantification
Mark Jason Hamamura[1], Hon J. Yu[1], Seunghoon Ha[1], Werner W. Roeck[1], James W. Hugg[2], Douglas J. Wagenaar[2], Dirk Meier[3], Bradley E. Patt[2], Orhan Nalcioglu[1,4]
[1]Tu & Yuen Center for Functional Onco-Imaging, University of California, Irvine, CA, United States; [2]Gamma Medica, Inc. (Clinical Division), Northridge, CA, United States; [3]Gamma Medica, Inc. (Industrial Division), Fornebu, Norway; [4]Department of Cogno-Mechatronics Engineering, Pusan National University, Pusan, Republic of Korea

1811. Investigation of a Dual-Function Applicator for RF Hyperthermia & MRI
Desmond Teck Beng Yeo[1], Xing Yang[2], Jing Wu[3], Lorne Wyatt Hofstetter[1], Joseph E. Piel[1], Eric W. Fiveland[1], Keith J. Park[1], Thomas K. Foo[1]
[1]Imaging Technologies, GE Global Research, Niskayuna, NY, United States; [2]Power Conversion Circuits Lab, GE Global Research, Shanghai, China, People's Republic of; [3]Electrical & Computer Engineering, Northeastern University, Boston, MA, United States

1812. An Adaptive MR-Compatible Lens
Julian Maclaren[1], Florian Schneider[2], Michael Herbst[1], Murat Aksoy[3], Daniel Kopeinigg[3], Juergen Hennig[1], Roland Bammer[3], Maxim Zaitsev[1], Ulrike Wallrabe[2]
[1]Medical Physics, Dept. of Radiology, University Medical Center Freiburg, Freiburg, Germany; [2]Dept. of Microsystems Engineering - IMTEK, University of Freiburg, Freiburg, Germany; [3]Dept. of Radiology, Stanford University, Stanford, United States

1813. ^{1}D RF Phase Gradient Coil for TRASE RF Imaging
QunLi Deng[1], Jonathan Sharp[1], Vyacheslav Volotovskyy[2], Boguslaw Tomanek[1], Scott King[2]
[1]Institute for Biodiagnostics (West), National Research Council of Canada, Calgary, AB, Canada; [2]Institute for Biodiagnostics, National Research Council of Canada, Winnipeg, MB, Canada

1814. Efficient Data Compression for Distributed Detection in Wireless High-Density Arrays: A Simulated Study
Jean-David Jutras[1], B. Gino Fallone[1,2], Nicola De Zanche[1,2]
[1]Dept. of Oncology, University of Alberta, Edmonton, Alberta, Canada; [2]Dept. of Medical Physics, Cross Cancer Institute, Edmonton, Alberta, Canada

1815. Quantum Perspectives in Radiation Damping: Rabi Nutation & the Onset of Free Induction Decay
James Tropp[1]
[1]Global Applied Science Lab, GE Healthcare Technologies, Fremont, CA, United States

1816. Evaluation of the Effect of Phase Errors on the Performance of a Butler Matrix
Enrico Pannicke[1], Wolfgang Driesel, Andre Pampel[2], Toralf Mildner[3], Harald E. Möller[1]
[1]Max Planck Institute for Human Cognitive & Brain Sciences, Leipzig, Germany; [2]Max Planck Institute for Human Cognitive & Brain Sciences, Leipzig, Saxony, Germany; [3]Max Planck Institute for Human Cognitive & Brain Sciences, Germany

Hardware for Animal MRI

Exhibition Hall Monday 14:00-16:00

1817. An 8-Channel Metamaterial T-R Coil at 9.4T
Andreas Senn[1], Andreas Peter[1], Jan G. Korvink[1,2]
[1]Department of Microsystems Engineering (IMTEK), University of Freiburg, Freiburg, Baden-Württemberg, Germany; [2]Freiburg Institute for Advanced Studies (FRIAS), University of Freiburg, Freiburg, Baden-Württemberg, Germany

1818. Novel Orthogonal Double Solenoid (ODS) Volume RF Coil for Small Animal Imaging
Krishna N. Kurpad[1]
[1]Radiology, University of Wisconsin, Madison, WI, United States

1819. Transceiver Double Crossed Saddle for Rodents at 2T
Daniel Papoti[1], *Edson Luis Gea Vidoto*[1], *Mateus José Martins*[1], *Alfredo O. Rodríguez*[2], *Alberto Tannús*[1]
[1]Instituto de Física de São Carlos, São Carlos, São Paulo, Brazil; [2]UAM Iztapalapa, DF, Mexico, Mexico

1820. A 20-Coil Array System for Parallel Imaging-Accelerated Multiple Mouse MRI
Marc Stephen Ramirez[1], *Yunyun Chen*[2], *Stephen Y. Lai*[2], *James Andrew Bankson*[1]
[1]The Department of Imaging Physics, the University of Texas M. D. Anderson Cancer Center, Houston, TX, United States; [2]The Department of Head & Neck Surgery, the University of Texas M. D. Anderson Cancer Center, Houston, TX, United States

1821. High Throughput Microimaging of Mouse Brain & Embryo
Jun Dazai[1], *Michael Wong*[1], *Christine Laliberté*[1], *R. Mark Henkelman*[1]
[1]Mouse Imaging Centre, the Hospital for Sick Children, Toronto, Ontario, Canada

1822. Improving Whole Brain Coverage & Signal-To-Noise Ratio using Novel Intra-Oral & Over Head Surface Coil Array in Rat Under 9.4T
Rupeng Li[1], *Phillip Bishop, Andrzej Jesmanowicz, Andrew Nencka, J. B. Stephenson IV*[2], *Christopher Pawela, Ji-Geng Yan*[2], *Anthony G. Hudetz*[3], *Hani Matloub*[2], *James S. Hyde*[1]
[1]Biophysics, Medical College of Wisconsin, Milwaukee, WI, United States; [2]Plastic Surgery, Medical College of Wisconsin; [3]Anesthesiology, Medical College of Wisconsin

1823. Eight-Channel Array Coil Optimized for Functional Imaging of Awake Monkeys at 7T
Azma Mareyam[1], *James Blau*[1], *Jonathan Polimeni*[1,2], *Boris Keil*[1,2], *Reza Farivar*[1,2], *Thomas Benner*[1,2], *Wim Vanduffel*[1,2], *Lawrence L. Wald*[1,3]
[1]A.A Martinos Center for Biomedical Imaging, Dept. of Radiology, Massachussetts General Hospital, Charlestown, MA, United States; [2]Harvard Medical School, Boston, MA, United States; [3]Division of Health Sciences & Technology, Harvard-MIT, Cambridge, MA, United States

1824. A Customized Coil Arrangement for PatLoc Imaging Inside a 9.4 T MRI Spectrometer
Elmar Fischer[1], *Raghad Aal-Braij*[2], *Andreas Peter*[2], *Jürgen Hennig*[1], *Jan Gerrit Korvink*[2,3], *Maxim Zaitsev*[1]
[1]Radiology, University Medical Center Freiburg, Freiburg, Germany; [2]Microsystems Engineering – IMTEK, University of Freiburg, Freiburg, Germany; [3]Freiburg Institute of Advanced Studies (FRIAS), University of Freiburg, Freiburg, Germany

1825. Quadrature RF Coil & Phased Array Operation at 21.1 T
Jose Antonio Muniz[1,2], *Malathy Elumalai*[1,3], *Ihssan S. Masad*[1,2], *William W. Brey*[1], *Petr L. Gor'kov*[1], *Samuel Colles Grant*[1,2]
[1]National High Magnetic Field Laboratory, the Florida State University, Tallahassee, FL, United States; [2]Chemical & Biomedical Engineering, the Florida State University, Tallahassee, FL, United States; [3]Electrical & Computer Engineering, the Florida State University, Tallahassee, FL, United States

1826. Comparison of Transmit Coil Configurations for Multiple-Mouse MRI with Receive-Only Coils
Marc Filipe Carias[1], *John G. Sled*[1], *Mark R. Henkelman*[1], *Brian J. Nieman*[1]
[1]Mouse Imaging Centre, Hospital for Sick Children, Toronto, Onratio, Canada

1827. Mobile Coil Array for Interventional MRI
Meng-Chi Hsieh[1,2], *San-Chao Hwang*[3], *Hsu Chang*[3], *Jyh-Horng Chen*[1,2]
[1]Graduate Institute of Biomedical Electronics & Bioinformatics, National Taiwan University, Taipei, Taiwan; [2]Interdisciplinary MRI/MRS Lab, Department of Electrical Engineering, National Taiwan University, Taipei, Taiwan; [3]Division of Medical Engineering Research, National Health Research Institutes, Zhunan, Taiwan

1828. Dynamic Imaging of a Minipig's Knee using a Multichannel Array & a Movement Device
Sairamesh Raghuraman[1,2], *Joachim Schrauth*[1], *Daniel Weber*[1], *Frank Resmer*[2], *Peter Michael Jakob*[1], *Titus Lanz*[2], *Daniel Haddad*[3]
[1]University of Wuerzburg, Wuerzburg, Germany; [2]RAPID Biomedical GmbH, Rimpar, Germany; [3]MRB Research Centre, Wuerzburg, Germany

1829. Complementary-Output PIN Diode Driver for Animal Imaging
Barbara L. Beck[1,2], *Joshua E. Slade*[1], *Huadong Zeng*[1,2]
[1]McKnight Brain Institute, University of Florida, Gainesville, FL, United States; [2]National High Magnetic Field Laboratory, Tallahassee, FL, United States

Gradients, Shims & Magnets: Design, Construction & Characterization

Exhibition Hall Tuesday 13:30-15:30

1830. Permanent Magnet Assembly Producing a Strong Tilted Homogeneous Magnetic Field: Towards Magic Angle Field Spinning NMR & MRI
Dimitrios Sakellariou[1], Cedric Hugon[1], Angelo Guiga[1], Aubert Guy[1], Sandrine Cazaux[1], Philippe Hardy[1]
[1]CEA Saclay, Gif sur Yvette, Essonne, France

1831. Influence of Protection Circuit on Quench Characteristics for Clinical MRI Superconducting Magnets
Ran Zhang[1], Feng Liu[2], Xiuhe Wang[1], Stuart Crozier[2]
[1]School of Electrical Engineering, Shandong University, Jinan, Shandong, China, People's Republic of; [2]School of Information Technology & Electrical Engineering, University of Queensland, Brisbane, Queensland, Australia

1832. A Single Magnet Fast Field-Cycling MRI System with Detection at 0.5T
Gareth Reynold Davies[1], Kerrin James Pine[1], David John Lurie[1], Fred Goldie[2]
[1]Bio-medical Physics, University of Aberdeen, Aberdeen, Aberdeenshire, United Kingdom; [2]Tesla Engineering Ltd., Storrington, United Kingdom

1833. A Field Offset Coil for Spatially Localised *In Vivo* Field-Cycling Relaxometry
Kerrin James Pine[1], Fred Goldie[2], David John Lurie[1]
[1]Aberdeen Biomedical Imaging Centre, University of Aberdeen, Aberdeen, Scotland, United Kingdom; [2]Tesla Engineering Ltd, Storrington, West Sussex, United Kingdom

1834. Innovations in Gradient Coil Construction
William Bradfield Handler[1], Brian Dalrymple[1], Craig K. Goodrich[2], Dennis L. Parker[2], Timothy John Scholl[3,4], Frank Van Sas[1], Blaine Alexander Chronik[1]
[1]Physics & Astronomy, University of Western Ontario, London, Ontario, Canada; [2]University of Utah, U.C.A.I.R., Salt Lake City, UT, United States; [3]Robarts Research Institute, Imaging Research Laboratories, London, Ontario, Canada; [4]Department of Medical Biophysics, University of Western Ontario, London, Ontario, Canada

1835. Insert Gradient Subsystem Tuning by Direct Impedance Measurements
Wesley M. Skeffington[1], Franco M. Martinez-Seantiesteban[2], Bruce D. Collick[3], Andrew Alejski[2], Brian K. Rutt[4], Luis J. Garces[1], Paul M. Szczesny[1]
[1]GE Global Research, Niskayuna, NY, United States; [2]Robarts Research Institute, University of Western Ontario, London, Ontario, Canada; [3]GE Healthcare, Waukesha, WI, United States; [4]Radiology Department, Stanford University, Stanford, CA, United States

1836. Experimental Validation of an Improved Analytical Temperature Distribution Model for Gradient Coils
Peter T. While[1], Michael Poole[2], Hector Sanchez Lopez[2], Larry K. Forbes[1], Stuart Crozier[2]
[1]School of Mathematics and Physics, University of Tasmania, Hobart, TAS, Australia; [2]ITEE, University of Queensland, Brisbane, QLD, Australia

1837. Planar Gradient System for Imaging with Non-Linear Gradients
Sebastian Littin[1], Anna Masako Welz[1], Daniel Gallichan[1], Gerrit Schultz[1], Christian Cocosco[1], Jürgen Hennig[1], Willem de Boer[2], Maxim Zaitsev[1]
[1]Dept. of Radiology, Medical Physics, University Medical Center Freiburg, Freiburg, Germany; [2]Institute of Experimental nuclear Physics, KIT, Karlsruhe, Germany

1838. Novel Gradient Transparent RF Shielding Technologies for Integrated PET/MR
Daniel Truhn[1], Fabian Kiessling[1], Volkmar Schulz[1,2]
[1]Institute of Experimental & Molecular Imaging, RWTH Aachen, Aachen, NRW, Germany; [2]Philips Research Europe, Aachen, Germany

1839. A Practical Insert Design for DreMR Imaging in the Human Head
Chad Tyler Harris[1], William B. Handler[1], Jamu K. Alford[2], Blaine A. Chronik[1]
[1]Physics & Astronomy, University of Western Ontario, London, Ontario, Canada; [2]Martinos Center for Biomedical Imaging, Massachusetts General Hospital/Harvard Radiology, Boston, MA, United States

1840. Reducing Image Artefacts in Concurrent TMS/fMRI by Passive Shimming
Andreas Bungert[1,2], Christopher Chambers[1], John Evans[1]
[1]Cubric, School of Psychology, Cardiff University, Cardiff, United Kingdom; [2]Magnetic Resonance Centre, School of Physics & Astronomy, University of Nottingham, Nottingham, Nottinghamshire, United Kingdom

1841. Autocalibration of Field Monitoring Arrays by Reference Tones
David Otto Brunner[1], Christoph Barmet[1], Maximilian Haeberlin[1], Bertram Jacob Wilm[1], Klaas Paul Pruessmann[1]
[1]Institute for Biomedical Engineering, University & ETH Zurich, Zurich, Switzerland

1842. An Autonomous System for Continuous Field Monitoring with Interleaved Probe Sets
Benjamin Emanuel Dietrich[1], Christoph Barmet[1], David Brunner[1], Klaas Paul Pruessmann[1]
[1]Institute for Biomedical Engineering, University & ETH Zurich, Zurich, Switzerland

1843. Using Spatio-Temporal Field Monitoring for Iterative Higher Order DSU Pre-Emphasis Calibration
Ariane Fillmer[1], Johanna Vannesjö[1], Christoph Barmet[1], Peter Boesiger[1], Klaas P. Pruessmann[1], Anke Henning[1]
[1]Institute for Biomedical Engineering, University & ETH Zurich, Zurich, Switzerland

1844. Eddy Current Compensation for a PatLoc Gradient Coil
Anna Masako Welz[1], Daniel Gallichan[1], Andrew J. Dewdney[2], Walter R. Witschey[1], Christian A. Cocosco[1], Hans Weber[1], Jürgen Hennig[1], Jan G. Korvink[3,4], Maxim Zaitsev[1]
[1]University Medical Center Freiburg, Department of Radiology, Medical Physics, Freiburg, Baden-Württemberg, Germany; [2]Siemens Medical Solutions, Erlangen, Germany; [3]Dept. of Microsystems Engineering – IMTEK, University of Freiburg, Freiburg, Germany; [4]Freiburg Institute of Advanced Studies (FRIAS), University Freiburg, Freiburg, Germany

1845. A Novel Method of Insert Gradient Field Mapping on a Composite Gradient System
Glen Morrell[1], Joshua Kaggie[2], K. C. Goodrich[2], Seong-Eun Kim[2], Sung Man Moon[2], Dennis Parker[2]
[1]Radiology, University of Utah, Salt Lake City, UT, United States; [2]Utah Center for Advanced Imaging Research, Salt Lake City, UT, United States

1846. Oscillating Magnetic Field Mapping using MRI
Vivek R. Bhatia[1], Luis Hernandez-Garcia[1]
[1]Department of Biomedical Engineering, University of Michigan, Ann Arbor, MI, United States

1847. Transmit K-Space Calibration using Magnetic Field Probes
Frederik Testud[1], Christoph Barmet[2], Martin Haas[1], Denis Kokorin[1], Juergen Hennig[1], Klaas P. Pruessmann[2], Maxim Zaitsev[1]
[1]Medical Physics, Dept. of Radiology, University Medical Center Freiburg, Freiburg, Germany; [2]ETH & University, Zurich, Institute for Biomedical Engineering, Zurich, Switzerland

1848. SAR Reduction using Non-Linear Gradients
Emre Kopanoglu[1,2], Burak Akin[1], Vakur B. Erturk[2], Ergin Atalar[1,2]
[1]National Magnetic Resonance Research Center (UMRAM), Bilkent University, Ankara, Turkey; [2]Department of Electrical & Electronics Engineering, Bilkent University, Ankara, Turkey

RF Circuits & Systems

Exhibition Hall Wednesday 13:30-15:30

1849. Improving UHF Transmit Efficiency with Voltage Baluns
Debra Strick Rivera[1], Carsten Koegler[1], Robert Turner[1]
[1]Neurophysics, Max Planck Institute for Human Cognitive & Brain Sciences, Leipzig, Germany

1850. High-Efficiency RF Power-Amplifier Module for Magnetic-Resonance Imaging
Frederick H. Raab[1], Martin C. Poppe[2], Daniel P. Myer[3]
[1]Green Mountain Radio Research Company, Colchester, VT, United States; [2]Poppe Associates; [3]Communication Power Corporation

1851. RF Coil Element Mounted Power Amplifiers
John T. Vaughan[1], Daniel Myer[2]
[1]University of Minnesota, Minneapolis, MN, United States; [2]CPC

1852. Silicon Carbide MRI Transmitters
Oliver Heid[1], Timothy Hughes[1]
[1]Corporate Research, Siemens AG, Erlangen, Bavaria, Germany

1853. High Q Reactive Network for Automatic Impedance Matching
Barbara L. Beck[1,2], Sien Wu[3], Walker J. Turner[3], Rizwan Bashirullah[3], Thomas H. Mareci[2,4]
[1]McKnight Brain Institute, University of Florida, Gainesville, FL, United States; [2]National High Magnetic Field Laboratory, Tallahassee, FL, United States; [3]Electrical & Computer Engineering, University of Florida; [4]Biochemistry & Molecular Biology, University of Florida

1854. Time Domain Modeling of MR Linear Balanced Duplexers Switched with Low Magnetic Moment PIN Diodes
Robert H. Caverly[1], William E.Doherty[2], Ronald Watkins[3]
[1]ECE, Villanova University, Villanova, PA, United States; [2]Microsemi-Lowell; [3]Radiology, Stanford University

1855. Tunable Adjustable Inductive Decoupling (TAID) Board
Victor Taracila[1], Aleksey Zemskov[1], Miguel A. Navarro[1], Vijayanand Alagappan[1], Fraser Robb[1]
[1]GE Healthcare, Aurora, OH, United States

1856. Noise Power Reduction Strategy by Matching Receiver Bandwidth to the Coil Sensitivity Profile of the Phased Array Coil
Sergei Obruchkov[1], William O'Reilly[2], Arsen Hajian[3]
[1]University of Waterloo, Waterloo, ON, Canada; [2]Tornado Medical Systems, Toronto, ON, Canada; [3]Systems Design Engineering, University of Waterloo, Waterloo, ON, Canada

1857. Radio Frequency Front-End Circuitry for an Implantable Multiple Frequency Coil
Walker J. Turner[1], Barbara L. Beck[2], Sien Wu[1], Thomas H. Mareci[3], Rizwan Bashirullah[1]
[1]Electrical & Computer Engineering, University of Florida, Gainesville, FL, United States; [2]McKnight Brain Institute , University of Florida; [3]Biochemistry & Molecular Biology, University of Florida

1858. Common-Mode Differential-Mode (CMDM) Method for Quadrature Transmit/receive Surface Coil for Ultrahigh Field MRI
Ye Li[1], Yong Pang[1], Xiaoliang Zhang[1,2]
[1]Department of Radiology & Biomedical Imaging, Univerisity of California San Francisco, San Francisco, CA, United States; [2]UCSF/UC Berkeley Joint Graduate Group in Bioengineering, San Francisco, CA, United States

1859. Vertical Loop Decoupling Method for Gapped Phased-Array Coils
Yoshihisa Soutome[1], Yosuke Otake[1], Yoshitaka Bito[1]
[1]Central Research Laboratory, Hitachi Ltd., Kokubunji, Tokyo, Japan

1860. Capacitor/Inductor Decoupling & Its New Application to Microstrip Array
Bing Wu[1], Xiaoliang Zhang[2,3]
[1]Coil Engineering, GE Healthcare, Wauehsha, WI, United States; [2]Radiology & Biomedical Imaging, UCSF; [3]UCSF/UC Berkeley Joint Graduate Group in Bioengineering, San Francisco, CA, United States

1861. Optimised LNAs for 3 T, 7 T & 9.4 T
Andreas Peter[1], Jan G. Korvink[1,2]
[1]Department of Microsystems Engineering - IMTEK, University of Freiburg, Freiburg, Germany; [2]Freiburg Institute of Advanced Studies (FRIAS), University of Freiburg, Freiburg, Germany

1862. Miniaturized Two-Stage Preamplifiers for Receive-Array Coils at 400 MHz
Elmar Fischer[1], Andreas Peter[2], Daniel Sonner[3], Hermann Massler[3], Jan G. Korvink[2,4], Jürgen Hennig[1], Maxim Zaitsev[1]
[1]Radiology, University Medical Center Freiburg, Freiburg, Germany; [2]Microsystems Engineering – IMTEK, University of Freiburg, Freiburg, Germany; [3]Hochfrequenz-Bauelemente und -Schaltungen, Fraunhofer IAF, Freiburg, Germany; [4]Freiburg Institute of Advanced Studies (FRIAS), University of Freiburg, Freiburg, Germany

1863. Scalability & Channel Independency of the Digital Broadband DStream Architecture
Cecilia Possanzini[1], Phil van Liere[1], Hans Roeven[1], Jan den Boef[1], Charlie Saylor[2], Jan van Eggermond[1], Paul Harvey[1], Elisabeth Moore[1]
[1]Philips Healthcare, Best, Netherlands; [2]Invivo Corp., Gainsville, FL, United States

1864. Comparison of Three Preamplifier Technologies: Variation of Input Impedance & Noise Figure with B_0 Field Strength
Russell Lagore[1], Brodi Roberts[1], B. Gino Fallone[1,2], Nicola De Zanche[1,2]
[1]Dept. of Oncology, University of Alberta, Edmonton, Alberta, Canada; [2]Dept. of Medical Physics, Cross Cancer Institute, Edmonton, Alberta, Canada

1865. Optical Transmission System for High Field Systems
Taner Demir[1], Lance DeLaBarre[2], Burak Akin[1], Gregor Adriany[2], Kamil Ugurbil[2], Ergin Atalar[1]
[1]National Magnetic Resonance Research Center (UMRAM), Bilkent University, Ankara, Turkey; [2]Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, MN, United States

1866. Reducing Element Coupling in Array Coils using Off-Tuned Elements
Boris Keil[1], Veneta Tountcheva[1], Christina Triantafyllou[1,2], Lawrence L. Wald[1,3]
[1]A. A. Martinos Center for Biomedical Imaging, Department of Radiology, Massachusetts General Hospital, Harvard Medical School, Charlestown, MA, United States; [2]McGovern Institute for Brain Research, MIT, Cambridge, MA, United States; [3]Harvard-MIT Division of Health Sciences & Technology, Cambridge, MA, United States

1867. A 32-Channel Parallel Exciter/Amplifier Transmit System for 7T Imaging
Lou Poulo[1], Robert Haefner[1], Bernd Stoeckel[2], Cem Murat Deniz[3], Leeor Alon[3], Daniel K. Sodickson[3], Yudong Zhu[3]

[1]Analogic Corporation, Peabody, MA, United States; [2]Siemens Medical Solutions USA Inc, New York, NY, United States; [3]Center for Biomedical Imaging, Department of Radiology, NYU School of Medicine, New York, NY, United States

1868. 8-Channel Parallel Transmit & Receive System for 3 Tesla
Wolfgang Loew[1], Randy Giaquinto[1], Laura Sacolick[2], William Allyn Grissom[2], Mika Vogel[2]
[1]Cincinnati Children's Hospital Medical Center, Cincinnati, OH, United States; [2]GE Global Research Europe, Germany

Novel Coils & Arrays

Exhibition Hall Thursday 13:30-15:30

1869. A 7T Receive Array for *In Vitro* Studies of Human Brain Tissue
Andreas Peter[1], Matthias Kladeck[2], Oliver Speck[2], Jan G. Korvink[1,3]
[1]Department of Microsystems Engineering - IMTEK, University of Freiburg, Freiburg, Germany; [2]Biomedical Magnetic Resonance, Otto-von-Guericke University, Magdeburg, Germany; [3]Freiburg Institute of Advanced Studies (FRIAS), University of Freiburg, Freiburg, Germany

1870. A New Intravascular Loopless Monopole Antenna (ILMA) for MR Imaging
Hong Yang Yuan[1], Xing Lv[1], Rui Zhang[1], Xue Dong Yang[2], Xiao Ying Wang[2,3], Xiao Hai Ma[4], Zhao Qi Zhang[4], Jue Zhang,[3], Jing Fang[1,3]
[1]College of Engineering, Peking University, Beijing, China, People's Republic of; [2]Dept. of Radiology, Peking University First Hospital, Beijing, China, People's Republic of; [3]Academy for Advanced Interdisciplinary Studies, Peking University, Beijing, China, People's Republic of; [4]Dept. of Radiology, Beijing Anzhen Hospital, Beijing, China, People's Republic of

1871. HTS Volume Coil Enhanced SNR in Wideband Mice Whole Body Screening
In-Tsang Lin[1,2], Edzer L. Wu[2,3], Hong -Chang Yang[4], Jyh-Horng Chen[1,2]
[1]Graduate Institute of Biomedical Electronics & Bioinformatics, National Taiwan University, Taipei, 106, Taiwan; [2]Interdisciplinary MRI/MRS Lab, Department of Electrical Engineering, National Taiwan Univeristy, Taipei, 106, Taiwan; [3]Department of Biomedical Engineering, National Taiwan University, Taipei, 106, Taiwan; [4]Department of Physics, National Taiwan University, Taipei 106, Taiwan

1872. High-Temperature Superconducting RF Surface Coil Platform for *In-Vivo* Brain Structural Differences
In-Tsang Lin[1,2], Bing-Hsuan Lei[2,3], Hong -Chang Yang[4], Jyh-Horng Chen[1,2]
[1]Graduate Institute of Biomedical Electronics & Bioinformatics, National Taiwan University, Taipei, 106, Taiwan; [2]Interdisciplinary MRI/MRS Lab, Department of Electrical Engineering, National Taiwan University, Taipei, 106, Taiwan; [3]Department of Electrical Engineering, National Taiwan University, Taipei, 106, Taiwan, Taipei, 106, Taiwan; [4]Department of Physics, National Taiwan University, Taipei 106, Taiwan

1873. A 13-Channel 3 Tesla Shoulder Coil on a Domed Conformable Former
Graham Charles Wiggins[1], Bei Zhang[1], Christian Glaser[1], Bernd Stoeckel[2], Michael P. Recht[1], Daniel Sodickson[1]
[1]Radiology, NYU Medical Center, New York, NY, United States; [2]Siemens Medical Solutions, New York, NY, United States

1874. Multilayer Micro Coil Phased Array for MRI
Oliver Georg Gruschke[1], Lars Clad[2], Vlad Badilita[2], Kai Kratt[2], Mohammad Mohammadzadeh[3], Nicoleta Baxan[3], Dominik von Elverfeld[3], Andreas Peter[2], Jürgen Hennig[3], Ulrike Wallrabe[2], Jan G. Korvink[2,4]
[1]Microsystems Engineering – IMTEK, University of Freiburg , Freiburg, Germany; [2]Microsystems Engineering – IMTEK, University of Freiburg, Freiburg, Germany; [3]Dept. of Radiology Medical Physics , University Medical Center , Freiburg, Germany; [4]Freiburg Institute of Advanced Studies (FRIAS),, University of Freiburg, Freiburg, Germany

1875. A Printed Loop Element with Integrated Capacitors & Co-Planar Shield for 7 Tesla
Mary Preston McDougall[1,2], Steven M. Wright[1,2], Joseph Rispoli[1], Mario Carillo[2], Ivan Dimitrov[3], Sergey Cheshkov[3], Craig Malloy[3]
[1]Biomedical Engineering, Texas A&M University, College Station, TX, United States; [2]Electrical Engineering, Texas A&M University, College Station, TX, United States; [3]University of Texas Southwestern Medical Center, Dallas, TX, United States

1876. High Performance Nanomaterial Coil for Carotid Imaging
Raju Viswanathan[1], Bradley Goldstein, Gabor Mizsei[2], Sushmitha Rajakutty
[1]Tursiop Technologies, LLC, Cleveland, OH, United States; [2]Tursiopp Technologies, LLC

1877. Design & Characterization of a Set of MRI Histology RF Coils Dedicated to Standardized Slide Sections
Dung Minh Hoang[1], Chao Zhang[1], Mesha Shamsie[1], Latifa Fakri-Bouchet[2], Youssef Zaim Wadghiri[1]
[1]Radiology, NYU School of Medicine, New York, NY, United States; [2]CREATIS, Lyon 1 University - Claude Bernard, Lyon, France

1878. Counter Rotating Currents Cryogenic Surface Coils
Jarek Wosik[1,2], Andrzej Jesmanowicz[3], Lian Xue[4], Leiming Xie[1], Flora Suk-Yin Ip[1]

[1]Electrical & Computer Engineering, University of Houston, Houston, TX, United States; [2]Texas Center for Superconductivity, Houston, TX, United States; [3]Biophysics, Medical College of Wisconsin, Milwaukee, WI, United States; [4]Time Medical, Metuchen, NJ, United States

1879. Remote Detection by MRI at 3T using a Waveguide
Fabian Vazquez[1], Rodrigo Martin[1], Sergio E. Solis[2], Alfredo O. Rodriguez[1]
[1]UAM Iztapalapa, DF, Mexico, Mexico; [2]Laboratorio de Neurofisiologia Integrativa, Instituto Nacional de Psiquiatria Ramon de la Fuente, DF, Mexico, Mexico

1880. Simple Quadrature Volume Antenna Transformed from Loop
Hideta Habara[1], Yoshitaka Bito[1], Hisaaki Ochi[1], Yoshihisa Soutome[1], Yukio Kaneko[1], Masayoshi Dohata[1,2], Hiroyuki Takeuchi[2], Tetsuhiko Takahashi[2]
[1]Central Research Lab., Hitachi Ltd., Kokubunji, Tokyo, Japan; [2]Hitachi Medical Corporation, Kashiwa, Chiba, Japan

1881. A Method for Increasing Electrical Length of Microstrip Waveguides
Rock Hadley[1], Dennis Parker[1], Glen Morrell[1]
[1]Radiology - UCAIR, University of Utah, Salt Lake City, UT, United States

Array Coil Applications

Exhibition Hall Monday 14:00-16:00

1882. Study on a 3T Head Coil: Channel Reduction from 32 to 24
Bing Wu[1], Haidong Peng[1], Dan Xu[1], Liang Xuan[1]
[1]GE Healthcare, Waukesha, WI, United States

1883. Simulating Array SNR & Effective Noise Figure in Dependance of Noise Coupling
Christian Findeklee[1], Randy Duensing[2], Arne Reykowski[2]
[1]Philips Research Laboratories, Hamburg, Germany; [2]Invivo, United States

1884. 4D Flow-Sensitive MRI of the Thoracic Aorta using 12- & 32-Channel Coils
Aurelien F. Stalder[1], Zhi Yuan Dong[1], Yang Qi[1], Jelena Bock[2], Jürgen Hennig[2], Michael Markl[2], Kun Cheng Li[1]
[1]Dept. of Radiology, Xuanwu Hospital of Capital Medical University, Beijing, China, People's Republic of; [2]Dept. of Radiology - Medical Physics, University Hospital Freiburg, Germany

1885. Development of a Receiver Coil Array for 2D Accelerated Imaging of the Complete Neurovascular System
Petrice Marie Mostardi[1], Eric G. Stinson[1], Thomas C. Hulshizer[1], Phillip J. Rossman[1], Stephen J. Riederer[1]
[1]MR Research Laboratory, Mayo Clinic, Rochester, MN, United States

1886. The Potentialities of Implantable Micro-Coil for Detection of Brain's Proton Metabolites by NMR Micro-Spectroscopy
Aziz Kadjo[1], Ludovic Martin-Durupty[1], Raymond Cespuglio[2], Danielle Graveron-Demilly[1], Latifa Fakri-Bouchet[1]
[1]University of Lyon, Lyon1,Laboratoire CREATIS-LRMN, UMR CNRS 5220, INSERM U 630, INSA de Lyon, Villerbanne, France; [2]University of Lyon, Lyon1, Laboratoire «Radicaux libres/substrats énergie et physiopatho cérébrale, Lyon cedex 08, France

1887. Experimental Verification of SNR & Parallel Imaging Improvements using Complete Coil Arrays
Adam Maunder[1], Tyler Charlton[1], B. Gino Fallone[1,2], Nicola De Zanche[1,2]
[1]Dept. of Oncology, University of Alberta, Edmonton, Alberta, Canada; [2]Dept. of Medical Physics, Cross Cancer Institute, Edmonton, Alberta, Canada

1888. Comprehensive Neurovascular Evaluation using an Automatic Optimal SNR-Based Channel Combination from a 62-Element Coil Array at 3T
Amol Pednekar[1], Claudio Arena[2], Greg Wilson[3], Cecilia Possanzini[4], Charles Saylor[2], Raja Muthupillai[2]
[1]Philips Healthcare, Houston, TX, United States; [2]Diagnostic & Interventional Radiology, St. Luke's Episcopal Hospital, Houston, TX, United States; [3]Philips Healthcare, Cleveland, United States; [4]Philips Healthcare, Best, Netherlands

Non-Proton Coils & Hardware

Exhibition Hall Tuesday 13:30-15:30

1889. Proton Traps for Multi-Nuclear RF Coils: Design Analysis & Practical Implementation for ^{13}C MRS in Humans at 7T
Martin Meyerspeer[1,2], Rolf Gruetter[1,3], Arthur W. Magill[1,4]

[1]LIFMET, Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland; [2]MR Centre of Excellence & ZMPBMT, Medical University of Vienna, Vienna, Austria; [3]Radiology, University of Geneva & Lausanne, Switzerland, Switzerland; [4]Radiology, University of Lausanne, Lausanne, Switzerland

1890. RF Field Optimization of 4T Double-Tuned Surface TEM Resonators for $^{1}H/^{23}Na$ MRI

Assunta Vitacolonna[1], Sandro Romanzetti[2], Joerg Felder[2], Nadim Jon Shah[2,3], Antonello Sotgiu[4], Marcello Alecci[1]
[1]Scienze della Salute, University of L'Aquila, L'Aquila, Italy; [2]Inst. of Neuroscience & Medicine, Research Centre, Jülich, Germany; [3]Faculty of Medicine, Department of Neurology, RWTH Aachen University, Aachen, Germany; [4]ITA srl, L'Aquila, Italy

1891. *In Vivo* Quantification of Renal Sodium Concentration with a Dual RF Resonator System

Raffi Kalayciyan[1], Friedrich Wetterling[1], Sabine Neudecker[2], Lothar R. Schad[1]
[1]Computer Assisted Clinical Medicine, Heidelberg University, Mannheim, Germany; [2]Medical Research Center, Heidelberg University, Mannheim, Germany

1892. Double Tunable TxRx $^{1}H/^{19}F$ Helmholtz Pair for MR Imaging & Spectroscopy at 11.7T

Mark Jacobus van Uden[1], Yi Sun[1], Arend Heerschap[1]
[1]Department of Radiology (667), Radboud University Nijmegen Medical Centre, Nijmegen, Netherlands

1893. Zig-Zag ^{13}C Surface Coil at 7T for High-Sensitivity Subcutaneous Lipid MRS

Ivan Emilov Dimitrov,[2], Craig R. Malloy[3,4], Andrew G. Webb[5]
[1]Philips Medical Systems, Cleveland, OH, United States; [2]Advanced Imaging Reseach Center (AIRC), UT Southwestern, Dallas, TX, United States; [3]Advanced Imaging Research Center (AIRC), UT Southwestern, Dallas, TX, United States; [4]VA North Texas Health Care System, Dallas, TX, United States; [5]Radiology, Leiden University Medical Center, Leiden, Netherlands

1894. Dual-Tuned $^{1}H/^{13}C$ Orthogonal Double Solenoid Volume Coil for Simultaneous Acquisition in Small Animals *In Vivo*

Laura Claire Bell[1], Eric T. Peterson[1], Jeremy W. Gordon[1], Sean B. Fain[1], Krishna N. Kurpad[1]
[1]Medical Physics, University of Wisconsin-Madison, Madison, WI, United States

1895. A ^{1}H-^{31}P Array Coil for Human Brain Spectroscopy at 3T

Wolfgang Driesel[1], Andre Pampel[1], Christian Labadie, Toralf Mildner[2], Harald E. Möller[3]
[1]Max Planck Institute for Human Cognitive & Brain Sciences, Leipzig, Saxony, Germany; [2]Max Planck Institute for Human Cognitive & Brain Sciences, Germany; [3]Max Planck Institute for Human Cognitive & Brain Sciences, Leipzig, Germany

1896. A 7T Halo Loop Resonator for Registration of ^{31}P MRSI

Thomas Michael Barbara[1], Manoj Sammi[1], John Grinstead[2], William D. Rooney[1]
[1]AIRC, Oregon Health & Sciences University, Portland, OR, United States; [2]Siemens Healthcare, Portland, OR

1897. One Coil to Light Them All: Broadband Body Coil for Multi-Frequency Imaging using a Coaxial Waveguide

Stefan Alt[1], Marco Müller[1], Armin Michael Nagel[1], Florian Meise[1], Reiner Umathum[1], Michael Bock[1]
[1]Medical Physics in Radiology, German Cancer Research Center (DKFZ), Heidelberg, Germany

1898. Developement of Multi-Tranceiver Dual-Tuned Knee Coil at 3T

Junghwan Kim[1], Chanhong Moon[1], Bumwoo Park[1], Alessandro Furlan[1], Anthony Defranco[2], Tiejun Zhao[3], Kyongtae Ty Bae[1]
[1]Department of Radiology, University of Pittsburgh, Pittsburgh, PA, United States; [2]MR research center, University of Pittsburgh, Pittsburgh, PA, United States; [3]MR Research Support, Siemens Healthcare, Pittsburgh, PA, United States

1899. A ^{1}H-^{31}P Array Coil for Human Brain Spectroscopy at 3T

Wolfgang Driesel[1], André Pampel[1], Christian Labadie[1], Toralf Mildner[1], Harald E. Moeller[1]
[1]Max Planck Institute for Human Cognitive & Brain Sciences, Leipzig, Germany

1900. A 7-Tesla Transmit with 15-Channel Receive-Only Array Knee Coil for Sodium Imaging

Matthew Finnerty[1], Xiaoyu Yang[1], Tsinghua Zheng[1], Jeremiah Heilman[1], Nicholas Castrilla[1], Joseph Herczak[1], Hiroyuki Fujita[1,2], Graham C. Wiggins[3], Ryan Brown[3], Guillaume Madelin[3], Gregory Chang[3], Ravinder R. Regatte[3], Michael Recht[3], Siegfried Trattnig[4], Vladimir Juras[4], Wolfgang Renz[5], Franz Schmitt[5], Bernd Stoeckel[6], Andreas Potthast[5], Karsten Wicklow[5]
[1]Quality Electrodynamics, Mayfield Village, OH, United States; [2]Departments of Physics & Radiology, Case Western Reserve University, Cleveland, OH, United States; [3]Department of Radiology, NYU Langone Medical Center, New York, United States; [4]Department of Radiology, Medical University of Vienna, Vienna, Austria; [5]Siemens Healthcare, Erlangen, Germany; [6]Siemens Medical Solutions USA, Inc., Malvern, PA, United States

1901. $^{1}H/^{19}F$ Large Coverage Homogeneous Transmit Coil with Dedicated Multi-Element Receive Coils.

Mark Jacobus van Uden[1], Fernando Bonetto[1,2], E. G. W. ter Voert[1], Stephan Orzada[3], Ijm de Vries[4], Hanneke van Laarhoven[5], Arend Heerschap[1]
[1]Department of Radiology (667), Radboud University Nijmegen Medical Centre, Nijmegen, Netherlands; [2]Department of Tumor Immunology , Radboud University Nijmegen Medical Centre, Nijmegen, Netherlands; [3]Erwin L. Hahn Institute for Magnetic

Resonance Imaging, Essen, Germany; [4]Department of Tumor Immunology, Radboud University Nijmegen Medical Centre, Nijmegen, Netherlands; [5]Department of Medical Oncology, Radboud University Nijmegen Medical Centre, Nijmegen, Netherlands

Traveling Waves in MRI

Exhibition Hall Wednesday 13:30-15:30

1902. Safety Evaluation of a Multiple-Channel Travelling-Wave System at 7T
Jan Paska[1], David O. Brunner[2], Juerg Froehlich[1], Klaas P. Pruessmann[2]
[1]Laboratory for Electromagnetic Fields & Microwave Electronics, ETH Zurich, Zurich, Switzerland; [2]Institute for Biomedical Engineering, University & ETH Zurich, Zurich, Switzerland

1903. Traveling Wave Mode Transformation in a Waveguide with High Dielectric Medium for Ultra-High Field MRI
Alexey Tonyushkin[1,2], Andrew J. M. Kiruluta[1,2]
[1]Radiology, Massachusetts General Hospital, Harvard Medical School, Boston, MA, United States; [2]Physics Dept., Harvard University, Cambridge, MA, United States

1904. MR Experiment Validation of Parallel Traveling-Wave with Quadrature Patch Antenna Transceiver Array
Yong Pang[1], Daniel Vigneron[1,2], Xiaoliang Zhang[1,2]
[1]Radiology & Biomedical Imaging, University of California San Francisco, San Francisco, CA, United States; [2]UCSF/UC Berkeley Joint Graduate Group in Bioengineering, San Francisco & Berkeley, CA, United States

1905. Multi-Pass Travelling Wave Volume Coil
Reiner Umathum[1], Michael Bock[1]
[1]German Cancer Research Center, Heidelberg, B.W., Germany

1906. Travelling Wave Coil with Limited SAR
Marco Mueller[1], Stefan Alt[1], Reiner Umathum[1], Wolfhard Semmler[1], Michael Bock[1]
[1]Medical Physics in Radiology, German Cancer Research Center (DKFZ), Heidelberg, Germany

1907. Experimental Verification of Numerical EM Field Simulations for Ultra-High Field Travelling Wave MRI
Daniel Brenner[1], Frank Geschewski[1], Joerg Felder[1], Kaveh Vahedipour[1], Nadim Jon Shah[1,2]
[1]Institute of Neurosciene & Medicine - 4, Forschungszentrum Juelich, Juelich, Germany; [2]Department of Neurology, Faculty of Medicine, JARA, RWTH Aachen University, Aachen, Germany

1908. Numerical Study of the Waveguide Magnetic Field via the Principal Mode for MRI at 3T
Fabian Vazquez[1], Rodrigo Martin[1], David Flores[1], Sergio Solis[2], Alfredo O. Rodriguez[1]
[1]UAM Iztapalapa, DF, Mexico, Mexico; [2]Laboratorio de Neurofisiologia Integrativa, Instituto Nacional de Psiquiatria Ramon de la Fuente, DF, Mexico, Mexico

1909. New Travelling Wave Coil Concepts
Marco Mueller[1], Reiner Umathum[1], Stefan Alt[1], Wolfhard Semmler[1], Michael Bock[1]
[1]Medical Physics in Radiology, German Cancer Research Center (DKFZ), Heidelberg, Germany

1910. Improvement of Travelling Wave Excitation for Whole Body 7T MRI with an Extended Gradient Coil RF-Shield of 1.58 M Length
Tim Herrmann[1], Johannes Mallow[1], Kyoung Nam Kim[1], Johannes Bernarding[1], Joerg Stadler[2]
[1]Department of Biometry & Medical Informatics, OvG University Magdeburg, Magdeburg, Saxony-Anhalt, Germany; [2]Leibniz-Institute for Neurobiology, Magdeburg, Saxony-Anhalt, Germany

Diffusion MR: Advanced Signal Models & Reconstruction

Exhibition Hall Monday 14:00-16:00

1911. A Hierarchy of Analytic Models for the Diffusion MRI Signal in Brain White Matter
Eleftheria Panagiotaki[1], Torben Schneider[1,2], Bernard Siow[1,3], Mark F. Lythgoe[3], Matt G. Hall[1], Daniel C. Alexander[1]
[1]Centre for Medical Image Computing, Dept. of Computer Science, University College London, London, United Kingdom; [2]Institute of Neurology, University College London; [3]Centre for Advanced Biomedical Imaging, University College London

1912. Statistical Analysis of Apparent Fibre Density: Supra-Threshold Clustering Over Space & Orientation
David Raffelt[1,2], J-Donald Tournier[3,4], Gerard Ridgway[5], Stephen Rose[6], Robert Henderson[7], Stuart Crozier[2], Alan Connelly[3,4], Olivier Salvado[1]
[1]The Australian E-Health Research Centre, CSIRO, Brisbane, QLD, Australia; [2]Biomedical Engineering, School of ITEE, University of Queensland, Brisbane, QLD, Australia; [3]Brain Research Institute, Florey Neuroscience Institutes (Austin), Melbourne, VIC, Australia; [4]Department of Medicine, University of Melbourne, Melbourne, VIC, Australia; [5]Institute of Neurology, University College

London, London, United Kingdom; [6]Centre for Advanced Imaging, University of Queensland, Brisbane, QLD, Australia; [7]Department of Neurology, Royal Brisbane & Women's Hospital, Brisbane, QLD, Australia

1913. Rapid Diffusion Spectrum Imaging with Partial Q-Space Encoding
Anh Tu Van[1], Rafael O'Halloran[1], Samantha Holdsworth[1], Roland Bammer[1]
[1]Radiology, Stanford University, Stanford, CA, United States

1914. Improved Sampling Patterns for Accelerated Diffusion Spectrum Imaging using Compressed Sensing
Marion Irene Menzel[1], Jonathan Immanuel Sperl[1], Ek Tsoon Tan[2], Kedar Khare[2], Kevin F. King[3], Xiaodong Tao[2], Christopher J. Hardy[2], Luca Marinelli[2]
[1]GE Global Research, Garching bei München, Germany; [2]GE Global Research, Niskayuna, NY, United States; [3]GE Healthcare, Waukesha, WI, United States

1915. Sparsity Characterisation of the Diffusion Propagator
Etienne Saint-Amant[1], Maxime Descoteaux[1]
[1]Computer Science Department, Université de Sherbrooke, Sherbrooke, Québec, Canada

1916. Towards Automated Modelling of Maxillofacial Musculature
Greg Daniel Parker[1,2], Nicholas Drage[3,4], Paul L. Rosin[2], A. David Marshall[2], Stephen Richmond[4], John Evans[1], Derek K. Jones[1]
[1]CUBRIC, School of Psychology, Cardiff University, Cardiff, United Kingdom; [2]School of Computer Science, Cardiff University, Cardiff, United Kingdom; [3]Cardiff Vale NHS Trust, United Kingdom; [4]School of Dentistry, Cardiff University, United Kingdom

1917. Interpolation of DWI Prior to DTI Reconstruction, & Its Validation
Tim B. Dyrby[1], Henrik M. Lundell[1], Matthew G. Liptrot[1], Mark W. Burke[2], Maurice Ptito[1.3], Hartwig R. Siebner[1]
[1]Danish Research Centre for MR, Copenhagen University Hospital Hvidovre, Hvidovre, Denmark; [2]College of Medicine, Howard University, Washington DC, United States; [3]School of Optometry, University of Montreal, Montreal, Canada

1918. Fiber Continuity: An Anisotropic Prior for ODF Estimation
Marco Reisert[1], Valerij Kiselev[1]
[1]Medical Physics, University Medical Center Freiburg, Freiburg, Baden Württemberg, Germany

1919. Non-Cartesian Compressed Sensing for Diffusion Spectrum Imaging
Eric Aboussouan[1], Luca Marinelli[2], Ek Tsoon Tan[2]
[1]Barrow Neurological Institute, Phoenix, AZ, United States; [2]GE Global Research, Niskayuna, NY, United States

1920. Characterizing Complex White Matter Structure from Cube & Sphere Diffusion Imaging with a Multi-Fiber Model (CUSP-MFM)
Benoit Scherrer[1], Simon K. Warfield[1]
[1]Radiology, Harvard Medical School, Boston, MA, United States

1921. Fibres at the Magic Angle Generated by Inappropriate Calibration (MAGIC)
Greg Daniel Parker[1,2], Derek K. Jones[1]
[1]CUBRIC, School of Psychology, Cardiff University, Cardiff, United Kingdom; [2]School of Computer Science, Cardiff University, Cardiff, United Kingdom

1922. Robustness of Diffusion Scalar Metrics When Estimated with Generalized Q-Sampling Imaging Acquisition Schemes
Marta Morgado Correia[1], Guy B. Williams[2], Frank Yeh[3], Ian Nimmo-Smith[1], Eleftherios Garyfallidis[1]
[1]MRC Cognition & Brain Sciences Unit, Cambridge, United Kingdom; [2]Wolfson Brain Imaging Centre, Cambridge, United Kingdom; [3]Carnegie Mellon University, Pittsburgh , United States

1923. Optimizing the Metric for Brain White Matter Comparisons
Natasha Lepore[1], Caroline Brun*[2], Maxime Descoteaux[3], Yi-Yu Chou[4], Greig de Zubicaray[5], Katie McMahon[5], Margie Wright[6], Nicholas Martin[6], James Gee[2], Paul Thompson *equal Contribution[7]*
[1]Department of Radiology, Children's Hospital, Los Angeles, Los Angeles, CA, United States; [2]Department of Radiology, Penn Image Computing & Science Laboratory, University of Pennsylvania, Philadelphia, PA, United States; [3]Université de Sherbrooke, Canada; [4]Laboratory of NeuroImaging, UCLA, United States; [5]University of Queensland, Australia; [6]Genetic Epidemiology Lab, QIMR, Australia; [7]Laboratory of NeuroImaging, UCLA, Los Angeles, CA, United States

1924. Compressive Sensing Ensemble Average Propagator Estimation Via L_1 Spherical Polar Fourier Imaging
Jian Cheng[1,2], Sylvain Merlet[2], Aurobrata Ghosh[2], Emmanuel Caruyer[2], Tianzi Jiang[1], Rachid Deriche[2]
[1]Institute of Automation, Chinese Academy of Sciences, Beijing, China, People's Republic of; [2]INRIA Sophia Antipolis, Sophia Antipolis, France

1925. A Bayesian Random Effects Model for Enhancing Resolution in Diffusion MRI
Martin David King[1], Daniel C. Alexander[2], David G. Gadian[1], Chris A. Clark[1]

[1]Institute of Child Health, University College London, London, United Kingdom; [2]Computer Science, University College London, London, United Kingdom

1926. A Riemannian Framework for Ensemble Average Propagator Computing
Jian Cheng[1,2], Aurobrata Ghosh[1], Tianzi Jiang[2], Rachid Deriche[1]
[1]INRIA Sophia Antipolis, Sophia Antipolis, France; [2]Institute of Automation, Chinese Academy of Sciences, Beijing, China, People's Republic of

1927. Bessel Fourier Orientation Reconstruction: Using Heat Equation & Multiple Shell Acquisitions to Reconstruct Diffusion Propagator
Ameer Pasha Hosseinbor[1], Moo K. Chung[2], Yu-Chien Wu[3], Andrew L. Alexander
[1]Medical Physics, University of Wisconsin-Madison, Madison, WI, United States; [2]Biostatistics, University of Wisconsin-Madison; [3]Radiology, University of Wisconsin-Madison

1928. A High Angular Resolution Diffusion Imaging (HARDI) Template of the Human Brain
Anna Varentsova[1], Shengwei Zhang[2], Konstantinos Arfanakis[2]
[1]Biological, Chemical & Physical Sciences, Illinois Institute of Technology, Chicago, IL, United States; [2]Biomedical Engineering, Illinois Institute of Technology, Chicago, IL, United States

1929. A Framework for Modelling the Regional Variation of White Matter Microstructure
Gemma L. Morgan[1], Hui Zhang[1], Brandon Whitcher[2], Daniel C. Alexander[1]
[1]Centre for Medical Image Computing, Department of Computer Science, University College London, London, United Kingdom; [2]Clinical Imaging Centre, GlaxoSmithKline, London, United Kingdom

1930. Real-Time Rician Noise Correction Applied to Real-Time HARDI & HYDI
Véronique Brion[1], Olivier Riff[1], Irina Kezele[1], Maxime Descoteaux[2], Denis Le Bihan[1], Jean-François Mangin[1], Cyril Poupon[1], Fabrice Poupon[1]
[1]NeuroSpin, CEA/I²BM, Gif-sur-Yvette, France; [2]Sherbrooke University, Sherbrooke, Canada

1931. Multi-Shelled Q-Ball Imaging Without Assuming Inversion Symmetry
Eizou Umezawa[1], Masayuki Yamada[1], Chiaki Tsunetomi[1], Hirofumi Anno[1]
[1]Graduate School of Health Sciences, Fujita Health University, Toyoake, Aichi, Japan

1932. Registration of High B Value Diffusion Images
Shani Ben Amitay[1], Silvia De Santis[2], Derek Jones[2], Yaniv Assaf[3]
[1]Tel Aviv University, Tel Aviv, Israel; [2]CUBRIC, School of Psychology, Cardiff University, Wales, UK, United Kingdom; [3]Tel Aviv University, Israel

Diffusion: DTI & ADC

Exhibition Hall Tuesday 13:30-15:30

1933. Size & Shape Matter: Another Look at Tensor Statistics
Nicholas Lange[1,2], Peter J. Basser[3]
[1]Departments of Psychiatry & Biostatistics, Harvard University, Boston, MA, United States; [2]Neurostatistics Laboratory, McLean Hospital, Belmont, MA, United States; [3]PPITS, STBB, NICHD, National Institutes of Health, Bethesda, MD, United States

1934. Robust & Efficient White Matter Analysis using Tract Shape Modelling & Principal Components Analysis
Jonathan D. Clayden[1]
[1]Institute of Child Health, University College London, London, United Kingdom

1935. Generalizing Diffusion Tensor Model using Probabilistic Inference in Markov Random Fields
Cagatay Demiralp[1], David H. Laidlaw
[1]Brown University, Providence, RI, United States

1936. The Effect of Inflammation on DTI Derived Axial & Radial Diffusivity: A Monte Carlo Simulation Study
Yong Wang[1], Sheng-Kwei Song[2]
[1]Radiology, Washington University, Saint Louis, MO, United States; [2]Radiology, Washington University in St. Louis, Saint Louis, MO, United States

1937. The Relative Sensitvity of Different White Matter Indices to Partial Volume Artefacts
Derek K. Jones[1]
[1]CUBRIC, School of Psychology, Cardiff University, Cardiff, Wales, United Kingdom

1938. A New Robust Algorithm for Diffusion Tensor Evaluation
Ivan I. Maximov[1], Farida Grinberg[1], Nadim Jon Shah[1,2]

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

1939. Bias in Diffusion Tensor-Derived Quantities Depend on the Number of DWIs Composing the DT-MRI Dataset

Firouzeh Tannazi[1], Lindsay Walker[1], Michael Curry[1], Carlo Pierpaoli[1]
[1]STBB/PPITS/NICHD/NIH, Bethesda, MD, United States

1940. DTI Reconstruction: K-Space Average, Image-Space Average, or No Average

Shu-Wei Sun[1,2]
[1]Biophysics & Bioengineering, Loma Linda University, Loma Linda, CA, United States; [2]Radiation Medicine, Loma Linda University, Loma Linda, CA, United States

1941. Diffusion Anisotropy Corrections for Vessel Size & Microvessel Density Imaging

Jens H. Jensen[1]
[1]Department of Radiology, New York University School of Medicine, New York, NY, United States

1942. Correcting the Bias in the ADC Value Due to Local Perturbation Fields: A Physically Informed Model

Siawoosh Mohammadi[1], Zoltan Nagy[1], Harald E. Moeller[2], David Carmichael[3,4], Mark Symms[3], Oliver Josephs[1], Nikolaus Weiskopf[1]
[1]Wellcome Trust Centre for Neuroimaging, UCL Institute of Neurology, University College London, London, United Kingdom; [2]Max Planck Institute for Human Cognitive & Brain Sciences, Leipzig, Germany; [3]Clinical and Experimental Epilepsy, UCL Institute of Neurology, London, United Kingdom; [4]MRI unit, National Society for Epilepsy, Chalfont St. Peter , United Kingdom

1943. Model-Based Reconstruction of Undersampled DTI Data

Christopher L. Welsh[1,2], Edward W. Hsu[1,2], Edward V. R. DiBella[1,2]
[1]Bioengineering, University of Utah, Salt Lake City, UT, United States; [2]UCAIR, University of Utah, Salt Lake City, UT, United States

1944. Registration Based Correction of DWI Gradient Orientations

Ben Jeurissen[1], Maarten Naeyaert[1], Alexander Leemans[2], Jan Sijbers[1]
[1]Vision Lab, Dept. of Physics, University of Antwerp, Antwerp, Belgium; [2]Image Sciences Institute, University Medical Center Utrecht, Utrecht, Netherlands

1945. The Anisotropic Bias of Fractional Anisotropy in Anisotropically Acquired DTI Data

Sjoerd B. Vos[1], Max A. Viergever[1], Alexander Leemans[1]
[1]Image Sciences Institute, University Medical Center Utrecht, Utrecht, Netherlands

1946. Diffusion Tensor Imaging Distortion Correction with T_1

Ki Sueng Choi[1,2], Alexandre R. Franco[2], Paul E. Holtzheimer[2], Helen S. Mayberg[2], Xiaoping P. Hu[1]
[1]Bioengineering, Georgia Institute of Technology / Emory University, Atlanta, GA, United States; [2]Psychiatry & Behavioral Sciences, Emory University, Atlanta, GA, United States

1947. The Effect of Atlas Selection on Voxel Based Analyses of DTI Data

Wim Van Hecke[1,2], Louise Emsell[3,4], Alexander Leemans[5], Caroline Sage[6], Jelle Veraart[7], Stefan Sunaert[6], Jan Sijbers[7], Paul M. Parizel[7]
[1]University of Antwerp, Antwerp, Belgium; [2]University of Leuven, Leuven, Belgium; [3]The Murdoch Childrens Research Institute, Australia; [4]NUI Galway, Ireland; [5]Image Sciences Institute, Utrecht, Netherlands; [6]University of Leuven, Belgium; [7]University of Antwerp, Belgium

1948. What is the Component That Appears in Diffusion-Weighted Imaging at Low B Values?

Kimihiro Ogisu[1], Hidetsugu Sakai[2], Toru Yamamoto[2]
[1]Graduate School of Medicine, Hokkaido University, Sapporo, Japan; [2]Graduate School of Health Sciences, Hokkaido University

1949. Diffusion Tensor Imaging Tracks Repair of Retinal Pigment Epithelium (RPE) Layer using Hematopoietic Stem Cells in Mice

Saurav Chandra[1], Sergio Caballero[2], Maria B. Grant[2], John R. Forder[1,3]
[1]Biomedical Engineering, University of Florida, Gainesville, FL, United States; [2]Pharmacology, University of Florida; [3]Radiology, University of Florida

1950. High Angular Resolution Diffusion Microscopy (HARDM) Detects Retinal Disruption in Mice with Diabetic Retinopathy

Saurav Chandra[1], Angelos Barmpoutis[2], Nicholas Simpson[3], John R. Forder[1,4]
[1]Biomedical Engineering, University of Florida, Gainesville, FL, United States; [2]Computer & Information Sciences Engineering, University of Florida; [3]College of Medicine, University of Florida, Gainesville, FL, United States; [4]Radiology, University of Florida, Gainesville, FL, United States

1951. Accounting for Changes in Signal Variance in Diffusion Weighted Images Following Interpolation for Motion & Distortion Correction
Mustafa Okan Irfanoglu[1], Lindsay Walker[2], Raghu Machiraju, Carlo Pierpaoli[2]
[1]Computer Sciences & Engineering, The Ohio State University, Columbus, OH, United States; [2]NIH

Diffusion Acquisition & Pulse Sequences Methods

Exhibition Hall Wednesday 13:30-15:30

1952. High Resolution Multiple Slice Composite Inner Volume Excitation Echo Planar Diffusion Weighted Imaging
Hing-Chiu Chang[1,2], Tzu-Cheng Chao[3], Yi-Jui Liu[4,5], Kuo-Fang Shao[5], Cheng-Chieh Cheng[2], Chao-Chun Lin[2,6], Hsiao-Wen Chung[2,7]
[1]Global Applied Science Laboratory, GE Healthcare, Taipei, Taiwan; [2]Institute of Biomedical Electronics & Bioinformatics, National Taiwan University, Taipei, Taiwan; [3]Department of Radiology, Brigham & Women's Hospital, Harvard Medical School, Boston, MA, United States; [4]Department of Automatic Control Engineering, Feng Chia University, Taichung, Taiwan; [5]Master's Program in Biomedical Informatics & Biomedical Engineering, Feng Chia University, Taichung, Taiwan; [6]Department of Radiology, China Medical University Hospital, Taichung, Taiwan; [7]Department of Radiology, Tri-Service General Hospital, Taipei, Taiwan

1953. Reduced-FOV Single-Shot Diffusion-Weighted EPI: Extended Slice Coverage with Tailored RF Pulse Design
Emine Ulku Saritas[1], Ajit Shankaranarayanan[2], Greg Zaharchuk[3], Dwight G. Nishimura[4]
[1]Department of Bioengineering, University of California, Berkeley, CA, United States; [2]Applied Science Laboratory, GE Healthcare, Menlo Park, CA, United States; [3]Department of Radiology, Stanford University, Stanford, CA, United States; [4]Department of Electrical Engineering, Stanford University, Stanford, CA, United States

1954. A 3D Radial FSE-Based SPLICE Sequence for MR Diffusion Imaging
Jiangsheng Yu[1], Yiqun Xue[1], Mark A. Rosen[1], Hee Kwon Song[1]
[1]Department of Radiology, University of Pennsylvania School of Medicine, , Philadelphia, PA, United States

1955. Reduction of Image Distortion in Non-Axial Diffusion-Weighted Imaging using Steer-PROP
Girish Srinivasan[1,2], Novena Rangwala[1,2], Xiaohong Joe Zhou[1,3]
[1]Center for MR Research, University of Illinois Medical Center, Chicago, IL, United States; [2]Department of Bioengineering, University of Illinois Chicago, Chicago, IL, United States; [3]Departments of Bioengineering, Radiology, Neurosurgery, University of Illinois Medical Center, Chicago, IL, United States

1956. A Sliding-Window Re-Acquisition Scheme for Multi-Shot, Diffusion-Weighted Imaging with 2D Navigator Correction
David Andrew Porter[1], Keith Heberlein[1], Robin Martin Heideman[2]
[1]Siemens Healthcare, Erlangen, Germany; [2]Max Planck Institute for Human Cognitive & Brain Sciences, Leipzig, Germany

1957. k-Space & Q-Space: Combining Ultra-High Spatial & Angular Resolution in Diffusion Imaging using ZOOPPA at 7T
Robin Martin Heidemann[1], Alfred Anwander[1], Thorsten Feiweier[2], John Grinstead[3], Gabriele Lohmann[1], Thomas R. Knösche[1], Robert Turner[1]
[1]Max Planck Institute for Human Cognitive & Brain Sciences, Leipzig, Germany; [2]Siemens Healthcare, Erlangen, Germany; [3]Siemens Medical Solutions, Portland, United States

1958. Distortion Free High Resolution *In Vivo* Whole Brain Diffusion Tensor Image on 7.0T MRI
Se-Hong Oh[1], Jun-Young Chung[1], Sung-Yeon Park[1], Joshua Haekyun Park[1], Dae-Hoon Kang[1], Myung-Ho In[2], Maxim Zaitsev[3], Oliver Speck[2], Young-Bo Kim[1], Zang-Hee Cho[1]
[1]Neuroscience Research Institute, Gachon University of Medicine & Science, Incheon, Korea, Republic of; [2]Department of Biomedical Magnetic Resonance, Institute for Experimental Physics, Otto-von-Guericke University Magdeburg, Magdeburg, Germany; [3]3 Department of Radiologic Research, Medical Physics, University Hospital of Freiburg, Freiburg, Germany

1959. Single-Shot Diffusion-Weighted Spiral Imaging
Bertram Jakob Wilm[1], Christoph Barmet[1], Klaas Paul Pruessmann[1]
[1]Institute for Biomedical Engineering, University and ETH Zurich, Zurich, Switzerland

1960. Motion-Induced Phase Error Correction in 3D Diffusion-Weighted Imaging
Anh Tu Van[1], Diego Hernando[1], Joseph Holtrop[2], Bradley P. Sutton[2,3]
[1]Electrical & Computer Engineering, University of Illinois at Urbana-Champaign, Urbana, IL, United States; [2]Bioengineering, University of Illinois at Urbana-Champaign, Urbana, IL, United States; [3]Beckman Institute, University of Illinois at Urbana-Champaign, Urbana, IL, United States.

