INTERNATIONAL SOCIETY FOR

ISMRM

MAGNETIC RESONANCE IN MEDICINE

MONDAY

PLENARY LECTURE
High Field *In Vivo* Magnetic Resonance

1. **Technological Challenges and Solutions for High Field *In Vivo* Magnetic Resonance**
J. Thomas Vaughan[1]
[1]University of Minnesota, Minneapolis, Minnesota, USA.

2. **High Field Human Imaging**
David Norris[1]
[1]FC Donders Centre for Cognitive Neuroimaging, Nijmegen, Netherlands.

3. **Clinical and Physiological Studies with High Field Human Spectroscopy and Spectroscopic Imaging**
Jullie W. Pan[1]
[1]Albert Einstein College of Medicine, Bronx, New York, USA.

fMRI Spatial and Temporal Characteristics

4. **Source of the Early Negative BOLD Dip Investigated by Phase Change of fMRI**
Fuqiang Zhao[1], *Noam Harel*[1], *Ping Wang*[1], *Tsukasa Nagaoka*[1], *Seong-Gi Kim*[1]
[1]University of Minnesota, Minneapolis, Minnesota, USA.

5. **On the Timing Characteristics of the Apparent Diffusion Coefficient Contrast in fMRI**
Stacey Lee Gangstead[1], *Allen W. Song*[1]
[1]Duke University, Durham, NC, USA.

6. **Estimating Transient Neuronal Activity Dynamics using BOLD Contrast**
R.M. Birn[1], *H. Heekeren*[1], *S. Marrett*[1], *J. Bodurka*[1], *P.A. Bandettini*[1]
[1]National Institutes of Health, Bethesda, Maryland, USA.

7. **Spatial Dependence of the Nonlinear BOLD Response at Short Stimulus Duration**
Josef Pfeuffer[1], *Jeffrey C McCullough*[1], *Pierre-Francois Van De Moortele*[1], *Kamil Ugurbil*[1], *Xiaoping Hu*[1]
[1]University of Minnesota, Minneapolis, Minnesota, USA.

8. **Brief Subconsciously Initiated Breath-Holding May Confound fMRI Studies**
David F Abbott[1], *Helen I Opdam*[1], *Graeme D Jackson*[1]
[1]Brain Research Institute, Melbourne, Victoria, Australia.

9. **Cortical Layer Specificity of BOLD and CBV fMRI Signals at Ultra-High Resolution**
Noam Harel[1], *Fuqiang Zhao*[1], *Ping Wang*[1], *Seong-Gi Kim*[1]
[1]University of Minnesota, Medical School, Minneapolis, Minnesota, USA.

10. **Observation of Differences in Cortical Layers Activity using Physiological Noise**
Galit Pelled[1], *Hagai Bergman*[2], *Gadi Goelman*[1]
[1]Hadassah Hebrew University Hospital, Jerusalem, Israel; [2]Hebrew University, Jerusalem, Israel.

11. Laminar Specificity of fMRI Onset Times during Somatosensory Stimulation

Afonso Silva[1], Alan P. Koretsky[1]
[1]National Institutes of Health, Bethesda, Maryland, USA.

12. The Intrinsic Haemodynamic Signal from the Capillary Bed is Linear with the Local Neuronal Spike Activity

Amir Shmuel[1,2], Amos Arieli[2], Amiram Grinvald[2]
[1]University of Minnesota, Minneapolis, Minnesota, USA; [2]The Weizmann Institute of Science, Rehovot, Israel.

13. fMRI of Ocular Dominance Columns using Short-Duration Visual Stimuli

Bradley Gordon Goodyear[1], Ravi Menon[2]
[1]Seaman Family MR Research Center, Calgary, Alberta, Canada; [2]The John P. Robarts Research Institute, London, Ontario, Canada.

Vascular Interventions

14. *Young Investigator Awards Finalist:* Inductively-Coupled Stent Antennas in MRI

Harald H. Quick[1], Hilmar Kuehl[1], Gernot Kaiser[1], Silke Bosk[1], Joerg F. Debatin[1], Mark E. Ladd[1]
[1]University Hospital Essen, Essen, Germany.

15. Improved Tracking of Resonant Circuits based on Rapid Optical Switching

Holger Eggers[1], Steffen Weiss[1], Peter Boernert[1], Peter Boesiger[2]
[1]Philips Research Hamburg, Hamburg, Germany; [2]University and ETH Zurich, Zurich, Switzerland.

16. Design Techniques for Loopless MRI Receivers

Robert Charles Susil[1], Christopher Joseph Yeung[1], Ergin Atalar[1]
[1]Johns Hopkins University, Baltimore, Maryland, USA.

17. Adaptive Image Parameters Based on Automated Realtime Device Tracking

Daniel R. Elgort[1], Eddy Wong[1], Jonathan S. Lewin[1], Jeffrey L. Duerk[1]
[1]Case Western Reserve University, Cleveland, Ohio, USA.

18. A Novel Double-Contrast Technique to Facilitate MRI-Guided Vascular Interventions: Combined Use of a Blood-Pool Agent and Carbon Dioxide

Frank Wacker[1], Robert Maes[2], Jeffrey L. Duerk[1], Jonathan S. Lewin[1]
[1]Case Western Reserve University, Medicine, Cleveland, Ohio, USA; [2]Gemini-ziekenhuis, Den Helder, Netherlands.

19. Interventional MRA using Actively Visualized Catheters, TrueFISP, and Real-Time Image Fusion

Harald H. Quick[1], Hilmar Kuehl[1], Gernot Kaiser[1], Krzysztof P. Mikolajczyk[2], Dirk Hornscheidt[3], Silke Bosk[1], Joerg F. Debatin[1], Mark E. Ladd[1]
[1]University Hospital Essen, Germany, Essen, Germany; [2]Warshaw University of Technology, Warshaw, Poland; [3]Somatex Medical Devices, Berlin, Germany.

20. Coronary Artery Imaging with Intraarterial Injections of Gadolinium using IR-FLASH in Canines

Jordin D. Green[1], Reed A. Omary[1], Syam Vasireddy[1], Yiu-Cho Chung[2], Richard Tang[1], Yongzhong Li[1], J. Paul Finn[1], Debiao Li[1]
[1]Northwestern University, Chicago, Illinois, USA; [2]Siemens Medical Solutions, Chicago, Illinois, USA.

21. Interactive Real-Time Radial Balanced FFE Coronary MR-Angiography for MR-guided Coronary Artery Stent Placement

Elmar Spuentrup[1], Alexander Ruebben[1], Tobias Schaeffter[2], J. Van Vaals[3], Rolf W. Guenther[1], Arno Buecker[1]
[1]Aachen Technical University, Aachen, Germany; [2]Philips Research, Hamburg, Germany; [3]Philips Medical Systems, Best, Netherlands.

22. **Using an MR Imaging-Guidewire as an Intravascular Heating Source: Toward Thermal Enhancement of Vascular Gene Transfection under MR Guidance**
Bensheng Qiu[1], Christopher Joseph Yeung[1], Xiangying Du[2], Ergin Atalar[1], Xiaoming Yang[1]
[1]Johns Hopkins University, School of Medicine, Baltimore, Maryland, USA.

Cancer MR Spectroscopy: Models

23. **Combined Vascular and Metabolic Characterization of Orthotopically Implanted Prostate Cancer Xenografts**
Zaver Bhujwalla[1], Dimitri Artemov[1], Meiyappan Solaiyappan[1]
[1]Johns Hopkins University, School of Medicine, Baltimore, Maryland, USA.

24. **Extracellular pH and Diffusion in RIF-1 Murine Tumours by ^{19}F MRS**
Dominick J.O. Mcintyre[1], Yuen-Li Chung[1], John R Griffiths[1]
[1]St. George's Hospital Medical School, London, England, UK.

25. **Inversion Recovery(IR) Pulse Sequence at 4.23 Tesla MRI for Intracellular Sodium[Na]i weighted Microimaging in Assessment of Chemosensitive Effect**
Rakesh R. Sharma[1] K.J. Jung[1], R.P. Kline[1], P.J. Cannon[1], Ed. X. Wu[1], J. Katz[1]
[1]Columbia University, College of Physicians and Surgeons, New York, New York, USA.

26. **Macromolecular and Lipid Resonances in Apoptosing BT4C Glioma Cells *In Vitro* and Tumours *In Vivo***
Piia Kristiina Valonen[1], Julian Griffin[2], Tuula Väisänen[1], Mikko Kettunen[1], Olli Gröhn[1], Paulina Lehtolainen[1], Seppo Ylä-Herttuala[1], Jeremy Nicholson[2], Risto Kauppinen[1]
[1]University of Kuopio, A.I. Virtanen Institute, Kuopio, Finland; [2]Imperial College of London, London, England, UK.

27. **Water Diffusion in a Rat BT4C Glioma during Gene Therapy-induced Apoptosis *In Vivo*: Correlation with Cell Density**
Tuula Väisänen[1], Piia Kristiina Valonen[1], Mikko Kettunen[1], Olli Gröhn[1], Asla Pitkänen[1], Pauliina Lehtolainen[1], Seppo Ylä-Herttuala[1], Risto Kauppinen[1]
[1]University of Kuopio, A.I. Virtanen Institute, Kuopio, Finland.

28. **Loss of p53 Function in Colon Cancer Cells Results in Increased Phosphocholine and Total Choline**
Noriko Mori[1], Robert Delsite[1], Kshama Natarajan[1], Keshav K Singh[1], Zaver Bhujwalla[1]
[1]Johns Hopkins University, School of Medicine, Baltimore, Maryland, USA.

29. **Inhibition of Ras Signalling in Human Breast Cancer Cells is Associated with Metabolic Alterations in Phosphocholine Metabolism Detectable by ^{31}P MRS**
M. Beloueche[1], L.E. Jackson[1], S. Eccles[1], P. Workman[1], M.O. Leach[1], S.M. Ronen[1]
[1]Institute of Cancer Research, Sutton, Surrey, UK.

30. **A Metabolomic Study by MR of HEPA-1 Wild-Type Tumors and HEPA c4 Tumors Deficient in Hypoxia-Inducible-Factor-1β (HIF-1β): Evidence of an Anabolic Role for the HIF-1 Pathway**
John R. Griffiths[1], Paul M.J. McSheehy[1], Simon P. Robinson[2], Helen Troy[3], Yuen-Li Chung[4], Russell D. Leek[5], Kaye J Williams[6], Ian J Stratford[6], Adrian L Harris[7], Marion Stubbs[1]
[1]St George's Hospital Medical School, London, England, UK; [2]Institute of Molecular Medicine, Oxford, England, UK; [3]University of Manchester, Manchester, England, UK.

31. **Selective Detection of Mobile Cellular Proteins using Water EXchange (WEX) Spectroscopy**
Peter C. Van Zijl[1], Noriko Mori[1], Jinyuan Zhou[1], Jean-Francois Payen[1,2], Susumu Mori[1]
[1]Johns Hopkins University, School of Medicine, Baltimore, Maryland, USA; [2]Hôpital Michallon, Grenobls, France.

32. Analyzing Tumor Biology using *Ex Vivo* HRMAS MRS with Laser Capture Microdissection and RT-PCR

Jennifer L. Taylor[1], J. Hur[1], C-L. Wu[1], D. Sgroi[1], T. Shioda[1], R. G. Gonzalez[1], Leo Cheng[1]
[1]Massachusetts General Hospital, Charlestown, Massachusetts, USA.

MR Elastography

33. Non-Linear Elastic Tissue Properties of the Breast Measured by MR-Elastography-Initial *In Vitro* and *In Vivo* Results

Ralph Sinkus[1], Steffen Weiss[1], Eva Wiggert[2], Joern Lorenzen[3], Michael Dargatz[1], Christiane Kuhl[2]
[1]Philips Research Laboratories, Hamburg, Germany; [2]University of Bonn, Bonn, Germany; [3]Uni versity Eppendorf, Hamburg, Germany.

34. Mechanical Transient-Based MR Elastography

Paul McCracken[1], Armando Manduca[1], Joel Felmlee[1], Richard Ehman[1]
[1]Mayo Clinic, Rochester, Minnesota, USA.

35. Simulation of MR Elastography Wave Images Measured in the Biceps Brachii

Ingolf Sack[1], Johannes Bernarding[1], Thomas Tolxdorff[1], Juergen Braun[1]
[1]Benjamin Franklin University Hospital, Free University of Berlin, Berlin, Germany.

36. Change in Relaxed Muscle Stiffness due to Joint Positioning Measured *In Vivo* using Magnetic Resonance Elastography

Thomas Jenkyn[1], Kenton Kaufman[1], Kai-Nan An[1], Richard Ehman[1]
[1]Mayo Clinic, Rochester, Minnesota, USA.

37. *In Vivo* Determination of Biceps Elasticity with MR Elastography

Kai Uffmann[1], Serban Mateiescu[1], Harald Quick[1], Mark Ladd[1]
[1]University Hospital Essen, Essen, Germany.

38. Palpation using SENC MRE for Detecting Tumors: A Phantom Experiment

Nael F. Osman[1]
[1]Johns Hopkins University, School of Medicine, Baltimore, Maryland, USA.

39. Rapid Shear Stiffness Estimations using 2-D Spatial Excitations in Magnetic Resonance Elastography

Kevin Glaser[1], Joel Felmlee[1], Richard Ehman[1]
[1]Mayo Clinic, Rochester, Minnesota, USA.

40. Phase Cycling in Dynamic Magnetic Resonance Elastography by Variation of the Phase Angle of the Motion-Encoding Gradients

Juergen Braun[1], Ingolf Sack[1]
[1]Free University of Berlin, University Hospital Benjamin Franklin, Berlin, Germany.

41. Static MR-Elastography for Improved Characterization of High-Intensity Focused Ultrasound Lesions

Peter Siegler[1], Jan Boese[1], Jürgen Jenne[1], Ralf Rastert[1], Lothar Schad[1]
[1]German Cancer Research Center (DKFZ), Heidelberg, Germany.

42. q-Space Imaging Correlates with Mechanical Strain

Robert C Welsh[1], Stanislav Emelianov[1,2], Derek D. Steele[1], Thomas L. Chenevert[1]
[1]University of Michigan, Medical School, Ann Arbor, Michigan, USA; [2]Institute of Mathematical Problems of Biology, Puschino, Russia.

Morphometric and Physiologic MR Imaging: Neuropsychiatric Disorders

43. Diffusion MRI Shows Increased Water ADC in the Brains of Cirrhotic Patients

Raffaele Lodi[1], Andrea Stracciari[1], Stefano Iotti[1], Gabriele Donati[1], Maria Guarino[1], Valeria Clementi[1], Luigi Bolondi[1], Bruno Barbiroli[3]
[1]Università di Bologna, Bologna, Italy.

44. Reduced Pallidal Magnetization Transfer Ratios are Associated with Fatigue in Pre-cirrhotic Patients with Primary Biliary Cirrhosis and Correlate with Serum Manganese Levels

Daniel M Forton[1], Nayna Patel[1], Joanna Allsop[1], Gavin Hamilton[1], Martin Prince[2], Jenny Goldblatt[2], Howard C Thomas[1], Margaret Bassendine[2], David E Jones[2], Joseph V Hajnal[1], Angela Oatridge[1], Simon D. Taylor-Robinson[1]
[1]Imperial College School of Medicine, London, England, UK; [2]University of Newcastle, Newcastle, England, UK.

45. Diffusion Tensor Fractional Anisotropy as an Indicator for Diffuse Axonal Injury

Konstantinos Arfanakis[1], Victor M. Haughton[1], John Carew[1], Baxter Rogers[1], Robert J Dempsey[1], M. Meyerand[1]
[1]University of Wisconsin-Madison, Madison, Wisconsin, USA.

46. High Resolution Susceptibility Weighted Imaging (SWI) Improves Detection of Hemorrhagic Lesions in Adults with Traumatic Brain Injury: Correlation with Severity of Injury and Outcome

Karen Angela Tong[1], Barbara Ann Holshouser[1], Lori Shutter[1], Pierson Chiou[1], Gwenael Herigault[2], E. Mark Haacke[2]
[1]Loma Linda University, Medical Center, Loma Linda, California, USA; [2]The MR Institute for Biomedical Research, St. Louis, Missouri, USA.

47. Voxel Based Morphometry Reveals Primarily Extra-Motor Abnormalities in Amyotrophic Lateral Sclerosis

Sanjay Kalra[1], Andrew Janke[2], D. Louis Collins[1], Douglas Arnold[1]
[1]McGill University, Montreal, Quebec, Canada; [2]University of Queensland, Brisbane, Queensland, Australia.

48. Pathogenesis of Corticospinal Tract Degeneration in ALS Patients by Diffusion Tensor Imaging

Sverre Rosenbaum[1], M Karlsborg[2], M Wiegell[3], H Simmonsen[1], O Gredal[2]
[1]Hvidovre University Hospital, Copenhagen, Denmark; [2]Bispebjerg University Hospital, Copenhagen, Denmark; [3]Massachusetts General Hospital, Boston, Massachusetts, USA.