1961. Isotropic High-Resolution 3D Diffusion Weighted SSFP Imaging with Spiral Projection Imaging
Rafael Luis O'Halloran[1], Murat Aksoy[1], Eun Soo Choi[1], Roland Bammer[1]
[1]Radiology, Stanford University, Palo Alto, CA, United States

1962. Impact of the Point-Spread Function on Parameters Derived from Diffusion-Weighted Imaging: Axial Versus Sagittal Acquisition
J-Donald Tournier[1,2], Fernando Calamante[1,2], Alan Connelly[1,2]
[1]Brain Research Institute, Florey Neuroscience Institutes, Melbourne, Victoria, Australia; [2]Department of Medicine, University of Melbourne, Melbourne, Victoria, Australia

1963. The Deleterious Effect of Concomitant Gradient Fields on Diffusion Imaging
Corey Allan Baron[1], Robert Marc Lebel[1], Alan H. Wilman[1], Christian Beaulieu[1]
[1]Biomedical Engineering, University of Alberta, Edmonton, AB, Canada

1964. Crusher Gradient Reversal to Eliminate Stimulated Echo Artifacts in Dual Spin Echo Diffusion MRI
Gaohong Wu[1], Sangwoo Lee[1], Xiaoli Zhao[1], Zhu Li[1]
[1]GE Healthcare, Waukesha, WI, United States

1965. Diffusion-Limited Diffusion MRI & a Universal Optimum B-Value
Van Wedeen[1], Guangping Dai[1]
[1]Radiology, Martinos Center/ MGH, Charlestown, MA, United States

1966. Optimised Gradient Waveform Spin-Echo Sequence for Diffusion Weighted MR in a Microstructure Phantom
Bernard M. Siow[1,2], Ivana Drobnjak[1], Mark F. Lythgoe[2], Daniel C. Alexander[1]
[1]Centre for Medical Image Computing, UCL, London, United Kingdom; [2]Centre for Advanced Biomedical Imaging, UCL, London, United Kingdom

1967. On the Diffusion Sensitivity of 2D- & 3D-Turbo Spin Echo Sequences
Matthias Weigel[1], Jürgen Hennig[1]
[1]Dept. of Radiology, Medical Physics, University Medical Center Freiburg, Freiburg, Germany

1968. Simulation of Diffusion Weighted SSFP: Time to Reach the Steady State & Effects on Anisotropic Diffusion
Eun Soo Choi[1], Rafael O'halloran[2], Ernesto Staroswiecki[2], Roland Bammer[2]
[1]Stanford University, Stanford, CA, United States; [2]Department of Radiology, Stanford University, Stanford, CA, United States

1969. Analysis of Diffusion-Weighted SSFP Signal with Computer Simulation
Eun Soo Choi[1], Rafael O'halloran[2], Ernesto Staroswiecki[2], Roland Bammer[2]
[1]Stanford University, Stanford, CA, United States; [2]Department of Radiology, Stanford University, Stanford, CA, United States

Perfusion/Permeability: DSC Methods

Exhibition Hall Thursday 13:30-15:30

1970. Quantitative Perfusion Imaging by USPIO Bolustracking: The Maximum Slope Model
Peter Roland Seevinck[1,2], Mark J. Bouts[1], Annette van Der Toorn[1], Rick Martin Dijkhuizen[1]
[1]Biomedical MR Imaging & Spectroscopy, Image Sciences Institute, University Medical Center Utrecht, Utrecht, Netherlands; [2]Physics of MRI, Image Sciences Institute, University Medical center Utrecht, Utrecht, Netherlands

1971. An Improved Quantification Method to Characterize Cerebral Hemodynamic Changes after Carotid Endarterectomy Surgery: A Dynamic Susceptibility Contrast MRI Study.
David E. Crane[1], Bradley J. MacIntos[1,2], Ediri Sideso[3], James Kennedy[3], Ashok Handa[4], Manus J. Donahue[5], Peter Jezzard[5]
[1]Heart & Stroke Foundation Centre for Stroke Recovery, Sunnybrook Research Institute, Toronto, ON, Canada; [2]Medical Biophysics, University of Toronto, Toronto, ON, Canada; [3]Nuffield Department of Medicine, University of Oxford, Oxford, United Kingdom; [4]Nuffield Department of Surgery, University of Oxford, Oxford, United Kingdom; [5]Clinical Neurology, FMRIB Centre, University of Oxford, Oxford, United Kingdom

1972. Spin-Echo & Gradient-Echo PWI CBF Vs. ASL CBF: An Initial Comparison.
Matus Straka[1], Heiko Schmiedeskamp[1], Greg Zaharchuk[1], Jalal B. Andre[1], Jean-Marc Olivot[2], Nancy J. Fischbein[1], Maarten G. Lansberg[2], Michael E. Moseley[1], Gregory W. Albers[2], Roland Bammer[1]
[1]Radiology, Stanford University, Stanford, CA, United States; [2]Stanford Stroke Center, Stanford University, Stanford, CA, United States

1973. Low-Resolution Cartesian Compressed Sensing MRI: Application to Dynamic Susceptibility MRI
David S. Smith[1,2], Thomas E. Yankeelov[1,2], Christopher Chad Quarles[1,2]
[1]Radiology & Radiological Sciences, Vanderbilt University, Nashville, TN, United States; [2]Institute of Imaging Science, Vanderbilt University, Nashville, TN, United States

1974. Flow Heterogeneity as a Potential Biomarker of Vascular Normalisation in Tumour Studies
John David Dickson[1], Richard E. Ansorge[1], Stephen Price[2]

[1]Department of Physics, Cambridge University, Cambridge, Cambridgeshire, United Kingdom; [2]Medical School, Cambridge University

1975. Use of the Relationship between Phase & Magnetic Susceptibility for Assessment of Assumed Contrast Agent Distributions *In Vivo*: Application to δR2* Maps in Dynamic Susceptibility Contrast MRI

Emelie Lindgren[1], Linda Knutsson[1], Danielle van Westen[2], Freddy Ståhlberg[1,3], Ronnie Wirestam[1]
[1]Dept. of Medical Radiation Physics, Lund University, Lund, Sweden; [2]Radiology, Skane University Hospital, Lund, Sweden; [3]Dept. of Diagnostic Radiology, Lund University, Lund, Sweden

1976. Improving CBF Image Contrast with Frequency Extrapolation for DSC-MRI During Acute Stroke

Matthew Ethan MacDonald[1,2], Micheal Richard Smith[1,3], Richard Frayne[2,3]
[1]Departments of Electrical & Biomedical Engineering, University of Calgary, Calgary, AB, Canada; [2]Seaman Family MR Research Centre, Foothills Medical Centre, Calgary, AB, Canada; [3]Departments of Radiology & Clinical Neurosciences, University of Calgary, Calgary, AB, Canada

1977. Determination of Collateral Supply Patterns using Conventional Dynamic Susceptibility Contrast Perfusion Imaging

Cihat Eldeniz[1], Yueh Lee[2], Jeffrey Keith Smith[2], Tyler B. Jones[2], Weili Lin[2,3], Sten Solander[2], James Faber[4], Hongyu An[2]
[1]Biomedical Engineering, University of North Carolina, Chapel Hill, NC, United States; [2]Department of Radiology, University of North Carolina, Chapel Hill, NC, United States; [3]Department of Neurology, University of North Carolina, Chapel Hill, NC, United States; [4]Department of Cell & Molecular Physiology, University of North Carolina, Chapel Hill, NC, United States

1978. A Patient-Specific Global Residue Function Improves Reproducibility in Longitudinal Monitoring of Perfusion Changes in Low-Grade Gliomas

Atle Bjornerud[1,2], Kim Mouridsen[3], Kyrre Eeg Emblem[4,5]
[1]Interventional Centre, Oslo Univeristy Hospital, Oslo, Norway; [2]Dept. of Physics, Univ. of Oslo, Oslo, Norway; [3]Center for Functionally Integrative Neuroscience, Aarhus University Hospital, Denmark; [4]A. A. Martions Center for Biomedical Imaging,, Massachusetts General Hospital; [5]Oslo Univeristy Hospital, Norway

1979. Prediction of Clinical Outcome in Glioma Patients using a Combination of Epidermal Growth Factor Receptor (EGFR) & Relative Cerebral Blood Volume (RCBV) Measured by Dynamic Susceptibility-Weighted Contrast-Enhanced Magnetic Resonance Imaging

Marcel Oei[1], Albert Idema[1], Pieter Vos[1], Sandra Boots-Sprenger[1], Judith Jeuken[1], Mathias Prokop[1]
[1]Radboud University Nijmegen Medical Centre, Nijmegen, Gelderland, Netherlands

1980. Correlation of DSC Parameters with Histopathological Complex Microvasculature in GBM Patients

Emma Essock-Burns[1,2], Joanna J. Phillips[3,4], Janine M. Lupo[2], Soonmee Cha[2,5], Susan M. Chang[5], Sarah J. Nelson[1,6]
[1]UCSF/UCB Joint Graduate Group in Bioengineering, University of California San Francisco, San Francisco, CA, United States; [2]Department of Radiology & Biomedical Imaging, University of California San Francisco, San Francisco, CA, United States; [3]Department of Pathology, University of California San Francisco; [4]Department of Laboratory Medicine, University of California San Francisco, San Francisco, CA, United States; [5]Department of Neurological Surgery, University of California San Francisco, San Francisco, CA, United States; [6]Department of Bioengineering & Therapeutic Sciences, University of California San Francisco, San Francisco, CA, United States

1981. Multiparametric Classification of Hyperoxia Challenge & Dynamic Susceptibility Contrast Maps: Study of the Healthy Brain

Moran Artzi[1,2], Orna Aizenstein[3], Talma Hendler[1,2], Rinat Abramovitch[4], Dafna Ben Bashat[1]
[1]Functional Brain Center, Wohl institute for Advanced Imaging, Tel Aviv Sourasky Medical Center, Tel-Aviv, Israel; [2]Sackler Faculty of Medicine, Tel Aviv University, Tel-Aviv, Israel; [3]Radiology Department, Tel Aviv Sourasky Medical Center, Tel-Aviv, Israel; [4]The Goldyne Savad Institute for Gene Therapy, Hadassah Hebrew University Medical Center, Jerusalem, Israel

1982. Dynamic Susceptibility Contrast Imaging Study of the Healthy Brain using Multiparametric Classification

Moran Artzi[1,2], Orna Aizenstein[3], Talma Hendler[1,2], Dafna Ben Bashat[1]
[1]Functional Brain Center, Wohl institute for Advanced Imaging, Tel Aviv Sourasky Medical Center, Tel-Aviv, Israel; [2]Sackler Faculty of Medicine, Tel Aviv University, Tel-Aviv, Israel; [3]Radiology Department, Tel Aviv Sourasky Medical Center, Tel-Aviv, Israel

Non-Gaussian Diffusion

Exhibition Hall Monday 14:00-16:00

1983. Quantifying Non-Gaussian Diffusion in Brain Tissue at High B-Factors

Farida Grinberg[1], Ezequiel Farrher[1], Joachim Kaffanke[1], Ana-Maria Oros-Peusquens[1], N. Jon Shah[1,2]
[1]Institute of Neuroscience & Medicine - 4, Forschungszentrum Juelich GmbH, 52425 Juelich, NRW, Germany; [2]Department of Neurology, Faculty of Medicine, RWTH Aachen University, JARA, 52074 Aachen, Germany

1984. A Novel Approach to Give More Insides on Anomalous Diffusion Processes: Diffusion MR Signal at Varying of Diffusion Time Versus Signal at Varying of Gradient Strength
Silvia Capuani[1,2], Marco Palombo[1], Silvia De Santis[1], Andrea Gabrielli[3]
[1]Physics Department Sapienza University of Rome, Rome, Italy; [2]CNR IPCF UOS Roma, Rome, Italy; [3]CNR ISC, Rome, Italy

1985. Internal Gradients Affect the γ Value Arising from Anomalous Diffusion Stretched Exponential Model
Marco Palombo[1], Silvia De Santis[1], Silvia Capuani[1,2]
[1]Physics Department, Sapienza University of Rome, Rome, Italy; [2]IPCF UOS Roma, CNR, Rome, Italy

1986. A Simple Analytical Relationship between WM Tissue Characteristics & DWI Signal
Sharon Peled[1]
[1]Brigham and Women's Hospital, Boston, MA, United States

1987. Spectral Lineshape Reflects Microscopic Structure & Ordering
Alexander Ruh[1], Philipp Emerich[1], Dmitry S. Novikov[2], Valerij G. Kiselev[1]
[1]Department of Radiology, Medical Physics, University Medical Center Freiburg, Freiburg, Germany; [2]Center for Biomedical Imaging, Department of Radiology, NYU School of Medicine, New York, NY, United States

1988. Time-Dependent Diffusion & Kurtosis as a Probe of Tissue Structure
Dmitry S. Novikov[1], Els Fieremans[1], Jens H. Jensen[1], Joseph A. Helpern[2]
[1]Radiology, NYU School of Medicine, New York, NY, United States; [2]Radiology & Radiological Science, Medical University of South Carolina, Charleston, SC, United States

1989. Stroke Analysis by Means of Kurtosis Diffusion Imaging in *In Vivo* Animal Studies
Farida Grinberg[1], Ezequiel Farrher[1], Luisa Ciobanu[2], Françoise Geffroy[2], N. Jon Shah[1,3]
[1]Institute of Neuroscience & Medicine - 4, Forschungszentrum Juelich GmbH, 52425 Juelich, NRW, Germany; [2]Neurospin, CEA, Gif sur Yvette, France; [3]Department of Neurology, Faculty of Medicine, RWTH Aachen University, JARA, 52074 Aachen, Germany

1990. Q-Space Undersampled Diffusional Kurtosis Imaging
Ali Tabesh[1], Jens H. Jensen[1], Els Fieremans[1], Joseph A. Helpern[1,2]
[1]Radiology, New York University School of Medicine, New York, NY, United States; [2]Medical Physics, Nathan Kline Institute, Orangeburg, NY, United States

1991. The Effects of Cross-Sectional Asymmetry & Anisotropy of the Pore Space on Double-PFG MR Signal
Evren Ozarslan[1,2], Peter Joel Basser[1]
[1]STBB / PPITS / NICHD, National Institutes of Health, Bethesda, MD, United States; [2]Center for Neuroscience & Regenerative Medicine, USUHS, Bethesda, MD, United States

1992. Hindered or Restricted Predominance of the Diffusion Weighted Signal Function of the Diffusion Time at Ultra-High Magnetic Field
Yohan van De Looij[1,2], Nicolas Kunz[1,2], Petra S. Hüppi[1], Rolf Gruetter[2,3], Stéphane V. Sizonenko[1]
[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

1993. How White Matter Tracts Cross Determines the DWI Signal
Sharon Peled[1], Carl-Fredrik Westin[1]
[1]Brigham & Women's Hospital, Boston, MA, United States

1994. *In Vivo* Neuroanatomical Segmentation of Human Corpus Callosum Based on Axonal Diameter & Density using Q-Planar MRI
Jun-Cheng Weng[1,2], Wen-Yih Isaac Tseng[3,4]
[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; [3]Center for Optoelectronic Biomedicine, National Taiwan University College of Medicine, Taipei, Taiwan; [4]Department of Medical Imaging, National Taiwan University Hospital, Taipei, Taiwan

1995. The Displacement Correlation Tensor from Double Wave Vector Diffusion Experiments Encodes Information About Pore Microstructure & Ensemble Properties
Sune Nørhøj Jespersen[1], Niels Buhl[1,2]
[1]CFIN/MINDLab, Aarhus University, Aarhus, Denmark; [2]Department of Physics & Astronomy, Aarhus University, Aarhus, Denmark

1996. A Monte Carlo Study of the Effects of Cell Membrane Permeability on DWI-MRI Contrast with Oscillating Diffusion Gradients
Blake Walters[1], Greg Duane, Jae Kim
[1]Thunder Bay Regional Research Institute, Thunder Bay, Ontario, Canada

1997. Double-PFG MR Reveals Insights Into Compartment Shape, Organization & Morphology in Heterogeneous Specimens
Noam Shemesh[1], Yoram Cohen[1]
[1]School of Chemistry, the Raymond & Beverly Sackler Faculty of Exact Sciences, Tel Aviv University, Tel Aviv, Israel

1998. Influence of Boundary Condition on Multiple Exponential Diffusion Phase Transition
Lingchih Lin[1], Jianhui Zhong[1,2]
[1]Department of Physics & Astronomy, University of Rochester, Rochester, NY, United States; [2]Department of Imaging Sciences, University of Rochester, Rochester, NY, United States

Application of Diffusion Sensitive MR

Exhibition Hall Tuesday 13:30-15:30

1999. The Appearance of the Apparent Diffusion Coefficient in Complex Fiber Architecture
Sjoerd B. Vos[1], Derek K. Jones[2], Max A. Viergever[1], Alexander Leemans[1]
[1]Image Sciences Institute, University Medical Center Utrecht, Utrecht, Netherlands; [2]CUBRIC , Cardiff University Brain Research Imaging Centre, School of Psychology, Cardiff University, Cardiff, United Kingdom

2000. Asymmetry in Multi-Modal White Matter Microstructural Indices
Sonya Bells[1], Sean Deoni[2,3], Mara Cercignani[4], Ofer Pasternak[5], Derek K. Jones[1]
[1]CUBRIC, School of Psychology, Cardiff, United Kingdom; [2]School of Engineering, Brown University, Providence, RI, United States; [3]Centre of Neuroimaging Sciences-Institute of Psychiatry, King's College, London, United Kingdom; [4]Santa Lucia Foundation, Neuroimaging Laboratory, Rome, Italy; [5]Brigham & Women's Hospital, Harvard Medical School, Bostan, MA, United States

2001. Sexual Dimorphism in White Matter Development in Pre-Adolescence: A Tract Based Spatial Statistics Study
Kiran Kumar Seunarine[1], Jon Clayden[1], Sebastian Jentschke[1], Monica Muñoz[1,2], Janine Cooper[1], Martin J. Chadwick[1,3], Tina Banks[4], Faraneh Vargha-Khadem[1], Chris A. Clark[1]
[1]Institute of Child Health, University College London, London, United Kingdom; [2]School of Medicine, University of Castilla-La Mancha, Albacete, Spain; [3]Institute of Neurology, University College London, London, United Kingdom; [4]Radiology Department, Great Ormund Street Hospital, London, United Kingdom

2002. Independent Component Analysis of DTI Reveals Multivariate Microstructural Correlations of Human Brain White Matter
Yi-Ou Li[1], Fan-Pei Yang[1], Christopher Nguyen[2], Shelly Cooper[1], Sara LaHue[1], Sandya Venugopal[1], Pratik Mukherjee[1]
[1]University of California San Francisco, San Francisco, CA, United States; [2]University of California Los Angeles

2003. Testing the Variability of Diffusion Spectrum Imaging (DSI): Inter- & Intra-Site Comparison on "Identical" 3T Scanners
Alia Lemkaddem[1], Alessandro Daducci[1], Serge Vulliémoz[2], Margitta Seeck[2], Francois Lazeyras[3], Reto Meuli[4], Gunnar Krueger[5], Jean-Philippe Thiran[1]
[1]Signal Processing Laboratories (LTS5), Ecole Polythechnique Fédéral de Lausanne (EPFL), Lausanne, Switzerland; [2]Presurgical Epilepsy Evaluation Unit, Hôpitaux Universitaires et faculté de médecine de Genève (HUG), Switzerland; [3]Department of Radiology, Hôpitaux Universitaires et faculté de médecine de Genève (HUG), Switzerland; [4]Department of Radiology, University Hospital Center & University of Lausanne (CHUV), Switzerland; [5]Advanced Clinical Imaging Technology, Siemens Medical Solutions-CIBM, Switzerland

2004. A Framework for Analysis of Living Phantom Data in a Multicenter DTI Study
Lindsay Walker[1], Nicholas Lange[2], Lin-Ching Chang[3], Carlo Pierpaoli[1], Tthe Brain Development Cooperative Group[4]
[1]STBB, NICHD, National Institutes of Health, Bethesda, MD, United States; [2]Departments of Psychiatry & Biostatistics, Harvard Schools of Medicine & Public Health, Boston, MA, United States; [3]Department of Electronic Engineering & Computer Science, The Catholic University of America, Washington, DC, United States; [4]www.NIH-PediatricMRI.org

2005. Diffusion Tensor Image Registration using Uncertainty Information
Mustafa Okan Irfanoglu[1,2], Cheng Guan Koay, Sinisa Pajevic, Raghu Machiraju, Peter J. Basser
[1]Computer Sciences & Engineering, The Ohio State University, Columbus, OH, United States; [2]NICHD, NIH, Bethesda, MD, United States

2006. Inter-Subject Correlations between DTI Indices & Tissue Fractions in Human Brain
Wang Zhan[1], Wanyong Shin[2,3], Xiujuan Geng[3], Hong Gu[3], Yihong Yang[3]
[1]Radiology & Medical Imaging, University of California, San Francisco, San Francisco, CA, United States; [2]Imaging Institute, Cleveland Clinic, Cleveland , OH, United States; [3]Neuroimaging Branch, National Institute on Drug Abuse, Baltimore, MD, United States

2007. Reproducibility of Automated Measurements of Diffusion Tensor Imaging at 3T using Histogram Analysis
Ryan Hutten[1], Shawn Sidharthan[2], Christopher Glielmi[2,3], Hongyan Du[4], Fiona Malone[2], Ann Ragin[2,5], Robert Edelman[2,5], Ying Wu[2,5]
[1]Radiology, Northshore University HealthSystem, Evanston , IL, United States; [2]Radiology, Northshore University HealthSystem, Evanston, IL, United States; [3]Siemens Healthcare, Chicago, IL, United States; [4]Center for Clinical Research Informatics, Northshore University Health Systems, Evanston, IL, United States; [5]Radiology, Feinberg School of Medicine, Chicago, IL, United States

2008. Diffusion Imaging *In Vivo* with Whole-Body Gradient Amplitude of 65 MT/m
Ek Tsoon Tan[1], Wesley M. Skeffington[1], Juan Sabate[1], Bruce D. Collick[2], Song Chi[1], Rixin Lai[1], Christopher J. Hardy[1], Luca Marinelli[1], Thomas K. Foo[1]
[1]GE Global Research, Niskayuna, NY, United States; [2]GE Healthcare, Waukesha, WI, United States

2009. Effects of Sustained High-Altitude Hypoxia on Cerebral Hydration & Diffusion
John S. Hunt, Jr.[1], Rebecca J. Theilmann[1], Bill C. Hsu[1], Ethan Li[1], Zachary Myles Smith[1], Miriam Scadeng[1], David J. Dubowitz[1]
[1]Radiology, University of California San Diego, La Jolla, CA, United States

2010. Preparation of Diffusion–Weighted MR Image Data for Cortical Parcellation
Zoltan Nagy[1], David Lee Thomas[2], Nikolaus Weiskopf[1], Martin Sereno[3,4]
[1]Wellcome Trust Centre for Neuroimaging, University College London, London, United Kingdom; [2]Institute of Neurology, Department of Brain Repair & Rehabilitation, University College London, London, United Kingdom; [3]Department of Psychology, University College London, London, United Kingdom; [4]Department of Psychology, Birkbeck College, London, United Kingdom

2011. Dual Tensor for Tract-Based Analysis: Towards Application to Routine Clinical Diffusion Images
Virendra Mishra[1], Hao Huang[1]
[1]Advanced Imaging Research Center, University of Texas Southwestern Medical Center, Dallas, TX, United States

2012. Aging-Related Changes in Apparent Diffusion Coefficient Values of the Cerebral Metabolites using Diffusion Weighted MR Spectroscopy
Dandan Zheng[1], Zhenghua Liu[2], Jing Fang[1,3], Xiaoying Wang[1,2], Jue Zhang[1,3]
[1]Academy for Advanced Interdisciplinary Studies, Peking University, BEIJING, China, People's Republic of; [2]Dept. of Radiology, Peking University First Hospital, BEIJING, China, People's Republic of; [3]College of Engineering, Peking University, BEIJING, China, People's Republic of

2013. Functional Muscle MRI in Human Calf Muscle using IVIM
Patrick Hiepe[1], Jürgen Reichenbach[2]
[1]Medical Physics Group, Department of Diagnostic & Interventional Radiology I, Jena University Hospital , Jena, Germany; [2]Medical Physics Group, Department of Diagnostic & Interventional Radiology I, Jena University Hospital, Jena, Germany

2014. A Novel Method for Automatic Extraction of Apparent Diffusion Coefficients in Breast MRI
Darryl McClymont[1], Andrew Mehnert[1], Adnan Trakic[1], Dominic Kennedy[2], Stuart Crozier[1]
[1]University of Queensland, Brisbane, QLD, Australia; [2]Queensland X-Ray, Brisbane, QLD, Australia

2015. Diffusion Weighted Imaging (DWI) of Non-Hodgkin Lymphoma (NHL) Patients Refractory to Previous Treatment(S): Preliminary Results
Hamed Mojahed[1], Thorsten Persigehl[2], Owen A. O'Connor[3], Ahmed Sawas[3], Truman R. Brown[4], Fernando Arias-Mendoza[2]
[1]Department of Biomedical Engineering, Columbia University, New York, NY, United States; [2]Department of Radiology, Columbia University, New York, NY, United States; [3]NYU Cancer Institute, NYU Langone Medical Center, New York University, New York, NY, United States; [4]Center for Advanced Imaging Research (CAIR), Medical University of South Carolina, United States

2016. 4-Tesla High Angular Resolution Diffusion Tractography Analysis of the Human Connectome in 234 Subjects: Sex Differences & EPI Distortion Effects
Neda Jahanshad[1], Iman Aganj[2], Christophe Lenglet[2,3], Guillermo Sapiro[2], Arthur W. Toga[1], Katie L. McMahon[4], Greig I. de Zubicaray[5], Nicholas G. Martin[6], Margaret J. Wright[6], Paul M. Thompson[1]
[1]Laboratory of Neuro Imaging, Department of Neurology, UCLA, Los Angeles, CA, United States; [2]Department of Electrical & Computer Engineering, University of Minnesota, Minneapolis, MN, United States; [3]Center for Magnetic Resonance Research, University of Minnesota Medical School, Minneapolis, MN, United States; [4]Centre for Advanced Imaging, University of Queensland, Brisbane, Australia; [5]School of Psychology, University of Queensland, Brisbane, Australia; [6]Queensland Institute of Medical Research, Brisbane, Australia

2017. Evaluation of Fiber Radius Mapping using Diffusion MRI Under Clinical System Constraints
Chun-Hung Yeh[1,2], Irina Kezele[1], Daniel Alexander[3], Benoit Schmitt[1], Jing-Rebecca Li[1], Denis Le Bihan[1], Ching-Po Lin[2], Cyril Poupon[1]
[1]NeuroSpin, I2BM, CEA, Gif-sur-Yvette, France; [2]National Yang-Ming University, Taipei, Taiwan; [3]University College London, London, United Kingdom

Tractography

Exhibition Hall Wednesday 13:30-15:30

2018. Accurate Tractography Propagation Mask using T_1-Weighted Data Rather Than FA
Pamela Guevara[1,2], Delphine Duclap[1,2], Linda Marrakchi-Kacem[1,2], Denis Rivière[1,2], Yann Cointepas[1,2], Cyril Poupon[1,2], Jean-François Mangin[1,2]
[1]Neurospin, CEA Saclay, Gif-sur-Yvette, France; [2]Institut Fédératif de Recherche 49, Gif-sur-Yvette, France

2019. Effect of Step Size on Probabilistic Streamlines: Implications for the Interpretation of Connectivity Analyses.
J-Donald Tournier[1,2], Fernando Calamante[1,2], Alan Connelly[1,2]
[1]Brain Research Institute, Florey Neuroscience Institutes, Melbourne, Victoria, Australia; [2]Department of Medicine, University of Melbourne, Melbourne, Victoria, Australia

2020. Potential Importance of Secondary Connections in Tractography
Kyle Taljan[1,2], Cameron C. McIntyre[1], Ken E. Sakaie[3]
[1]Lerner Research Institute, Biomedical Engineering, Cleveland Clinic, Cleveland, OH, United States; [2]Biomedical Engineering, Cleveland State University, Cleveland, OH, United States; [3]Imaging Institute, Cleveland Clinic

2021. GPGPU-Computing for the Cluster Analysis of Fiber Tracts: Replacing a $15000 High End PC with a $500 Graphics Card
Christia Ros[1], Ralph Tandetzky[1], Daniel Güllmar[1], Jürgen R. Reichenbach[1]
[1]Medical Physics Group, Department of Diagnostic & Interventional Radiology I, Jena University Hospital, Jena, Thuringia, Germany

2022. Validation of DTI-Tractography-Based Measures of Primary Motor Area Cortical Connectivity
Yurui Gao[1,2], Ann S. Choe[1,2], Xia (Lisa) Li[2], Iwona Stepniewska[3], Adam W. Anderson[1,2]
[1]Department of Biomedical Engineering, Vanderbilt University, Nashville, TN, United States; [2]Vanderbilt University Institute of Imaging Science, Nashville, TN, United States; [3]Department of Psychology, Vanderbilt University, Nashville, TN, United States

2023. Gender Effect on the Asymmetries of Brain Pathways in the Human Living Brain
Michel Thiebaut De Schotten[1,2], Flavio Dell'Acqua[1,3], Stephanie Forkel[1,4], Marco Catani[1,3]
[1]Natbrainlab, Institute of Psychiatry, London, United Kingdom; [2]Hôpital de la Salpêtrière, CRICM-INSERM UMRS 975, Paris, France; [3]Department of Neuroimaging Sciences, Institute of Psychiatry, London, United Kingdom; [4]Department of Forensic & Neurodevelopmental Sciences, Institute of Psychiatry, London, United Kingdom

2024. Along-Tract Statistics Allow for Enhanced Tractography Analysis
John B. Colby[1,2], Lindsay Soderberg[1], Catherine Lebel[1], Ivo D. Dinov[1,3], Paul M. Thompson[1,2], Elizabeth R. Sowell[1]
[1]Department of Neurology, UCLA, Los Angeles, CA, United States; [2]Interdepartmental Program for Biomedical Engineering, UCLA; [3]Department of Statistics, UCLA

2025. Reproducibility of Fiber Bundles from Different Subsampled Q-Space DSI Data Set
Getaneh Bayu Tefera[1], Yuxiang Zhou[1], Ponnada A. Narayana[1]
[1]Diagnostic & Interventional Imaging, University of Texas at Houston, Houston, TX, United States

2026. Assessment of Cortico-Cortical Connectivity in the Presence of Image Artifact
Kerstin Pannek[1,2], Jane Mathias[3], Greg Brown[4], Jamie Taylor[5], Stephen Rose[2]
[1]Centre for Advanced Imaging, The University of Queensland, Brisbane, Queensland, Australia; [2]Centre for Clinical Research, The University of Queensland, Brisbane, Queensland, Australia; [3]School of Psychology, University of Adelaide, Adelaide, South Australia, Australia; [4]MRI Unit, Royal Adelaide Hospital, Adelaide, South Australia, Australia; [5]Radiology, Royal Adelaide Hospital, Adelaide, South Australia, Australia

2027. Estimation of Anatomical Connection Strength in Diffusion MRI Tractography by a Global Message-Passing Algorithm
Milos Ivkovic[1], Ashish Raj[2]
[1]Radiology , Weill Cornell Medical School , New York , NY, United States; [2]Radiology, Weill Cornell Medical School, New York, NY, United States

2028. Human Structural Hand Motor Network Inferred by Probabilistic Q-Ball Tractography & MEG
Monica Bucci[1], Kelly Westlake[2], Bagrat Amirbekian[2,3], Srikantan Nagarajan[2], Roland G. Henry[2,3]
[1]Department of Radiology & Biomedical Imaging, UCSF, San Francisco, CA, United States; [2]Department of Radiology & Biomedical Imaging, UCSF, San Francisco, United States; [3]Graduate Group in Bioengineering, UCSF, United States

2029. Normalized Edge Weight Connectivity Measure Derived from Diffusion Weighted Images: Application to the Limbic System.
Luis Manuel Colon-Perez[1], Remington Horesh[2], William Triplett[3], Mansi Parekh[4], Sachin Talathi[5], Paul Carney[5], Thomas Mareci[3]

[1]Physics, University of Florida, Gainesville, FL, United States; [2]Biology, University of Florida; [3]Biochemistry & Molecular Biology, University of Florida; [4]Neuroscience, University of Florida; [5]Pediatrics, University of Florida

2030. Comparison of Anatomical Connectivity Metrics
Ken E. Sakaie[1], Lael Stone[2], Robert Bermel[2], Micheal D. Phillips[1], Mark J. Lowe[1]
[1]Imaging Institute, The Cleveland Clinic, Cleveland, OH, United States; [2]Mellen Center, The Cleveland Clinic, Cleveland, OH, United States

Diffusion Phantoms

Exhibition Hall Thursday 13:30-15:30

2031. Physical Orientation in the Magnetic Field Affects Diffusion Measures: A Hardware Phantom Study
Pim Pullens[1,2], Alard Roebroeck[1], Matteo Bastiani[1], Rainer Goebel[1,2], Kamil Uludag[1]
[1]Maastricht Brain Imaging Center, Maastricht University, Maastricht, Netherlands; [2]Brain Innovation BV, Maastricht, Netherlands

2032. Noninvasively Diffusion Basis Spectrum Imaging (DBSI): A Phantom Study
Yong Wang[1], Qing Wang[2], Peng Sun[1], Fang-Cheng Yeh[3], Wen-Yih Isaac Tseng[4,5], Sheng-Kwei Song[6]
[1]Radiology, Washington University, Saint Louis, MO, United States; [2]Mechanical Engineering & Material Sciences, Washington University, Saint Louis, MO, United States; [3]Biomedical Engineering, Carnegie Mellon University, Pittsburgh, PA, United States; [4]Nuclear Engineering, National Taiwan University Medical College; [5]Center for Optoelectronic Biomedicine; [6]Radiology, Washington University in St. Louis, Saint Louis, MO, United States

2033. Novel Artificial Phantom for Studies of Anisotropic Diffusion in the Model Brain Tissue
Ezequiel Farrher[1], Joachim Kaffanke[1], Tony Stoecker[1], Farida Grinberg[1], N. Jon Shah[1,2]
[1]Institute of Neuroscience & Medicine - 4, Forschungszentrum Juelich GmbH, 52425 Juelich, Germany; [2]Department of Neurology, Faculty of Medicine, JARA, RWTH Aachen University, 52074 Aachen, Germany

2034. Novel Anisotropic Diffusion MRI Phantom
Michal E. Komlosh[1], Evren Ozarslan[1], Martin J. Lizak[2], Ferenc Horkay[1], Raisa Z. Freidlin[3], Peter J. Basser[1]
[1]STBB,PPITS,NICHD,NIH, Bethesda, MD, United States; [2]NMRF,NINDS,NIH, Bethesda, MD, United States; [3]CIT,NIH, Bethesda, MD, United States

DCE MRI

Exhibition Hall Monday 14:00-16:00

2035. Effects of Contrast Agent Accumulation on Background Correction of Phase-Based Arterial Input Functions
Anders Garpebring[1], Ronnie Wirestam[2], Mikael Karlsson[1]
[1]Radiation Sciences, Umeå University, Umeå, Sweden; [2]Medical Radiation Physics, Lund University, Lund, Sweden

2036. Comparison between MRI Blood-to-Brain Transfer Rate Constants from Individual MRI & Population Averaged Quantitative Autoradiographic Arterial Input Functions
Kishor Karki[1], Ramesh Paudyal[1], Tavarekere N. Nagaraja[2], James R. Ewing[1,3], Joseph D. Fenstermacher[2], Robert A. Knight[1,3]
[1]Department of Neurology, Henry Ford Hospital, Detroit, MI, United States; [2]Department of Anesthesiology, Henry Ford Hospital, Detroit, MI; [3]Department of Physics, Oakland University, Rochester, MI, United States

2037. Dispersion Correction in DCE-MRI Microvascular Parameters using a Recirculating Bolus AIF Model
Ross A. Little[1], Marietta Scott[2], Anita Banerji[1], Yvonne Watson[1], Josephine Naish[1], Geoff J. M. Parker[1]
[1]Imaging Sciences & Biomedical Engineering, University of Manchester, Manchester, United Kingdom; [2]AstraZeneca, Cheshire, United Kingdom

2038. Optimizing Perfusion Imaging of Brain Tumors: Validation of Venous Output Function Used as a Surrogate AIF
Claire Foottit[1], Greg O. Cron[1], Jean Francois Mercier[1], Viviane Thanh-Van Nguyen[2], Ian Cameron[1], Mark E. Schweitzer[1], John Sinclair[1], John Woulfe[1], Matthew J. Hogan[3], Thanh B. Nguyen[1]
[1]The Ottawa Hospital, Ottawa, Ontario, Canada; [2]University of Montreal; [3]Neuroradiology, The University of Ottawa, Ottawa, Ontario, Canada

2039. Intra-Operative Perfusion Imaging of Brain Tumors using Dynamic Contrast Enhanced MRI: A Comparison with Dynamic Susceptibility Contrast MRI
Shy-Chyi Chin[1], Yeng-Peng Liao[2], Ya-Ting Chuang[1], Ho-Ling Liu[2,3]

[1]Department of Medical Imaging & Intervention, Chang-Gung Medical Center, Guei-Shan, Tao-Yuan, Taiwan; [2]Chang Gung University, Department of Medical Imaging & Radiological Sciences, Guei-Shan, Tao-Yuan, Taiwan; [3]Department of Medical Imaging & Intervention, Chang-Gung Medical Center

2040. *In Vivo* Correlation between Non-Model-Based Parameters & Model-Based Ktrans in Brain Tumors

Chih-Feng Chen[1], Lin-Wei Hsu[2], Ho-Lin Liu[2]
[1]Department of Radiology, Chang Gung Memorial Hospital, Chiayi, Taiwan, Taiwan; [2]Department of Medical Imaging & Radiological Sciences Institute of Medical Physics & Imaging Sci, Chang Gung University, Taoyuan, Taiwan, Taiwan

2041. Dynamic Contrast Enhanced & Diffusion Weighted MRI from Primary Tumors & Metastatic Cervical Lymph Nodes in Squamous Cell Carcinomas of the Head & Neck

Sanjeev Chawla[1], Sungheon Kim[1,2], Larry Dougherty[1], Sumei Wang[1], Laurie a Loevner[1], Harry Quon[3], Harish Poptani[1]
[1]Radiology, University of Pennsylvania, Philadelphia, PA, United States; [2]Radiology, New York University, New York, NY, United States; [3]Radiation Oncology, University of Pennsylvania, Philadelphia, PA, United States

2042. Value of Semi-Quantitative Analysis of Dynamic Contrast-Enhanced MRI for Diagnosing Staging of Nasopharyngeal Carcinoma & Comparison with PET-CT

Bingsheng Huang[1], Pek Lan Khong[1], Chung-Sing Wong[1], Dora Lai Wan Kwong[2], Queenie Chan[3]
[1]The University of Hong Kong, Hong Kong Island, Hong Kong SAR, Hong Kong; [2]Clinical Oncology, the University of Hong Kong; [3]Philips Healthcare

2043. MR Renography: Coherence Investigation Between Thin Slab & Whole Kidney Scans

Bin Chen[1], Yi Dang[1], Xue Dong Yang[2], Jing Fang[1,3], Xiaoying Wang[1,2], Jue Zhang[1,3]
[1]Academy for Advanced Interdisciplinary Studies, Peking University, BEIJING, China, People's Republic of; [2]Radiology, Peking University First Hospital, BEIJING, China, People's Republic of; [3]College of Engineering, Peking University, BEIJING, China, People's Republic of

2044. Three-Dimensional Myocardial Perfusion MRI with an Undersampled 3D Hybrid Radial Sequence

Liyong Chen[1,2], Ganesh Adluru[1], Matthias C. Schabel[1], Christopher J. McGann[3], Edward V. R. DiBella[1,2]
[1]Utah Center for Advanced Imaging Research, Department of Radiology, University of Utah, Salt Lake City, UT, United States; [2]Department of Bioengineering, University of Utah, Salt Lake City, UT, United States; [3]Division of Cardiology & Radiology, University of Utah, Salt Lake City, UT, United States

2045. First-Pass Myocardial Perfusion Imaging with Sparse (k,t)-Space Sampling

Anthony Glenn Christodoulou[1], Cornelius Brinegar[1], Bo Zhao[1], Justin P. Haldar[1], Haosen Zhang[2], Yi-Jen L. Wu[2], T. Kevin Hitchens[2], Chien Ho[2], Zhi-Pei Liang[1]
[1]Department of Electrical & Computer Engineering, University of Illinois at Urbana-Champaign, Urbana, IL, United States; [2]Pittsburgh NMR Center for Biomedical Research, Department of Biological Sciences, Carnegie Mellon University, Pittsburgh, PA, United States

2046. 3D-Liver Quantitative Perfusion Mapping using EGEE Grid with MR-DCE Imaging & MS-325 Blood Pool Contrast Agent

Benjamin Leporq[1], Sorina Camarasu[1], Frank Pilleul[1,2], Olivier Beuf[1]
[1]CREATIS, CNRS UMR 5220, Inserm U1044, INSA-Lyon, Université Lyon 1, Villeurbanne, France; [2]Département d'imagerie digestive, CHU Edouard Herriot, Hospices Civils de Lyon, Lyon, France

2047. Accessing Changes of Functional Dynamic Magnetic Resonance Imaging in Locally Advanced Breast Cancer Patients Undergo Neoadjuvant Chemotherapy

Si-Wa Chan[1], Yi-Jui Liu[2,3], Dah-Cherng Yeh[4], Jeon-Hor Chen[5], Fang-Yi Lee[6], Huei-Jen Hsueh[4], Kuo-Fang Shao[7], Hsiao-Wei Peng[1]
[1]Department of Radiology, Taichung Veterans General Hospital, Taichung, Taiwan, Taiwan; [2]Department of Automatic Control Engineering, Feng-Chia University, Taichung, Taiwan, Taiwan; [3]Master's Program in Biomedical Informatics & Biomedical Engineering, Feng-Chia University, Taichung, Taiwan, Taiwan; [4]Division of General Surgery, Taichung Veterans General Hospital, Taichung, Taiwan, Taiwan; [5]Center for Functional Onco Imaging, University of California, Irvine, CA, United States; [6]Department of Physicain, Taichung Veterans General Hospital, Taichung, Taiwan, Taiwan; [7]Master's Program in Biomedical Informatics & Biomedical Engineering, Feng-Chia University, Taichung, Taiwan, Taiwan

2048. Evaluation of V_e in a Rat Glioma Model with DCE-MRI & Quantitative SPECT

Jack T. Skinner[1,2], Mary E. Loveless[1,2], Todd E. Peterson[2,3], Thomas E. Yankeelov[2,3], Mark D. Does[1,2]
[1]Biomedical Engineering, Vanderbilt University, Nashville, TN, United States; [2]Institute of Imaging Science, Vanderbilt University, Nashville, TN, United States; [3]Radiology & Radiological Sciences, Vanderbilt University, Nashville, TN, United States

2049. Quantitative Perfusion Measurement of Liver Metastasis using DCE-MRI: Comparing a 3D-Flash Vs. a IR-TrueFISP Protocol Within a Clinical Phase II Study

Martin Büchert[1], Klaus Mross[2]

[1]MRDAC Magnetic Resonance Development & Application Center, University Medical Center Freiburg, Freiburg, Germany; [2]Klinik für Tumorbiologie

2050. Patlak Model Selection using Dynamic Contrast Enhanced T_1-Weighted MR Measurement of Vascular Permeability

Abbas Babajani-Feremi[1], Rajan Jain[1,2], Jayant Narang[1], Ali Syed Arbab[1], Kourosh Jafari-Khouzani[1], Mohammad-Reza Nazem-Zadeh[3], Hamid Soltanian-Zadeh[1,4]
[1]Department of Radiology, Henry Ford Hospital, Detroit, MI, United States; [2]Department of Neurosurgery, Henry Ford Hospital, Detroit, MI, United States; [3]Department of Neurology, Henry Ford Hospital, Detroit, MI, United States; [4]CIPCE, Electrical & Computer Engineering Department, University of Tehran, Tehran, Iran

2051. Early Time Point Perfusion Imaging: Estimating Tissue Transit Time Directly from the Data Time Course

Kenneth K. Kwong[1], Ona Wu[1], Suk-Tak Chan[1], Koen Nelissen[1], David A. Chesler[1]
[1]Athinoula A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Charlestown, MA, United States

2052. Quantitative Assessment of Blood-Brain-Barrier Permeability by Patlak Plots After Intraperitoneally Administrated Gadolinium-DOTA

Dana Suciu Poole[1], Johannes Rolf Sikkema[2], Arnoldus M. van Den Maagdenberg[3], Louise van Der Weerd[2,4]
[1]Radiology, Leiden University Medical Centre, Leiden, Netherlands; [2]Radiology, Leiden University Medical Centre, Netherlands; [3]Human Genetics, Leiden University Medical Centre, Netherlands; [4]Anatomy & Embriology, Leiden University Medical Centre, Netherlands

2053. A Modified Generalized Tracer Kinetic Model for Perfusion Parameters in DCE- MRI for High Grade Intracranial Mass Lesions

Ram Kishore Singh Rathore[1], Prativa sahoo[2], Rrishi Awashti[3], Rakesh K. Gupta[4], Sanjay Verma, Divya Rathore
[1]Mathematics & Statistics, IIT Kanpur, KANPUR, U.P., India; [2]Mathematics & Statistics, IIT Kanpur, KANPUR, India; [3]SGPGI; [4]SGPGI, LUCKNOW

2054. Feasibility of Dynamic Contrast Enhanced MRI in Oral Cavity Cancer: A Comparison Between Reference Region Model, General Kinetic Model & Pathological Grading

Shy-Chyi Chin[1], Yeng-Peng Liao[2], Ya-Ting Chuang[1], Ho-Ling Liu[2]
[1]Department of Nedical Imaging & Intervention, Chang-Gung Medical Center, Guei-Shan, Tao-Yuan, Taiwan; [2]Chang Gung University, Department of Medical Imaging & Radiological Sciences, Guei-Shan, Tao-Yuan, Taiwan

2055. 3D Radial Twisted Projection Imaging for DCE-MRI with Variable Flip Angles

Philipp Krämer[1], Simon Konstandin[1], Melanie Heilmann[1], Lothar Rudi Schad[1]
[1]Computer Assisted Clinical Medicine, Heidelberg University, Mannheim, Germany

2056. Optimizing Acquisition & Reconstruction for a Narrower Temporal Footprint in Time-Resolved ^{3}DPR Liver Perfusion

Ethan K. Brodsky[1,2], Kevin M. Johnson[3], Walter F. Block[3,4], Scott B. Reeder[1,3]
[1]Radiology, University of Wisconsin, Madison, WI, United States; [2]Medical Physics, University of Wisconsin , Madison, WI, United States; [3]Medical Physics, University of Wisconsin, Madison, WI, United States; [4]Biomedical Engineering, University of Wisconsin, Madison, WI, United States

2057. Feasibility of High Temporal Resolution Compressed Sensing Based DCE-MRI

Haoyu Wang[1], Da Wang[1], Shanglian Bao[1], Jiani Hu[2]
[1]Beijing Key Lab of Medical Physics & Engineering, Peking University, Beijing, China, People's Republic of; [2]Department of Radiology, Wayne State University, Detroit, MI, United States

2058. Dynamic Contrast Enhanced MRI of the Brain at 7T

Lars Gerigk[1], Hendrik Laue[2], Lydia Schuster[1], Thomas Hauser[1], Ann-Kathrin Homagk[3], Armin Nagel[3], Marco Essig[1], Heinz-Peter Schlemmer[1], Michael Bock[3]
[1]Radiology, German Cancer Research Center, Heidelberg, Baden-Württemberg, Germany; [2]Institute for Medical Image Computing, Fraunhofer MEVIS, Bremen, Germany; [3]Medical Physics in Radiology, German Cancer Research Center, Heidelberg, Baden-Württemberg, Germany

2059. A Dynamic Lesion Phantom for Quantitative Evaluation of Dynamic Contrast Enhanced MRI

Melanie Freed[1,2], Jacco A. de Zwart[3], Prasanna Hariharan[4], Matthew R. Myers[4], Aldo Badano[1]
[1]CDRH/OSEL/DIAM, Food & Drug Administration, Silver Spring, MD, United States; [2]Dept. Bioengineering, University of Maryland, College Park, MD, United States; [3]Advanced MRI Section, LFMI, NINDS, National Institutes of Health, Bethesda, MD, United States; [4]CDRH/OSEL/DSFM, Food & Drug Administration, Silver Spring, MD, United States

2060. Quantitative Perfusion & Permeability Analysis of Animal Brain using Dual Echo DCE-MRI

Yanming Yu[1], Quan Jiang[2], Haoyu Wang[3], Shanglian Bao[3], E. Mark Haacke[4], Jiani Hu[4]
[1]Logging Technique Research Iinstitute, great wall drilling company, China National Petroleum Corporat, Beijing, China, People's Republic of; [2]Department of Neurology, Henry Ford Health Sciences Center, Detroit, MI, United States; [3]Beijing Key Lab of Medical

Physics & Engineering, Peking University, Beijing, China, People's Republic of; [4]Department of Radiology, Wayne State University, Detroit, MI, United States

2061. Modeling of Look-Locker Estimates of the Magnetic Resonance Imaging Estimate of Longitudinal Relaxation Rate in Tissue After Contrast Administration

Ramesh Paudyal[1], Hassan Bagher-Ebadian[1], Robert A. Knight[1,2], Tavarekere N. Nagaraja[3], Joseph D. Fenstermacher[3], James R. Ewing[1,2]
[1]Neurology, Henry Ford Hospital, Detroit, MI, United States; [2]Physcis, Oakland University, Rochester, MI, United States; [3]Anesthesiology, Henry Ford Hospital, Detroit, MI, United States

2062. Characterizing Cerebral Blood Volume & Permeability with a Undersampled Multiple-Echo 3D Projection Reconstruction Sequence & a Fast T_1 Mapping Method

Aiming Lu[1], Keith R Thulborn[1]
[1]Center for MR Research, University of Illinois, Chicago, IL, United States

2063. T_2*-Correction in DCE-MRI from Double Echo Acquisitions

Magne Mørk Kleppestø[1,2], Oliver Marcel Geier[1], Christopher Larsson[1], Frederic Courivaud[1], Raimo Aleksi Salo[1], Petter Brandal[3], Inge Andre Rasmussen[1], Atle Bjornerud[1]
[1]Interventional Centre, Oslo University Hospital, Oslo, Norway; [2]Dept. of Physics, Univ. of Oslo, Oslo, Norway; [3]Dept. of Oncology, Oslo University Hospital, Oslo, Norway

Perfusion & Diffusion Animal Models

Exhibition Hall Tuesday 13:30-15:30

2064. Continuous Arterial Spin Labeling (CASL) of Cerebral Blood Flow of Mouse at 9.4T

Hongxia Lei[1,2], Yves Pilloud[1], Rolf Gruetter[1,3]
[1]Laboratory of Functional & Metabolic Imaging, Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland; [2]Radiology, Univeristy of Lausanne, Lausanne, Switzerland; [3]Radiology, University of Geneva, Geneva, Switzerland

2065. A New Transcriptionally Driven Oncovirus with $Vstat_{120}$ Expression Has Antiangiogenic & Anti-Tumorigenic Effects

Ji Young Yoo[1], Amy Haseley[1], Anna Bratasz[2], E. Antonio Chiocca[1], J. Y. Zhang[2], Donna Cain[1], Kimerly Powell[2], Balveen Kaur[1]
[1]Department of Neurological Surgery, OSU, Columbus, OH, United States; [2]Department of Biomedical Informatics, OSU, Columbus, OH, United States

2066. Determination of Optimal Parameters for Intra-Arterial Injection & Blood Brain Barrier Disruption in the Mouse using MRI

Conor P. Foley[1], David Rubin[2], Alejandro Santillan[2], Eric Aronowitz[1], Walter Zink[2], Y. Pierre Gobin[2], Douglas Ballon[1]
[1]Radiology, Weill Cornell Medical College, New York, NY, United States; [2]Neurosurgery, Weill Cornell Medical College, New York, NY, United States

2067. Pharmacological MRI of the Retina: Blood Flow & BOLD Uncoupling During Nitroprusside Infusion

Yen-Yu Ian Shih[1], Li Guang[1], Timothy Q. Duong[1]
[1]Research Imaging Institute, University of Texas Health Science Center at San Antonio, San Antonio, TX, United States

2068. An Automatic Protocol to Detect the Fed & Fasted Brain using Multivariate Analysis of Diffusion Weighted Data Sets

Ania Benítez[1,2], Blanca Lizarbe[1], Luis Lago-Fernández[2], Pilar López-Larrubia[1], Sebastian Cerdán[1], Manuel Sánchez-Montañés[2]
[1]Instituto de Investigaciones Biomédicas "Alberto Sols", Madrid, Spain; [2]Departamento de Ingeniería Informática, Escuela Politécnica Superior, Universidad Autónoma de Madrid, Madrid, Spain

2069. Evolving Axon Degeneration in Optic Nerve Crush Mice Assessed using *In Vivo* Diffusion Tensor Imaging

Peng Sun[1], Xu Zhang[1], Qing Wang[2], Sheng-Kwei Song[1]
[1]Radiology, Washington University in St. Louis, Saint Louis, Missouri, United States; [2]Mechanical Engineering & Materials Science, Washington University in St. Louis

2070. White Matter Reorganization & Functional Recovery Following Stroke in Adult Rat

Chrystelle Po[1], Young-Beom Kim[1], Daniel Kalthoff[1], Melanie Nelles[1], Mathias Hoehn[1]
[1]In-vivo-NMR Laboratory, Max-Planck-Institut for Neurological Research, Cologne, Germany

2071. White Matter Quantification in a Model of Schizophrenia Mice using Microscopic Diffusion Tensor Imaging

Franck Mauconduit[1], Jean Christophe Deloulme[1], Annie Andrieux[1], Hana Lahrech[1]
[1]Grenoble Institute of Neuroscience, INSERM U836 - UJF, La Tronche, France

2072. Longitudinal TBSS Reveals Progressing Demyelination in the Mouse Model of Progressive Neurodegenerative Disease EPM1

Otto H. H. Manninen[1], Teemu Laitinen[2], Outi Kopra[1], Olli Gröhn[2], Anna-Elina Lehesjoki[1]
[1]Folkhälsan Institute of Genetics & Neuroscience Center, University of Helsinki, Helsinki, Finland; [2]Department of Neurobiology, University of Eastern Finland, Kuopio, Finland

2073. Accelerated Mouse Spinal Cord Diffusion Measurements with SNR-Enhancing Joint Reconstruction

Justin P. Haldar[1], Joong H. Kim[2], Sheng-Kwei Song[2], Zhi-Pei Liang[1]
[1]Electrical & Computer Engineering, University of Illinois at Urbana-Champaign, Urbana, IL, United States; [2]Radiology, Washington University in St. Louis, St. Louis, MO, United States

2074. Diffusion Kurtosis Abnormalities in a Pre-Symptomatic α-Synucleinopathy Mouse Model.

Rafael Delgado Y. Palacios[1], Jelle Veraart[2], Greet Vanhoutte[1], Heinrich Schell[3], Marleen Verhoye[1], Philipp Kahle[3], Jan Sijbers[2], Annemie Van Der Linden[1]
[1]Bio-Imaging Lab, University of Antwerp, Antwerp, Belgium; [2]Vision Lab, University of Antwerp, Antwerp, Belgium; [3]Laboratory of Functional Neurogenetics, Hertie Institute for Clinical Brain Research, University Clinics Tübingen, Tübingen, Germany

2075. Recovery of Regional Cerebral Blood Flow & Brain Tissue Oxygenation by 24 Hours After Asphyxial Cardiac Arrest

Lesley M. Foley[1], Mioara D. Manole[2,3], T Kevin Hitchens[1,4], Chien Ho[1,4], Henry L. Alexander[2], Patrick M. Kochanek[2,5], Robert S. Clark[2,3]
[1]Pittsburgh NMR Center for Biomedical Research, Carnegie Mellon University, Pittsburgh, PA, United States; [2]Safar Center for Resuscitation Research, University of Pittsburgh School of Medicine, Pittsburgh, PA, United States; [3]Department of Pediatrics, Children's Hospital of Pittsburgh, Pittsburgh, PA, United States; [4]Department of Biological Sciences, Carnegie Mellon University, Pittsburgh, PA, United States; [5]Departments of Critical Care Medicine, Pediatrics & Anesthesiology, University of Pittsburgh, Pittsburgh, PA, United States

2076. Correlation Between Hyperpolarized ^{13}C MRSI & Perfusion Data from Dynamic Susceptibility Contrast MRI

Ilwoo Park[1], Janine M. Lupo[1], Achuta Kadambi[1], Tomoko Ozawa[2], C. David James[2], Daniel B. Vigneron[1,3], Sarah J. Nelson[1,3]
[1]Surbeck Laboratory of Advanced Imaging, Department of Radiology & Biomedical Imaging, University of California, San Francisco, San Francisco, CA, United States; [2]Brain Tumor Research Center, Department of Neurological Surgery, University of California, San Francisco, San Francisco, CA, United States; [3]Department of Bioengineering & Therapeutic Sciences, University of California, San Francisco, San Francisco, CA, United States

2077. Longitudinal Changes of Diffusion Tensor Imaging in Acute Stages of Post-Mortem Animal Brain Tissue Decomposition

Luis Concha[1], Oscar Méndez[2], Fernando Barrios-Alvarez[1]
[1]Instituto de Neurobiologia, UNAM, Queretaro, Mexico; [2]School of Biological Sciences, University of California - Irvine, Irvine, CA, United States

2078. Susceptibility Weighted Imaging (SWI) of Cerebral Physiology of Non-Human Primate During Carbogen Inhalation

Asamoah Bosomtwi[1], Swati Rane[2], Quan Jiang[3], Leonard L. Howell[1]
[1]Yerkes Primate Center, Emory University, Atlanta, GA, United States; [2]Vanderbilt University; [3]Neurology, Henry Ford Hospital

2079. Language Pathway Homologues in Chimpanzees Reconstructed using Diffusion Tractography

Frederick William Damen[1,2], Longchuan Li[1], William D. Hopkins[3], Todd M. Preuss[4], James K. Rilling[3,5], Govind Nair[1], Xiaodong Zhang[4], Susan Kramer[1], Xiaoping Hu[1,2]
[1]Biomedical Imaging Technology Center, School of Medicine, Emory University, Atlanta, GA, United States; [2]Department of Biomedical Engineering, Georgia Institute of Technology/Emory University, Atlanta, GA, United States; [3]Division of Developmental & Cognitive Neuroscience, Yerkes National Primate Research Center, Atlanta, GA, United States; [4]Division of Neuropharmacology & Neurological Diseases, Yerkes National Primate Research Center, Atlanta, GA, United States; [5]Department of Anthropology, Emory University, Atlanta, GA, United States

2080. T_2* & Phase Contrast in Marmoset Brain

Pascal Sati[1], Afonso C. Silva[2], Maria I. Gaitan[1], Jillian E. Wohler[3], Colin Denis Shea[1], Iordanis E. Evangelou[1], Luca Massacesi[1,4], Peter van Gelderen[5], Jeff H. Duyn[5], Steven Jacobson[3], Daniel Salo Reich[1]
[1]Translational Neuroradiology Unit , Neuroimmunology Branch, NINDS, National Institutes of Health, Bethesda, MD, United States; [2]Cerebral Microcirculation Unit, LFMI, NINDS, National Institutes of Health, Bethesda, MD, United States; [3]Viral Immunology Section, Neuroimmunology Branch, NINDS, National Institutes of Health, Bethesda, MD, United States; [4]Department of Neurology, University of Florence, Florence, Italy; [5]Advanced MRI section, LFMI, NINDS, National Institutes of Health, Bethesda, MD, United States

2081. White-Matter Tract-Based Atlas of the Chimpanzee Brain
Longchuan Li[1], Susan Kramer[1], William Hopkins[2], Todd Preuss[2], James Rilling[3], Govind Nair[1], Xiaodong Zhang[2], Frederick Damen[4], Xiaoping Hu[4]
[1]School of Medicine, Emory University, Atlanta, GA, United States; [2]Division of Neuroscience, Yerkes National Primate Research Center, Atlanta, GA, United States; [3]Division of Psychobiology, Yerkes National Primate Research Center, Atlanta, GA, United States; [4]Department of Biomedical Engineering, Georgia Institute of Technology, Atlanta, GA, United States

2082. Longitudinal Study of the Corpus Callosum Thickness in Developing Monkeys
Chun-Xia Li[1], Anthony M. S. Chan[1,2], Xiaodong Zhang[1,3]
[1]Yerkes Imaging Center, Yerkes National Primate Research Center, Emory University, Atlanta, GA, United States; [2]Division of Neuropharmacology & Neurologic Diseases, Yerkes National Primate Research Center, Emory University, Atlanta, GA, United States; [3]Division of Neuropharmacology & Neurologic Diseases, Yerkes National Primate Research Center, , Emory University, Atlanta, GA, United States

2083. Anatomical Connectivity of the Internal Capsule
Kyle Taljan[1,2], Cameron McIntyre[1], Ken Sakaie[3]
[1]Lerner Research Institute, Biomedical Engineering, Cleveland Clinic, Cleveland, OH, United States; [2]Biomedical Engineering, Cleveland State University, Cleveland, OH, United States; [3]Imaging Institute, Cleveland Clinic

2084. A New Model for Characterizing the Temporal Progression of the Ischemic Penumbra in Acute Ischemic Stroke
Warren Misik[1,2], Andrew Demchuk[1,3], Richard Frayne[1,3], Bijoy Menon[1]
[1]Seaman Family MR Research Centre, Foothills Medical Centre, Calgary, Alberta, Canada; [2]Physics & Astronomy, University of Calgary, Calgary, Alberta, Canada; [3]Radiology & Clinical Neurosciences, University of Calgary, Calgary, Alberta, Canada

2085. Validation of Diffusion Weighted Imaging of Cortical Anisotropy by Means of a Histological Stain for Myelin
Michiel Kleinnijenhuis[1,2], Kees Jan Sikma[1,3], Markus Barth[2,4], Pieter Dederen[1], Valerio Zerbi[1,5], Benno Küsters[6], Dirk Ruiter[1,2], Cornelis H. Slump[7], Anne-Marie van Cappellen Van Walsum[1,8]
[1]Department of Anatomy, University Medical Centre St. Radboud, Nijmegen, Netherlands; [2]Donders Institute for Brain, Cognition & Behaviour, Radboud University Nijmegen, Nijmegen, Netherlands; [3]Signals & Systems, Faculty of Electrical Engineering, Mathematics & Computer Science, University of Twente, Enschede, Netherlands; [4]Erwin L. Hahn Institute for Magnetic Resonance Imaging, Essen, Germany; [5]Department of Radiology, University Medical Centre St. Radboud, Nijmegen, Netherlands; [6]Department of Pathology, University Medical Centre St. Radboud, Nijmegen, Netherlands; [7]Signals & Systems, Faculty of Electrical Engineering, Mathematics & Computer Science, University of Twente, Enschede, Netherlands; [8]MIRA Institute for Biomedical Technology & Technical Medicine, University of Twente, Enschede, Netherlands

Arterial Spin Labeling

Exhibition Hall Wednesday 13:30-15:30

2086. Parallel Transmit Vessel Selective Arterial Spin Labelling: A Proof of Concept Simulation
Aaron Oliver-Taylor[1], Roger J. Ordidge[1], David L. Thomas[2]
[1]Medical Physics & Bioengineering, University College London, London, England, United Kingdom; [2]Institute of Neurology, University College London, London, England, United Kingdom

2087. Spatially Selective PCASL with Parallel Excitation
Daehyun Yoon[1], Hesamoddin Jahanian[2], Douglas C. Noll[2], Luis Hernandez-Garcia[2]
[1]Electrical Engineering, University of Michigan, Ann Arbor, MI, United States; [2]Biomedical Engineering, University of Michigan, Ann Arbor, MI, United States

2088. Multi-Vessel Labeling Approach for Perfusion Territory Imaging in Pseudo-Continuous Arterial Spin Labeling
Michael Helle[1], Susanne Rüfer[1], Matthias van Osch[2], Olav Jansen[1], David Gordon Norris[3,4]
[1]Institute for Neuroradiology, Christian-Albrechts-Universität, UK-SH, Kiel, Germany; [2]C.J. Gorter Center for High Field MRI, Department of Radiology, Leiden University Medical Center, Leiden, Netherlands; [3]Donders Institute for Brain, Cognition & Behaviour, Radboud University Nijmegen, Nijmegen, Netherlands; [4]Erwin L. Hahn Institute for Magnetic Resonance Imaging, Essen, Germany

2089. Mixed Cerebral Perfusion Territories in the Posterior Circulation Investigated using Super-Selective Arterial Spin Labeling MRI
Nolan S. Hartkamp[1], M. Helle[2], J. Hendrikse[1], M. J. P. van Osch[3]
[1]Radiology, UMC Utrecht, Utrecht, Netherlands; [2]Institute of Neuroradiology, Christian-Albrechts-Universität, Kiel, Germany; [3]C.J. Gorter Center, Leiden UMC, Leiden, Netherlands

2090. Regional Perfusion Imaging using PTILT
Cheng Ouyang[1,2], Keith Thulborne[3], Brad P. Sutton[1,2]

[1]Bioengineering, University of Illinois at Urbana-Champaign, Urbana, IL, United States; [2]Beckman Institute, University of Illinois at Urbana-Champaign, Urbana, IL, United States; [3]Center for Magnetic Resonance Research, University of Illinois at Chicago, Chicago, IL, United States

2091. Extending the Adaptive Sequential Design (ASD) Approach for Real-Time T_1 Optimisation in Arterial Spin Labelling

Alexander Graeme Gardener[1], Stuart Clare[1], Peter Jezzard[1]
[1]FMRIB, University of Oxford, Oxford, United Kingdom

2092. Adaptive Averaging Improves the Signal to Noise Ration in ASL Experiments Especially at High Inflow Times

Johanna Kramme[1], Johannes Gregori[1], Matthias Günther[1,2]
[1]Fraunhofer MEVIS-Institute for Medical Image Computing, Bremen, Germany; [2]Faculty of Physics & Electronics, University of Bremen, Germany

2093. Modeling the Effect of Flow Dispersion in Continuous Arterial Spin Labeling

Weiying Dai[1], Ajit Shankaranarayanan[2], David Alsop[1]
[1]Radiology, Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA, United States; [2]Global Applied Science Laboratory, GE Healthcare, Menlo Park, CA, United States

2094. Improved 3D TFEPI ASL with Flip Angle Sweep

Fernando F. Paiva[1], Bernd U. Foerster[2], Rafael G. Oliveira[3], Fernanda Tovar-Moll[1], Jorge Moll[1]
[1]D'Or Institute for Research & Education, Rio de Janeiro, RJ, Brazil; [2]Philips Medical Systems; [3]InRad-Hospital das Clinicas, Magnetic Resonance Department, Faculty of Medicine of the University of SÃ£o Paulo

2095. A New Encoding Scheme for Single-Shot 3D GRASE to Double Slice Coverage

Huan Tan[1], W. Scott Hoge[2], Robert A. Kraft[1]
[1]VT-WFU School of Biomedical Engineering & Sciences, Winston-Salem, NC, United States; [2]Brigham & Women's Hospital & Harvard Medical School, Boston, MA, United States

2096. Determining the Optimal Label Duration of Pseudo-Continuous ASL at 7 Tesla

Eidrees Ghariq[1], Wouter M. Teeuwisse[1], Andrew Webb[1], Matthias J. P. van Osch[1]
[1]C.J. Gorter Center for High Field MRI, Radiology, Leiden University Medical Center, Leiden, Zuid-Holland, Netherlands

2097. Optimization of Pseudo Continuous ASL Tagging for Robust Inversion Efficiency - a Bloch Simulation & *In Vivo* Study at 3T

David Dongsuk Shin[1], Eric C. Wong[1], Youngkyoo Jung[1], Ho-Ling Liu[2], Thomas T. Liu[1]
[1]Center for Functional MRI, University of California, San Diego, La Jolla, CA, United States; [2]Department of Medical Imaging & Radiological Sciences, Chang Gung University, Taiwan

2098. Comparison of CASL Perfusion Signal with & without Velocity Dependent Labeling RF Power Modulation

S. L. Talagala[1], W-M. Luh[2], H. Merkle[3]
[1]NMRF/NINDS, National Institutes of Health, Bethesda, MD, United States; [2]FMRIF/NIMH, National Institutes of Health, Bethesda, United States; [3]LFMI/NINDS, National Institutes of Health, Bethesda, MD, United States

2099. Tagging Efficiency Corrected Pseudo-Continuous Arterial Spin Labeling – a New Approach for Correction of Phase Tracking Errors

David Dongsuk Shin[1], Ho-Ling Liu[2], Ajit Shankaranarayanan[3], Thomas T. Liu[1]
[1]Center for Functional MRI, University of California, San Diego, La Jolla, CA, United States; [2]Department of Medical Imaging & Radiological Sciences, Chang Gung University, Taiwan; [3]GE Healthcare, Waukesha, WI, United States

2100. Feasibility of Arterial Spin Labeling on a 1T Open Bore Scanner

Dennis Franciscus Ramon Heijtel[1], Matthias J. P. van Osch[2], Matthan W. A. Caan[1], Ed van Bavel[3], Aart J. Nederveen[1]
[1]Radiology, Academic Medical Center, Amsterdam, Netherlands; [2]Radiology, Leiden University Medical Center, Leiden, Netherlands; [3]Biomedical Engineering & Physics, University of Amsterdam, Amsterdam, Netherlands

2101. Effect of Background Suppression on CBF Quantitation in Pseudo Continuous Arterial Spin Labeling

David Dongsuk Shin[1], Ho-Ling Liu[2], Eric C Wong[1], Thomas T Liu[1]
[1]Center for Functional MRI, University of California, San Diego, La Jolla, CA, United States; [2]Department of Medical Imaging and Radiological Sciences, Chang Gung University, Taiwan

2102. Optimizing Perfusion Imaging of PTILT in the Presence of Magnetic Field Inhomogeneity

Cheng Ouyang[1,2], Brad P. Sutton[1,2]
[1]Bioengineering, University of Illinois at Urbana-Champaign, Urbana, IL, United States; [2]Beckman Institute, University of Illinois at Urbana-Champaign, Urbana, IL, United States

2103. Performance of Capnia-Derived Regressors for ASL Measurement of Cerebral Vasoreactivity to Circulating Gases

Marjorie Villien[1,2], Julien Bouvier[3], Irène Tropres[3], Matthias J. P. van Osch[4], Christoph Segebarth[1,2], Jean-François Le Bas[5], Alexandre Krainik[1,5], Jan Martin Warnking[1,2]

[1]Centre de Recherche Inserm, U836, Grenoble, France; [2]Grenoble Institut des Neurosciences, Université Joseph Fourier, Grenoble, France; [3]IFR 1, Université Joseph Fourier, Grenoble, France; [4]Department of Radiology, Leiden University Medical Center, Leiden, Netherlands; [5]Service de Neuroradiologie, CHU Grenoble, Grenoble, France

2104. Comparison of Pulsed & Continuous ASL for Measurements of CBF Changes Induced by Hypercapnia

Felipe Tancredi[1,2], Claudine Gauthier[1,2], Cécile Madjar[2], Joseph Fisher[3], Danny J. J. Wang[4], Richard Hoge[1,2]

[1]Université de Montréal, Montreal, Quebec, Canada; [2]Centre de recherche de l'institut universitaire de gériatrie de Montréal, Montreal, Quebec, Canada; [3]University of Toronto, Toronto, Ontario, Canada; [4]Neurology, UCLA, Los Angeles, CA, United States

2105. Detection of Exposure Related Cortical Responses by Amphetamine using PCASL & Pharmacokinetic/pharmacodynamic Dose Modeling

Love Erlandsson Nordin[1], Tie-Qiang Li[1,2], Jacob Brogren[3], Niclas Sjögren[3], Kristin Hannesdottir[3], JiongJiong Wang[4], Per Julin[3,5]

[1]Diagnostic Medical Physics, Karolinska University Hospital, Huddinge, Stockholm, Sweden; [2]Clinical Science, Intervention & Technology, Division of Medical Imaging & Technology, Karolinska Institute, Stockholm, Sweden; [3]AstraZeneca R&D Neuroscience, Södertälje, Sweden; [4]Neurology, UCLA, Los Angeles, CA, United States; [5]Section for Brain Injury Rehabilitation, Department of Rehabilitation Medicine, Danderyd University Hospital, Karolinska Institutet, Stockholm, Sweden

2106. An Improved 3D GRASE PCASL Method for Whole-Brain Resting-State Functional Connectivity

Xiaoyun Liang[1], Jacques-Donald Tournier[1,2], Richard Masterton[1], Alan Connelly[1,2], Fernando Calamante[1,2]

[1]Brain Research Institute, Florey Neuroscience Institutes, Heidelberg West, VIC, Australia; [2]Department of Medicine, University of Melbourne, Melbourne, VIC, Australia

2107. Altered Resting Cerebral Blood Flow in Adults Following Low-Frequency Electronic Acupuncture as Revealed by Perfusion Functional MRI

Ying Hao[1], Yin Jiang[2], Yue Zhang[3], Cailian Cui[4], Xiaoying Wang[1,5], Jue Zhang[1,3], Jing Fang[1,3]

[1]Academy for Advanced Interdisciplinary Studies, Peking University, Beijing, China, People's Republic of; [2]Neuroscience Research Institute, Peking University , Beijing, China, People's Republic of; [3]College of Engineering, Peking University, Beijing, China, People's Republic of; [4]Neuroscience Research Institute, Peking University, Beijing, China, People's Republic of; [5]Dept. of Radiology, Peking University First Hospital, Beijing, China, People's Republic of

2108. Cerebral Blood Flow & CerebroVascular Reserve of the Brain in Diabetes

Iain D. Wilkinson[1], Nyssa Craig[1], Elaine Cachia[1], Tim J. B. Hughes[1], Dan Warren[1], Solomon Tesfaye[2], Petersen T. Esben[3], Xavier Golay[4], Dinesh Selvarajah[2]

[1]Academic Radiology, University of Sheffield, Sheffield, S Yorkshire, United Kingdom; [2]Diabetes, Sheffield Teaching Hospitals; [3]National University of Singapore; [4]University College London

2109. The Precision of ASL in Measuring Cerebrovascular Reactivity in Cardiovascular Disease Patients.

U. C. Anazodo[1,2], N. Suskin[3], J. Wang[4], J. K. Shoemaker[5], K. St Lawrence[1,2]

[1]Lawson Health Research Institute, St Joseph's Health Care, London, Ontario, Canada; [2]Department of Medical Biophysics, University of Western Ontario, London, Ontario, Canada; [3]London Health Science Cardiology Rehabilitation Program, London, Ontario, Canada; [4]Department of Neurology, UCLA, Almanson-Lovelace Brain Mapping Center, Los Angeles, CA, United States; [5]Neurovascular Research Laboratory, School of Kinesiology, University of Western Ontario, London, Ontario, Canada

2110. Retinal & Choroidal Blood-Flow MRI & Visual Function in Diabetic Retinopathy in Mice

Eric R. Muir[1], René C. Rentería[2,3], Timothy Q. Duong[1]

[1]Research Imaging Institute, University of Texas Health Science Center, San Antonio, TX, United States; [2]Department of Physiology, University of Texas Health Science Center, San Antonio, TX, United States; [3]Center for Biomedical Neuroscience, University of Texas Health Science Center, San Antonio, TX, United States

2111. Layer-Specific Retinal & Choroidal Blood-Flow MRI of Retinitis Pigmentosa in Mice

Eric R. Muir[1], Bryan H. De La Garza[1], Timothy Q. Duong[1]

[1]Research Imaging Institute, University of Texas Health Science Center, San Antonio, TX, United States

2112. Probing Arterial Spin Labeling MR Signal in Human Brain with T1ρ Technique

Xiang He[1], Kyongtae Ty Bae[1]

[1]Department of Radiology, University of Pittsburgh, Pittsburgh, PA, United States

2113. Quantification of Arterial & Microvascular Cerebral Blood Volume using Multiphase TrueFISP Based ASL

Lirong Yan[1], Cheng Li[2], Emily Kilroy[1], Felix Werner Wehrli[2], Danny J. J. Wang[1]

[1]Department of Neurology, University of California Los Angeles, Los Angeles, CA, United States; [2]Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States

2114. Is Cerebral Microvascular Flow Anisotropic - Preliminary Evidence from Multi-Directional Diffusion Weighted Perfusion MRI
Anitha K. Priya[1], Lirong Yan[1], Danny J. J. Wang[1]
[1]Neurology, UCLA, Los Angeles, CA, United States

2115. Comparison of Spin Dynamics in Pseudo-Continuous & Velocity-Selective Arterial Spin Labeling with & without Vascular Crushing
Wouter M. Teeuwisse[1], Aart J. Nederveen[2,3], Eidrees Ghariq[1], Dennis F. Heijtel[2,3], Matthias J. P. van Osch[1]
[1]Radiology, C.J. Gorter Center for High Field MRI, Leiden University Medical Center, Leiden, Netherlands; [2]Radiology, Amsterdam Medical Center, Amsterdam, Netherlands; [3]Spinoza Center, Amsterdam, Netherlands

2116. Removal of CSF Contamination in VSASL & QUIXOTIC using a Long TE CSF Scan
Jia Guo[1], Eric C. Wong[2]
[1]Bioengineering, University of California San Diego, La Jolla, CA, United States; [2]Department of Radiology & Psychiatry, University of California San Diego, La Jolla, CA, United States

2117. Magnetization "reset" in T_2-Relaxation-Under-Spin-Tagging (TRUST) MRI
Feng Xu[1], Jinsoo Uh, Hanzhang Lu[1]
[1]University of Texas Southwestern Medical Center, Dallas, TX, United States

2118. Arterial Spin Labeling Based T_2 Measurements of Restricted Blood-to-Tissue Water Transfer in Human Brain
Johannes Gregori[1], Norbert Schuff[2,3], Matthias Günther[1,4]
[1]Fraunhofer MEVIS, Bremen, Germany; [2]Radiology & Biomedical Imaging, University of California San Francisco, United States; [3]Center for Imaging of Neurodegenerate Diseases (CIND), VA Medical Center, San Francisco, CA, United States; [4]FB1, University Bremen, Bremen, Germany

2119. Optimal Acquisition Strategies for Transit Time Measurement with Continuous ASL
Weiying Dai[1], Ajit Shankaranarayanan[2], David C. Alsop[1]
[1]Radiology, Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA, United States; [2]Global Applied Science Laboratory, GE Healthcare , Menlo Park, CA, United States

2120. Accordance of ASL Delay Time & Bolus Arrival Times in Parenchyma
Kay Jann[1], Martinus Hauf[2], Frauke Kellner-Weldon[2], Marwan Mohamed El-Koussy[2], Claus Kiefer[2], Andrea Federspiel[1], Gerhard Schroth[2]
[1]Department of Psychiatric Neurophysiology, University Hospital of Psychiatry / University of Bern, Bern, Switzerland; [2]University Institute of Diagnostic & Interventional Neuroradiology, Inselspital & University of Bern, Bern, Switzerland

2121. The Influence of Voxel-Wise RCBF Covariates in Pharmacological BOLD-FMRI Studies
Fernando O. Zelaya[1], Astrid Pauls[1], Owen O'Daly[1], Matthew Howard[1], David Alsop[2], Mitul Mehta[1]
[1]Neuroimaging, Institute of Psychiatry, London, United Kingdom; [2]Beth Israel Hospital, United States

2122. Combined Arterial Spin Labelling & Diffusion Weighted Imaging for Estimation of Capillary Volume Fraction & Permeability-Surface Product in the Human Brain
Patrick William Hales[1], Chris A. Clark[1]
[1]Imaging & Biophysics Unit, UCL Institute of Child Health, London, United Kingdom

2123. Whole Brain Quantification of Arterial Transit Time & Perfusion using Multi-Slice Pseudo-Continuous Arterial Spin Labelling
Wayne Lee[1], Rafal Janik[2], Bojana Stefanovic[2,3], John G. Sled[1,3]
[1]Hospital for Sick Children, Toronto, Ontario, Canada; [2]Sunnybrook Health Sciences Center, Canada; [3]Medical Biophysics, University of Toronto, Canada

2124. The B_1 Field & Variability in Left-Right Brain Perfusion with 3D IR-PULSAR & Its Implications on Symmetry Studies
Neville D. Gai[1], John Butman[1]
[1]Radiology & Imaging Sciences, National Institutes of Health, Bethesda, MD, United States

2125. Saturated Label Effects with Multi-Slice Imaging in ASL
Wayne Lee[1], Rafal Janik[2], Bojana Stefanovic[2,3], John G. Sled[1,3]
[1]Hospital for Sick Children, Toronto, Ontario, Canada; [2]Sunnybrook Health Sciences Center, Canada; [3]Medical Biophysics, University of Toronto, Canada

2126. Feasibility & Repeatability of ASL-Based PhMRI After a Single Dose Oral Challenge as a Tool for Assessing 5-HT Function
Anne Klomp[1], Matthan W. Caan[1], Aart J. Nederveen[1], Liesbeth Reneman[1]
[1]Radiology, Academic Medical Center, Amsterdam, Netherlands

2127. Arterial Spin Labeling in Young Adults During Alcohol Infusion
Michael Marxen[1,2], Gabriela Gan[1,2], Christine Monika Zimmermann[1,2], Maximilian Pilhatsch[1,2], Ulrich S. Zimmermann[1], Matthias Guenther[3,4], Michael N. Smolka[1,2]
[1]Department of Psychiatry & Psychotherapy, Technische Universität Dresden, Dresden, Germany; [2]Neuroimaging Center, Technische Universität Dresden, Dresden, Germany; [3]Fraunhofer MEVIS-Institute for Medical Image Computing, Bremen, Germany; [4]Faculty of Physics & Electronics, Universität Bremen, Bremen, Germany

2128. Comparison of CBF & $CMRO_2$ Measurements using MRI & PET in Large Nonhuman Primates (Baboons)
Hsiao-Ying Wey[1,2], Kihak Lee[1], Peter T. Fox[1,2], Timothy Q. Duong[1,2]
[1]Research Imaging Institute, University of Texas Health Science Center at San Antonio, San Antonio, TX, United States; [2]Radiology, University of Texas Health Science Center at San Antonio, San Antonio, TX, United States

2129. Flow-Weighted IVASO-DS for Absolute Arterial CBV Quantification
Kathrin Lorenz[1], Toralf Mildner[1], Andre Pampel[1], Harald E. Möller[1]
[1]Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany

2130. Late Effects of Cancer Treatment on Gray Matter Perfusion Assessed by Arterial Spin Labeling MRI & Its Association with Neurocognitive Function
Adam Martin Winchell[1,2], Kevin Krull[3], Noah Sabin[4], Jan Sedlacik[4], Ruitian Song[4], Ralf B. Loeffler[4], Melissa Hudson[3], Claudia M. Hillenbrand[4]
[1]Radiological Sciences, St. Jude Children's Research Hospital, Memphis , TN, United States; [2]Biomedical Engineering, University of Memphis, Memphis , TN, United States; [3]Epidemiology & Cancer Control, St. Jude Children's Research Hospital, Memphis, TN, United States; [4]Radiological Sciences, St. Jude Children's Research Hospital, Memphis, TN, United States

Stroke - Clinical Studies

Exhibition Hall Wednesday 13:30-15:30

2131. Accuracy & Execution Speed of Automatic Voxel-Based Algorithms for Segmenting Stroke Lesions in Clinical DWI Imaging
Steven Mocking[1], Priya Garg[2], Aurauma Chutinet[3], William A. Copen[4], A. Gregory Sorensen, Ona Wu
[1]Athinoula A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Charlestown, MA, United States; [2]Athinoula A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Charlestown, MA; [3]Department of Neurology, Massachusetts General Hospital, United States; [4]Department of Radiology, Massachusetts General Hospital

2132. Can Hippocampal Size Predict Cognitive Impairment in Post-Stroke Patients?
Efrat Kliper[1,2], Einor Ben Assayag[3], Shani Shenhar-Tsarfaty[2,3], Lodmila Shopin[3], Hen Hallevi[3], Eitan Uriel[3], Amos Korczyn A[3], Natan Meir Bornstein[3], Talma Hendler[1], Orna Aizenstein[4], Dafna Ben Bashat D[5]
[1]The Wohl institute for Advanced Imaging, Tel Aviv Sourasky Medical Center, Tel Aviv, Israel; [2]Sackler Faculty of Medicine, Tel Aviv University, Tel Aviv, Israel; [3]Departments of Neurology, Tel Aviv Sourasky Medical Center, Israel, Israel; [4]Departments of Radiology, Tel Aviv Sourasky Medical Center, Israel, Israel; [5]The Wohl Institute for Advanced Imaging, Tel Aviv Sourasky Medical Center, Israel, Israel

2133. Diffusion Weighted Magnetic Resonance Spectroscopy in Different Stages of Human Cerebral Ischemia
Dandan Zheng[1], Zhenghua Liu[2], Xiaoying Wang[1,2], Jue Zhang[1,3], Jing Fang[1,3]
[1]Academy for Advanced Interdisciplinary Studies, Peking University, BEIJING, China, People's Republic of; [2]Dept. of Radiology, Peking University First Hospital, BEIJING, China, People's Republic of; [3]College of Engineering, Peking University, BEIJING, China, People's Republic of

2134. Non-Invasive Method to Image Cerebral Blood Volume Increases in Acute Ischemic Stroke Patients
Alan J. Huang[1,2], Li An[3], Jun Hua[1], Manus Donahue[4], Steven Warach[3], Peter van Zijl[1]
[1]FM Kirby Research Center, Johns Hopkins University, BALTIMORE, MD, United States; [2]Department of Biomedical Engineering, Johns Hopkins University, Baltimore, MD, United States; [3]National Institute of Neurological Disorders & Stroke, National Institutes of Health, Bethesda, MD, United States; [4]Department of Radiology, Vanderbilt University, Nashville, TN, United States

Animal Models of Stroke

Exhibition Hall Thursday 13:30-15:30

2135. Association Between PH-Weighted Endogenous Amide Proton Transfer (APT) MRI & Tissue Lactic Acidosis During Acute Stroke
Phillip Zhe Sun[1], Jerry S. Cheung[1], Enfeng Wang[1], Eng H. Lo[2]
[1]Radiology, Athinoula. A. Martinos Center for Biomedical Imaging, MGH & Harvard Medical School, Charlestown, MA, United States; [2]Radiology & Neurology, Neuroprotection Research Laboratory, MGH & Harvard Medical School, Charlestown, MA, United States

2136. T_1 Effect on BOLD & CBF Functionl Magnetic Resonance Imaging of Hyperoxic Challenge in Ischemic Stroke
Qiang Shen[1,2], Shiliang Huang[1], Fang Du[1], Timothy Q. Duong[1,2]
[1]Research Imaging Institute, University of Texas Health Science Center at San Antonio, San Antonio, TX, United States; [2]Ophthalmology/Radiology, University of Texas Health Science Center at San Antonio, San Antonio, TX, United States

2137. Resting State fMRI of Acute Focal Ischemic Rat Brain
Yen-Yu Ian Shih[1], Hsiao-Ying Wey[1], Fang Du[1], Shiliang Huang[1], Qiang Shen[1], Kameel M. Karkar[1], Timothy Q. Duong[1]
[1]Research Imaging Institute, University of Texas Health Science Center at San Antonio, San Antonio, TX, United States

2138. MRI-Based Measurement of Longitudinal Contralesional White Matter Volume Changes After Unilateral Stroke in Rat Brain
Willem M. Otte[1,2], Kajo van Der Marel[2], Maurits P. A. van Meer[2], Kees P. J. Braun[1], Rick M. Dijkhuizen[2]
[1]Rudolf Magnus Institute of Neuroscience, University Medical Center Utrecht, Utrecht, Netherlands; [2]Image Sciences Institute, University Medical Center Utrecht, Utrecht, Netherlands

2139. Local Blood Oxygen Saturation & Apparent Water Diffusion in Acute Ischemia
Anaïck Moisan[1,2], Pierre Bouzat[1,3], Olivier Detante[1,4], Chantal Remy[1], Emmanuel Luc Barbier[1]
[1]Team 5 - INSERM U836 / Joseph Fourier University, Grenoble Institute of Neurosciences (GIN), Grenoble, France; [2]Cell & Tissue Therapy Unit, Grenoble University Hospital, Grenoble, France; [3]Intensive Care Unit, Grenoble University Hospital, Grenoble, France; [4]Stroke Unit, Department of Neurology, Grenoble University Hospital, Grenoble, France

2140. MRI Detection of Immune Cell Infiltration in Focal Cortical Stroke in Rats using MPIOs
Kevin S. Tang[1], Dorit Granot[2], Shauna L. Quinn[2], Erik M. Shapiro[2,3]
[1]Department of Biomedical Engineering, Yale University, New Haven, CT, United States; [2]Department of Diagnostic Radiology, Yale University School of Medicine, New Haven, CT, United States; [3]Department of Biomedical Engineering, Yale University, New Haven, CT, United States

2141. Early Prediction of Salvageable Tissue with Multiparametric MRI-Based Algorithms After Experimental Ischemic Stroke
Mark J. R. J. Bouts[1], Ivo A. C. W. Tiebosch[1], Rene Zwartbol[1], Emily Hoogveld[1], Ona Wu[1,2], Rick M. Dijkhuizen[1]
[1]Image Sciences Institute, University Medical Center Utrecht, Utrecht, Netherlands; [2]Athinoula A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Charlestown, MA, United States

2142. Negative fMRI Response in the Striatum: A Marker for Striatal Functional Integrity in Ischemic Rat Brain
Yen-Yu Ian Shih[1], Shiliang Huang[1], Fang Du[1], Timothy Q. Duong[1]
[1]Research Imaging Institute, University of Texas Health Science Center at San Antonio, San Antonio, TX, United States

2143. Chemical Shift Sodium Imaging in a Mouse Model of Thromboembolic Stroke at 9.4 Tesla
Patrick Michael Heiler[1], Friederike L. Vollmar[2], Friedrich Wetterling[1], Saema Ansar[2], Simon Konstandin[1], Marc Fatar[2], Lothar Rudi Schad[1]
[1]Computer Assisted Clinical Medicine, Heidelberg University, Mannheim, Germany; [2]Department of Neurology, Heidelberg University, Mannheim, Germany

2144. Cerebral Blood Flow Levels During Experimental Ischemic Stroke Influence the Magnitude of Post-Reperfusion Blood-Brain Barrier Opening But Reperfusion After 3 Hours Does Not Reverse the Damage
Robert A. Knight[1,2], Kishor Karki[1], Vijaya Nagesh[1], James R. Ewing[1,2], Joseph D. Fenstermacher[3], Tavarekere N. Nagaraja[3]
[1]Neurology - NMR Research, Henry Ford Hospital, Detroit, MI, United States; [2]Physics, Oakland University, Rochester, MI, United States; [3]Anesthesiology, Henry Ford Hospital, Detroit, MI, United States

2145. A Potential Better Estimation of Penumbra using T_2*-Weighted fMRI of Oxygen Challenge
Qiang Shen[1,2], Shiliang Huang[1], Fang Du[1], Timothy Q. Duong[1,2]
[1]Research Imaging Institute, University of Texas Health Science Center at San Antonio, San Antonio, TX, United States; [2]Ophthalmology/Radiology, University of Texas Health Science Center at San Antonio, San Antonio, TX, United States

2146. Support Vector Machine Prediction of Ischemic Tissue Fate in Acute Stroke Imaging
Shiliang Huang[1], Qiang Shen[1,2], Timothy Q. Duong[1,2]
[1]Research Imaging Institute, University of Texas Health Science Center at San Antonio, San Antonio, TX, United States; [2]Ophthalmology/Radiology, University of Texas Health Science Center at San Antonio, San Antonio, TX, United States

2147. Neurodengeneration in Optic Tracts of Rats Subjected to Bilateral Common Carotid Artery Occlusion-A Longitudinal DTI Study
Xuxia Wang[1], Fuchun Lin[2], Hao Lei[1]
[1]State Key Laboratory of Magnetic Resonance & Atomic & Molecular Physics, Wuhan Institute of Physics & Mathematics, Chinese Academy of Sciences, Wuhan, Hubei, China, People's Republic of; [2]State Key Laboratory of Magnetic Resonance & Atomic & Molecular Physics , Wuhan Institute of Physics & Mathematics, Chinese Academy of Sciences, Wuhan, Hubei, China, People's Republic of

2148. Early Metabolic Biomarkers Identifying Permanent Stroke in Mouse Brain using ^{1}H MRS
Hongxia Lei[1,2], Carole Berthet[3], Lorenz Hirt[3], Rolf Gruetter[1,4]
[1]Laboratory of Functional & Metabolic Imaging, Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland; [2]Radiology, Univeristy of Lausanne, Switzerland; [3]Clinical Neurosciences, Centre Hospitalier Universitaire Vaudois, Switzerland; [4]Radiology, University of Geneva, Geneva, Switzerland

2149. Early Post-Ischemic Neuroprotective Mechanisms: A MR Spectroscopic Imaging Study on PPARβ-Deficient Mice
Mélanie Craveiro[1], Laure Quignodon[2], Carole Berthet[3], Matthew Hall[2], Cristina Cudalbu[1], Lorenz Hirt[3], Béatrice Desvergne[2], Rolf Gruetter[1,4]
[1]Laboratory for Functional & Metabolic Imaging, Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland; [2]Center for Integrative Genomics, University of Lausanne, Lausanne, Switzerland; [3]Department of Neurology, Centre Hospitalier Universitaire Vaudois, Lausanne, Switzerland; [4]Departments of Radiology, Universities of Lausanne & Geneva, Switzerland

2150. Ischemic Brain Damage & Loss of Ion Homeostasis During Focal Ischemia
Fernando Emilio Boada[1], Edwin Nemoto[2], Yongxian Qian[3], Costin Tanase[3], Charles Jungreis[4], Jonathan Weimer, Vincent Lee
[1]Radiology & Bioengineering, University of Pittsburgh, Pittsburgh, PA, United States; [2]Neurosurgery, University of New Mexico, Albuquerque, NM, United States; [3]Radiology, University of Pittsburgh, Pittsburgh, PA, United States; [4]Radiology, Temple University, Philadelphia, PA, United States

2151. The Effect of Amyloid on Infarct Size in a Rat Model
Simona Nikolova[1], Zareen Amtul[2], David Cechetto[2], Ting-Yim Lee[3], Vladimir Hachinski[4], Robert Bartha[2,3]
[1]Robarts Research Institute, Schulich School of Medicine & Dentistry, University of Western Ontario, London, Ontario, Canada; [2]Department of Anatomy, University of Western Ontario, London, ON, Canada; [3]Robarts Research Institute, Schulich School of Medicine & Dentistry, University of Western Ontario, London, ON, Canada; [4]London Health Sciences Centre, London, ON, Canada

2152. The Importance of Reperfusion Injury in Antenatal Hypoxia-Ischemia: Novel Fetal MRI Diagnostic Parameters & Novel Antioxidant Therapy
Alexander Drobyshevsky[1], Xinhai Ji[1], Matthew Derrick[1], Lei Yu[1], Ines Batinic-Haberle[2], Sidhartha Tan[1]
[1]Pediatrics, Evanston Northshore Healthcare, Evanston, IL, United States; [2]Radiation Oncology, Duke University Medical Center, Durham, NC, United States

2153. MRI Evaluation of Carotid Morphology & Function in a Rabbit Constriction Model of Atherosclerosis: A Feasibility Study
Steve J. Sawiak[1], Valentina Taviani[2], Victoria E. Young[2], Joe L. Bird[3], Hugh K. Richards[4], Andrew J. Patterson[2], Martin J. Graves[2], Adrian T. Carpenter[1], Jonathan H. Gillard[2]
[1]Wolfson Brain Imaging Centre, University of Cambridge, Cambridge, Cambridgeshire, United Kingdom; [2]Department of Radiology, University of Cambridge, Cambridge, United Kingdom; [3]Clinical Pharmacology Unit, University of Cambridge, Cambridge, United Kingdom; [4]Department of Anesthesia, University of Cambridge, Cambridge, United Kingdom

2154. T_2*-Weighted Signal Change of Oxygen Challenge as a Potential Better Penumbra Estimation—A Transient Occlusion Study
Fang Du[1], Qiang Shen[1,2], Shiliang Huang[1], Timothy Q. Duong[1,2]
[1]Research Imaging Institute, University of Texas Health Science Center at San Antonio, San Antonio, TX, United States; [2]Ophthalmology/Radiology, University of Texas Health Science Center at San Antonio, San Antonio, TX, United States

2155. Incorporating ADC Temporal Profiles in Acute Stroke to Predict Ischemic Tissue Fate
Qiang Shen[1,2], Virendra Desai[1], Timothy Q. Duong[1,2]
[1]Research Imaging Institute, University of Texas Health Science Center at San Antonio, San Antonio, TX, United States; [2]Ophthalmology/Radiology, University of Texas Health Science Center at San Antonio, San Antonio, TX, United States

2156. *In Vivo* Kurtosis Imaging in Murine Cerebral Ischemia
Andreas Lemke[1], Saskia Grudzenski[2], Jörg Döpfert[1], Frederik Bernd Laun[3], Tristan Kuder[3], Marc Fatar[2], Lothar Rudi Schad[1]
[1]Computer Assisted Clinical Medicine, Heidelberg University, Mannheim, Germany; [2]Experimental Neurology, Heidelberg University, Mannheim, Germany; [3]Department of Medical Physics in Radiology, German Cancer Research Center, Heidelberg, Germany

Multiple Sclerosis

Exhibition Hall Monday 14:00-16:00

2157. Baseline T_2 MRI Texture Predicts Visual Recovery in Patients with Acute Optic Neuritis
Yunyan Zhang[1], Fiona Costello[1], James N. Scott, Luanne M. Metz[1]

[1]University of Calgary, Calgary, AB, Canada

2158. White Matter Attenuation Sequence Optimization at 7T with Applications in Multiple Sclerosis & Epilepsy
Katharine Teal Bluestein[1], Peter Wassenaar[1], Petra Schmalbrock[1], Michael V. Knopp[1]
[1]Wright Center of Innovation, Department of Radiology, The Ohio State University, Columbus, OH, United States

2159. Relationship between MR Phase & Tissue Microstructure
Saba El-Hilo[1], Stella Atkins, Alexander Rauscher[2]
[1]Simon Fraser University, Vancouver, BC, Canada; [2]UBC MRI Research Centre

2160. Diffusion Tensor MR Spectroscopy to Assess Microstructural Changes in Patients with Multiple Sclerosis
Wafaa Zaaraoui[1], Yann Le Fur[1], Alexandre Vignaud[2], Elisabeth Soulier[1], Patrick Viout[1], Irina Malikova[1,3], Audrey Rico[1,3], Bertrand Audoin[1,3], Sylviane Confort-Gouny[1], Patrick J. Cozzone[1], Jean Pelletier[1,3], Jean-Philippe Ranjeva[1]
[1]CRMBM UMR CNRS 6612, Marseille, France, Metropolitan; [2]Siemens Healthcare, Saint-Denis, France, Metropolitan; [3]Pôle de Neurosciences Cliniques, Service de Neurologie, Hôpital de La Timone, Marseille, France, Metropolitan

2161. Pathobiochemistry of Brain Damage in Multiple Sclerosis: Changes in Choline & Creatine Compounds Measured by ^{1}H and ^{31}P MRSI
Elke Hattingen[1], Ulf Ziemann[2], Jörg Magerkurth[1], Mathias Wahl[2], Ulrich Pilatus[1]
[1]Institute of Neuroradiology, Goethe University Frankfurt/Main, Frankfurt, Germany; [2]Klinik für Neurologie, Goethe University Frankfurt/Main, Frankfurt, Germany

2162. Automatic Segmentation of Gray Matter Multiple Sclerosis Lesions on FLAIR & DIR Images
Elisa Veronese[1], Enrico Grisan[1], Massimiliano Calabrese[2], Alice Favaretto[2], Paolo Gallo[2], Dario Seppi[2], Filippo Rinaldi[2], Irene Mattisi[2], Alessandra Bertoldo[1]
[1]Department of Information Engineering, University of Padova, Padova, Italy; [2]University Hospital of Padova

2163. Statistical Model for Predicting MS Cortical Lesion Detection Rates Based on Lesion Size & MRI Contrast & Resolution
Cherian Renil Zachariah[1], David Pitt[2], Katharine Teal Bluestein[1], Bradley Clymer[3], Michael Knopp[1], Petra Schmalbrock[1]
[1]Wright Center of Innovation, Radiology Department, The Ohio State University, Columbus, OH, United States; [2]Neurology Department, The Ohio Sate University, Columbus, OH, United States; [3]Department of Electrical & Computer Engineering, The Ohio State University, Columbus, OH, United States

2164. Characterization of Functional Homotopy in Multiple Sclerosis using Resting-State Functional MRI
Lin Tang[1], Xinian Zuo[2,3], Clare Kelly[2,3], Yongxia Zhou[1], Hina Jaggi[1], Joseph Herbert[1], Robert I. Grossman[1], Michael Milham[2,3], Yulin Ge[1]
[1]Radiology, Center for Biomedical Imaging of New York University, New York, NY, United States; [2]Phyllis Green & Randolph Cowen Institute for Pediatric Neuroscience; [3]New York University Child Study Center, New York, NY, United States

2165. Is Every Multiple Sclerosis Lesion a "black Hole"? Comparison of T_1-Weighted MRI at 1.5T & 7.0T
Tim Sinnecker[1], Paul Mittelstaedt[1], Jan Markus Doerr[1], Caspar F. Pfueller[1], Lutz Harms[1], Thoralf Niendorf[2,3], Friedemann Paul[1,4], Jens Wuerfel[2,5]
[1]Charité University Medicine, Berlin, Germany; [2]Max-Delbrueck-Center for Molecular Medicin, Berlin, Germany; [3]Berlin Ultrahigh Field Facility, Berlin, Germany; [4]NeuroCure Clinical Research Center , Berlin, Germany; [5]University Luebeck, Berlin, Germany

2166. Susceptibility Contrast in Deep Brain Gray Matter Areas in Multiple Sclerosis Studied with 7T MRI
Bing Yao[1], Francesca Bagnato[2], Karin Shmueli[1], Jeff H. Duyn[1]
[1]Advanced MRI, LFMI, NINDS, National Institutes of Health, Bethesda, MD, United States; [2]Neuroimmunology Branch, NINDS, National Institutes of Health, Bethesda, MD, United States

2167. Contrast Assessment of Synthetic Magnetic Resonance Imaging in Clinical Practice
I. Blystad[1,2], J. B. M. Warntjes[2,3], T. Helmersson[2], P. Lundberg[4,5]
[1]Department of Medical & Health Sciences, Radiology, Linköping, Sweden; [2]Center for Medical Image Science & Visualization, Linköping, Sweden; [3]Division of Clinical Physiology, Linköping, Sweden; [4]Dept of Radiation Physics & Dept of Radiology, IMH, University of Linkoping, Linköping, Sweden; [5]Dept of Radiation Physics & Dept of Radiology, CKOC, University Hospital of Linkoping, Linköping, Sweden

2168. R_2' is Reduced in Normal Appearing White Matter & Lesions & Increased in the Basal Ganglia in Patients with Multiple Sclerosis
David J. Paling[1], Daniel J. Tozer[1], Claudia A. M. Wheeler-Kingshott[1], Xavier Golay[1], Raju Kapoor[1], David H. Miller[1]
[1]Department of Neuroinflammation, UCL Institute of Neurology, London, United Kingdom

2169. Similar Cortical Lesion Distribution & Cortical Atrophy Location in Patients with Relapsing-Remitting Multiple Sclerosis.
Marco Battaglini[1], Massimiliano Calabrese[2], Maria Laura Stromillo[1], Alice Favaretto[2], Antonio Giorgio[1], Francesca Rinaldi[2], Paolo Gallo[2], Nicola De Stefano[1]
[1]Neurological & Behavioral Sciences, University of Siena, Siena, Toscany, Italy; [2]Multiple Sclerosis Center of Veneto Region, University of Padua, Padova

2170. Effect of Multiple Sclerosis Lesions on the MTR of Grey & White Matter in the Cervical Spinal Cord
Hugh Kearney[1], Marios C. Yiannakas[1], Rebecca Samson[1], Claudia A. M. Wheeler-Kingshott[1], Olga Ciccarelli[1,2], David H. Miller[1]
[1]Department of Neuroinflammation, UCL institute of Neurology, London, United Kingdom; [2]Department of Brain Repair & Rehabilitation, UCL Institute of Neurology, London, United Kingdom

2171. Periventricular Venous Density in MS Patients Correlates with T2 Lesion Load - a 7 Tesla MRI Study
Paul Mittelstaedt[1], Tim Sinnecker[1], Jan Markus Doerr[1], Caspar F. Pfueller[1], Lutz Harms[1], Thoralf Niendorf[2,3], Friedemann Paul[1,4], Jens Wuerfel[2,5]
[1]Charité University Medicine, Berlin, Germany; [2]Max-Delbrueck-Center for Molecular Medicin, Berlin, Germany; [3]Berlin Ultrahigh Field Facility, Berlin, Germany; [4]NeuroCure Clinical Research Center , Berlin, Germany; [5]University of Luebeck, Luebeck, Schleswig-Holstein, Germany

2172. Diffusion Tensor Parameters of the Optic Radiations Are Associated with Visual Acuity & Retinal Nerve Fiber Layer Loss Following Optic Neuritis
Robert a Bermel[1], Salim E. Abboud[1], Blessy Mathew[2], Ken E. Sakaie[2], Stephen E. Jones[2], Michael D. Phillips[2], Mark J. Lowe[2]
[1]Neurological Institute, Cleveland Clinic, Cleveland, OH, United States; [2]Imaging Institute, Cleveland Clinic, Cleveland, OH, United States

2173. Changes in Diffusion Tensor Eigenvalues in Corpus Callosum in Secondary Progressive Multiple Sclerosis: A Longitudinal DTI Study
Wei Tian[1], Tong Zhu[1], Jianhui Zhong[1], Xiang Liu[1], Praveen Rao[2], Benjamin M. Segal[2], Xiang Liu
[1] Department of Imaging Sciences, University of Rochester Medical Center, Rochester, NY, United States; [2]University of Michigan

2174. Short-Term Stability of T_1 & T_2 Relaxation Measures in Multiple Sclerosis Normal Appearing White Matter
Alice Liang[1], Irene M. Vavasour[2], Anthony L. Traboulsee[3], Joel Oger[3], Donna J. Lang[2], David K. B. Li[2], Alex L. MacKay[1,2], Cornelia Laule[2,4]
[1]Physics & Astronomy, University of British Columbia, Vancouver, BC, Canada; [2]Radiology, University of British Columbia, Vancouver, BC, Canada; [3]Medicine, University of British Columbia, Vancouver, BC, Canada; [4]Pathology & Laboratory Medicine, University of British Columbia, Vancouver, BC, Canada

2175. Estimation of Total Myelin Volume in the Brain
J. B. M. Warntjes[1,2], J. West[1,3], O. Dahlqvist-Leinhard[1,3], G. Helms[4], A.-M. Landtblom[5], P. Lundberg[6,7]
[1]Linköping University, Center for Medical Image Science & Visualization, Linköping, Sweden; [2]Department of Medicine & Health, division of clinical physiology, Linköping, Sweden; [3]Department of Medicine & Health, Division of Radiation Physics, Linköping, Sweden; [4]University Medical Center, MR-Research in Neurology & Psychiatry, Göttingen, Germany; [5]Department of Clinical Neuroscience, Linköping, Sweden; [6]Linköping University, Dept of Radiation Physics & Dept of Radiology, IMH, University of Linkoping, Linköping, Sweden; [7]University Hospital of Linköping, Dept of Radiation Physics & Dept of Radiology, CKOC, University Hospital of Linkoping, Linköping, Sweden

2176. Quantitative Evaluation of Spinal Cord Tissue Damage in MS Patients using Gradient Echo Plural Contrast Imaging
Jie Luo[1], Anne H. Cross[2], Dmitriy A. Yablonskiy[3]
[1]Chemistry, Washington University in St. Louis, St.Louis, MO, United States; [2]Neurology, Washington University School of Medicine, St. Louis, MO, United States; [3]Radiology, Washington University School of Medicine, St. Louis, MO, United States

White Matter Diseases

Exhibition Hall Tuesday 13:30-15:30

2177. Automatic Segmentation of White Matter Hyperintensities Based on Reaction Diffusion with Adaptive Threshold
Shuangxi Ji[1], Yining Huang[2], Jing Fang[1,3], Jue Zhang[1,3]
[1]College of Engineering, Peking University, BEIJING, China, People's Republic of; [2]Dept.of Neurology, Peking University, BEIJING, China, People's Republic of; [3]Academy for Advanced Interdisciplinary Studies, Peking University, BEIJING, China, People's Republic of

2178. Neuromyelitis Optica: Are Cortical Lesions a Common Finding?
Benjamin Bender[1], Lena Zeltner[2], Felix Bischof[2], Uwe Klose[1]
[1]Department of Diagnostic & Interventional Neuroradiology, University Hospital Tübingen, Tübingen, Baden-Württemberg, Germany; [2]Department of Neurology, University Hospital Tübingen, Tübingen, Baden-Württemberg, Germany

Structural & Functional MRI in Parkinson Disease

Exhibition Hall Wednesday 13:30-15:30

2179. 7T MRI Reveals an Inhomogeneous Cortex & Changes in Gray-White Matter Phase in Alzheimer's Disease
Sanneke van Rooden[1], Maarten J. Versluis[1], Julien R. Milles[2], Andrew G. Webb[1], Mark A. van Buchem[1], J. van Der Grond[1]
[1]C.J. Gorter Center for High-Field MRI, Department of Radiology, Leiden University Medical Center, Leiden, Zuid-Holland, Netherlands; [2]LKEB, Department of Radiology, Leiden University Medical Center, Leiden, Zuid-Holland, Netherlands

2180. 3-D Surface Analysis of the Substantia Nigra in Parkinson's Disease Obtained with 7T MRI
Dae-Hyuk Kwon[1], Jong-Min Kim[2], Se-Hong Oh[1], Hye-Jin Jeong[1], Sung-Yeon Park[1], Je-Geun Chi[1,3], Young-Bo Kim[1], Beom-Seok Jeon[2], Zang-Hee Cho[1]
[1]Neuroscience Research Institute, Gachon University of Medicine & Science, Kuwol-dong Namdong-gu, Incheon, Korea, Republic of; [2]Departments of Neurology, Seoul National University, Seoul, Korea, Republic of; [3]Departments of Pathology, Seoul National University, Seoul, Korea, Republic of

2181. Direct Visualization of Parkinson's Disease by *In Vivo* Human Brain Imaging using 7.0T MRI
Se-Hong Oh[1], Jong-Min Kim[2], Sung-Yeon Park[1], Dae-Hyuk Kwon[1], Hye-Jin Jeong[1], Myung-Kyun Woo[1], Young-Bo Kim[1], John Huston III[3], Kendall H. Lee[4], Beom S. Jeon[2], Zang-Hee Cho[1]
[1]Neuroscience Research Institute, Gachon University of Medicine & Science, Incheon, Korea, Republic of; [2]Departments of Neurology, College of Medicine, Seoul National University, Seoul, Korea, Republic of; [3]Department of Radiology, Mayo Clinic, Rochester, United States; [4]4Department of Neurosurgery & Department of Physiology & Biomedical Engineering, Mayo Clinic, Rochester, United States

2182. Quantitative Analysis of the Substantia Nigra in Parkinson's Disease Implementing 3D Modeling at 7.0T MRI
Hye-Jin Jeong[1], Se-Hong Oh[1], Jong-Min Kim[2], Dae-Hyuk Kwon[1], Sung-Yeon Park[1], Joshua H. Park[1], Young-Bo Kim[1], Je-Geun Chi[1,3], Chan-Woong Park[1], Beom S. Jeon[2], Zang-Hee Cho[1]
[1]Neuroscience Research Institute, Gachon University of Medicine & Science, Incheon, Korea, Republic of; [2]Department of Neurology ,College of Medicine, Seoul National University, Seoul, Korea, Republic of; [3]Departments of Pathology,College of Medicine, Seoul National University, Seoul, Korea, Republic of

2183. Improved Sensitivity & Specificity in the Diagnosis of Parkinson's Disease from Diffusion Kurtosis Imaging
JiunJie Wang[1], WeyYil Lin[2], ChinSung Lu[3], Ali Tabesh[4], YiHsin Weng, YauYau Wai
[1]ChangGung University, TaoYuan county, Taiwan, Taiwan; [2]ChangGung Memorial Hospital, TaoYuan county, Taiwan, Taiwan; [3]ChangGung Memorial Hospital; [4]NewYork University Medical School

2184. Grey Matter Loss is Associated with Freezing-Of-Gait in Parkinson's Disease
Federica Agosta[1], Vladimir S. Kostic[2], Michela Pievani[1], Milica Jecmenica-Lukic[2], Elka Stefanova[2], Antonio Scarale[1], Massimo Filippi[1]
[1]Neuroimaging Research Unit, Institute of Experimental Neurology, Division of Neuroscience, Scientific Institute & University Hospital San Raffaele, Milan, Italy; [2]Department of Neurology, University of Belgrade School of Medicine, Belgrade, Yugoslavia

2185. Detection & Quantification of Alpha- Synuclein using Fast Field- Cycling Magnetic Resonance Techniques
Saadiya Rashid Ismail[1,2], Sarah Mustafa[2], Samantha Miller[2], Tim Rasmussen[2], David J. Lurie[1], Peter Teismann[2]
[1]ABIC, University of Aberdeen, Aberdeen, Aberdeenshire, United Kingdom; [2]IMS, University of Aberdeen, Aberdeen, Aberdeenshire, United Kingdom

2186. Neurochemical Profiling of Two Rodent Parkinson's Disease Models: An *In Vivo* MR Spectroscopy Study
Mélanie Craveiro[1], Philippe Coune[2], Bernard Schneider[2], Patrick Aebischer[2], Rolf Gruetter[1,3]
[1]Laboratory for Functional & Metabolic Imaging, Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland; [2]Neurodegenerative Studies Laboratory, Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland; [3]Universities of Lausanne & Geneva, Departments of Radiology, Switzerland

2187. Perfusion Deficits Predate Grey Matter Atrophy in Cognitively-Impaired Parkinson's Disease
Tracy Robert Melzer[1,2], Richard Watts[1,3], Michael R. MacAskill[1,2], Ross J. Keenan[4], Ajit Shankaranarayanan[5], David C. Alsop[6], Leslie Livingston[1,2], John C. Dalrymple-Alford[1,7], Tim J. Anderson[1,2]
[1]Van der Veer Institute for Parkinson's & Brain Research, Christchurch, New Zealand; [2]Medicine, University of Otago, Christchurch, New Zealand; [3]Physics & Astronomy, University of Canterbury, Christchurch, New Zealand; [4]Christchurch Radiology Group,

Christchurch, New Zealand; [5]GE Healthcare, Menlo Park, CA, United States; [6]Beth Israel Deaconess Medical Center, Boston, MA, United States; [7]Psychology, University of Canterbury, Christchurch, New Zealand

2188. Degeneration of Motor Cortical Areas in Parkinson's Disease: A Follow Up fMRI Study
Mohit Saxena[1], S. Senthil Kumaran[2], Vinay Goyal[1], Madhuri Behari[1]
[1]Department of Neurology, All India Institute of Medical Sciences, New Delhi, India; [2]Department of N.M.R, All India Institute of Medical Sciences, New Delhi, India

2189. Pattern of Alterations in Motor Circuit Resting State FcMRI in Parkinson's Disease Patients Due to Medication & Forced Exercise
Erik B. Beall[1], Anneke M. Frankemolle[2], Jay L. Alberts[3], Michael D. Phillips[1], Mark J. Lowe[1]
[1]Imaging Institute, Cleveland Clinic, Cleveland, OH, United States; [2]Lerner Research Institute, Cleveland Clinic, Cleveland, OH, United States; [3]Center for Neurological Restoration, Cleveland Clinic, Cleveland, OH, United States

2190. Abnormal Spontaneous Neural Activity in Early Parkinson's Disease Revealed by Resting-State fMRI
Hong Yang[1], Xu-Ning Zheng[2], Yi-Lei Zhao[3], Jue Wang[4], Min-Ming Zhang[5]
[1]Department of Radiology, First Affiliated Hospital of College of Medical Science, Zhejiang University, Hangzhou, Zhengjiang, China, People's Republic of; [2]Department of Neurology, First Affiliated Hospital of College of Medical Science, Zhejiang University, Hangzhou, Zhejiang, China, People's Republic of; [3]Department of Radiology, First Affiliated Hospital of College of Medical Science, Zhejiang University, Hangzhou, Zhejiang, China, People's Republic of; [4]State Key Laboratory of Cognitive Neuroscience & Learning, Beijing Normal University, Beijing, China, People's Republic of; [5]Department of Radiology, The Second Affiliated Hospital of College of Medical Sciences, Zhejiang University, Hangzhou, Zhejiang, China, People's Republic of

2191. Decreased Functional Connectivity of Supplementary Motor Area Under Tactile Stimulation in Parkinson's Disease: An fMRI Study
Xiaojun Xu[1], Hengyi Cao[1], Dan Long[1], Minming Zhang[1]
[1]Department of Radiology, No.2 Affiliated Hospital, Zhejiang University School of Medicine, Hangzhou, Zhejiang, China, People's Republic of

Functional MRI in Dementia

Exhibition Hall Thursday 13:30-15:30

2192. Large-Scale Functional Network Reconfiguration Associates with Its Underlying Gray Matter Atrophy in AD
Wenjun Li[1], Gang Chen[1], Xiaolin Liu[1], Chunming Xie[1,2], Guanyu Chen[1], Barney Douglas Ward[1], Joseph Goveas[3], Jennifer Jones[4], Malgorzta Franczak[4], Piero Antuono[4], Shi-Jiang Li[1,3]
[1]Biophysics, Medical College of Wisconsin, Milwaukee, WI, United States; [2]School of Clinical Medicine, Southeast University, Nanjing, Jiangsu, China, People's Republic of; [3]Psychiatry & Behavior Medicine, Medical College of Wisconsin, Milwaukee, WI, United States; [4]Neurology, Medical College of Wisconsin, Milwaukee, WI, United States

2193. Characterize the Distribution & Behavior Significance of the Global Signal Measured by Resting-State Functional Connectivity in the Elderly
Guangyu Chen[1], Chunming Xie[1], Gang Chen[1], Barney Douglas Ward[1], Wenjun Li[1], Piero Antuono[2], Shi-Jiang Li[3]
[1]Biophysics, Medical College of Wisconsin, Milwaukee, WI, United States; [2]Neurology, Medical College of Wisconsin, Milwaukee, WI, United States; [3]Psychiatry & Behavioral Medicine, Medical College of Wisconsin, Milwaukee, WI, United States

2194. Effects of Apolipoprotein E-Epsilon 4 Genotype on the Functional Brain Networks Implicated in Cognition in Healthy Middle-Aged Adults
Joseph Goveas[1], Chunming Xie[2,3], Gang Chen[2], Wenjun Li[2], B. Douglas Ward[2], Guangyu Chen[2], Jennifer Jones[4], Malgorzata Franczak[4], Piero Antuono[4], Shi-Jiang Li[2]
[1]Psychiatry & Behavioral Medicine, Medical College of Wisconsin, Milwaukee, WI, United States; [2]Biophysics, Medical College of Wisconsin, Milwaukee, WI, United States; [3]Neurology, School of Clinical Medicine, Southeast University, Nanjing, Jiangsu, China, People's Republic of; [4]Neurology, Medical College of Wisconsin, Milwaukee, WI, United States

2195. Different Stages in Alzheimer's Disease Target Different Large-Scale Networks, Assessed by Resting-State Functional Connectivity
Gang Chen[1], Barney Douglas Ward[1], Chunming Xie[1], Wenjun Li[1], Guangyu Chen[1], Jennifer L Jones[2], Malgorzata Franczak[2], Piero Antuono[2], Shi-Jiang Li[1,3]
[1]Department of Biophysics, Medical College of Wisconsin, Milwaukee, WI, United States; [2]Department of Neurology, Medical College of Wisconsin, Milwaukee, WI, United States; [3]Department of Psychiatry & Behavioral Medicine, Medical College of Wisconsin, Milwaukee, WI, United States

2196. Resting State Network Abnormalities in Alzheimer's Disease: Beyond the Default Mode Network
Federica Agosta[1], Michela Pievani[1,2], Cristina Geroldi[2], Giovanni B. Frisoni[2], Massimo Filippi[1]

[1]Neuroimaging Research Unit, Institute of Experimental Neurology, Division of Neuroscience, Scientific Institute & University Hospital San Raffaele, Milan, Italy; [2]IRCCS Centro San Giovanni di Dio - Fatebenefratelli, Brescia, Italy

2197. Metabolite Differences in Small Brain Regions between Mild Cognitive Impairment & Alzheimer Disease Patients by 3D Chemical Shift Imaging
Beatriz Martínez-Granados[1], M. Carmen Martinez-Bisbal[1,2], Vicente Belloch[3], J. M. Lainez[4], Begoña López[4], Miquel Baquero[5], Joaquin Escudero[6], Carol Guillem[6], Bernardo Celda[1,2]
[1]Physical Chemistry, University of Valencia, Burjassot, Valencia, Spain; [2]CIBER Bioengineering, Biomaterials & Nanomedicine. ISC III, Spain; [3]MRI service, Hospital Universitario La Fe - ERESA, Valencia, Spain; [4]Neurology Service, Hospital Clínico Universitario, Valencia, Spain; [5]Neurology Service, Hospital Universitario La Fe, Valencia, Spain; [6]Neurology Service, Hospital Universitario General, Valencia, Spain

2198. Adding MRS to ADNI Criteria for Drug Monitoring Will Reduce Group Size for Clinical Trials
Thao Thanh Tran[1], Napapon Sailasuta[1], Martin Watterson[2], Louis Brenes[3], Brian D. Ross[4]
[1]MRS , Huntington Medical Research Institutes, Pasadena, CA, United States; [2]Feinberg School of Medicine, Northwestern University, Chicago, IL, United States; [3]Imaging Specialists of Pasadena; [4]MRS, Huntington Medical Research Institutes, Pasadena, CA, United States

2199. ^{1}H MRS in Mild Cognitive Impairment: What Are We Measuring, & How Good Are We at It?
Ileana Hancu[1], Robert Gillen[2], John Cowan[3], Earl Zimmerman[3]
[1]GE Global Research Center, Niskayuna, NY, United States; [2]Sunnyview Rehabilitation Hospital, Schenectady, NY, United States; [3]Albany Medical Center, Albany, NY, United States

2200. White Matter Cerebral Blood Flow Measurement in Mild Cognitive Impairment & Alzheimer's Disease using an Arterial Spin Labeling Method
Youngkyoo Jung[1], Thomas T. Liu[1], Christina E. Wierenga[2,3]
[1]Radiology, University of California, San Diego, La Jolla, CA, United States; [2]Psychiatry, University of California, San Diego, La Jolla, CA, United States; [3]Veterans Affairs San Diego Healthcare System, San Diego, CA, United States

2201. Cerebral Blood Perfusion Dynamics in Alzheimer's Disease & Mild Cognitive Impairment using Discrete Modeling of Arterial Spin Labeling MRI
Yinan Liu[1,2], Howard Rosen[3], Bruce Miller[3], Michael Weiner[1,2], Norbert Schuff[1,2]
[1]Center for Imaging of Neurodegenerative Diseases, Department of Veterans Affairs Medical Center, San Francisco, CA, United States; [2]Department of Radiology & Biomedical Imaging, University of California, San Francisco, CA, United States; [3]Memory & Aging Center, Department of Neurology, University of California, San Francisco, CA, United States

2202. Perfusion Changes in Patients After Cardiac Surgery: Evidence from an N-Back Working Memory Task.
Todd B. Harshbarger[1], Jeff Browndyke[2], Allen W. Song[1], Joseph Mathews[2]
[1]BIAC, Duke University, Durham, NC, United States; [2]ADRC, Duke University, Durham, NC, United States

2203. MRI of Angiogenesis & Vasculature Alternations in Alzheimer's Disease Based on Endogenous BOLD Contrast
Kejia Cai[1], Mohammad Haris[1], Anup Singh[1], Adam Shore[1], Rachelle Berger[1], Ari Borthakur[1], Ravinder Reddy[1]
[1]CMROI, Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States

Neurodegenerative Diseases: Miscellaneous

Exhibition Hall Monday 14:00-16:00

2204. Imaging Myelin Water Fraction to Reveal Novel Aspects of Cerebral Pathology in Motor Neuron Disease
Shannon Kolind[1,2], Sean Deoni[2,3], Rakesh Sharma[1,4], Melanie E. Lord[4], Steven Knight[5], Kevin Talbot[4], Heidi Johansen-Berg[1], Martin R. Turner[1,4]
[1]FMRIB Centre, University of Oxford, Oxford, United Kingdom; [2]Department of Neuroimaging, Institute of Psychiatry, King's College London, London, United Kingdom; [3]Division of Engineering, Brown University, Providence, RI, United States; [4]Oxford University Nuffield Department of Clinical Neurosciences, John Radcliffe Hospital, Oxford, United Kingdom; [5]OCMR, University of Oxford, Oxford, United Kingdom

2205. The Role of Brain Structure & Executive Function on Visuoconstructional Processing in Late Life Depression
Melissa Lamar[1], Emma Rhodes[2], Olusola Ajilore[2], Aifeng Zhang[2], Maria Caserta[2], Anand Kumar[2]
[1]Psychiatry, University of Illinois at Chicago, Chicago, IL , United States; [2]Psychiatry, University of Illinois at Chicago, Chicago, IL, United States

2206. Whole-Brain Proton MRSI Data Analysis using a Corticospinal Tract Atlas in Amyotrophic Lateral Sclerosis
Varan Govind[1], Khema R. Sharma[2], Sulaiman Sheriff[1], Gaurav Saigal[1], Andrew A. Maudsley[1]
[1]Radiology, University of Miami, Miami, FL, United States; [2]Neurology, University of Miami, Miami, FL, United States

2207. Towards an Imaging-Metric for Pre-Symptomatic Manifestations of ALS

Govind Nair[1], Susan Gronka[2,3], Debbie Lu[2], Joanne Wuu[2], Xiaoping P. Hu[1], Michael Benatar[2]
[1]Biomedical Imaging & Technology Center, Department of Biomedical Engineering, Emory University & Georgia Institute of Technology, Atlanta, GA, United States; [2]Department of Neurology, School of Medicine, Emory University, Atlanta, GA, United States; [3]University of Miami, Miami, FL, United States

2208. Do Age & Long-Term HIV Infection Control Affect Brain Metabolites?
Caroline Rae[1], Lucette Adeline Cysique[2], Jae Muyng Lee[3], Tammy Lane[4], Kirsten Moffat[5], Andrew Carr[6], Bruce James Brew[7]
[1]Neurosciences Research Australia, University of New South Wales, Sydney, NSW, Australia; [2]Brain Sciences, University of New South Wales, Sydney, NSW, Australia; [3]Neurosciences Research Australia, University of New South Wales, Sydney, Australia; [4]Psychology, Macquarie University, Sydney, Australia; [5]Medical Imaging, St. Vincent's Hospital, Sydney, Australia; [6]Immunology & Infectious Diseases, St. Vincent's Hospital, Sydney, Australia; [7]Neurology, St. Vincent's Hospital, Sydney, Australia

2209. Assessment of Disease Severity in Late Infantile Neuronal Ceroid Lipofuscinosis using Multiparametric MRI
Jonathan P. Dyke[1], Dolan Sondhi[2], Henning U. Voss[1], Dikoma C. Shungu[1], Xiangling Mao[1], Kaleb Yohay[3], Stefan Worgall[3], Neil R Hackett[2], Charlene Hollmann[2], Mary E. Yeotsas[2], Stephen M. Kaminsky[2], Barry Kosofsky[3], Linda A. Heier[1], Ronald G. Crystal[2], Douglas Ballon[1]
[1]Radiology, Weill Cornell Medical College, New York, NY, United States; [2]Genetic Medicine, Weill Cornell Medical College, New York, NY, United States; [3]Pediatrics, Weill Cornell Medical College, New York, NY, United States

2210. Voxel-Based T_2 Relaxometry in Prion Disease
Enrico De Vita[1,2], Harpreet Hyare[3,4], Chris Carswell[3,4], Andrew Thompson[3,4], Ana Lukic[3,4], Tarek Yousry[1,2], Peter Rudge[3,4], Simon Mead[3,4], John Collinge[3,4], John Thornton[1,2]
[1]Lysholm Department of Neuroradiology, National Hospital for Neurology & Neurosurgery, UCLH NHS Foundation Trust, London, United Kingdom; [2]Academic Neuroradiological Unit, Department of Brain Repair & Rehabilitation, UCL Institute of Neurology, London, United Kingdom; [3]MRC Prion Unit, Department of Neurodegenerative Diseases, UCL Institute of Neurology, London, United Kingdom; [4]National Prion Clinic, National Hospital for Neurology & Neurosurgery, UCLH NHS Foundation Trust, London, United Kingdom

2211. Glutamatergic & GABAergic Neurotransmission in Manganism using ^{13}C NMR Spectroscopy
Anant Bahadur Patel[1], Puneet Bagga[1]
[1]NMR Microimaging & Spectroscopy, Centre for Cellular & Molecular Biology, Hyderabad, Andhra Pradesh, India

2212. *In Vivo* L-COSY Identifies Neurochemical Changes in Professional Athletes with Repetitive Head Injuries
Alexander Peter Lin[1], Saadallah Ramadan[1], Robert A. Stern[2,3], Hayden Nicholas Box[1], Peter Stanwell[1], Ann C. McKee[2,3], Robert Cantu[2], Christopher Nowinski[2], Carolyn Elizabeth Mountford[1]
[1]Center for Clinical Spectroscopy, Brigham & Women's Hospital, Boston, MA, United States; [2]Center for the Study of Traumatic Encephalopathy, Boston University School of Medicine, Boston, MA, United States; [3]BU Alzheimer's Disease Center, Boston University School of Medicine, Boston, MA, United States

2213. Distinct Pattern of Atrophy in the Different Phenotypes of Progressive Supranuclear Palsy in Magnetic Resonance Imaging
Adriane Gröger[1], Karin Srulijes[1], Maksym Nechyporenko[1], Elisabeth Dietzel[1], Constantin Mänz[2], Uwe Klose[2], Walter Mätzler[1], Daniela Berg[1]
[1]Department of Neurodegeneration, Hertie Institute for Clinical Brain Research, University Tuebingen, Tuebingen, Germany; [2]Department of Diagnostic & Interventional Neuroradiology, University Hospital Tuebingen, Tuebingen, Germany

2214. Brain Metabolites in Myotonic Dystrophy Type 1: A 3.0 T Proton Magnetic Resonance Spectroscopy Study
Yuhei Takado[1,2], Hironaka Igarashi[1], Kenshi Terajima[1,2], Takayoshi Shimohata[2], Masaki Okubo[1,3], Kouichirou Okamoto[1,4], Masatoyo Nishizawa[1,2], Tsutomu Nakada[1]
[1]Center for Integrated Human Brain Science, Brain Research Institute, University of Niigata, Niigata, Japan; [2]Neurology, Brain Research Institute, University of Niigata, Niigata, Japan; [3]Institute of Medicine & Dentistry Basic Radiological Technology, School of Health Sciences, University of Niigata, Niigata, Japan; [4]Neurosurgery, Brain Research Institute, University of Niigata, Niigata, Japan

2215. Distribution of Diffusivity Changes in Subcortical Deep Gray Matter in Prion Diseases
Raffaele Lodi[1], David Neil Manners[1], Emil Malucelli[1], Claudia Testa[1], Giovanni Rizzo[1], Sabina Capellari[2], Rosaria Strammiello[2], Giulia Pierangeli[2], Pietro Cortelli[2], Pasquale Montagna[2], Bruno Barbiroli[1], Caterina Tonon[1], Piero Parchi[2]
[1]MR Spectroscopy Unit, Dept. Internal Medicine, Aging & Nephrology, University of Bologna, Bologna, Italy; [2]Neurological Sciences, University of Bologna, Bologna, Italy

2216. Changes in Iron Concentration of the Basal Ganglia in Huntington's Disease using Magnetic Field Correlation
Maarten J. Versluis[1,2], Eve M. Dumas[3], Simon J. A. van Den Bogaard[3], Andrew G. Webb[1,2], Mark A. van Buchem[1], Ellen P. T. Hart[3], Matthias J. P. van Osch[1,2], Jeroen van Der Grond[1], Raymund A. C. Roos[3]
[1]Radiology, Leiden University Medical Center, Leiden, Netherlands; [2]C.J. Gorter Center for High Field MRI, Leiden University Medical Center, Leiden, Netherlands; [3]Neurology, Leiden University Medical Center, Leiden, Netherlands

2217. Assessment of Cerebral Blood Flow in Amyotrophic Lateral Sclerosis using Arterial Spin Labeling MR Imaging
Sumei Wang[1], Lu Wang[1], Hengyi Rao[2], Zhengjun Li[2], Lauren B. Elman[3], Leo F. McCluskey[3], Elias R. Melhem[1], Danny J. J. Wang[4], John H. Woo[1]
[1]Radiology, University of Pennsylvania, Philadelphia, PA, United States; [2]Neurology, Center for Functional Neuroimaging, University of Pennsylvania, Philadelphia, PA, United States; [3]Neurology, University of Pennsylvania, Philadelphia, PA, United States; [4]Neurology, Ahmanson-Lovelace Brain Mapping Center, University of California, Los Angeles, CA, United States

2218. Asymmetric Characteristics of Hippocampus Perfusion & Its Response to Physostigmine Challenge in Gulf War Veterans
Xiufeng Li[1], Jeffrey Spence[2], David M. Buhner[3], Robert W. Haley[3], Richard W. Briggs[1,3]
[1]Radiology, UT Southwestern Medical Center, Dallas, TX, United States; [2]Clinical Sciences, UT Southwestern Medical Center, Dallas, TX, United States; [3]Internal Medicine, UT Southwestern Medical Center, Dallas, TX, United States

2219. Abnormal Striatal Functional Connectivity in Gulf War Illness: Effects of Modulating FcMRI Continuous States
Kaundinya Gopinath[1,2], Wendy Ringe[3], Luo Ouyang[1], Kirstine Carter[3], Binod Thapa-Chhetry[1], Lisa Butler[1], Aman Goyal[1], Parina Gandhi[1], Yan Fang[1], Sandeep Ganji[1], Lei Jiang[1], Saurabh Vaidya[1], Richard Briggs[1,2], Robert Haley[2]
[1]Department of Radiology, UT Southwestern Medical Center, Dallas, TX, United States; [2]Department of Internal Medicine, UT Southwestern Medical Center, Dallas, TX, United States; [3]Department of Psychiatry, UT Southwestern Medical Center, Dallas, TX, United States

2220. ASL Hippocampus Perfusion Imaging of Gulf War Veterans: Preliminary Results for National Survey Studies
Xiufeng Li[1], David M. Buhner[2], Robert W. Haley[2], Richard Briggs[1,2]
[1]Radiology, UT Southwestern Medical Center, Dallas, TX, United States; [2]Internal Medicine, UT Southwestern Medical Center, Dallas, TX, United States

2221. fMRI Reveals Abnormal Central Sensory Processing in Gulf War Illness
Kaundinya Gopinath[1,2], Lisa Butler[1], Binod Thapa-Chhetry[1], Aman Goyal[1], Parina Gandhi[1], Yan Fang[1], Luo Ouyang[1], Sandeep Ganji[1], Lei Jiang[1], Saurabh Vaidya[1], David Buhner[2], Wendy Ringe[3], Richard Briggs[1,2], Robert Haley[2]
[1]Department of Radiology, UT Southwestern Medical Center, Dallas, TX, United States; [2]Department of Internal Medicine, UT Southwestern Medical Center, Dallas, TX, United States; [3]Department of Psychiatry, UT Southwestern Medical Center, Dallas, TX, United States

2222. Basal Ganglia NAA/Cr Ratio & T_2 Differences in a Population-Representative Sample of Veterans with Gulf War Illness
Sergey Cheshkov[1,2], Audrey Chang[2], Hyeonman Baek[1,2], Jeffrey Spence[3], Sandeep Kumar Ganji[2], Evelyn Babcock[2], Richard Wallace Briggs[2,4], Robert W. Haley[4]
[1]Advanced Imaging Research Center, UT Southwestern Medical Center, Dallas, TX, United States; [2]Radiology, UT Southwestern Medical Center, Dallas, TX, United States; [3]Clinical Sciences, UT Southwestern Medical Center, Dallas, TX, United States; [4]Internal Medicine, UT Southwestern Medical Center, Dallas, TX, United States

2223. Fractional Anisotropy is Affected by White Matter Lesions in a TBSS Study of Alzheimer's Disease
Parnesh Raniga[1], David Raffelt[1], Alan Connelly[2,3], Patricia Desmond[4], Olivier Salvado[1]
[1]CSIRO Preventative Health National Research Flagship ICTC, The Australian e-Health Research Centre, Brisbane, Queensland, Australia; [2]Brain Research Institute, Florey Neuroscience Institutes (Austin), Melbourne, Victoria, Australia; [3]Department of Medicine, University of Melbourne, Melbourne, Victoria, Australia; [4]Department of Radiology, University of Melbourne, Melbourne, Victoria, Australia

2224. The Standard Deviation (Asd, Normalized Relative Anisotropy at 0 – 1 Scale) Detects Neurodegenerative White Matter Lesions Bettert than the Fractional Anisotropy (FA)
Joong Hee Kim[1], Jeffrey J. Neil[2], Sheng-Kwei Song[1]
[1]Radiology, Washington University, St. Louis, MO, United States; [2]Neurology & Pediatrics, Division of Pediatric Neurology, Washington University, St. Louis, MO, United States

2225. Longitudinal Evolution of MRI Parameters with Disease Progression in ALS
Govind Nair[1], Debbie Lu[2], Margaret Walker[2], John Carew[3], Xiaoping P. Hu[1], Michael Benatar[2]
[1]Biomedical Imaging & Technology Center, Department of Biomedical Engineering, Emory University & Georgia Institute of Technology, Atlanta, GA, United States; [2]Department of Neurology, School of Medicine, Emory University, Atlanta, GA, United States; [3]Biostatistics & Epidemiology, Carolinas HealthCare System, Charlotte, NC, United States

2226. Predict the Response of Tinnitus to Cortical Stimulation using Resting-State Functional MRI
Gang Chen[1], Brian Harris Kopell[2], Wolfgang Gaggl[3], Rey Ramirez[4], Klaus Driesslein[4], Sylvain Baillet[1,4], Christopher R. Butson[2,4], Shi-Jiang Li[1,5]
[1]Department of Biophysics, Medical College of Wisconsin, Milwaukee, WI, United States; [2]Department of Neurosurgery, Medical College of Wisconsin, Milwaukee, WI, United States; [3]Department of Radiology, Medical College of Wisconsin, Milwaukee, WI,

United States; [4]Department of Neurology, Medical College of Wisconsin, Milwaukee, WI, United States; [5]Department of Psychiatry & Behavioral Medicine, Medical College of Wisconsin, Milwaukee, WI, United States

Animal Models in Neurodegenerative Diseases

Exhibition Hall Tuesday 13:30-15:30

2227. Early Anatomical & Microstructural Changes Induced in Rat Brain by Vitamin a Deprivation: A Longitudinal MRI Study

Bassem Hiba[1], Bader Chaarani[1], M. C. Beauvieux[1], G. Rafard[1], Michèle Allard[2], Alan Stephant[1], Jean Michel Franconi[1], Jean Louis Gallis[1]
[1]UMR 5536 RMSB, CNRS-UB2, Bordeaux, France; [2]UMR 5231, CNRS-UB2, Bordeaux, France

2228. $T_1\rho$ MRI as a Marker of Neurofibrillary Tangles in a Mouse Model of Alzheimer's Disease

Rachelle Berger[1], Matthew Fenty[2], Michiyo Iba[3], Virginia M.-Y. Lee[3], John A. Detre[4], Ari Borthakur[5]
[1]Biochemistry & Molecular Biophysics, University of Pennsylvania School of Medicine, Philadelphia, PA, United States; [2]CMROI, Department of Radiology, University of Pennsylvania School of Medicine, Philadelphia, PA, United States; [3]CNDR, Department of Pathology & Lab Medicine, University of Pennsylvania School of Medicine; [4]CfN, Department of Neurology, University of Pennsylvania School of Medicine; [5]CMROI, Department of Radiology, University of Pennsylvania School of Medicine, Philadelphia, PA, United States

2229. A Diffusion Kurtosis Imaging (DKI) Based Correlate for Plaque Load in the $APPPS_1$ Mouse Model for Alzheimer's Disease (AD)

Greetje Vanhoutte[1], Sandra Pereson[2], Bob Asselbergh[2], Christine Van Broeckhoven[2], Anne-Marie Van Der Linden[1]
[1]Biomedical Sciences, Bio-Imaging Lab, University of Antwerp, Antwerp, Belgium; [2]Molecular Genetics, VIB & Institute Born-Bunge, University of Antwerp, Antwerp, Belgium

2230. Ultra-High Field Magnetic Resonance Microimaging in Zebrafish Model of Cystic Leukoencephalopathy

Alia Alia[1], Haud Noémie[2], Firat Kara[1], Adam Hurlstone[2]
[1]Leiden Institute of Chemistry, Leiden University, Leiden, South holland, Netherlands; [2]University of Manchester, United Kingdom

2231. Changes in Glucose Level with Age & Its Correlation with Severity of Plaque Deposition in a Transgenic Model of Alzheimer's Disease

Firat Kara[1], Kristin Möbius[1], Mark A. van Buchem[2], Huub J. M. de Groot[1], Reinhard Schliebs[3], Alia Alia[1,4]
[1]Leiden Institute of Chemistry, Leiden University, Leiden, South holland, Netherlands; [2]Department of Radiology, Leiden University Medical Centrum, Leiden, South Holland, Netherlands; [3]Department of Neurochemistry, University of Leipzig, Leipzig, Germany; [4]Department of Radiology, Leiden University Medical Centrum, Leiden, Netherlands

2232. *In Vivo* Neuronal Transport Impairment Reflects the Level of Abnormal Tau in a Mouse Model of Tauopathy : A Track-Tracing Memri Study

Anne Bertrand[1,2], Umer Khan[2], Dung Minh Hoang[2], Dmitry Novikov[2], Pavan Krishnamurthy[3], Hameetha Banu Rajamohamed Sait[3], Benjamin Winthrop Little[2], Einar M. Sigurdsson[3], Youssef Zaim Wadghiri[2]
[1]URA CEA-CNRS 2210, MIRCen, Fontenay-Aux-Roses, France; [2]Radiology, NYULMC, New York, United States; [3]Physiology & Neuroscience, NYULMC, New York, United States

2233. Detection of Treatment Effects with ^{1}H MRS in Transgenic Mouse Model of Alzheimer's Disease

Malgorzata Marjanska[1], Stephen D. Weigand[2], Geoffry L. Curran[2], Thomas M. Wengenack[2], Joseph F. Poduslo[2], Michael Garwood[1], Clifford R. Jack, Jr.[2]
[1]Radiology, University of Minnesota, Minneapolis, MN, United States; [2]Mayo Clinic College of Medicine, Rochester, MN, United States

2234. 3D Quantitative Micro-MRI Mapping of Alzheimer's Plaques in Transgenic Mice using Aβ1-42 Targeted-USPIOs

Dung Minh Hoang[1], Jing Yang[2], Lindsay K. Hill[1], Wai Tsui[3], Yanjie Sun[2], Yongsheng Li[2], Mony De Leon[3], Thomas Wisniewski[2,3], Youssef Zaim Wadghiri[1]
[1]Radiology, NYU School of Medicine, New York, NY, United States; [2]Neurology, NYU School of Medicine, New York, NY, United States; [3]Psychiatry, NYU School of Medicine, New York, NY, United States

2235. Response to Donepezil Challenge in Rat Brain by RCBV-Based PhMRI

Thomas Kaulisch[1], Holger Rosenbrock[2], Detlef Stiller[3]
[1]In-Vivo Imaging, Target Discovery Research , Boehringer Ingelheim Pharma GmbH & Co. KG, Biberach, Germany; [2]CNS Diseases Research, Boehringer Ingelheim Pharma GmbH & Co. KG, Biberach, Germany; [3]In-Vivo Imaging, Target Discovery Research, Boehringer Ingelheim Pharma GmbH & Co. KG, Biberach, Germany

2236. Automatic Measurement of Atrophy Rates in Hippocampal Subfields from Longitudinal High-Resolution T_2-Weighted MRI
Sandhitsu Das[1], Brian Avants[1], John Pluta[1], Caryne Craige[1], Michael Weiner[2], Susanne Mueller[2], Paul Yushkevich[1]
[1]PICSL, Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States; [2]VA Medical Center, University of California at San Francisco, San Francisco, CA, United States

2237. Feasibility of Detecting Preclinical Hippocampal Neuronal Cell Loss in Subjects Destined to Develop Alzheimer's Disease
Keith R. Thulborn[1], Debra Fleischman[2], R. Shah[2], Ian C. Atkinson[1], Aiming Lu[1]
[1]Center for Magnetic Resonance Research, University of Illinois at Chicago, Chicago, IL, United States; [2]Rush Alzheimer's Disease Clinic, Rush University Medical Center,, Chicago, IL

2238. A Novel Events-Based Model for Mapping Disease Progression & Its Application to Familial Alzheimer's Disease
Hubert Martinus Fonteijn[1], Matt J. Clarkson[2], Marc Modat[1], Josephine Barnes[2], Manja Lehmann[2], Sebastien Ourselin[1], Nick C. Fox[2], Daniel C. Alexander[1]
[1]Computer Science, Centre for Medical Image Computing, London, United Kingdom; [2]Institute of Neurology, Dementia Research Centre, London, United Kingdom

2239. T_2 Alterations in *Ex Vivo* Human Brains with Alzheimer's Disease Pathology
Robert J. Dawe[1], Julie A. Schneider[2], David A. Bennett[2], Konstantinos Arfanakis[1]
[1]Department of Biomedical Engineering, Illinois Institute of Technology, Chicago, IL, United States; [2]Rush Alzheimer's Disease Center, Rush University Medical Center, Chicago, IL, United States

2240. Quantitative R_2' Mapping to Investigate the Relationship of Brain Iron Deposition & Cognitive Impairment in Alzheimer Disease
Wenzhen Zhu[1], Lingyun Zhao
[1]Department of Radiology, Tongji Hospital,Tongji Medical College, Wuhan, Hubei Province, China, People's Republic of

2241. Automatic Segmentation of the Hippocampus in T_1-Weighted MRI with Multi-Atlas Label Fusion using Open Source Software: Evaluation in 1.5 & 3.0T ADNI MRI
Jung Wook Suh[1], Hongzhi Wang[1], Sandhitsu Das[1], Brian Avants[1], Paul A. Yushkevich[1]
[1]PICSL, Radiology, University of Pennsylvania, Philadelphia, PA, United States

2242. Magnetization Transfer Contrast (MTC) MRI for the Detection of Amyloid Accumulation in Alzheimer's Disease
Carlos J. Pérez-Torres[1,2], Robia G. Pautler[1,2]
[1]Interdepartmental Program in Translational Biology & Molecular Medicine, Baylor College of Medicine, Houston, TX, United States; [2]Department of Molecular Physiology & Biophysics, Baylor College of Medicine, Houston, TX, United States

2243. Patterns of White Matter Tract Damage in Behavioural Variant of Frontotemporal Dementia & Primary Progressive Aphasia: A DT MRI Study.
Elisa Scola[1], Federica Agosta[2], Elisa Canu[2], Lidia Sarro[2], Alessandra Marcone[3], Chiara Cerami[3], Giuseppe Magnani[4], Francesca Caso[4], Stefano Francesco Cappa[3,5], Massimo Filippi[2], Andrea Falini[1,6]
[1]Neuroradiology - CERMAC, San Raffaele Scientific Institute, Milan, Italy; [2]Neuroimaging Research Unit, Scientific Institute & University San Raffaele Hospital, Milan, Italy; [3]San Raffaele Turro Hospital, Department of Clinical Neurosciences, Milan, Italy; [4]Department of Neurology, Institute of Experimental Neurology, Division of Neuroscience, Scientific Institute & University San Raffaele Hospital, Milan, Italy; [5]Vita Salute University & Department of Clinical Neurosciences, San Raffaele Scientific Institute, Milan, Italy; [6]Vita Salute University, San Raffaele Scientific Institute, Milan, Italy

MRS of Animal Brain (except Cancer)

Exhibition Hall Wednesday 13:30-15:30

2244. Combined ^{1}H MRS & Near-Infrared Spectroscopy Measurements of Cerebral Blood Volume, Oxygenation, Cytochrome Oxidase & Intracellular Metabolites During Perinatal Hypoxia-Ischaemia
Alan Bainbridge[1], Ilias Tachtsidis[2], Stuart Faulkner[3], Sonya Mahony[2], David Price[1], David .L Thomas[4], Ernest B. Cady[1], Nicola J. Robertson[3], Xavier Golay[4]
[1]Medical Physics & Bioengineering, UCLH NHS Foundation Trust, London, United Kingdom; [2]Department of Medical Physics & Bioengineering, University College London, London, United Kingdom; [3]Institute for Women's Health, UCL, London, United Kingdom; [4]Institute of Neurology, UCL, United Kingdom

2245. Can ^{1}H MRS Be a Surrogate for ^{31}P MRS in Quantification of Transient Hypoxic-Ischemic Insult Severity in a Neonatal Encephalopathy Model?