49. Reduced Blood Flow in Addition to Volume Loss of Cortex in Alzheimer´s Disease

Norbert Schuff[1], Shinji Matsumoto[1], Joseph Kmiecik[1], Frank Ezekiel[1], Colin Studholme[1], Antao Du[1], Howrie J Rosen[1], Joel H Kramer[1], Geon-Ho Jahng[1], Bruce L Miller[1], Michael W Weiner[1]
[1]University of California, San Francisco, V.A. Medical Center, San Francisco, California, USA.

50. Cognitive Correlates of Magnetization Transfer Imaging in Normal Aging, Mild Cognitive Impairment and Alzheimer´s Disease

Wiesje M. Van Der Flier,[1] Dominique M.J. Van Den Heuvel[1], Annelies W.E. Weverling-Rijnsburger[1], Eduard L.E.M. Bollen[1], Rudi W.E. Westendorp[1], Huub A.M. Middelkoop[1], Mark A. Van Buchem[1]
[1]Leiden University Medical Center, Leiden, Netherlands.

51. Sexual Dimorphism of Cerebral Asymmetry in Healthy Subjects and Patients with Schizophrenia Assessed using a Novel Automatic MR Image Analysis Technique

Clare E Mackay[1], Thomas R Barrick[2], Timothy J Crow[1], Lynn E Delisi[3], Neil Roberts[2]
[1]University of Oxford, Oxford, England, UK; [2]University of Liverpool, Liverpool, England, UK; [3]New York University, New York, NY, USA.

52. Gray Matter Microstructure in Psychotic Patients with and without Delusions

Vaibhav A. Diwadkar[1], Sarah D. Sahni[1], Konasale M. R. Prasad[1], Karen L. Hoffmann[2], Antonio Y. Hardan[1], Michael D. Debellis[1], John A. Sweeney[3], Matcheri S. Keshavan[1]
[1]University of Pittsburgh, Pittsburgh, Pennsylvania, USA; [2]Carnegie Mellon University, Pittsburgh, Pennsylvania, USA; [3]University of Illinois at Chicago, Chicago, Illinois, USA.

Magnets and Gradients

53. Apparatus for Dynamic Angular Position Tracking (ADAPT)

Alexey Peshkovsky[1], Kevin H. Knuth[1], Joseph A. Helpern[2]
[1]Nathan S. Kline Institute, Orangeburg, New York, USA; [2]New York University School of Medicine, New York, New York, USA.

54. Peripheral Nerve Stimulation Properties of Head and Body Gradient Coils

Beibei Zhang[1], Yi-Fen Yen[2], Blaine Chronik[3], Brian K. Rutt[1]
[1]The John P. Robarts Research Institute, London, Ontario, Canada; [2]London Health Sciences Centre, London, Ontario, Canada; [3]Stanford University, Stanford, California, USA.

55. Continuous Arterial Spin Labeling using a Local Magnetic Field Gradient Coil

Robert Trampel[1], Toralf Mildner[1], Ute Goerke[1], Andreas Schaefer[1], Wolfgang Driesel, David G. Norris[1]
[1]Max Planck Institute of Cognitive Neuroscience, Leipzig, Germany.

56. Parallel Slice Imaging with Step-Field MAMBA

Kuan Lee[1], Martyn Paley[1], Iain Wilkinson[1], Paul Griffiths[1]
[1]University of Sheffield, Sheffield, England, UK.

57. Gradient Coil Design with Reduced Deflection of the Gradient Structure

Gordon D. DeMeester[1], Shmaryu M. Shvartsman[1], Zhiyong Zhai[1], Michael A. Morich[1]
[1]Philips Medical Systems (Cleveland), Cleveland, Ohio, USA.

58. Readout Frequency Requirements for Dedicated Prepolarized and Hyperpolarized-Gas MRI Systems

Blaine A. Chronik[1], Ross D. Venook[1], Steven M. Conolly[1], Greig C. Scott[1]
[1]Stanford University, Stanford, California, USA.

59. E-fields in the Human Head Due to Time Varying Magnetic Field Gradients

Martin Bencsik[1], Richard Bowtell[1], Roger Bowley[1]
[1]University of Nottingham, Nottingham, England, UK.

60. Lamé Shims

Stuart Crozier[1], Larry Kennedy Forbes[2], Michael Brideson[2]
[1]Queensland University, Brisbane, Queensland, Australia; [2]University of Tasmania, Hobart, Tasmania, Australia.

61. A Wide-Bandwidth Multi-channel Digital Receiver and Real-Time Reconstruction Engine for Use with a Clinical MR Scanner

H. Douglas Morris[1], J. Andrew Derbyshire[1], Peter Kellman[1], A. Scott Chesnick[1], Michael A. Guttman[1], Elliot McVeigh[1]
[1]National Institutes of Health, Bethesda, Maryland, USA.

62. Rapid Designs for MRI Magnets with Ferromagnetic Materials

Huawei Zhao[1], Stuart Crozier[1]
[1]Queensland University, Brisbane, Queensland, Australia.

Cartilage Basic Science

63. Estimation of Static and Dynamic Mechanical Properties of Articular Cartilage using Quantitative MRI

Miika T Nieminen[1], Juha Töyräs[2], Mikko S Laasanen[1], Johanna Silvennoinen[1], Jarno Rieppo[1], Heikki J Helminen[1], Jukka S Jurvelin[2]
[1]University of Kuopio, Kuopio, Finland; [2]University of Kuopio and Kuopio University Hospital, Kuopio, Finland.

64. **The Effect of Refocusing the Dipolar Interaction on the Measured T_2 of Articular Cartilage**
Hadassah Shinar[1], Uzi Eliav[1], Keren Keinan-Adamsky[1], Gil Navon[1]
[1]Tel Aviv University, Tel Aviv, Israel.

65. **Measurements of Fixed Charge Density in Bovine Nasal Cartilage using Gd-DOTA**
Kenneth W. Fishbein[1], Yehezkiel A. Gluzband[1], Richard G.S. Spencer[1]
[1]National Institutes of Health, Baltimore, Maryland, USA.

66. **The Effect of Trypsin Degradation on the ^{23}Na Spectroscopic MRI Spectra of Articular Cartilage**
Keren Keinan-Adamsky[1], Hadassah Shinar[1], Uzi Eliav[1], Yoshiteru Seo[2], Gil Navon[1]
[1]Tel Aviv University, Tel Aviv, Israel; [2]Kyoto Prefectural University of Medicine, Kyoto, Japan.

67. **Mapping Non-homogeneous Mechanical Properties of Articular Cartilage**
Jonathan Howard Kaufman[1], Umamaheshwar Duvvuri[1], Ravinder Regatte[1], Ravinder Reddy[1], John Leigh[1]
[1]University of Pennsylvania, Philadelphia, Pennsylvania, USA.

68. **Qualitative *In Vivo* Assessments of Articular Cartilage in the Rabbit Knee with High-Resolution MRI at 3 T**
Didier Laurent[1], James Wasvary[1], Dongming Sun[1], Hem Nalini Singh[1], Vincent Blancuzzi[1], Elizabeth O'Byrne[1]
[1]Novartis Pharmaceuticals Corporation, Summit, New Jersey, USA.

69. **Can MTR Be Used to Assess Cartilage in the Presence of Gd-DTPA?**
R Mark Henkelman[1], Greg J. Stanisz[1], Nina Menezes[2], Deborah Burstein[2]
[1]University of Toronto, Sunnybrook & Women's College Health Sciences Centre, Toronto, Ontario, Canada; [2]Beth Israel Deaconess Medical Center, Boston, Massachusetts, USA.

70. **The Compressive Load Response of the Articular Surface Correlates with dGEMRIC-Measured Spatially-Localized GAG Content**
Joseph Thomas Samosky[1], Martha Gray[1], Scott Martin[2], Eric Grimson[1], Deborah Burstein[3]
[1]Massachusetts Institute of Technology, Cambridge, Massachusetts, USA; [2]Brigham and Women's Hospital, Boston, Massachusetts, USA; [3]Beth Israel Deaconess Medical Center, Boston, Massachusetts, USA.

71. **Cartilage Warping: A Technique for Inter-Subject Comparison of T_2 Relaxation Time**
Bernard Dardzinski[1], Vincent Schmithorst[1], Timothy J. Mosher[2], Michael B. Smith[2]
[1]University of Cincinnati, Hospital, Cincinnati, Ohio, USA; [2]Pennsylvania State University, Hershey, Pennsylvania, USA.

72. ***In Vivo* Proton 3D- $T_{1\rho}$-Relaxation Mapping of Human Knee**
Ravinder Reddy Regatte[1], Sarma V.S. Akella[1], Arijitt Borthakur[1], Andrew James Wheaton[1], John Bruce Kneeland[1], John Leigh[1], Ravinder Reddy[1]
[1]University of Pennsylvania, Philadephia, Pennsylvania, USA.

Advanced Imaging and Corrections

73. **Phased Array Ghost Elimination (PAGE) for Segmented SSFP Imaging with Interrupted Steady-State**
Peter Kellman[1], Michael A. Guttman[1], Daniel Herzka[1], Elliot McVeigh[1]
[1]National Institutes of Health, Bethesda, Maryland, USA.

74. **Noise-Adaptive Nonlinear Filtering Technique for SENSE–Reconstructed Images**
Alexei A. Samsonov[1], Ross T. Whitaker[1], Chris R. Johnson[1]
[1]University of Utah, Salt Lake City, Utah, USA.

75. **A Feasibility Study of Detection and Correction of Motion Artifacts in MR Imaging of the Larynx using Parallel Imaging**
David J Larkman[1], Mark Bydder[1], Martina F Callaghan[1], Elias R Melhem[2], David J Gilderdale[1], Joseph V. Hajnal[1]
[1]Hammersmith Hospital, London, England, UK; [2]The John Hopkins Medical Institutions, Baltimore, Maryland, USA.

76. **Reduced Field-of-View Dynamic Imaging with 2D Spatially-Selective Excitation and UNFOLD**
Lei Zhao[1], Bruno Madore[1], Lawrence P Panych[1]
[1]Brigham and Women's Hospital, Harvard Medical School, Boston, Massachusetts, USA.

77. **Using UNFOLD to Remove Radial Streak Artifact in Undersampled Projection Reconstruction Cine Imaging**
Andrew Larson[1], Orlando Simonetti[2]
[1]Northwestern University, Medical School, Chicago, Illinois, USA; [2]Siemens Medical Systems, Chicago, Illinois, USA.

78. **Optimal View Ordering in 2D and 3D Radial Fast Spin-Echo Acquisitions**
Rebecca Theilmann[1], Arthur F. Gmitro[1], Maria Altbach[1], Theodore Trouard[1]
[1]University of Arizona, Tucson, Arizona, USA.

79. **Simultaneous T_2 and T_2* Weighted Imaging with RAD-GRASE**
Arthur Gmitro[1], Maria Altbach[1], Rebecca Theilmann[1], Theodore Trouard[1]
[1]University of Arizona, Tuscon, Arizona, USA.

80. **Alternating TE Radial Sequence For Inherent Fat Suppression**
Chris Flask[1], Hisamoto Moriguchi[1], Claudia M Hillenbrand[1], Jonathan S. Lewin[1], Jeffrey L. Duerk[1]
[1]University Hospitals of Cleveland, Case Western Reserve University, Cleveland, Ohio, USA.

81. **Efficient Fat Suppression using an Oscillating Steady State**
William R. Overall[1], Dwight G. Nishimura[1], Bob Hu[1]
[1]Stanford University, Stanford, California, USA.

82. **Constant Frequency Noise in Magnetic Resonance Imaging with Non-Uniform K-Space Sampling - Simulation Study**
Weiliang Du[1], Gregory S. Karczmar[1], Xiaochuan Pan[1]
[1]University of Chicago, Chicago, Illinois, USA.

CLINICAL SCIENCE FOCUS SESSION
Myocardial Perfusion and Viability

83. **Comprehensive Assessment of Patients with Acute Coronary Syndromes with an Integrated MRI Protocol for Myocardial Function, Perfusion, Viability and Coronary Artery Imaging**
Sven Plein[1], John P. Ridgway[2], Tim R. Jones[1], Gavin Bainbridge[1], Mohan Sivananthan[1]
[1]Leeds General Infirmary, Leeds, England, UK; [2]University of Leeds, Leeds, England, UK.

84. **Simultaneous Assessment of Wall Motion and Myocardial Perfusion during High-Dose Dobutamine-Atropine Stress Magnetic Resonance Imaging Improves Diagnosis of Ischemia in Patients with Known Coronary Artery Disease**
Andreas Wahl[1], Stefan Roethemeyer[1], Ingo Paetsch[1], Sonja Huehns[1], Christoph Klein[1], Eckart Fleck[1], Eike Nagel[1]
[1]German Heart Institute Berlin, Berlin, Germany.

85. **Myocardial Perfusion Reserve Imaging**
James E. Siebert[1], Mark C. Delano[1], Joel Eisenberg[1], Sandeep Gupta[2]
[1]Michigan State University, East Lansing, Michigan, USA; [2]GE Medical Systems, Baltimore, Maryland, USA.

86. **Extents Ratio of Neovascular Development to Impaired Blood Delivery Identifies Dose-Response for Therapeutic Angiogenesis in Porcine Chronic Myocardial Ischemia**
Justin D Pearlman[1], Ling Gao[1], Yun Wu[1], Mark Post[1], Michael Simons[1]
[1]Dartmouth University, School of Medicine, Lebanon, New Hampshire, USA.

87. **Quantitative Dobutamine MR Tagging Predicts Improved Regional Function after Revascularization in Ischemic Cardiomyopathy**
C. Joon Choi[1], Habib Samady[1], Joseph Michael Dimaria[1], Jennifer R. Hunter[1], Michael Ragosta[1], Christopher M. Kramer[1]
[1]University of Virginia, Charlottesville, Virginia, USA.

88. **Size of The Hyperenhanced Region Contracts between 1 and 8 Weeks after Reperfused Myocardial Infarction**
C. Joon Choi[1], Shahriar Haji-Momenian[1], Joseph Michael DiMaria[1], John M Christopher[1], Jennifer R Hunter[1], Christina Marie Bove[1], Frederick H. Epstein[1], Christopher M. Kramer[1]
[1]University of Virginia, Charlottesville, Virginia, USA.

89. **Detection and Characterization of Intracardiac Thrombi using MRI**
Jörg Barkhausen[1], Peter Hunold[1], Markus Jochims[2], Holger Eggebrecht[1], Georg Sabin[2], Raimund Erbel[1], Jörg Debatin[1]
[1]University Hospital Essen, Essen, Germany; [2]Elisabeth Hospital Essen, Essen, Germany.

90. **Real-Time Color-Flow Magnetic Resonance Imaging of Congenital Heart Disease**
Erasmo De La Pena-Almaguer[1], Krishna S. Nayak[1], Masahiro Terashima[1], Phil C. Yang[1], John M. Pauly[1], David Liang[1], Bob S. Hu[1], Michael V. Mcconnell[1]
[1]Stanford University, Stanford, California, USA.

91. **Analysis of Right-Left Heart Circulation Times in Cardiovascular Disease with Magnetic Resonance Imaging**
Christopher Jean-Pierre François[1], Robert Bonow[1], Stephanie M Shors[1], John Paul Finn[1]
[1]Northwestern University, Chicago, Illinois, USA.

92. **Tissue Edema Does Not Affect the Efficacy of T_1 MR Imaging for Assessment of Myocardial Viability**
Ganghong Tian[1], Guangping Dai[1], Bo Xiang[1], Gang Li[1], Anthony Shaw[1], Jiankang Sun[1], Roxanne Deslauriers[1]
[1]Institute for Biodiagnostics, National Research Council, Winnipeg, Manitoba, Canada.

93. **Absolute Quantification of High Contrast Dose Perfusion Imaging Can Be Repeated at Two Hours Despite Elevated Baseline T_1 Relaxivity**
Timothy F. Christian[1], Anthony H Aletras[1], Robert S Balaban[1], Andrew E Arai[1]
[1]National Institutes of Health, Bethesda, Maryland, USA.

94. **Clinical Application of Myocardial Perfusion Pre- and post-PTCA with SE-EPI**
Fabao Gao[1], Yuangui Gao[2], Robert G Weiss[1], Bensheng Qiu[1], Yan Liang[2], Youquan Cai[2], Xiangyang Ma[3]
[1]Johns Hopkins Hospital, Baltimore, Maryland, USA; [2]PLA General Hospital, Beijing, P. R. China; [3]GE Medical Systems, Milwaukee, Wisconsin, USA.

CLINICAL SCIENCE FOCUS SESSION
Cartilage and Other Musculoskeletal MR Imaging

95. **Navigated Steady-State Diffusion Imaging of Knee Cartilage**
Karla L. Miller[1], Garry E. Gold[2], John M. Pauly[1]
[1]Stanford University, School of Engineering, Stanford, California, USA; [2]Stanford University, School of Medicine, Stanford, California, USA.