Alan Bainbridge[1], Stuart Faulkner[2], Dorottya Kelen[2], Manigandan Chandrasekaran[2], David Price[1], David L. Thomas[3], Ernest B. Cady[1], Nicola J. Robertson[2], Xavier Golay[3]
[1]Medical Physics & Bioengineering, UCLH NHS Foundation Trust, London, United Kingdom; [2]Institute for Women's Health, UCL, London, United Kingdom; [3]Institute of Neurology, UCL, United Kingdom

2246. *In Vivo* Measurements of Cerebral Ascorbate Increases After Systemic Ascorbate Infusion
In-Young Choi[1,2], Wen-Tung Wang[1], Joanne Marcario[1], Mark Levine[3], Phil Lee[1,4]
[1]Hoglund Brain Imaging Center, University of Kansas Medical Center, Kansas City, KS, United States; [2]Department of Neurology, University of Kansas Medical Center, Kansas City, KS, United States; [3]Molecular & Clinical Nutrition Section, National Institute of Health, Bethesda, MD, United States; [4]Molecular & Integrative Physiology, University of Kansas Medical Center, Kansas City, KS, United States

2247. Isoflurane Elevates Brain Lactate in a Dose-Dependent Manner: A Localized ^{1}H MRS Study of Mouse Brain *In Vivo*
Susann Boretius[1], Roland Tammer[1,2], Thomas Michaelis[1], Jens Frahm[1]
[1]Biomedizinische NMR Forschungs GmbH, Max-Planck-Institut fuer biophysikalische Chemie, Göttingen, Germany; [2]DFG Research Center for Molecular Biology of the Brain (CMPB), Göttingen, Germany

2248. Effect of Nicotine on Glutamatergic & GABAergic Neurotransmission in Developing Brain
Anant Bahadur Patel[1], Mohammad Shameem[1]
[1]NMR Microimaging & Spectroscopy, Centre for Cellular & Molecular Biology, Hyderabad, Andhra Pradesh, India

2249. ^{1}H-MRS Profiling of the Developing Rat Brain
Serguei Liachenko[1], Jaivijay Ramu[1]
[1]FDA / NCTR, Jefferson, AR, United States

2250. Acute Restraint Stress-Induced Change in Glutamate Neurotransmission in Rat Brain: An *In Vivo* ^{1}H-MRS Study
Sang-Young Kim[1], Eun-Ju Jang[2], Kwan-Soo Hong[2], Chul-Hyun Lee[2], Do-Wan Lee[1], Chi-Bong Choi[3], Bo-Young Choe[1]
[1]Department of Biomedical Engineering, The Catholic University of Korea, Seoul, Korea, Republic of; [2]The Korea Basic Science Institute, Korea, Republic of; [3]Department of Radiology, Kyunghee University Medical Center, Korea, Republic of

2251. Neurochemical Changes in Olfactory System & Hippocampus Regions of Tau Transgenic Mice using ^{1}H MRS
Jieun Kim[1], In-Young Choi[1,2], Karen Duff[3], Phil Lee[1,4]
[1]Hoglund Brain Imaging Center, University of Kansas Medical Center, Kansas City, KS, United States; [2]Department of Neurology, University of Kansas Medical Center, Kansas City, KS, United States; [3]Department of Integrative Neuroscience, Columbia University Medical Center, New York, NY, United States; [4]Department of Molecular & Integrative Physiology, University of Kansas Medical Center, Kansas City, KS, United States

2252. Measurement of Metabolic Rates in Rat Olfactory Bulb by ^{1}H & ^{1}H-[^{13}C] NMR *In Vivo*
Golam M. I. Chowdhury[1], Graeme F. Mason[1], Kevin L. Behar[1], Douglas L. Rothman[1], Robin A. de Graaf[1]
[1]MRRC, Yale University School of Medicine, New Haven, CT, United States

2253. *In Vivo* Assessment of Neuronal Metabolic Fluxes in Mouse Brain by ^{1}H-[^{13}C] NMR Spectroscopy
Lijing Xin[1], Hongxia Lei[2], Bernard Lanz[2], Rolf Gruetter[1,2]
[1]Department of Radiology, University of Lausanne, Lausanne, Vaud, Switzerland; [2]Laboratory of functional & metabolic imaging, École Polytechnique Fédérale de Lausanne, Lausanne, Vaud, Switzerland

2254. Simultaneous Dection of Metabolism of [2-^{13}C]lactate & Uniformly Labeled Glucose in the Brain using *In Vivo* ^{13}C MRS
Yun Xiang[1], Jun Shen[1]
[1]Molecular Imaging Branch, National Institute of Mental Health, National Institutes of Health, Bethesda, MD, United States

2255. Non-Invasive Monitoring of Antioxidant Prodrug Metabolism in Rat Brain by *In Vivo* ^{13}C MRS
Peter Edward Thelwall[1], Daniel Clark[2], Susan M. Ludeman[3], James B. Springer[4], Michael A. D'Alessandro[3], Nicholas E. Simpson[2], Roxana Pourdeyhimi[5], C. Bryce Johnson[5], Stephanie D. Teeter[5], Stephen J. Blackband[2], Michael P. Gamcsik[5]
[1]Newcastle Magnetic Resonance Centre, Newcastle University, Newcastle upon Tyne, Tyne & Wear, United Kingdom; [2]University of Florida; [3]Albany College of Pharmacy & Health Sciences; [4]Duke University Medical Centre; [5]Joint Department of Biomedical Engineering, University of North Carolina / NC State University

2256. Direct Assessment of Increased Pyruvate Carboxylase in the Hyperammonemic Brain using ^{13}C MRS
Bernard Lanz[1], Cristina Cudalbu[1], João Miguel Duarte[1], Rolf Gruetter[1,2]
[1]Laboratory for Functional & Metabolic Imaging, Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland; [2]Department of Radiology, Universities of Lausanne & Geneva, Lausanne & Geneva, Switzerland

2257. SNR Improvement of a ^{13}C-Cryo-Coil in Comparison with Room-Temperature Coils
Markus Sack[1], Friedrich Wetterling[2], Gabriele Ende[1], L R Schad[2], Wolgang Weber-Fahr[1]
[1]Neuroimaging, Central Institute of Mental Health, Mannheim, Germany; [2]Computer Assisted Clinical Medicine, University Medical Center Mannheim, Mannheim, Germany

2258. Transverse Relaxation Times of Strongly J-Coupled Metabolites with LASER & CP-LASER in the Rat Brain
Dinesh K. Deelchand[1], Pierre-Gilles Henry[1], Kamil Ugurbil[1], Malgorzata Marjanska[1]
[1]Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, MN, United States

Animal Models of Brain Disease Other than Stroke

Exhibition Hall Thursday 13:30-15:30

2259. Retrograde Neuronal Injury in Response to Glutaric Acid in Glutaric Acidemia Type 1 (GA-1) Mouse Model
Jelena Lazovic[1], William J. Zinnanti[2], Xiaowei Zhang[3], Russell Jacobs[3]
[1]Radiology, University of California, Los Angeles, Los Angeles, CA, United States; [2]Neurology, Stanford, Palo Alto, CA, United States; [3]California Institute of Technology

2260. Use of Volumetric MRI to Characterize Treatment Effect & Phenotype in a Transgenic Mouse Model of Tau Pathology
Sangeetha Somayajula[1], Belma Dogdas[1], Xiaohai Wang[2], Mansuo Hayashi[2], Shubing Wang[3], Sofia Apreleva[3], Richard Baumgartner[3], Denise Welsh[4], Xiangjung Meng[4], Diane Posavec[4], Amy Vanko[4], Jacquelynn Cook[4], Donald S. Williams[4], Alexandre Coimbra[4]
[1]Informatics IT, Merck & Co., Inc, West Point, PA, United States; [2]Neurology, Merck & Co. Inc, West Point, PA; [3]Biometrics, Merck & Co. Inc; [4]Imaging, Merck & Co. Inc

2261. Microanatomical Correlates of Multi-Exponential T_2 & Quantitative MT in Pathological Rat Spinal White Matter
Kevin D. Harkins[1,2], William M. Valentine[3], Daniel F. Gochberg[1,2], Mark D. Does[1,4]
[1]Institute of Image Science, Vanderbilt University, Nashville, TN, United States; [2]Radiology & Radiological Sciences, Vanderbilt University, Nashville, TN, United States; [3]Pathology, Vanderbilt University; [4]Biomedical Engineering, Vanderbilt University, Nashville, TN, United States

2262. Early MRI-Visible Lesions in Plasmodium Berghei ANKA-Induced Cerebral Malaria
Raman Saggu[1], Dorothee Faille[2], Georges Grau[2], Patrick Cozzone[1], Angele Viola[1]
[1]Université de la Méditerranée-Faculté de Médecine, CRMBM UMR CNRS 6612, Marseille, France; [2]Department of Pathology, Sydney Medical School, The University of Sydney, Camperdown, Australia

2263. Preliminary Studies to Assess $CMRO_2$ with Integrated T_1 Rho MRI & Hybrid DRS/DCS Optical Approach in Clinical Scanners
Victor Babu Kassey[1], Wesley Baker[2], Rickson C. Mesquita[2], Erin Buckley Buckley[2], Joel H. Greenberg[3], Eric A. Mellon[1], Damodar C. Reddy[1], Arjun G. Yodth[2], John A. Detre[4], Mark A. Elliott[1], Ravinder Reddy[1]
[1]CMROI-Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States; [2]Department of Physics & Astronomy, University of Pennsylvania; [3]Department of Neurology, University of Pennsylvania; [4]Cerebrovascular Research Center, University of Pennsylvania, Philadelphia, United States

2264. Reduction in CSF Pulsatility with Altered Intracranial Compliance by Craniectomy in Communicating Hydrocephalus
Shams Rashid[1], James P. McAllister[2], Martin Schuhmann[3], Mark Wagshul[4]
[1]Biomedical Engineering, Stony Brook University, Stony Brook, NY, United States; [2]Primary Children's Medical Center, University of Utah, Salt Lake City, UT, United States; [3]Klinik für Neurochirurgie, Eberhard Karls Universität, Tübingen, Germany; [4]Gruss MRRC, Albert Einstein College of Medicine, Bronx, NY, United States

2265. Mri Analysis of Brain Lesions in a Novel Mouse Model of Multiple Sclerosis
Hilit Levy[1], Yaniv Assaf[1], Dan Frenkel[1]
[1]Neurobiology, Tel Aviv University, Tel Aviv, Israel

2266. Effects of Cortical Spreading Depression on Blood-Brain Barrier Permeability in a Mouse Model of Familiar Hemiplegic Migraine
Dana Suciu Poole[1], Johannes Rolf Sikkema[2], Reinald Shyti[3], Arnoldus M. van Den Maagdenberg[3], Helga Eveline de Vries[4], Louise van Der Weerd[2,5]
[1]Radiology, Leiden University Medical Centre, Leiden, Netherlands; [2]Radiology, Leiden University Medical Centre, Netherlands; [3]Human Genetics, Leiden University Medical Centre, Netherlands; [4]Molecular Cell Biology & Immunology, VU University Medical Centre, Amsterdam, Netherlands; [5]Anatomy & Embriology, Leiden University Medical Centre, Netherlands

2267. MRI Reveals Differences in Neuroanatomy of Mouse Models of NPC Disease
John Totenhagen[1], Eriko Yoshimaru[1], Ivan Borbon[2], Christy Howison[3], Robert Erickson[2], Theodore Trouard[1]
[1]Biomedical Engineering, University of Arizona, Tucson, AZ, United States; [2]Pediatrics, University of Arizona, Tucson, AZ, United States; [3]Arizona Research Laboratories, University of Arizona, Tucson, AZ, United States

2268. Reduction of Contralateral White Matter Volume After Experimental Focal Epilepsy & Hemispherectomy in Rats
Willem M. Otte[1,2], Kajo van Der Marel[2], Kees P. J. Braun[1], Rick M. Dijkhuizen[2]
[1]Rudolf Magnus Institute of Neuroscience, University Medical Center Utrecht, Utrecht, Netherlands; [2]Image Sciences Institute, University Medical Center Utrecht, Utrecht, Netherlands

2269. Long Term Observations on Status-Epilepticus Induced Neurodegeneration: A 7 Tesla MR Study in a Rat Model
Martin Meier[1], Jens P. Bankstahl[2], Marion Bankstahl[2], Xiao-Qi Ding[3]
[1]Small Animal Imaging Facility, Hannover Medical School, Hannover, Germany; [2]Institute for Pharmacology, Toxicology & Pharmacy, University of Veterinary Medicine, Hannover, Germany; [3]Institute of Diagnostic & Interventional Neuroradiology, Hannover Medical School, Hannover, Germany

2270. Metabolic & Morphological Characterization of the Mecp2-308 Truncated Mouse Model of Rett Syndrome: Effects of a Treatment Activating Rho GTPases
Rossella Canese[1], Bianca De Filippis[1], Carla Fiorentini[2], Alessia Fabbri[2], Paola Porcari[1], Laura Ricceri[1], Giovanni Laviola[1]
[1]Cell Biology & Neurosciences Dept., Istituto Superiore di Sanità, Rome, RM, Italy; [2]Therapeutic Research & Medicine Evaluation Dept., Istituto Superiore di Sanità, Rome, RM, Italy

2271. Molecular Imaging of Inflammation in a Cerebrovascular Aneurysm Model.
Alexei A. Bogdanov[1], Matthew J. Gounis, Ronn Walvick, Ajay K. Wakhloo
[1]Radiology, UMASS Medical School, Worcester, MA, United States

2272. Reduced Functional Connectivity in Normal Aging in Non-Human Primates
Alexandre Coimbra[1], Dai Feng[2], Marie Holahan[1], Jacquelynn Cook[1], Donald Williams[1], Richard Baumgartner[2]
[1]Imaging, Merck & Co, Inc, West Point, PA, United States; [2]Biometrics, Merck & Co, Inc, Rahway, NJ, United States

2273. Characterization of Lesions & Regional Brain Tissue of ArcAbeta Mice Based on Magnetic Susceptibility
Andreas Deistung[1], Jan Klohs[2], Ferdinand Schweser[1], Joanes Grandjean[2], Marco Dominietto[2], Conny Waschkies[2], Roger M. Nitsch[3], Markus Rudin[2,4], Jürgen R. Reichenbach[5]
[1]Medical Physics Group, Department of Diagnostic & Interventional Radiology I, Jena University Hospital , Jena, Germany; [2]Institute for Biomedical Engineering, ETH & University of Zürich, Switzerland; [3]Division of Psychiatry Research, University of Zürich, Switzerland; [4]Institute of Pharmacology & Toxicology, University of Zürich , Switzerland; [5]Medical Physics Group, Department of Diagnostic & Interventional Radiology I, Jena University Hospital, Jena, Germany

2274. Voxel-Based Morphometry Reveals Localised Cerebral Atrophy in a Mouse Lemur Model of Aging
Stephen John Sawiak[1,2], Marc Dhenain[3]
[1]Wolfson Brain Imaging Centre, University of Cambridge, Cambridge, England, United Kingdom; [2]Behavioural & Clinical Neurosciences Institute, University of Cambridge, Cambridge, United Kingdom; [3]MIRCen, I2BM Institute of Biomedical Imaging, Fontenay aux Roses, France

2275. Cortical Atrophy in Experimental Autoimmune Encephalomyelitis
Allan J. MacKenzie-Graham[1], Gilda A. Rinek[1], Stefan M. Gold[2], Andrew J. Frew[1], Cynthia Aguilar[3], David R. Lin[1], Elizabeth Umeda[1], Rhonda R. Voskuhl[1], Jeffry R. Alger[1]
[1]University of California, Los Angeles, Los Angeles, CA, United States; [2]Universität Hamburg, Hamburg, Germany; [3]Indiana University of Pennsylvania, Indiana, PA, United States

2276. Voxel-Based Morphometry using DARTEL in the Mouse Reveals Differential Impact of Early & Late Prenatal Inflammation on Adult Brain.
Charlton Cheung[1], Qi Li[2,3], Edward X. Wu[2,4], Grainne Mary McAlonan[5,6]
[1]Psychiatry, University of Hong Kong, Pokfulam, Hong Kong; [2]University of Hong Kong, Hong Kong; [3]Centre for Reproduction, Development and Growth; [4]4Laboratory of Biomedical Imaging and Signal Processing; [5]University of Hong Kong, Hong Kong, Hong Kong; [6]State Key Laboratory for Brain and Cognitive Sciences

2277. Axonal Damage Caused by Exposure of Axon Terminals to Amyloid Beta
David Carrick[1], Bruce Campbell[2], Hsiao-Fang Liang[3], Wei-Xing Shi[4], Shu-Wei Sun[5]
[1]Basic Science, School of Medicine, Loma Linda University, Loma Linda, CA, United States; [2]Clinical Laboratory Science, School of Allied Health, Loma Linda University, Loma Linda; [3]Biophysics & Bioengineering, Loma Linda University; [4]Pharmaceutical Sciences & Basic Sciences, Schools of Pharmacy & Medicine, Loma Linda University; [5]Biophysics & Bioengineering, Loma Linda University, Loma Linda, CA, United States

2278. Longitudinal MRI Study to Monitor Brain Changes of RTg4510 Mice Related Tauopathy Suppressed With/without Doxycycline
Dewen Yang[1], Zhiyong Xie[1], David Caouette[2], Carol Hicks[2], Anthony Millici[2], David Raunig[3]
[1]BioImaging COE, Pfizer Worldwide Research & Development, Groton, CT, United States; [2]Neuroscience RU; [3]Neuroscience Research Statistics

2279. Does Decompression Sickness Lead to Brain Injuries?
Marius Widerøe[1], Marianne Havnes[2], Andreas Møllerløkken[2], Alf Brubakk[2], Marte Thuen[2]
[1]Dep of Laboratory Medicine, Children's & Women's Health, Norwegian University of Science & Technology, Trondheim, Norway; [2]Dep of Circulation & Medical Imaging, Norwegian University of Science & Technology, Trondheim, Norway

2280. The Effect of the Ketogenic Diet on Neuroinflammation in an EAE Mouse Model of Multiple Sclerosis
Gregory H. Turner[1], Do-Young Kim[1], Junwei Hao[1], Ruolan Liu[1], Jong M. Rho[1], Fu-Dong Shi[1]
[1]Barrow Neurological Institute, Phoenix, AZ, United States

2281. *In Vivo* Pathological Mapping of the Rat Brain Infected with Angiostrongylus Cantonensis using MRI
Ling-Yuh Shyu[1], Hao-Hung Tsai[2,3], Shin-Tai Chong[2], Tzu-Hua Lee[2], Kwong-Chung Tung[4], Jun-Cheng Weng[2,3]
[1]Department of Parasitology, Chung Shan Medical University, Taichung, Taiwan; [2]School of Medical Imaging & Radiological Sciences, Chung Shan Medical University, Taichung, Taiwan; [3]Department of Medical Imaging, Chung Shan Medical University Hospital, Taichung, Taiwan; [4]Department of Veterinary Medicine, National Chung Hsing University, Taichung, Taiwan

2282. MRI Studies of Neuroprotection in a Mouse Model of Radiation Necrosis
Xiaoyu Jiang[1], John A. Engelbach, Dinesh K. Thotala[2], Robert E. Drzymala[2], Dennis E. Hallahan[2], Joel R. Garbow[3], Joseph J. H. Ackerman[3]
[1]Department of Chemistry, Washington University in St. louis, St. louis, MO, United States; [2]Department of Radiation Oncology, Washington University School of Medicine; [3]Department of Radiology, Washington University School of Medicine

2283. Anatomical Phenotyping of the PML Knockout Mouse
Benjamin Sinclair[1,2], Jon Cleary[2], Joanne Henderson[3], Marc Modat[1], Francesca Norris[2,4], Paolo Salomoni[3], Sebastien Ourselin[1], Mark Lythgoe[2]
[1]Centre for Medical Image Computing, UCL, London, United Kingdom; [2]Centre for Advanced Biomedical Imaging, UCL, London, United Kingdom; [3]UCL Cancer Institute, London, United Kingdom; [4]Centre for Mathematics & Physics in the Life Sciences & EXperimental Biology (CoMPLEX)

2284. Early Metabolic Changes in the Amyotrophic Lateral Sclerosis SOD1 Mouse Brain Are Revealed using ^{1}H MRS Rather Than CASL & ^{18}FDG PET
Hongxia Lei[1,2], Elisabeth Dirren[3], Carol Poitry-Yamate[1], Bernard L. Schneider[3], Patrick Aebischer[3], Rolf Gruetter[1,4]
[1]Laboratory of Functional & Metabolic Imaging, Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland; [2]Radiology, Univeristy of Lausanne, Lausanne, Switzerland; [3]Brain Mind Institute, Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland; [4]Radiology, University of Geneva, Geneva, Switzerland

2285. Rates of Change of ^{1}H & ^{31}P MRS Cerebral Metabolites Vs Lactate/NAA in the 48h Following Global Transient Global Hypoxia-Ischaemia in the Newborn Piglet
Nicola Jayne Robertson[1], Stuart Faulkner[1], Alan Bainbridge[2], Manigandan Chandrasekaran[1], Dorottya Kelen[1], Sudhin Thayyil[1], Ernest Cady[2], Xavier Golay[3], Gennadij Raivich[1]
[1]Institute for Women's Health, University College London, London, United Kingdom; [2]Medical Physics & Bioengineering, University College Hospitals, London, United Kingdom; [3]UCL Institute of Neurology, London, United Kingdom

2286. Acute Hypoglycemia Induces Increased Brain Lactate Uptake & Metabolism in Rats.
Henk M. De Feyter[1], Kevin L. Behar[2], Robin A. de Graaf, Douglas L. Rothman,[3]
[1]Diagnostic Radiology, Yale University, New Haven, CT, United States; [2]Department of Psychiatry, Yale University; [3]Department of Biomedical Engineering, Yale University

2287. Multiparametric MR Assays of Spinocerebellar Ataxia 17 Transgenic Mice
Chiao-Chi V. Chen[1,2], Zhi-Xuan Kuo[1,2], Hsiu-Mei Hsieh[3], Chen Chang[1,2]
[1]Institute of Biomedical Sciences, Academia Sinica, Taipei, Taiwan; [2]Functional & Micro-magnetic Resonance Imaging Center, Academic Sinica, Taipei, Taiwan; [3]Department of Life Science, National Taiwan Normal University, Taipei, Taiwan

2288. Longitudinal Study of Neurochemical Changes in Q_{140} Mouse Model of Huntington's Disease
Ivan Tkac[1], Lori Zacharoff[2], Janet M. Dubinsky[2]
[1]Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, MN, United States; [2]Department of Neuroscience, University of Minnesota

2289. Optimal Therapeutic Hypothermia Temperature Following Perinatal Asphyxia: A Magnetic Resonance Spectroscopy Biomarker & Immunohistochemistry Study in the Newborn Piglet.
Nicola Jayne Robertson[1], Stuart Faulkner[1], Manigandan Chandrasekaran[1], Alan Bainbridge[2], David Price[2], Dorottya Kelen[1], Aron Kerenyi[1], Sudhin Thayyil[1], Elizabeth Powell[1], Ernest Cady[2], Gennadij Raivich[1], Xavier Golay[3]

[1]Institute for Women's Health, University College London, London, United Kingdom; [2]Medical Physics & Bioengineering, University College Hospitals, London, United Kingdom; [3]UCL Institute of Neurology, London, United Kingdom

2290. Relation Between ^{1}H & ^{31}P MRS Biomarkers & Immunohistochemical Markers of Cell Death & Inflammation in a Perinatal Asphyxia Piglet Model

Nicola Jayne Robertson[1], Manigandan Chandrasekaran[1], Stuart Faulkner[1], Alan Bainbridge[2], Dorottya Kelen[1], Sudhin Thayyil[1], Ernest Cady[1], Xavier Golay[3], Gennadij Raivich[1]
[1]Institute for Women's Health, University College London, London, United Kingdom; [2]Medical Physics and Bioengineering, University College Hospitals, London, United Kingdom; [3]UCL Institute of Neurology, United Kingdom

2291. *In Vivo* 9.4T ^{1}H MRS for Evaluation of Brain Metabolic Changes in the Ts65Dn Mouse Model of Down Syndrom

Jean-Claude Beloeil[1], William Même[1], Nadir Yousfi[1], Patricia Lospez-Pereira[2], yann Hérault[2,3], Sandra Même[1]
[1]CBM CNRS UPR4301, Orléans, France; [2]TAAM CNRS UPS44, Orléans, France; [3]IGBMC, Strasbourg, France

2292. Non-Invasive Magnetic Resonance Spectroscopy Biomarkers of Oxidative Stress Following Traumatic Brain Injury

William Miles Brooks[1,2], Janna Harris, Hung-Wen Yeh[3], In-Young Choi[1], Sang-Pil Lee,[4]
[1]Hoglund Brain Imaging Center, University of Kansas, Kansas City, KS, United States; [2]Neurology, University of Kansas, Kansas City, KS, United States; [3]Biostatistics, University of Kansas, United States; [4]Molecular & Integrative Physiology, University of Kansas

2293. Effects of Nitrones in Rodent Glioma Models Assessed by ^{1}H MR Spectroscopy

Ting He[1], Sabrina Doblas[1], Debra Saunders[1], Rebba Casteel[1], Robert Floyd[2], Rheal Towner[1]
[1]Advanced Magnetic Resonance Center, Oklahoma Medical Research Foundation, Oklahoma City, OK, United States; [2]Experimental Thearapeutics, Oklahoma Medical Research Foundation, Oklahoma City, OK, United States

2294. Does the Warburg Effect Exist *In Vivo*? Analyzing Glucose Metabolism in FDG-PET-Positive Tumors by ^{13}C-NMR Spectroscopy

Isaac Marin-Valencia[1], Steve K. Cho[2], Levi B. Good[2], Michael Long[3], Xiankai Sun[3], Juan M. Pascual[2,4], Mark Jeffrey[3], Elizabeth A. Maher[5], Craig R. Malloy[3,5], Robert M. Bachoo[2], Ralph J. DeBerardinis[1]
[1]Pediatrics, UT Southwestern Medical Center, Dallas, TX, United States; [2]Neurology, UT Southwestern Medical Center, Dallas, TX, United States; [3]Radiology, UT Southwestern Medical Center, Dallas, TX, United States; [4]Physiology, UT Southwestern Medical Center, Dallas, TX, United States; [5]Internal Medicine, UT Southwestern Medical Center, Dallas, TX, United States

2295. Stress During Gestation & Exposure to an Indirect Cannabinoid Agonist During Adolescence Alter Brain Metabolism in Mice

Rossella Canese[1], Simone Macrì[1], Chiara Ceci[1], Emiliano Surrentino[1], Giovanni Laviola[1]
[1]Cell Biology & Neurosciences Dept., Istituto Superiore di Sanità, Rome, RM, Italy

2296. Alternative Pathways of Glucose Metabolism in a Mouse Model of Human Brain Tumors

Isaac Marin-Valencia[1], Steve K. Cho[2], Levi B. Good[2], Ashish Jindal[3], Juan M. Pascual[2,4], Ralph J. DeBerardinis[1], Robert M. Bachoo[2], Elizabeth A. Maher[5], Craig R. Malloy[3,6]
[1]Pediatrics, UT Southwestern Medical Center, Dallas, TX, United States; [2]Neurology, UT Southwestern Medical Center, Dallas, TX, United States; [3]Advanced Imaging Research Center, UT Southwestern Medical Center, Dallas, TX, United States; [4]Physiology, UT Southwestern Medical Center, Dallas, TX, United States; [5]Internal Medicine, UT Southwestern Medical Center, Dallas, TX, United States; [6]Radiology, UT Southwestern Medical Center, Dallas, TX, United States

2297. ASL-MRI Measurement of Cerebral Blood Flow Following Experimental Traumatic Brain Injury & the Role of Human Aβ

Lesley M. Foley[1], Eric E. Abrahamson[2], T. Kevin Hitchens[1,3], Chien Ho[1,3], William R. Paljug[2], John A. Melick[4], Patrick M. Kochanek[4,5], Milos D. Ikonomovic[2]
[1]Pittsburgh NMR Center for Biomedical Research, Carnegie Mellon University, Pittsburgh, PA, United States; [2]Department of Neurological Surgery, University of Pittsburgh School of Medicine, Pittsburgh, PA, United States; [3]Department of Biological Sciences, Carnegie Mellon University, Pittsburgh, PA, United States; [4]Safar Center for Resuscitation Research, University of Pittsburgh School of Medicine, Pittsburgh, PA, United States; [5]Departments of Critical Care Medicine, Pediatrics & Anesthesiology, University of Pittsburgh School of Medicine, Pittsburgh, PA, United States

2298. Increased Cerebrovascular Complications of Diabetic Mice-A Magnetic Resonance Imaging Study

Qiang Shen[1,2], Eric Muir[1], Edward S. Hui[1], Rene C. Renteria[3], Timothy Q. Duong[1,2]
[1]Research Imaging Institute, University of Texas Health Science Center at San Antonio, San Antonio, TX, United States; [2]Ophthalmology/Radiology, University of Texas Health Science Center at San Antonio, San Antonio, TX, United States; [3]Department of Physiology & Center for Biomedical Neuroscience, University of Texas Health Science Center at San Antonio, San Antonio, TX, United States

2299. Resting-State fMRI & Pharmacological MRI of Changing Dopaminergic Activity in the Developing Rat Brain

Kajo van Der Marel[1], Liesbeth Reneman[2], Rick M. Dijkhuizen[1]

[1]Image Sciences Institute, University Medical Center Utrecht, Utrecht, Netherlands; [2]Department of Radiology, Academical Medical Center, Amsterdam, Netherlands

2300. *In Vivo* Characterization of Developing Rabbit Brain with Diffusion Tensor MRI & Tractography
Yi-Wen Peng[1], Yong-Jheng Wun[2], Cheng-Hung Lai[1], Jun-Cheng Weng[2,3]
[1]Department of Veterinary Medicine, National Chung Hsing University, Taichung, Taiwan; [2]School of Medical Imaging & Radiological Sciences, Chung Shan Medical University, Taichung, Taiwan; [3]Department of Medical Imaging, Chung Shan Medical University Hospital, Taichung, Taiwan

2301. Diffusion Tensor Imaging for Evaluation of Radiation-Induced Developmental Abnormalities in the White Matter
Shigeyoshi Saito[1], Tsuneo Saga[1], Ichio Aoki[1]
[1]Molecular Imaging Center (MIC), National Institute of Radiological Sciences (NIRS), Chiba, Japan

2302. Diffusion Abnormality in Olfactory Bulbs of Type-I Diabetic Rats
Li feng Gao[1], Ming Ming Huang[1], Hao Lei[1]
[1]State Key Laboratory of Magnetic Resonance & Atomic & Molecular Physics, Wuhan Institute of Physics & Mathematics, the Chinese Academy of Science, Wuhan, China, People's Republic of

2303. Monitoring Myelination by Transplanted Oligodendrocyte Precursors in Dysmyelinated Mice with MT & DT Imaging
Piotr Walczak[1,2], Jiangyang Zhang[1], Galit Pelled[1,3], Segun Bernard[1,2], Shashikala Galpoththawela[1,2], James T. Campanelli[4], Jeff W. M. Bulte[1,2]
[1]Russel H. Morgan Department of Radiology & Radiological Science, Division of MR Research, Johns Hopkins University, Baltimore, MD, United States; [2]Cellular Imaging Section & Vascular Biology Program, Institute for Cell Engineering, Johns Hopkins University, Baltimore, MD, United States; [3]F. M. Kirby Research Center for Functional Brain Imaging , Kennedy Krieger Institute, Baltimore, MD, United States; [4]Q Therapeutics, Inc., Salt Lake City, UT, United States

2304. Mouse Embryo Phenotyping with Contrast-Enhanced Micro-Diffusion Tensor Imaging
Bernard M. Siow[1,2], Jon O. Cleary*[1,3], Nicholas D. Greene[4], Pankaj Daga[3], Marc Modat[2], Roger J. Ordidge[3], Sebastien Ourselin[2], Daniel Alexander[2], Mark F. Lythgoe[1]*
[1]Centre for Advanced Biomedical Imaging, Department of Medicine and Institute of Child Health, UCL, London, United Kingdom; [2]Centre for Medical Image Computing, UCL, London, United Kingdom; [3]Department of Medical Physics and Bioengineering, UCL, London, United Kingdom; [4]Neural Development Unit, Institute of Child Health, UCL, London, * Equal Contribution

2305. Using Structural MRI & DTI to Map Plastic Changes in the Mouse Brain Resulting from Deep Brain Stimulation
M. Mallar Chakravarty[1,2], Clement Hamani[3,4], Jacob Ellegood[1], Mustansir Diwan[3], Christine Laliberté[1], Jonathon Bishop[1], Jun Dazai[1], Brian J Nieman[1], Jose N Nobrega[3], R Mark Henkelman[1], Jason P Lerch[1]
[1]Mouse Imaging Centre (MICe), the Hospital for Sick Children, Toronto, Ontario, Canada; [2]Rotman Research Institute, Baycrest, Toronto, Ontario, Canada; [3]Neuroimaging Research Section, Centre for Addiction and Mental Health, Toronto, Ontario, Canada; [4]Division of Neurosurgery, Toronto Western Hospital, Toronto, Ontario, Canada

2306. Bilateral Enucleation Before & After the Critical Period for the Specification of Interhemispheric Axonal Connectivity Induces Similar Changes on White Matter Fractional Anisotropy
Christopher D. Kroenke[1], Jaime F. Olavarria[2], Andrew S. Bock[2], Erin N. Taber[1], Byung Park[1]
[1]Oregon Health & Science University, Portland, OR, United States; [2]University of Washington, Seattle, WA, United States

2307. Superoxide Dismutase Overexpression Improves FA & ADC in the Brains of a Mouse Model of Alzheimer's Disease
Brittany R. Bitner[1,2], Taeko Inoue[1], Lingyun Hu[1], Chi An Chiang[3], Robia G. Pautler[1,2]
[1]Molecular Physiology & Biophysics, Baylor College of Medicine, Houston, TX, United States; [2]Translational Biology & Molecular Medicine, Baylor College of Medicine, Houston, TX, United States; [3]Neuroscience, Baylor College of Medicine

2308. *In-Vivo* Mouse Brain DT-MRI: Assessment of Gender Specific Response to the Thyroid Hormone Remyelinating Treatment
Laura-Adela Harsan[1], Alexandru Parlog[1], Neele Hübner[1], Jürgen Hennig[1], Dominik von Elverfeldt[1]
[1]Department of Radiology, Medical Physics, University Hospital Center, Freiburg, Germany

2309. Correlation between DTI & Visual Evoked Potential in Mice with Optic Neuritis
Dan Xu[1], Hsiao-Fang Liang[2], Wei-Xing Shi, Shu-Wei Sun[3]
[1]Pharmaceutical Sciences & Basic Sciences, Schools of Pharmacy & Medicine, Loma Linda University, Loma Linda, CA, United States; [2]Biophysics & Bioengineering, Loma Linda University; [3]Biophysics & Bioengineering, Loma Linda University, Loma Linda, CA, United States

2310. α7 Nicotinic Receptor Mediation of CNS Inflammatory Response Examined by Magnetic Resonance Imaging & Bioluminescence Imaging

Gregory H. Turner[1], Junwei Hao[2,3], Alain R. Simard[4], Jie Wu[2], Paul Whiteaker[4], Ronald J. Lukas[4], Fu-Dong Shi[2]
[1]Neuroimaging Research, Barrow Neurological Institute, Phoenix, AZ, United States; [2]Neurology, Barrow Neurological Institute, Phoenix, AZ, United States; [3]School of Medicine, Nankai University, Tianjin, China, People's Republic of; [4]Neurobiology, Barrow Neurological Institute, Phoenix, AZ, United States

2311. The Evolution of Traumatic Brain Injury in a Rat Model: Implications for Cell Tracking with MRI
L. Christine Turtzo[1,2], Matthew D. Budde[1,2], Eric M. Gold[1,2], Bobbi K. Lewis[1], Lindsay E. Janes[1,2], William D. Watson[2,3], Joseph A. Frank[1,2]
[1]Laboratory of Diagnostic Radiology Research, National Institutes of Health, Bethesda, MD, United States; [2]Center for Neuroscience & Regenerative Medicine, Uniformed Services University of the Health Sciences, Bethesda, MD, United States; [3]Neurology, Uniformed Services University of the Health Sciences, Bethesda, MD, United States

2312. Tracking of Neuroprogenitor Cells in Association with Traumatic Brain Injury
Jens Rosenberg[1,2], Ali Darkazalli[3], Cathy W. Levenson[3], Samuel Colles Grant[1,2]
[1]National High Magnetic Field Laboratory, The Florida State University, Tallahassee, FL, United States; [2]Chemical & Biomedical Engineering, The Florida State University, Tallahassee, FL, United States; [3]Biomedical Sciences, The Florida State University, Tallahassee, FL, United States

2313. Use of Endothelial Progenitor Cells as Gene Carrier & Multimodal Imaging Probes
Nadimpalli R. S. Varma[1], Asm Iskander[1], Adarsh Shankar[1], Branislava Janic[1], Kenneth Barton[2], Meser M. Ali[1], Hamid Soltanian-Zadeh[1], Quan Jiang[3], Ali Syed Arbab[1]
[1]Radiology, Henry Ford Hospital, Detroit, MI, United States; [2]Radiation Oncology, Henry Ford Hospital, Detroit, MI, United States; [3]Neurology, Henry Ford Hospital, Detroit, MI, United States

2314. Image-Guided Stereotactic Biopsy System for Small Animal Experiments
Jonathan Douglas Plasencia[1], Kevin M. Bennett[1], Gregory H. Turner[2,3], Leland S. Hu[4], David H. Frakes[1,5]
[1]School of Biological & Health Systems Engineering, Arizona State University, Tempe, AZ, United States; [2]Keller Center for Imaging Innovation, Phoenix, AZ, United States; [3]Barrow Neurological Institute, Phoenix, AZ, United States; [4]Department of Radiology, Mayo Clinic Arizona, Phoenix, AZ, United States; [5]School of Electrical, Computer & Energy Engineering, Arizona State University, Tempe, AZ, United States

Clinical Application of Diffusion Tensor Imaging

Exhibition Hall Monday 14:00-16:00

2315. Voxel Based Analysis of Motor Neurone Disease using Apparent Fibre Density
David Raffelt[1,2], Stephen Rose[3], J.-Donald Tournier[4,5], Robert Henderson[6], Stuart Crozier[2], Olivier Salvado[1], Alan Connelly[4,5]
[1]The Australian E-Health Research Centre, CSIRO, Brisbane, QLD, Australia; [2]Biomedical Engineering, School of ITEE, University of Queensland, Brisbane, QLD, Australia; [3]Centre for Advanced Imaging, University of Queensland, Brisbane, QLD, Australia; [4]Brain Research Institute, Florey Neuroscience Institutes (Austin), Melbourne, VIC, Australia; [5]Department of Medicine, University of Melbourne, Melbourne, VIC, Australia; [6]Department of Neurology, Royal Brisbane & Women's Hospital, Brisbane, QLD, Australia

2316. White Matter Differences between Bilinguals & Monolinguals Revealed by Diffusion Tensor Imaging (DTI)
Seyede Ghazal Mohades[1,2], Esli Struys[1], Robert Luypaert[2]
[1]VUB, Brussels, Belgium; [2]MRI, UZ Brussel, Brussels, Belgium

2317. A Diffusion Spectrum Tractography Study on Fiber Integrity of Fornix & Correlation with Clinical Symptoms in Schizophrenia
Jhih-Wei He[1], C-M Liu[2], H-G Hwu[2], C-C Liu[2], F-H Lin[3], W-Y I Tseng[4]
[1]Institute of Biomedical Engineering, National Taiwan University , Taipei , Taiwan; [2]Department of Psychiatry, National Taiwan University Hospital, Taipei, Taiwan; [3]Institute of Biomedical engineering, National Taiwan University, Taipei, Taiwan; [4]Center for Optoelectronic Biomedicine, National Taiwan University College of Medicine, Taipei, Taiwan

2318. Temporal Behavior of Diffusion Tensor Properties in *Ex Vivo* Human Brain Hemispheres
Robert J. Dawe[1], Julie A. Schneider[2], David A. Bennett[2], Konstantinos Arfanakis[1,2]
[1]Department of Biomedical Engineering, Illinois Institute of Technology, Chicago, IL, United States; [2]Rush Alzheimer's Disease Center, Rush University Medical Center, Chicago, IL, United States

2319. Abnormalities in the Microstructure of the Fronto-Striatal Fiber Pathways in Children with Attention-Deficit/Hyperactivity Disorder: Preliminary Results using Diffusion Spectrum Imaging Tractography
Yi-Huan Wu[1], Yu-Chun Lo[2], Shur-Fen Susan Gau[3], Wen-Yih Isaac Tseng[4,5]
[1]School of Medicine, National Taiwan University College of Medicine, Taipei, Taiwan; [2]Institute of Biomedical Engineering, National Taiwan University, Taipei, Taiwan; [3]Department of Psychiatry, National Taiwan University Hospital & College of Medicine, Taipei, Taiwan; [4]Department of Medical Imaging, National Taiwan University Hospital, Taipei, Taiwan; [5]Center for Optoelectronic Biomedicine, National Taiwan University College of Medicine, Taipei, Taiwan

2320. Evidence for Structural Abnormality in the Optic Radiations in Children with Optic Nerve Hypoplasia
Say Ayala-Soriano[1], Emma Webb[2], Kiran Seunarine[3], Ruth Lions[4], Tessa Mellow[4], Michelle O'Reilly[5], Wk Chong[6], Mehul Dattani[7], Alki Liasis[4], C. A. Clark[3]
[1]Imaging & Physics, Institute of Child health,Department of Neurosurgery, Great Ormond Street Hospital , London, UK, United Kingdom; [2]Imaging & Physics,Institute of Child Health, United Kingdom; [3]Imaging & Physics, Institute of Child Health, London, United Kingdom; [4]Opthalmology, Great Ormond Street Hospital, London, United Kingdom; [5]Neurosciences, Institute of Child Health, London, United Kingdom; [6]Neuroradiology, Great Ormond Street Hospital, London, United Kingdom; [7]Endocrinology, Great Ormond Street Hospital, London, United Kingdom

2321. Investigating the Relationship between the Disruption of Primary Sensorimotor Pathways & Hand Function in Congenital Hemiplegia: An MRI Structural Connectivity Study
Stephen Rose[1], Kerstin Pannek[1], Andrea Guzzetta[2], Roslyn Boyd[3]
[1]Centre for Clinical Research, University of Queensland, Brisbane, Queensland, Australia; [2]Department of Developmental Neuroscience, Stella Maris Scientific Institute, Pisa, Italy; [3]Queensland Cerebral Palsy & Rehabilitation Research Centre, University of Queensland, Brisbane, Queensland, Australia

2322. Identification & Interpretation of Microstructural Abnormalities in Motor Pathways in Adolescents Born Preterm
Samuel Groeschel[1], J.-Donald Tournier[2], Gemma Northam[3], Torsten Baldeweg[3], John Wyatt[4], Brigitte Vollmer[5,6], Alan Connelly[2]
[1]Experimental Pediatric Neuroimaging & Developmental Medicine & Child Neurology, University Children's Hospital, Tuebingen, Germany; [2]Brain Research Institute, Melbourne, Australia; [3]UCL Institute of Child Health, London, United Kingdom; [4]UCL Hospitals, London, United Kingdom; [5]Karolinska Institute, Stockholm, Sweden; [6]University of Southampton, United Kingdom

2323. Robust Subdivision of the Thalamus in Children Based on Probability-Distribution-Functions Calculated from Probabilistic Tractography.
Philip Julian Broser[1], Faraneh Vargha-Khadem[2], Chris A. Clark[1]
[1]Imaging & Biophysics Unit, UCL Institute of Child Health, London, United Kingdom; [2]Developmental Cognitive Neuroscience Unit,, UCL Institute of Child Health

2324. Structural Plasticity in Stroke Inferred by Probabilistic Tractography & MEG
Monica Bucci[1], Kelly Westlake[1], Christopher Nguyen[1], Bagrat Amirbekian[1], Srikantan Nagarajan[1], Roland G. Henry[1]
[1]Department of Radiology & Biomedical Imaging, UCSF, San Francisco, CA, United States

2325. Diffusion Tensor Metrics Changes in the White Matter of Systemic Lupus Erythematosus Patients
Maria Luisa Mandelli[1], Monica Bucci[1], Eduardo Caverzasi[1], Mehul Sampat[1], Grace Yoon[2], Patricia P. Katz[2], Laura Julian[2], Roland G. Henry[1]
[1]Department of Radiology & Biomedical Imaging, UCSF, San Francisco, CA, United States; [2]Department of Medicine, UCSF, San Francisco, CA, United States

2326. Role of Diffusion-Tensor Imaging in Post-Cardiac Arrest Patients Still Comatose 3-Days Post-Resuscitation
Ona Wu[1], Leonardo M. Batista[2], Thomas Benner[1], A. Gregory Sorensen[1], Karen L. Furie[2], David M. Greer[2,3]
[1]Athinoula A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Charlestown, MA, United States; [2]Department of Neurology, Massachusetts General Hospital, Boston, MA, United States; [3]Department of Neurology, Yale University, New Haven, CT, United States

2327. Evaluation of Fractional Anisotropy & Apparent Diffusion Coefficient of Broca's Area in Parkinson's Disease using Diffusion Tensor Imaging
Jung-Hoon Lee[1,2], Sang-Young Kim[1], Kyung-Bae Lee[1,2], Do-Wan Lee[1], Youn-Bong Choi[2], Bo-Young Choe[1]
[1]Department of Biomedical Engineering, The Catholic University of Korea, Seoul, Korea, Republic of; [2]Department of Radiology, Kyunghee University Medical Center, Seoul, Korea, Republic of

2328. Diffusion Tensor Imaging of Normal & Pathological Human Optic Nerves using 2D Ss-IVIM-DWEPI & a Custom Designed 20-Channel Phase Array Coil at 3T System.
Seong-Eun Kim[1], John Rose[2], Ji Kang Park[3], Eun-Kee Jeong[1], John Rock Hadley[1], Emilee S. Minalga[1], Dennis L. Parker[1]
[1]Utah Center for Advanced Imaging Research, Department of Radiology, University of Utah, Salt Lake City, UT, United States; [2]Department of Neurology, University of Utah; [3]Department of Radiology, Jeju National University Hospital, Jeju, Korea, Republic of

2329. Structural Brain Differences between Patients with Non Hepatic Liver Cirrhosis & HCV-Patients Without Liver Cirrhosis
Peter Raab[1], Kathrin S. Blum[1], Anita B. Tryc[2], Annemarie Goldbecker[2], Ali Tabesh[3], Heinrich Lanfermann[1], Karin Weißenborn[2]
[1]Neuroradiology, Hannover Medical School, Hannover, Germany; [2]Neurology, Hannover Medical School, Hannover, Germany; [3]Radiology, New York University, New York, United States

2330. Anatomical Organization of the Blind's Brain: Combined VBM & DTI Analysis
Zhi Wang[1], William FC Baar[2,3], Ron Kupers[2], Tim Dyrby[2], Olaf Paulson[2], Min Chen[1], Cheng Zhou[1], Maurice Ptito[2]
[1]Radiology, Beijing Hospital, Beijing, China, People's Republic of; [2]Danish Research Centre for Magnetic Resonance, Copenhagen University Hospital, Hvidovre, Denmark; [3]Center for Integrated Molecular Brain Imaging , Copenhagen, Denmark

2331. White Matter Network Abnormalities Are Associated with Cognitive Decline in Chronic Epilepsy
Maarten Vaessen[1,2], Jacobus Jansen[1,2], Marielle Vlooswijk[3], Paul Hofman[1,2], Marian Majoie[3,4], Albert Aldenkamp[2,4], Walter Backes[1,2]
[1]Radiology, Maastricht University Medical Centre, Maastricht, Netherlands; [2]School for Mental Health & Neurosciences, Maastricht University, Maastricht, Netherlands; [3]Neurology, Maastricht University Medical Centre, Maastricht, Netherlands; [4]Epilepsy Centre Kempenhaeghe, Heeze, Netherlands

2332. Diagnostic Prediction of Language Impairment in Autism Spectrum Disorder using Joint MEG - DTI Classification
Madhura Ingalhalikar[1], Drew Parker[1], Timothy P. L. Roberts[2], Ragini Verma[1]
[1]Section of Biomedical Image Analysis, Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States; [2]Lurie Family Foundations MEG Imaging Center, Childerns Hospital of Philadelphia, Philadelphia, PA

2333. Fiber Tracking of the Arcuate Fasciculus in Autism using High Angular Resolution Diffusion Imaging
Harini Eavani[1,2], Luke Bloy[2,3], John Herrington[1], Timothy L. Roberts[4], Robert T. Schultz[1], Ragini Verma[2]
[1]Center for Autism Research, Children's Hospital of Philadelphia, Philadelphia, PA, United States; [2]Section of Biomedical Image Analysis, Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States; [3]Department of Bioengineering, University of Pennsylvania; [4]Lurie Family Foundations MEG Imaging Center

2334. HARDI Fiber Tracking is Necessary to Delineate the Auditory Radiation
Jeffrey I. Berman[1,2], Timothy P. L. Roberts[1,2]
[1]Radiology, Children's Hospital of Philadelphia, Philadelphia, PA, United States; [2]Radiology, University of Pennsylvania, Philadelphia, PA, United States

2335. Spatial Analysis of Diffusion Tensor Tractography Depicts Local White Matter Changes
Johanna Mårtensson[1,2], Markus Nilsson[2], Christina Elfgren[3], Maria Landqvist[3], Freddy Ståhlberg[2,4], Christer Nilsson[3], Danielle van Westen[1,4], Jimmy Lätt[1]
[1]Center for Medical Imaging & Physiology, Lund University Hospital, Lund, Skane, Sweden; [2]Department of Medical Radiation Physics, Lund University Hospital, Lund, Skane, Sweden; [3]Geriatric Psychiatry, Department of Clinical Sciences, Lund University Hospital, Lund, Skane, Sweden; [4]Department of Diagnostic Radiology, Lund University Hospital, Lund, Skane, Sweden

2336. Traumatic Brain Injury: Abnormal Fractional Anisotropy in the Corpus Callosum & Its Association with Injury Severity.
Cheuk Ying Tang[1,2], Emily Lauren Eaves[1], Kristen Dams-O'Connor[3], Lap Ho[4], David Carpenter[1], Johnny Ng[1], Wayne Gordon[3], Giulio M. Pasinetti[4,5]
[1]Radiology, Mount Sinai School of Medicine, New York, United States; [2]Psychiatry, Mount Sinai School of Medicine, New York, United States; [3]Rehabilitation Medicine, Mount Sinai School of Medicine, New York, United States; [4]Neurology, Mount Sinai School of Medicine, New York, United States; [5]Psychiatry, Mount Sinai School of Medicine, New York , United States

2337. A Diffusion Spectrum Imaging Study on Mirror Neuron System in Schizophrenia
Chieh-En Jane Tseng[1], Wei-An Wang[1], Yu-Chun Arica Lo[2], Yi-Huan Markus Wu[3], Chih-Min Liu[4], Hai-Gwo Hwu[4], Wen-Yih Isaac Tseng[3,5]
[1]Biomedical Imaging & Radiological Sciences, National Yang-Ming University, Taipei, Taiwan; [2]Institute of Biomedical Engineering, National Taiwan University, Taipei, Taiwan; [3]Center for Optoelectronic Biomedicine, National Taiwan University College of Medicine, Taipei, Taiwan; [4]Department of Psychiatry, National Taiwan University Hospital, Taipei, Taiwan; [5]Department of Medical Imaging, National Taiwan University Hospital, Taipei, Taiwan

2338. Changes in Correlations of Regional Visual Cortical Thickness with Optic Radiation Tract in Anisometropic Amblyopia
Shun Qi[1], Hong Yin[2], Feng Yun Mu, Yi Huan
[1]Xijin Hospital,The Fourth Military Medical University, Xi'an, Shaanxi, China, People's Republic of; [2]Xijing Hospital, China, People's Republic of

2339. fMRI & Diffusion Tensor Imaging Biomarkers for Assessing Optic Pathway Structure & Function in Patients with Pituitary Tumours
Andrew David Nichols[1], Brad Moffat[2], Helen Danesh-Meyer[3], Andrew H. Kaye[4]
[1]Department of Surgery RMH/WH, the University of Melbourne, Parkville, Victoria, Australia; [2]Radiology, University of Melbourne, Parkville, Victoria, Australia; [3]Ophthalmology, University of Auckland, Auckland, New Zealand; [4]Department of Surgery (RMH/WH), The University of Melbourne, Parkville, Victoria, Australia

2340. Diffusion Abnormalities Detected by Tract-Based Spatial Statistics in Children with Sickle Cell Disease
Richard Alan Jones[1], Binjian Sun[1], Robert Clark Brown[2], Laura Hayes[1]

[1]Radiology, CHOA, Atlanta, GA, United States; [2]Hematology, CHOA, Atlanta, GA, United States

2341. White Matter Alterations in Euthymic Bipolar I Disorder, a DTI Voxel-Based Analysis
Louise Emsell[1,2], Wim Van Hecke[3,4], Camilla Langan[1], Gareth Barker[5], Alexander Leemans[6], Stefan Sunaert[3], Peter McCarthy[1], Rachel Skinner[1], Dara M. Cannon[1], Colm McDonald[1]
[1]NUI Galway, Galway, Co. Galway, Ireland; [2]Developmental & Functional Brain Imaging, Murdoch Children's Research Institute, Melbourne, Victoria, Australia; [3]Dept of Radiology, University Hospital Leuven, Belgium; [4]University of Antwerp, Belgium; [5]Institute of Psychiatry, London, United Kingdom; [6]Imaging Sciences Institute, University Medical Center Utrecht, Utrecht, Netherlands

2342. Quality Assessment in a DTI Multicenter Study
Amritha Nayak[1], Lindsay Walker[1], Carlo Pierpaoli[1], The Brain Development Cooperative Group[2]
[1]NICHD, National Institutes of Health, Bethesda, MD, United States; [2]www.NIH-PediatricMRI.org

2343. Probabilistic Tractography Algorithms for Tracking the Optic Radiation (OR): Are They Ready for the Neurosurgeon?
Bradford A. Moffat[1], Jeremy Lim[1], Pramit Phal[1], Christopher Kokkinos[1], Patricia M. Desmond[1]
[1]Radiology, University of Melbourne, Parkville, VIC, Australia

2344. MEG-Guided Diffusion Kurtosis Imaging in Patients with Refractory Epilepsy
Samuel Lapere[1], Evelien Carrette[2], Paul Boon[3], Kristl Vonck[3], Xavier De Tiège[4], Els Fieremans[5], Ali Tabesh[5], Eric Achten[1], Karel Deblaere[1]
[1]Department of Radiology, Ghent University Hospital, Ghent, Belgium; [2]Reference Centre for Refractory Epilepsy , Department of Neurology, Ghent University Hospital, Ghent, Belgium; [3]Reference Centre for Refractory Epilepsy, Department of Neurology, Ghent University Hospital, Ghent, Belgium; [4]Laboratoire de Cartographie Fonctionnelle du Cerveau, ULB-Hôpital Erasme, Brussels, Belgium; [5]Center for Biomedical Imaging, Department of Radiology, New York University School of Medicine, New York, NY 10016, United States

2345. Probabilistic Tractography in Patients with Recurrent Malignant Gliomas
Patricia E. Litkowski[1], Victor Liu[1], Kyung Peck[2], Zhigang Zhang[3], Kathryn Beal[4], Robert J. Young[1]
[1]Radiology, Memorial Sloan-Kettering Cancer Center, New York, United States; [2]Medical Physics, Memorial Sloan-Kettering Cancer Center, New York, United States; [3]Epidemiology & Biostatistics, Memorial Sloan-Kettering Cancer Center, New York, United States; [4]Radiation Oncology, Memorial Sloan-Kettering Cancer Center, New York, United States

2346. Abnormal White Matter Integrity in Adolescent Students with Internet Addiction Disorder Revealed by Tract-Based Spatial Statistics
Fuchun Lin[1], Yan Zhou[2], Yasong Du[3], Lindi Qin[2], Zhimin Zhao[3], Jianrong Xu[2], Hao Lei[1]
[1]State Key Laboratory of Magnetic Resonance & Atomic and Molecular Physics, Wuhan Institute of Physics & Mathematics, Chinese Academy of Sciences, Wuhan, Hubei, China, People's Republic of; [2]Department of Radiology, RenJi Hospital, Jiao Tong University Medical School, Shanghai, China, People's Republic of; [3]Department of Child & Adolescent Psychiatry, Shanghai Mental Health Center, Jiao Tong University, Shanghai, China, People's Republic of

2347. Altered Integrity & Asymmetry of Association White Matter Tracts in Epilepsy with Mesial Temporal Sclerosis: Preliminary Results using Diffusion Spectrum Imaging
Y-C. Shih[1], H-H. Liou[2], K-C. Chu[3], P-Y. Chen[4], W-M. Huang[5], F-H. Lin[1], W-Y. I. Tseng[6,7]
[1]Institute of Biomedical Engineering, National Taiwan University, Taipei, Taiwan; [2]Department of Neurology, National Taiwan University Hospital, Taipei, Taiwan; [3]Graduate Institute of Electrical Engineering, National Taiwan University, Taipei, Taiwan; [4]Department of Medical Imaging, National Taiwan University Hospital, Taipei, Taiwan; [5]Graduate Institute of Pharmacology, National Taiwan University College of Medicine, Taipei, Taiwan; [6]Center for Optoelectronic Biomedicine, National Taiwan University College of Medicine, Taipei, Taiwan; [7]Department of Medical Imaging, National Taiwan University Hospital, Taipei, Taiwan

2348. Diffusion Abnormalities in Young Drug Naive ADHD Children
Manzar Ashtari[1], Carolyn Mcilree[2], Melissa Naraine[3], Laura Cyckowski, Ruth Milanaik[3], Li Kan[3], Jeffrey Newcorn[4], Josephine Elia[1], Andrew Adesman[3]
[1]Children's Hospital of Philadelphia, Philadelphia, PA, United States; [2]University of Vermont Medical School; [3]North Shore LIJ Health Systems; [4]Mount Sinai School of Medicine

2349. Validation of Reduced Fractional Anisotropy Measures in the Substantia Nigra of Parkinson's Patients using DAT Imaging
Lorna Harper[1,2], Edward Newman[1,2], Donald Hadley[1,2], Donald Grosset[1,2]
[1]University of Glasgow, Glasgow, Scotland, United Kingdom; [2]Institute of Neurological Sciences, Glasgow, Scotland, United Kingdom

2350. Brain White Matter Abnormalities in Paediatric Gaucher Type I & Type III using Diffusion Tensor Imaging
Elin Haf Davies[1], Kiran Seunarine[2], Ashok Vellodi[3], Tina Banks, Chris A. Clark[2]

[1]Metabolics, Institute of Child Health, London, United Kingdom; [2]Neuroimaging & Biophysics, Institute of Child Health, London, United Kingdom; [3]Metabolic, Great Ormond Street Hospital for Children NHS Trust, London, United Kingdom

2351. Longitudinal Tract Atrophy in Normal Aging & Alzheimer's Disease Measured using Probabilistic Tractography
Hojjatollah Azadbakht[1], David M. Morris[1], Hamied A. Haroon[1], Brandon Whitcher[2], Julie Snowden[3], Geoff J. Parker[1]
[1]Imaging Science & Biomedical Engineering, School of Cancer & Imaging Sciences, University of Manchester, Manchester, United Kingdom; [2]Clinical Imaging Centre, GlaxoSmithKline, London, United Kingdom; [3]Greater Manchester Neuroscience Centre, Salford Royal Foundation Trust, Manchester, United Kingdom

2352. Robust Detection of White Matter Injury in Individual Patients After Mild Traumatic Brain Injury
Namhee Kim[1], Miriam Hulkower[1], Young Park[1], Tova Gardin[1], Jeremy Smith[1], Craig Branch[1], Michael Lipton[1,2]
[1]Gruss Magnetic Resonance Research Center, Department of Radiology, Albert Einstein College of Medicine, Bronx, NY, United States; [2]Departments of Psychiatry & Behavioral Sciences, The Dominick P. Purpura Department of Neuroscience, Albert Einstein College of Medicine, Bronx, NY, United States