96. *In-Vivo* Quantitative Kinematic Magnetic Resonance Imaging of the Patellofemoral Joint

Katherine J Hall[1], Vikas V. Patel[1], William Colman[1], Colleen Lindsey[1], Eugene Ozhinsky[1], Michael Ries[1], Sharmila Majumdar[1]
[1]University of California San Francisco, San Francisco, California, USA.

97. Magnetic Resonance Evaluation of the Interrelationship between Articular Cartilage and Trabecular Bone of the Osteoarthritic Knee

Colleen Tracy Lindsey[1], Katherine J Hall[1], Srinka Ghosh[1], Olivier Beuf[1], Thomas Link[2], Lynne S. Steinbach[1], Michael Ries[2], Sharmila Majumdar[1]
[1]University of California San Francisco, San Francisco, California, USA; [2]University Hospital, Muenster, Germany.

98. Quantitation of T_2 Variation with Progression of Osteoarthritis in the Knee

Timothy Dunn[1], Srinka Ghosh[1], Anh Kim Nguyen[1], Colleen Lindsey[1], Katherine Hall[1], Michael Ries[1], Sharmila Majumdar[1]
[1]University of California San Francisco, San Francisco, California, USA.

99. Effect of Gender on Cartilage T_2 Maps

Timothy J. Mosher[1], Christopher M. Collins[1], Harvey E. Smith[1], Lauren Moser[1], Rebecca Tauber[1], Bernard J. Dardzinski[2], Michael B. Smith[1]
[1]Pennsylvania State University, Hershey, Pennsylvania, USA; [2]University of Cincinnati, College of Medicine, Cincinnati, Ohio, USA.

100. Quality Control and Stability of Cartilage T_2 Measurements in Clinical Trials

David L. White[1], Manish Kothari[1], Yves Miaux[1], Martine Sieffert[1], Charles G. Peterfy[1]
[1]SYNARC, Inc., San Francisco, California, USA.

101. Assessment of Early Osteoarthritis in Hip Dysplasia and Pelvic Osteotomy using Delayed Gadolinium Enhanced MRI (dGEMRIC)

Young-Jo Kim[1], Christopher Iobst[1], Michael B. Millis[1], Diego Jaramillo[2], Martha L. Gray[3], Deborah Burstein[4]
[1]Harvard University, Children's Hospital of Boston, Boston, Massachusetts, USA; [2]Massachusetts General Hospital, Boston, Massachusetts, USA; [3]Massachusetts Institute of Technology, Cambridge, Massachusetts, USA; [4]Beth Israel Deaconess Medical Center, Boston, Massachusetts, USA.

102. MRI Characteristics of Chronic Syndesmotic Injuries

John Hermans[1], Annechien Beumer[1]
[1]Erasmus MC, Rotterdam, Netherlands.

103. Magic Angle Imaging of the Achilles Tendon

Amy Herlihy[1], Helen Marshall[1], Clare Howarth[1], David Larkman[1], Angela Oatridge[1], Graeme Bydder[1]
[1]Hammersmith Hospital, London, England, UK.

104. Quadriceps Fat Pad Edema

Nogah Shabshin[1], Mark E Schweitzer[2], William B Morrison[2]
[1]MCP-Hahnemann University, Philadelphia, Pennsylvania, USA; [2]Thomas Jefferson Universitiy Hospital, Philadelphia, Pennsylvania, USA.

105. MR-based Morphometry of the Proximal Femur

Bryon Gomberg[1], Luna Hilaire[1], Punam Saha[1], Louise Loh[1], Maria Fernandez-Seara[1], Felix Wehrli[1]
[1]University of Pennsylvania, Philadelphia, Pennsylvania, USA.

106. MR Imaging Findings of Osteosarcomas Treated with High Intensity Focused Ultrasound:Preliminary Results

Huiyi Ye[1], Wei Wang[2], Wenzhi Chen[3], Youquan Cai[1], Yan Liang[1], Zhibiao Wang[3]
[1]PLA General Hospital, Beijing, China; [2]PLA 307 Hospital, Beijing, China; [3]Chongqing University of Medical Sciences, Chongqing, China.

Coronary MR Imaging

107. Three-Dimensional Free-Breathing Navigator Gated and Corrected Coronary MRA: Quantitative Results Obtained in an International Multicenter Trial

Matthias Stuber[1], René Michael Botnar[1,2], Raja Muthupillai[2], Sven Plein[3], Christoph Klein[4], Albert De Roos[5], Juerg Schwitter[6], Erik Pedersen[7], Mattias Schmidt[8], Warren J. Manning[1]
[1]Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, Massachusetts, USA; [2]Philips Medical Systems, Houston, Texas, USA; [3]Leeds General Infirmary, Leeds, England, UK; [4]German Heart Institute Berlin, Berlin, Germany; [5]University Hospital Leiden, Leiden, Netherlands; [6]University of Zurich, Zurich, Switzerland; [7]Skejby Sygehus, Aarhus, Denmark; [8]Universität zu Köln, Köln, Germany.

108. Coronary Magnetic Resonance Angiography: An Objective Quantitative Comparison between Four Different MR Techniques

David C. Maintz[1,2], René Michael Botnar[1], Walter L Heindel[2], Warren J. Manning[1], Matthias Stuber[1]
[1]Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, Massachusetts, USA; [2]University of Münster, Munster, Germany.

109. Potential Clinical Feasibility of SMASH Accelerated Coronary Magnetic Resonance Angiography

Charles McKenzie[1], Peter G. Danias[1], Kraig Kissinger[1], Matthias Stuber[1,2], René Michael Botnar[1,2], Warren J. Manning[1], Daniel Sodickson[1]
[1]Beth Israel Deaconess Medical Center, Boston, Massachusetts, USA; [2]Philips Medical Systems, Best, Netherlands.

110. 3D Magnetization-Prepared TrueFISP: Initial Clinical Evaluation of a New MR Technique for Imaging the Coronary Arteries

Richard McCarthy[1], Vibhas Deshpande[1], Steven Shea[1], James Carr[1], Nirat Beohar[1], Sheridan Meyers[1], Jordin Green[1], Scott Pereles[1], John Paul Finn[1], Debiao Li[1]
[1]Northwestern University Medical School, Chicago, Illinois, USA.

111. Coronary MRA with 3D Undersampled Projection Reconstruction TrueFISP

Andrew Larson[1], Orlando Simonetti[2], Vibhas Deshpande[1], Steven Shea[1], Debiao Li[1]
[1]Northwestern University, Chicago, Illinois, USA; [2]Siemens Medical Systems, Chicago, Illinois, USA.

112. Fast Free Breathing 3D Coronary MR Angiography using Undersampled Radial Imaging

Tobias Schaeffter[1], Elmar Spuentrup[2], Jan P. Groen[3], Holger Eggers[1], Peter Börnert[1], Volker Rasche[1]
[1]Philips Research, Hamburg, Germany; [2]Aachen University of Technology, Aachen, Germany; [3]Philips Medical Systems, Best, The Netherlands.

113. Coronary Artery Imaging using 3D TrueFISP: The Effect of Contrast Agent

Vibhas Deshpande[1], Stephanie Marie Shors[1], Christopher Jean-Pierre François[1], Richard Martin McCarthy[1], Steven Shea[1], J. Paul Finn[1], Debiao Li[1]
[1]Northwestern University, Chicago, Illinois, USA.

114. MR Coronary Angiography with the New Intravascular Contrast Agent B-22956/1: First Human Experience

Friedrich Michael Cavagna[1], Anna La Noce[1], Fabio Maggioni[1], Klaus Scheffler[2], Michael Huber[3], Matthias Stuber[4], Bernhard Schnackenburg[5], Eckart Fleck[6]
[1]Bracco Imaging Spa, Milano, Italy; [2]University of Freiburg, Freiburg, Germany; [3]ETH, Zurich, Switzerland; [4]Beth Israel Deaconess Medical Center, Boston, Massachusetts, USA; [5]Philips Medical Systems, Best, Netherlands; [6]German Heart Institute, Berlin, Germany.

115. Sensitivity Encoding in Free-Breathing Navigator-Gated 3D Coronary MRA at 3T

Michael E. Huber[1], Sebastian Kozerke[1], Klaas Pruessmann[1], Jouke Smink[2], Peter Boesiger[1]
[1]University of and ETH, Zurich, Switzerland; [2]Philips Medical Systems, Best, Netherlands.

116. A Preliminary Report on *In-Vivo* Coronary MRA at 3 Tesla in Humans

Matthias Stuber[1,2], René Michael Botnar[1,2], Rolf Lamerichs[2], Stefan Fischer[2], Jouke Smink[2], Paul R. Harvey[2], Warren J. Manning[1]
[1]Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, Massachusetts, USA; [2]Philips Medical Systems, Best, Netherlands.

fMRI Acquisition Methods

117. Frequency-Shift Based BOLD fMRI using SSFP in Human Visual Cortex

Jessica Dubois[1], Franck Lethimmonier[1], Isabelle Klein[1], J.B. Poline[1], Denis Le Bihan[1]
[1]Commissariat à l'Energie Atomique, Orsay, France.

118. Physiological Noise in Multi-Shot Functional MRI

Scott J. Peltier[1], Douglas C. Noll[1]
[1]University of Michigan, Ann Arbor, Michigan, USA.

119. Quantitative Dynamic Measurement of Cerebral Blood Volume Changes via fMRI

Bojana Stefanovic[1], G Bruce Pike[1]
[1]McGill University, Montreal, Quebec, Canada.

120. Investigation of BOLD using CARR-PURCELL T_2 Weighting with SPIRAL Readout

Shalom Michaeli[1], Josef Pfeuffer[1,2], Kamil Ugurbil[1], Michael Garwood[1]
[1]University of Minnesota School of Medicine, Minneapolis, Minnesota, USA; [2]Max-Planck-Institute for Biological Cybernetics, Tübingen, Germany.

121. Rapid Simultaneous Mapping of T_2 and T_2* by Multiple Acquisition of Spin And Gradient Echoes using Interleaved Echo Planar Imaging (MASAGE-IEPI)

David L Thomas[1], Mark Lythgoe[1], David G Gadian[1], Roger J Ordidge[1]
[1]University College London, London, England, UK.

122. Increased Specificity and Sensitivity using High Resolution T_2 Weighted BOLD fMRI at High Fields

Essa Yacoub[1], Timothy Duong[1], Gregor Adriany[1], Seong-Gi Kim[1], Kamil Ugurbil[1], Xiaoping Hu[1]
[1]University of Minnesota, Minneapolis, Minnesota, USA.

123. High-Resolution T_2 fMRI at High Magnetic Fields using PSIF

Edward J. Auerbach[1], Keith Heberlein[1], Xiaoping Hu[1]
[1]University of Minnesota, Minneapolis, Minnesota, USA.

124. High Resolution fMRI using 3D-EPI

Joseph Gati[1], Ravi Menon[1]
[1]The John P. Robarts Research Institute, London, Ontario, Canada.

125. High-Resolution fMRI using SENSE at 3 Tesla

Conny Frauke Schmidt[1], Klaas Pruessmann[1], Thomas Jaermann[1], Rolf Lamerichs[2], Peter Boesiger[1]
[1]Institute for Biomedical Engineering, University and ETH Zurich, Zurich, Switzerland; [2]Philips Medical Systems, Best, Netherlands.

126. High Resolution ER-fMRI using SENSE at 3.0 Tesla

Frank G.C. Hoogenraad[1], Yvonne Rijckaert[1], Paul R. Harvey[1], Paul Folkers[1]
[1]Philips Medical Systems, Best, Netherlands.

MR Spectroscopy of Cells, Body Fluids, and Others

127. ***Young Investigator Awards Finalist:*** **Evidence that both "Fast" and "Slow" Water ADC Components Arise from the Intracellular Space**
Jonathan V. Sehy[1], Joseph J.H. Ackerman[1], Jeffrey J. Neil[1]
[1]Washington University, St. Louis, Missouri, USA.

128. **Intracellular Water Motions Decrease in Apoptotic Macrophages after Caspase Activation**
Sonsoles Hortelano[1], María L. García-Martín[2], Sebastian Cerdán[2], Antonio Castano[1], Alberto M Alvarez[1], Lisardo Boscá[1]
[1]CSIC/UCM, Madrid, Spain; [2]CSIC/UAM, Madrid, Spain.

129. **A Combined Optical and ^{1}H-NMR Study of Cell Death in Nutrient Deficient Culture Media**
Kevin R. Minard[1], Robert A. Wind[1], Paul D. Majors[1], Gary R. Holtom[1], Loel E. Kathmann[1], Brian D. Thrall[1]
[1]Pacific Northwest National Laboratory, Richland, Washington, USA.

130. **Mechanisms of Indomethacin Induced Alterations in Phospholipid Metabolism in Human Mammary Epithelial Cells Studied by ^{1}H and ^{13}C NMR Spectroscopy**
Kristine Glunde[1], Vadappuram P. Chacko[1], Zaver Bhujwalla[1]
[1]Johns Hopkins University, School of Medicine, Baltimore, Maryland, USA.

131. **^{1}H-NMR Spectroscopy of Stem Cells *In Vitro* Demonstrates High Proliferation State**
Jacobus F.A. Jansen[1], Juhana M. Hakumaki[1], Laetitia Ifeany[1], Mike Shamblott[1], John Gearhart[1], Peter C. Van Zijl[1]
[1]Johns Hopkins University, School of Medicine, Baltimore, Maryland, USA.

132. **Integrated ^{2}H and ^{13}C NMR Isotopomer Analysis of Hepatic Glucose Production in the Isolated Perfused Mouse Liver**
Rui Albuquerque Carvalho[1], Shawn C. Burgess[2], Charles J. Storey[2], Angela R. Richman[2], A. Dean Sherry[2], Craig R. Malloy[2]
[1]University of Coimbra, Portugal, Coimbra, Portugal; [2]University of Texas, Southwestern Medical Center, Dallas, Texas, USA.

133. **Slow Exchange of α-Ketoglutarate/Glutamate between Mitochondrial and Cytosolic Compartments of Perfused Mouse Liver As Detected By ^{1}H *and* ^{2}H Decoupled ^{13}C NMR Spectroscopy**
María García-Martín[1], María García-Espinosa[1], Marina Benito[1], Alejandra Sierra[1], Paloma Ballesteros[2], Sebastian Cerdán[1]
[1]CSIC/UAM, Madrid, Spain; [2]UNED, Chemistry, Madrid, Spain.

134. **Liver Flux Profiling (LFP) by NMR Analysis of Glucuronide from Urine**
Shawn C Burgess[1], Brian Weis[1], Erin Smith[1], A Dean Sherry[1], Craig R Malloy[1]
[1]University of Texas Southwestern Medical Center at Dallas, Dallas, Texas, USA.

135. ***Ex Vivo*** **HRMAS MRS Analysis of Intact Tissue at Slow Sample Spinning Rates**
Jennifer L. Taylor[1], A. Bielecki[2], C-L. Wu[1], Ramon Gilberto Gonzalez[1], L. L. Cheng[1]
[1]Massachusetts General Hospital, Charlestown, Massachusetts, USA; [2]Massachusetts Institute of Technology, Cambridge, Massachusetts, USA.

MR Angiography Techniques

136. **Assessment of Chronic Aortic Dissection: Comparison of Different ECG-gated Breath-hold MR Imaging Techniques**
Rainer Peter Kunz[1], Karl Friedrich Kreitner[1], Bettina Katharina Haag[1], Wlodzimierz Kuroczynski[1], Frank Krummenauer[1], Manfred Thelen[1]
[1]Johannes Gutenberg-Universität, Mainz, Germany.

137. Overestimation of Carotid Stenosis on Contrast-Enhanced MRA

David Saloner[1],K. Ong[1], J.H. Rapp[1] and the ACSCEPT Investigators[1]
[1]University of California, San Francisco, San Francisco, California, USA.

138. 3D Time-of-Flight MRA using Inversion Recovery TrueFISP

Jochen Leupold[1], Jürgen Hennig[1], Klaus Scheffler[1]
[1]University of Freiburg, Freiburg, Germany.

139. Contrast-Enhanced Angiography using T_1-weighted TrueFISP

Klaus Scheffler[1], Jan Thorsten Winterer[1], Matthias Langer[1], Jürgen Hennig[1]
[1]University of Freiburg, Freiburg, Germany.

140. Time-Spatial Labeling Inversion Tag (t-SLIT) using a Selective IR-Tag On/OFF Pulse in 2D and 3D half-Fourier FSE as Arterial Spin Labeling

Hitoshi Kanazawa[1], Mitsue Miyazaki[1]
[1]Toshiba Medical R&D Center, Tochigi, Japan.

141. Ellipsoidal Randomized Trajectories for Improved Undersampled Time-Resolved 3DPR (VIPR) MRA

Ethan K. Brodsky[1], Thomas M. Grist[1], Walter F. Block[1]
[1]University of Wisconsin - Madison, Madison, Wisconsin, USA.

142. Double Tracking of Bolus Arrival: Point Oversampling Strategy in k-space

Kecheng Liu[1], Wayne Dannels[1]
[1]Philips Medical Systems, Cleveland, Ohio, USA.

143. MRA of the Carotid Arteries with Three Different MRA Techniques: Comparison with Intraarterial DSA using Identical Projections

Claudia Fellner[1], Ralf Wutke[1], Rolf Janka[1], Werner Lang[1], Werner A Bautz[1], Franz A Fellner[1]
[1]University of Erlangen-Nürnberg, Erlangen, Germany.

144. CE-3D MRA of the Supraaortic Arteries at 512 and 1024 Matrix: The Use of Randomly Segmented Central k-space Ordering (CENTRA)

Winfried A. Willinek[1], Jürgen Gieseke[2], Marcus Von Falkenhausen[1], Romhild Hoogeveen[2], Jochen Textor[1], Horst Urbach[1], Hans H. Schild[1], Christiane K. Kuhl[1]
[1]University of Bonn, Bonn, Germany; [2]Philips Medical Systems, Best, The Netherlands.

145. Kinetics of Lumen Narrowing in Rat Carotid Artery after Balloon Injury - Intimal Hyperplasia Versus Remodelling Untangled by *In Vivo* High-Resolution MRA

Basil Künnecke[1], Jürgen Fingerle[1], Markus Von Kienlin[1]
[1]F. Hoffmann-La Roche Ltd, Basel, Switzerland.

Image Processing

146. Trabecular Bone Thickness from *In Vivo* MRI using Fuzzy Distance Transform

Punam Saha[1], Felix Wehrli[1], Bryon Gomberg[1], Masaya Takahashi[1]
[1]University of Pennsylvania, Philadelphia, Pennsylvania, USA.

147. 3D Statistical Shape Models for Automatic Segmentation of MR Images

Rhodri Huw Davies[1], Tim F Cootes[1], Carole J Twining[1], John Waterton[2], Christopher John Taylor[1]
[1]University of Manchester, Manchester, England, UK; [2]AstraZeneca, Cheshire, England, UK.

148. Generation of a Multi-Echo Cardiac Cine Dataset using Multi-Shot EPI Images and Phased Array Ghost Elimination (PAGE)

Daniel A. Herzka[1,2], Peter Kellman[2], Elliot R. McVeigh[2,1]
[1]Johns Hopkins University, School of Medicine, Baltimore, Maryland, USA; [2]National Institutes of Health, Bethesda, Maryland, USA.

149. Effect of Sampling Order and Interpolation Method on Fast Cardiac Acquisition Schemes

Wolfgang Gerhard Rehwald[1], Jason Polzin[1], Glenn Slavin[1], Dan Rettmann[1], Thomas Foo[1]
[1]GE Medical Systems, Baltimore, Maryland, USA.

150. Automated Identification of Registration Outliers for the Enhancement of Cardiac MR Perfusion Quantification

Thomas Netsch[1], Juergen Weese[1], Arianne Van Muiswinkel[2]
[1]Philips Research Laboratories, Hamburg, Germany; [2]Philips Medical Systems, Best, The Netherlands.

151. Importance of 3D Nonlinear Gradient Corrections for Quantitative Analysis of 3D MR Angiographic Data

Mary Draney[1], Marcus Alley[1], Bev Tung-Ling Tang[1], Nathan Wilson[1], Robert J. Herfkens[1], Charles Taylor[1]
[1]Stanford University, Stanford, California, USA.

152. The Use of a Semi-Automatic Segmentation Strategy in Computing Cartilage Volumes

Alexander Gougoutas[1], Arijitt Borthakur[1], Andrew James Wheaton[1], J. Bruce Kneeland[1], Ravinder Reddy[1]
[1]University of Pennsylvania, Philadelphia, Pennsylvania, USA.

153. Image Segmentation Based on Watershed and Evolutionary Computation

Chao Han[1], Zachary E. Miller[1], William S. Kerwin[1], Thomas S. Hatsukami[1], Jeng-Neng Hwang[1], Chun Yuan[1]
[1]University of Washington, Seattle, Washington, USA.

154. Parametric Method for Correction of Intensity Inhomogeneity in MRI Data

Alexei A. Samsonov[1], Ross T. Whitaker[1], Eugene G. Kholmovski[1], Chris R. Johnson[1]
[1]University of Utah, Salt Lake City, Utah, USA.

155. Application of a Wavelet Packet Denoising Algorithm to Diffusion Tensor Images

John William Grinstead[1], Usha Sinha[1], Shantanu Sinha[1]
[1]University of California Los Angeles, Los Angeles, California, USA.

RF Coil Design

156. Hexagonal Zero Mode TEM Coil: A Single Channel Multi-Coil Design for Small Animal Imaging

Jelena Lazovic-Stojkovic[1], Qing X Yang[1], Dragan S Stojkovic[2], Wanzhan Liu[1], J. Thomas Vaughan[3], Michael B Smith[1]
[1]Pennsylvania State University, Hershey, Pennsylvania, USA; [2]Pennsylvania State University, State College, Pennsylvania, USA; [3]University of Minnesota, Minneapolis, Minnesota, USA.

157. A Novel, Open, Triplanar RF Coil for MRI

Ben Gerard Lawrence[1], Stuart Crozier[1], Gary Cowin[1], Desmond Yau[1]
[1]Queensland University, Brisbane, Queensland, Australia.

158. RF Flux Guides for Excitation and Reception in ^{31}P Spectroscopic and Imaging Experiments at 2T

Volker Christian Behr[1], Axel Haase[1]
[1]University of Würzburg, Würzburg, Germany.

159. A 400 MHz Flexible MTL RF Coil using the 2nd Harmonic Resonance for Rat MR Imaging at 9.4T

Xiaoliang Zhang[1], Xiao-Hong Zhu[1], Hao Lei[1], Yi Zhang[1], Wei Chen[1]
[1]University of Minnesota, Medical School, Minneapolis, Minnesota, USA.

160. A Body Coil for High Field MR

J. Thomas Vaughan[1], Gregor Adriany[1], Lizann Bolinger[2], Matt Waks[3], Lance DelaBarre[1], Michael Garwood[1], Peter Andersen[1], Kamil Ugurbil[1]
[1]University of Minnesota, Minneapolis, Minnesota, USA; [2]University of Iowa, Iowa City, Iowa, USA; [3]Bioengineering, Inc. / HF Imaging LLC, Minneapolis, Minnesota, USA.

161. An Easily Removable Transmit-Only Body Coil for Vertical Gap Magnets

Charles Dumoulin[1], Kenneth Rohling[1], Ray F Lee[1], Randy Giaquinto[1], Ronald Dean Watkins[1], Charles Rossi[1], William Edelstein[1]
[1]G. E. Corporate R & D Center, Niskayuna, New York, USA.

162. Adaptive Coil Control: SNR Optimization of a TR Volume Coil for Single Voxel MRS at 3T

Frank Seifert[1], Herbert Rinneberg[1]
[1]Physikalisch-Technische Bundesanstalt, Berlin, Germany.

163. Transmit/Receive Neck Coil for 3T

Ravi Srinivasan[1], Chen Lin[2], Matt Bernstein[2]
[1]Advance Imaging Research, Cleveland, Ohio, USA; [2]Mayo Clinic, Rochester, Minnesota, USA.

164. RF Eigenmodes: Circulant Theory and Matrix Applications

T. Eagan[1], Y.-C. Cheng[1], T. Kidane[1], Sh. Shvartsman[2], R. Brown[1]
[1]Case Western Reserve University, Cleveland, Ohio, USA; [2]Philips Medical Systems (Cleveland), Highland Heights, Ohio, USA.

165. Isolation of Birdcage Coils using Mutual Capacitors on a Common End-Ring

Uli Gotshal[1], Stephan Hohmuth[1], Randy Duensing[1], Alan Holland[1]
[1]MRI Devices Corporation, Gainesville, Florida, USA.

Musculoskeletal MR Spectroscopy and Functional Muscle

166. Phosphorylated Guanidinoacetate is Present and Metabolically Active in Muscle of Guanidinoacetate Methyltransferase Deficient Mice

Klaasjan Renema[1], Andreas Schmidt[2], Jack Van Asten[1], Claudia Soede[1], Dirk Isbrandt[2], Karl Ulrich[2], Be Wieringa[1], Arend Heerschap[1]
[1]University Medical Center Nijmegen, Nijmegen, Netherlands; [2]University of Hamburg, Hamburg, Germany.

167. Evaluation of Gender Differences in the Consumption of Intramyocellular Lipids (IMCL) and Glycogen during Endurance Exercise, Measured by ^{1}H- and ^{13}C-MRS

Monica Zehnder[1], Michael Ith[2], Bruno Jung[2], Roland Kreis[2], Wim Saris[3], Urs Boutellier[1], Chris Boesch[2]
[1]ETH & University, Zurich, Switzerland; [2]University Bern, Bern, Switzerland; [3]University Maastricht, Maastricht, The Netherlands.

168. A Two Weeks Training Program Increases Intramyocellular Lipid (IMCL) Content in Sedentary Subjects

Vera Bettina Hinderling[1,2], Patrick Schrauwen[2], Matthijs Hesselink[2], Jos Van Engelshoven[1], Klaas Nicolay[3], Fons Kessels[1], Marianne Eline Kooi[1]
[1]University Hospital Maastricht, Maastricht, Netherlands; [2]Maastricht University, NUTRIM, Maastricht, Netherlands; [3]Eindhoven University of Technology, Eindhoven, Netherlands.

169. Effects of Short-Duration Skeletal Muscle Exercise and Ischemia on Glycogen Synthesis during Hyperinsulinemia. A Study using ^{13}C-Magnetic Resonance Spectroscopy

Jacco Hadriaan de Haan[1], Adrianus Van Den Bergh[2], Paul Smits[1], Cees J.J. Tack[1], Arend Heerschap[1]
[1]University Hospital Nijmegen, Nijmegen, The Netherlands; [2]Siemens Medical Solutions, The Hague, Netherlands.

170. Multinuclear ^{1}H, ^{13}C and ^{31}P NMRS Study on Mechanism of Amino Acid-Induced Skeletal Muscle Insulin Resistance in Humans

Martin Krssak[1], Michael Krebs[1], Elisabeth Bernroider[1], Christian Anderwald[1], Attila Brehm[1], Martin Meyerspeer[1], Peter Nowotny[1], Erich Roth[1], Werner Waldhäusl[1], Michael Roden[1]
[1]University of Vienna, Wien, Austria.

171. Simultaneous Quantitative Assessment of Intrahepatic Triglycerides [IHTG] and Intramyocellular Lipids [IMCL] using ^{1}H MRS in Non-Diabetic Subjects: Relationship to Insulin Sensitivity

Jong-Hee Hwang[1], Dan T Stein[1], B Balent[1], L Barillas[1], J Tonelli[1], M Rosenbaum[2], M Hawkins[1]
[1]Yeshiva University, Albert Einstein College of Medicine, Bronx, New York, USA; [2]Columbia University, New York, New York, USA.

172. Functional Compartmentation of ATP Production in Skeletal Muscle

Alexander Hsu[1], M. Joan Dawson[1]
[1]University of Illinois at Urbana-Champaign, Urbana, Illinois, USA.

173. Comparison of Fiber Orientation in Human Muscle by Short TE MRSI and Diffusion Weighted Imaging

Peter Vermathen[1], Chris Boesch[1], Stephan Maier[2], Roland Kreis[1]
[1]University Bern, Bern, Switzerland; [2]Harvard University, Brigham and Women's Hospital, Boston, Massachusetts, USA.

174. Normalization of Skeletal Muscle Glycogen Synthesis and Glycolysis in Rosiglitazone-Treated Zucker Fatty Rats

Béat M. Jucker[1], Thomas R. Schaeffer[1], Robin E. Haimbach[1], Thomas S McIntosh[1], Daniel Chun[1], Matthew Mayer[1], Derek H Ohlstein[1], Hugh M Davis[1], Stephen A Smith[1], Alexander R Cobitz[1], Susanta K Sarkar[1]
[1]GlaxoSmithKline, King of Prussia, Pennsylvania, USA.

175. The Effect of Diabetes on Skeletal Muscles in Patients with Renal Failure

Giorgos K Sakkas[1], Jane Kent-Braun[2], Julie Doyle[3], Tiffany Shubert[3], Thomas Schleich[4], Kirsten L Johansen[1,3]
[1]University of California San Francisco, San Francisco, California, USA; [2]University of Massachusetts, Amherst, Massachusetts, USA; [3]San Francisco VA Medical Center, San Francisco, California, USA; [4]University of California Santa Cruz, Santa Cruz, California, USA.

Multiple Sclerosis: MR Imaging and Magnetization Transfer Contrast

176. Short-Term Correlations between Clinical and MRI Findings in Relapsing-Remitting Multiple Sclerosis

Marco Rovaris[1], Giancarlo Comi[1], David Ladkani[2], Jerry S Wolinsky[3], Massimo Filippi[1]
[1]Scientific Institute H. San Raffaele, Milan, Italy; [2]TEVA Pharmaceutical Industries, Petah Tiqva, Israel; [3]The University of Texas - Houston, Houston, Texas, USA.

177. Long-Term Predictive Value of Enhancing Lesions for Destructive Pathology in Multiple Sclerosis

Elizabeth Fisher[1], Nancy D. Richert[2], Lael A. Stone[1], Gary Cutter[3], Roger Stone[2], Jennifer McCartin[2], Joan Ohayon[2], Henry F. McFarland[2], Joseph A. Frank[2]
[1]Cleveland Clinic Foundation, Cleveland, Ohio, USA; [2]National Institutes of Health, Bethesda, Maryland, USA; [3]AMC Cancer Center, Denver, Colorado, USA.

178. Reduced and Decreasing MTR up to 6 Months before Lesion Appearance in MS

Hugo Vrenken[1], Antoine Meijerman[1], Giorgos B Karas[1], Ronald A Van Schijndel[1], Chris H Polman[1], Frederik Barkhof[1]
[1]VU University Medical Centre, Amsterdam, Netherlands.

179. Magnetisation Transfer Histograms in Primary Progressive Multiple Sclerosis: Grey Matter Changes Relate to Disability and Principal Components Analysis Shows This Most Sensitively

Jamshid Dehmeshki[1], Declan Chard[1], Siobhan Leary[1], Alan Thompson[1], David Miller[1], Paul Tofts[1]
[1]Institute of Neurology, London, England, UK.

180. Development of Active Multiple Sclerosis Lesions: A Quantitative MT Study

Stefan Ropele[1], Siegrid Strasser-Fuchs[1], Thomas Seifert[1], Christian Enzinger[1], Franz Fazekas[1]
[1]Karl-Franzens University of Graz, Graz, Austria.

181. The Role of Edema and Demyelination in T_1 Black Holes: A Quantitative Magnetization Transfer Study

John G Sled[1], Ives Levesque[1], Sridar Narayanan[1], Carlos Santos[1], Steven D Brass[1], Simon J Francis[1], Douglas L Arnold[1], Bruce Pike[1]
[1]McGill University, Montreal Neurological Institute, Montreal, Quebec, Canada.

182. Correlation between Magnetization Transfer Ratio and Myelin Water Content in Normal White Matter and MS Lesions

Cornelia Laule[1], Irene M Vavasour[1], Donald W Paty[1], David KB Li[1], Douglas L Arnold[2], Alexander L MacKay[1]
[1]University of British Columbia, Medicine, Vancouver, British Columbia, Canada; [2]McGill University, Montreal, Quebec, Canada.

183. Understanding the MT,T_1 and T_2 Changes during Demyelination and Inflammation

Greg J. Stanisz[1], Stephanie Webb[1]
[1]University of Toronto, Sunnybrook & Women's College Health Sciences Centre, Toronto, Ontario, Canada.

184. Is Quantitative T_2 a Good Measure of Myelin Content in White Matter Pathologies?

Stephanie Webb[1], Catherine A Munro[1], Rajiv Midha[1], Greg J. Stanisz[1]
[1]University of Toronto, Sunnybrook & Women's College Health Sciences Centre, Toronto, Ontario, Canada.

185. T_2 Relaxation Measurements of *In-Vivo* Water Content and Myelin Water Content in Normal Appearing White Matter and Lesions in Multiple Sclerosis

Cornelia Laule[1], Irene M Vavasour[1], Joel J Oger[1], Donald W Paty[1], David KB Li[1], Alexander L MacKay[1]
[1]University of British Columbia, Vancouver, British Columbia, Canada.

TUESDAY

PLENARY LECTURE
Microcirculation and Atherosclerosis

186. **Embolization in Atherosclerotic Vascular Disease**
Christopher Bajzer[1]
[1]Cleveland Clinic Foundation, Cleveland, Ohio, USA.

187. **MR Myocardial Perfusion in Atherosclerotic Coronary Artery Disease**
Norbert Wilke[1]
[1]University of Minnesota, Medical School-Minneapolis/St. Paul, Minneapolis, Minnesota, USA.