2353. Diffusion Tensor Imaging Detects Axonal Degeneration & Its Extent is Associated with Disability in Chronic Spinal Cord Injury
Torben Schneider[1], Zoltan Nagy[2], Claudia A. M. Wheeler-Kingshott[1], Alan J. Thomson[3], Patrick Freund[2,3]
[1]Department of Neuroinflammation, UCL Institute of Neurology, London, United Kingdom; [2]Wellcome Trust Centre for Neuroimaging, UCL Institute of Neurology, London, United Kingdom; [3]Department of Brain Repair & Rehabilitation, UCL Institute of Neurology, London, United Kingdom

2354. Parahippocampal & Thalamic Diffusion Abnormalities Correlate with Disease Duration in Temporal Lobe Epilepsy with Unknown Cause
Simon Sean Keller[1], Tobias Ahrens[1], Siawoosh Mohammadi[2], Gabriel Möddel[1], Harald Kugel[3], Bernd Weber[4], E. Bernd Ringelstein[1], Michael Deppe[1]
[1]Department of Neurology, University of Münster, Münster, Germany; [2]Wellcome Trust Centre for Neuroimaging, University College London, United Kingdom; [3]Department of Radiology, University of Münster, Münster, Germany; [4]Department of Epileptology, University of Bonn, Germany

2355. Cluster-Based Statistics Along White Matter Tracts
Demian Wassermann[1], Peter Savadjiev[1], Yogesh Rathi[1], Sylvain Bouix[1], Marek Kubicki[1], Ron Kikinis[1], Martha Shenton[1], Carl-Fredrik Westin[1]
[1]Brigham & Women's Hospital & Harvard Medical School, Boston, MA, United States

High Resolution Brain Imaging

Exhibition Hall Tuesday 13:30-15:30

2356. Quantitative Reliability for Extremely Rapid Structural Data Acquisition Across Time, Scanners & Software Upgrade
Ross William Mair[1,2], Thomas Benner[2], Bruce Fischl[2,3], Betsy Hemphill[1,2], Marisa Hollinshead[1,2], Andre J. W. van Der Kouwe[2], Randy L. Buckner[1,2]
[1]Center for Brain Science, Harvard University, Cambridge, MA, United States; [2]Martinos Center for Biomedical Imaging, Department of Radiology, Massachusetts General Hospital, Charlestown, MA, United States; [3]Computer Science & Artificial Intelligence Laboratory, Massachusetts Institute of Technology, Cambridge, MA, United States

2357. High Resolution fMRI for Finger Somatotopic Mapping at 3T using a Novel Vibrotactile Stimulator
Hsiao-Ying Wey[1,2], Sunil K. Valaparla[1,2], Timothy Q. Duong[1,2]
[1]Research Imaging Institute, University of Texas Health Science Center at San Antonio, San Antonio, TX, United States; [2]Radiology, University of Texas Health Science Center at San Antonio, San Antonio, TX, United States

2358. Rapid Acquisition of Targeted High Resolution Human Brain Images using a Combined SENSE, Inner Volume Imaging & Multi-Shot EPI Spin Echo Sequence at 7T
Christopher Joseph Wargo[1,2], John Christopher Gore[1,2]
[1]Vanderbilt University Institute of Imaging Science, Nashville, TN, United States; [2]Department of Biomedical Engineering, Vanderbilt University, Nashville, TN, United States

2359. Semi-Automated *In-Vivo* Segmentation of Visual Area V_1 Based on Structural 7 Tesla MRI
Marcel Weiss[1], Gabriele Lohmann[1], Gerik Scheuermann[2], Robert Turner[1]
[1]Max Planck Institute for Human Cognitive & Brain Sciences, Leipzig, Saxony, Germany; [2]Institute of Computer Science, University of Leipzig

2360. Quantitative T_1 Mapping at 7 Tesla Identifies Primary Functional Areas in the Living Human Brain
Marcel Weiss[1], Stefan Geyer[1], Gabriele Lohmann[1], Robert Trampel[1], Robert Turner[1]

[1]Max Planck Institute for Human Cognitive & Brain Sciences, Leipzig, Saxony, Germany

2361. Achieving Heightened Contrast in Magnitude, Phase & Susceptibility-Weighted Brain Images at 7T
Wei Bian[1,2], Kathryn Hammond Rosenbluth[3], Sarah J. Nelson[2,4], Janine M. Lupo[2]
[1]Joint Graduate Program in BioEngineering at UCSF & UCB, University of California San Francisco, San Francisco, CA, United States; [2]Department of Radiology & Biomedical Imaging, University of California San Francisco, San Francisco, CA, United States; [3]Department of Neurological Surgery, University of California San Francisco, San Francisco, CA, United States; [4]Department of BioEngineering & Therapeutic Sciences, University of California San Francisco, San Francisco, CA, United States

2362. *In Vivo* Human Brain T_2* Mapping using 3D High Resolution Multiple Echo Susceptibility-Weighted Imaging at 7.0T
Zhongwei Zhang[1], Jens H. Jensen[1], Lin Tang[1], Yudong Zhu[1], Yulin Ge[1]
[1]Department of Radiology, New York University School of Medicine, New York, NY, United States

2363. High Resolution Quantitative Susceptibility Mapping at 9.4T
Andreas Deistung[1], Juliane Budde[2], Ferdinand Schweser[3], Jens Hoffmann[2], Rolf Pohmann[2], Jürgen R. Reichenbach[3]
[1]Medical Physics Group, Department of Diagnostic & Interventional Radiology I, Jena University Hospital , Jena, Germany; [2]Max Planck Institute for Biological Cybernetics, Tübingen, Germany; [3]Medical Physics Group, Department of Diagnostic & Interventional Radiology I, Jena University Hospital, Jena, Germany

2364. Ultra-Fast Acquisition of High-Resolution Susceptibility-Weighted-Imaging at 3T
Pascal Sati[1], David M. Thomasson[2], Nadia M. Biassou[2], Daniel Salo Reich[1,2], John A. Butman[2]
[1]Translational Neuroradiology Unit , Neuroimmunology Branch, NINDS, National Institutes of Health, Bethesda, MD, United States; [2]Radiology & Imaging Sciences, Department of Diagnostic Radiology, Clinical Center, National Institutes of Health, Bethesda, MD, United States

2365. *In-Vivo* Visualization of the Human Basal Ganglia Structure & Connectivity using High Resolution 7T MRI
Christophe Lenglet[1], Aviva Abosch[2], Essa Yacoub[1], Guillermo Sapiro[3], Noam Harel[1]
[1]Department of Radiology - CMRR, University of Minnesota Medical School, Minneapolis, MN, United States; [2]Department of Neurosurgery, University of Minnesota Medical School, Minneapolis, MN; [3]Department of Electrical & Computer Engineering, University of Minnesota, Minneapolis, MN, United States

2366. The Anatomy of Human Substantia Nigra Based on *In Vivo* & Post Mortem Magnetic Resonance Data & Susceptibility Mapping
Anna Izabella Blazejewska[1], Samuel Wharton[1], Alain Pitoit[2], Ashley Kempf[1], Stefan Schwarz[3], James Lowe[4], Dorothee P. Auer[3], Richard Bowtell[1], Penny A. Gowland[1]
[1]Sir Peter Mansfield Magnetic Resonance Centre, University of Nottingham, Nottingham, United Kingdom; [2]School of Psychology, University of Nottingham; [3]Division of Academic Radiology, University of Nottingham; [4]Division of Pathology, Nottingham University Hospitals NHS Trust

2367. Characterization of the Human Habenula *In-Vivo* & *Ex-Vivo* at 7T
Barbara Strotmann[1], Marcel Weiss[1], Carsten Kögler[1], Andreas Schäfer[1], Robert Trampel[1], Stefan Geyer[1], Arno Villringer[1], Robert Turner[1]
[1]Max-Planck-Institute for Human Cognitive & Brain Sciences, Leipzig, Germany

2368. Isotropic High Resolution Diffusion Imaging of Human Habenula *In Vivo* at 7T
Barbara Strotmann[1], Alfred Anwander[1], Robin Heidemann[1], Eugenia Solano-Castiella[1], Arno Villringer[1], Robert Turner[1]
[1]Max-Planck-Institute for Human Cognitive & Brain Sciences, Leipzig, Germany

2369. Direct Visualization of Thalamic Structures: Comparison of Super-Resolution Track-Density Imaging to Conventional MRI at 7T
Fernando Calamante[1,2], Se-Hong Oh[3], Jacques-Donald Tournier[1,2], Sung-Yeon Park[3], Jun-Young Chung[3], Young-Don Son[3], Je-Geun Chi[3], Graeme D. Jackson[1,2], Young-Bo Kim[3], Alan Connelly[1,2], Zang-Hee Cho[3]
[1]Brain Research Institute, Florey Neuroscience Institutes, Heidelberg West, Victoria, Australia; [2]Department of Medicine, University of Melbourne, Melbourne, Victoria, Australia; [3]Neuroscience Research Institute, Gachon University of Medicine & Science, Incheon, Korea, Republic of

2370. Neocortex Organization & Connectivity in Fetal Human Brains Revealed by Diffusion Tractography & Histology
Emi Takahashi[1], Rebecca D. Folkerth[2], P. Ellen Grant[1]
[1]Children's Hospital Boston, Boston, MA, United States; [2]Brigham & Women's Hospital

2371. Visualization of the Orientational Structure of the Human Stria of Gennari with High-Resolution DWI
Christoph Wolfram Ulrich Leuze[1], Bibek Dhital[1], Alfred Anwander[1], Andre Pampel[1], Robin Heidemann[1], Stefan Geyer[1], Marcel Gratz[2], Robert Turner[1]

[1]Max Planck Institute for Human Cognitive & Brain Sciences, Leipzig, Sachsen, Germany; [2]Universität Leipzig, Leipzig, Sachsen, Germany

2372. Post Mortem Quantitative MRI of the Human Brain in Situ using High-Resolution Multi-Echo FLASH
Gunther Helms[1], Walter J. Schulz-Schaeffer[2], Arne Wrede[2], Niels K. Focke[3], Peter Dechent[1]
[1]MR-Research in Neurology & Psychiatry, Universitymedicine Göttingen, Göttingen, Germany; [2]Neuropathology, Universitymedicine Göttingen, Göttingen, Germany; [3]Clinical Neurophysiology, Universitymedicine Göttingen, Göttingen, Germany

2373. High Resolution Multi-Echo FLASH MRI of Fixated Human Brain with Combined Magnetization Transfer (MT) & T_2* Weighting
Gunther Helms[1], Katrin Brunnquell[1], Arne Wrede[2], Walter J. Schulz-Schaeffer[2], Peter Dechent[1]
[1]MR-Research in Neurology & Psychiatry, Universitymedicine Göttingen, Göttingen, Germany; [2]Neuropathology, Universitymedicine Göttingen, Göttingen, Germany

2374. Intracranial Vessel Wall Imaging with MPIR-TSE at 7.0 Tesla in Ischemic Stroke & TIA Patients
Anja Gwendolyn van Der Kolk[1], Jaco J. M. Zwanenburg[1,2], Manon Brundel[3], Geert Jan Biessels[3], Fredy Visser[1,4], Peter R. Luijten[1], Jeroen Hendrikse[1]
[1]Department of Radiology, University Medical Center Utrecht, Utrecht, Netherlands; [2]Image Science Institute, University Medical Center Utrecht, Utrecht, Netherlands; [3]Department of Neurology, University Medical Center Utrecht, Utrecht, Netherlands; [4]Philips Healthcare, Best, Netherlands

2375. Cortical Thickness in Lupus Patients with Cognitive Impairment
Eduardo Caverzasi[1,2], Laura J. Julian[3], Mehul Sampat[4], Patricia Katz[3], Monica Bucci, Stefano Bastianello[2,5], Roland G. Henry[6]
[1]Department of Radiology & Biomedical Imaging, UCSF, San Francisco, San Francisco, CA, United States; [2]Neuroradiology Department, IRCCS C . Mondino Neurological Institute Foundation, Pavia, Italy; [3]Department of Medicine, UCSF, San Francisco; [4]Department of Neurology, UCSF, San Francisco; [5]University of Pavia, Pavia, Italy; [6]Graduate Group in Bioengineering, UCSF

2376. Noninvasive Measurement of TBI using High Resolution Multiecho Susceptibility Weighted MRI at 3T
Haiying Tang[1], Pascal Sati[2], Pinghong Yeh[3], Binquan Wang[3], Hai Pan[3], James Smirniotopoulos[1], Reed Selwyn[1], Terry Oakes[3], Gerard Riedy[3]
[1]Center for Neuroscience & Regenerative Medicine, Uniformed Services University of the Health Sciences, Bethesda, MD, United States; [2]NINDS, National Institute of Health, Bethesda, MD, United States; [3]Walter Reed Army Medical Center, Washington DC, United States

2377. High Resolution PROPELLER EPI with Reversed Phase Encoding Distortion Correction
Irvin Teh[1]
[1]Clinical Imaging Research Centre, Singapore, Singapore

2378. SNR-Optimized, Fast & High-Resolution Mapping of Whole Brain Tissue Water Content
Mohammad Sabati[1], Andrew A. Maudsley[1]
[1]Radiology, University of Miami, Miami, FL, United States

2379. Wanted Dead or Alive? The Tradeoff between *In-Vivo* Versus *Ex-Vivo* MR Brain Imaging in the Mouse.
Jason Philipp Lerch[1], Jurgen Germann[1], John G. Sled[1], R. Mark Henkelman[1], Brian J. Nieman[1]
[1]Mouse Imaging Centre, Hospital for Sick Children, Toronto, Ontario, Canada

2380. Imaging Structural Changes of the Mouse Retina in Retinitis Pigmentosa with Balanced Steady State Free Precession
Eric R. Muir[1], Bryan H. De La Garza[1], Timothy Q. Duong[1]
[1]Research Imaging Institute, University of Texas Health Science Center, San Antonio, TX, United States

2381. A Descriptive Atlas of the Common Marmoset Cortex Based on Anatomical MRI
Nicholas Adam Bock[1], Eyesha Hashim[1], Ara Kocharyan[2], Afonso C. Silva[2]
[1]Medical Physics & Applied Radiation Sciences, McMaster University, Hamilton, Ontario, Canada; [2]National Institute of Neurological Disorders & Stroke, National Institutes of Health, Bethesda, MD, United States

2382. High-Resolution Imaging of Vessels in the Isolated Rat Brain
Matthias F. Valverde Salzmann[1], Nikos Logothetis[1], Rolf Pohmann[2]
[1]Max Planck Institute for Biological Cybernetics, Tübingen, Germany; [2]Magnetic Resonance Center, Max Planck Institute for Biological Cybernetics, Tübingen, Germany

2383. Specificity & Stability of BOLD & CBV-Based Mapping Signals for High Resolution Functional Mapping at Sub-Millimeter Resolution
Feng Wang[1,2], Li Min Chen[1,2], Malcolm J. Avison[1,2]
[1]Radiology, Vanderbilt University, Nashville, TN, United States; [2]VUIIS, Vanderbilt University, Nashville, TN, United States

2384. High Field MR-Elastography of TBI Model
Thomas Boulet[1], Matthew L. Kelso[2], Shadi F. Othman[3]
[1]Engineering Mechanics, University of Nebraska-Lincoln, Lincoln, NE, United States; [2]Pharmacy Practice, University of Nebraska Medical Center, Omaha, NE, United States; [3]Biological Systems Engineering, University of Nebraska-Lincoln, Lincoln, NE, United States

2385. Three-Dimensional Stereotaxic Atlas of the Mozambique Tilapia (Oreochromis Mossambicus) using High-Resolution MRI.
Marleen Verhoye[1], José Miguel Simões[2,3], Magda Teles[2,3], Annemie Van Der Linden[1], Rui F. Oliviera[2,3]
[1]Bio-Imaging Lab, University of Antwerp, Antwerp, Belgium; [2]Unidade de Investigação em Eco-Etologia, Instituto Superior de Psicologia Aplicada, Lisboa, Portugal; [3]Champalimaud Neuroscience Programme, Instituto Gulbenkian de Ciência, Oeiras, Portugal

2386. The Use of High-Resolution MRI to Evaluate Brain Injury in Newborn Mouse
Donghan Yang[1], William M. Spees[2], Joseph J. H. Ackerman[1,2], Philip Verghese[3], David M. Holtzman[3], Jeff J. Neil[2,3]
[1]Department of Chemistry, Washington University in St. Louis, St. Louis, MO, United States; [2]Department of Radiology, Washington University in St. Louis, St. Louis, MO, United States; [3]Department of Neurology, Washington University in St. Louis, St. Louis, MO, United States

2387. High Field MR Microscopy of Progressive Supranuclear Palsy in the *Ex Vivo* Human Globus Pallidus
Parastou Foroutan[1,2], Melissa E. Murray[3], Shinsuke Fujioka[4], Katherine J. Schweitzer[4], Dennis W. Dickson[3], Samuel Colles Grant[1,2], Zbigniew K. Wszolek[4]
[1]National High Magnetic Field Laboratory, the Florida State University, Tallahassee, FL, United States; [2]Chemical & Biomedical Engineering, the Florida State University, Tallahassee, FL, United States; [3]Department of Pathology & Neuroscience, Mayo Clinic, Jacksonville, FL, United States; [4]Department of Neurology, Mayo Clinic, Jacksonville, FL, United States

2388. Anatomical & Metabolic Changes in the Visual Cortex of Streptozotocin-Treated Type 1 Diabetic Rats
Mingming Huang[1], Lifeng Gao[1], Guanjun Zhu[1], Hao Lei[1]
[1]State Key Laboratory of Magnetic Resonance and Atomic and Molecular Physics, Wuhan Institute of Physics & Mathematics, Chinese Academy of Sciences, Wuhan, China, People's Republic of

2389. Optimized 3D MPRAGE: Depiction of Thalamic Substructures at 3T
Benjamin Bender[1], Constantin Mänz[1], Thomas Nägele[1], Uwe Klose[1]
[1]Department of Diagnostic & Interventional Neuroradiology, University Hospital Tübingen, Tübingen, Baden-Württemberg, Germany

2390. Evaluation of Brain Stem Anatomy with 3D-FLAIR Imaging at 3T
Mika Kitajima[1], Toshinori Hirai[1], Yoshinori Shigematsu[1], Hiroyuki Uetani[1], Koya Iwashita[1], Kousuke Morita[1], Masuma Akter[1], Yasuyuki Yamashita[1]
[1]Diagnostic Radiology, Kumamoto University, Kumamoto, Japan

2391. Cerebral Microbleeds on MRI: Comparison between 1.5 & 7 Tesla
Mandy M. A. Conijn[1], Mirjam I. Geerlings, Geert-Jan Biessels, Taro Takahara, Theo D. Witkamp, Jaco J. M. Zwanenburg, Peter R. Luijten, Jeroen Hendrikse
[1]Radiology, University Medical Center Utrecht, Utrecht, Netherlands

2392. Global Cerebral Metabolic Oxygen Consumption Rate & Cerebral Blood Flow Can Be Measured Reliably During Oxygen Inhalation
Naranjargal Dashdorj[1], Katherine Corrie[2], Antonio Napolitano[1], Samuel Wharton[3], Esben Thade Petersen[4], Ravi Mahajan[2], Dorothee P. Auer[1]
[1]Academic Radiology, University of Nottingham, Nottingham, Nottinghamshire, United Kingdom; [2]Division of Anaesthesia, University of Nottingham, Nottingham, United Kingdom; [3]School of Physics & Astronomy, University of Nottingham, Nottingham, United Kingdom; [4]National Neuroscience Institute, Singapore

Manganese Enhanced MRI

Exhibit Hall Wednesday 13:30-15:30

2393. Screening for Manganese-Binding Proteins in the Mouse Brain
Jacqueline A. Gleave[1], Brian J. Nieman[1]
[1]Mouse Imaging Centre, Toronto, Ontario, Canada

2394. Subcellular Distribution of Mn in Neurons Assessed by Synchrotron X-Ray Microprobe
Alexia Daoust[1,2], Sylvain Bohic[1,3], Emmanuel Luc Barbier[1,2]
[1]INSERM U836, Grenoble, France; [2]Grenoble Institut des Neurosciences, Université Joseph Fourier, Grenoble, France; [3]European Synchrotron Radiation Facility (ESRF), Grenoble, France

2395. TAT Conjugated MnO@PMAO for Molecular & Cellular MRI

Roger Prades[1], Shauna L, Quinn[2], Ernest Giralt[1], Erik M. Shapiro[2,3]
[1]Department of Chemistry, IRB Barcelona, Barcelona, Spain; [2]Department of Diagnostic Radiology, Yale University School of Medicine, New Haven, CT, United States; [3]Department of Biomedical Engineering, Yale University, New Haven, CT, United States

2396. Infusion-Based Manganese-Enhanced MRI: New Imaging Technique to Visualize the Mouse Brain
Stephanie I. Mok[1], Jeeva Munasinghe[2], Afonso C. Silva[2], W. Scott Young[1]
[1]National Institute of Mental Health, Bethesda, MD, United States; [2]National Institute of Neurological Disorders and Stroke, Bethesda, MD, United States

2397. Sex Difference of Regional Activation in the Rat Brain using Manganese-Enhanced Magnetic Resonance Imaging
Hengjun J. Kim[1], Youngkyu Song[1], Gyunggoo Cho[1], Namkug Kim[2]
[1]Division of Magnetic Resonance, Korea Basic Science Institute, Ochang, Chungbuk, Korea, Republic of; [2]Radiology, University of Ulsan College of Medicine, Asan Medical Center, Seoul, Korea, Republic of

2398. Effect of Manganese Chloride on the Neurochemical Profile of the Rat Hypothalamus
Nathalie Just[1,2], Cristina Cudalbu[1], Hongxia Lei[1,2], Rolf Gruetter[1,3]
[1]LIFMET, CIBM/EPFL, Lausanne, Switzerland; [2]Department of Radiology, UNIL, Lausanne, Switzerland; [3]Department of Radiology, UNIL&HUG, Lausanne & Geneve, Switzerland

2399. Investigation of Hypothalamic Neuronal & Metabolic Mechanisms of Anorexia with Manganese-Enhanced MRI & Proton MR Spectroscopy
Nathalie Just[1,2], Rolf Gruetter[1,3]
[1]LIFMET, CIBM/EPFL, Lausanne, Switzerland; [2]Department of Radiology, UNIL, Lausanne, Switzerland; [3]Department of Radiology, UNIL& HUG, Lausanne & Geneve, Switzerland

2400. *In Vivo* Detection of Glial Activity After Transient Forebrain Ischemia using Manganese-Enhanced MRI
Yuko Kawai[1], Yuko Yasuda[2], Narito Tateishi[2], Masahiro Umeda[1], Yasuharu Watanabe[1], Toshihiro Higuchi[3], Seiichi Furuya[4], Shoji Naruse[2,5], Setsuya Fujita[2], Chuzo Tanaka[3]
[1]Medical Informatics, Meiji University of Integrative Medicine, Kyoto, Japan; [2]Basic Research, Louis Pasteur Center for Medical Research, Kyoto, Japan; [3]Neurosurgery, Meiji University of integrative Medicine, Kyoto, Japan; [4]Radiology, Japanese Red Cross Kyoto Daiichi Hospita, Kyoto, Japan; [5]Radiology, Kyoto Prefectural University of Medicine, Kyoto, Japan

2401. Dose Dependence of T_1 & Phase Contrast Following Mn^{2+} Systemic Administration at 14.1T
Rajika Maddage[1], José Pedro Marques[2,3], Rolf Gruetter[2,4]
[1]Laboratory for Functional & Metabolic Imaging , Ecole Polytechnique Federale de Lausanne, Lausanne, Switzerland; [2]Laboratory for Functional & Metabolic Imaging, Ecole Polytechnique Federale de Lausanne, Lausanne, Switzerland; [3]Department of Radiology, University of Lausanne, Lausanne, Switzerland; [4]Department of Radiology, University of Lausanne & Geneva, Switzerland

2402. Dynamic Properties of Manganese-Alginate Gels for Controlled-Release of Mn^{2+}
Øystein Olsen[1], Yanna Sandvig[2], Yrr Mørch[3], Marte Thuen[2], Christian Brekken[2]
[1]Department of Technology, Sør-Trøndelag University College, Trondheim, Norway; [2]Department of Circulation & Medical Imaging, Norwegian University of Science & Technology, Trondheim, Norway; [3]Department of Biotechnology, Norwegian University of Science & Technology, Trondheim, Norway

2403. Manganese-Enhanced MRI of Bilateral Retinas in Rat: Flickering White Light Versus Dark
Bryan H. De La Garza[1], Damon P. Cardenas[1], Yen-Yu Ian Shih[1], Timothy Q. Duong[1]
[1]Research Imaging Institute, University of Texas Health Science Center at San Antonio, San Antonio, TX, United States

2404. Topical Administration of Mn2+ for MEMRI May Not Enter Vitreous Space to Reach Retina
Bruce W. Campbell[1], Eric Won, Hsiao-Fang Liang[2], Shu-Wei Sun[3]
[1]Clinical Laboratory Science, School of Allied Health, Loma Linda University, Loma Linda, CA, United States; [2]Biophysics & Bioengineering, Loma Linda University; [3]Biophysics & Bioengineering, Loma Linda University, Loma Linda, CA, United States

2405. *In Vivo* MEMRI of the Visual Projection of Mice using a Clinical 3T Whole Body Scanner
Karl-Heinz Herrmann[1], Alexandra Kretz[2], Ronny Haenold[3], Ines Krumbein, Falk Weih[3], Otto W. Witte[2], Jürgen R. Reichenbach[1]
[1]Medical Physics Group, Department of Diagnostic & Interventional Radiology I, Jena University Hospital, Jena, Germany; [2]Clinic of Neurology, Jena University Hospital, Jena, Germany; [3]Research Group Immunology, Leibnitz Insitute for Age Research, Jena, Germany

2406. MEMRI of the Projections of Periaqueductal Gray Matter to Pontine Reticular Nucleus in Mice
Xiaowei Zhang[1], Russell E. Jacobs[1]
[1]Biological Imaging Center, California Institute of Technology, Pasadena, CA, United States

2407. Comparing Topical Administration & Intravitreal Injection of Mn_2+ for MEMRI on Mouse Visual Pathway
Bruce W. Campbell[1], Eric Won, Chantal Lunderville, Hsiao-Fang Liang[2], Shu-Wei Sun[3,4]

[1]Clinical Laboratory Science, School of Allied Health, Loma Linda University, Loma Linda, CA, United States; [2]Biophysics & Bioengineering, Loma Linda University; [3]Biophysics & Bioengineering, Loma Linda University, Loma Linda, CA, United States; [4]Radiation Medicine, Loma Linda University

2408. *In Vivo* Mapping of Retinal Projections in Rat, Gerbil & Mouse Brains using MEMRI

Kevin C. Chan[1,2], Joe S. Cheng[1,2], Iris Y. Zhou,[2], Condon Lau[1,2], Kwok Fai So[3,4], Ed X. Wu[1,2]
[1]Laboratory of Biomedical Imaging & Signal Processing, The University of Hong Kong, Pokfulam, Hong Kong, China, People's Republic of; [2]Department of Electrical & Electronic Engineering, The University of Hong Kong, Pokfulam, Hong Kong, China, People's Republic of; [3]Department of Anatomy, The University of Hong Kong, Pokfulam, Hong Kong, China, People's Republic of; [4]State Key Laboratory of Brain & Cognitive Sciences, The University of Hong Kong, Pokfulam, Hong Kong, China, People's Republic of

Human Brain Tumors

Exhibit Hall Thursday 13:30-15:30

2409. Quantification of Edema Reduction using Differential Quantitative T_2 (DQT2) Mapping in Recurrent Glioblastoma Treated with Bevacizumab

Benjamin M. Ellingson[1], Timothy F. Cloughesy[2], Albert Lai[2], Phioanh L. Nghiemphu[2], Whitney B. Pope[1]
[1]Radiological Sciences, University of California Los Angeles, Los Angeles, CA, United States; [2]Neurology, University of California Los Angeles, Los Angeles, CA, United States

2410. CIMPLE Maps Derived from Serial Diffusion MR Images in Recurrent Glioblastoma Treated with Bevacizumab

Benjamin M. Ellingson[1], Timothy F. Cloughesy[2], Albert Lai[2], Phioanh L. Nghiemphu[2], Whitney B. Pope[1]
[1]Radiological Sciences, University of California Los Angeles, Los Angeles, CA, United States; [2]Neurology, University of California Los Angeles, Los Angeles, CA, United States

2411. Evaluation of Changes in Gliomas Structural Features After Chemotherapy using DTI-Based Functional Diffusion Maps (FDMs): A Preliminary Study with Intraoperative Correlation.

Antonella Castellano[1], Marina Donativi[2,3], Lorenzo Bello[4], Giorgio De Nunzio[2,3], Marco Riva[4], Gabriella Pastore[2], Giuseppe Casaceli[4], Roberta Rudà[5], Riccardo Soffietti[5], Giuseppe Scotti[1], Andrea Falini[1]
[1]Neuroradiology Unit & CERMAC, Scientific Institute & University Vita-Salute San Raffaele, Milan, Italy; [2]Department of Materials Science, University of Salento, Lecce, Italy; [3]INFN (National Institute of Nuclear Physics), Lecce, Italy; [4]Neurosurgery, Department of Neurological Sciences, University of Milano, Milan, Italy; [5]Neuro-Oncology, Department of Neuroscience & Oncology, University of Torino, Turin, Italy

2412. Combination of Sparse & Wrapper Feature Selection from Multi-Source Data for Accurate Brain Tumor Typing

Vangelis Metsis[1], Ovidiu C. Andronesi[2,3], Heng Huang[1], Michael N. Mindrinos[4], Laurence G. Rahme[5], Fillia Makedon[1], Aria A. Tzika[2,3]
[1]Computer Science & Engineering, University of Texas at Arlington, Arlington, TX, United States; [2]NMR Surgical Laboratory, Dept. of Surgery, Harvard Medical School & Massachusetts General Hospital, Boston, MA, United States; [3]Athinoula A. Martinos Center of Biomedical Imaging, Department of Radiology, Massachusetts General Hospital, Boston, MA, United States; [4]Dept. of Biochemistry, Stanford University School of Medicine, Stanford, CA, United States; [5]Molecular Surgery Laboratory, Dept. of Surgery, Massachusetts General Hospital & Shriners Burn Institute, Harvard Medical School, Boston, MA, United States

2413. Preoperative Grading & Subtyping of Meningiomas using Diffusion Tensor Imaging

Sumei Wang[1], Sungheon Kim[2], Yu Zhang[1], Lu Wang[1], Edward B. Lee[3], Peter Syre[4], John Y. K. Lee[4], Harish Poptani[1], Elias R. Melhem[1]
[1]Radiology, University of Pennsylvania, Philadelphia, PA, United States; [2]Radiology, New York University School of Medicine, New York, NY, United States; [3]Pathology & Laboratory Medicine, University of Pennsylvania, Philadelphia, PA, United States; [4]Neurosurgery, University of Pennsylvania, Philadelphia, PA, United States

2414. Diffusion Tensor Imaging May Be Useful to Differentiate between Intracranial Dural Metastases & Meningiomas

Xiang Liu[1], Wei Tian[2], Sven Ekholm[2]
[1]Department of Imaging Sciences, University of Rochester Medical Center, Rochester, NY, United States; [2]Department of Imaging Sciences, University of Rochester Medical Cente, Rochester, NY, United States

2415. Metabolic Differences between Oligodrendroglial Brain Tumors with & Without $^{1}p^{19}q$ Deletion

Kenneth James Smith[1], Mitchel Berger[2], Susan Chang[3], Rachel Smith, Tracy Richmond McKnight
[1]Radiology & Biomedical Imaging, University of California San Francisco , San Francisco, CA, United States; [2]Neurosurgery, University of California San Francisco; [3]Neuro Oncology, University of California San Francisco

2416. Perfusion Weighted Imaging Directed Proton MR Spectroscopy: A New Approach to Identify Oligodendroglial Genotypes

Sanjeev Chawla[1], Yu Zhang[2], Jaroslaw Krejza[1], Sumei Wang[1], Gurpreet Kapoor[3], Sangeeta Chaudhary[1], Arastoo Vossough[1], Donald O' Rourke[3], Elias R. Melhem[1], Harish Poptani[1]

[1]Radiology, University of Pennsylvania, Philadelphia, PA, United States; [2]Radiology, University of Pennsylvania,, Philadelphia, PA, United States; [3]Neurosurgery, University of Pennsylvania, Philadelphia, PA, United States

2417. Exploration of Multi-Exponential Decomposition of T_2 Decay in Gliomas & Its Implications on Targeting for Radiotherapy

Keith Wachowicz[1,2], B. Gino Fallone[2,3]

[1]Medical Physics, Department of Oncology, University of Alberta, Edmonton, Alberta, Canada; [2]Medical Physics, Cross Cancer Institute, Alberta Health Services, Edmonton, Alberta, Canada; [3]Departments of Physics & Oncology, University of Alberta, Edmonton, Alberta, Canada

2418. MR Follow-Up of Glioblastoma Patients Treated with Dendritic Cell Immunotherapy: The Role of DWI & PWI

Matej Vrabec[1], Sofie Van Cauter[2], Uwe Himmelreich[3], Stefaan W. Van Gool[2], Stefan Sunaert[2], Steven De Vleeschouwer[2], Dušan Šuput[4], Philippe Demaerel[2]

[1]Department of Radiology, University Clinical Center Ljubljana, Ljubljana, Slovenia; [2]University Hospitals of Leuven, Leuven, Belgium; [3]Catholic University Leuven; [4]Faculty of Medicine, University of Ljubljana, Slovenia

2419. Comparison of Perfusion MRI-Based Methods to Estimate Histologic Tumor Fraction & Predict Survival in Recurrent GBM

Leland S. Hu[1,2], Jennifer M. Eschbacher[3], Amylou C. Dueck[4], Seban Liu[5], Kris A. Smith[6], Kasuen Kotagama[5], Stephen W. Coons[3], Joseph E. Heiserman[7], John P. Karis[7], Todd Jensen[8], William Shapiro[9], Josef Debbins[5], Peter Nakaji[6], Burt G. Feuerstein[9], Leslie C. Baxter[5]

[1]Radiology, Mayo Clinic Arizona, Phoenix, AZ, United States; [2]Radiology, Barrow Neurological Institute, Phoenix, AZ, United States; [3]Neuropathology, Barrow Neurological Institute; [4]Biostatistics, Mayo Clinic Arizona; [5]Keller Center for Imaging Innovation, Barrow Neurological Institute; [6]Neurosurgery, Barrow Neurological Institute; [7]Neuroradiology, Barrow Neurological Institute; [8]Imaging Biometrics, LLC; [9]Neurology, Barrow Neurological Institute

2420. T_1, T_2 & ADC as Imaging Biomarkers for Tumor Treatment Response in Brain Tumors

Patrik Brynolfsson[1], Thomas Asklund[2], Anders Garpebring[1], Tufve Nyholm[2]

[1]Umeå University, Umeå, Sweden; [2]Department of Oncology, Norrland University Hospital, Umeå, Sweden

2421. Differentiating between Recurrent Tumor & Post-Treatment Radiation Effects using High-Order Diffusion Imaging

Chu-Yu Lee[1], Leland Hu[2], Leslie C. Baxter[3], Josef P. Debbins[3]

[1]Electrical Engineering, Arizona State University, Tempe, AZ, United States; [2]Department of Radiology, Mayo Clinic Arizona, Phoenix, AZ, United States; [3]Neuroimaging Research, Barrow Neurological Institute, Phoenix, AZ, United States

2422. T_1 Intensity: An Indication of ^{1}p ^{19}q Deletion in Oligodendroglial Neoplasms

Carolyn Branecky[1], Devyani Bedekar[2], Kathleen Schmainda[3]

[1]Radiology, Medical College of Wisconsin, Milwaukee, WI, United States; [2]Translational Brain Tumor Research Program, Medical College of Wisconsin, Milwaukee, WI, United States; [3]Radiology & Biophysics, Medical College of Wisconsin

2423. ADC-FLAIR Mismatch Excluding Enhancement (AFMEE), a Potential Biomarker of Tumor Invasion

Peter Sherman LaViolette[1], Alex D. Cohen[1], Scott D. Rand[2], Wade Mueller[3], Kathleen M. Schmainda[2]

[1]Biophysics, Medical College of Wisconsin, Milwaukee, WI, United States; [2]Radiology, Medical College of Wisconsin, Milwaukee, WI, United States; [3]Neurosurgery, Medical College of Wisconsin, Milwaukee, WI, United States

2424. *In-Vivo* Biomarkers for Brain Tumor Vasculature & Cellularity Validated with *Ex-Vivo* Tissue

Peter Sherman LaViolette[1], Elizabeth J. Cochran[2], Mona Al-Gizawiy[3], Scott D. Rand[3], Mark G. Malkin[4], Jennifer Connelly[4], Wade Mueller[5], Kathleen M. Schmainda[3]

[1]Biophysics, Medical College of Wisconsin, Milwaukee, WI, United States; [2]Pathology, Medical College of Wisconsin, Milwaukee, WI, United States; [3]Radiology, Medical College of Wisconsin, Milwaukee, WI, United States; [4]Neurology, Medical College of Wisconsin, Milwaukee, WI, United States; [5]Neurosurgery, Medical College of Wisconsin, Milwaukee, WI, United States

2425. Tracking the "DSC-Based Perfusion Abnormality" & Contrast Enhancing Lesion in Patients Newly Diagnosed with GBM Treated with Upfront Anti-VEGF Therapy

Emma Essock-Burns[1,2], Janine M. Lupo[2], Laleh Jalilian[2], Michael D. Prados[3], Soonmee Cha[2,3], Susan M. Chang[3], Sarah J. Nelson[1,4]

[1]UCSF/UCB Joint Graduate Group in Bioengineering, University of California San Francisco, San Francisco, CA, United States; [2]Department of Radiology & Biomedical Imaging, University of California San Francisco, San Francisco, CA, United States; [3]Department of Neurological Surgery, University of California San Francisco, San Francisco, CA, United States; [4]Department of Bioengineering & Therapeutic Sciences, University of California San Francisco, San Francisco, CA, United States

2426. Demonstration of the Relationship between Oxygen Delivery & Contrast Agent Delivery in Human Glioma using Combined OEMRI & DCE-MRI
Katherine Frances Holliday[1,2], Gerard Thompson[1,2], Samantha Jane Mills[1,2], Giovanni Buonaccorsi[1,2], Alan Jackson[1,2], Josephine H. Naish[1,2], Geoffrey J. M. Parker[1,2]
[1]Imaging Sciences, The University of Manchester, Manchester, United Kingdom; [2]University of Manchester Biomedical Imaging Institute, Manchester, United Kingdom

2427. A Fully Automatic Double-Echo DSC-MRI Routine Can Predict Patient Outcome After a Single Dose of Cediranib in Recurrent Glioblastoma Patients
Kyrre E. Emblem[1,2], Ronald J, H. Borra[1], Kim Mouridsen[1], Atle Bjornerud[2,3], Rakesh K. Jain[4], Tracy T. Batchelor[5], Gregory Sorensen[1]
[1]A. A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Boston, MA, United States; [2]The Interventional Center, Oslo University Hospital - Rikshospitalet, Oslo, Norway; [3]Department of Physics, University of Oslo, Oslo, Norway; [4]Department of Radiation Oncology, Massachusetts General Hospital, Boston, MA, United States; [5]Pappas Center for Neuro-Oncology, Massachusetts General Hospital

2428. Initial Experience with Vessel Size Imaging in Recurrent Glioblastoma Multiforme using a Multiple Spin & Gradient Echo (SAGE) Perfusion Bolus Contrast Sequence
Jalal Badi Andre[1], Heiko Schmiedeskamp[1], Greg Zaharchuk[1], Matus Straka[1], Thomas Christen[1], Lawrence Recht[2], Roland Bammer[1]
[1]Radiology, Stanford University, Stanford, CA, United States; [2]Neuro-Oncology, Stanford University, Stanford, CA, United States

2429. Presurgical Assessment of the Feeding Vasculature in Extra-Axial Tumors with Superselective Arterial Spin Labeling
Michael Helle[1], Susanne Rüfer[1], Matthias van Osch[2], David Gordon Norris[3,4], Olav Jansen[1], Arya Nabavi[5]
[1]Institute for Neuroradiology, Christian-Albrechts-Universität, UK-SH, Kiel, Germany; [2]C.J. Gorter Center for High Field MRI, Department of Radiology, Leiden University Medical Center, Leiden, Netherlands; [3]Donders Institute for Brain, Cognition & Behaviour, Radboud University Nijmegen, Nijmegen, Netherlands; [4]Erwin L. Hahn Institute for Magnetic Resonance Imaging, Essen, Germany; [5]Clinic for Neurosurgery, Christian-Albrechts-Universität, UK-SH, Kiel, Germany

2430. Pitfalls of Thresholding Statistical Maps in Presurgical fMRI Mapping
Krzysztof Gorgolewski[1], Mark Bastin[2], Laura Rigolo[3], H. A. Soleiman[4], Cyril Pernet[2], Amos Storkey[1], Alexandra J. Golby[3]
[1]School of Informatics, University of Edinburgh, Edinburgh, United Kingdom; [2]Department of Medical Physics, University of Edinburgh, Edinburgh, United Kingdom; [3]Department of Neurosurgery, Harvard Medical School, Cambridge, MA, United States; [4]Department of Clinical Neurosciences, University of Edinburgh, Edinburgh, United Kingdom

2431. Water Chemical Shift Differences Detected in Childhood Brain Tumours May Indicate Temperature Variations & Fast Exchange Effects
Nigel Paul Davies[1], Maryam Kalantari Saghafi[2], Martin Wilson[3], Yu Sun[3], Theodoros N. Arvanitis[4], Andrew C. Peet[3]
[1]Medical Physics, University Hospitals Birmingham NHS Foundation Trust, Birmingham, United Kingdom; [2]School of Physics & Astronomy, University of Birmingham, Birmingham, United Kingdom; [3]Cancer Sciences, University of Birmingham, Birmingham, United Kingdom; [4]Department of Electrical, Electronic, & Computer Engineering, University of Birmingham, Birmingham, United Kingdom

2432. Evaluating Radiation-Induced White Matter Changes in Patients with Recurrent Malignant Gliomas Under Treatment of Stereotactic Radiosurgery using Diffusion Tensor Imaging: Initial Results
Zheng Chang[1], John P. Kirkpatrick[1], Zhiheng Wang[1], Jing Cai[1], Fang-Fang Yin[1]
[1]Department of Radiation Oncology, Duke University, Durham, NC, United States

2433. Assessment of Tumor Perfusion by DSC MRI During Radiation Therapy in Children with Diffuse Intrinsic Pontine Glioma
Adam M. Winchell[1,2], Mehmet Kocak[3], Hoang-Vu Tran[1], Ruitian Song[1], Ralf B. Loeffler[1], Alberto Broniscer[4], Claudia M. Hillenbrand[1]
[1]Radiological Sciences, St. Jude Children's Research Hospital, Memphis, TN, United States; [2]Biomedical Engineering , University of Memphis, Memphis, TN, United States; [3]Biostatistics, St. Jude Children's Research Hospital, Memphis, TN, United States; [4]Oncology, St. Jude Children's Research Hospital, Memphis, TN, United States

Head & Neck MRI (including Cancer)

Exhibit Hall Monday 14:00-16:00

2434. MR Based Quantification of Global Cerebral Metabolic Rate of Oxygen Consumption During Hypercapnia
Varsha Jain[1], Michael Langham[1], Thomas T. Floyd[2], Jeremy F. Magland[1], Felix W. Wehrli[1]

[1]Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States; [2]Department of Anesthesiology, University of Pennsylvania, Philadelphia, PA, United States

2435. Dark Blood T_2* Maps in the Carotid Artery

Rexford D. Newbould[1], Andrew P. Brown[1], David R. L. Owen[1], Joseph Shalhoub[2], Giulio Gambarota[1]
[1]GSK Clinical Imaging Centre, Hammersmith Hospital, London, United Kingdom; [2]Department of Vascular Surgery, Imperial College London, London, United Kingdom

2436. Quantification of Regional Cerebral Metabolic Rate of Oxygen Consumption in the Middle Cerebral Artery Territory

Varsha Jain[1], Gaurav Jain[2], Jeremy F. Magland[1], Felix W. Wehrli[1]
[1]Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States; [2]Department of Neurological Surgery, Albert Einstein College of Medicine, Bronx, NY, United States

2437. DWI of Head & Neck Cancer the Effect of B Values on ADC Measurements

Kwok Keung Chow[1], David Ka Wai Yeung[1], Queenie Chan[2], Ann D. King[1]
[1]Department of Imaging & Interventional Radiology, The Chinese University of Hong Kong, Hong Kong, Hong Kong; [2]Philips Healthcare

2438. Measuring Cortical Thickness in Brain MRI Volumes to Detect Focal Cortical Dysplasia

Ljiljana Platisa[1], Anthony De Smet[1], Ivana Despotovic[1], Asli Kumcu[1], Karel Deblaere[2], Aleksandra Pizurica[1], Ewout Vansteenkiste[1], Wilfried Philips[1]
[1]TELIN-IPI-IBBT, Ghent University, Ghent, Belgium; [2]Department of Neuroradiology, Ghent University Hospital, Ghent, Belgium

2439. DCE & DWI Functional Parameters as Indicators of Response to Radical Chemoradiation in Head & Neck Cancer

Marco Borri[1], Maria Schmidt[1], Ceri Powell[2], Dow -Mu Koh[1,3], Angela Riddell[3], K. Harrington[2], Kate Newbold[2], James Darcy[1], Martin O. Leach[1]
[1]CR-UK & EPSRC Cancer Imaging Centre, Institute of Cancer Research & Royal Marsden Hospital, Sutton, Surrey, United Kingdom; [2]Head & Neck Department, The Royal Marsden Hospital; [3]Radiology Department, The Royal Marsden Hospital

2440. Improved Fat Suppression with the Use of CHESS & Natural Rubber Pad

Uten Yarach[1], Suwit Saekho[1,2]
[1]Radiological Technology, Chiang Mai University, Muang, Chiang Mai, Thailand; [2]Biomedical Engineering Center, Chiang Mai University, Thailand

2441. Temporal Evolution of the Irradiated Parotid Glands: Volume & ADC Value

Chun-Jung Juan[1], Cheng-Chieh Cheng[2], Hsiao-Wen Chung[1,2], Yee-Min Jen[3], Hing-Chiu Chang[2,4], Su-Chin Chiu[2], Cheng-Yu Chen[1], Chun-Jen Hsueh[1], Yaoh-Shiang Lin[5], Guo-Shu Huang[1]
[1]Department of Radiology, Tri-Service General Hospital, Taipei, Taiwan; [2]Graduate Institute of Biomedical Electronics & Bioinformatics, National Taiwan University, Taipei, Taiwan; [3]Department of Radiation Oncology, Tri-Service General Hospital, Taipei, Taiwan; [4]Applied Science Laboratory, GE Healthcare, Taipei, Taiwan; [5]Department of Otorhinolaryngology-Head & Neck Surgery, Tri-Service General Hospital, Taipei, Taiwan

2442. Probing the Radiation-Induced Changes of Extravascular Extracellular Space of Parotid Glands using DCE & DW MRI

Cheng-Chieh Cheng[1], Chun-Jung Juan[2], Hsiao-Wen Chung[1], Yee-Min Jen[3], Hing-Chiu Chang[1,4], Su-Chin Chiu[1], Cheng-Yu Chen[2], Chun-Jen Hsueh[2], Yaoh-Shiang Lin[5], Guo-Shu Huang[2]
[1]Graduate Institute of Biomedical Electronics & Bioinformatics, National Taiwan University, Taipei, Taiwan; [2]Department of Radiology, Tri-Service General Hospital, Taipei, Taiwan; [3]Department of Radiation Oncology, Tri-Service General Hospital, Taipei, Taiwan; [4]Applied Science Laboratory, GE Healthcare, Taipei, Taiwan; [5]Department of Otorhinolaryngology-Head & Neck Surgery, Tri-Service General Hospital, Taipei, Taiwan

2443. H-MRS Study of the Neurochemical Effects of Interferon-α Treatment in Patients with Chronic Hepatitis C

Matthew Taylor[1], Jamie Near[2], Philip Cowen[1]
[1]Department of Psychiatry, University of Oxford, Oxford, Oxfordshire, United Kingdom; [2]FMRIB Centre, University of Oxford, Oxford, Oxfordshire, United Kingdom

2444. Automated Analysis of Craniofacial Morphology using Magnetic Resonance Images

M. Mallar Chakravarty[1,2], Rosanne Aleong[3], Gabriel Leonard[4], Michel Peron[5], G. Bruce Pike[4], Louis Richer[6], Suzanne Veillet[5], Zdenka Pausova[7], Tomas Paus[3,7]
[1]Rotman Research Institute, Baycrest , Toronto, Ontario, Canada; [2]Mouse Imaging Centre, The Hospital for Sick Children, Toronto, Ontario, Canada; [3]Rotman Research Institute, Baycrest, Toronto, Ontario, Canada; [4]Montréal Neurological Institute, McGill University, Montréal, Québec, Canada; [5]CÉGEP de Jonquière, Jonquière, Quebec, Canada; [6]Département des sciences de l'éducation et de psychologie, Université du Québec à Chicoutimi, Chicoutimi, Québec, Canada; [7]School of Psychology, University of Nottingham, Nottingham, United Kingdom

2445. Volume Shrinkage, Perfusion & Diffusion Alterations of Irradiated Parotid Glands
Cheng-Chieh Cheng[1], Chun-Jung Juan[2], Hsiao-Wen Chung[1], Yee-Min Jen[3], Hing-Chiu Chang[1,4], Su-Chin Chiu[1], Cheng-Yu Chen[2], Chun-Jen Hsueh[2], Yaoh-Shiang Lin[5], Guo-Shu Huang[2]
[1]Graduate Institute of Biomedical Electronics & Bioinformatics, National Taiwan University, Taipei, Taiwan; [2]Department of Radiology, Tri-Service General Hospital, Taipei, Taiwan; [3]Department of Radiation Oncology, Tri-Service General Hospital, Taipei, Taiwan; [4]Applied Science Laboratory, GE Healthcare, Taipei, Taiwan; [5]Department of Otorhinolaryngology-Head & Neck Surgery, Tri-Service General Hospital, Taipei, Taiwan

2446. Tumor Diffusion & Metabolism in Head & Neck Cancer: Pretreatment Multimodality Imaging with DW-MRI & ^{18}F-FDG PET
Jacobus F. A. Jansen[1], Heiko Schoder[2], Yonggang Lu[2], Hilda E. Stambuk[2], Dara Srisaranard[2], Nancy Y. Lee[2], Snehal G. Patel[2], Jatin P. Shah[2], Jason A. Koutcher[2], Amita Shukla-Dave[2]
[1]Maastricht University Medical Center, Maastricht, Netherlands; [2]MSKCC, NY, United States

2447. Evaluation of Artefacts Caused by Different Cochlear Implants at 1.5 T & 3T
Irina Mader[1], Markus Treier[1], Christian Schild[2], Hansjörg Mast[1], Stefan Zwick[3], Christian Taschner[1], Susan Arndt[2]
[1]Neuroradiology, University Medical Center Freiburg, Freiburg, Germany; [2]Dept. of Otorhinolaryngology, University Medical Center Freiburg, Freiburg, Germany; [3]Dept. of Radiology, Medical Physics, University Medical Center Freiburg, Freiburg, Germany

2448. Changes in the Brain More Than 10 Years After Liver Transplantation
Vít Herynek[1], Monika Dezortová[1], Dita Wagnerová[1], Irena Hejlová[2], Milan Hájek[1]
[1]MR-unit, Department of Diagnostic & Interventional Radiology, Institute for Clinical & Experimental Medicine, Prague, Czech Republic; [2]Hepatogastroenterology Department, Institute for Clinical and Experimental Medicine, Prague, Czech Republic

2449. Neuroimaging of Mild Traumatic Brain Injury at Acute Stage
Zhifeng Kou[1], Randall Benson[2], Ramtilak Gattu[3], Jie Yang[3], Valerie Mika[4], Robert Welch[4], Scott Millis[5], E. Mark Haacke[1]
[1]Radiology & Biomedical Engineering, Wayne State University, Detroit, MI, United States; [2]Neurology, Wayne State University, Detroit, MI, United States; [3]Radiology, Wayne State University, Detroit, MI, United States; [4]Emergency Medicine, Wayne State University, Detroit, MI, United States; [5]Physical Medicine and Rehabilitation, Wayne State University, Detroit, MI, United States

2450. MR Imaging of the Neck at 3 Tesla using the Periodically Rotated Overlapping Parallel Lines with Enhanced Reconstruction (PROPELLER) (BLADE) Sequence Compared with T_2-Weighted Fast Spin-Echo Sequence
Yoshimitsu Ohgiya[1], Jumpei Suyama[1], Syouei Sai[1], Masaaki Kawahara[1], Jirou Munechika[1], Makoto Saiki[1], Noritaka Seino[1], Masanori Hirose[1], Takehiko Gokan[1]
[1]Showa University School of Medicine, Tokyo, Japan

2451. A Magnetic Resonance Imaging Study of Cortical Thickness & Volumetric Changes in Hepatitis C: Before & After Interferon Therapy
Manoj K. Sarma[1], M. Albert Thomas[1], Rajakumar Nagarajan[1], April Thames[2], Steven Castellon[3], Elyse Singer[4], Jason Smith[5], Linda Croad[6], Lavezza Bhatti[7], Ann Ragin[8], Charles Hinkin[3]
[1]Radiological Sciences, UCLA, Los Angeles, CA, United States; [2]Psychiatry, UCLA School of Medicine, Los angeles, CA, United States; [3]Psychiatry, UCLA School of Medicine, Los Angeles, CA, United States; [4]Neurology, UCLA School of Medicine, Los Angeles, CA, United States; [5]VA Greater Los Angeles Healthcare Service, Los Angeles, CA, United States; [6]Kaiser Permanente Lancaster, CA, United States; [7]AIDS Healthcare Foundation, Los Angeles, CA, United States; [8]Radiology, Northwestern University, Chicago, IL, United States

2452. Correlation of Apparent Diffusion Coefficients Measured by Standard (1000 S/mm2) & High B-Value (2000 S/mm2) Diffusion MR Imaging & SUV from FDG PET/CT in Head & Neck Cancer
Seung Hong Choi[1], Chul-Ho Sohn[1], Ji-Hoon Kim[1], Kee-Hyun Chang[1]
[1]Department of Radiology, eoul National University Hospital, Seoul, Korea, Republic of

2453. Dynamic Imaging of the Vocal Tract using a Cine-MRI Sequence: Protocol Optimization & Evaluation
Guillaume Gilbert[1,2], Jon Nissenbaum[3], Gilles Beaudoin[1]
[1]Department of Radiology, Centre Hospitalier de l'Université de Montréal, Montreal, QC, Canada; [2]MR Clinical Science, Philips Healthcare, Cleveland, OH, United States; [3]Department of Languages, Literatures & Linguistics, Syracuse University, Syracuse, NY, United States

2454. Time-Interleaved Imaging of Arbitrary Scan Planes Applied to Real-Time Speech MRI
Yoon-Chul Kim[1], Michael I. Proctor[1], Shrikanth S. Narayanan[1], Krishna S. Nayak[1]
[1]Department of Electrical Engineering, University of Southern California, Los Angeles, CA, United States

2455. Determination of Optical Properties of the Rat Eye using *In Vivo* High-Resolution MR Imaging
Wilfried Reichardt[1], Christian van Oterendorp[2], Dominik von Elverfeldt[1], Luis Diaz-Santana[3]
[1]Dept. of Radiology, Medical Physics, University Medical Center, Freiburg, Germany; [2]University Eye Hospital, University Medical Center, Freiburg, Germany; [3]Optometry & Visual Science, City University London, London, United Kingdom

2456. Kurtosis Analysis for DWI Improves Prediction of Short-Term Response in Head & Neck Cancer
Jacobus F. A. Jansen[1], Yonggang Lu[2], Hilda E. Stambuk[2], Nancy Y. Lee[2], Jason A. Koutcher[2], Amita Shukla-Dave[2]
[1]Maastricht University Medical Center, Maastricht, Netherlands; [2]MSKCC, NY, United States

2457. Evaluation of Pretreatment & Early Response DCE MRI in Head & Neck Cancer: Prediction of Short-Term Outcome
Jacobus F. A. Jansen[1], Yonggang Lu[2], Hilda E. Stambuk[2], Nancy Y. Lee[2], Jason A. Koutcher[2], Amita Shukla-Dave[2]
[1]Maastricht University Medical Center, Maastricht, Netherlands; [2]MSKCC, NY, United States

Spinal Cord

Exhibit Hall Tuesday 13:30-15:30

2458. *In Vivo* Myelin Water Imaging in Rat Spinal Cord
Piotr Kozlowski[1,2], Andrew C. Yung[1], Henry S. Chen[1], Jie Liu[2], Wolfram Tetzlaff[2]
[1]UBC MRI Research Centre, Vancouver, BC, Canada; [2]ICORD, Vancouver, BC, Canada

2459. *Ex Vivo* Myelin Water & DTI Measurements of SKP-SC Transplanted Cell Therapy in Contused Rat Spinal Cord: Correlation with Histology
Andrew C. Yung[1], Peggy Assinck[2], Leo Wu[2], Jie Liu[2], Wolfram Tetzlaff[2], Piotr Kozlowski[1,2]
[1]UBC MRI Research Centre, University of British Columbia, Vancouver, BC, Canada; [2]ICORD, Vancouver, BC, Canada

2460. Prospects for Quantitative Imaging of Myelin with Dual-Echo Short Inversion Time 3D UTE MRI
Michael J. Wilhelm[1], Henry H. Ong[1], Suzanne L. Wehrli[2], Ping-Huei Tsai[1], David B. Hackney[3], Felix W. Wehrli[1]
[1]Laboratory for Structural NMR Imaging, Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States; [2]NMR Core Facility, Children's Hospital of Philadelphia, Philadelphia, PA, United States; [3]Department of Radiology & Neurology, Harvard Medical School, Beth Israel Deaconess Medical Center, Boston, MA, United States

2461. *In Vivo* Rat Spinal Cord Relaxation Times Measured at 4.7 T & 11.1 T
Garrett William Astary[1], Xiaoming Chen[2], Malisa Sarntinoranont[2], Thomas Harold Mareci[3]
[1]Biomedical Engineering, University of Florida, Gainesville, FL, United States; [2]Mechanical & Aerospace Engineering, University of Florida; [3]Biochemistry & Molecular Biology, University of Florida

2462. MR Nerve Imaging using Blood Suppressed 3D T_2 Weighted Imaging with Uniform Fat Suppression
Ajit Shankaranarayanan[1], Xhikui Xiao[2], Hao Shen[2], Ananth Madhuranthakam[3]
[1]Global Applied Science Lab, GE Healthcare, Menlo Park, CA, United States; [2]Global Applied Science Lab, GE Healthcare, Beijing, China, People's Republic of; [3]Global Applied Science Lab, GE Healthcare, Boston, MA, United States

2463. Intra Voxel Incoherent Motion (IVIM) MRI of the Human Spinal Cord: Preliminary Results & Potentiality
Virginie Callot[1], Guillaume Duhamel[1], Pauline Moulin[1], Patrick J. Cozzone[1]
[1]Centre de Résonance Magnétique Biologique et Médicale (CRMBM, UMR 6612 CNRS), Marseille, France

2464. *In Vivo*, High Resolution Diffusion Tensor Imaging (DTI) on Naive Rat Spinal Cord: From Cervial to Sacral Cord
Joong Hee Kim[1], Kathleen E. Chaffee[1], Sheng-Kwei Song[1]
[1]Radiology, Washington University, St. Louis, MO, United States

2465. Diffusion & Magnetization Transfer Imaging Detects Spinal Cord Lesions in Amyotrophic Lateral Sclerosis
Pierre-Francois Pradat[1], Julien Cohen-Adad[2,3], Mohamed Mounir Elmendili[2], Stephane Lehericy[4], Sophie Blancho[5], Vincent Meininger[6], Serge Rossignol[7], Habib Benali[2]
[1]Département des Maladies du Système Nerveux, Hôpital de la Pitié-Salpétrière, Paris, France; [2]UMR-678, INSERM-UPMC, Pitié-Salpêtrière Hospital, Paris, France; [3]A.A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Harvard Medical School, Charlestown, MA, United States; [4]Centre for Neuroimaging Research (CENIR), CRICM,INSERM U975, CNRS UMR 7225, , Pitié-Salpêtrière Hospital, Paris; [5]Institut pour la Recherche sur la Moelle Epinière et l'Encéphale, France; [6]Département des Maladies du Système Nerveux, Pitié-Salpêtrière Hospital, France; [7]GRSNC, Faculty of Medicine, Université de Montréal, Montreal, Canada

2466. An Investigation of Motion Correction Algorithms for Pediatric Spinal Cord DTI in Normals & Patients with SCI
Nadia Barakat[1], Devon Middleton[1], Louis Hunter[2], Jürgen Finsterbusch[3], Scott Faro[1], Mj Mulcahey[2], Amer Samdani[2], Feroze Mohamed[1]
[1]Temple University, Philadelphia, PA, United States; [2]Shriners Hospital For Children; [3]University Medical Center Hamburg-Eppendorf, Hamburg, Germany

2467. MRI of Neural & Vascular Injury Pattern in Contusion Spinal Cord Injury
Tsang-Wei Tu[1,2], Philip V. Bayly[1], Sheng-Kwei Song[2]

[1]Mechanical Engineering & Materials Science, Washington University in St. Louis, Saint Louis, MO, United States; [2]Radiology, Washington University in St. Louis, Saint Louis, MO, United States

2468. Vascular Stabilization with Angiopoitin-1 Improves Outcome in Experimental Spinal Cord Injury
Juan Herrera[1], Laura M. Sundberg[1], Ponnada A. Narayana[1]
[1]Department of Diagnostic & Interventional Imaging, UTHealth Medical School, Houston, TX, United States

2469. Measures of Quantitative MRI Correlate with Neurological Outcomes in Patients After Acute Spinal Cord Injury
Yunyan Zhang[1], V. Wee Yong[1], R. John Hurlbert[1], Steve Casha[2]
[1]University of Calgary, Calgary, AB, Canada; [2]Dalhousie University, Halifax, Nova Scotia, Canada

2470. Grey Matter & White Matter Volume Measurements in the Cervical Cord *In-Vivo*: A Pilot Study with Application to Magnetisation Transfer
Marios C. Yiannakas[1], Hugh Kearney[1], Rebecca S. Samson[1], Declan T. Chard[1], Olga Ciccarelli[2], David H. Miller[1], Claudia A. M. Wheeler-Kingshott[1]
[1]Neuroinflammation, UCL Institute of Neurology, London, United Kingdom; [2]Brain Repair & Rehabilitation, UCL Institute of Neurology, London, United Kingdom

2471. Novel Lesions in the Spinal Cord of the EAE Model of Multiple Sclerosis Identified with SWI MRI
Nabeela Nathoo[1,2], Ying Wu[1,3], Voon Wee Yong[4,5], Samuel Barnes[6], Andre Obenaus[6,7], Jeff F. Dunn[1,3]
[1]Experimental Imaging Centre, University of Calgary, Calgary, Alberta, Canada; [2]Neuroscience, University of Calgary, Calgary, Alberta, Canada; [3]Radiology, University of Calgary, Calgary, Alberta, Canada; [4]Clinical Neurosciences, University of Calgary, Calgary, Alberta, Canada; [5]Hotchkiss Brain Institute, Calgary, Alberta, Canada; [6]Biophysics and Bioengineering, Loma Linda University, Loma Linda, CA, United States; [7]Radiation Medicine, Loma Linda University, Loma Linda, CA, United States

Developing Brain

Exhibit Hall Wednesday 13:30-15:30

2472. Distinctive Temporal Changes of FA at Different Cortical Areas of Human Fetal Brain
Hao Huang[1], Goran Sedmak[2], Tina Jeon[1], Paul Yarowsky[3], Nenad Sestan[2]
[1]Advanced Imaging Research Center, University of Texas Southwestern Medical Center, Dallas, TX, United States; [2]Department of Neurobiology, Yale University, New Haven, CT, United States; [3]Department of Pharmacology & Experimental Therapeutics, University of Maryland, Baltimore, MD, United States

2473. Regional Evaluation of White Matter Injury in Children Treated with Cranial-Spinal Radiation for Medulloblastomas
Colleen Dockstader[1], Todd Cunningham[1], Eric Bouffet[2], Nicole Law[1], Normand Laperriere[3], Suzanne Laughlin[4], Douglas Strother[5], Christopher Fryer[6], Marie-Eve Briere[5], Juliette Hukin[7], Dina McConnell[8], Fang Liu[1], Conrad Rockel[9], Donald Mabbott[1]
[1]Psychology, The Hospital for Sick Children, Toronto, Ontario, Canada; [2]Haematology/Oncology, The Hospital for Sick Children, Toronto, Ontario, Canada; [3]Haematology/Oncology, Princess Margaret Hospital, Toronto, Ontario, Canada; [4]Diagnostic Imaging, The Hospital for Sick Children, Toronto, Ontario, Canada; [5]Hematology, Oncology, & Transplant Program, Alberta Children's Hospital, Calgary, Ontario, Canada; [6]Haematology/Oncology, BC Children's Hospital, Vancouver, Ontario, Canada; [7]Pediatric Neurology & Oncology/Hematology/BMT Programs, BC Children's Hospital, Vancouver, BC, Canada; [8]Psychology, BC Children's Hospital, Vancouver, Ontario, Canada; [9]Radiology, McMaster University, Hamilton, Ontario, Canada

2474. Characterisation of the BOLD Signal Haemodynamic Response Function (HRF) in the Neonatal Somatosensory Cortex
Tomoki Arichi[1], Gianlorenzo Fagiolo[2], Alejandro Melendez[3], Nazakat Merchant[1], Nora Tusor[1], Serena J. Counsell[1], Etienne Burdet[3], Christian F. Beckmann[4], A. David Edwards[1]
[1]Neonatal Medicine Group, MRC Clinical Sciences Centre, Hammersmith Hospital, Imperial College London, London, United Kingdom; [2]Imaging Physics Group, MRC Clinical Sciences Centre, Hammersmith Hospital, Imperial College London; [3]Department of Bioengineering, Imperial College London; [4]Mathematical Imaging Neuroscience, Donders Institute, Radboud University, Nijmegen, Netherlands

2475. Differences in Thalamic Activity & in the Temporal Pattern of Bold Signal between Neonates Born at Term & Preterm: A fMRI Study During Passive Auditory Stimulation.
Elisa Scola[1], Silvia Pontesilli[1], Roberta Scotti[1], Valeria Blasi[1], Roberta Longaretti[1], Paola Scifo[1,2], Sara Cirillo[1], Antonella Iadanza[1], Antonella Poloniato[3], Graziano Barera[3], Giuseppe Scotti[1], Cristina Baldoli[1]
[1]Neuroradiology Department - CERMAC, San Raffaele Scientific Institute, Milano, Italy; [2]Department of Nuclear Medicine, San Raffaele Scientific Institute; [3]Neonatology & Neonatological Intensive Care Unit, San Raffaele Hospital, Milan, Italy

2476. A Graph Matching-Based Sulcal Pattern Analysis: Application to the Study of Twin Brains
Kiho Im[1], Rudolph Pienaar[1], Jong-Min Lee[2], Joon-Kyung Seong[3], Yu Yong Choi[2], Kun Ho Lee[4], P. Ellen Grant[1]
[1]Children's Hospital Boston, Boston, MA, United States; [2]Hanyang University; [3]Soongsil University; [4]Chosun University

2477. Automatic Segmentation & Parcellation of Subcortical White & Grey Matter using DTI in the Preterm Neonate
Gareth Ball[1], Serena J. Counsell[1], Ioannis S. Gousias[1], Paul Aljabar[2], Jo V. Hajnal[1], Daniel Rueckert[2], A. David Edwards[1,3], James P. Boardman[1,4]
[1]Imperial College London & MRC Clinical Sciences Centre, London, United Kingdom; [2]Department of Computing, Imperial College London, London, United Kingdom; [3]Division of Neonatology, Imperial College Healthcare NHS Trust, London, United Kingdom; [4]Simpson Centre for Reproductive Health, Royal Infirmary of Edinburgh, Edinburgh, United Kingdom

2478. Whole-Brain Oxygen Extraction Fraction is Decreased in Pediatric Traumatic Brain Injury Patients
Dustin Kenneth Ragan[1], Jose A. Pineda[1]
[1]Department of Pediatrics, Washington University School of Medicine, St. Louis, MO, United States

2479. Fast Blood T_1 Measurement in Children & Adults
Ruth L. O'Gorman[1], Cornelia Hagmann[1], Hadwig Speckbacher[1], Ajit Shankaranarayanan[2], Ernst Martin[1]
[1]University Children's Hospital, Zürich, Switzerland; [2]Global Applied Science Laboratory, GE Healthcare, Menlo Park, CA, United States