188. **Neuroimaging of Stroke Atherosclerosis**
Michael Hennerici[1]
[1]University of Heidelberg, Mannheim, Germany.

Parallel Imaging

189. **Theory and Experimental Verification of Transmit SENSE**
Ulrich Katscher[1], *Peter Boernert*[1], *Christoph Leussler*[1], *Johan Van Den Brink*[2]
[1]Philips Research Laboratories, Hamburg, Germany; [2]Philips Medical Systems, Eindhoven, Netherlands.

190. **Acceleration of Focused Excitation with a Transmit Coil Array**
Yudong Zhu[1]
[1]G. E. Corporate R & D, Niskayuna, New York, USA.

191. **Inherent Limitation of the Reduction Factor in Parallel Imaging as a Function of Field Strength**
Florian Wiesinger[1], *Klaas P Pruessmann*[1], *Peter Boesiger*[1]
[1]University and ETH Zurich, Zurich, Switzerland.

192. **SENSE Performance in Human Brain at 1.5 and 3.0 Tesla**
Jeff H. Duyn[1], *Jacco A. De Zwart*[1], *Peter Van Gelderen*[2], *Patrick Ledden*[2]
[1]National Institutes of Health, Bethesda, Maryland, USA; [2]Nova Medical, Inc., Wakefield, Massachusetts, USA.

193. **Parallel Imaging with Shielded Radiofrequency Coils**
Nicholas Adam Bock[1], *Norman Konyer*[1], *R. Mark Henkelman*[1]
[1]University of Toronto, Sunnybrook & Women's College Health Sciences Centre, Toronto, Ontario, Canada.

194. **POCSENSE: POCS-based Reconstruction Method for Sensitivity Encoded Data**
Eugene G. Kholmovski[1], *Alexei A. Samsonov*[1], *Dennis Lee Parker*[1]
[1]University of Utah, Salt Lake City, Utah, USA.

195. **Real-time Interactive Accelerated Imaging with On-line Adaptive TSENSE**
Michael A. Guttman[1], *Peter Kellman*[1], *Elliot R. McVeigh*[1]
[1]National Institutes of Health, Bethesda, Maryland, USA.

196. **An Investigation into the Role of Coil Coupling in Parallel Imaging**
Klaas P Pruessmann[1], *Markus Weiger*[2], *Florian Wiesinger*[1], *Peter Boesiger*[1]
[1]ETH and University Zürich, Zürich, Switzerland; [2]University of Oxford, Oxford, England, UK.

197. **The Effect of Inductive Coupling on Parallel Image Reconstructions**
Michael Ohliger[1], *Patrick Ledden*[2], *Ernest Yeh*[1], *Charles McKenzie*[3], *Daniel Sodickson*[1,3]
[1]Massachusets Institute of Technology, Boston, Massachusetts, USA; [2]Nova Medical, Inc., Wakefield, Massachusetts, USA; [3]Beth Israel Deaconess Medical Center, Boston, Massachusetts, USA.

198. UNFOLD-SENSE: A Self-Calibrated Parallel-Imaging Method with Artifact Suppression

Bruno Madore[1]
[1]Brigham and Women's Hospital, Harvard Medical School, Boston, Massachusetts, USA.

fMRI Susceptibility Artifact Reduction and Sensitivity Enhancement

199. *Young Investigator Awards Finalist:* Real-Time Autoshimming for Echo Planar Timecourse Imaging

Heidi A. Ward[1], *Stephen J. Riederer*[1], *Clifford R. Jack*[1]
[1]Mayo Clinic, Rochester, Minnesota, USA.

200. Simultaneous Perfusion and BOLD Imaging using Reversed Spiral Scanning at 3T: Optimal Functional Contrasts and Reduced Susceptibility Artifacts

Yihong Yang[1], *Hong Gu*[1], *Wang Zhan*[1], *Hanhua Feng*[1], *Su Xu*[2], *David A. Silbersweig*[1], *Emily Stern*[1]
[1]Cornell University, New York, New York, USA; [2]Memorial Sloan-Kettering Cancer Center, New York, New York, USA.

201. Recovery of Susceptibility Signal Loss in Brain using a Novel Single-Shot SIR EPI Pulse Sequence

Koichi Oshio[1], *Matthias Guenther*[1], *David A Feinberg*[1]
[1]Advanced MRI Technologies, Sebastopol, California, USA.

202. Compensation of Susceptibility Induced Losses in BOLD Sensitivity in Multiple Regions using Single-Shot Quantitative T_2* Mapping

Stefan Posse[1], *Zhou Shen*[1], *Lars Kemna*[2]
[1]Wayne State University, Detroit, Michigan, USA; [2]Research Center Juelich GmbH, Juelich, Germany.

203. Sensitivity Encoded Single-Shot Spiral Imaging for Reduced Susceptibility Artifacts in BOLD fMRI

Markus Weiger[1], *Klaas P Pruessmann*[2], *Robert Osterbauer*[1], *Peter Börnert*[3], *Peter Boesiger*[2], *Peter Jezzard*[1]
[1]University of Oxford, Oxford, England, UK; [2]University and ETH Zurich, Zürich, Switzerland; [3]Philips Research Laboratories, Hamburg, Germany.

204. Variable Density Spiral 3D Tailored RF Pulses

V. Andrew Stenger[1], *Fernando E. Boada*[1], *Douglas C. Noll*[2]
[1]University of Pittsburgh, Pittsburgh, Pennsylvania, USA; [2]University of Michigan, Ann Arbor, Michigan, USA.

205. A Bit of a Mouth Full: Susceptibility Artifact Reduction using Diamagnetic Passive Shims

James Lawrence Wilson[1], *Mark Jenkinson*[1], *Peter Jezzard*[1]
[1]University of Oxford, Oxford, England, UK.

206. A 3D Tailored RF Pulse Asymmetric Spin-Echo Pulse Sequence for Susceptibility Correction in Functional MRI

Douglas C. Noll[1], *V. Andrew Stenger*[2]
[1]University of Michigan, Ann Arbor, Michigan, USA; [2]University of Pittsburgh, Pittsburgh, Pennsylvania, USA.

207. Single-Shot Interleaved Z-Shimming EPI with Optimized Compensation for Signal Losses Due to Susceptibility-Induced Field Inhomogeneity at 3T

Hong Gu[1], *Hanhua Feng*[1], *Wang Zhan*[1], *Su Xu*[2], *David A. Silbersweig*[1], *Emily Stern*[1], *Yihong Yang*[1]
[1]Cornell University, New York, New York, USA; [2]Memorial Sloan-Kettering Cancer Center, New York, New York, USA.

Peripheral MR Angiography

208. "Shoot and Scoot": A Segmented Volume Acquisition Method for High-Resolution Multi-station Imaging of Peripheral Vasculature

Pelin Aksit[1], Frederick J Frigo[2], Jason Polzin[1], Peter Choyke[3], Vincent B. Ho[4], Maureen N. Hood[4], Sandy Hess[3], Marcela Montequin[1], Thomas Foo[1]
[1]GE Medical Systems, Baltimore, Maryland, USA; [2]GE Medical Systems, Waukesha, Wisconsin, USA; [3]National Institutes of Health, Bethesda, Maryland, USA; [4]Uniformed Services University of the Health Sciences, Bethesda, Maryland, USA.

209. Stepping-Table Lower Extremity MR Angiography with Separate Calf Acquisition and Dual-Level Bolus Timing

James Carr[1], F. Scott Pereles[1], Jeremy Collins[1], Mark Morasch[1], Richard Martin Mccarthy[1], Richard Niemczura[1], J. Paul Finn[1]
[1]Northwestern University Medical School, Chicago, Illinois, USA.

210. Total Runoff Peripheral MRA in Patients with Critical Ischemia and Tissue Loss Can Detect More Patent Arteries than IA-DSA

Tim Leiner[1], Alphons G.H. Kessels[1], Jos M.A. Van Engelshoven[1]
[1]Maastricht University Hospital, Maastricht, Netherlands.

211. Manifestation of Atherosclerosis: Systemic Imaging For a Systemic Disease using Whole Body 3D MR Angiography

Mathias Goyen[1], Christoph U Herborn[1], Thomas C Lauenstein[1], Knut Kröger[1], Jörg Barkhausen[1], Jörg F Debatin[1], Stefan G Ruehm[1]
[1]University Hospital Essen, Essen, Germany.

212. Floating Table Isotropic Projection Imaging (FLIPR): A Technique for Fast, Extended FOV, Contrast-Enhanced MRA

Sean Fain[1], Jiang Du[1], Fred J Browning[1], Jason Polzin[2], Walter Block[1], Charles A. Mistretta[1]
[1]University of Wisconsin-Madison, Madison, Wisconsin, USA; [2]GE Medical Systems, Milwaukee, Wisconsin, USA.

213. Interactive Large Field-of-View Peripheral MRA

Mohammad Sabati[1], M Louis Lauzon[1], Richard Frayne[1]
[1]The University of Calgary, Calgary, Alberta, Canada.

214. Continuously Moving Table Contrast-Enhanced 3D Magnetic Resonance Angiography: Initial Clinical Results

James F Glockner[1], David Kruger[1], Jerome F Breen[1], Stephen Riederer[1], Jason Polzin[2], Phillip J. Rossman[1]
[1]Mayo Clinic, Rochester, Minnesota, USA; [2]GE Medical Systems, Milwaukee, Wisconsin, USA.

215. Automatic Mask and Arterial Image Selection for Time Resolved MRA

Junhwan Kim[1], Martin R. Prince[1], Ramin Zabih[1], Jeffrey Bezanson[1], Richard Watts[1], Hale Erel[1], Yi Wang[1]
[1]Cornell University, Weill Medical College, New York, New York, USA.

216. Peripheral Angiography with a Time-Resolved VIPR Sequence

Jiang Du[1], Walter F. Block[1], Timothy J. Carroll[1], Aiming Lu[1], Thomas M. Grist[1], Charles A. Mistretta[1]
[1]University of Wisconsin-Madison, Madison, Wisconsin, USA.

217. Contrast-Enhanced Peripheral MRA at 3.0T: Initial Results

Tim Leiner[1], Boudewijn Vasbinder[1], Marianne De Vries[1], Romhild Hoogeveen[2], Etienne Lemaire[1], Jos M.A. Van Engelshoven[1]
[1]Maastricht University Hospital, Maastricht, Netherlands; [2]Philips Medical Systems, Best, Netherlands.

Contrast-Enhanced Myocardial Perfusion and Viability

218. Dynamic Contrast-Enhanced Myocardial Perfusion Imaging using Saturation-Prepared TrueFISP

Wolfgang G. Schreiber[1], Melanie Schmitt[1], Peter Kalden[1], Oliver K. Mohrs[1], Karl-Friedrich Kreitner[1], Manfred Thelen[1]
[1]Johannes Gutenberg-University, Mainz, Germany.

219. Inversion Recovery Cine TrueFISP for Optimising T_1 in Myocardial Infarct Imaging

Yiu-Cho Chung[1], Vivian S. Lee[2], Gerhard Laub[1], Orlando P. Simonetti[1]
[1]Siemens Medical Solutions, Chicago, Illinois, USA; [2]New York University Medical Center, New York, New York, USA.

220. Validation of Myocardial Blood Flow Quantification with First-Pass MRI in a Pig Model of Acute Ischemia

Melanie Schmitt[1], Georg Horstick[1], Thorsten Gumbrich[1], Steffen E. Petersen[1], Thomas Voigtländer[1], Karl-Friedrich Kreitner[1], Manfred Thelen[1], Wolfgang G. Schreiber[1]
[1]Johannes Gutenberg-Universitat Mainz, Mainz, Germany.

221. Determination of Regional Blood Volume and Intra-Extracapillary Water Exchange in Human Myocardium using Feruglose

Christian Michael Wacker[1], Frank Wiesmann[1], Michael Bock[2], Peter Michael Jakob[1], Joern Sandstede[1], Dorothea Von Bredow[3], Georg Ertl[1], Lothar Schad[2], Axel Haase[1], Wolfgang R Bauer[1]
[1]University of Wuerzburg, Wuerzburg, Germany; [2]German Cancer Research Center (DKFZ), Heidelberg, Germany; [3]Amersham Health, Ismaning, Germany.

222. On the Feasibility of Tissue Perfusion Quantification using Hyperpolarized Encapsulated Helium3

Virginie Callot[1], Emmanuelle Canet[2], Jean Brochot[3], David Dupuich[1], Hubert Humblot[4], Andre Briguet[1], Herve Tournier[3], Yannick Crémillieux[1]
[1]University of Lyon, Villeurbanne, France; [2]Creatis, Lyon, France; [3]Bracco-Research, Geneva, Switzerland; [4]Institut Laue-Langevin, Grenoble, France.

223. Blood Pool MR Contrast Media for Discriminating Transmural from Non-Transmural Microvascular Injury

Gabriele Anja Krombach[1], Michael F. Wendland[1], Charles B. Higgins[1], Maythem Saeed[1]
[1]University of California San Francisco, San Francisco, California, USA.

224. Does Binding of Gd-DTPA to Myocardial Tissue Contribute to Late Enhancement after Myocardial Infarction?

Ulrich K.M. Decking[1], Vinay Manjunath Pai[1], Han Wen[1], Robert S. Balaban[1]
[1]National Institutes of Health, Bethesda, Maryland, USA.

225. Assessment of the Partition Coefficient of Gd-DTPA in a Canine Model of Critical Coronary Stenosis

Katie S. Lekx[1], Jane Sykes[1], Gerald Wisenberg[1], Frank Saverio Prato[1]
[1]University of Western Ontario, London, Ontario, Canada.

226. Concordance between 'Delayed Enhancement' and 'Constant Infusion' Approaches for the Evaluation of Myocardial Viability

Rebecca Thornhill[1], Frank Saverio Prato[1], Gerald Moran[2], Gerald Wisenberg[1], Jane Sykes[1], Jenny Gibbons[1]
[1]University of Western Ontario, London, Ontario, Canada; [2]McMaster University, Hamilton, Ontario, Canada.

227. Assessment of Myocardial Viability – Comparison of the "Late Enhancement"-Concept with ^{18}[F]-FDG-PET

Peter Hunold[1], Katja Brandt-Mainz[1], Lutz Freudenberg[1], Florian Mathias Vogt[1], Jörg Debatin[1], Jörg Barkhausen[1]
[1]University Hospital Essen, Essen, Germany.

Brain MR Spectroscopy: ^{1}H and Heteronuclear

228. **Estimation of the Post-Mortem Interval by Means of ^{1}H-MR Spectroscopy**
Michael Ith[1], Eva Scheurer[1], Roland Kreis[1], Peter Bigler[1], Richard Dirnhofer[1], Chris Boesch[1]
[1]University Bern, Bern, Switzerland.

229. **Gender Effects on NAA in Brain Gray and White Matter Revealed by Mixed Effects Statistical Analysis**
Linda Rogers[1], Norbert Schuff[1], Michael Weiner[1]
[1]University of California San Francisco, V.A. Medical Center, San Francisco, California, USA.

230. **Frontal Lobe Neurochemistry and Cognitive Ability: A ^{1}H-MRS Study of Normal Human Brain**
Rex Eugene Jung[1], Ronald A. Yeo[1], Laura M. Rowland[1], Wilmer L. Sibbitt[1], Juan Bustillo[1], William Brooks[1]
[1]University of New Mexico, Albuquerque, New Mexico, USA.

231. **Improved SNR of Proton MRSI using a Deformation Shape-Intensity Model**
Xiaoping Zhu[1], Antao Du[1], Geon-Ho Jahng[1], Andrew A. Maudsley[1], Michael Weiner[1], Norbert Schuff[1]
[1]University of California San Francisco, VA Medical Center, San Francisco, California, USA.

232. ***In Vivo* ^{13}C Spectroscopic Measurements of Human Cerebral Metabolic Rates under Control and Visually Activated Conditions**
Jane Halliday[1], Navjeet Chhina[1], Ekkehard Kuestermann[2], Herman Bachelard[1], Peter Morris[1]
[1]University of Nottingham, Nottingham, England, UK; [2]Max-Planck-Institut for Neurological Research, Koeln, Germany.

233. **[2,4-$^{13}C_2$]-β-hydroxybutyrate Metabolism in Human Brain**
Jullie W. Pan[1], Robin A De Graaf[2], Kitt Petersen[2], Gerald Shulman[2], Hoby Hetherington[1], Douglas L. Rothman[2]
[1]Albert Einstein College of Medicine, Bronx, New York, USA; [2]Yale University, School of Medicine, New Haven, Connecticut, USA.

234. **A Protocol for the Syncrhonous Assay of *In Vivo* Glial and Neuronal Metabolic Rates in Man**
Frederick Shic[1], Brian Ross[2], Kareem Yahya[2], Lawrence Polung Lai[3], Alexander Peter Lin[3], Stefan Bluml[1]
[1]Rudi Schulte Research Institutes, Santa Barbara, California, USA; [2]Huntington Medical Research Institutes, Pasadena, California, USA.

235. ***In Vivo* ^{31}P Magnetic Resonance Spectroscopy of Human Brain at 7 T: An Initial Experience**
Hao Lei[1], Xiao-Hong Zhu[1], Xiaoliang Zhang[1], Kamil Ugurbil[1], Wei Chen[1]
[1]University of Minnesota, Minneapolis, Minnesota, USA.

236. **Measurements of Kinetics of Creatine Kinase Reaction and Observation of ATP Synthesis in Human Visual Cortex with ^{31}P Magnetic Resonance Spectroscopy at 7 T**
Hao Lei[1], Xiao-Hong Zhu[1], Kamil Ugurbil[1], Wei Chen[1]
[1]University of Minnesota, Minneapolis, Minnesota, USA.

237. **Localized Alterations in Brain Phospholipid Metabolism in First-Episode Schizophrenic Patients: A ^{31}P-MRS Chemical-Shift Imaging Study at 4 Tesla**
Eric J. Jensen[1,3], Peter Charles Williamson[3], R.W.J. Neufeld[3], Ravi Menon[2,3], Ashok Kumar Malla[3], Dick J. Drost[1,3]
[1]Lawson Health Research Institute, London, Ontario, Canada; [2]The John P. Robarts Research Institute, London, Ontario, Canada; [3]University of Western Ontario, London, Ontario, Canada.

Thermotherapy

238. **Follow Up Findings of a Phase II Clinical Trial of Interactive MR-Guided Interstitial Radiofrequency Thermal Ablation of Primary Kidney Tumors**
Jonathan S. Lewin[1], Sherif Gamal Nour[1], Cindy F. Connell[1], Aaron Sulman[1], Jeffrey L. Duerk[1], Martin I. Resnick[1]
[1]University Hospitals and Case Western Reserve University, Cleveland, Ohio, USA.

239. Thermal Monitoring of Clinical Focused Ultrasound Treatments of Uterine Fibroids

Kullervo Hynynen[1], Claire McTempany[1], Elizabeth A Stewart[1], Nathan McDannold[1], Bradley J Quade[1], Elena Yanaushpolsky[1], Ferenc A Jolesz[1]
[1]Brigham and Women's Hospital, Harvard Medical School, Boston, Massachusetts, USA.

240. MR-Guided LITT as an Alternative to Surgery in Colorectal Liver Metastases

Martin G. Mack[1], Ralf Straub[1], Katrin Eichler[1], Thomas J Vogl[1]
[1]University of Frankfurt, Frankfurt, Germany.

241. Initial Treatment Protocol Utilizing MR-Guided Focused Ultrasound (MR-FUS) Thermoablation of Primary Breast Neoplasms

David Gianfelice[1], Hail Mallouche[1], A. Belblidia[1], Yvon Boulanger[1]
[1]University of Montreal, Montreal, Quebec, Canada.

242. MR Imaging-guided Focused Ultrasound Surgery of Breast Cancer: Histopathologic Assessment of Efficacy

Abdesslem Khiat[1], Mourad Amara[1], David Gianfelice[1], Assia Belblidia[1], Yvan Boulanger[1]
[1]CHUM, Montréal, Québec, Canada.

243. MRI-Guided Focused Ultrasound Therapy of Breast Cancer

Peter Ernst Huber[1], Jürgen Jenne[1], Ralf Rastert[1], Jürgen Debus[1]
[1]German Cancer Research Center and University of Heidelberg, Heidelberg, Germany.

244. MR Temperature Monitoring of Deep-Body Hyperthermia in a Clinical Hyperthermia/MR System

Waldemar Wlodarczyk[1], Johanna Gellermann[1], Thomas Lange[1], Martin Seebass[1], Jacek Nadobny[1], Peter Wust[1], Roland Felix[1]
[1]Humboldt University Berlin, Charité Medical School, Berlin, Germany.

245. A Novel Percutaneous MR-Guided Technique for Radiofrequency Thermal Ablation (RFA) of the Tongue Base: Implication for Minimally Invasive Treatment of Obstructive Sleep Apnea (OSA) Syndrome

Sherif Gamal Nour[1], Jonathan S. Lewin[1], Michael Gutman[1], Claudia M Hillenbrand[1], Frank K Wacker[1], Ian C Mitchell[1], Charles B Armstrong[1], Mufaddal M Hashim[1], Jeffrey L. Duerk[1], Melvin Strauss[1]
[1]University Hospitals of Cleveland, Case Western Reserve University, Cleveland, Ohio, USA.

246. Thermal Ablation of Canine Cerebral Tumors using 980-nm Diode Laser with MRTI-based Power Control Software

Marko Kangasniemi[1], Roger J. McNichols[2], James Andrew Bankson[1], Ashok Gowda[2], Roger Price[1], John Hazle[1]
[1]University of Texas M.D. Anderson Cancer Center, Houston, Texas, USA; [2]BioTex, Inc., Houston, Texas, USA.

247. Long-term Survival after Focused Ultrasound Surgery in Tumors Guided by MRI: Preliminary Results

Nathan McDannold[1], Heather Martin[1], Ferenc A. Jolesz[1], Kullervo Hynynen[1]
[1]Brigham and Women's Hospital, Harvard Medical School, Boston, Massachusetts, USA.

Spine and Musculoskeletal MR Imaging

248. *In Vivo* Diffusion Tensor Imaging of Rat Spinal Cord at 7T

Ibrahim Elshafiey[1], Ponnada Aswadha Narayana[1]
[1]University of Texas Health Science Center at Houston, Medical School, Houston, Texas, USA.

249. USPIO Contrast Enhanced MRI of Irradiated Rat Spinal Cord, Monitoring Macrophages and Blood Volume Changes

Mariëlle Philippens[1], Jeroen Pikkemaat[1], Suzanne Schellekens[1], Lucas Pop[1], Albert Van Der Kogel[1], Arend Heerschap[1]
[1]University Medical Center Nijmegen, Nijmegen, Netherlands.

250. High *b*-Value q-Space Diffusion-Weighted MRI of Spinal Cord Trauma: Spontaneous Recovery and Correlation with Myelin Staining

Revital Nossin Manor[1], Revital Duvdevani[2], Yoram Cohen[1]
[1]Tel Aviv University, Tel-Aviv, Israel; [2]DPharm, Rehovot, Israel.

251. Parametric T_2 Mapping of Muscular Atrophy of the Foot Associated with Diabetic Neuropathy

Qing Yang[1], Sicco A Bus[2], Jinghua Wang[1], Michael B Smith[1], Roshna Wunderlich[2], Peter R Cavanagh[2]
[1]Pennsylvania State University, Hershey, Pennsylvania, USA; [2]Pennsylvania State University, University Park, Pennsylvania, USA.

252. Quantification of Strain Distribution and Volume Changes in Muscle as a Result of Atrophy Induced by Unilateral Limb Suspension -- a Phase Contrast MR Study

Shantanu Sinha[1], Alexander Lai[1], John A Hodgson[1], John Grinstead[1], Reginald V Edgerton[1]
[1]University of California at Los Angeles, Los Angeles, California, USA.

253. *In Vivo* Assessment of Absolute Perfusion in the Murine Skeletal Muscle with Spin Labeling MRI under Basal and Vasodilatoric Conditions

Jörg U.G. Streif[1], Karl-Heinz Hiller[1], Christiane Waller[1], Matthias Nahrendorf[1], Sabine Voll[1], Frank Wiesmann[2], Wolfgang R. Bauer[2], Eberhard Rommel[1], Axel Haase[1]
[1]Universität Würzburg, Würzburg, Germany; [2]Medizinishce Universitätsklinik, Würzburg, Germany.

254. Noninvasive Monitoring of Myoblast Transfer

Glenn Walter[1], Dorothy Bloy[2], Carl Morris[2], Husheng Feng[2], Johnny Huard[3], Joesph Frank[4], Lee Sweeney[2], Jeff Wm Bulte[5]
[1]University of Florida, Gainesville, Florida, USA; [2]University of Pennsylvania, Philadelphia, Pennsylvania, USA; [3]University Pittsburgh, Pittsburgh, Pennsylvania, USA; [4]Temple University, Philadelphia, Pennsylvania, USA; [5]Johns Hopkins University, Baltimore, Maryland, USA.

255. Bone Matrix Density Measured by Water and Fat Suppressed Solid State Proton MRI

Yaotang Wu[1], Jerome L Ackerman[1,2], David A Chesler[2], Lila Graham[1], Melvin J Glimcher[1]
[1]Children's Hospital of Boston, Harvard Medical School, Boston, Massachusetts, USA; [2]Massachusetts General Hospital, Harvard Medical School, Charlestown, Massachusetts, USA.

256. Spatially Resolved Water Diffusion in Cortical Bone

Maria Fernández-Seara[1], S L Wehrli[2], Felix Wehrli[1]
[1]University of Pennsylvania, Philadelphia, Pennsylvania, USA; [2]Children Hospital, Philadelphia, Pennsylvania, USA.

257. MR Quantitation of Distal Radius Cortex Geometry and Muscle Predicts Fracture Load

Jenny J Zhao[1], Yebin Jiang[1], Peter Augat[1], David L White[1], Harry K Genant[1]
[1]University of California San Francisco, San Francisco, California, USA.

Human Brain MR Imaging: Stroke and Vascular

258. Effect of Intravenous Thrombolysis on MRI Parameters and Functional Outcome in Acute Stroke ≤ 6 Hours

Joachim Röther[1], Peter Schellinger[2], Achim Gass[3], Mario Siebler[4], Arno Villringer[5], Jochen Fiebach[2], Jens Fiehler[1], Olaf Jansen[6], Thomas Kucinski[1], Volker Schoder[7], Kristina Szabo[3], Gerhard Junge-Hülsing[5], Michael Hennerici[3], Hermann Zeumer[1], Klaus Sartor[2], Cornelius Weiller[1], Werner Hacke[2]
[1]University Hospital Eppendorf, Hamburg Medical School, Hamburg, Germany; [2]University Hospital, Heidelberg Medical School, Heidelberg, Germany; [3]Neurologische Universitätsklinik, Mannheim, Germany; [4]University Hospital Düsseldorf, Düsseldorf, Germany; [5]University Hospital Berlin, Berlin, Germany; [6]University Hospital Kiel, Kiel, Germany; [7]Institute for Mathematics and Data Science in Medicine, University of Hamburg, Hamburg, Germany.

259. Cerebral Blood Flow Predicts Infarct Growth after Thrombolytic Therapy in Acute Stroke Patients

Jens Fiehler[1], Michael Von Bezold[1], Thomas Kucinski[1], Bernd Eckert[1], Oliver Wittkugel[1], Cornelius Weiller[1], Hermann Zeumer[1], Joachim Roether[1]
[1]University of Hamburg, Hamburg, Germany.

260. Reperfusion Injury following Acute Stroke in Humans: A Potential Imaging Marker of Abrupt Blood-Brain Barrier Disruption

Lawrence L Latour[1], Mustapha A Ezzeddine[1], Julio A Chalela[1], Paul A Nyquist[1], Steven Warach[1]
[1]National Institutes of Health, Bethesda, Maryland, USA.

261. MRI Perfusion and Diffusion Abnormalities with Symptomatic Cerebral Vasospasm after Aneurysmal Subarachnoid Hemorrhage

Robert DeLaPaz[1], Dileep Yavagal[1], Gerard Perera[1], Angela Lignelli[1], Brian-Fred Fitzsimmons[1], Stephan Mayer[1]
[1]Columbia University, New York, New York, USA.

262. Improving Detection of Ischemic Penumbra by Quantitative BOLD Imaging

Song Lai[1], Randall Benson[1], Jiongjiong Wang[1], Geon-Ho Jahng[1], Robert Duckrow[1], Leslie Wolfson[1]
[1]University of Connecticut Health Center, Farmington, Connecticut, USA.

263. Mapping of Hypercapnia Induced Cerebrovascular Reactivity using BOLD MRI

Frans H.R. Van Der Zande[1], Paul Hofman[1], Hub Boere[1], Walter Backes[1]
[1]University Hospital Maastricht, Maastricht, Netherlands.

264. Quantitative Determination of the Perfusion Reserve Capacity using Single Shot T_2* Mapping during CO_2 Challenge

Oliver Speck[1], Susanne Günther[1,2], Valerij Kiselev[1], Denis Bilecen[1], Matthias E Bellemann[2], Jürgen Hennig[1]
[1]University of Freiburg, Freiburg, Germany; [2]University of Applied Science, Jena, Germany.

265. Hemodynamics Measured in White Matter Hyperintensities with DSC-MRI

Jacob Rorbech Marstrand[1], Egill Rostrup[1], Sverre Rosenbaum[1], Ellen Garde[1], Henrik Larsson[1]
[1]Danish Research Centre for Magnetic Resonance, Hvidovre, Denmark.

266. Association between Absolute T_2 Measurements of Normal Appearing White Matter and Quantitative Cerebral Blood Flow

Jeroen Hendrikse[1], Bob Bisschops[1], M.J.P. Van Osch[1], Chris Bakker[1], Jeroen Van Der Grond[1]
[1]University Medical Center Utrecht, Utrecht, Netherlands.

267. Cerebral Hemodynamics and White Matter Hyperintensities in CADASIL

R Van Den Boom[1], SA Lesnik Oberstein[1], A Spilt[1], MD Ferrari[1], J Haan[1], MA Van Buchem[1]
[1]Leiden University Medical Center, Leiden, Netherlands.

CLINICAL SCIENCE FOCUS SESSION
MR Angiography: Tips, Tricks, and Stents

268. MRI and MRA for Follow-up after Endovascular Abdominal Aortic Aneurysm Repair

Lambertus Wilhelmus Bartels[1], Maarten J. Van Der Laan[1], Marco Olree[1], Chris J.G. Bakker[1], Jan D. Blankensteijn[1], Willem P.T.M. Mali[1]
[1]University Medical Center Utrecht, Utrecht, Netherlands.

269. Susceptibility and Shielding Effects of Metallic Stents in CEMRA

Thuy N Truong[1], Yi Wang[1], Deniz Bilecen[1], Richard Watts[1], David Trost[1], Martin R Prince[1]
[1]Cornell University, Weill Medical College, New York, New York, USA.

270. **Artifact-free Contrast Enhanced MR Angiography for in-Stent Lumen Visualization of a New Metallic MRI Stent**
Arno Bücker[1], Elmar Spüntrup[1], Alexander Rübben[1], Rolf W Günther[1]
[1]Aachen University of Technology, Aachen, Germany.

271. **TAC-CE-MRA of the Hands: Arterial Flow Arrest using Timed Compression (TAC) for Optimized Contrast Enhanced Magnetic Resonance Angiography (CE-MRA)**
Klaus U Wentz[1], Johannes M Fröhlich[1], Constantin Von Weymarn[1], Michael A Patak[1], Regula Jenelten[1], Christoph L Zollikofer[1]
[1]Kantonsspital Winterthur, Winterthur, Switzerland.

272. **The Clinical Value of Contrast-Enhanced MRA of Failing Dialysis Access Shunts**
Tim Leiner[1], R. Nils Planken[1], Jan H.M. Tordoir[1], Jos M.A. Van Engelshoven[1]
[1]Maastricht University Hospital, Maastricht, Netherlands.

273. **Evaluation of the Complete Vascular Tree of Failing Haemodialysis Grafts with 3D High-Resolution CE-MRA**
Kuo Ming Han[1],Lucien Duijm[1], Guillaume Thelissen[2], Philippe Cuypers[1], Petra Douwes-Draaijer[1], Alexander Tielbeek[1], John Wondergem[1], Harrie Van Den Bosch[1],
[1]Catharina Hospital, Eindhoven, Netherlands; [2]Philips Medical Systems, Best, Netherlands.

274. **Assessment of Aortic Coarctation after Surgical Repair: Value of Contrast-Enhanced 3D-Magnetic Resonance Angiography and 2D-Phase Velocity Mapping**
Christian Fink[1], Joachim Eichhorn[2], Michael Bock[1], Ivan Zuna[1], Stefan Delorme[1]
[1]German Cancer Research Center (DKFZ), Heidelberg, Germany; [2]University of Heidelberg, Heidelberg, Germany.

275. **Hemodynamic Assessment of Iliac Artery Stenoses with MR Flow Velocity Curves**
Johan Wikström[1], Lars Johansson[1], Sadettin Karacagil[1], Hakan Ahlstrom[1]
[1]Uppsala University Hospital, Uppsala, Sweden.

276. **Vascular Malformations of the Body: Assessment and Classification with 3D Gadolinium-enhanced MRA**
Klaus D Hagspiel[1], Perry M Stevens[1], John Fritz Angle[1], Daniel A Leung[1], David J Spinosa[1], Alan H Matsumoto[1]
[1]University of Virginia, Charlottesville, Virginia, USA.

277. **Comprehensive Assessment of Peripheral Angiodysplasia by Magnetic Resonance Imaging (MRI)**
Christoph U. Herborn[1], Mathias Goyen[1], Knut Kroeger[1], Jörg Debatin[1], Stefan Ruehm[1]
[1]University Hospital Essen, Essen, Germany.