2480. Cerebral Plasticity Induced by Abacus-Based Mental Calculation Training in Children
Yuzheng Hu[1], Fengji Geng[1,2], Yunqi Wang[1,2], Feiyan Chen[1]
[1]BioX lab, Department of Physics, Zhejiang University, Hangzhou, Zhejiang, China, People's Republic of; [2]Department of Psychology & Behavioral Sciences, Zhejiang University, Hangzhou, Zhejiang, China, People's Republic of

2481. Atypical Development of Dentatothalamic Pathway in Children with Autistic Spectrum Disorders
Jeong-Won Jeong[1,2], Ajay Kumar[1,2], Rajkumar Govindan[1,2], Harry T. Chugani[2,3], Diane C. Chugani[2,4]
[1]Pediatrics, Neurology, Wayne State University, Detroit, MI, United States; [2]PET center, Children's Hospital of Michigan, Detroit, MI, United States; [3]Pediatrics, Neurology, Radiology, Wayne State University, Detroit, MI, United States; [4]Pediatrics, Radiology, Wayne State University, Detroit, MI, United States

2482. Linking Myelination with Behavioural Development in Healthy Infants
Sean C. Deoni[1], Douglas Dean[1], Cara Quigley[1], Frances Liu[1], Beth a Jerskey[2]
[1]School of Engineering, Brown University, Providence, RI, United States; [2]Department of Psychiatry & Human Behavior, Butler Hospital, Providence, RI, United States

2483. MTR & T_1 Measurements in the Very Preterm Brain – Markers for Changes in Tissue Microstructure During Early Development
Revital Nossin-Manor[1,2], Omer Bar-Yosef[3], Margot J. Taylor[1,2], Elizabeth J. Donner[3,4], John G. Sled[5,6]
[1]Diagnostic Imaging, the Hospital for Sick Children, Toronto, ON, Canada; [2]Neurosciences & Mental Health, Research Institute, the Hospital for Sick Children, Toronto, ON, Canada; [3]Neurology, the Hospital for Sick Children, Toronto, ON, Canada; [4]Faculty of Medicine, University of Toronto, Toronto, ON, Canada; [5]Physiology Experimental Medicine, Research Institute, the Hospital for Sick Children, Toronto, ON, Canada; [6]Medical Biophysics, University of Toronto, Toronto, ON, Canada

2484. White Matter Biomarker from DTI for Children with Hereditary Spastic Paraplegia (HSP)
Hao Huang[1], Tien Nguyen[2], Linsley Smith[3], Nancy Clegg[3], Mauricio Delgado[3]
[1]Advanced Imaging Research Center, University of Texas Southwestern Medical Center, Dallas, TX, United States; [2]Department of Biomedical Engineering, University of Texas Southwestern Medical Center, Arlington, TX, United States; [3]Department of Neurology, Texas Scottish Rite Hospital, Dallas, TX, United States

2485. Neuroanatomical Associates of the Cognitive & Motor Abnormalities Found in Children with Isolated Growth Hormone Deficiency
Emma A. Webb[1], Michelle O'Reilly, Jon Clayden, Kiran Seunarine, Tina Banks[2], Wk Chong[2], Naomi Dale[2], Alison Salt[2], Mehul Dattani, Chris A. Clark
[1]Institute of Child Health, London, UK, United Kingdom; [2]Great Ormond Street Hospital for Children

2486. Decrease in White Matter Volumes & Commensurate Deficits in Neuropsychological Performance Following Radiation Therapy in Children
Steven A. Messina[1], Rebecca Martin[2], Trisha Hay[2], Gerard Deib[1], E. M. Mahone[2,3], Wendy R. Kates[2,4], Alena Horska[1]
[1]Department of Radiology & Radiological Sciences, Division of Neuroradiology, Johns Hopkins University College of Medicine, Baltimore, MD, United States; [2]Psychiatry & Behavioral Sciences, Johns Hopkins University College of Medicine, Baltimore, MD, United States; [3]Department of Neuropsychology, Kennedy Krieger Institute, Baltimore, MD, United States; [4]Department of Psychiatry & Behavioral Sciences, SUNY Upstate Medical University, Syracuse, NY, United States

2487. Preferential Posterior Damage of Central Visual Pathways in Children with Periventricular Leukomalacia (PVL) : A TBSS & Probabilistic Tractography Study
Rafael Ceschin[1], Arabhi C. Nagasunder[2,3], Marvin D. Nelson[2], Stefan Bluml[2,3], Ashok Panigrahy[1,2]

[1]Radiology, Children's Hospital of Pittsburgh of UPMC, Pittsburgh, PA, United States; [2]Radiology, Childrens Hospital Los Angeles, Los Angeles, CA, United States; [3]Rudi Schulte Research Institute, Santa Barbara, CA, United States

2488. Early Myelination in the Very Preterm Brain – a Combined MTR-DTI Study

Revital Nossin-Manor[1,2], Dallas Card[1], Drew J. Morris[1], Margot J. Taylor[1,2], John G. Sled[3,4]
[1]Diagnostic Imaging, the Hospital for Sick Children, Toronto, ON, Canada; [2]Neurosciences & Mental Health, Research Institute, the Hospital for Sick Children, Toronto, ON, Canada; [3]Physiology Experimental Medicine, Research Institute, the Hospital for Sick Children, Toronto, ON, Canada; [4]Medical Biophysics , University of Toronto, Toronto, ON, Canada

2489. Probing Micro-Structural Information using the CHARMED Model in the Non-Myelinated Human Newborn Brain at 3T

Nicolas Kunz[1], Hui Zhang[2], Kieran R. O'brien[3], Yaniv Assaf[4], Daniel Alexander[2], François Lazeyras[5], Petra S. Hüppi[1,6]
[1]Division of Development & Growth, Fepartment of Pediatrics, Geneva University Hospitals, Geneva, Switzerland; [2]Computer Science, University College London, United Kingdom; [3]Advanced Clinical Imaging Technology, CIBM-Siemens Development group, University of Lausanne, University of Geneva & EPFL; [4]Tel Aviv University, Neurobiology department; [5]Department of Radiology-CIBM, Geneva University Hospitals; [6]Department of Neurology, Children's Hospital

2490. Hippocampal Shape Variations in Very Preterm Infants

Deanne Kim Thompson[1,2], Christopher Adamson[1], Nathan Faggian[2], Stephen J. Wood[3,4], Gehan Roberts[1], Jeremy Lim[1], Simon K. Warfield[5], Marc Seal[1], Peter J. Anderson[1], Lex W. Doyle[1,6], Gary F. Egan[2], Terrie E. Inder[1,7]
[1]Murdoch Childrens Research Institute, Royal Children's Hospital, Parkville, Victoria, Australia; [2]Florey Neurosciences Institute, Centre for Neuroscience, University of Melbourne, Parkville, Victoria, Australia; [3]Melbourne Neuropsychiatry Centre, University of Melbourne, Parkville, Victoria, Australia; [4]School of Psychiatry, University of Birmingham, Birmingham, United Kingdom; [5]Department of Radiology, Children's Hospital, Harvard Medical School, Boston, United States; [6]Department of Obstetrics & Gynecology, Royal Women's Hospital, Parkville, Victoria, Australia; [7]Department of Pediatrics, St Louis Children's Hospital, Washington University in St Louis, St Louis, United States

2491. Cortical Thinning in Children with Frontal Lobe Epilepsy

Elysa Widjaja[1], Sina Zarei Mahmoodabadi[1], O. Carter Snead[1], Abeer Almehdar[1], Mary Lou Smith[1]
[1]Hospital for Sick Children, Toronto, Ontario, Canada

2492. Tract-Based Spatial Statistics Investigation of the Effects of Hypothermic Therapy for Neonatal Encephalopathy in a South Indian Neonatal Unit

David L. Price[1], Suhdin Thayyil[2], Sonya Mahony[1], Alan Bainbridge[1], Frances M. Cowan[3], M. Ayer[4], B. Guhan[4], Neil Marlow[2], S. Shankaran[5], Ernest B. Cady[1], Nicola J. Robertson[2]
[1]Medical Physics & Bioengineering, University College London Hospital Foundation NHS Trust, London, United Kingdom; [2]Institute for Womens Health, University College London, London, United Kingdom; [3]Institute of Clinical Science, Imperial College London, London, United Kingdom; [4]Calicut Medical College, Kerala, India; [5]School of Medicine, Wayne State University, MI, United States

2493. Longitudinal Changes in Infant Brain Metabolites at Age 6 & 13 Months using 3D High-Speed MR Spectroscopic Imaging at 3 Tesla

Chenying Yang[1], Neva Corrigan[2], Mindy Olson[3], Dennis Shaw[3,4], Stefan Posse[5], Stephen Dager[1]
[1]Department of Radiology & Bioengineering, University of Washington, Seattle, WA, United States; [2]Department of Radiology, University of Washington, Seattle, WA, United States; [3]Seattle Children's, Seattle, WA, United States; [4]Department of Radiology , University of Washington, Seattle, WA, United States; [5]Department of Neurology, University of New Mexico School of Medicine, Albuquerque, NM, United States

2494. Development of Cerebellar Connectivity in Fetal Human Brains Revealed by Diffusion Tractography

Emi Takahashi[1], Emiko Hayashi[1], Hannah Kinney[1], Rebecca D Folkerth[2], P. Ellen Grant[1]
[1]Children's Hospital Boston, Boston, MA, United States; [2]Brigham and Women's Hospital

2495. T_2 Layering Pattern Changes in Primary Motor Cortex in the First Two Years of Life: A Study on Normal Children.

Andrea Righini[1], Andreana Ardemagni[1], Thomas J. Re[1], Cecilia Parazzini[1], Chiara Doneda[1], Filippo Arrigoni[1], Fabio Triulzi[1]
[1]Radiology, Children's Hospital V. Buzzi, Milan, Italy

2496. Longitudinal Shape Analysis of Lateral Ventricles During the First Year of Human Life

Shun Xu[1], Hongtu Zhu[2], Martin Styner[1,3], Wei Gao[4], Valerie Jewells[5], Dinggang Shen[1,4], Weili Lin[4,6]
[1]Computer Science, University of North Carolina at Chapel Hill, Chapel Hill, NC, United States; [2]Biostatistics, University of North Carolina at Chapel Hill, United States; [3]Psychiatry, University of North Carolina at Chapel Hill, United States; [4]Radiology, University of North Carolina at Chapel Hill, United States; [5]Neuroradiology, University of North Carolina at Chapel Hill, United States; [6]Biomedical Engineering, University of North Carolina at Chapel Hill, United States

2497. Atypical White Matter Microstructural Integrity Pattern in Children with High Functioning Autism & Low Functioning Autism Identified with Tract Based Spatial Statistics

Vijay Narayan Tiwari[1,2], Jeong-Won Jeong[1], Senthil K. Sundaram[1], Harry T. Chugani[3], Diane C. Chugani[4]

[1]Pediatrics, Neurology, Wayne State University, Detroit, MI, United States; [2]PET Center, Children's Hospital of Michigan, Detroit, MI, United States; [3]Pediatrics, Neurology, Radiology, Wayne State University, Detroit, MI, United States; [4]Pediatrics, Radiology, Wayne State University, Detroit, MI, United States

2498. Abnormal Diffusivity Changes in White Matter Regions of the Children with Autism Spectrum Disorder: Comparison of TBSS, TSPOON, & SPM Analysis

Jeong-Won Jeong[1], Ajay Kumar[1], Senthil K. Sundaram[1], Harry T. Chigani[1], Diane C. Chugani[2]
[1]Pediatrics, Neurology, Wayne State University, Detroit, MI, United States; [2]Radiology, Wayne State University, Detroit

2499. Quantitative Morphometry Analysis of the Fetal Brain using Clinical MR Imaging

Meritxell Bach Cuadra[1], Gabriele Bonanno[1], Laurent Guibaud[2], Stephan Eliez[3], Jean-Philippe Thiran[1], Marie Schaer[1,3]
[1]Signal Processing Laboratories (LTS5), EPFL, Lausanne, Switzerland; [2]Université Claude Bernard Lyon I, France; [3]Psychiatry Department, University of Geneva School of Medicine, Geneva, Switzerland

2500. Quantitative Proton MRS in a Clinical Setting for Diagnosis & Collection of Reference Data for Children

Marinette van Der Graaf[1,2], Bozena Góraj[1], Cindy P. M. Frentz[1], Arend Heerschap[1]
[1]Radiology, Radboud University Nijmegen Medical Centre, Nijmegen, Netherlands; [2]Clinical Physics Laboratory of the Dept of Pediatrics, Radboud University Nijmegen Medical Centre, Nijmegen, Netherlands

2501. DTI Based Tractography of Fetal Association Fiber Tracts *In Utero*

Christian Mitter[1], Peter Christian Brugger[2], Laura Perju-Dumbrava[3], Daniela Prayer[1], Gregor Kasprian[1]
[1]Department of Radiology, Division of Neuroradiology, Medical University of Vienna, Vienna, Austria; [2]Center of Anatomy & Cell Biology, Medical University of Vienna, Vienna, Austria; [3]Institute of Neurology, Medical University of Vienna, Vienna, Austria

2502. Dynamics of the Upper Airway & Application to Sleep Apnea

Raanan Arens[1], Michael L. Lipton[2], Sanghun Sin[1], Mark E. Wagshul[2]
[1]Respiratory & Sleep Medicine, Montefiore Medical Center, Bronx, NY, United States; [2]Radiology, Albert Einstein College of Medicine, Bronx, NY, United States

2503. Towards the "Baby Connectome": Mapping the Structural Connectivity of the Newborn Brain

Olga Tymofiyeva[1], Christopher P. Hess[1], Nan Tian[1], Donna M. Ferriero[2,3], A. James Barkovich[1,3], Duan Xu[1]
[1]Department of Radiology & Biomedical Imaging, UCSF, San Francisco, CA, United States; [2]Department of Neurology, UCSF, San Francisco, CA, United States; [3]Department of Pediatrics, UCSF, San Francisco, CA, United States

2504. MRI Evidence of Brain Structure Alterations in Adolescence Prenatally Exposed to Cocaine

Xu Chen[1], Sonia Minnes[2], Miaoping Wu[2], John Jesberger[1], Lynn Singer[3,4], Jean Tkach[1,5]
[1]Radiology, Case Western Reserve University, Cleveland, OH, United States; [2]Mandel School of Applies Social Sciences, CWRU; [3]Pediatrics, CWRU; [4]Environmental Health Sciences, CWRU; [5]Radiology, Cincinnati Children's Hospital Research Foundation, Cincinnati, OH, United States

2505. Longitudinal Regional Brain Development in Infants from Four to Nine Months of Age

Arvind Caprihan[1], Mustafa S. Cetin[1], Joy Van Meter[2], Jean R. Lowe[3], John P. Phillips[2,4]
[1]Mind Research Network, Albuquerque, NM, United States; [2]Mind Research Network, Albuquerque, United States; [3]Department of Pediatrics, University of New Mexico, Albuquerque, United States; [4]Department of Neurology, University of New Mexico, Albuquerque, United States

2506. Magnetic Resonance Spectroscopy in the Brain of Adolescent Binge Drinkers

Caroline Rae[1], Maree Teesson[2], Monique Bucci[3], Roland G. Henry[3]
[1]Neuroscience Research Australia, Randwick, NSW, Australia; [2]NDARC, the University of New South Wales, Australia; [3]UCSF, United States

2507. DTI Evaluation of White Matter Integrity in Long Term Survivors of Pediatric Low Grade Gliomas

Fang Liu[1], Frank Wang[1], Uri Tabori[2], Eric Bouffet[2], Katrin Scheinemann[3], Donald J. Mabbott[1]
[1]Neurosciences & Mental Health, the Hospital for Sick Children, Toronto, ON, Canada; [2]Haematology/Oncology, the Hospital for Sick Children, Toronto, ON, Canada; [3]Pediatrics, McMaster University, Hamilton, ON, Canada

2508. Can Magnetic Resonance Imaging R_2* Quantitation Elucidate Acute Cerebral Malaria Pathology?

James E. Siebert[1], Matthew T. Latourette[1], Michael J. Potchen[1], Colleen A. Hammond[1], Gretchen L. Birbeck[2], J. Kevin DeMarco[1], Samuel D. Kampondeni[3], Karl B. Seydel[3,4], Terrie E. Taylor[3,4]
[1]Radiology, Michigan State University, East Lansing, MI, United States; [2]International Neurologic & Psychiatric Epidemiology Program, Michigan State University, East Lansing, MI, United States; [3]Blantyre Malaria Project, University of Malawi, College of Medicine, Blantyre, Malawi; [4]Internal Medicine, Michigan State University, East Lansing, MI, United States

Imaging in Psychiatric Disorders

Exhibition Hall Thursday 13:30-15:30

2509. Similar Traits of White Matter Disruption for Major Depression Disorder (MDD) & High Risk MDD of Adolescents

Hao Huang[1], Xin Fan[1], Uma Rao[2]

[1]Advanced Imaging Research Center, University of Texas Southwestern Medical Center, Dallas, TX, United States; [2]Department of Psychiatry, University of Texas Southwestern Medical Center, Dallas, TX, United States

2510. Proton MRS Reveals Striatal and Anterior Cingulate GABA Deficits in Adolescents with Tourette's Disorder

Vilma Gabbay[1], Barbara Coffey[1], Xiangling Mao[2], Benjamin Ely[1], Aviva Panzer[1], James S. Babb[3], Nora Weiduschat[2], Dikoma C Shungu[2]

[1]Child Study Center, New York University School of Medicine, New York, NY, United States; [2]Radiology, Weill Cornell Medical College, New York, NY, United States; [3]Radiology, New York University School of Medicine, New York, NY, United States

2511. Advanced MRI Detection of Blast-Related Traumatic Brain Injury in US Military Personnel: Early Prediction of Post Traumatic Stress Disorder Severity

Christine MacDonald[1], Dana Cooper[1], Ann Johnson[1], Elliot Nelson[2], Nicole Werner[1], Joshua Shimony[3], Abraham Snyder[3], Marcus Raichle[3], John Witherow[4], Raymond Fang[5], Stephen Flaherty[5,6], David Brody[1]

[1]Neurology, Washington University, Saint Louis, MO, United States; [2]Psychiatry, Washington University, Saint Louis, MO, United States; [3]Radiology, Washington University, Saint Louis, MO, United States; [4]Radiology, Landstuhl Regional Medical Center, Landstuhl, Germany; [5]Trauma Surgery, Landstuhl Regional Medical Center, Landstuhl, Germany; [6]Walter Reed Army Medical Center, Washington, DC, United States

2512. ^{1}H MRS Provides Evidence of Altered Frontal Cortex GABA & Glutamate-Glutamine in Schizophrenia *In Vivo*

Lawrence S. Kegeles[1,2], Xiangling Mao[3], Arielle Stanford[1], Najate Ojeil[1], Beatriz Alvarez[1], Ragy R. Girgis[1], Roberto Gil[1], Anissa Abi-Dargham[1,2], Sarah H. Lisanby[1], Dikoma C. Shungu[3]

[1]Psychiatry, Columbia University, New York, NY, United States; [2]Radiology, Columbia University, New York, NY, United States; [3]Radiology, Weill Cornell Medical Center, New York, NY, United States

2513. Diffusion Tensor Imaging of Intact & Injured Rat Hippocampus–Histopathological Correlates for Alterations Caused by Status Epilepticus & Traumatic Brain Injury

Alejandra Sierra[1], Teemu Laitinen[1], Asla Pitkänen[1,2], Olli Gröhn[1]

[1]Department of Neurobiology, A.I. Virtanen for Molecular Sciences, University of Eastern Finland, Kuopio, Finland; [2]Department of Neurology, Kuopio University Hospital, Kuopio, Finland

2514. Towards a Tract-Based Atlas of Mouse Brain Maturation & Gender Differences

Madhura Ingalhalikar[1], Stathis Kanterakis[1], Drew Parker[1], Christos Davatzikos[1], Ragini Verma[1]

[1]Section of Biomedical Image Analysis, Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States

2515. Importance of Cardiac Rhythm in the Assessment of Flow Rate & Stroke Volume in CSF Flow

Mario Forjaz Secca[1,2]

[1]Cefitec, Dep. of Physics, Univ. Nova de Lisboa, Monte de Caparica, Portugal; [2]Ressonância Magnética de Caselas, Lisboa, Portugal

2516. Simultaneous Perfusion MRI & FET-PET

Ke Zhang[1], Joachim Bernhard Maria Kaffanke[1], Christian Filß[1], Gabriele Stoffels[1], Irene Neuner[1,2], Karl-Josef Langen[1], Hans Herzog[1], N. Jon Shah[1,3]

[1]Institute of Neuroscience & Medicine 4, Medical Imaging Physics, Forschungszentrum Jülich GmbH, 52425, Juelich, Germany; [2]Department of Psychiatry & Psychotherapy, JARA, RWTH Aachen University, Faculty of Medicine, 52074 Aachen, Germany; [3]Faculty of Medicine, Department of Neurology, JARA, RWTH Aachen University, 52074 Aachen, Germany

2517. Cerebral Blood Flow Response to Hypoglycemia in Type 1 Diabetes

Silvia Mangia[1], Federico De Martino[2], Nolawit Tesfaye[3], Anjali Kumar[3], Elizabeth Seaquist[3]

[1]CMRR - Dept. of Radiology, University of Minnesota, Minneapolis, MN, United States; [2]Dept. of Cognitive Neuroscience, University of Maastricht, Maastricht, Netherlands; [3]Dept. of Medicine, University of Minnesota, Minneapolis, MN, United States

2518. Abnormal Resting State Functional Connectivity as a Marker for Diagnosing & Predicting Recovery in Mild Traumatic Brain Injury

Guangyu Chen[1], Thomas Hammeke[2], Gang Chen[1], Michael McCrea[2], Barney Douglas Ward[1], Sarah Miller[3], Shi-Jiang Li[1,4]

[1]Biophysics, Medical College of Wisconsin, Milwaukee, WI, United States; [2]Department of Neurology, Medical College of Wisconsin, Milwaukee, WI, United States; [3]St. Mary's Regional Medical Center, St. Mary's Regional Medical Center, Enid, OK, United States; [4]Psychiatry & Behavioral Medicine, Medical College of Wisconsin, Milwaukee, WI, United States

2519. Brain Bioenergetic Changes Caused by Transcranial Direct Current Stimulation; a ^{31}P MRS Study
Caroline Rae[1], Vincent Lee[2], Colleen Loo[3], Roger Ordidge[4]
[1]Neuroscience Research Australia, Randwick, NSW, Australia; [2]School of Medical Sciences, the University of New South Wales, NSW, Australia; [3]School of Psychiatry, the University of New South Wales, Australia; [4]Dept of Medical Physics, University College London, United Kingdom

2520. Increased Striatal Iron Accumulation in Methamphetamine Users
Yosef A. Berlow[1,2], David L. Lahna[3,4], Daniel L. Schwartz[3,4], Alex D. Mitchell[5], Alexander A. Stevens[2,3], William D. Rooney[1,2], William F. Hoffman[3,5]
[1]Advanced Imaging Research Center, Oregon Health & Science University, Portland, OR, United States; [2]Department of Behavioral Neuroscience, Oregon Health & Science University, Portland, OR, United States; [3]Department of Psychiatry, Oregon Health & Science University, Portland, OR, United States; [4]Methamphetamine Abuse Research Center, Portland Veterans Affairs Medical Center, Portland, OR, United States; [5]Mental Health & Clinical Neurosciences Division, Portland Veterans Affairs Medical Center, Portland, OR, United States

2521. MRI & Histological Evidence for the Blockade of Cuprizone-Induced Demyelination in C_{57}/B_{l6} Mice by Quetiapine
Prasant Chandran[1], Jaymin Upadhyay[1], Stella Markosyan[2], Andrew Lisowski[3], Wayne Buck[3], Gerard B. Fox[1], Mark Day[1], Feng Luo[1]
[1]Translational Imaging & Biochemistry, Abbott Laboratories, Abbott Park, IL, United States; [2]Neuroscience Discovery, Abbott Laboratories, Abbott Park, IL, United States; [3]Cellular & Molecular Exploratory Toxicology, Abbott Laboratories, Abbott Park, IL, United States

2522. Intra-Orbital Distance as a Record of Social Brain Dysmorphology in Autism.
Charlton Cheung[1], Kevin Yu[1], Antonia Yam[2], Valencia Myint[3], Yan Fung Yee[4], Siew Chua[5,6], Grainne Mary McAlonan[5,7]
[1]Psychiatry, University of Hong Kong, Pokfulam, Hong Kong; [2]Neuroscience, University of Bristol, United Kingdom; [3]Psychology, University of Cardiff, United Kingdom; [4]University of Harvard, United States; [5]Psychiatry, University of Hong Kong, Hong Kong, Hong Kong; [6]State Key Laboratory for Brain & Cognitive Sciences; [7]Key State Laboratory for Brain & Cognitive Sciences

2523. The Siena/FSL Whole Brain Atrophy Measurement Algorithm May Require Substantially Larger Group Sizes at 3T Than 1.5T for Alzheimer's Disease
Keith S. Cover[1], Ronald A. van Schijndel[2], Bob W. van Dijk[3], Alberto Redolfi[4], Dirk L. Knol[5], Giovanni B. Frisoni[4], Frederik Barkhof[2], Hugo Vrenken[2,6]
[1]Physics & Medical Technology, VU University Medical Center, Amsterdam, North Holland, Netherlands; [2]Department of Radiology, VU University Medical Center, Amsterdam, Netherlands; [3]Department of Physics & Medical Technology, VU University Medical Center, Amsterdam, Netherlands; [4]Laboratory of Epidemiology & Neuroimaging, IRCCS San Giovanni di Dio Fatebenefratelli, Brescia, Italy; [5]Department of Epidemiology & Biostatistics, VU University Medical Center, Amsterdam, Netherlands; [6]MS Center Amsterdam & Alzheimer Center, VU University Medical Center, Amsterdam, Netherlands

2524. Dynamic Response Inhibition Network in Heroin Addicts Brain: Evidence from Functional Neuroimaging with GO/Go-Nogo Task
Zheng Yang[1], Chunming Xie[2,3], Yongcong Shao[1], Liping Fu[1], Gang Chen[2], Wenjun Li[2], Joseph Goveas[4], Guangyu Chen[2], Enmao Ye[1], Lin Ma[5], Shi-Jiang Li[2]
[1]Beijing Institute of Basic Medical Science, Beijing, China, People's Republic of; [2]Biophysics, Medical College of Wisconsin, Milwaukee, WI, United States; [3]Neurology, School of Clinical Medicine, Southeast University, Nanjing, Jiangsu, China, People's Republic of; [4]Psychiatry & Behavioral Medicine, Medical College of Wisconsin, Milwaukee, WI, United States; [5]The PLA General Hospital, Beijing, China, People's Republic of

2525. Decoupling of Intrinsic Insula Subregional Connectivity was Associated with Episodic Memory Decline in Amnestic Mild Cognitive Impairment
Chunming Xie[1,2], Feng Bai[1,3], Xiaobin Zhang[1], Hui Yu[1], Yongmei Shi[3], Yonggui Yuan[4], Alexander Cohen[2], Joseph Goveas[5], Gang Chen[2], Wenjun Li[2], Guangyu Chen[2], Zheng Yang[6], Zhijun Zhang[3,4], Shi-Jiang Li[2]
[1]Neurology, School of Clinical Medicine, Southeast University, Nanjing, Jiangsu, China, People's Republic of; [2]Biophysics, Medical College of Wisconsin, Milwaukee, WI, United States; [3]Neurology, Affiliated Zhongda Hospital of Southeast University, Nanjing, Jiangsu, China, People's Republic of; [4]Institute of Neuropsychiatry of Southeast University, Nanjing, Jiangsu, China, People's Republic of; [5]Psychiatry & Behavioral Medicine, Medical College of Wisconsin, Milwaukee, WI, United States; [6]Beijing Institute of Basic Medical Science, Beijing, China, People's Republic of

2526. *In Vivo* MRI Detection of $HDAC_5$ During Chronic Amphetamine Stimuli
Christina H. Liu[1], Jinsheng Yang[1], Jia Q. Ren[1], Charng-Ming Liu[1], Huifang Wang[1], Philip K. Liu[1]
[1]Radiology, Massachusetts General Hospital, Charlestown, MA, United States

2527. Multimodal Assessment of Medial Temporal Lobe Function in Schizophrenia
Laura M. Rowland[1], Elena A. Spieker[1], Kimberly Kontson[1], Kathryn W. Buchanan[1], Peter B. Barker[2], Henry H. Holcomb[1,3]

[1]Psychiatry, MPRC, University of Maryland School of Medicine, Baltimore, MD, United States; [2]Russell H. Morgan Department of Radiology & Radiological Sciences, Johns Hopkins University School of Medicine; [3]Psychiatry, Johns Hopkins University School of Medicine, Baltimore, MD, United States

2528. A ^{1}H-MRS Study of the Auditory Cortex in Persons with Autism Spectrum Disorder (ASD)

Mark Steven Brown[1], Katie Youngpeter[2], Debra Singel[3], Susan Hepburn[2], Don C. Rojas[2]
[1]Radiology, University of Colorado Denver, Aurora, CO, United States; [2]Psychiatry, University of Colorado Denver, Aurora, CO, United States; [3]Brain Imaging Center, University of Colorado Denver, Aurora, CO, United States

2529. Alteration of Brain Metabolites in Patients with Type 2 Diabetes &/or Major Depression Measured by Proton MR Spectroscopy at 3T

Shaolin Yang[1,2], Olusola Ajilore[1], Minjie Wu[3], Melissa Lamar[1], Anand Kumar[1]
[1]Department of Psychiatry, University of Illinois at Chicago, Chicago, IL, United States; [2]Department of Radiology, University of Illinois at Chicago, Chicago, IL, United States; [3]Department of Neuology, Northwestern University, Chicago, IL, United States

2530. Glutamate Correlations between the Anterior Cingulate & Cerebellar Vermis

Kevin Wayne Waddell[1], Subechhya Pradhan[2], Malcolm Avison[1], John Gore[3]
[1]Radiology, Vanderbilt, Nashville, TN, United States; [2]Physics, Vanderbilt University, Nashville, TN, United States; [3]Radiology, Vanderbilt University, Nashville, TN, United States

2531. Brain-Derived Neurotrophic Factor (BDNF) Genotype is Associated with Frontal Gray & White Matter Volume Recovery in Abstinent Alcohol Dependent Individuals

Anderson Mon[1], Timothy C. Durazzo[1], Kent Hutchison[2], Dieter J. Meyerhoff[1]
[1]Department of Radiology & Biomedical Imaging, University of California, San Francisco, San Francisco, CA, United States; [2]Psychology, the MIND Institute, University of New Mexico, Albuquerque, NM, United States

2532. Quantification of Cerebral Gene Activities *In Vivo* by Gene-Targeting MRI

Christina Liu[1], Jinsheng Yang[1], Jia Q Ren[1], Charng-Ming Liu[1], Philip Liu[1]
[1]Radiology, Massachusetts General Hospital, Charlestown, MA, United States

2533. Anterior Cingulate Metabolic Abnormalities in Late-Life Major Depression

Olusola Ajilore[1], Aifeng Zhang[1], Rajakumar Nagarajan[2], Albert Thomas[2], Anand Kumar[1]
[1]Psychiatry, University of Illinois-Chicago, Chicago, IL, United States; [2]Unversity of California, Los Angeles

2534. MEG Auditory Evoked Gamma Phase Locking Correlates with ^{1}H-MRS Determined Temporal Lobe GABA Levels

Mark Steven Brown[1], Peter Teale[2], Dan Collins[2], Bryce Pasko[2], Debra Singel[3], Don C. Rojas[2], Martin Reite[2]
[1]Radiology, University of Colorado Denver, Aurora, CO, United States; [2]Psychiatry, University of Colorado Denver, Aurora, CO, United States; [3]Brain Imaging Center, University of Colorado Denver, Aurora, CO, United States

2535. Effects of $DTNBP_1$ (Dysbindin) Gene Variants on Hippocampal Glutamate Concentration Determined by MRS at 3T

Florian Schubert[1], Frank Seifert[1], Christoph Wirth[2], Andreas Klär[2], Thomas Sander[2], Jürgen Gallinat[2]
[1]Physikalisch-Technische Bundesanstalt, Berlin, Germany; [2]Psychiatry, Charité University Medicine, Berlin, Germany

2536. Effect of Psychostimulants on Basal Ganglia Structures in Young ADHD Children

Laura Cyckowski[1], Carolyn McIlree[2], Brian Avants[3], Philip Cook[3], Melissa Narain[4], Ruth Milanaik[5], Li Kan[5], Jeffrey Newcorn[6], Josephine Elia, James Gee[3], Andrew Adesman[7], Manzar Ashtari
[1]Radiology, Children's Hospital of Philadelphia, Philadelphia, PA, United States; [2]University of Vermont College of Medicine, Burlington, VT, United States; [3]University of Pennsylvania, Philadelphia, PA, United States; [4]Zucker Hillside Hospital, North Shore LIJ Health Systems, Glen Oaks, NY, United States; [5]Schneider Children's Hospital, New Hyde Park, NY, United States; [6]Mount Sinai School of Medicine, New York, NY, United States; [7]Schneider Children's Hospital, New Hyde Park, PA, United States

2537. Voxel-Based Morphometry in Assessing a Rat Model of Impulsivity: Agreement with Targeted Western Blot Analysis

Stephen John Sawiak[1,2], Daniele Caprioli[3], E. Merlo[3], D. Theobald[3], B. J. Everitt[3], T. W. Robbins[2,3], T. A. Carpenter[1], Jeffrey W. Dalley[3,4]
[1]Wolfson Brain Imaging Centre, University of Cambridge, Cambridge, UK, United Kingdom; [2]Behavioural & Clinical Neurosciences Institute, University of Cambridge, Cambridge, United Kingdom; [3]Department of Experimental Psychology, University of Cambridge, Cambridge, United Kingdom; [4]Department of Psychiatry, University of Cambridge, Cambridge, United Kingdom

2538. Probing Axon- & Myelin-Specific White Matter Abnormalities in Schizophrenia using MRI/MRS

Dost Ongur[1], Fei Du[1], Bruce M. Cohen, Alissa Cooper[1], Scott Lukas, Perry F. Renshaw[2]
[1]Psychotic Disorders Division, McLean Hospital/Harvard Medical School, Belmont, MA, United States; [2]Psychiatry, University of Utah, Salt Lake City, UT, United States

2539. Hippocampal Structural MRI Abnormalities in Euthymic Bipolar I Disorder
Louise Emsell[1,2], Camilla Langan[1], Helen Casey[1], Sarah Hehir[1], Rory Nannery[1], Wil Van Der Putten[1], Peter McCarthy[1], Colm McDonald[1], Dara M. Cannon[1]
[1]NUI Galway, Galway, Co. Galway, Ireland; [2]Developmental & Functional Brain Imaging, Murdoch Children's Research Institute, Melbourne, Victoria, Australia

2540. *In Vivo* Assessments of Glutamate, GABA & NAAG in Schizophrenia
Laura M. Rowland[1], Kimberly Kontson[1], Jef T. West[1], He Zhu[2], Elena A. Spieker[1], Henry H. Holcomb[1], Peter B. Barker[2]
[1]Psychiatry, MPRC, University of Maryland School of Medicine, Baltimore, MD, United States; [2]Russell H. Morgan Department of Radiology & Radiological Sciences, Johns Hopkins University School of Medicine

2541. Measurement of Creatine-Kinase Reaction Rate Constant in Human Brain using ^{31}P Magnetization Transfer Image Selected *In-Vivo* Spectroscopy (MT-ISIS): A Preliminary Application to Bipolar Disorder
Xianfeng Shi[1,2], Young-Hoon Sung[1,3], Douglas G. Kondo[1,3], Paul Carlson[1,3], Tracy L. Hellem[1], Kristen K. Delmastro[1], SeongEun Kim[2], Chun Zuo[4,5], Eunkee Jeong[2], Perry F. Renshaw[1,3]
[1]The Brain Institute, University of Utah, Salt Lake City, UT, United States; [2]Department of Radiology, University of Utah, Salt Lake City, UT, United States; [3]Department of Psychiatry, University of Utah, Salt Lake City, UT, United States; [4]Brain Imaging Center, Harvard Med School, Belmont, MA, United States; [5]Department of Psychiatry, Harvard Med School, Belmont, MA, United States

2542. White Matter Track Integrity is Not Impaired by Electroconvulsive Therapy
Erik B. Beall[1], Ken E. Sakaie[1], Sarah Szymkowicz[2], David J. Muzina[3], Roman M. Dale[2], Donald A. Malone[2], Michael D. Phillips[1], Mark J. Lowe[1]
[1]Imaging Institute, Cleveland Clinic, Cleveland, OH, United States; [2]Psychiatry & Psychology, Cleveland Clinic, Cleveland, OH, United States; [3]Medco Neuroscience Therapeutic Resource Center, Fort Worth, TX, United States

2543. Lower Glutathione Levels in Methamphetamine Users
Steven Buchthal[1], Linda Chang, Thomas Ernst
[1]Dept. of Medicine, University of Hawaii, Honolulu, HI, United States

2544. Free Water Modulation of White Matter Integrity Measures - with Application to Schizophrenia
Ofer Pasternak[1], Carl-Fredrik Westin[1], Sylvain Bouix[1], Martha E. Shenton[1,2], Marek Kubicki[1,2]
[1]Brigham & Women's Hospital, Harvard Medical School, Boston, MA, United States; [2]VA Boston Healthcare System, Harvard Medical School, Brockton, MA, United States

G Pulse, Algorithms & Software Tools

Exhibition Hall Wednesday 13:30-15:30

2545. Versatile Higher-Order Reconstruction Accelerated by a Graphics Processing Unit (GPU)
Michael Andreas Bieri[1], Christoph Barmet[1], Bertram Jakob Wilm[1], Klaas Paul Pruessmann[1]
[1]Institute for Biomedical Engineering, University & ETH Zurich, Zurich, Switzerland

2546. Accelerating Compressed Sensing MRI Reconstruction with GPU Computing
David S. Smith[1,2], John C. Gore[1,2], Edward Brian Welch[1,2]
[1]Radiology & Radiological Sciences, Vanderbilt University, Nashville, TN, United States; [2]Institute of Imaging Science, Vanderbilt University, Nashville, TN, United States

2547. GPU-Accelerated Gridding for Rapid Reconstruction of Non-Cartesian MRI
Nady M. Obeid[1], Ian C. Atkinson[2], Keith R. Thulborn[2], Wen-Mei W. Hwu[1]
[1]Electrical & Computer Engineering, University of Illinois at Urbana-Champaign, Champaign, IL, United States; [2]Center for Magnetic Resonance Research, University of Illinois at Chicago, Chicago, IL, United States

2548. A GPU Implementation of Compressed Sensing Reconstruction of 3D Radial (Kooshball) Acquisition for High-Resolution Cardiac MRI
Seunghoon Nam[1,2], Tamer Ahmed Basha[2], Mehmet Akçakaya[2], Christian Stehning[3], Warren J. Manning[2], Vahid Tarokh[1], Reza Nezafat[2]
[1]SEAS, Harvard University, Cambridge, MA, United States; [2]Dept. of Medicine (Cardiovascular Division), Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA, United States; [3]Philips Research, Hamburg, Germany

2549. Implementation of Compressed Sensing for Online Reconstruction
Cheng Ouyang[1,2], Tobia Wech[1,3], Li Pan[1,4]
[1]Center for Applied Medical Imaging, Siemens Corporate Research, Baltimore, MD, United States; [2]Bioengineering, University of Illinois at Urbana-Champaign, Urbana, IL, United States; [3]Institute of Radiology, University of Wuerzburg, Wuerzburg, Bavaria, Germany; [4]Department of Radiology & Radiological Science, Johns Hopkins University, Baltimore, MD, United States

2550. Iterative Compressed Sensing Reconstruction for 3D Non-Cartesian Trajectories Without Gridding & Regridding at Every Iteration
Mehmet Akcakaya[1], Seunghoon Nam*[1,2], Tamer Basha[1], Vahid Tarokh[2], Warren J. Manning[1], Reza Nezafat[1]*
[1]Dept. of Medicine (Cardiovascular Division), Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA, United States; [2]School of Engineering & Applied Sciences, Harvard University, Cambridge, MA, United States

2551. Towards Computationally Efficient Autocalibration for Accelerated MRI using Compressed Sensing Parallel Imaging
Anja Brau[1], Peng Lai[1], Srihari Narasimhan[2], Babu Narayanan[3], Vijaya Saradhi[2]
[1]Global Applied Science Laboratory, GE Healthcare, Menlo Park, CA, United States; [2]Computing & Decision Sciences Lab, GE Global Research, Bangalore, India; [3]Medical Image Analysis Lab, GE Global Research, Bangalore, India

2552. IceLuva: A Scripting Engine for Fast Development of Reconstruction Algorithms
Francesco Santini[1], Sunil Patil[1,2], Klaus Scheffler[1]
[1]Radiological Physics, University of Basel Hospital, Basel, Switzerland; [2]Center for Applied Medical Imaging, Siemens Corporation, Corporate Research, Baltimore, MD, United States

2553. MeCS – Integrating Prototype Processing Programs into Clinical Routine
Berengar W. Lehr[1], Ferdinand Schweser[1], Andreas Deistung[1], Daniel Güllmar[1], Jürgen R. Reichenbach[1]
[1]Medical Physics Group, Department of Diagnostic & Interventional Radiology I, Jena University Hospital, Jena, Germany

2554. AGILE: An Open Source Library for Image Reconstruction using Graphics Card Hardware Acceleration
Florian Knoll[1], Manuel Freiberger[1], Kristian Bredies[2], Rudolf Stollberger[1]
[1]Institute of Medical Engineering, Graz University of Technology, Graz, Austria; [2]Institute for Mathematics & Scientific Computing, University of Graz, Graz, Austria

Recent Advances in Image Analysis: Techniques

Exhibition Hall Monday 14:00-16:00

2555. A New High-Dimensional Machine Learning Approach for Identifying Alzheimer Disease from MRI Structural Images
Ramon Casanova[1], Benjamin Wagner[2], Christopher T. Whitlow[2], Jeff D. Williamson[3], Sally A. Shumaker[4], Joseph A. Maldjian[2], Mark A. Espeland[1]
[1]Biostatistical Sciences, Wake Forest University Baptist Medical Center, Winston-Salem, NC, United States; [2]Radiology, Wake Forest University Baptist Medical Center, Winston-Salem, NC, United States; [3]Geriatrics & Gerontology, Wake Forest University Baptist Medical Center, Winston-Salem, NC, United States; [4]PHS, Wake Forest University Baptist Medical Center, Wisnton-Salem, NC, United States

2556. Reduction of Amyloid Plaque FP Detections in MR Images of the APP Transgenic Mouse Brain using Unsupervised SVM
Gheorghe Iordanescu[1,2], Palamadai Venkatasubramanian[1,2], Alice Wyrwicz[1,3]
[1]Center for Basic MR Research, Northshore University HealthSystem, Evanston, IL, United States; [2]Pritzker School of Medicine, University of Chicago, Chicago, IL, United States; [3]Biomedical Engineering, Northwestern University, Chicago, IL, United States

2557. Universal Score of Structural Abnormality in Alzheimer's Disease
Vitali Zagorodnov[1], O. V. Ramana Murphy[1]
[1]Nanyang Technological University, Singapore, NA, Singapore

2558. Discriminating Schizophrenia & Bipolar Disorder by Unique Patterns of Brain Function & Structure
Jing Sui[1], Vince D. Calhoun[2]
[1]The Mind Research Network, Albuquerque, NM, United States; [2]Dept. of ECE, University of New Mexico, Albuquerque, NM, United States

2559. Semi-Automated Atlas-Based MRI Lung Volumetry
Christina Rose Lurie[1], Eduard Schreibmann[2,3], James Robert Costello[1], Puneet Sharma[1], Hiroumi Kitajima[1], Bobby Kalb[1], Timothy Fox[2,3], Diego Raul Martin[1]
[1]Radiology, Emory University School of Medicine, Atlanta, GA, United States; [2]Radiation Oncology, Emory University School of Medicine, Atlanta, GA, United States; [3]Winship Cancer Institute of Emory University, Atlanta, GA, United States

2560. Semi-Automatic Segmentation of Bony Lesions from Diffusion Weighted MRI to Assess Disease Burden & Quantify Response using Markov Random Fields
Matthew David Blackledge[1], Dow-Mu Koh[1], Anwar R.. Padhani[2], James J. Stirling[2], N. Jane Taylor[2], David J. Collins[1], Martin O. Leach[1]

[1]CR-UK & EPSRC Cancer Imaging Centre, Institute of Cancer Research & Royal Marsden Hospital, Sutton, Surrey, United Kingdom; [2]Paul Strickland Scanner Centre, Mount Vernon Cancer Centre, Northwood, London, United Kingdom

2561. Segmentation of Thalamus by Clustering of Resting-State fMRI
Yi-Ping Chao[1,2], Chun-Yi Lo[3], Ching-Po Lin[4]
[1]School of Applied Information Sciences, Chung Shan Medical University, Taichung, Taiwan; [2]Department of Medical Imaging, Chung Shan Medical University Hospital, Taichung, Taiwan; [3]Department of Medical Imaging & Radiological Sciences, National Yang Ming University, Taipei, Taiwan; [4]Institute of Neuroscience, National Yang Ming University, Taipei, Taiwan

2562. Multi Atlas Segmentation of Rat Leg Muscles
Michaël Sdika[1], Anne Tonson[1], Patrick J. Cozzone[1], David Bendahan[1]
[1]CRMBM, CNRS, UMR 6612, Faculté de Médecinede Marseille, Université de la Méditérranée, Marseille, France

2563. Pattern Analysis & Magnetic Resonance Imaging in the Study of Tumor Angiogenesis
Marco Dominietto[1], Steffi Lehmann[1], Ruth Keist[1], Markus Rudin[1]
[1]Institute for Biomedical Engineering, ETHZ, Zurich, Switzerland

2564. Combining Parallel Multiresolution & PCA Initialization for a Fully Automatic PET-MRI Registration
Michaël Bernier[1], Martin Lepage, Roger Lecomte, Luc Tremblay[2], Louis Doré-Savard[2], Maxime Descoteaux[3]
[1]Département d'informatique et Centre d'imagerie moléculaire de Sherbrooke, Université de Sherbrooke, Sherbrooke, QC, Canada; [2]Centre d'imagerie moléculaire de Sherbrooke, Université de Sherbrooke, Canada; [3]Computer Science, Université de Sherbrooke

2565. Towards Robust & Fast Vessel Extraction from MRA Images
Maysa M. Garcia Macedo[1], Choukri Mekkaoui[2], Marcel Parolin Jackowski[1]
[1]Computer Science, University of São Paulo, São Paulo, SP, Brazil; [2]Radiology, Harvard Medical School, Boston, MA, United States

2566. Novel MRI Sequence on 3T Accurately Depicts the Osseous Segments of Cranial Nerves VII-VIII: A Pilot Study
Rivka R. Colen[1], Jr Yuan Chiou[1], Yi Tang[1], Thomas Lee[1], Ferenc A. Jolesz[1]
[1]Radiology, Brigham & Women's Hospital, Boston, MA, United States

2567. A Motion Tracking Method Applying Spread Spectrum Communication to Tagging MRI
Yoshiaki Komori[1], Akira Amano[2], Keiko Maehara[1], Jin Li[1], Narazaki Michiko[1], Matsuda Tetsuya[1]
[1]Department of Systems Science, Graduate School of Informatics, Kyoto University, Kyoto, Japan; [2]Department of Bioinformatics, College of Life Science, Ritsumeikan University, Kusatsu, Japan

2568. 3D Variography of Human White Matter & the Influence of Age
Fabian Keil[1], Ana Maria Oros-Peusquens[1], Nadim Jon Shah[1,2]
[1]Institute of Neuroscience & Medicine - 4, Forschungzentrum Juelich, Juelich, Germany; [2]Department of Neurology, Faculty of Medicine, JARA, RWTH Aachen University, Aachen, Germany

2569. Dipolar Anisotropy Fiber Imaging of Human Anulus Fibrosus
Won C. Bae[1], Sheronda Statum[1], Richard Znamirowski[1], Koichi Masuda[2], Graeme M. Bydder[1], Nikolaus M. Szeverenyi[1]
[1]Radiology, University of California, San Diego, San Diego, CA, United States; [2]Orthopaedic Surgery, University of California, San Diego, La Jolla, CA, United States

2570. Robust Edge-Directed MRI Interpolation
Zhenhua Mai[1], Wolfgang Jacquet[1], Marleen Verhoye[2], Jan Sijbers[1]
[1]Physics Department, Universiteit Antwerpen, Wilrijk, Antwerpen, Belgium; [2]Biomedical Department, Universiteit Antwerpen

2571. Correlation of Magnetic Susceptibility with Structural Characteristics in White Matter Regions of the Central Nervous System
Cynthia Wisnieff[1], Tian Liu[1], Krishna Surapaneni, MD, MPH[2], Craig I. Horenstein, MD[2], Yi Wang[1,3]
[1]Biomedical Engineering, Cornell University, Ithaca, NY, United States; [2]Department of Radiology, Columbia University, New York, NY, United States; [3]Radiology, Weill Cornell Medical College, New York , NY, United States

2572. Intra-Voxel Linear Spectral Mixture Analysis Method for Tissues Quantification in Brain MRI
Hsian-Min Chen[1], Englin Wong[2], Clayton Chi-Chang Chen[3], Jyh-Wen Chai[3], Shih-Yu Chen[4], Ching-Wen Yang[5], San-Kan Lee[3], Chein-I Chang[2]
[1]Department of Biomedical Engineering, HungKuang University, Taichung, Taiwan; [2]Department of Computer Science & Electrical Engineering, University of Maryland, Baltimore, United States; [3]Department of Radiology, Taichung Veterans General Hospital, Taichung, Taiwan; [4]Department of Electrical Engineering, National Chung Hsing University, Taichung, Taiwan; [5]Computer Center, Taichung Veterans General Hospital, Taichung, Taiwan

2573. Iron, Ferritin, Myelin & MR-Contrast: Proton-Induced X-Ray Emission (PIXE) Maps of Cortical Iron Content
Carsten Stueber[1], Markus Morawski[2], Katja Reimann[1], Nirav Barapatre[3], Stefan Geyer[1], Robert Turner[1]

[1]Department of Neurophysics, Max-Planck-Institute for Human Cognitive & Brain Sciences, Leipzig, Germany; [2]Paul-Flechsig-Institute of Brain Research, University of Leipzig, Germany; [3]LIPSION Laboratory, Institute of Nuclear Solid State Physics, University of Leipzig, Germany

2574. Automatic Determination of Arterial Input Function for Estimating Tumor Microvessel Density with Dynamic Contrast-Enhanced MRI in Mice Model

Jae-Hun Kim[1], Geun-Ho Im[2], Jehoon Yang[1], Jung Hee Lee[1]
[1]Department of Radiology, Samsung Medical Center, Seoul, Gang-Name, Korea, Republic of; [2]Center for Molecular & Cellular Imaging, Samsung Biomedical Research Institute, Samsung Medical Center, Seoul, Korea, Republic of

Recent Advances in Image Analysis: Applications

Exhibition Hall Tuesday 13:30-15:30

2575. Novel Methods for Assessing the Composition of Colonic Contents in a Model of Diarrhoea

Elisa Placidi[1], Antonio Napolitano[2], Caroline L. Hoad[1], Luca Marciani[3], Klara C. Garsed[3], Robin C. Spiller[3], Penny A. Gowland[1]
[1]SPMMRC, University of Nottingham, Nottingham, United Kingdom; [2]Academic Radiology, QMC, Nottingham, United Kingdom; [3]Nottingham Digestive Diseases Centre Biomedical Research Unit, Nottingham, United Kingdom

2576. Creating a One-Stop Shop? 3D Black Blood Vessel Wall Imaging Would Combine Information of Luminal Severity & Plaque Composition

Li Dong[1], Hao Shen[2], Xiaojie Zhang[1], Wei Yu[1], Zhaoqi Zhang[1], Hua Guo[3], Ren Wang[1], Dongxu Lu[1], Chun Yuan[3,4]
[1]Capital Medical University, Beijing Anzhen Hospital, Beijing, China, People's Republic of; [2]GE Healthcare; [3]School of Medicine, Tsinghua University; [4]University of Washington

2577. Multi-Modal MRI Analysis for Automatic Trajectory Planning of Deep Brain Stimulation Neurosurgery

Silvain Bériault[1], Fahd Al Subaie[2], Kelvin Mok[3], Abbas F. Sadikot[2], G. Bruce Pike[1]
[1]McConnell Brain Imaging Centre, Montreal Neurological Institute, Montréal, Québec, Canada; [2]Department of Neurology & Neurosurgery, Montreal Neurological Institute; [3]Neuronavigation Unit, Montreal Neurological Institute

2578. Investigating the Role of Choroid Plexus in CSF Pulsation by Combining *In-Vivo* & Post-Mortem MRI

Simone Bottan[1], Andri Fritz[1], Vartan Kurtcuoglu[1], Marianne Schmid Daners[2], Verena Knobloch[3], Christian Langkammer[4,5], Nikolaus Krebs[5], Monika Gloor[6], Eva Scheurer[5], Klaus Scheffler[4], Stefan Ropele[4], Peter Boesiger[3], Dimos Poulikakos[1], Michaela Soellinger[4]
[1]Laboratory of Thermodynamics in Emerging Technologies, Department of Mechanical & Process Engineering, ETH Zurich, Zurich, Switzerland; [2]Institute for Dynamic Systems & Control, ETH Zurich, Zurich, Switzerland; [3]Institute for Biomedical Engineering, University & ETH Zurich, Zurich, Switzerland; [4]Department of Neurology, Medical University of Graz, Graz, Austria; [5]Ludwig Boltzmann Institute for Clinical-Forensic Imaging, Graz, Austria; [6]Department of Radiology, University Hospital Basel, Basel, Switzerland

2579. A Reproducibility Study in PAD Patient Plaque Burden Analysis Approach with Multi-Contrast Weighting MRI

Dongxiang Xu[1], Aaron Black[2], Yihua Liao[2], Timothy Carroll[2], Debiao Li[2], James Carr[2], Chun Yuan, Mary M. McDermott[2]
[1]Radiology, University of Washington, Seattle, WA, United States; [2]Northwestern University

2580. ICA Analysis of Brachial Plexus Injury in an Animal Model Reveals Rapid Brain Plasticity in 9.4 T

Rupeng Li[1], J. B. Stephenson, IV[2], Christopher Pawela, Ji-Geng Yan[2], Andrew Nencka, Anthony G. Hudetz[3], Hani Matloub[2], James .S Hyde[1]
[1]Biophysics, Medical College of Wisconsin, Milwaukee, WI, United States; [2]Plastic Surgery, Medical College of Wisconsin; [3]Anesthesiology, Medical College of Wisconsin

2581. Artificial Hematomas in Subcutaneous Fatty Tissue: Volume Estimation by using Different MR Sequences & Manual Segmentation of Pork Belly Phantoms

Kathrin Ogris[1,2], Martin Urschler[1,3], Andreas Petrovic[1,4], Kathrin Yen[1], Eva Scheurer[1]
[1]Ludwig Boltzmann Institute for Clinical- Forensic Imaging, Graz, Austria; [2]Department of Forensic Medicine, Medical University, Graz, Austria; [3]Institute for Computer Graphics & Vision, University of Technology, Graz, Austria; [4]Institute of Medical Engineering, University of Technology, Graz, Austria

2582. Automatic Detection of Cortical Thickness Measurement Errors using Support Vector Regression

Vitali Zagorodnov[1], Kallam Hanimi Reddy
[1]Nanyang Technological University, Singapore, NA, Singapore

2583. The Simultaneous Multiple-Voxel Processing of MRI Data using Bayesian Random Effects Modelling
Martin David King[1], Fernando Calamante[2], Chris A. Clark[1], David Gadian[1]
[1]Institute of Child Health, University College London, London, United Kingdom; [2]Brain Research Institute, Melbourne, Australia

2584. Automatic Brain Tumor Segmentation & Tumor Tissue Classification Based on Multiple MR Protocols
Astrid Franz[1], Henriette Tschampa[2], Andreas Müller[2], Stefanie Remmele[1], Jochen Keupp[1], Jürgen Gieseke[3], Hans Heinz Schild[2], Petra Mürtz[2]
[1]Philips Research, Hamburg, Germany; [2]Department of Radiology, University Hospital Bonn, Bonn, Germany; [3]Philips Healthcare, Hamburg, Germany

2585. Surface Morphometry of Subcortical Structures in Premature Neonates
Yalin Wang[1], Ashok Panigrahy[2,3], Rafael Ceschin[2], Songling Liu[1], Paul M. Thompson[4], Natasha Leporé[3]
[1]Computer Science & Engineering, Arizona State University, Tempe, AZ, United States; [2]Radiology, Children's Hospital of Pittsburgh of UPMC, Pittsburgh, PA, United States; [3]Radiology, Childrens Hospital Los Angeles, Los Angeles, CA, United States; [4]Laboratory of Neuro Imaging, UCLA School of Medicine, Los Angeles, CA, United States

2586. Preliminary Results on the Clinical Relevance of Multiple Sclerosis Lesion Distribution Independent of Lesion Volume
Fahime Sheikhzadeh[1,2], Roger Tam[2,3]
[1]Biomedical Engineering Program, University of British Columbia, Vancouver, BC, Canada; [2]MS/MRI Research Group, University of British Columbia, Vancouver, BC, Canada; [3]Department of Radiology, University of British Columbia, Vancouver, BC, Canada

2587. Improved Susceptibility Quantification with Effective Magnetic Moment
Saifeng Liu[1], Jaladhar Neelavalli[2], Jin Tang[1], Ewart Mark Haacke[2,3]
[1]School of Biomedical Engineering, McMaster University, Hamilton, Ontario, Canada; [2]The Magnetic Resonance Imaging Institute for Biomedical Research, Detroit, MI, United States; [3]Academic Radiology, Wayne State University, Detroit, MI, United States

2588. Automated Volumetric Measurements of Posterior Cranial Fossa by MRI: Applications to Chiari I Malformation
Noam Alperin[1], Snag Lee[1], Derek Monette[1], Ahmet Bagci[1], Birgit Ertl-Wagner[2], Raymond Sekula[3]
[1]University of Miami, Miami, FL, United States; [2]University of Munich, Germany; [3]Allegheny General Hospital, Pittsburgh

2589. Atrophy in Rats Induced with Mild TBI and Hemorrhagic Shock: A TBM-Based Analysis
Priya Goel[1], Sushmita Datta[1], Kurt H. Bockhorst[1], Jovany C. Navarro[2], Claudia S. Robertson[2], Ponnada A. Narayana[1]
[1]Diagnostic & Interventional Imaging, Medical School, the University of Texas Health Science Center at Houston, Houston, TX, United States; [2]Neurosurgery, Baylor College of Medicine, Houston, TX, United States

2590. Perceived Dark Rim in First-Pass Myocardial Perfusion MRI Due to Visual Illusion
Taehoon Shin[1], Bosco S. Tjan[2], Krishna S. Nayak[3]
[1]Electrical Engineering, Stanford University, Stanford, CA, United States; [2]Psychology and Neuroscience, University of Southern California, Los Angeles, CA, United States; [3]Electrical Engineering, University of Southern California, Los Angeles, CA, United States

2591. Quantitative Description of Vessel Geometry from Microscopic MR Skin Imaging
Elmar Laistler[1], Ewald Moser[1]
[1]MR Center of Excellence, Center for Medical Physics & Biomedical Engineering, Medical University of Vienna, Vienna, Austria

2592. *In Vivo* MR Quantification of Liver Fat Content in Obese Mice: Comparison of Dual-Echo Dixon Imaging, Chemical Shift Selective Imaging & Hydrogen MR Spectroscopy
Shenghong Ju[1], Xin-Gui Peng[1]
[1]Department of Radiology, Zhongda Hospital, Southeast University, Nanjing, Jiangsu, China, People's Republic of

2593. MR Multiparametric Analysis for Tumour Heterogeneity Characterisation. Framework & Initial Experiment in Liver Metastases.
Rado Andriantsimiavona[1], Martin Leach[1], Simon Doran[1], David Collins[1], Soeren Grimm[2], Dow-Mu Koh[1]
[1]Institute of Cancer Research UK, Sutton, Surrey, United Kingdom; [2]Biotronics3D Ltd., London, United Kingdom

2594. Computation of Structure Model Index in the Spatial Resolution Regime of *In Vivo* Trabecular Bone MRI
Shing Chun Benny Lam[1], Jeremy F. Magland[1], Scott N. Hwang[2], Felix W. Wehrli[1]
[1]Radiology, University of Pennsylvania, Philadelphia, PA, United States; [2]Radiology, Emory University, Atlanta, GA, United States

2595. Targeted Coregistration of Abdominal DCE MRI
Artem Mikheev[1], Vivian S. Lee[1], Henry Rusinek[1]
[1]Radiology, NYU School of Medicine, New York, NY, United States

2596. Automatic Registration of Renal Perfusion Image Sequences by Mutual Information & Adaptive Prediction
Vincenzo Positano[1], Ilaria Bernardeschi[1], Virna Zampa[2], Martina Marinelli[3], Maria Filomena Santarelli[3], Luigi Landini[1,4]
[1]MRI Lab, Fondazione G.Monasterio CNR-Regione Toscana, Pisa, Italy; [2]Department of Diagnostic & Interventional Radiology, University of Pisa, Pisa, Italy; [3]Institute of Clinical Physiology, Pisa, Italy; [4]Department of Information Engineering, University of Pisa, Pisa, Italy

2597. Automated Analysis of MRI Data of Patients with ADPKD for the Volume of the Kidneys & of the Enclosed Cysts
Stathis Hadjidemetriou[1], Wilfried Reichardt[1], Juergen Hennig[1], Martin Buechert[2]
[1]Department of Diagnostic Radiology, Medical Physics, University Medical Center Freiburg, Freiburg, Germany; [2]MRDAC, University Medical Center Freiburg, Freiburg, Germany

2598. Automatic Mean Transit Time Lesion Outlining in Acute Stroke using Level Sets
Kim Mouridsen[1], Anders Neumann, Lars Riisgaard Ribe, Kristjana Yr Jonsdottir, Leif Østergaard
[1]Center for Functionally Integrative Neuroscience, Aarhus University Hospital, Aarhus University, Aarhus, Denmark

2599. Effect of ISODATA Dimensionality on Spatiotemporal Evolution of Ischemic Brain Injury in Acute Ischemic Stroke
Jerry S. Cheung[1], Enfeng Wang[1,2], Xiaoying Wang[3], Phillip Zhe Sun[1]
[1]Athinoula A. Martinos Center for Biomedical Imaging, Department of Radiology, MGH & Harvard Medical School, Charlestown, MA 02129, United States; [2]Department of Radiology, 3rd Affiliated Hospital, Zhengzhou University, China, People's Republic of; [3]Neuroprotection Research Laboratory, Department of Radiology & Neurology, MGH & Harvard Medical School, Charlestown, MA 02129, United States

2600. How Shaky is MRE? Bootstrap & Monte Carlo Analysis of Reliability
Geng Guangqiang[1], Lynne Bilston[1,2], Ralph Sinkus[3], Roland Henry[4], Caroline Rae[1,5]
[1]Neuroscience Research Australia, Sydney, NSW, Australia; [2]Prince of Wales Clinical School, UNSW, Sydney, Australia; [3]Centre de Recherches Biomédicales Bichat-Beaujon, Paris, France; [4]Departments of Radiology & Biomedical Imaging, Neurology, & Bioengineering Graduate Group, University of California, San Francisco, United States; [5]UNSW, Syndey, Australia

2601. Ideal-Observer Based Metric for MR Image Quality Assessment - Application to Lesion Detection
Christian G. Graff[1], Kyle J. Myers[2]
[1]Division of Imaging & Applied Mathematics, U. S. Food & Drug Administration , Silver Spring, MD, United States; [2]Division of Imaging & Applied Mathematics, U. S. Food & Drug Administration, Silver Spring, MD, United States

2602. Automatic Localization of the Anterior & Posterior Commissures in MRI Brain Images using Artificial Neural Networks
Don C. Bigler[1], Megan Taylor Sutton[1], Gregory J. Moore[2]
[1]Center for Emerging Neurotechnology & Imaging, Penn State Hershey Neuroscience Institute, Hershey, PA, United States; [2]Radiology, Geisinger Medical Center, Danville, PA, United States

2603. Ultra-High Resolution Atlas-Based Segmentation of GPi for Deep Brain Stimulation in Parkinson's Disease
Maria Ida Iacono[1], Nikos Makris[1], Luca Mainardi[2], John Gale[3], Andre Van Der Kouwe[1], Azma Mareyam[1], Jonathan R. Polimeni[1], Lawrence L. Wald[1], Bruce Fischl[1], Emad N. Eskandar[4], Giorgio Bonmassar[1]
[1]Dept. of Radiology,MGH, A. A. Martinos Center for Biomedical Imaging, Charlestow, MA, United States; [2]Bioengineering Department, Politecnico di Milano; [3]Cleveland Clinic, Department of Neuroscience & Center for Neurological Restoration, Cleveland, OH, United States; [4]Neurosurgery, Massachusetts General Hospital, Boston, MA, United States

Mouse MRI

Exhibition Hall Wednesday 13:30-15:30

2604. WASSR Imaging of Iron Oxide Particles at 2.35 & 7T
Jean-Sebastien Raynaud[1], Antony Lee[1], Caroline Robic[1], Eric Giaccomini[2], Isabelle Raynal[1], Philippe Robert[1], Franck Lethimonier[2], Marc Port[1], Claire Corot[1]
[1]Guerbet Research, Paris, France; [2]Neurospin, CEA, Saclay, France

2605. WASSR Imaging of αvβ3 Targeted USPIO at 2.35T on U87 Mice Tumors : Feasibility Study
Jean-Sebastien Raynaud[1], Antony Lee[1], Xavier Violas[1], Robin Santus[1], Gaelle Louin[1], Isabelle Raynal[1], Philippe Robert[1], Marc Port[1], Claire Corot[1]
[1]Guerbet Research, Paris, France

2606. Slice Ordering for Cardio-Respiratory Triggered Imaging of the Whole Liver in the Mouse
Sean Smart[1], Danny Allen[1], John Beech[1], Sally Hill[1], Veerle Kersemans[1], Lei Zhao[1], Ruth Muschel[1]

[1]Gray Institute, Oxford University, Oxford, Oxfordshire, United Kingdom

2607. **Feasibility of High Resolution Mouse Brain Spiral Imaging at Very High Field (11.75T) for Perfusion Studies**
Mohamed Tachrount[1], Virginie Callot[1], Patrick J. Cozzone[1], Guillaume Duhamel[1]
[1]CRMBM / CNRS 6612, Faculté de Médecine, Université de la Méditerranée, Marseille, France

Dental MRI

Exhibition Hall Thursday 13:30-15:30

2608. **Paleo-NMR: Micro-Imaging of Skeletal & Odontoskeletal Remains**
Silvia Capuani[1,2]
[1]Physics Department Sapienza University of Rome, Rome, Italy; [2]CNR IPCF UOS Roma, Rome, Italy

2609. **Assessment of Cortical Bone Resorption & Acute Inflammation in Parodontitis**
Anna-Katinka Bracher[1], Michael Mess[1,2], Axel Bornstedt[1], Erich Hell[3], Johannes Ulrici[3], Bernd Haller[2], Volker Rasche[1]
[1]Department of Internal Medicine II, University Hospital of Ulm, Ulm, Germany; [2]Department of Operative Dentistry, Periodontology & Pedodontics, University of Ulm, Ulm, Germany; [3]Sirona Dental Systems, Bensheim, Germany

2610. **Towards Dental MRI: Zero TE Imaging of Compromised Equine Teeth**
Stefan Zwick[1], Jan-Bernd Hövener[1], Jochen Leupold[1], Frank Schellenberger[2], Dominik V. Elverfeldt[1]
[1]Department of Radiology, Medical Physics, University Hospital Freiburg, Freiburg, Germany; [2]Dr. Frank Schellenberger Hypo Dental

2611. **Accurate *In Vivo* Assessment of Caries Lesion Extent by UTE MRI**
Anna-Katinka Bracher[1], Chrisitan Hofmann[1,2], Axel Bornstedt[1], Erich Hell[3], Johannes Ulrici[3], Bernd Haller[4], Volker Rasche[1]
[1]Department of Internal Medicine II, University Hospital of Ulm, Ulm, Germany; [2]Department of Operative Dentistry, Periodontology & Pedodontics , University of Ulm, Ulm, Germany; [3]Sirona Dental Systems, Bensheim, Germany; [4]Department of Operative Dentistry, Periodontology & Pedodontics, University of Ulm, Ulm, Germany

2612. **High-Resolution ZTE Imaging of Human Teeth**
Markus Weiger[1,2], Klaas Paul Pruessmann[3], Anna-Katinka Bracher[4], Sascha Köhler[2], Volker Lehmann[5], Uwe Wolfram[6], Volker Rasche[4]
[1]Bruker BioSpin AG, Faellanden, Switzerland; [2]Bruker BioSpin MRI GmbH, Ettlingen, Germany; [3]Institute for Biomedical Engineering, University & ETH Zurich, Zurich, Switzerland; [4]Internal Medicine II, University of Ulm, Ulm, Germany; [5]Bruker BioSpin GmbH, Rheinstetten, Germany; [6]Institute of Orthopaedic Research & Biomechanics, University of Ulm, Ulm, Germany