278. **False "Critical" Hypocalcemia following Gadodiamide Infusion**
Hale Ersoy Erel[1], Yi Wang[1], Jon Blumenfeld[1], Richard W. Lent[1], Martin R. Prince[1]
[1]Cornell University, Weill Medical College, New York, New York, USA.

279. **Improved Readability of MRA Angiogram by using a Novel 3D Filter with Recursive Scaled-Space Processing**
Kecheng Liu[1], Jasjit Suri[1], Larry Kasuboski[1]
[1]Philips Medical Systems, Cleveland, Ohio, USA.

CLINICAL SCIENCE FOCUS SESSION
Spine, Bone, and Muscle MR Imaging

280. **MRI-Based Virtual Bone Biopsy Applied to Patients with Renal Osteodystrophy**
Felix W. Wehrli[1], Mary B. Leonard[1], Bryon R. Gomberg[1], Punam K. Saha[1]
[1]University of Pennsylvania, Philadelphia, Pennsylvania, USA.

281. Line Scan Diffusion Imaging of the Spine

Roland Bammer[1], Andreas M. Herneth[1], Stephan E. Maier[2], Kim Butts[1], Rupert W. Prokesch[1], Huy M. Do[1], Scott W. Atlas[1], Michael E. Moseley[1]
[1]Stanford University, Stanford, California, USA; [2]Harvard University, Brigham and Women's Hospital, Boston, Massachusetts, USA.

282. Line Scan Diffusion Imaging (LSDI) in Clinical Spine MRI: Normal Spectrum and Correlation with Anatomic MR Findings

Geoffrey S. Young[1], Annie P Lai[1], Sharmila Majumdar[1], Stephan Maier[2], Hatsuho Mamata[2], William P Dillon[1], Cynthia T Chin[1]
[1]University of California San Francisco,San Francisco, California, USA; [2]Harvard University, Brigham and Women's Hospital, Boston, Massachusetts, USA.

283. Quantitative Assessment of Diffusion Abnormalities in Benign and Malignant Vertebral Compression Fractures by Line Scan Diffusion-weighted Imaging

Masayuki Maeda[1], Hajime Sakuma[1], Stephan E Maier[2], Kan Takeda[1]
[1]Mie University School of Medicine, Mie, Japan; [2]Brigham and Women's Hospital, Harvard Medical School, Boston, Massachusetts, USA.

284. Computer-Assisted Vertebral Deformity Measurement on MR Spine Images

Bryon Gomberg[1], Felix Wehrli[1]
[1]University of Pennsylvania, Philadelphia, Pennsylvania, USA.

285. Atlantoodontoid Synovial Membrane in Rheumatoid Arthritis: Gadolinium-enhanced MR Imaging

Riwa Kishimoto[1], A. Sagawa[2], K. Tanimura[2], M. Shinohara[2], T. Warabi[2]
[1]National Institute of Radiological Sciences, Chiba, Japan; [2]Sapporo Yamanoue Hospital, Sapporo Japan..

286. Patterns of Enhancement of the Cervical Spine in Rheumatoid Arthritis

L. J.M. Kroft[1], M. Reijnierse[1], J. Bloem[1], M. Kloppenburg[1], B. Verbist[1], M. A. Van Buchem[1]
[1]Leiden University Medical Center, Leiden, Netherlands.

287. MRI-Determined Volume of Enhancing Pannus of the Hand and Wrist as Means of Studying Reproducibility of the Method and Progression of Rheumatoid Arthritis

Emily Xanthopoulos[1], Christopher John Taylor[1], Charles E. Hutchinson[1], Judith E. Adams[1], Ian N. Bruce[1], John Waterton[2]
[1]University of Manchester, Manchester, England, UK; [2]AstraZeneca, Cheshire, England, UK.

288. Blood Pool MR Contrast Media MS-325 Improves Contrast and Disease Characterization of Rheumatoid Arthritis for Longitudinal Quantification of Inflamed Synovium and Joint Fluid

Yebin Jiang[1], Jenny J Zhao[1], Hai Tang[1], Michael F. Wendland[1], Timothy Pl Roberts[1], Randall B Lauffer[2], Harry K Genant[1]
[1]University of California San Francisco, San Francisco, California, USA; [2]EPIX Medical, Inc., Cambridge, Massachusetts, USA.

289. Evaluation of Rectus Femoris Transfer Surgery using Cine-PC MRI

Silvia Salinas Blemker[1], Deanna Schmidt Asakawa[1,2], Scott Lee Delp[1], Garry E. Gold[1,2]
[1]Stanford University, Stanford, California, USA; [2]Palo Alto VA Health Care System, Palo Alto, California, USA.

290. Perfusion MRI of Post-Exercise Muscle

L Hu[1], J L Fleckenstein[1], E Babcock[1]
[1]University of Texas Southwestern Medical Center at Dallas, Dallas, Texas, USA.

291. Time Resolved BOLD Response in the Muscle of Patients with Peripheral Vascular Occlusive Disease

Martin Büchert[1], Deniz Bilecen[1], Jan Thorsten Winterer[1], Anja-Carina Schulte[1], Mathias Langer[1], Jürgen Hennig[1]
[1]University Hospital Freiburg, Freiburg, Germany.

New Imaging Sequences

292. *Young Investigator Awards Finalist:* Homogeneous Preparation Encoding (HoPE) in Multi-Slice Imaging

Hans-Peter Fautz[1], Klaus Scheffler[1], Jürgen Hennig[1]
[1]Universität Freiburg, Freiburg, Germany.

293. Anxiety Loss Offered by Harmonic Acquisition (ALOHA)

Ralf B Loeffler[1], Claudia M Hillenbrand[2]
[1]Siemens Medical Systems USA, Inc., Iselin, New Jersey, USA; [2]University Hospitals of Cleveland/Case Western Reserve University, Cleveland, Ohio, USA.

294. Continuously Moving Table Method for Extended FOV 3D MRI

David Kruger[1], Stephen Riederer[1], Phillip J. Rossman[1], Jason Polzin[2], James F Glockner[1], Jerome F Breen[1]
[1]Mayo Clinic, Rochester, Minnesota, USA; [2]GE Medical Systems, Milwaukee, Wisconsin, USA.

295. Moving Table Axial Imaging with Radial Acquisitions

Ajit Shankaranarayanan[1], Jason Polzin[2], Bob Herfkens[3], Jean Brittain[1]
[1]General Electric Medical Systems, Menlo Park, California, USA; [2]GE Medical Systems, Waukesha, Wisconsin, USA; [3]Stanford University, Stanford, California, USA.

296. SPENT (Sub Pixel Enhancement of Non-Uniform Tissue): A New Pulse Sequence and its Application to Bone Imaging

David Carmichael[1], Roger John Ordidge[1], Marios Yiannakas[2]
[1]University College London, London, England, UK; [2]City University, London, England, UK.

297. Susceptibiltiy Weighted Imaging (SWI): A New Means to Enhance Image Contrast

E. Mark Haacke[1], Robert Ogg[2], Jürgen R. Reichenbach[3], Kilichan Gurleyik[1], Yingbiao Xu[1], Gwenael Herigault[1]
[1]MRI Institute for Biomedical Research, St. Louis, Missouri, USA; [2]St. Jude Children's Research Hospital, Memphis, Tennessee, USA; [3]Friedrich-Schiller-Universität, Jena, Germany.

298. Complex Hadamard Encoding for Improved Temporal Information

Charles H. Cunningham[1], Graham A. Wright[1,2], Michael L. Wood[3]
[1]Sunnybrook and Women's College Health Sciences Centre, North York, Ontario, Canada; [2]ASL-West, GE Medical Systems, Menlo Park, California, USA; [3]University of Toronto and GE Medical Systems, Toronto, Ontario, Canada.

299. Direct Temporal Encoding of Spatial Information: A Novel Non-Fourier Imaging Technique

Daniel R. Elgort[1], Brian M. Dale[1], Jeffrey L. Duerk[1]
[1]Case Western Reserve University and University Hospitals of Cleveland, Cleveland, Ohio, USA.

300. Motion-Induced Spatial Encoding using A Quadratic Gradient Field

R. Scott Hinks[1], Kevin F. King[1], Jason Polzin[1], John Lorbiecki[1], Leroy Blawat[1]
[1]G. E. Medical Systems, Milwaukee, Wisconsin, USA.

fMRI: Data Analysis, Other

301. Functional MR Image Registration using Fourier Phase and Residue Error Detection

Ho Ying Mak[1], Haiying Tang[2], Kelvin Wong[1], EX Wu[2], Edward Yang[1]
[1]University of Hong Kong, Hong Kong, China; [2]Columbia University, College of Physicians and Surgeons, New York, New York, USA.

302. Motion Detection on a Commercial Real-Time fMRI System and Correlation with Motion Correction Limits

Theodore Roosevelt Steger[1], Edward Jackson[1]
[1]University of Texas M.D. Anderson Cancer Center, Houston, Texas, USA.

303. Empirical Validation of a Method for Estimation of Susceptibility-by-Movement Warps Directly from the Time Series

Jesper Andersson[1], Chloe Hutton[2], John Ashburner[2], Robert Turner[2], Karl J. Friston[2]
[1]Karolinska Hospital, Stockholm, Sweden; [2]University College London, London, England, UK.

304. Spatial Correlations in Cardiac Induced Noise - Implications for fMRI and Functional Connectivity

Torben Ellegaard Lund[1], Anne Katrine Pagsberg[1], William Baaré[1]
[1]Danish Research Centre for MR, Hvidovre, Denmark.

305. An Adaptive Anisotropic Spatial Filtering Method for fMRI Data Analysis

Gholam Ali Hossein-Zadeh[1,3], Babak Ardekani[1,2], Hamid Soltanian-Zadeh[3]
[1]The Nathan S. Kline Institute, Orangeburg, New York, USA; [2]New York University Medical School, New York, New York, USA; [3]Tehran University, Tehran, Iran.

306. Cluster Synchronization in Functional Magnetic Resonance Imaging

Angela R. Laird[1], Baxter P. Rogers[1], M. Elizabeth Meyerand[1]
[1]University of Wisconsin-Madison, Medical School, Madison, Wisconsin, USA.

307. Hierarchical Clustering to Measure Connectivity in fMRI Resting-State Data

Dietmar Cordes[1], Victor Haughton[2], Konstantinos Arfanakis[2], John Carew[2], Kenneth Maravilla[1]
[1]University of Washington, Seattle, Washington, USA; [2]University of Wisconsin, Madison, Wisconsin, USA.

308. A Hypothesis-led Approach to the Quantification of Localised Functional Connectivity

Andrew Gibson[1], Andrew Peters[1], Richard Bowtell[1]
[1]University of Nottingham, Nottingham, England, UK.

309. Preserving Autocorrelations in fMRI with Resampling Techniques

Angela R. Laird[1], Baxter P. Rogers[1], M. Elizabeth Meyerand[1]
[1]University of Wisconsin-Madison, Medical School, Madison, Wisconsin, USA.

310. Optimization of Experimental Design in fMRI: A General Framework using a Genetic Algorithm

Tor D Wager[1], Thomas E Nichols[1]
[1]University of Michigan, Ann Arbor, Michigan, USA.

Tumor Perfusion and Permeability: Methods and Models

311. Determination of Tumor Vascular Morphology and Function by Susceptibility MRI and Immunohistochemistry

Franklyn A Howe[1], Simon P Robinson[1], Paul JFW Rijken[2], Paul MJ McSheehy[1], Boudwijn PJ Van Der Sanden[2], Arend Heerschap[2], Marion Stubbs[1], A J Van Der Kogel[2], John R Griffiths[1]
[1]St. George's Hospital Medical School, London, England, UK; [2]University Medical Centre, Nijmegen, Netherlands.

312. The Effect of Brain Tumor Angiogenesis on the *In Vivo* Relationship between Contrast Agent (MION) Dose and the Gradient Echo Relaxation Rate Change (ΔR2*)

Arvind P Pathak[1], Douglas B Ward[2], Kelly J Rebro[2], Kathleen (Donahue) Schmainda[2]
[1]Johns Hopkins University, Baltimore, Maryland, USA; [2]Medical College of Wisconsin, Milwaukee, Wisconsin, USA.

313. Combined MRI and NIR Spectroscopy for Functional and Structural Imaging of Tumors

Gultekin Gulsen[1], Hon J. Yu[1], Jun Wang[1], Frederic Bevilacqua[1], David J. Cuccia[1], Anthony Durkin[1], Sean Merritt[1], Bruce J. Tromberg[1], Orhan Nalcioglu[1]
[1]University of California Irvine, Irvine, California, USA.

314. On-line Monitoring of Contrast Agent Arterial Input Function in Mouse MRI

Dmitri Artemov[1], Zaver Bhujwalla[1]
[1]Johns Hopkins University, Baltimore, Maryland, USA.

315. Quantification of Plasma Volume and Permeability using First Pass Pharmacokinetic Models: An Assessment of Accuracy and Precision by Monte Carlo Simulation

Ka-Loh Li[1], Xiaoping Zhu[2]
[1]University of California San Francisco, San Francisco, California, USA; [2]VA Medical Center, San Francisco, California, USA.

316. Comparison of Flow Correlates Obtained from DCE-MRI Perfusion Data Base on Sensitivity to Variation in the Volume Fraction of the Extravascular Extracellular Space

John A. Jesberger[1], Jonathan S. Lewin[1], Jeffrey L. Duerk[1]
[1]Case Western Reserve University and University Hospitals of Cleveland, Cleveland, Ohio, USA.

317. Non-Invasive MR Imaging of Anti-Angiogenic Effects Induced by a VEGF-RTKI in a Human Xenograft Model

Alexander Petrovsky[1], Ralph Weissleder[1], Dana Hu-Lowe[2], David R Shalinsky[2], Alexei A Bogdanov[1]
[1]Massachusetts General Hospital, Charlestown, Massachusetts, USA; [2]Pfizer Global Research and Development, San Diego, California, USA.

318. Assessment of Protamine Induced Thrombosis of Tumor Vessels for Cancer Therapy by using Dynamic Contrast Enhanced MRI

Min-Ying Su[1], Michael Samoszuk[1], Jun Wang[1], Orhan Nalcioglu[1]
[1]University of California Irvine, Irvine, California, USA.

319. Permeability of B22956/1, A Novel Protein-Binding Contrast Agent, Resolves Anti-Angiogenic Therapy in Human Breast Cancer Model

Timothy P. Roberts[1], Anda Preda[1], Karl Turetschek[1], Viktor Novikov[1], Martina Moeglich[1], David Shames[1], Robert C Brasch[1], Friedrich M Cavagna[2]
[1]University of California San Francisco, San Francisco, California, USA; [2]Bracco Imaging S.p.A., Milan, Italy.

320. NVP-LAF389 Reduces Tumor Blood Volume and Vascular Permeability in CA20948 Pancreatic Tumor Model as Measured *In Vivo* by Dynamic Contrast Enhanced MRI – Putative Surrogate Markers for Efficacy

Peter R. Allegrini[1], Markus Rudin[1], Jeanette Wood[1], Frederick Kinder[2], Barbara Stolz[1]
[1]Novartis Pharma AG, Basel, Switzerland; [2]Novartis Pharma AG, Summit, New Jersey, USA.

RF Coil Array Design

321. Lumped-Element Planar Strip Array (LPSA) for MRI at 1.5T

Ray F Lee[1], William Edelstein[1], Paul Bottomley[2], Daniel Sodickson[3], Gontran Kenwood[1], Christopher Hardy[1]
[1]General Electric Corporate R & D Center, Niskayuna, New York, USA; [2]Johns Hopkins University, Baltimore, Maryland, USA; [3]Beth Israel Deaconess Medical Center, Boston, Massachusetts, USA.

322. Tunable Planar Strip Array Antenna

Ananda Kumar[1], Paul Bottomley[1]
[1]Johns Hopkins University, School of Medicine, Baltimore, Maryland, USA.

323. Dedicated 12-Element Head Array Coil for Parallel Imaging Applications at 3.0 Tesla

Yun-Jeong Yang[1], Dan K. Spence[1], Labros S. Petropoulos[1]
[1]USA Instruments, Aurora, Ohio, USA.

324. Ultra-high Frequency Array Performance: Predicted Effects of Dielectric Resonance

Patrick Ledden[1], Jeff Duyn[2]
[1]Nova Medical, Inc., Wakefield, Massachusetts, USA; [2]National Institutes of Health, Bethesda, Maryland, USA.

325. Design of a SENSE-Optimized High Sensitivity MRI Receive Coil for Human Brain Imaging

Jacco A. De Zwart[1], Patrick Ledden[2], Peter Kellman[1], Peter Van Gelderen[1], Jeff H. Duyn[1]
[1]National Institutes of Health, Bethesda, Maryland, USA; [2]Nova Medical, Inc., Wakefield, Massachusetts, USA.