2613. **Assessment of Bone Degradation & Acute Inflammation in Apical Parodontitis**
Anna-Katinka Bracher[1], Axel Bornstedt[1], Erich Hell[2], Johannes Ulrici[2], Leif-Konradin Sailer[3], Volker Rasche[1]
[1]Department of Internal Medicine II, University Hospital of Ulm, Ulm, Germany; [2]Sirona Dental Systems, Bensheim, Germany; [3]DOC, Praxisklinik im Wiley, Neu-Ulm, Germany

2614. **Quantitative UTE MRI of Human Temporomandibular Disc: Relation to Biomechanical Property**
Won C. Bae[1], Sheronda Statum[1], Reni Biswas[2], Robert L. Sah[2], Jiang Du[1], Christine B. Chung[1]
[1]Radiology, University of California, San Diego, San Diego, CA, United States; [2]Bioengineering, University of California, San Diego, La Jolla, CA, United States

Cardiac Sequences: Applications & Evaluations

Exhibition Hall Monday 14:00-16:00

2615. **k-Space Sampling Approaches using TWIST: Implications for Dynamic Contrast Acquisitions**
Xin Li[1], John W. Grinstead[2], Cecily V. Bishop[3], Ian J. Tagge[1], Richard L. Stouffer[3,4], William D. Rooney[1], Gerhard Laub[5]
[1]Advanced Imaging Research Center, Oregon Health & Science University, Portland, OR, United States; [2]Siemens Healthcare, Portland, OR, United States; [3]Division of Reproductive Sciences, ONPRC, Oregon Health & Science University, Portland, OR, United States; [4]Department of Obstetrics & Gynecology, Oregon Health & Science University, Portland, OR, United States; [5]Siemens Healthcare, San Francisco, CA, United States

2616. **Improved Motion-Sensitized Driven-Equilibrium (IMSDE) Prepared 3D GRASE for High Field Magnetic Resonance Imaging of Carotid Artery Wall**
Linqing Li[1], Alistair C. Lindsay[2], Matthew D. Robson[1], Peter Jezzard[1]

[1]FMRIB Centre, University of Oxford, Oxford, United Kingdom; [2]Department of Cardiovascular Medicine, University of Oxford, Oxford, United Kingdom

2617. Carotid & Jugular Vessel Wall Imaging - A Study
Karan Dara[1,2], Daniel P. Hsu[2,3], Jamal J. Derakhshan[1,2], John A. Jesberger[2], Jeffrey L. Duerk[1,2], Vikas Gulani[2], Jeffrey L. Sunshine[2], Teresa L. Carman[4], Mark A. Griswold[1,2]
[1]Department of Biomedical Engineering, Case Western Reserve University, Cleveland, OH, United States; [2]Department of Radiology, University Hospitals of Cleveland, Cleveland, OH, United States; [3]Department of Neurosurgery, University Hospitals of Cleveland, Cleveland, OH, United States; [4]Department of Vascular Medicine, University Hospitals of Cleveland, Cleveland, OH, United States

2618. Comparison of Short Diffusion Preparations for 3D Black Blood Imaging.
Niranjan Balu[1], Jinnan Wang[2], Chun Yuan[1]
[1]Radiology, University of Washington, Seattle, WA, United States; [2]Philips Research North America, Seattle, WA, United States

2619. Validation of Nonrigid Registration for Cardiac Cine MR Time Series
Guyu Li[1], Li Zhang[1], Christoph Guetter[1], Christophe Chefd'hotel[1]
[1]Siemens Corporate Research, Princeton, NJ, United States

2620. Comparison Among Radial, Spiral-Out & Spiral-In/Out Bssfp in Real Time Cardiac Imaging
Xue Feng[1], Michael Salerno[2], Christopher M. Kramer[2,3], Craig H. Meyer[3,4]
[1]University of Virginia, Charlottesville, VA, United States; [2]Medicine, University of Virginia, Charlottesville, VA, United States; [3]Radiology, University of Virginia, Charlottesville, VA, United States; [4]Biomedical Engineering, University of Virginia, Charlottesville, VA, United States

2621. On the Advantages of Retrospectively Gated Radial Acquisitions for Cine Phase Contrast Flow Imaging
Ashley Gould Anderson III[1], Andrew L. Wentland[1,2], Kevin M. Johnson[1], Oliver Wieben[1,2]
[1]Medical Physics, University of Wisconsin, Madison, WI, United States; [2]Radiology, University of Wisconsin, Madison, WI, United States

2622. Simultaneous Nulling of Fat & Viable Myocardium in Delayed Enhancement Imaging - a New Approach to Fat Suppression at 1.5 & 3 Tesla Employing Multiple SPAIR Pulses
Wolfgang Gerhard Rehwald[1], Elizabeth R. Jenista[2], Denise L. Morell[2], Nayla Chaptini[2], Deneen M. Spatz[2], Enn-Ling Chen[2], Raymond J. Kim[2]
[1]Cardiovascular MR R&D, Siemens Healthcare, Chicago, Ilinois, United States; [2]Duke Cardiovascular MR Center, Duke University Medical School, Durham, NC, United States

Body MRI: Applications & Evaluations

Exhibition Hall Tuesday 13:30-15:30

2623. Evaluation of the Recipient Vessels After Orthotopic Liver Transplantation by Non-Contrast Magnetic Resonance Angiography: A SLEEK Sequence
Yigang Pei[1], Daoyu Hu[2]
[1]Department of Radiology, Tongji Hospital,Tongji Medical College,Huazhong University of Science & Technology, Wuhan, Hubei, China, People's Republic of; [2]1Department of Radiology, Tongji Hospital,Tongji Medical College,Huazhong University of Science & Technology

2624. Robust Renal MRA using Breath-Hold, IR-Prep, Dixon BSSFP at 3T
Pauline Wong Worters[1], Manojkumar Saranathan[1], Alan Xu[1], Shreyas Vasanawala[1]
[1]Stanford University, Stanford, CA, United States

Analysis of Breast Images

Exhibition Hall Wednesday 13:30-15:30

2625. The Effect of Acquisition Parameter Changes on the Outcome of Texture Analysis using a Clinical Breast MRI Sequence on a Foam Phantom at 1.5T
Shelley Waugh[1,2], Richard Lerski[1,2], L. Bidaut[2], Alastair Thompson[2,3]
[1]Medical Physics, Ninewells Hospital, Dundee, United Kingdom; [2]University of Dundee, Dundee, United Kingdom; [3]Department of Surgery, Ninewells Hospital, United Kingdom

2626. Computerized Classification of Benign & Malignant Breast Lesions on DCE-MRI Utilizing Novel Shape Descriptors
Rachel Evonne Sparks[1], Anant Madabhushi[1]

[1]Biomedical Engineering, Rutgers University, Piscataway, NJ, United States

2627. Two Non-Linear Parametric Models of Enhancement for Breast DCE-MRI That Can Be Fitted using Linear Least Squares

Andrew Mehnert[1], Michael Wildermoth[1], Stuart Crozier[1], Ewert Bengtsson[2], Dominic Kennedy[3]
[1]School of ITEE, the University of Queensland, Brisbane, Qld, Australia; [2]Centre for Image Analysis, Uppsala University, Sweden; [3]Queensland X-Ray, Greenslopes Private Hospital, Greenslopes, Australia

2628. The Influence of Field Strength & Different Clinical Breast MRI Protocols on the Outcome of Texture Analysis using Foam Phantoms

Shelley Waugh[1,2], Richard Lerski[1,2], L. Bidaut[2], Alastair Thompson[2,3]
[1]Medical Physics, Ninewells Hospital, Dundee, Angus, United Kingdom; [2]University of Dundee, Dundee, Angus, United Kingdom; [3]Department of Surgery, Ninewells Hospital, United Kingdom

2629. Optimization of Breast Tissue Segmentation: Comparison of Support Vector Machine & Fuzzy C-Mean Clustering Algorithms

Yi Wang[1,2], Glen Morrell[2], Allison Payne[2], Dennis L. Parker[1,2]
[1]Bioengineering, University of Utah, Salt Lake City, UT, United States; [2]Utah Center for Advanced Imaging Research, Salt Lake City, UT, United States

2630. A Comparative Study of Undersampling Schemes for Magnetic Resonance Dynamic Contrast Enhanced Imaging

Sairam Geethanath[1], Praveen K. Gulaka[1], Vikram D. Kodibagkar[1,2]
[1]Joint graduate program in biomedical engineering, UT Arlington & UT Southwestern Medical Center, Dallas, TX, United States; [2]Radiology, UT Southwestern Medical Center

2631. Image Registration & Pharmacokinetic Parameter Estimation for 3D DCE-MR Mammography

Andrew Melbourne[1], John Hipwell[1], Marc Modat[1], Thomy Mertzanidou[1], Henkjan Huisman[2], Sebastien Ourselin[1], David Hawkes[1]
[1]University College London, London, United Kingdom; [2]Radboud University Nijmegen Medical Centre, Netherlands

2632. Influence of Fat-Sat & Non-Fat-Sat Imaging Sequences, Spatial Resolution, & Breast Morphological Types on Density Measurements

Daniel Han-en Chang[1,2], Jeon-Hor Chen[1,3], Muqing Lin[1,2], Shadfar Bahri[1,2], Hon J. Yu[1,2], Rita S. Mehta[4], Ke Nie[1,2], David J. B. Hsiang[5], Orhan Nalcioglu[1,2], Min-Ying Lydia Su[1,2]
[1]Tu & Yuen Center for Functional Onco-Imaging, University of California, Irvine, CA, United States; [2]Department of Radiological Sciences, University of California, Irvine, CA, United States; [3]Department of Radiology, China Medical University Hospital, Taichung, Taiwan; [4]Department of Medicine, University of California, Irvine, CA, United States; [5]Department of Surgery, University of California, Irvine, CA, United States

2633. Supervised Multispectral Analysis of Breast Density in MRI

Hsian-Min Chen[1], Siwa Chan[2], Jyh-Wen Chai[2], Clayton Chi-Chang Chen[2], San-Kan Lee[2], Chein-I Chang[3], Min-Ying Su[4], Orhan Nalcioglu[4], Jeon-Hor Chen[4,5]
[1]Department of Biomedical Engineering, HungKuang University, Taichung, Taiwan; [2]Department of Radiology, Taichung Veterans General Hospital, Taichung, Taiwan; [3]Department of Computer Science & Electrical Engineering, University of Maryland, Baltimore, United States; [4]Center for Functional Onco-Imaging, University of California Irvine, California, United States; [5]Department of Radiology, China Medical University Hospital, Taichung, Taiwan

2634. Computational Simulation of Effects of the Morphology of Fibroglandular Tissues on Projected Breast Density Changes After Breast Compression Based on 3D MRI

Tzu-Ching Shih[1,2], Jeon-Hor Chen[2,3], Muqing Lin[4], Daniel Chang[4], Ke Nie[4], Orhan Nalcioglu[4,5], Min-Ying Su[4]
[1]Department of Biomedical Imaging & Radiological Science, China Medical University, Taichung, 40402, Taiwan; [2]Department of Radiology, China Medical University Hospital, Taichung, 40402, Taiwan; [3]Tu & Yuen Center for Functional Onco-Imaging & Department of Radiological Sciences, University of California, Irvine, Irvine, CA 92697 , United States; [4]Tu & Yuen Center for Functional Onco-Imaging & Department of Radiological Sciences, University of California, Irvine, Irvine, CA 92697, United States; [5]Department of Cogno-Mechatronics Engineering, Pusan National University, Busan 609-735, Korea, Republic of

2635. Deformable Registration with Tumor Volume Preservation in Dynamic Contrast Enhanced MR Breast Images

Hyun Hee Jo[1], Helen Hong[1]
[1]Division of Multimedia Engineering, Seoul Women's University, Seoul, Korea, Republic of

2636. Evaluation of Spatial Changes of Fibroglandular Tissue in the Breast between Two Scans using Non-Rigid Registration Method

Muqing Lin[1], Jeon-Hor Chen[1,2], Shadfar Bahri[1], Siwa Chan[3], Tzu-Ching Shih[4], Ke Nie[1], Orhan Nalcioglu[1], Min-Ying Lydia Su[1]
[1]Tu & Yuen Center for Functional Onco-Imaging & Department of Radiological Sciences, University of California, Irvine, CA, United States; [2]Department of Radiology, China Medical University, Taichung, Taiwan; [3]Department of Radiology, Taichung

Veterans General Hospital, Taichung, Taiwan; [4]Department of Biomedical Imaging & Radiological Science, China Medical University, Taichung, Taiwan

2637. Novel Variable Voxel Intensity Correction Scheme and Application to Breast Imaging
Anderson N. Nnewihe[1,2], Kyung H. Sung[1], Bruce L. Daniel[1], Brian A. Hargreaves[1]
[1]Radiology, Stanford University, Stanford, CA, United States; [2]Bioengineering, Stanford University, Stanford, CA, United States

Analysis of Prostate Images

Exhibition Hall Thursday 13:30-15:30

2638. Prostate Cancer Probability Estimation Based on DCE-DTI Features & Support Vector Machine Classification
Mehdi Moradi[1], Septimiu E. Salcudean[1], Silvia D. Chang[2], Edward C. Jones[3], S. Larry Goldenberg[4,5], Piotr Kozlowski[2,6]
[1]Electrical & Computer Engineering, University of British Columbia, Vancouver, BC, Canada; [2]Radiology, University of British Columbia; [3]Pathology & Laboratory Medicine, University of British Columbia; [4]Urologic Sciences, University of British Columbia; [5]Vancouver Prostate Centre, University of British Columbia; [6]MRI Research Centre, University of British Columbia, Vancouver, Canada

2639. Multifarious Kinetic Analysis for Differentiation of Prostate Cancer & Benign Prostatic Hyperplasia in DCE-MRI
Sang Ho Lee[1], Jong Hyo Kim[1,2], Jeong Yeon Cho[2,3], Sang Youn Kim[2,3], in Chan Song[3], Hyeon Jin Kim[3], Seung Hyup Kim[2,3],
[1]Interdisciplinary Program in Radiation Applied Life Science, Seoul National University College of Medicine, Seoul, Korea, Republic of; [2]Department of Radiology, Seoul National University College of Medicine, Seoul, Korea, Republic of; [3]Department of Radiology, Seoul National University Hospital, Seoul, Korea, Republic of

2640. Computerized Quantitative Data Integration of Multi-Protocol MRI for Identification of High Grade Prostate Cancer *In Vivo*.
Pallavi Tiwari[1], John Kurhanewicz[2], Anant Madabhushi[1]
[1]Biomedical Engineering, Rutgers University, Piscataway, NJ, United States; [2]Department of Radiology & Biomedical Imaging, University of California, San Francisco, San Francisco, United States

2641. Accuracy Enhancement of Automatic Prostate Tumor Detection using Additional Deformable Registration Based Atlas Information: Automated Classifier using Permeability Parameters.
Namkug Kim[1], JeongKon Kim[1]
[1]Radiology, University of Ulsan College of Medicine, Asan Medical Center, Seoul, Korea, Republic of

2642. EMPrAvISE: A Computerized Decision Support System for Automated Prostate Cancer Detection from Multi-Protocol MRI
Satish Viswanath[1], B. Nicolas Bloch[2], Jonathan Chappelow[1], Pratik Patel[1], Neil Rofsky[3], Robert Lenkinski[4], Elisabeth Genega[4], Anant Madabhushi[1]
[1]Biomedical Engineering, Rutgers University, Piscataway, NJ, United States; [2]Boston Medical Center; [3]UT Southwestern Medical Center; [4]Beth Israel Deaconess Medical Center

2643. Accurate Prostate Volume Determination from T_2-W MRI using Statistical Shape Models
Robert James Toth[1], B. Nicholas Bloch[2], Elizabeth M. Genega[3], Neil M. Rofsky[3], Robert E. Lenkinski[3], Mark A. Rosen[4], Anant Madabhushi[1]
[1]Biomedical Engineering, Rutgers University, New Brunswick, NJ, United States; [2]Boston Medical Center, Bostom, MA, United States; [3]Beth Israel Deaconess Medical Center, Boston, MA, United States; [4]Hospital at the University of Pennsylvania, Philadelphia, PA, United States

2644. Exploration of BOLD-MRI in Prostate Cancer using Principal Component Analysis
Aravinthan Jegatheesan[1], Michael D. Noseworthy[1,2], Colm Boylan[3], Robert Shayegan[4], John F. MacGregor[5]
[1]School of Biomedical Engineering, McMaster University, Hamilton, Ontario, Canada; [2]Electrical & Computer Engineering, McMaster University, Hamilton, Ontario, Canada; [3]St. Joseph's Healthcare, Hamilton, Ontario, Canada; [4]Dept. of Urology, St. Joseph's Healthcare, Hamilton, Ontario, Canada; [5]Chemical Engineering, McMaster University, Hamilton, Ontario, Canada

2645. Determining Histology-MRI Slice Correspondences for Mapping Prostate Cancer Extent *In Vivo*
Gaoyu Xiao[1], B. Nicolas Bloch[2], Jonathan Chappelow[1], Elizabeth Genega[3], Neil Rofsky[3], Robert Lenkinski[3], John Tomaszewski[4], Michael Feldman[4], Mark Rosen[4], Arjun Kalyanpur[5], Anant Madabhushi[1]
[1]Rutgers University, Piscataway, NJ, United States; [2]Boston Medical Center, MA, USA; [3]Beth Israel Deaconess Medical Center, MA, USA; [4]University of Pennsylvania, 3400 Spruce Street, Philadelphia, PA, USA.; [5]Teleradiology Solutions Pvt. Ltd. Whitefield, Bangalore, 560048, India

2646. Automatic Arterial Input Function Detection for Prostate Dynamic Contrast Enhanced MRI
Yingxuan Zhu[1], Ming-Ching Chang[2], Fiona M. Fennessy[3], Sandeep Narendra Gupta[4]
[1]Dept. of EECS, Syracuse University, Syracuse, NY, United States; [2]Vis. & Comp. Vision Lab, GE Global Research Center, Niskayuna, NY, United States; [3]Dept. of Radiology, Brigham & Women's Hospital, Boston, MA, United States; [4]Functional Imaging Lab, GE Global Research Center, Niskayuna, NY, United States

2647. CADOnc: A Computerized Decision Support System for Quantifying Radiation Therapy Changes in the Prostate Via Multi-Parametric MRI
Satish Viswanath[1], Jonathan Chappelow[1], Pallavi Tiwari[1], John Kurhanewicz[2], Anant Madabhushi[1]
[1]Biomedical Engineering, Rutgers University, Piscataway, NJ, United States; [2]University of California, San Francisco

2648. Rapid Quantitative T_2 Imaging of Prostate Cancer using a Reduced FOV Single-Shot Fast-Spin-Echo Sequence
Lawrence Patrick Panych[1], Renxin Chu[1], Yi Tang[1], Stephan E. Maier[1], Clare M. Tempany[1], Robert V. Mulkern[2]
[1]Radiology, Brigham & Womens Hospital, Boston, MA, United States; [2]Radiology, Children's Hospital, Boston, MA, United States

Neuro MRI: Applications & Evaluations

Exhibition Hall Monday 14:00-16:00

2649. Real-FLAIR: Real-Part Imaging for Fluid Attenuated Inversion Recovery Sequence
Tokunori Kimura[1], Mitsukazu Kamata[1]
[1]MRI Development Department, Toshiba Medical Systems corp., Otawara, Tochigi, Japan

2650. 3D Flow-Dephased Fast Spin Echo for MR Neurography: A Feasibility Study
Zhikui Xiao[1], Lou Xin[2], Shen Hao[1], Cao Guang[1]
[1]Global Applied Science Laboratory, GE Healthcare, Beijing, China, People's Republic of; [2]Department of Radiology, PLA General Hospital, Beijing, China, People's Republic of

2651. Evaluation of Neonatal Pathology using T_1 Weighted Techniques, Snapir & Gradient Echo
Amy Kathleen McGuinness[1], Christina Malamateniou[1], Joanna M. Allsop[1], Serena J. Counsell[1], Rita G. Nunes[1], Zhi Q. Wu[1], Nora Tusor[2], Ash Ederies[2], Jo V. Hajnal[1], Mary A. Rutherford[1]
[1] Imaging Sciences Department, MRC Clinical Sciences Centre, Hammersmith Hospital, Imperial College London, London, United Kingdom; [2]Neonatal Imaging Group, Hammersmith Hospital, Imperial College London, London, United Kingdom

2652. 3D DIR: 3D Double Inversion Recovery in Multiple Sclerosis
Paul Polak[1], Robert Zivadinov[1,2], Guy Poloni[1]
[1]Buffalo Neuroimaging Analysis Center, Department of Neurology, University at Buffalo, State University of New York, Buffalo, NY, United States; [2]The Jacobs Neurological Institute, Department of Neurology, University at Buffalo, State University of New York, Buffalo, NY, United States

2653. 3D FLAIR-ED: 3D Fluid Attenuated Inversion Recovery for Enhanced Detection of Lesions in Multiple Sclerosis
Paul Polak[1], Robert Zivadinov[1,2], Guy Poloni[1]
[1]Buffalo Neuroimaging Analysis Center, Department of Neurology, University at Buffalo, State University of New York, Buffalo, NY, United States; [2]The Jacobs Neurological Institute, Department of Neurology, University at Buffalo, State University of New York, Buffalo, NY, United States

2654. Signal & Contrast Optimized Inversion Prepared Imaging
Albert Kir[1,2], Alan Blair McMillan[1]
[1]Magnetic Resonance Research Center, Diagnostic Radiology & Nuclear Medicine, University of Maryland School of Medicine, Baltimore, MD, United States; [2]Electrical Engineering & Computer Science, University of Maryland Baltimore County, Baltimore, MD, United States

2655. Correlation of Phase Values with CT Hounsfield & R_2* Values in Calcified Neurocysticercosis
Bhashwati Roy[1], Sanjay Verma[2], Rishi Awasthi[1], Ram K. S. Rathore[2], Ramesh Venkatesan[3], Sa Yoganathan[4], Kj Maria Das[4], Kashi Nath Prasad[5], Rakesh Kumar Gupta[1]
[1]Radiodiagnosis, Sanjay Gandhi Post Graduate Institute of Medical Sciences, Lucknow, India, Lucknow, Uttar Pradesh, India; [2]Mathematics & Statistics, Indian Institute of Technology, Kanpur, Kanpur, Uttar Pradesh, India; [3]Wipro-GE Healthcare, Bangalore, Karnataka, India; [4]Radiotherapy, Sanjay Gandhi Post Graduate Institute of Medical Sciences, Lucknow, India, Lucknow, Uttar Pradesh, India; [5]Microbiology, Sanjay Gandhi Post Graduate Institute of Medical Sciences, Lucknow, India, Lucknow, Uttar Pradesh, India

2656. Single Phase 3D Contrast-Enhanced Intracranial Magnetic Resonance Angiography with Undersampled SWIRLS Trajectory at 3T
Yunhong Shu[1], Joshua D. Trzasko[1], John III Huston[1], Armando Manduca[1], Matt A. Bernstein[1]
[1]Radiology, Mayo Clinic, Rochester, MN, United States

Susceptibility MRI: Applications & Evaluations

Exhibition Hall Tuesday 13:30-15:30

2657. Harmonic Phase Subtraction Methods Are Prone to B_1 Background Components
Ferdinand Schweser[1,2], Marie Atterbury[1,3], Andreas Deistung[1], Berengar Wendel Lehr[1], Karsten Sommer[1,4], Jürgen R. Reichenbach[1]
[1]Medical Physics Group, Dept. of Diagnostic & Interventional Radiology 1, Jena University Hospital, Jena, Germany; [2]School of Medicine, Friedrich Schiller University of Jena, Jena, Germany; [3]Dept. of Physics, Brown University, Providence, RI, Germany; [4]School of Physics & Astronomy, Friedrich Schiller University of Jena, Jena, Germany

2658. Whole-Brain Voxel-Based Susceptibility-Weighted Imaging (SWI) Analysis: Normal Cortical & Subcortical Values, & Preliminary Results in Post-Traumatic Epilepsy
Hugo Alexandre Ferreira[1], Alexandre Andrade[1], Rui M. Manaças[2,3], Pedro Miguel Gonçalves-Pereira[3,4]
[1]Instituto de Biofísica e Engenharia Biomédica, Faculdade de Ciências da Universidade de Lisboa, Lisboa, Portugal; [2]Serviço de Neurorradiologia, Hospital dos Capuchos, Lisboa, Portugal; [3]Serviço de Radiologia, Hospital dos Lusíadas, Lisboa, Portugal; [4]Escola Superior de Tecnologias da Saúde, Instituto Politécnico de Lisboa, Lisboa, Portugal

2659. Comparison of Susceptibility Gradient Mapping & Off-Resonance Excitation for Quantitative Positive Contrast MRI of Magnetotactic Bacteria
Sonal Josan[1,2], Amanda Hamilton[3], Michael Benoit[3], Charles Cunningham[4], Daniel Spielman[2], A. C. Matin[3], Dirk Mayer[1,2]
[1]SRI International, Menlo Park, CA, United States; [2]Radiology, Stanford University, Stanford, CA, United States; [3]Microbiology & Immunology, Stanford University, Stanford, CA, United States; [4]Sunnybrook Health Sciences Center, Toronto, ON, Canada

2660. Orientation Effects on the Local Magnetic Field or Phase & T_2*-Weighted Hypointensity of Gradient Echo Imaging & Their Removal in Quantitative Susceptibility Mapping
Jianqi Li[1], Tian Liu[2,3], Deqi Cui[2,4], Qianfeng Wang[1], Mengchao Pei[1], Ming Zhang[1], Yi Wang[2,3]
[1]Shanghai Key Laboratory of Magnetic Resonance, East China Normal University, Shanghai, China, People's Republic of; [2]Radiology, Weill Medical College of Cornell University, New York, NY, United States; [3]Biomedical Engineering, Cornell University, Ithaca, NY, United States; [4]Biomedical Engineering,, Cornell University , Ithaca, NY, United States

2661. Fast Whole Brain Susceptibility Imaging using 3D Spiral
Bing Wu[1], Wei Li[1], Alex Avram[1], Arnaud Guidon[1], Chunlei Liu[1]
[1]Brain Imaging & Analysis Center, Duke University, Durham, NC, United States

2662. Quantitative Susceptibility Mapping of Cerebral Microbleeds
Tian Liu[1,2], Krishna Surapaneni[3], Min Lou[4], Liuquan Cheng[5], Jianzhong Sun[6], Cynthia Wisnieff[1, 2], Craig Horenstein[3], Minming Zhang[6], Yi Wang[1,2]
[1]Biomedical Engineering, Cornell University, Ithaca, NY, United States; [2]Radiology, Weill Cornell Medical College, New York, NY, United States; [3]Radiology, Columbia University, New York, NY, United States; [4]Neurology, the Second Affiliated Hospital, Zhejiang University School of Medicine, Hang Zhou, Zhe Jiang, China, People's Republic of; [5]Radiology, PLA General Hospital, Beijing, China, People's Republic of; [6]Radiology, the Second Affiliated Hospital, Zhejiang University School of Medicine, Hang Zhou, Zhe Jiang, China, People's Republic of

Artifacts & Correction: Phase Processing & SWI

Exhibition Hall Wednesday 13:30-15:30

2663. Improved Forward Calculation for Phase Artifacts Removal in Susceptibility Mapping
Saifeng Liu[1], Jaladhar Neelavalli[2], Weili Zheng[3], Ewart Mark Haacke[2,4]
[1]School of Biomedical Engineering, McMaster University, Hamilton, Ontario, Canada; [2]The Magnetic Resonance Imaging Institute for Biomedical Research, Detroit, MI, United States; [3]Biomedical Engineering, Wayne State University, Detroit, MI, United States; [4]Academic Radiology, Wayne State University, Detroit, MI, United States

2664. Matching Pursuit Iterative Dipole Based Filter of Background Fields in Phase Imaging
José P. Marques[1,2], Yves Wiaux[3,4], Rolf Gruetter[1,5]
[1]Laboratory for Functional & Metabolic Imaging, Ecole Polytechnique Fédérale de Lausanne, Lausanne, Vaud, Switzerland; [2]Department of Radiology, University of Lausanne, Lausanne, Vaud, Switzerland; [3]Signal Processing Laboratory 5, Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland; [4]Medical Image Processing Laboratory, University of Geneva, Geneva, Switzerland; [5]Department of Radiology, University of Lausanne and Geneva, Switzerland

2665. Reducing Artifacts in SWI Based MR Venography - Post Processing Technique to Compensate for the Signal Loss
Se Rim Park[1], Ung Jang[1], Dosik Hwang[1]

[1]School of Electrical & Electronic Engineering, Yonsei University, Seoul, Korea, Republic of

2666. CAMPUS: A Catalytic Multiecho Phase Unwrapping Scheme
Wei Feng[1], Jaladhar Neelavalli[1], E. M. Haacke[1]
[1]Wayne State University, Detroit, MI, United States

2667. On the Impact of Regularization & Kernel Type on SHARP-Corrected GRE Phase Images
Ferdinand Schweser[1,2], Karsten Sommer[1,3], Marie Atterbury[1,4], Andreas Deistung[1], Berengar Wendel Lehr[1], Jürgen R. Reichenbach[1]
[1]Medical Physics Group, Dept. of Diagnostic & Interventional Radiology 1, Jena University Hospital, Jena, Germany; [2]School of Medicine, Friedrich Schiller University of Jena, Jena, Germany; [3]School of Physics & Astronomy, Friedrich Schiller University of Jena, Jena, Germany; [4]Dept. of Physics, Brown University, Providence, RI, United States

Artifacts & Corrections: Imaging Near Metal

Exhibition Hall Thursday 13:30-15:30

2668. Investigations on Imaging Near Metal with Combined 3D UTE-MAVRIC
Michael Carl[1], Jiang Du[2], Kevin Koch[3]
[1]Global Applied Science Laboratory, GE Healthcare, San Diego, CA, United States; [2]University of California, San Diego, United States; [3]Global Applied Science Laboratory, GE Healthcare, Waukesha, WI, United States

2669. Predicting Pileup Artifacts Around Magnetized Spheres in SWIFT Images
Robert O'Connell[1], Steen Moeller, Curt Corum, Djaudat Idiyatullin, Michael Garwood
[1]University of Minnesota, Minneapolis, MN, United States

2670. MRI Artifacts Due to Ingestion of Iron Supplements
Jennifer Stoneburgh[1], Ali Fatemi-Ardekani[2], Barry Smith[3], Michael D. Noseworthy[4,5]
[1]Electrical & Computer Engineering, McMaster University, Hamilton, Ontario, Canada; [2]Medical Physics, McMaster University, Hamilton, Ontario, Canada; [3]Department of Diagnostic Imaging, Children's Hospital of Eastern Ontario, Ottawa, Ontario, Canada; [4]Biomedical Engineering; Electrical & Computer Engineering, McMaster University, Hamilton, Ontario, Canada; [5]Brain Body Institute, St. Joseph's Healthcare, Hamilton, Ontario, Canada

2671. 3D MRI Impression of Metal Implant Scan Abutment in Dental Implantology
Andreas Johannes Hopfgartner[1], Julian Boldt[2], Kurt Rottner[2], Ernst Jürgen Richter[2], Peter Michael Jakob
[1]Experimental Physics 5, University of Würzburg, Würzburg, Bavaria, Germany; [2]Prosthodontics, Dental School, University of Würzburg, Würzburg, Bavaria

2672. Metal-Induced Artifacts in Computed Tomography & Magnetic Resonance Imaging: Comparison of Biodegradable Magnesium Alloy Versus Titanium and Stainless Steel Control
Gustav Andreisek[1], Thomas Frauenfelder[1], Roger Luechinger[2]
[1]Department of Radiology, University Hospital Zurich, Zurich, ZH, Switzerland; [2]Institute for Biomedical Engineering, University & ETH Zurich, Zurich, ZH, Switzerland

Artifacts & Motion: Correction

Exhibition Hall Monday 14:00-16:00

2673. Validation of DC Self-Navigation for Breath-Hold Period Identification in Contrast-Enhanced 3D Radial Liver Perfusion Imaging
Debra E. Horng[1,2], Ethan K. Brodsky[1,2], Scott B. Reeder[1,2]
[1]Radiology, University of Wisconsin-Madison, Madison, WI, United States; [2]Medical Physics, University of Wisconsin-Madison, Madison, WI, United States

2674. *In-Vivo* Tagged-MR Based Motion Correction in Combined MR-PET
Se Young Chun[1,2], Timothy G. Reese[2,3], Bastien Guerin[1,2], Ciprian Catana[2,3], Georges El Fakhri[1,2]
[1]Division of Nuclear Medicine & Molecular Imaging, Department of Radiology, Massachusetts General Hospital, Boston, MA, United States; [2]Radiology, Harvard Medical School, Boston, MA, United States; [3]Athinoula A. Martinos Center for Biomedical Imaging, Department of Radiology, Massachusetts General Hospital, Boston, MA, United States

2675. Respiratory Gating with Measurement Time Constraints Applied to MRI with Continuously Moving Table
Matthias Honal[1], Tobias Baumann[2]
[1]Department of Radiology, Medical Physics, University Medical Center Freiburg, Freiburg, Germany; [2]Department of Radiology, University Medical Center Freiburg, Germany

2676. Virtual Template Registration for DCE-MRI Renography
Michael Hofer[1], Gernot Reishofer[2], Stephen Keeling[3], Michael Riccabona[4], Manuela Aschauer[5], Rudolf Stollberger[6]
[1]Institute of Medical Engineering, University of Technology, Graz, Austria; [2]Department of Radiology, Medical University, Graz, Austria; [3]Institute for Mathematics & Scientific Computing, Karl Franzens University Graz, Austria; [4]Department of Pediatric Radiology, Medical University Graz, Austria; [5]Department of Radiology, Medical University Graz, Austria; [6]Institute of Medical Engineering, University of Technology Graz, Austria

2677. Bias Correction for Respiration Detection in Radial 3D Gradient-Echo Imaging
Robert Grimm[1], Kai Tobias Block[2], Berthold Kiefer[2], Joachim Hornegger[1,3]
[1]Pattern Recognition Lab, Department of Computer Science, University of Erlangen-Nuremberg, Erlangen, Germany; [2]Siemens Healthcare MR, Erlangen, Germany; [3]Erlangen Graduate School in Advanced Optical Technologies (SAOT)

2678. Continuous Fat Suppression During Respiratory Triggering
Alto Stemmer[1], Berthold Kiefer[1]
[1]Healthcare Sector, Siemens AG, Erlangen, Germany

2679. Mouse Cardiac MRI: Comparison of Prospective Synchronization using Optical & ECG Signals with a Retrospective Technique
Raphaël Sablong[1], Adrian Rengle[1], Audrey Pouzin[1], Olivier Beuf[1]
[1]CREATIS, CNRS UMR 5220, Inserm U1044, INSA-Lyon, Université Lyon 1, Villeurbanne, France

2680. Two Degree-Of-Freedom (DOF) MRI-Compatible Motion Generation System for MRI Motion Compensated Algorithms Evaluation
Slavisa Jovanovic[1,2], Laure Rousselet[1,2], Lucas Albouy[1,2], Pierre-André Vuissoz[1,2], Cédric Pasquier[3,4], Jacques Felblinger[1,2]
[1]Imagerie Adaptative Diagnostique et Interventionnelle, Nancy-Université, Nancy, France; [2]U947, INSERM, Nancy, France; [3]CIT801, INSERM, Nancy, France; [4]CIC-IT,CHU-Nancy, Nancy, France

2681. Motion Degradation in 3D µMRI of Trabecular Bone: Relevance to Quantitative Analysis of Clinical Data
Yusuf A. Bhagat[1], Chamith S. Rajapakse[1], Jeremy F. Magland[1], Michael J. Wald[1], Hee K . Song[1], Mary B. Leonard[2], Felix W. Wehrli[1]
[1]Laboratory for Structural NMR Imaging, University of Pennsylvania, Philadelphia, PA, United States; [2]Nephrology, the Children's Hospital of Philadelphia, United States

2682. Characterisation of Motion-Induced Field Distortions in Spectroscopic Imaging with Prospective Motion Correction
Thomas Lange[1], Daniel Nicolas Splitthoff[1], Maxim Zaitsev[1], Julian Maclaren[1]
[1]Department of Radiology, University Medical Center Freiburg, Freiburg, Germany

2683. A Practical Tracking System to Avoid Motion Artifacts
Michael Herbst[1], Julian Maclaren[1], Jan Gerrit Korvink[2,3], Maxim Zaitsev[1]
[1]Medical Physics, University Medical Center Freiburg, Freiburg, Germany; [2]Dept. of Microsystems Engineering - IMTEK, University of Freiburg, Freiburg, Germany; [3]Freiburg Institute of Advanced Studies (FRIAS), University of Freiburg, Freiburg, Germany

2684. Error Evaluation & Data Correction for the Outlier Signals in Q-Ball Imaging: Comparison of Orientation Distribution Function
Yen-Wei Cheng[1], Ming-Choung Chou[2], Nai-Yu Cho[3], Cheng-Yu Chen[3], Hsiao-Wen Chung
[1] Department of Electrical Engineering, National Taiwan University, Taipei, Taiwan; [2]Department of Medical Imaging & Radiological Sciences, Kaohsiung Medical University, Kaohsiung, Taiwan; [3]Department of Radiology, Tri-Service General Hospital, Taipei, Taiwan

Artifacts & Correction: B_0 Estimation & Distortion Correction

Exhibition Hall Tuesday 13:30-15:30

2685. Improved Frequency Selective Fat Suppression using Tissue Susceptibility Matched Pyrolytic Graphite Foams
Gary Chiaray Lee[1,2], Caroline Jordan[3,4], Pamela Tiet[2], Carlos Ruiz[2], Brian Hargreaves[3], Steven Conolly[1,2]
[1]Berkeley/UCSF Bioengineering Joint Graduate Group, Berkeley, CA, United States; [2]Bioengineering, UC Berkeley, Berkeley, CA, United States; [3]Radiology, Stanford University; [4]Bioengineering, Stanford University

2686. Accurate B_0 Mapping with Sparse TE Stepping & K-Space Energy Spectrum Analysis
Pei-Hsin Wu[1], Nan-Kuei Chen[2], Hsiao-Wen Chung[1,3]
[1]Department of Electrical Engineering, National Taiwan University, Taipei, Taiwan, Taiwan; [2]Brain Imaging & Analysis Center, Duke University Medical Center, Durham, NC, United States; [3]Institute of Biomedical Electronics & Bioinformatics, National Taiwan University, Taipei, Taiwan

2687. Off-Resonance Artifact Correction with Convolution in K-Space (ORACLE)
Wei Lin[1], Feng Huang[1], George R. Duensing[1], Arne Reykowski[1]
[1]Invivo Corporation, Philips Healthcare, Gainesville, FL, United States

2688. Frequency Filtered SENSE Shimming for B_0 Inhomogeneity Detection
Daniel Nicolas Splitthoff[1], Maxim Zaitsev[1]
[1]Dept. of Radiology, Medical Physics, Unversity Medical Center Freiburg, Freiburg, Germany

2689. Correcting B_0 Induced Signal Loss using Echo Planar Imaging Reference Data
Dan Xu[1], Joe K. Maier, Kevin F. King[1], Gaohong Wu
[1]Applied Science Laboratory, GE Healthcare, Waukesha, WI, United States

2690. Shim Navigators for Accurate Detection of the B_0 Magnetic Field Inhomogeneities using Reference MGE Images
Iulius Dragonu[1], Daniel Nicolas Splitthoff[1], Nicoleta Baxan[1], Paul Freitag[2], Jürgen Hennig[1], Maxim Zaitsev[1]
[1]Dept. of Radiology, Medical Physics, University Medical Center Freiburg, Freibug, Baden-Wuerttemberg, Germany; [2]Bruker Biospin, Ettlingen, Baden-Wuerttemberg, Germany

2691. R_2* Estimation in the Presence of Fat & Macroscopic B_0 Field Variations
Diego Hernando[1], Catherine D. G. Hines[1], Scott B. Reeder[1,2]
[1]Radiology, University of Wisconsin, Madison, WI, United States; [2]Medical Physics, University of Wisconsin, Madison, WI, United States

2692. Single-Scan T_2* Measurements with Alternating Compensation Gradients for Linear Background Gradients
Yoonho Nam[1], Hahnsung Kim[1], Dong-Hyun Kim[1]
[1]Electrical & Electronic Engineering, Yonsei University, Seoul, Korea, Republic of

2693. MR-Based Field-Of-View Extension: Compensation of Field Imperfections
Jan Ole Blumhagen[1,2], Ralf Ladebeck[1], Matthias Fenchel[1], Jürgen Kampmeier[1], Klaus Scheffler[2]
[1]Magnetic Resonance, Siemens Healthcare, Erlangen, Bavaria, Germany; [2]Division of Radiological Physics, University of Basel Hospital, Basel, Switzerland

2694. MR-Based Field-Of-View Extension: Gradient & B_0 Correction Post-Processing
Jan Ole Blumhagen[1,2], Ralf Ladebeck[1], Matthias Fenchel[1], Jürgen Kampmeier[1], Klaus Scheffler[2]
[1]Magnetic Resonance, Siemens Healthcare, Erlangen, Bavaria, Germany; [2]Division of Radiological Physics, University of Basel Hospital, Basel, Switzerland

2695. EPI Distortion Correction using Magnitude Difference Map
Hao Lv[1], Yong Chuan Lai[1]
[1]MR Engineering, GE Healthcare, Beijing, China, People's Republic of

2696. Dynamic Unwarping of Multi Echo EPI Data
Eelke Visser[1,2], Benedikt A. Poser[3], Markus Barth[1,4], Marcel P. Zwiers[1,2]
[1]Donders Institute for Brain, Cognition & Behaviour, Radboud University Nijmegen, Nijmegen, Netherlands; [2]Department of Cognitive Neuroscience, Radboud University Nijmegen Medical Centre, Nijmegen, Netherlands; [3]Department of Medicine, Queen's Medical Center, Honolulu, HI, United States; [4]Erwin L. Hahn Institute for Magnetic Resonance Imaging, University Duisburg-Essen, Essen, Germany

2697. First *In Vivo* Results using Decoupled Projection Based Shimming
Daniel Nicolas Splitthoff[1], Maxim Zaitsev[1]
[1]Dept. of Radiology, Medical Physics, Unversity Medical Center Freiburg, Freiburg, Germany

2698. A Novel Correction Method for Distortion Correction in EPI at Ultra-High Field MRI using PSF Mapping Technique
Se-Hong Oh[1], Jun-Young Chung[1], Myung-Ho In[2], Maxim Zaitsev[3], Oliver Speck[2], Young-Bo Kim[1], Zang-Hee Cho[1]
[1]Neuroscience Research Institute, Gachon University of Medicine and Science, Incheon, Korea, Republic of; [2]Department of Biomedical Magnetic Resonance, Institute for Experimental Physics, Otto-von-Guericke University Magdeburg, Magdeburg, Germany; [3]Department of Radiologic Research, Medical Physics, University Hospital of Freiburg, Freiburg, Germany

2699. View Angle Tilting in Echo Planar Imaging for Distortion Correction
Sinyeob Ahn[1], Xiaoping Hu[1]
[1]Biomedical Engineering, Georgia Institute of Technology & Emory University, Atlanta, GA, United States

Denotsing

Exhibition Hall Wednesday 13:30-15:30

2700. Evaluation of Image Quality Improvement using Wavelet Denoising Based on Stein's Unbiased Risk Estimate (SURE)
Tao Zhang[1], Peng Lai[2], Shreyas Vasanawala[3], Robert Herfkens[3], Kedar Khare[4], Luca Marinelli[4], Kevin F. King[5], Anja Brau[2]
[1]Electrical Engineering, Stanford University, Stanford, CA, United States; [2]Applied Science Laboratory, GE Healthcare, Menlo Park, CA, United States; [3]Radiology, Stanford University, Stanford, CA, United States; [4]GE Global Research Center, Niskayuna, NY, United States; [5]GE Healthcare, Waukesha, WI, United States

2701. Controlled Denoising for fMRI using Adaptive Overcomplete Dictionaries
Rajesh Venkataraman[1], Steen Moeller, Essa Yacoub
[1]University of Minnesota, Minneapolis , MN, United States

2702. A Simple Fast Method of Gibbs Ringing Artifact & Noise Reduction with Edge Enhancement using Low-Pass, Band-Pass, & High-Pass K-Space Windowing Functions
Leping Zha[1], Tsutomu Hoshino[1], Yuichi Yamashita[2]
[1]Toshiba Medical Research Institute USA, Inc., Vernon Hills, IL, United States; [2]Toshiba Medical Systems Corporation, Nasu, Tochigi, Japan

2703. Three Dimensional Restoration of Cardiac Magnetic Resonance Diffusion Weighted Images Based on Sparse Denoising
Lijun Bao[1], Wanyu Liu[2], Changwei Hu[1], Xiaobo Qu[3], Shuhui Cai[1], Zhong Chen[1]
[1]Department of Physics, Xiamen University, Xiamen, Fujian, China, People's Republic of; [2]Departments of Automatic Measurement & Control, Harbin Institute of Technology, Harbin, China, People's Republic of; [3]Department of Communication Engineering, Xiamen University, Xiamen, Fujian, China, People's Republic of

Fat & Water

Exhibition Hall Thursday 13:30-15:30

2704. Accelerated Water-Fat Imaging using Restricted Subspace Fieldmap Estimation
Samir D. Sharma[1], Houchun H. Hu[1], Krishna S. Nayak[1]
[1]Electrical Engineering, University of Southern California, Los Angeles, CA, United States

2705. Joint Inhomogeneitiy Estimation for Water-Fat Separation with Multi-Peak Fat Modeling
Wenmiao Lu[1], Yi Lu[2]
[1]Electrical & Electronic Engineering, Nanyang Technological University, Singapore, SG, Singapore; [2]Electrical & Computer Engineering, University of Illinois, Urbana Champaign, Urbana, IL, United States

2706. Feasibility of Water-Fat Separation with Diffusion Weighted EPI
Ken-Pin Hwang[1,2], Jingfei Ma[2]
[1]Global Applied Science Laboratory, GE Healthcare, Houston, TX, United States; [2]Department of Imaging Physics, University of Texas M.D. Anderson Cancer Center, Houston, TX, United States

2707. Two-Point Dixon Imaging with Flexible Echo Times & a Region Growing-Based Postprocessing Algorithm
Jingfei Ma[1]
[1]Imaging Physics, University of Texas MD Anderson Cancer Center, Houston, TX, United States

2708. A Networked GPU Reconstructor Within the Clinical Workflow for Rapid Fat Quantification.
Grzegorz Kowalik[1,2], Jennifer Anne Steeden[1,2], David Atkinson[2], Vivek Muthurangu[1]
[1]Centre for Cardiovascular MR, UCL Institute of Child Health, London, United Kingdom; [2]Centre for Medical Image Computing, UCL Department of Medical Physics & Bioengineering, London, United Kingdom

2709. Combining Phase Images from Multi-Channel RF Coils using 3D Phase Offset Maps Derived from a Dual-Echo Scan
Simon Robinson[1], Günter Grabner[1], Stephan Witoszynskyj[1], Siegfried Trattnig[1]
[1]Department of Radiology, Medical University of Vienna, Vienna, Austria

Fat-Water MRI

Exhibition Hall Monday 14:00-16:00

2710. Fat Fraction Bias Correction using Estimated T_1 Values
Issac Yiqun Yang[1], Curtis Nathan Wiens[2], Lanette Friesen-Waldner[1], Charles Andrew McKenzie[1,2]
[1]Medical Biophysics, University of Western Ontario, London, Ontario, Canada; [2]Physics & Astronomy, University of Western Ontario, London, Ontario, Canada

2711. Fat Water Classification of Symmetrically Sampled Two-Point Dixon Images using Biased Partial Volume Effects
Thobias Romu[1,2], Olof Dahlqvist Leinhard[2,3], Mikael F. Forsgren[3,4], Sven Almer[4], Nils Dahlström[3,5], Stergios Kechagias[3], Fredrik Nyström[3], Örjan Smedby[2,3], Peter Lundberg[1,2], Magnus Borga[2,6]
[1]Department of Radiation Physics, Center for Surgery, Orthopedics & Oncology, Linköping University Hospital, Linköping, Sweden; [2]Center for Medical Imaging Science & Visualization (CMIV), Linköping University, Sweden; [3]Department of Medical & Health Sciences, Linköping University, Sweden; [4]Department of Clinical & Experimental Medicine Faculty of Health Science, Linköping University, Sweden; [5]Department of Radiology, Diagnostic Imaging Center, Linköping University Hospital, Sweden; [6]Department of Biomedical Engineering, Linköping University, Sweden

2712. Simultaneous Quantification of Fat Fraction & Fatty Acid Composition using MRI
Pernilla Peterson[1], Sven Månsson[1]
[1]Medical Radiation Physics, Lund University, Malmö, Sweden

2713. Assessment of Accuracy, Repeatability, Reproducibility & Robustness of Fat Quantification in a Water-Fat Phantom
Huanzhou Yu[1], Catherine D. G. Hines[2], Ann Shimakawa[1], Charles A. McKenzie[3], Scott B. Reeder[4], Jean H. Brittain[5]
[1]Global Applied Science Laboratory, GE Healthcare, Menlo Park, CA, United States; [2]Departments of Radiology, Biomedical Engineering, University of Wisconsin, Madison, WI, United States; [3]Department of Medical Biophysics, University of Western Ontario, London, Ontario, Canada; [4]Departments of Radiology, Medical Physics, Biomedical Engineering, University of Wisconsin, Madison, WI, United States; [5]Global Applied Science Laboratory, GE Healthcare, Madison, WI, United States

2714. Mapping the Double Bonds in Triglyceride
Mark Bydder[1], Gavin Hamilton[1], Michael S. Middleton[1], Claude B. Sirlin[1]
[1]University of California San Diego, San Diego, CA, United States

2715. Noise Performance of Magnitude-Based Water-Fat Separation is Sensitive to the Echo Times
Huanzhou Yu[1], Ann Shimakawa[1], Diego Hernando[2], Catherine D. G. Hines[3], Charles A. McKenzie[4], Scott B. Reeder[5], Jean H. Brittain[6]
[1]Global Applied Science Laboratory, GE Healthcare, Menlo Park, CA, United States; [2]Departments of Radiology, University of Wisconsin, Madison, WI, United States; [3]Departments of Radiology, Biomedical Engineering, University of Wisconsin, Madison, WI, United States; [4]Department of Medical Biophysics, University of Western Ontario, London, Ontario, Canada; [5]Departments of Radiology, Medical Physics, Biomedical Engineering, University of Wisconsin, Madison, WI, United States; [6]Global Applied Science Laboratory, GE Healthcare, Madison, WI, United States

2716. Water Fat Opposed Phase (WFOP) Sequence is a Robust Fat Suppression Technique Under the Presence of B_0 Inhomogeneity in Abdominal MRI at 3.0 T.
Koji Fujimoto[1], Tomohissa Okada[1], Aki Kido[1], Hiroshi Kusahara[2], Andrew Wheaton[3], Mitsue Miyazaki[3], Kaori Togashi[1]
[1]Diagnostic Imaging & Nueclear Medicine, Kyoto university, Kyoto, Japan; [2]Toshiba Medical Systems Corporation, Otawara, Tochigi, Japan; [3]Toshiba Medical Research Institute, USA, OH, United States

2717. Fully Automated Quantification of Subcutaneous & Visceral Abdominal Adipose Tissue using Water & Fat Acquisition & Graph Cuts
Vitali Zagorodnov[1], Sarayu Parimal[2], Michael W. L. Chee[2]
[1]Nanyang Technological University, Singapore, Singapore; [2]Duke-NUS Graduate Medical School

2718. Image-Based Weighted B_0 Shimming using a Fast Multi-Echo DIXON Technique: Feasibility for Abdominal Imaging
Arjan Willem Simonetti[1], Gabriele Beck[1], Hans Hoogduin[2], Jeroen C. W. Siero[3], Gwenael Herigault[4]
[1]MR CTO, Philips Healthcare, Best, Netherlands; [2]Brain Division University Medical Center Utrecht, Utrecht, Netherlands; [3]Rudolf Magnus Institute, University Medical Center Utrecht, Utrecht, Netherlands; [4]Clinical Science, Philips Healthcare, Best, Netherlands

New Methods for Generating Contrast

Exhibition Hall Tuesday 13:30-15:30

2719. Cube Cx2: Free 3D T_2w Dataset Along with 3D T_2FLAIR Acquisition
Donglai Huo[1], Xiaoli Zhao[1]
[1]GE Healthcare, Waukesha, WI, United States

2720. Variable Flip Angle Single-Slab 3D GRASE with Phase-Independent Image Reconstruction
Hahnsung Kim[1], Suhyung Park[2], Dong-Hyun Kim[1], Jaeseok Park[3]
[1]Electrical & Electronic Engineering, Yonsei University, Shinchon-Dong, Seoul, Korea, Republic of; [2]Medical Science, Yonsei University, Seoul, Korea, Republic of; [3]Radiology, Yonsei University, Seoul, Korea, Republic of

2721. High-Resolution 3D Volumetric Nerve-Sheath Weighted RARE Imaging (3D SHINKEI)
Masami Yoneyama[1], Masnobu Nakamura[1], Tomoyuki Okuaki[1], Takashi Tabuchi[1], Junko Ogura[1]
[1]Medical Satellite Yaesu Clinic, Tokyo, Japan

2722. Bipolar TSE & Bipolar 3D GRASE for Rapid Multi-Slice (Multi-Slab) High Field Magnetic Resonance Imaging Acquisition of Carotid Artery Wall
Linqing Li[1,2], Peter Jezzard[1,2]
[1]FMRIB Centre, University of Oxford, Oxford, United Kingdom; [2]Department of Clicical Neurosciences, University of Oxford, Oxford, United Kingdom

2723. Quiet T_1- & T_2-Weighted Brain Imaging using SWIFT
Ryan Chamberlain[1], Steen Moeller[1], Curt Corum[1], Djaudat Idiyatullin[1], Michael Garwood[1]
[1]Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, MN, United States

2724. Magnetic Resonance Imaging of Tendons, Ligaments & Menisci by Subtraction of Two Steady State Free Precession Signals
Petros Martirosian[1], Christina Schraml[2], Nina Franziska Schwenzer[2], Fabian Springer[2], Fritz Schick[1], Michael Deimling[3]
[1]Section on Experimental Radiology, University of Tübingen, Tübingen, Germany; [2]Department of Diagnostic & Interventional Radiology, University of Tübingen, Germany; [3]Department of Magnetic Resonance, Siemens Healthcare, Erlangen, Germany

2725. Quantitative MR Estimates of Blood Oxygenation Based on T_2*: A Numerical Study of the Impact of Model Assumptions.
Thomas Christen[1], Greg Zaharchuk[1], Nicolas Pannetier[2,3], Raphael Serduc[2,3], Nicolas Joudiou[2,3], Jean Claude Vial[2,3], Chantal Remy[2,3], Emmanuel L. Barbier[2,3]
[1]Department of Radiology, Stanford University, Stanford, CA, United States; [2]U836, INSERM, Grenoble, France; [3]Grenoble Institut des Neurosciences, Grenoble, France

2726. Evaluation of a New Quantitative BOLD Approach to Map Local Blood Oxygen Saturation in Healthy Rat
Pierre Bouzat[1,2], Thomas Christen[1,3], Sébastien Thomas[1,2], Nicolas Pannetier[1,4], Chantal Rémy[1,4], Jean-François Payen[1,2], Emmanuel L. Barbier[1,4]
[1]U836, Inserm, Grenoble, France; [2]CHU, Grenoble, France; [3]Department of Radiology, Standford University, Standford, CA, United States; [4]Grenoble Institut des Neurosciences, Université Joseph Fourier, Grenoble, France

2727. Is T_2* Enough to Assess Oxygenation? A Quantitative Blood-Oxygen Level Dependent Analysis in Brain Tumors.
Thomas Christen[1], Benjamin Lemasson[2,3], Nicolas Pannetier[3,4], Regine Farion[3,4], Chantal Remy[3,4], Greg Zaharchuk[1], Emmanuel L. Barbier[3,4]
[1]Department of radiology, Stanford University, Stanford, CA, United States; [2]Departments of Radiology, University of Michigan, Center for Molecular Imaging,, Ann Arbor, MI, United States; [3]Grenoble Institut des Neurosciences, Grenoble, France; [4]U836, INSERM, Grenoble, France

2728. Measuring Brain Oxygenation in Humans using a Quantitative BOLD Approach
Thomas Christen[1], Greg Zaharchuk[1]
[1]Department of radiology, Stanford University, Stanford, CA, United States

2729. Rapid Measurement of Oxygen Extraction Fraction (OEF) Maps using a Combined Multiple Gradient & Spin Echo Bolus Contrast Sequence
Thomas Christen[1], Heiko Schmiedeskamp[1], Matus Straka[1], Roland Bammer[1], Greg Zaharchuk[1]
[1]Department of Radiology, Stanford University, Stanford, CA, United States

2730. Evaluation of a New QBOLD Approach to Map Local Blood Oxygen Saturation in Human Brain
Julien Y. Bouvier[1,2], Irène Tropre,[3], Marjorie Villien[1,4], Sylvie Grand[1,5], Assia Jaillard[3,5], Omer Eker[5], Olivier Detante[1,5], David Chechin[2], Jean-François Le Bas[5], Alexandre Krainik[1,5], Emmanuel L. Barbier[1,4]
[1]Grenoble Institut des Neurosciences, Université Joseph Fourier, Grenoble, France; [2]Philips Healthcare, Suresnes, France; [3]IFR1, Grenoble, France; [4]U836, INSERM, Grenoble, France; [5]CHU, Grenoble, France

2731. Acoustic Radiation Contrast to Visualize Viscoelastic Properties in Human Breast
Deniz Ulucay[1], Judith Wild[1], Jessica Mende[2], Michael Dönnebrink[3], Jürgen Finsterbusch[4], Carsten Urbach[1], Karl Maier[1]
[1]HISKP, University of Bonn, Bonn, NRW, Germany; [2]Lavandoo Mobile Solutions GmbH, Bonn, NRW, Germany; [3]Medizin Center Bonn, Bonn, NRW, Germany; [4]University Medical Center Hamburg-Eppendorf, Hamburg, Germany

2732. Towards Direct Neuronal Current Imaging by Resonant Rabi Oscillation Mechanisms
Alexey Tonyushkin[1], Andrew M. Kiruluta[1,2]
[1]Physics, Harvard University, Cambridge, Massachussetts, United States; [2]Radiology, MGH, Boston, Massachussetts, United States

2733. Highly Efficient Localized Distant Dipolar Field & Its Application in MRI
Congbo Cai[1], Zhong Chen[1], Shuhui Cai[1], Jianhui Zhong[2]
[1]Departments of Physics & Communication Engineering, Xiamen University, Xiamen, Fujian, China, People's Republic of; [2]Departments of Radiology & Biomedical Engineering, University of Rochester, Rochester, United States

2734. Reference Free Localization & Quantification of Contrast Agents using Relaxivity Dispersion at 1.5T
Uvo Christoph Hoelscher[1], Steffen Lother[1], Florian Fidler[1], Peter Jakob[1,2]
[1]Research Center Magnetic Resonance Bavaria (MRB), Wuerzburg, Bavaria, Germany; [2]Department for Experimental Physics 5 (Biophysics), University of Wuerzburg, Wuerzburg, Germany

2735. Exchange-Relayed Nuclear Overhauser Effect MRI
Craig Kenneth Jones[1,2], Alan J. Huang[1,3], Peter C. M. van Zijl[1,2]
[1]FM Kirby Center, Kennedy Krieger Institute, Baltimore, MD, United States; [2]Department of Radiology & Radiological Sciences, Johns Hopkins Medical Institutes, Baltimore, MD, United States; [3]Department of Biomedical Engineering, Johns Hopkins University, Baltimore, MD, United States

2736. Observation of Intravascular Contrast Enhancement Due to Anesthesia in T_2*-Weighted Imaging at 17.2 T
Luisa Ciobanu[1], Olivier Reynaud[1], Béchir Jarraya[2], Denis Le Bihan[1]
[1]NeuroSpin, CEA, Gif-sur-Yvette, France; [2]NeuroSpin, INSERM-A VENIR unit, Gif-sur-Yvette, France

2737. The Use of Iteratively Reweighted Least Square (IRLS) in the Calculation of Tissue Susceptibility
Tian Liu[1,2], Cynthia Wisnieff[1,2], Craig Horenstein[3], Krishna Surapaneni[3], Yi Wang[1,2]
[1]Biomedical Engineering, Cornell University, Ithaca, NY, United States; [2]Radiology, Weill Cornell Medical College, New York, NY, United States; [3]Radiology, Columbia University, New York, NY, United States

Relaxometry I

Exhibition Hall Wednesday 13:30-15:30

2738. Improved Single-Shot MR Relaxometry using Principal Component Analysis
Philipp Ehses[1], Xavier Helluy[1], Michael Völker[1], Vikas Gulani[2], Nicole Seiberlich[2], Mark a Griswold[2], Peter M. Jakob[1,3], Felix a Breuer[1]
[1]Research Center for Magnetic Resonance Bavaria (MRB), Würzburg, Germany; [2]Dept. of Radiology, University Hospitals of Cleveland & Case Western Reserve University, Cleveland, United States; [3]Dept. of Experimental Physics 5, Universität Würzburg, Würzburg, Germany

2739. Improving T_2* Mapping at 7T
Weiqiang Dou[1], Ralf Deichmann[2], Oliver Speck[1], Kai Zhong[1]
[1]Biomedical Magnetic Resonance, Otto-von-Guericke University, Magdeburg, Saxon-Anhalt, Germany; [2]Brain Imaging Center, Johann Wolfgang Goethe-University Frankfurt/M., Frankfurt/Main, Hesse, Germany

2740. Accelerating Multi-Component Relaxometry in Steady State with an Application of Constrained Reconstruction in Parametric Dimension
Julia V. Velikina[1], Samuel A. Hurley[1], Andrew L. Alexander[1], Alexey A. Samsonov[1,2]
[1]Medical Physics, University of Wisconsin - Madison, Madison, WI, United States; [2]Radiology, University of Wisconsin - Madison, Madison, WI, United States

2741. Nonlinear Inverse Reconstruction for T_2 Mapping from Highly Undersampled Cartesian Spin-Echo MRI
Tilman Johannes Sumpf[1], Martin Uecker[1], Susann Boretius[1], Jens Frahm[1]
[1]Biomedizinische NMR Forschungs GmbH, Goettingen, Germany

2742. Average Correlation Orthogonal Matching Pursuit for Improved Relaxation Parameter Estimation
Nicole Seiberlich[1], Dan Ma[2], Philipp Ehses[3], Vikas Gulani[1], Mark Griswold[1,2]
[1]Radiology, University Hospitals of Cleveland, Cleveland, OH, United States; [2]Biomedical Engineering, Case Western Reserve University, Cleveland, OH, United States; [3]Research Center for Magnetic Resonance Bavaria (MRB), Wuerzburg, Germany

Relaxometry II

Exhibition Hall Thursday 13:30-15:30

2743. Saturation Recovery Modified Look Locker (S-MOLLI) for Cardiac T_1 Mapping
Christian Stehning[1], Daniel Messroghli[2], Michael Frick[3], Bernhard Schnackenburg[3], Jochen Keupp[1]
[1]Philips Research Laboratories, Hamburg, Germany; [2]Cardiac MRI Unit, Franz-Volhard-Klinik, Charité University Medicine, Berlin, Germany; [3]Department of Internal Medicine/Cardiology, German Heart Institute, Berlin, Germany

2744. A Universal Sampling Scheme for the Method of Slopes (MoS) Allows for Rapid Simultaneous B_1 & T_1 Mapping in 2D
Sofia Chavez[1], Greg Stanisz[1,2]
[1]Imaging Research, Sunnybrook Research Institute, Toronto, ON, Canada; [2]Medical Biophysics, University of Toronto, Toronto, ON, Canada

2745. Impact of Three B_1 Mapping Techniques on Variable Flip Angle T_1 Measurements
Christine Lucas Tardif[1], Nikola Stikov[1], Ives R. Levesque[2], G. Bruce Pike[1]
[1]McConnell Brain Imaging Centre, Montreal Neurological Institute, Montreal, Quebec, Canada; [2]Department of Electrical Engineering, Stanford University, Stanford, CA, United States

2746. Accelerated T_1 & T_2 Relaxometry in the Human Brain using UNFOLD
Ana-Maria Oros-Peusquens[1], Nadim Jon Shah[1,2]
[1]Institute of Neuroscience & Medicine (INM-4), Research Centre Juelich, Juelich, NA, Germany; [2]2Department of Neurology, Faculty of Medicine, JARA, RWTH Aachen University, Aachen, Germany

2747. Mapping of Oxygen by Imaging Lipids Relaxation Enhancement (MOBILE): Application to Changes in Liver Oxygenation
Benedicte F. Jordan[1], Julie Magat[1], Elif Ozel[1], Valerie Marchand[1], Patrice Cani[2], Nathalie Delzenne[2], Bernard Gallez[1]
[1]Louvain Drug Research Institute, Biomedical Magnetic Resonance Research Group, University of Louvain, Brussels, Belgium; [2]Louvain Drug Research Institute, Metabolism & Nutrition Research Group, University of Louvain, Brussels, Belgium

2748. Optimization Strategies for Relaxation Based Myelin Water Imaging: 2. Postprocessing & Signal Correction Techniques
Burkhard Mädler[1], Volker A. Coenen[1]
[1]Dep. of Neurosurgery, Div. of Stereotaxy & MR-based OR-Techniques, University Bonn, Bonn, Germany

2749. Improved T_2-Quantification with Slice Selective MSE-Sequences
Andreas Petrovic[1,2], Eva Scheurer[2], Kathrin Yen[2], Rudolf Stollberger[1]
[1]Institute of Medical Engineering, University of Technology Graz, Graz, Austria; [2]Ludwig Boltzmann Institute - Clincal Forensic Imaging, Graz, Austria

2750. Monte Carlo Analysis of T_1-Mixing Errors for MSE T_2 Mapping
Andreas Petrovic[1,2], Eva Scheurer[2], Kathrin Yen[2], Rudolf Stollberger[1]
[1]Institute of Medical Engineering, University of Technology Graz, Graz, Styria, Austria; [2]Ludwig Boltzmann Institute - Clincal Forensic Imaging, Graz, Austria

2751. Robust Multicomponent T_2 Imaging in the Brain at 3T using Least Squares Fitting in the Presence of RF Inhomogenities
Sha Zhao[1,2], David L. Buckley[3], Geoff J. M. Parker[1,2]
[1]Imaging Science, the University of Manchester, Manchester, United Kingdom; [2]Biomedical Imaging Institute, the University of Manchester, Manchester, United Kingdom; [3]Division of Medical Physics, University of Leeds, Leeds, United Kingdom

2752. A Simple Method for Increasing the Number of Echoes & Decreasing Echo Spacing in T_2 Spectrum Analysis
Marshall S. Sussman[1]
[1]Medical Imaging, University Health Network, Toronto, Ontario, Canada

2753. Measuring & Imaging T_2 Without Echoes?
Guan Wang[1,2], AbdElMonem M. El-Sharkawy[1,2], William A. Edelstein[1], Michael Schär[1,3], Paul A. Bottomley[1,2]
[1]Radiology & Radiological Science, Johns Hopkins University School of Medicine, Baltimore, MD, United States; [2]Electrical & Computer Engineering, Johns Hopkins University, Baltimore, MD, United States; [3]Philips Healthcare, Ohio, Cleveland, United States

2754. Multi-Parameter Mapping of the Human Cervical Cord at 3.0T in Less than 20 Minutes
Rebecca Sara Samson[1], Olga Ciccarelli[2], Carolina Kachramanoglou[2], Antoine Lutti[3], David J. L. Thomas[2], Nikolaus Weiskopf[3], Claudia A. M. Wheeler-Kingshott[1]
[1]Department of Neuroinflammation, UCL Institute of Neurology, London, England, United Kingdom; [2]Department of Brain Repair & Rehabilitation, UCL Institute of Neurology, London, England, United Kingdom; [3]Functional Imaging Laboratory, UCL Institute of Neurology, London, England, United Kingdom

2755. A New 3D Method for Water and Relaxation Time Mapping: Comparison to the 2D "gold Standard"
Ana Maria Oros-Peusquens[1], Fabian Keil[1], Vincent Gras[1], Zaheer Abbas[1], Daniel Brenner[1], Miriam Rabea Kubach[1], Klaus Hans Mannfred Möllenhoff[1], Nadim Jon Shah[1,2]
[1]Institute of Neuroscience & Medicine - 4, Forschungszentrum Juelich, Juelich, Germany; [2]Department of Neurology, Faculty of Medicine, JARA, RWTH Aachen University, Aachen, Germany

2756. Evaluation of Principal Component Model-Based Algorithm for T_2 Estimation of Small Objects
Chuan Huang[1], Christian G. Graff[2], Ali Bilgin[3,4], Maria I. Altbach[5]
[1]Mathematics, University of Arizona, Tucson, AZ, United States; [2]Division of Imaging & Applied Mathematics, Food & Drug Administration; [3]Biomedical Engineering, University of Arizona; [4]Electrical & Computer Engineering, University of Arizona; [5]Radiology, University of Arizona

2757. Spatially Resolved Two-Dimensional T_1-T_2 Relaxometry in the Human Brain using Inversion-Recovery Spin-Echo Measurements & NNLS
Valentin Gereon Kemper[1], Ana-Maria Oros-Peusquens[1], Nadim Jon Shah[1,2]
[1]Institute of Neuroscience & Medicine, Research Centre Juelich, Juelich, 52425, Germany; [2]Department of Neurology, Faculty of Medicine, JARA, RWTH Aachen University, Aachen, 52074, Germany

2758. Fast Proton Density Mapping using Bias Field Correction
Steffen Volz[1], Ulrike Nöth[1], Ralf Deichmann[1]
[1]Brain Imaging Center (BIC), Goethe University Frankfurt, Frankfurt, Germany

2759. A Novel Method for Characterizing T_2 Spectra
Marshall S. Sussman[1], Walter Kucharczyk[1]
[1]Medical Imaging, University Health Network, Toronto, Ontario, Canada

2760. Comparison of Two MRI-UTE Sequences for the Quantification (T_1) of the Human Achilles Tendon
Peter Wright[1], Richard Hodgson[2], Vladimir Jellus[3], Lars Lauer[3], Matthew Robson[4]
[1]LMBRU, Leeds Teaching Hospitals NHS Trust, Leeds, Yorkshire, United Kingdom; [2]LMBRU, University of Leeds, United Kingdom; [3]Siemens AG, Erlangen, Germany; [4]University of Oxford, United Kingdom

2761. Transverse Relaxometry with Non-180° Refocusing Pulses
Julien Sénégas[1], Nicolas Neu[2], Jochen Keupp[1]
[1]Philips Research Laboratories, Hamburg, Germany; [2]Ecole des Mines de Paris, France

2762. A Four Parameter Fitting Method to Quantify Fully the Sources of Phase Contrast in Gradient Echo MRI
Sam Wharton[1], Richard Bowtell[1]
[1]Sir Peter Mansfield Magnetic Resonance Centre, University of Nottingham, Nottingham, United Kingdom

2763. Region Based Joint Bi-Exponential T_2 Fitting for Small Lesions
Chuan Huang[1], Christian G. Graff[2], Eric W. Clarkson[3,4], Ali Bilgin[5,6], Maria I. Altbach[3]
[1]Mathematics, University of Arizona, Tucson, AZ, United States; [2]Division of Imaging & Applied Mathematics, Food & Drug Administration; [3]Radiology, University of Arizona; [4]Optical Sciences, University of Arizona; [5]Biomedical Engineering, University of Arizona; [6]Electrical & Computer Engineering, University of Arizona

2764. Accurate T_1 & T_2 Quantification in Look-Locker 2D SSFP Imaging with Flip Angle Profile Correction
Mitchell Anthony Cooper[1,2], Thanh D. Nguyen[3], Pascal Spincemaille[3], Martin R. Prince[3], Jonathan W. Weinsaft[4], Yi Wang[1,3]
[1]Biomedical Engineering, Cornell University, Ithaca, NY, United States; [2]Radiology, Weill Cornell Medical College , New York, United States; [3]Radiology, Weill Cornell Medical College, New York, United States; [4]Cardiology, Weill Cornell Medical College, New York, United States

2765. *In Vivo* T_2 Measurements of the Right Ventricle Inferior Wall: Comparison with the Left Ventricle
Brice Fernandez[1,2], Maelene Lohezic[1,2], Lucien Hammen[2,3], Marine Beaumont[4,5], Damien Mandry[2,4], Pierre-André Vuissoz[2,3], Jacques Felblinger[2,3]
[1]Global Applied Science Laboratory, GE Healthcare, Nancy, France; [2]IADI Lab, Nancy-Université, Nancy, France; [3]U947, INSERM, Nancy, France; [4]CHU de Nancy, Nancy, France; [5]CIT801, INSERM, Nancy, France

Chemical Exchange Saturation Transfer

Exhibition Hall Monday 14:00-16:00

2766. Feasibility of CEST Imaging on the Guinea Pig Stifle at 9.4 T
Matthew Fenty[1], Victor Babu Kassey[1], Feliks Kogan[1], Ravinder Reddy[1]
[1]CMROI, Radiology, University of Pennsylvania, Philadelphia, PA, United States

2767. Chemical Exchange Saturation Transfer Effect from Phospho-Creatine (PCr) & Adenosine-Tri-Phosphate (ATP)
Mohammad Haris[1], Kejia Cai[1], Anup Singh[1], Victor Babu Kc[1], Hari Hariharan[1], Ravinder Reddy[1]
[1]CMROI, Radiology, University of Pennsylvania, Philadelphia, PA, United States

2768. Quantitative Modeling of *In-Vivo* Amide Proton Transfer Measurements in the Human Brain Indicates a Dominant Signal Contribution from Proteins with Short T_2 Relaxation Times
Rachel Scheidegger[1,2], Elena Vinogradov[1,3], Weiying Dai[1,3], David C. Alsop[1,3]
[1]Radiology, Beth Israel Deaconess Medical Center, Boston, MA, United States; [2]Health Sciences & Technology, Harvard-MIT, Cambridge, MA, United States; [3]Radiology, Harvard Medical School, Boston, MA, United States

2769. Amide Proton Transfer Imaging with Continuous Wave Dual Frequency Saturation Can Detect the Amide Proton Peak in the Z-Spectrum Acquired at 3T
Rachel Scheidegger[1,2], Elena Vinogradov[1,3], Weiying Dai[1,3], David C. Alsop[1,3]
[1]Radiology, Beth Israel Deaconess Medical Center, Boston, MA, United States; [2]Health Sciences & Technology, Harvard-MIT, Cambridge, MA, United States; [3]Radiology, Harvard Medical School, Boston, MA, United States

2770. Optimization of Pulsed-GagCEST at 3.0T
Gopal Varma[1], David C. Alsop[1], Robert E. Lenkinski[1], Elena Vinogradov[1]
[1]Department of Radiology, Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA, United States

2771. Chemical Exchange Transfer Imaging of Creatine
Anup Singh[1], Mohammad Haris[1], Kejia Cai[1], Hari Hariharan[1], Ravinder Reddy[1]
[1]CMROI, Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States

2772. High Resolution Imaging of Myo-Insitol in Alzhemier's Disease Pathology
Mohammad Haris[1], Anup Singh[1], Kejia Cai[1], Kavindra Nath[2], Rachelle Berger[1], Ari Borthakur[1], Hari Hariharan[1], Ravinder Reddy[1]
[1]CMROI, Radiology, University of Pennsylvania, Philadelphia, PA, United States; [2]LMI, Radiology, University of Pennsylvania

2773. CEST MRI of Human Liver at 3T
Kejia Cai[1], Anup Singh[1], Kalli Grasley[1], Mohammad Haris[1], Damodar Reddy[1], Hari Hariharan[1], Ravinder Reddy[1]
[1]CMROI, Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States

2774. Identification of Endogenous Proteins Correlated with Amide Proton Transfer (APT) Imaging Contrast using Proteomic Analysis
Kun Yan[1], Zongming Fu[2], Jennifer Van Eyk[3], Silun Wang[1], Jinyuan Zhou[1]
[1]Radiology, Johns Hopkins University, Baltimore, MD, United States; [2]Pediatrics, Johns Hopkins University, Baltimore, MD, United States; [3]Bayview Proteomics Center, Johns Hopkins University, Baltimore, MD, United States

2775. Keyhole Chemical Exchange Saturation Transfer
Gopal Varma[1], Robert E. Lenkinski[1], Elena Vinogradov[1]
[1]Department of Radiology, Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA, United States

2776. 3D Whole Brain Pulsed CEST Acquisition at 7T
Craig K Jones[1,2], Daniel Polders[3], Jun Hua[1], Hans Hoogduin[4], He Zhu[1], Jinyuan Zhou[1,2], Peter C. M. van Zijl[1,2]
[1]FM Kirby Center, Kennedy Krieger Institute, Baltimore, MD, United States; [2]Department of Radiology & Radiological Sciences, Johns Hopkins Medical Institutes, Baltimore, MD, United States; [3]Department of Radiology, University Medical Center Utrecht, Utrecht, Netherlands; [4]Brain Division, University Medical Center Utrecht, Utrecht, Netherlands

2777. Computational Modeling & Optimized Detection of PARACEST Contrast Agents with Echo Planar Imaging
Nevin McVicar[1,2], Alex Li[2], Adrienne Campbell[3], Marty Klassen[2], Rob Bartha[1,2]
[1]Medical Biophysics, University of Western Ontario, London, ON, Canada; [2]Centre for Functional & Metabolic Mapping, Robarts Research Institute; [3]Division of Medicine & Institute of Child Health, UCL Centre for Advanced Biomedical Imaging, London, United Kingdom

2778. Modeling MT Effect of Bound Water Pool & Its Use in Correction of CEST Contrast for MT Asymmetry
Anup Singh[1], Kejia Cai[1], Mohammad Haris Haris[1], Hari Hariharan[1], Ravinder Reddy[1]
[1]CMROI, Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States

2779. Two-Pool Compartmental Modeling of Balanced SSFP & CEST
Kimberly Lara Desmond[1], Sean Deoni[2], Shannon Kolind[2], Greg J Stanisz[1,3]
[1]Medical Biophysics, University of Toronto, Toronto, ON, Canada; [2]Oxford University, Oxford, United Kingdom; [3]Imaging Research, Sunnybrook Health Sciences Centre, Toronto, ON, Canada

2780. Optimized CEST Imaging of Intermediate to Fast Exchanging Agents in *In-Vivo* Situations
Anup Singh[1], Hari Hariharan[1], Kejia Cai[1], Mohammad Haris Haris[1], Ravinder Reddy[1]
[1]CMROI, Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States

2781. MRI of Glutamate Modulation *In-Vivo*
Kejia Cai[1], Mohammad Haris[1], Anup Singh[1], Feliks Kogan[1], Walter R.T. Witschey[1], Prianka Waghray[1], Joel H. Greenberg[2], Hari Hariharan[1], John A. Detre[2], Ravinder Reddy[1]
[1]CMROI, Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States; [2]Department of Neurology, University of Pennsylvania, Philadelphia, PA, United States

Magnetization Transfer

Exhibition Hall Tuesday 13:30-15:30

2782. Drift in the Magnetization Transfer Signal: Effect on Quantitative MT Experiments
Ives R. Levesque[1], Nikola Stikov[2], G. Bruce Pike[2], John M. Pauly[1]
[1]Electrical Engineering, Stanford University, Stanford, CA, United States; [2]Montreal Neurological Institute, McGill University, Montreal, Quebec, Canada

2783. Bound Pool Fraction & $T_{1,free}$ Quantification by Non-Linear Parameter Identification of Composite Echoes
Bernhard Neumayer[1], Rudolf Stollberger[1]
[1]Institute of Medical Engineering, Graz University of Technology, Graz, Steiermark, Austria

2784. Analysis of Magnetization Transfer Ratio Measurements at 3T using Multiple-Acquisition Balanced SSFP
Monika Gloor[1], Klaus Scheffler[1], Oliver Bieri[1]
[1]Radiological Physics, University of Basel Hospital, Basel, Switzerland

2785. Preliminary Investigation of the Use of Parallel RF Transmission in MTR Measurement in the Human Cervical Cord
Rebecca Sara Samson[1], Matthew Clemence[2], Xavier Golay[3], Claudia A. M. Wheeler-Kingshott[1]
[1]Department of Neuroinflammation, UCL Institute of Neurology, London, England, United Kingdom; [2]Philips Clinical Science Group, Philips Healthcare, Guildford, England, United Kingdom; [3]UCL Institute of Neurology, United Kingdom

2786. Quantitative Magnetization Transfer Imaging of Human Brain at 7 Tesla
Richard D. Dortch[1,2], Jay Moore[2,3], Marcin Jankiewicz[1,2], Adrienne N. Dula[1,2], Ke Li[1,2], Daniel F. Gochberg[1,2], John C. Gore[1,2], Seth A. Smith[1,2]
[1]Radiology & Radiological Sciences, Vanderbilt University, Nashville, TN, United States; [2]Institute of Imaging Science, Vanderbilt University, Nashville, TN, United States; [3]Physics & Astronomy, Vanderbilt University, Nashville, TN, United States

2787. Magnetization Transfer Effects in Wideband SSFP
Hung Phi Do[1], Robert Marc Lebel[2], Krishna S. Nayak[2]
[1]Department of Physics & Astronomy, University of Southern California, Los Angeles, CA, United States; [2]Department of Electrical Engineering, University of Southern California, Los Angeles, CA, United States

2788. Influence of Magnetisation Transfer on Established T_1 Mapping Methods
Miriam Rabea Kubach[1], Kaveh Vahedipour[2], Tony Stoecker[2], N. Jon Shah[2,3]
[1]Forschungszentrum Juelich, Institute of Neuroscience and Medicine , Juelich, NRW, Germany; [2]Forschungszentrum Juelich, Institute of Neuroscience & Medicine, Juelich, NRW, Germany; [3]Department of Neurology, Faculty of Medicine, JARA, RWTH Aachen University, Aachen, Germany

2789. Exchange Resolved Measurements of Extra-Cellular Volume in a Graded Muscle Edema Model
Jack T. Skinner[1,2], Todd E. Peterson[2,3], Mark D. Does[1,2]
[1]Biomedical Engineering, Vanderbilt University, Nashville, TN, United States; [2]Institute of Imaging Science, Vanderbilt University, Nashville, TN, United States; [3]Radiology & Radiological Sciences, Vanderbilt University, Nashville, TN, United States

2790. Correcting RF Inhomogeneities in Skeletal Muscle Magnetization Transfer Maps
Christopher David James Sinclair[1,2], Jasper M. Morrow[1], Michael G. Hanna[1], Mary M. Reilly[1], Tarek A. Yousry[1,2], Xavier Golay[2], John S. Thornton[1,2]
[1]MRC Centre for Neuromuscular Diseases, UCL Institute of Neurology, London, United Kingdom; [2]Department of Brain Repair & Rehabilitation, UCL Institute of Neurology, London, United Kingdom

Acquisition Strategies: From 3D to Spectroscopy

Exhibition Hall Wednesday 13:30-15:30

2791. Three Dimensional Imaging with Independent Slab Excitation & Encoding
Amir Eissa[1], Alan H. Wilman[1]
[1]University of Alberta, Edmonton, Alberta, Canada

2792. 2D RF Pulses with Rotating Read Out Direction for Increased FOV with Elevated Central SNR
Andre de Oliveira[1], Tobias K. Block[1], Stephan Kannengiesser[1]
[1]Siemens AG, Erlangen, Germany

2793. GESFIDE-PROPELLER for Simultaneous R_2 & R_2* Measurements in the Abdomen
Ning Jin[1], Yang Guo[2], Jie Deng[3], Andrew C. Larson[1,4]
[1]Departments of Radiology & Biomedical Engineering, Northwestern University, Chicago, IL, United States; [2]Department of Radiology, Northwestern University, Chicago, IL, United States; [3]Department of Medical Imaging, Children's Memorial Hospital, Chicago, IL, United States; [4]Robert H. Lurie Comprehensive Cancer Center, Chicago, IL, United States

2794. Improved Susceptibility Weighted Phase Imaging for the Assessment of Brain Iron Deposition using a Multi-Echo Sequence
Guillaume Gilbert[1,2], Geneviève Savard[1], Céline Bard[1], Gilles Beaudoin[1]
[1]Department of Radiology, Centre Hospitalier de l'Université de Montréal, Montreal, QC, Canada; [2]MR Clinical Science, Philips Healthcare, Cleveland, OH, United States

2795. Multi-Directional High Moment Encoding in Phase Contrast MRI
Nicholas Ryan Zwart[1], James Grant Pipe[1]
[1]Neuroimaging Research, Barrow Neurological Institute, Phoenix, AZ, United States

2796. Experimental Demonstration of NCPMG Realignment
Patrick H. Le Roux[1], Graeme C. McKinnon[2], Yi-Fen Yen[3], Brice Fernandez[4,5]
[1]Applied Science Lab, GE Healhtcare, Palaiseau, France; [2]Applied Science Lab, GE Healthcare, Waukesha, WI, United States; [3]Applied Science Lab, GE Healthcare, Menlo-Park, CA, United States; [4]Applied Science Lab, GE Healhtcare, Nancy, France; [5]IADI Lab, INSERM, Nancy, France

2797. Two-Fold Phase Encoded SENSE Acceleration with a Single-Channel Coil
Andre Jesmanowicz[1], Andrew S. Nencka[1], James S. Hyde[1]
[1]Biophysics, Medical College of Wisconsin, Milwaukee, WI, United States

2798. Spatially Encoded Ultrafast 2D SECSY in Inhomogeneous Fields
Shuhui Cai[1], Can Wu[1], Zhiyong Zhang[1], Zhong Chen[1]
[1]Department of Physics, Fujian Key Laboratory of Plasma & Magnetic Resonance, Xiamen University, Xiamen, Fujian, China, People's Republic of

2799. ^{31}P T_1 Measurement using ISIS with Simultaneously Measured Spin-Echo & Stimulated-Echo (ISIS-SSESTE)
Xianfeng Shi[1,2], Young-Hoon Sung[3,4], SeongEun Kim[2], Perry Renshaw[3,4], Eunkee Jeong[2]
[1]The Brain Institute, University of Utah, Salt Lake City , UT, United States; [2]Department of Radiology, University of Utah, Salt Lake City, UT, United States; [3]The Brain Institute, University of Utah, Salt Lake City, UT, United States; [4]Department of Psychiatry, University of Utah, Salt Lake City, UT, United States

2800. Optimized Chemical Shift Imaging for Sodium MRI of the Human Brain
Patrick Michael Heiler[1], Benedikt Rieger[1], Philipp Krämer[1], Simon Konstandin[1], Lothar Rudi Schad[1]
[1]Computer Assisted Clinical Medicine, Heidelberg University, Mannheim, Germany

2801. Echo Planar Based J Resolved & Correlated Spectroscopic Imaging of Human Prostate using External Coil
Rajakumar Nagarajan[1], Jonathan Furuyama[1], Daniel Margolis[1], Steven Raman[1], Manoj Kumar Sarma[1], Michael Albert Thomas[1]
[1]Radiological Sciences, University of California Los Angeles, Los Angeles, CA, United States

Trajectories & Novel Encoding Methods

Exhibition Hall Thursday 13:30-15:30

2802. A Looping Trajectory for Single-Shot 3D Imaging
Robert Wayne Stobbe[1], Christian Beaulieu[1]
[1]Biomedical Engineering, University of Alberta, Edmonton, Alberta, Canada

2803. Analysis of Variable Density FLORET Trajectories
James Grant Pipe[1], Nicholas Ryan Zwart[1]
[1]Neuroimaging Research, Barrow Neurological Institute, Phoenix, AZ, United States

2804. Variable Gradient Delay Correction for Spiral MRI
Payal Sharad Bhavsar[1], Jim Pipe[1]
[1]Neuroimaging, Barrow Neurological Institute, Phoenix, AZ, United States

2805. Localization by Nonlinear Phase Preparation & K-Space Trajectory Design (GradLoc)
Walter R.T. Witschey[1], Christian A. Cocosco[1], Daniel Gallichan[1], Gerrit Schultz[1], Hans Weber[1], Anna Masako Welz[1], Jürgen Hennig[1], Maxim Zaitsev[1]
[1]Medical Physics, University Medical Center Freiburg, Freiburg i. Breisgau, Germany

2806. ExLoc: Excitation & Encoding of Curved Slices
Hans Weber[1], Daniel Gallichan[1], Gerrit Schultz[1], Walter R. Witschey[1], Anna Masako Welz[1], Christian A. Cocosco[1], Jürgen Hennig[1], Maxim Zaitsev[1]
[1]Department of Radiology, Medical Physics, University Medical Center Freiburg, Freiburg, Germany

2807. Strategies for Fast 3D Volumetric Coverage using Spatiotemporally-Encoded MRI
Noam Ben-Eliezer[1], Lucio Frydman[1]
[1]Chemical-Physics, Weizmann Institute of Science, Rehovot, Israel

2808. Accelerated MR Imaging with Spread Spectrum Encoding
Gilles Puy[1,2], José Marques[2,3], Rolf Gruetter[2,3], Jean-Philippe Thiran[1], Dimitri Van De Ville[4,5], Pierre Vandergheynst[1], Yves Wiaux[1,5]
[1]Institute of Electrical Engineering, Ecole Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland; [2]Institute of the Physics of Biological Systems, Ecole Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland; [3]Department of Radiology, University of Lausanne (UNIL), Lausanne, Switzerland; [4]Institute of Bioengineering, Ecole Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland; [5]Department of Radiology & Medical Informatics, University of Geneva (UniGE), Geneva, Switzerland

2809. Moving through K-Space by Point Reflections – the TRASE Method
Jonathan C. Sharp[1], Scott B. King[2]
[1]Institute for Biodiagnostics (West), National Research Council of Canada, Calgary, AB, Canada; [2]Institute for Biodiagnostics, National Research Council of Canada, Winnipeg, MB, Canada

2810. Spatial Encoding Without Gradient Coils using Field Perturbations from Susceptibility Markers
Hirad Karimi[1], Charles H. Cunningham[1,2]
[1]Medical Biophysics, University of Toronto, Toronto, ON, Canada; [2]Imaging Research, Sunnybrook Health Sciences Centre, Toronto, ON, Canada

Radial Imaging & Projections

Exhibition Hall Monday 14:00-16:00

2811. Optimized Combination of Parallel MRI & Sliding Window Reconstruction for Accelerated Time Resolved Radial MRI
Alexey A. Samsonov[1], Julia V. Velikina[2], Walter F. Block[2]
[1]Radiology, University of Wisconsin, Madison, WI, United States; [2]Medical Physics, University of Wisconsin, Madison, WI, United States

2812. Efficient Direct Summation Reconstruction for Radial & PROPERLLER MRI using the Chirp Transform Algorithm
Yanqiu Feng[1], Yanli Song[1], Cong Wang[1], Taigang He[2], Xuegang Xin[1], Wufan Chen[1]
[1]School of Biomedical Engineering, Southern Medical University, Guangzhou, China, People's Republic of; [2]Royal Brompton Hospital & Imperial College, London, United Kingdom

2813. A Model-Based Image Reconstruction Algorithm for Saturation Prepared Radially Acquired Data
Johannes Tran-Gia[1], Daniel Stäb[1], Christian Oliver Ritter[1], Dietbert Hahn[1], Herbert Köstler[1]
[1]Institute of Radiology, University of Würzburg, Würzburg, Bavaria, Germany

2814. Filter Implementation into a 2D Radial Trajectory for Sodium MRI
Simon Konstandin[1], Armin Michael Nagel[2], Patrick Michael Heiler[1], Lothar Rudi Schad[1]
[1]Computer Assisted Clinical Medicine, Heidelberg University, Mannheim, Germany; [2]Medical Physics in Radiology, German Cancer Research Center, Heidelberg, Germany

2815. Ultra-Short Echo Time Imaging using Pointwise Encoding Time Reduction with Radial Acquisition (PETRA)
David Manuel Grodzki[1,2], Peter M. Jakob[1], Bjoern Heismann[2]
[1]Department of Physics EP5, University of Wuerzburg, Wuerzburg, Bavaria, Germany; [2]Magnetic Resonance, Siemens AG, Erlangen, Bavaria, Germany

2816. Simple Method for Adaptive Gradient-Delay Compensation in Radial MRI
Kai Tobias Block[1], Martin Uecker[2]
[1]MR Application & Workflow Development, Healthcare Sector, Siemens AG, Erlangen, Germany; [2]Biomedizinische NMR Forschungs GmbH, Göttingen, Germany

2817. High Resolution 3D Imaging using Multiple Oblique View Acquisitions
MinOh Ghim[1], Sang-Young Zho[1], Eunhae Joe[1], Dong-Hyun Kim[1]
[1]Electrical & Electronic Engineering, Yonsei University, Seoul, Korea, Republic of

Optimization of 3D Fast Spin Echo

Exhibition Hall Tuesday 13:30-15:30

2818. Fat-Signal Suppression in Single-Slab 3D TSE (SPACE) using Water-Selective Refocusing
John P. Mugler, III[1], Dominik Paul[2], Wilhelm Horger[2], Berthold Kiefer[2]
[1]Radiology, University of Virginia, Charlottesville, VA, United States; [2]Siemens Healthcare, Erlangen, Germany

2819. Complementary Use of SPAIR & STIR for Robust Fat Suppression in Single-Slab 3D TSE
Guobin Li[1], Wei Jun Zhang[1], Dominik Paul[2], Lars Lauer[2]
[1]Siemens Mindit Magnetic Resonance Ltd., Shenzhen, Guang Dong, China, People's Republic of; [2]Siemens Healthcare Sector, Erlangen

2820. Variable-Flip Angle 3D-Turbo Spin Echo Imaging Utilizing Spiral Acquisitions
Samuel Fielden[1], Craig Meyer[1,2], John P. Mugler, III[1,2]
[1]Biomedical Engineering, University of Virginia, Charlottesville, VA, United States; [2]Radiology, University of Virginia

2821. Chemical Shift Induced Slab Boundary Artifacts Reduction in Multi-Slab SPACE
Guobin Li[1], Dominik Paul[2]
[1]Siemens Mindit Magnetic Resonance Ltd., Shenzhen, Guang Dong, China, People's Republic of; [2]Siemens Healthcare Sector, Erlangen

2822. Prosepective Phase Correction for 3D FSE
Kristin L. Granlund[1,2], Weitian Chen[3], Dawei Gui[4], Donglai Huo[4], Shawlee Zhao[4], Kevin M. Koch[5], Richard Scott Hinks[5], Anja C. S. Brau[3]
[1]Radiology, Stanford University, Stanford, CA, United States; [2]Electrical Engineering, Stanford University, Stanford, CA, United States; [3]Global Applied Science Laboratory, GE Healthcare, Menlo Park, CA, United States; [4]MR PSD & Applications, GE Healthcare, Waukesha, WI, United States; [5]Global Applied Science Laboratory, GE Healthcare, Waukesha, WI, United States

BSSFP: Improvements & Applications

Exhibition Hall Wednesday 13:30-15:30

2823. Use of Simulated Annealing for the Design of Fat-Suppressed Multiple Repetition Time Balanced SSFP
Kuan J. Lee[1], Hsu-Lei Lee[1], Jürgen Hennig[1], Jochen Leupold[1]
[1]Universitätsklinikum Freiburg, Freiburg, Baden-Württemberg, Germany

2824. An Algebraic Solution for Banding Artifact Removal in BSSFP Imaging
Michael Nicholas Hoff[1], Qing-San Xiang[1,2]
[1]Physics, University of British Columbia, Vancouver, British Columbia, Canada; [2]Radiology, University of British Columbia, Vancouver, British Columbia, Canada

2825. Eddy Current Minimization in Selective Flow Suppression BSSFP Sequences
Karan Dara[1], Mark A. Griswold[1], Jamal J. Derakhshan[1], Jeffrey L. Sunshine[2], Jeffrey L. Duerk[1]
[1]Department of Biomedical Engineering, Case Western Reserve University, Cleveland, OH, United States; [2]Department of Radiology, University Hospitals of Cleveland, Cleveland, OH, United States

2826. Time-Resolved 4D MRA using TrueFISP Based Spin Tagging & Dynamic Golden Angle Radial Acquisition
Lirong Yan[1], Jiangsheng Yu[2], Yiqun Xue[2], Rajesh Kumar[3], Hee Kwon Song[2], Danny J. J. Wang[1]
[1]Neurology, UCLA, Los Angeles, CA, United States; [2]Radiology, University of Pennsylvania, Philadelphia, PA, United States; [3]Neurobiology, UCLA, Los Angeles, CA, United States

2827. Simultaneous T_1 & T_2 Quantification using Non-Continuous Balanced SSFP Look-Locker Imaging
Glenn S. Slavin[1]
[1]Global Applied Science Laboratory, GE Healthcare, Bethesda, MD, United States

2828. Ultra-Short Echo Time Balanced SSFP for Highly Sensitive Detection & Quantification of Multi-Resonant ^{19}F Imaging Agents for Targeted Molecular MRI
Jochen Keupp[1], *Samuel A. Wickline*[2], *Gregory M. Lanza*[2], *Shelton D. Caruthers*[2]
[1]Philips Research Europe, Hamburg, Germany; [2]C-TRAIN, Washington University School of Medicine, St. Louis, United States

2829. SPIO Quantification using Inversion Recovery Prepared BSSFP for Targeted Molecular Imaging
Chris V. Bowen[1,2], *Nicole A. Pelot*[1,3]
[1]Institute for Biodiagnostics (Atlantic), National Research Council, Halifax, NS, Canada; [2]Physics & Atmospheric Science, Dalhousie University, Halifax, NS, Canada; [3]Physics & Atmospheric Science & Electrical Engineering, Dalhousie University, Halifax, NS, Canada

Undersampling & Compressed Sensing

Exhibition Hall Thursday 13:30-15:30

2830. Multiscale Dictionary Learning for MRI
Saiprasad Ravishankar[1], *Yoram Bresler*[1]
[1]Department of Electrical & Computer Engineering & the Coordinated Science Laboratory, University of Illinois, Urbana, IL, United States

2831. Adaptive Compressed MRI Sampling Based on Wavelet Encoding
Bo Kou[1], *Guoxi xie*[2], *Bensheng Qiu*[2], *Xin Liu*[2]
[1]Shenzhen Institutes of Advanced Technology, Chinese Academy of Science, Shenzhen, China, People's Republic of; [2]Shenzhen Institutes of Advanced Technology, Chinese Academy of Science, China, People's Republic of

2832. Undersampled MRI Reconstruction using Edge-Weighted ι_1 Norm Minimization
Changwei Hu[1], *Xiaobo Qu*[2], *Di Guo*[2], *Lijun Bao*[1], *Shuhui Cai*[1], *Zhong Chen*[1]
[1]Department of Physics, Xiamen University, Xiamen, Fujian, China, People's Republic of; [2]Department of Communication Engineering, Xiamen University, Xiamen, Fujian, China, People's Republic of

2833. A Swifter SWIFT using Compressive Sensing
Sairam Geethanath[1], *Steen Moeller*[2], *Curtis A. Corum*[2], *Matthew A. Lewis*[1,3], *Vikram D. Kodibagkar*[1,3]
[1]Joint graduate program in Biomedical Engineering, UT Arlington & UT Southwestern Medical Center, Dallas, TX, United States; [2]Center for Magnetic Resonance Research, University of Minnesota; [3]Radiology, UT Southwestern Medical Center

2834. Investigation on Compressed Sensing Regularization Parameter using Case-PDM
Jun Miao[1], *Feng Huang*[2], *David L. Wilson,*[3]
[1]Biomedical Engineering, Case Western Reserve University, Cleveland, OH, United States; [2]Invivo Corporation, Gainesville, FL, United States; [3]Radiology, University Hospitals of Cleveland, Cleveland, OH, United States

2835. MR Compressed Sensing using FREBAS Transform
Satoshi Ito[1], *Koji Miyabayashi, Yoshifumi Yamada*
[1]Research Division of Intelligence & Information Sciencs, Utsunomiya University, Utsunomiya, Tochigi, Japan

2836. The Multiple Transforms Compressed Sensing for MR Angiography
Joonsung Choi[1], *Yeji Han*[1], *Jinyoung Hwang*[1], *Jun-Young Chung*[2], *Zang-Hee Cho*[2], *HyunWook Park*[1]
[1]Department of Electrical Engineering, KAIST, Daejeon, Korea, Republic of; [2]Neuroscience Research Institute, Gachon University of Medicine and Science

2837. Acceleration of High Angular Resolution Diffusion Weighted Images using Compressed Sensing
Merry P. Mani[1], *Tong Zhu*[2], *Jianhui Zhong*[2], *Mathews Jacob*[3]
[1]Rochester Center for Brain Imaging, Electrical & Computer Engineering, University of Rochester, Rochester, NY, United States; [2]Imaging Sciences, University of Rochester, Rochester, NY, United States; [3]Biomedical Engineering, University of Rochester, Rochester, NY, United States

2838. Gaussian Scale Mixture-Based Joint Reconstruction of Multicomponent MR Images from Undersampled K-Space Measurements
Xiaobo Qu[1], *Changwei Hu*[2], *Di Guo*[1], *Lijun Bao*[2], *Zhong Chen*[2]
[1]Department of Communication Engineering, Xiamen University, Xiamen, Fujian, China, People's Republic of; [2]Department of Physics, Xiamen University, Xiamen, Fujian, China, People's Republic of

2839. Group Sparse Reconstruction of Vector-Valued Images
Joshua Trzasko[1], Armando Manduca[1]
[1]Mayo Clinic, Rochester, MN, United States

2840. Compressed Sensing Diffusion Tensor Imaging (DTI) with Tensor & Phase Constraints
Yue Li[1], Manisha Aggarwal[1], Jiangyang Zhang[2], Susumu Mori[2]
[1]Biomedical Engineering, Johns Hopkins University School of Medicine, Baltimore, MD, United States; [2]Radiology, Johns Hopkins University School of Medicine, Baltimore, MD, United States

2841. Separate Magnitude & Phase Regularization Via Compressed Sensing
Feng Zhao[1], Jeffrey A. Fessler[2], Jon-Fredrik Nielsen[1], Douglas C. Noll[1]
[1]Biomedical Engineering, University of Michigan, Ann Arbor, MI, United States; [2]Electrical Engineering, University of Michigan

2842. Phase Constrained Compressed Sensing with Applications for PRF Temperature Mapping
Zhipeng Cao[1], Christopher T. Sica[2], Philipp Ehses[3], Sukhoon Oh[2], Yeun C. Ryu[2], Christopher M. Collins[1,2], Mark A. Griswold[4]
[1]Bioengineering, the Pennsylvania State University, Hershey, PA, United States; [2]Radiology, the Pennsylvania State University, Hershey, PA, United States; [3]Research Center for Magnetic Resonance Bavaria (MRB), Würzburg, Germany; [4]Radiology, Case Western Reserve University, Cleveland, OH, United States

2843. Incorporating Support Constraints for Sparse Regularization Reconstruction
Fan Lam[1,2], Raman Subramanian[3], Dan Xu[3], Kevin F. King[3]
[1]Electrical & Computer Engineering, University of Illinois at Urbana-Champaign, Urbana, IL, United States; [2]Beckman Institute, University of Illinois at Urbana-Champaign, Urbana, IL, United States; [3]GE Healthcare, Waukesha, WI, United States

2844. Novel Partial Fourier Reconstruction Technique using FOCUSS
Hisamoto Moriguchi[1,2], Shin-Ichi Urayama[3], Yutaka Imai[1], Manabu Honda[4], Takashi Hanakawa[4,5]
[1]Radiology, Tokai University, Isehara, Kanagawa, Japan; [2]Radiology, Hiratsuka Municipal Hospital, Hiratsuka, Kanagawa, Japan; [3]Human Brain Research Center, Kyoto University, Kyoto, Japan; [4]Functional Brain Research, National Center of Neurology & Psychiatry, Kodaira, Tokyo, Japan; [5]Precursory Research for Embryonic Science & Technology, Japan Science & Technology Agency, Japan

2845. Non-Sparse Phantom for Compressed Sensing MRI Reconstruction
David S. Smith[1], Edward Brian Welch[1]
[1]Radiology & Radiological Sciences & Institute of Imaging Science, Vanderbilt University, Nashville, TN, United States

2846. Compressed Sensing on TDM-SENSE with Rotating RF Coil
Hua Wang[1], Adnan Trakic[1], Bing Keong Li[1], Yeyang Yu[1], Feng Liu[1], Stuart Crozier[1]
[1]The University of Queensland, Brisbane, QLD, Australia

2847. Compressed Sensing Reconstruction Improves Variable Density Spiral Functional MRI
Daniel Holland[1], Careesa Liu[2], Chris V. Bowen[2], Andy Sederman[1], Lynn Gladden[1], Steven D. Beyea[2]
[1]Department of Chemical Engineering & Biotechnology, University of Cambridge, Cambridge, United Kingdom; [2]Institute for Biodiagnostics (Atlantic), National Research Council Canada, Halifax, Nova Scotia, Canada

2848. Single-Shot Partial-Fourier Spiral Imaging
Bertram Jakob Wilm[1], Christoph Barmet[1], Matthieu Guerquin-Kern[1,2], Max Haeberlin[1], Klaas Paul Pruessmann[1]
[1]Institute for Biomedical Engineering, University & ETH Zurich, Zurich, Switzerland; [2]Biomedical Imaging Group, EPFL Lausanne, Lausanne, Vaude, Switzerland

2849. Compressed Sensing CPMG with Group-Sparse Reconstruction for Myelin Water Imaging
Henry Szu-Meng Chen[1], Angshul Majumdar[2], Rabab Kreidieh Ward[2], Piotr Kozlowski[1,3]
[1]UBC MRI Research Centre, Vancouver, BC, Canada; [2]Electrical & Computer Engineering, University of British Columbia, Vancouver, BC, Canada; [3]ICORD, Vancouver, BC, Canada

2850. Dynamic Contrast-Enhanced Three-Dimensional Lung Imaging Acceleration using K-T PCA
Yi-Yu Shih[1], Jia-Shuo Hsu[2], Yi-Ru Lin[3], Shang-Yueh Tsai[4], Hsiao-Wen Chung[1,2]
[1]Department of Electrical Engineering, National Taiwan University, Taipei, Taiwan; [2]Graduate Institute of Biomedical Electronics & Bioinformatics, National Taiwan University, Taipei, Taiwan; [3]Department of Electronic Engineering, National Taiwan University of Science & Technology, Taipei, Taiwan; [4]Department of Electrical Engineering, Chang Gung University, Taoyuan, Taiwan

2851. A 3D-Plus-Time Radial-Cartesian Hybrid Sampling of K-Space with High Temporal Resolution & Maintained Image Quality for MRI & fMRI
Maria Magnusson[1,2], Olof Dahlqvist Leinhard[2,3], Peter Lundberg[2,3]
[1]Dept. of Electrical Engineering, Linköping University, Linköping, Sweden; [2]Center for Medical Image Science & Visualization (CMIV), Linköping University, Linköping, Sweden; [3]Radiation Physics, Linköping University, Linköping, Sweden

2852. Compressed Sensing in Phase-Encoded Multi-Dimensional Magnetic Resonance Imaging

Peng Cao[1,2], Ed X. Wu[1,2]
[1]Laboratory of Biomedical Imaging & Signal Processing, the University of Hong Kong, Hong Kong SAR, China, People's Republic of; [2]Department of Electrical & Electronic Engineering, the University of Hong Kong, Hong Kong SAR, China, People's Republic of

Spectroscopic Imaging & Compressed Sensing

Exhibition Hall Monday 14:00-16:00

2853. A Novel Parallel Sparse MRSI Reconstruction Scheme
Ramin Eslami[1], Mathews Jacob
[1]Biomedical Engineering, University of Rochester, Rochester, NY, United States

2854. Undersampled MRSI K-Space for Spectra with Limited Support
Dany Merhej[1,2], Helene Ratiney[3], Chaouki Diab[4], Mohamad Khalil[2], Rémy Prost[1]
[1]CREATIS, CNRS UMR 5220, Inserm U1044, INSA-Lyon, Université Lyon 1, Université de Lyon, Lyon, France; [2]EDST, Azm Research Center, Lebanese University, Tripoli, Lebanon; [3]CREATIS, CNRS UMR 5220, Inserm U1044, INSA-Lyon, Université Lyon 1, Université de Lyon, Lyon, France; [4]ISAE – Cnam Liban, Beirut, Lebanon

2855. Temporal Acceleration in Hyperpolarization Imaging using Image-Domain Compressed Sensing
Behzad Sharif[1], Debiao Li[1,2], Shawn Wagner[1]
[1]Biomedical Imaging Research Institute, Cedars-Sinai Medical Center, Los Angeles, CA, United States; [2]Northwestern University, Chicago, IL, United States

2856. Accelerated Metabolic Imaging: Application of L_1-SPIRiT to Hyperpolarized ^{13}C Parallel Imaging & Compressed Sensing MRSI
Peter J. Shin[1], Michael A. Ohliger[2], Simon Hu[2], Peder E. Z. Larson[2], Cornelius Von Morze[2], Michael Lustig[3], Daniel B. Vigneron[2]
[1]Joint Graduate Group in Bioengineering, University of California at San Francisco & Berkeley, San Francisco, CA, United States; [2]Department of Radiology & Biomedical Imaging, University of California at San Francisco, San Francisco, CA, United States; [3]Department of Electrical Engineering & Computer Science, University of California at Berkeley, Berkeley, CA, United States

Compressed Sensing & Receive Arrays

Exhibition Hall Tuesday 13:30-15:30

2857. Array Compression for 3D Cartesian Sampling
Tao Zhang[1], Michael Lustig[1,2], Shreyas Vasanawala[3], John Pauly[1]
[1]Electrical Engineering, Stanford University, Stanford, CA, United States; [2]Electrical Engineering & Computer Science, University of California Berkeley, Berkeley, CA, United States; [3]Radiology, Stanford University, Stanford, CA, United States

2858. k-Space Channel Combination for Non-Cartesian Acquisitions using Direct Virtual Coil (DVC) Calibration
Philip James Beatty[1], Atsushi Takahashi[2], Kevin M. Johnson[3], Jean H. Brittain[4]
[1]Global Applied Science Laboratory, GE Healthcare, Thornhill, Ontario, Canada; [2]Global Applied Science Laboratory, GE Healthcare, Menlo Park, CA, United States; [3]Medical Physics, University of Wisconsin - Madison, Madison, WI, United States; [4]Global Applied Science Laboratory, GE Healthcare, Madison, WI, United States

2859. Compressed Sensing with Compressed Channels
Feng Huang[1], Wei Lin[1], George Randy Duensing[1], Arne Reykowski[1]
[1]Invivo Corporation, Gainesville, FL, United States

2860. GRAPPA Operator Enhanced Initialization for Improved Multi-Channel Compressed Sensing
Feng Huang[1], Wei Lin[1], George Randy Duensing[1], Arne Reykowski[1]
[1]Invivo Corporation, Gainesville, FL, United States

2861. SpRING: Sparse Reconstruction of Images using the Nullspace Method & GRAPPA
Daniel Stuart Weller[1], Jonathan R. Polimeni[2,3], Leo Grady[4], Lawrence L. Wald[2,3], Elfar Adalsteinsson[1], Vivek Goyal[1]
[1]EECS, Massachusetts Institute of Technology, Cambridge, MA, United States; [2]A. A. Martinos Center, Dept. of Radiology, Massachusetts General Hospital, Charlestown, MA, United States; [3]Dept. of Radiology, Harvard Medical School, Boston, MA, United States; [4]Dept. of Image Analytics & Informatics, Siemens Corporate Research, Princeton, NJ, United States

2862. A Method to Combine Compressed Sensing with Auto-Calibrating Parallel Imaging Reconstruction for Cartesian Acquisition
Kang Wang[1], Philip Beatty[2], James Holmes[2], Reed Busse[2], Jean Brittain[2], Frank Korosec[1]
[1]Medical Physics, University of Wisconsin-Madison, Madison, WI, United States; [2]Global Applied Science Laboratory, GE Healthcare

2863. Impact of Coil-Neighbors of Target Points in Autocalibration of ESPIRiT
Anja Brau[1], Peng Lai[1], Srihari Narasimhan[2], Babu Narayanan[3], Vijaya Saradhi[2]
[1]Global Applied Science Laboratory, GE Healthcare, Menlo Park, CA, United States; [2]Computing & Decision Sciences Lab, GE Global Research, Bangalore, India; [3]Medical Image Analysis Lab, GE Global Research, Bangalore, India

2864. CS-SENSE Reconstruction using a Two-Level Variable Density Sampling Pattern
Mariya Doneva[1,2], Peter Börnert[1], Alfred Mertins[2]
[1]Philips Research Europe, Hamburg, Germany; [2]University of Luebeck, Luebeck, Germany

2865. Single-Signal Based Parallel Imaging using Compressed Sensing
satoshi Ito[1], Hirotoshi Arai[1], Yoshifumi Yamada[1]
[1]Research Division of Intelligence & Information Sciencs, Utsunomiya University, Utsunomiya, Tochigi, Japan

2866. Parallel Compressed Sensing MRI using Reweighted L_1 Minimization
Ching-Hua Chang[1], Jim Ji[1]
[1]Texas A&M University, College Station, TX, United States

Reconstruction in Parallel Imaging

Exhibition Hall Wednesday 13:30-15:30

2867. Scalable Anti-Aliasing Image Reconstruction in the Presence of a Quadratic "phase-Scrambling" Gradient using the Fractional Fourier Transform
Jason Peter Stockmann[1], Gigi Galiana[2], Vicente Parot[3,4], Leo Tam[1], Robert Todd Constable[2]
[1]Biomedical Engineering, Yale University, New Haven, CT, United States; [2]Diagnostic Radiology, Yale University, New Haven, CT, United States; [3]Biomedical Imaging Center, Pontificia Universidad Católica de Chile, Santiago, Chile; [4]Department of Electrical Engineering , Pontificia Universidad Católica de Chile, Santiago, Chile

2868. Fast Image Reconstruction for Generalized Projection Imaging
Gerrit Schultz[1], Daniel Gallichan[1], Marco Reisert[1], Maxim Zaitsev[1], Jürgen Hennig[1]
[1]University Medical Center Freiburg, Freiburg, Germany

2869. Fast Image Reconstruction in the Presence of Dynamic Higher-Order Fields
Bertram Jakob Wilm[1], Christoph Barmet[1], Klaas Paul Pruessmann[1]
[1]Institute for Biomedical Engineering, University and ETH Zurich, Zurich, Switzerland

2870. Combination of Arbitrary Gradient Encoding Fields using SPACE RIP for Reconstruction (COGNAC)
Jakob Assländer[1,2], Martin Blaimer[2], Felix A. Breuer[2], Maxim Zaitsev[1], Peter M. Jakob[2,3]
[1]Medical Physics, Department of Diagnostic Radiology, University Medical Center Freiburg, Freiburg, Germany; [2]Research Center Magnetic Resonance Bavaria (MRB), Würzburg, Germany; [3]Department of Experimental Physics 5, University of Würzburg, Würzburg, Germany

2871. Accelerating Parallel Acquisition Reconstruction with Sparse Matrix Transformations
Josh M. Speciale[1], Charles A. Bouman[1], Thomas M. Talavage[1,2]
[1]School of Electrical & Computer Engineering, Purdue University, West Lafayette, IN, United States; [2]Weldon School of Biomedical Engineering, Purdue University, West Lafayette, IN, United States

2872. Data Driven Reconstruction of Inconsistent K-Space Data
Kevin Michael Johnson[1], Walter F. Block[1,2], Scott B. Reeder[1,3], Alexey Samsonov[1,3]
[1]Medical Physics, University of Wisconsin - Madison, Madison, WI, United States; [2]Biomedical Engineering, University of Wisconsin - Madison; [3]Radiology, University of Wisconsin - Madison

2873. An Augmented Lagrangian Method for Regularized MRI Reconstruction using SENSE
Sathish Ramani[1], Jeffrey A. Fessler[1]
[1]EECS Department, University of Michigan, Ann Arbor, MI, United States

2874. Iterative & Joint Reconstruction from Calibration and Image Data for Parallel Imaging
Yu Li[1], Charles L. Dumoulin[1]
[1]Radiology, Cincinnati Children's Hospital Medical Center, Cincinnati, OH, United States

2875. Highly Accelerated Myocardial Perfusion MRI using K-T SLR with Parallel Imaging
Sajan Goud Lingala[1], Yue Hu[2], Edward Dibella[3], Mathews Jacob[1]
[1]Biomedical Engineering, University of Rochester, Rochester, NY, United States; [2]Electrical & Computer Engineering, University of Rochester, Rochester, NY, United States; [3]Radiology, University of Utah, Salt Lake city, UT, United States

2876. Accelerated Variable Density Spiral at 7 Tesla using Parallel Imaging
Peter Börnert[1,2], Wei Lin[3], Feng Huang[3], Tim Nielsen[1], Andrew Webb[2], Matthias J. P. van Osch[2]
[1]Philips Research Laboratories, Hamburg, Germany; [2]Department of Radiology, C.J. Gorter Center for High Field MRI, Leiden University Medical Center, Leiden, Netherlands; [3]Philips Healthcare, Invivo Corporation, Gainesville, United States

Parallel Imaging

Exhibition Hall Thursday 13:30-15:30

2877. Flexible Virtual Coils (FVC) for Faster Channel-By-Channel Partially Parallel Imaging
Feng Huang[1], Wei Lin[1], George Randy Duensing[1], Arne Reykowski[1]
[1]Invivo Corporation, Gainesville, FL, United States

2878. Impact of Direct Virtual Coil Channel Combination on Reduced Field-Of-View Artifacts
Philip James Beatty[1], James H. Holmes[2], Scott B. Reeder[3], Jean H. Brittain[2]
[1]Global Applied Science Laboratory, GE Healthcare, Thornhill, Ontario, Canada; [2]Global Applied Science Laboratory, GE Healthcare, Madison, WI, United States; [3]Departments of Radiology & Medical Physics, University of Wisconsin - Madison, Madison, WI, United States

2879. Combination of Partial k-Space & Direct Virtual Coil Parallel Imaging
Philip James Beatty[1], Ananth Madhuranthakam[2], Shaorong Chang[3], Ersin Bayram[3], Jean H. Brittain[4]
[1]Global Applied Science Laboratory, GE Healthcare, Thornhill, Ontario, Canada; [2]Global Applied Science Laboratory, GE Healthcare, Boston, MA, United States; [3]GE Healthcare, Madison, WI, United States; [4]Global Applied Science Laboratory, GE Healthcare, Madison, WI, United States

2880. Phase-Constrained Synthetic Target Algorithm for Non-Cartesian Parallel Image Reconstruction
Meihan Wang[1], Weitian Chen[2], Micheal Lustig[3], Peng Hu[4], Michael Salerno, Christopher Kramer, Craig Meyer[1]
[1]Biomedical Engineering, University of Virginia, Charlottesville, VA, United States; [2]GE Healthcare; [3]UC Berkeley; [4]University of California, Los Angeles

2881. An Augmented Lagrangian Method for MR Coil Sensitivity Estimation
Michael John Allison[1], Jeffrey A. Fessler[1]
[1]Department of Electrical Engineering & Computer Science, the University of Michigan, Ann Arbor, MI, United States

2882. Improved Parallel Imaging with GRAPPA with Large Virtual Coils Arrays for Time-Resolved Applications
Simon Bauer[1], Bernd Andre Jung[1], Alexey A. Samsonov[2], Matthias Honal[1], Michael Markl[1]
[1]Department of Radiology, Medical Physics, University Medical Center Freiburg, Freiburg, Germany; [2]Department of Radiology, University of Wisconsin, Madison, WI, United States

2883. Iterative Parallel Imaging Reconstruction of Time-Resolved Data using 3D Variational Regularization
Florian Knoll[1], Kristian Bredies[2], Rudolf Stollberger[1]
[1]Institute of Medical Engineering, Graz University of Technology, Graz, Austria; [2]Institute for Mathematics & Scientific Computing, University of Graz, Graz, Austria

2884. PILARS: Parallel Imaging with Large ARrays & Sinc-Interpolation
Shuo Feng[1], Jim Ji[1]
[1]Texas A&M University, College Station, TX, United States

2885. Automatic Coil Selection for Streaking Artifact Reduction in Radial MRI
Yiqun Xue[1], Jiangsheng Yu[1], Hyun Seon Kang[1], Sarah Englander[1], Mark A. Rosen[1], Hee Kwon Song[1]
[1]Department of Radiology, University of Pennsylvania, Philadelphia, PA, United States

2886. Using RF to Create Nonlinear Virtual Coil Profiles
Gigi Galiana[1], Jason Stockmann[2], Leo K. Tam[2], Robert Todd Constable[1,2]
[1]Diagnostic Radiology, Yale University, New Haven, CT, United States; [2]Biomedical Engineering, Yale University, New Haven, CT, United States

2887. Parallel Imaging using a 3D Concentric Cylinders Trajectory
Kie Tae Kwon[1], Holden H. Wu[1,2], Michael Lustig[1,3], Dwight G. Nishimura[1]
[1]Electrical Engineering, Stanford University, Stanford, CA, United States; [2]Cardiovascular Medicine, Stanford University, Stanford, CA, United States; [3]Electrical Engineering & Computer Science, University of California at Berkeley, Berkeley, CA, United States

2888. Reconstructing Undersampled Non-Cartesian Data with Calibrationless Parallel Imaging
Daniel Neumann[1], Felix A. Breuer[1], Peter M. Jakob[2], Gregory Lee[3], Mark A. Griswold[3], Nicole Seiberlich[3]
[1]Research Center Magnetic Resonance Bavaria (MRB), Würzburg, Germany; [2]Dept. of Experimental Physics 5, University of Würzburg, Würzburg, Germany; [3]Dept. of Radiology, Case Western Reserve University, Cleveland, OH, United States

2889. Non-Cartesian Parallel Imaging Reconstruction using PRUNO-GROG
Jian Zhang[1], Ajit Shankaranarayanan[2]
[1]Global Applied Science Lab, GE HealthCare, Bethesda, MD, United States; [2]Global Applied Science Lab, GE HealthCare, Menlo Park, CA, United States

2890. Prospects of Parallel ZTE Imaging
Thomas Oberhammer[1], Markus Weiger[2,3], Franciszek Hennel[3], Klaas Paul Pruessmann[4]
[1]Institute for Biomedical Engineering, University and ETH Zurich, Zurich, Switzerland; [2]Bruker BioSpin AG, Faellanden, Switzerland; [3]Bruker BioSpin MRI GmbH, Ettlingen, Germany; [4]Institute for Biomedical Engineering, University & ETH Zurich, Zurich, Switzerland

2891. Comparing Gridding &Masking in 3D Parallel Reconstruction
Nicholas Ryan Zwart[1], James Grant Pipe[1]
[1]Neuroimaging Research, Barrow Neurological Institute, Phoenix, AZ, United States

2892. Phase Constraints for Parallel Imaging with PEPI
Kenneth Otho Johnson[1], Craig H. Meyer[1]
[1]Biomedical Engineering, University of Virginia, Charlottesville, VA, United States

2893. Null Space Imaging with Compressed Sensing for Rapid Parallel Imaging
Leo K. Tam[1], Jason P. Stockmann[1], Gigi Galiana[2], Robert Todd Constable[1,2]
[1]Biomedical Engineering, Yale University, New Haven, CT, United States; [2]Diagnostic Radiology & Neurosurgery, Yale University, New Haven, CT

2894. Virtually Independent Gaussian Channel Nulling (VIPGen) Image Reconstruction for Functional Magnetic Resonance Inverse Imaging (FMRInI)
Shr-Tai Liou[1], Hsiao-Wen Chung[1], Wei-Tang Chang[2], Wen-Kai Tsai[2], Fa-Hsuan Lin[2,3]
[1]Graduate Institute of Biomedical Electronics & Bioinformatics, National Taiwan University, Taipei, Taiwan, Taiwan; [2]Institute of Biomedical Engineering, National Taiwan University, Taipei, Taiwan, Taiwan; [3]MGH-HST Athinoula A. Martinos Center for Biomedical Imaging, Charlestown, MA, United States

2895. Dictionary-Based Sparsification & Reconstruction (DIBSAR)
Berkay Kanberoglu[1], Lina J. Karam[1], David Frakes[1,2]
[1]School of Electrical, Computer & Energy Engineering, Arizona State University, Tempe, AZ, United States; [2]School of Biological & Health Systems Engineering, Arizona State University, Tempe, AZ, United States

2896. Image Deformation Based ABSINTHE
Eric Pierre[1,2], Nicole Seiberlich[3], Vikas Gulani[4], Pierrick Bourgeat[2], Olivier Salvado[2], Mark Griswold[3]
[1]Biomedical Engineering, Case Western Reserve University, Cleveland, OH, United States; [2]ICT Centre, CSIRO, Brisbane, QLD, Australia; [3]Radiology, Case Western Reserve University, Cleveland, OH, United States; [4]Radiology, Case Western Reserve University, Cleveland, United States

2897. Parallel Magnetic Resonance Imaging Reconstruction by Image Editing
Jun Shen[1]
[1]NIMH, Bethesda, MD, United States

Parallel Transmission & RF Pulse Design

Exhibition Hall Monday 14:00-16:00

2898. B_1+ Inhomogeneity Compensation using 3D Parallel Excitation is Enhanced by Simultaneous Linear & Nonlinear Gradient Encoding
William A. Grissom[1], Laura Sacolick[1], Mika W. Vogel[1]
[1]GE Global Research, Munich, Germany

2899. A Spatial-Spectral Pulse Approach for Reduced FOV Excitation using Second-Order Gradients
Chao Ma[1], Kevin F. King[2], Dan Xu[2], Zhi-Pei Liang[3]
[1]Electrical & Computer Engineering , University of Illinois, Urbana, IL, United States; [2]Global Applied Science Lab, General Electric Healthcare, Waukesha, WI, United States; [3]Electrical & Computer Engineering, University of Illinois, Urbana, IL, United States

2900. Multi-Dimensional Refocusing Pulses for Parallel Transmission by Optimal Control
Weiran Deng[1], Cungeng Yang[1], V. Andrew Stenger[1]
[1]Medicine, University of Hawaii John A. Burns School of Medicine, Honolulu, HI, United States

2901. Adapted Tx-SENSE Excitation to Account for Inhomogeneous Slice Refocusing at 7T
Tomasz Dawid Lindel[1,2], Frank Seifert[1,2], Martin Dietterle[1,2], Thoralf Niendorf[2], Bernd Ittermann[1,2]

[1]Physikalisch-Technische Bundesanstalt, Braunschweig & Berlin, Germany; [2]Berlin Ultrahigh Field Facility, Max-Delbrück-Centrum für Molekulare Medizin, Berlin, Germany

2902. A Fast Parallel Excitation Pulse Design for Efficient Selection & Ordering of PE Locations with B_0 Field Inhomogeneity

Daehyun Yoon[1], Jeffrey A. Fessler[1], Anna C. Gilbert[2], Douglas C. Noll[3]
[1]Electrical Engineering, University of Michigan, Ann Arbor, MI, United States; [2]Mathematics, University of Michigan, Ann Arbor, MI, United States; [3]Biomedical Engineering, University of Michigan, Ann Arbor, MI, United States

2903. Localized MR-Spectroscopy in Arbitrarily Shaped Voxels using Parallel Excitation Pulses with Large Spectral Bandwidth

Peter Ullmann[1], Jeff Snyder[2], Martin Haas[2], Johannes Thomas Schneider[1,2], Wolfgang Ruhm[1]
[1]Bruker BioSpin MRI GmbH, Ettlingen, Germany; [2]Dept. of Radiology, Medical Physics, University Medical Center Freiburg, Freiburg, Germany

2904. Accounting for B_1 Void using Optimized Transmit Pulses in Ultra-High Field MRI

Ling Xia[1], Tingting Shao[1], Minhua Zhu[1], Guofa Shou[1], Feng Liu[2], Stuart Crozier[2]
[1]Department of Biomedical Engineering, Zhejiang University, Hangzhou, China, People's Republic of; [2]School of Information Technology & Electrical Engineering, University of Queensland, Brisbane, Australia

2905. TOF Angiography in the Human Brain at 7T using 3D Parallel Excitation: Initial Results

Sebastian Schmitter[1], Xiaoping Wu[1], Edward J. Auerbach[1], Michael Hamm[2], Josef Pfeuffer[3], Kamil Ugurbil[1], Pierre-Francois Van De Moortele[1]
[1]Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, MN, United States; [2]Siemens Healthcare, Charlestown, MA, United States; [3]MR Application Development, Siemens Healthcare, Erlangen, Germany

2906. Improved Navigator Performance by Parallel Transmission

Manuel Walther[1], Kay Nehrke[2], Ingmar Gräßlin[2], Ulrich Katscher[2], Markus Eblenkamp[1], Erich Wintermantel[1], Peter Börnert[2]
[1]Chair of Medical Engineering, Technische Universität München, Garching, Germany; [2]Philips Research Laboratories, Hamburg, Germany

2907. Adiabatic B_1 Shimming Algorithm for Multiple Channel Transmit at 7T

Priti Balchandani[1], Mohammad Mehdi Khalighi[2], Scott Sigao Hsieh[1,3], Kawin Setsompop[4], John Pauly[3], Daniel Spielman[1]
[1]Radiology, Stanford University, Stanford, CA, United States; [2]Global Applied Science Laboratory, GE Healthcare, Menlo Park, CA, United States; [3]Electrical Engineering, Stanford University, Stanford, CA, United States; [4]A.A. Martinos Center for Biomedical Imaging, Harvard Medical School, Massachusetts General Hospital, Charlestown, MA, United States

2908. Minimum-Duration Adiabatic Spectral-Spatial Refocusing Pulses

Adam B. Kerr[1], Duan Xu[2], Peder E.Z. Larson[2], Daniel B. Vigneron[2], John M. Pauly[1]
[1]Electrical Engineering, Stanford University, Stanford, CA, United States; [2]Radiology & Biomedical Imaging, UCSF, San Francisco, CA, United States

2909. A Low-Power Asymmetrically-Selective Adiabatic Pulse

Adam B. Kerr[1], Duan Xu[2], Peder E. Z. Larson[2], Daniel B. Vigneron[2], John M. Pauly[1]
[1]Electrical Engineering, Stanford University, Stanford, CA, United States; [2]Radiology & Biomedical Imaging, UCSF, San Francisco, CA, United States

2910. Mapping Inversion Efficiencies of Adiabatic Pulses at 7T

Mayur Narsude[1,2], José Marques[1,2], Florent Eggenschwiler[1], Rolf Gruetter[1,3]
[1]Laboratory for Functional & Metabolic Imaging, Ecole Polytechnique Fédéral de Lausanne, Lausanne, Vaud, Switzerland; [2]Department of Radiology, University of Lausanne, Lausanne, Vaud, Switzerland; [3]Department of Radiology, University of Geneva, Geneva, Switzerland

2911. Nonuniform & Multidimensional Shinnar-Le Roux RF Pulse Design

William A. Grissom[1], Graeme C. McKinnon[2], Mika W. Vogel[1]
[1]GE Global Research, Munich, Bavaria, Germany; [2]GE Applied Science Lab, GE Healthcare, Milwaukee, Wisconsion, United States

2912. B_1^+-Insensitive Slice-Selective Pulses Constructed from Optimized Non-Selective Composite Waveforms

Jay Moore[1,2], Marcin Jankiewicz[1,3], Adam W Anderson[1,4], John C. Gore[1,4]
[1]Institute of Imaging Science, Vanderbilt University, Nashville, TN, United States; [2]Physics & Astronomy, Vanderbilt University, Nashville, TN, United States; [3]Department of Radiology & Radiological Sciences, Vanderbilt University; [4]Department of Biomedical Engineering, Vanderbilt University

2913. Broadband Refocusing Pulses with B_1 Robustness & Energy Constraints

Martin A. Janich[1,2], Rolf F. Schulte[2], Markus Schwaiger[3], Steffen J. Glaser[1]

[1]Chemistry, Technische Universität München, Munich, Germany; [2]GE Global Research, Munich, Germany; [3]Nuclear Medicine, Technische Universität München, Munich, Germany

2914. Practical Non-Selective Refocusing Pulses for 7T MRI
Marcin Jankiewicz[1,2], Jay Moore[1,3], Adam Anderson[1,4], John Gore[1,4]
[1]Institute of Imaging Science, Vanderbilt University, Nashville, TN, United States; [2]Radiology & Radiological Sciences, Vanderbilt University, Nashville, TN, United States; [3]Physics & Astronomy, Vanderbilt University, United States; [4]Biomedical Engineering, Vanderbilt University

2915. High Bandwidth Dualband Selective Saturation RF Pulses for Prostate Proton MRSI
Galen D. Reed[1], Adam B. Kerr[2], Peder E. Z. Larson, Eugene Ozhinsky, John Kurhanewicz, Daniel B. Vigneron
[1]Radiology & Biomedical Imaging, University of California San Francisco, San Francisco, CA, United States; [2]Electrical Engineering, Stanford University, Palo Alto, CA

2916. Global Minimum Peak RF Design for Large Time-Bandwidth Saturation Pulse
Christine Law[1], Sonal Josan[2]
[1]University of Oxford, Oxford, Oxfordshire, United Kingdom; [2]SRI International

2917. Dynamic Gradient Spatial-Spectral Pulse
Xiaocheng Wei[1], Yongchuan Lai[1]
[1]MR, GE Healthcare, Beijing, China, People's Republic of

2918. Time-Efficient Slab Selective Water Excitation
Gregory R. Lee[1], Jean A. Tkach[1,2], Mark A. Griswold[1,3]
[1]Radiology, Case Western Reserve University, Cleveland, OH, United States; [2]Radiology, Imaging Research Center, Cincinnati Children's Hospital Research Foundation, Cincinnati, OH, United States; [3]Biomedical Engineering, Case Western Reserve University, Cleveland, OH, United States

2919. Maximizing MR Signal for 2D UTE Slice Selection in the Presence of Rapid T_2 Relaxation
Michael Carl[1], Jing-Tzyh Alan Chiang[2], Mark Bydder[2]
[1]Global Applied Science Laboratory, GE Healthcare, San Diego, CA, United States; [2]University of California, San Diego, United States

2920. Hadamard Encoded IMQC High-Resoultion NMR Spectroscopic Method in Inhomogeneous Fields
Yushan Chen[1], Congbo Cai[1], Fenglian Gao[1], Shuhui Cai[1], Zhong Chen[1]
[1]Communication Engineering & Physics, Fujian Key Laboratory of Plasma & Magnetic Resonance, Xiamen University, Xiamen, Fujian, China, People's Republic of

B_0 & B_1: Quantification & Correction

Exhibition Hall Tuesday 13:30-15:30

2921. Spatial Field Monitoring using Navigator Echoes
Maarten J. Versluis[1,2], Andrew G. Webb[1,2], Peter Boernert[2,3], Mark A. van Buchem[1], Matthias J. P. van Osch[1,2]
[1]Radiology, Leiden University Medical Center, Leiden, Netherlands; [2]C.J. Gorter Center for High Field MRI, Leiden University Medical Center, Leiden, Netherlands; [3]Philips Research Europe, Hamburg, Germany

2922. Optimised Acquisition of Magnetic Field Correlation Mapping for Improved Precision
Catherine Anusha Mallik[1], Gareth J. Barker[1], David J. Lythgoe[1]
[1]Centre for Neuroimaging Sciences, Institute of Psychiatry, King's College London, London, United Kingdom

2923. Slice-By-Slice Grey Matter Optimised Z-Shimming for fMRI Applications
Stephen James Wastling[1], David John Lythgoe[1], Gareth John Barker[1]
[1]Centre for Neuroimaging Sciences, Institute of Psychiatry, King's College London, London, United Kingdom

2924. Robust Transmitter Calibration During Continuous Table Movement
Alto Stemmer[1], Berthold Kiefer[1]
[1]Healthcare Sector, Siemens AG, Erlangen, Germany

2925. A Fast B_1 Mapping Method for Transmit/Receive Coils for Parallel Transmit (PTx) Applications
Tiejun Zhao[1], Hai Zheng[2], Anthony DeFranco[3], Tamer Ibrahim[2,3], Yongxian Qian[3], Fernando Boada[2,3]
[1]Siemens Healthcare, Siemens Medical Solutions, Pittsburgh, PA, United States; [2]Bioengineering, University of Pittsburgh, Pittsburgh, PA, United States; [3]Radiology, University of Pittsburgh, Pittsburgh, PA, United States

2926. Interference Bloch-Siegert B_1 Mapping for Parallel Transmit
Laura Sacolick[1], William A. Grissom[1], Guido Kudielka[1], Wolfgang Loew[2], Mika W. Vogel[1]
[1]GE Global Research, Munich, Germany; [2]Cincinnati Children's Hospital Medical Center, Cincinnatti, OH, United States

2927. Fast Spin Echo Bloch-Siegert B_1 Mapping
Laura Sacolick[1], Seung-Kyun Lee[2], William A. Grissom[3], Mika W. Vogel[1]
[1]GE Global Research, Munich, Germany; [2]GE Global Research, Niskayuna, NY, United States; [3]GE Global Research, Munich,, Germany

2928. Joint B_0 & B_1 Mapping from Tagged Rapid 2D Acquisitions
Wayne R. Dannels[1], Andrew J. Wheaton[1]
[1]Toshiba Medical Research Institute, Mayfield Village, OH, United States

2929. Turbo Spin Echo Bloch Siegert Shift B_1^+ Mapping
Thomas Christian Basse-Lüsebrink[1], Volker Sturm[1], Thomas Kampf[1], Guido Stoll[2], Peter Michael Jakob[1]
[1]Experimental Physics 5, University of Wuerzburg, Wuerzburg, Bavaria, Germany; [2]Neurology, University of Wuerzburg, Wuerzburg, Bavaria, Germany