326. A Novel 8-Channel "Saddle-Train" Array Coil for Abdominal SENSE Imaging at 1.5T

Hiroyuki Fujita[1], Dan K. Spence[1]
[1]USA Instruments, Inc., Aurora, Ohio, USA.

327. Transmit-Receive Phased Array for MR Guided Spine Interventional Procedures

Uli Gotshal[1], Daniel Nobles[1]
[1]MRI Devices Corporation, Gainesville, Florida, USA.

328. 3T Volume Transmit, Phased Array Receive System for Use within a 36cm Diameter Gradient Set

Patrick Ledden[1], Lawrence Wald[2]
[1]Nova Medical, Inc., Wakefield, Massachusetts, USA; [2]Harvard University, MGH-NMR Center, Charlestown, Massachusetts, USA.

329. Coupling Theory and a Novel Decoupling Interface for the MRI Phased Array

Ray F Lee[1], Randy O Giaquinto[1], Christopher Hardy[1]
[1]General Electric Corporate Research & Development, Niskayuna, New York, USA.

330. The Effects of Ultra Low Input Impedance Preamplifiers on Phased Array Coil Design

Scott B. King[1], Steve Varosi[1], David A. Molyneaux[1], G. Randy Duensing[1]
[1]MRI Devices Corporation, Gainesville, Florida, USA.

Interventional MR Imaging: Devices and Applications

331. Quantitative Analysis of Brain Deformation Fields using Interventional MR Imaging

Thomas Hartkens[1], Derek Hill[1], Any D. Castellano-Smith[1], David John Hawkes[1], Calvin R. Maurer[1,2], A.J. Martin[3,4], W.A. Hall[4], H. Liu[4], Charles Truwit[4]
[1]Guy's Hospital, King's College London, London, England, UK; [2]Stanford University, School of Medicine, Stanford, California, USA; [3]University of California San Francisco, San Francisco, California, USA; [4]University of Minnesota, Minneapolis, Minnesota, USA.

332. Noninvasive MRI-Guided Focal Opening of the Blood Brain Barrier: Demonstration of Large Particle Penetration

Kullervo Hynynen[1], Nathan McDannold[1], Lee Josphson[2], Natalia Vykhodtseva[1], Ralph Weisleder[2], Ferenc A Jolesz[1]
[1]Brigham and Women's Hospital, Harvard Medical School, Boston, Massachusetts, USA; [2]Massachusetts General Hospital, Harvard Medical School, Charlestown, Massachusetts, USA.

333. MR Imaging and Gene Expression Changes in Focused Ultrasound-Treated Tumor Model

E. L. Yuh[1], W. Hundt[1], M. D. Bednarski[1]
[1]Stanford University, Stanford, California, USA.

334. An Electromagnetic 3D Locator System for Use in MR Scanners

Erez Nevo[1], Abraham Roth[1], Stephen Hushek[2]
[1]Robin Medical Inc., Baltimore, Maryland, USA; [2]Norton HealthCare, Louisville, Kentucky, USA.

335. Image Guided Surgery for Anal Fistula in a 0.5T Interventional MRI Unit

Tushar Agarwal[1], Bijendra P. Patel[1], Wadislaw Gedroyc[1], Ara W Darzi[1], Stuart Gould[1]
[1]Imperial College of Medicine, St. Mary's Hospital, London, England, UK.

336. Quantitative Online Evaluation of Carotid Stent Placement using a Combined MRI / X-ray Angiography Suite

Heidi C Roberts[1], Timothy P. Roberts[1], Alastair Martin[1], Oliver Weber[1], Chris Dowd[1], Van Halbach[1], William P Dillon[1], Randall Higashida[1]
[1]University of California San Francisco, San Francisco, California, USA.

337. Real-Time SNR Measurement with Audio-Visual Feedback during Interventional MR Imaging

Timo Schirmer[1], Thomas Gotthardt[2]
[1]GE Medical Systems, München, Germany; [2]Zentralklinikum Bad Berka, Bad Berka, Germany.

338. A MRI Compatible Device for MRI Guided Transrectal Prostate Biopsy

Axel Krieger[1], Robert Charles Susil[1], Attila Tanacs[1], Gabor Fichtinger[1], Louis L Whitcomb[1], Ergin Atalar[1]
[1]Johns Hopkins University, Baltimore, Maryland, USA.

339. Robotic Device for MR-Guided Interventions in the Breast

Essa Yacoub[1], Blake Larson[1], Panagiotis V. Tsekos[2], Ioannis G. Koutlas[2], Arthur G. Erdman[1], Nikolaos V. Tsekos[3]
[1]University of Minnesota, Minneapolis, Minnesota, USA; [2]Artemis MRI, St. Paul, Minnesota, USA; [3]Mallinckrodt Institute of Radiology, St. Louis, Missouri, USA.

340. MR-Guided Angulated Core Biopsy Technique: Breast Application

Cameron Anthony Piron[1], Petrina Causer[1], Rene Shumak[1], Donald Plewes[1]
[1]University of Toronto, Toronto, Ontario, Canada.

MR Imaging of Brain: Animal Models I

341. Comparison of FAIR Perfusion Kinetics with DSC-MRI and Functional Histology, in a Model of Transient Ischemia

J. Schepers[1], W.B. Veldhuis[1], R.J. Pauw[1], J.W. De Groot[1], M.J.P. Van Osch[1], K. Nicolay[1], B.P.J. Van Der Sanden[1]
[1]University Medical Center Utrecht, Utrecht, Netherlands.

342. MRI Monitoring of Crueutzfeldt Jacob Disease (CJD) in the Rat Brain

Pavel Shkarin[1], Kevin L. Behar[1], Laura Manuelidis[1]
[1]Yale Medical School, New Haven, Connecticut, USA.

343. MRI of Cerebral Reperfusion in SOD1-Overexpressed Rats after Cardiac Arrest

Serguei M. Liachenko[1], Pei Tang[1], Pak H. Chan[2], Yan Xu[1]
[1]University of Pittsburgh, Pittsburgh, Pennsylvania, USA; [2]University, Stanford, California, USA.

344. Calculation of Cerebral Metabolic Rate of Oxygen Based On ^{17}O MRS Imaging with 2 Minutes $^{17}O_2$ Inhalation: A Simplified Approach

Nanyin Zhang[1], Xiao-Hong Zhu[1], Hao Lei[1], Kamil Ugurbil[1], Wei Chen[1]
[1]University of Minnesota, Minneapolis, Minnesota, USA.

345. High Spatial Resolution Mapping of Absolute CMR_{O2} in Rat Brain by MRI

Paul K. Maciejewski[1], Douglas L. Rothman[1], Fahmeed Hyder[1]
[1]Yale University, School of Medicine, New Haven, Connecticut, USA.

346. MRI Determination of the Mechanisms Underlying TNF-α-induced Changes in Cerebral Blood Volume, Tissue Water Diffusion and BBB Permeability

Nicola Sibson[1], Andrew Blamire[1], Hugh Perry[2], Peter Styles[1], Daniel Anthony[2]
[1]University of Oxford, Oxford, England, UK; [2]University of Southampton, Southampton, England, UK.

347. Quantitative Assessment of the Balance between Oxygen Delivery and Consumption in the Rat Brain during Luxury Perfusion using T_2 BOLD MRI at 4.7 T

Mikko I Kettunen[1], Olli H J Gröhn[1], Johanna Silvennoinen[1], Markku Penttonen[1], Risto A Kauppinen[1]
[1]University of Kuopio, Kuopio, Finland.

348. Differences in the BOLD fMRI Response to Direct and Indirect Cortical Stimulation in the Rat

Vivienne C Austin[1], Andrew M Blamire[1], Peter Styles[1], Paul M Matthews[1], Nicola R Sibson[1]
[1]University of Oxford, Oxford, England, UK.

349. Functional Changes in Manganese Enhanced MRI in the Song System of the Canary (*Serinus canarius*) Exposed to a Conspecific Song Stimulus

Ilse Alice Emiel Tindemans[1], Vincent Van Meir[1], Marleen Verhoye[1], Jacques Balthazart[2], Annemie Van Der Linden[1]
[1]University of Antwerp, Antwerp, Belgium; [2]University of Liège, Liège, Belgium.

350. *In Vivo* Neuronal Retrograde Tract Tracing in the Murine Peripheral Nervous System Utilizing Manganese Enhanced MRI (MEMRI)

Robia G. Pautler[1], Russell E. Jacobs[1]
[1]California Institute of Technology, Pasadena, California, USA.

Imaging Processing: Brain

351. Quantification of Change in Cortical Grey Matter Thickness in Multiple Sclerosis

Jacqueline T. Chen[1], Stephen M. Smith[2], Douglas Arnold[1], P. Matthews[2]
[1]McGill University, Montréal Neurological Institute, Montréal, Québec, Canada; [2]University of Oxford, Oxford, England, UK.

352. Semi-Automatic Segmentation of MS Lesions Compared to Manual Tracing

Craig Jones[1], Erick B Wong[1], Andrew Riddehough[1], David Kwok-Boon Li[1], Donald W Paty[2]
[1]University of British Columbia, Vancouver, British Columbia, Canada.

353. Identification of Abnormal Brain Configurations in Multiple Sclerosis

Alexandre Guimond[1], Xingchang Wei[1], Charles Guttmann[1]
[1]Brigham and Women's Hospital, Boston, Massachusetts, USA.

354. A Novel Mixture-Based Segmentation Algorithm for Quantitative Analysis of Multiple Sclerosis using Multi-Spectral MR Images

Lihong Li[1], Xiang Li[1], Wei Huang[1], Chris Christodoulou[1], Dongqing Chen[1], Alina Tudorica[1], Petar Djuric[1], Lauren Krupp[1], Zhengrong Liang[1]
[1]State University of New York at Stony Brook, Stony Brook, New York, USA.

355. Evaluation of Mixture Model Clustering for Partial Volume Tissue Classification

Aljaz Noe[1], James C. Gee[2]
[1]University of Ljubljana, Ljubljana, Slovenia; [2]University of Pennsylvania, Philadelphia, Pennsylvania, USA.

356. Probabilistic Multi-modality Image Segmentation with Partial Voluming

Maja Pokric[1], Paul Alan Bromiley[1], N. A. Thacker[1], Alan Jackson[1]
[1]University of Manchester, Manchester, England, UK.

357. Morphometry of Brain Curve Anatomy from Similarity Invariant Parametric Matching Incorporating Global Topology

Brian Avants[1], James C. Gee[1]
[1]University of Pennsylvania, Philadelphia, Pennsylvania, USA.

358. A New Method for Semi-Automatic Volumetry of Cerebral Ventricles in Pediatric Neuroimaging

Horst Karl Hahn[1], William S Millar[2], Maureen S Durkin[2], Olaf Klinghammer[1], Paola K. Tulipano[2], Heinz-Otto Peitgen[1]
[1]MeVis, Bremen, Germany; [2]Columbia University, New York, New York, USA.

359. Improved Image Registration Robustness by an Extension of Mutual Information

Josien Pluim[1], J.B. Antoine Maintz[1], Max Viergever[1]
[1]Image Sciences Institute, Utrecht, Netherlands.

360. A 3D Non-linear Image-Registration Environment

David Gobbi[1], Yves Starreveld[1], Kirk Finnis[1], Terry Peters[1]
[1]John P Robarts Research Institute, London, Ontario, Canada.

Vessel Wall Imaging

361. Ultrasmall Superparamagnetic Particles of Iron Oxide-Enhanced *In Vivo* MRI of Human Atherosclerotic Plaques

Marianne Eline Kooi[1], Vincent Cappendijk[1], Kitty Cleutjens[1], Mat Daemen[1], Peter Kitslaar[1], Fons Kessels[1], M Borgers[1], Henk Schoenmakers[1], Jos Van Engelshoven[1]
[1]University of Maastricht, Maastricht, Netherlands.

362. MR Imaging of Atherosclerotic Plaque with New Ultrasmall Particles of Iron Oxide (7228) Compared to Sinerem® in Hyperlipidemic Rabbits

Christoph U. Herborn[1], Thomas Lauenstein[1], Florian Mathias Vogt[1], Mathias Goyen[1], Claire Corot[2], Jörg Debatin[1], Stefan Ruehm[1]
[1]University Hospital Essen, Germany, Essen, Germany; [2]Guerbet, Roissy, France.

363. Contrast Enhanced MRI of Atherosclerotic Plaques by a Novel Gadolinium Based Agent

Hanns-Joachim Weinmann[1], J. Barkhausen[2], C. Heyer[1], B. Misselwitz[1], J. Platzek[1], S. Räbel[1], W. Ebert[1]
[1]Schering AG, Berlin, Germany; [1]University Hospital Essen, Essen, Germany.

364. *In Vivo* Detection of Intra-Plaque Thrombus in Advanced Artherosclerotic Plaque with High-Resolution MRI

Vincent Cappendijk[1], Kitty Cleutjens[1], Jos Van Engelshoven[1], Geert Willem Schurink[1], Rob Welten[2], Fons Kessels[1], Mat Daemen[1], Marianne Kooi[1]
[1]University Hospital Maastricht, Maastricht, Netherlands; [2]Atrium Hospital Heerlen, Heerlen, Netherlands.

365. A Volume Selective 3D Turbo Spin Echo Sequence For Vessel Wall and Compliance Measurement

Lindsey Crowe[1], Peter Gatehouse[1], Clare Charrier[1], David N. Firmin[2]
[1]Royal Brompton Hospital, London, England, UK; [2]Imperial College of Science, Technology and Medicine, University of London, Royal Brompton Hospital, London, England, UK.

366. Rational Approach to Volumetric Imaging of Thoracic Aorta by Transesophageal MRI for Quantification and Visualization of Atherosclerotic Plaque

Meiyappan Solaiyappan[1], William P. Warren[1], Joao A.C. Lima[1]
[1]Johns Hopkins University, School of Medicine, Baltimore, Maryland, USA.

367. *In Vivo* Quantification of Porcine Aortic Wall Motion using Cine PC-MRI

Mary Therese Draney[1], Frank Arko[1], Marcus Alley[1], Michael Markl[1], Robert J. Herfkens[1], Norbert J. Pelc[1], Christopher Kristaps Zarins[1], Charles Taylor[1]
[1]Stanford University, Stanford, California, USA.

368. Characterization of Aortic Root Lesions in ApoE Knockout Mice. High Resolution *In Vivo* and *Ex Vivo* MRM with Histological Correlation

Vitalii V Itskovich[1], Robin P Choudhury[2], Juan Gilberto Saulog Aguinaldo[1], John T Fallon[1], Edward A Fisher[1], Zahi Fayad[1]
[1]Mount Sinai School of Medicine, New York, New York, USA; [2]University of Oxford, Oxford, England, UK.

369. First Experiences with *In-Vivo* Intravascular Coronary Vessel Wall Imaging

René Michael Botnar[1], Arno Bücker[2], Won Yong Kim[3], Ingmar Viohl[4], Rolf W Günther[2], Warren J. Manning[1], Elmar Spuentrup[1]
[1]Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, Massachusetts, USA; [2]Aachen University of Technology, Aachen, Germany; [3]Institute of Experimental Clinical Research, Aarhus, Denmark; [4]Surgi-Vision, Inc., Gaithersburg, Maryland, USA.

370. Initial Experiences with Coronary Vessel Wall Imaging on a 3T Whole Body System

René Michael Botnar[1,2], Matthias Stuber[1,2], Rolf Lamerichs[2], Jouke Smink[2], Stefan Fischer[2], Warren J. Manning[1,2]
[1]Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, Massachusetts, USA; [2]Philips Medical Systems, Best, Netherlands.

WEDNESDAY

PLENARY LECTURE
MR Microscopy

371. **Multi-photon Microscopy**
Winfried Denk[1]
[1]Max-Planck Institute for Medical Research, Heidelberg, Germany.

372. **Dynamic MR Microscopy in Developmental Biology**
Russell E. Jacobs[1]*, S. Ruffins*[1]*, R. Pautler*[1]*, C Papan*[1]
[1]California Institute of Technology, Pasadena, California, USA.

373. **Structural and Morphological MR Microscopy: Limits and Potential**
G. Allan Johnson[1]
[1]Duke University, Durham, North Carolina, USA.

Imaging Artifacts and Correction

374. ***Young Investigator Awards Finalist:*** **Variable-Density Adaptive Imaging for High-Resolution Coronary Artery MRI**
Marshall S. Sussman[1]*, Jeffrey A. Stainsby*[1]*, Normand Robert*[1]*, Graham A. Wright*[1,2]
[1]University of Toronto, Toronto, Ontario, Canada; [2]ASL-West, GE Medical Systems, Menlo Park, California, USA.

375. **Motion Correction in Segmented Spiral Imaging using Dual-density Sampling**
Keith Heberlein[1]*, Shantanu Sarkar*[1]*, Xiaoping Hu*[1]
[1]University of Minnesota, Minneapolis, Minnesota, USA.

376. **Novel Motion Correction Technique using Orbital Navigator Echoes in Interleaved Spiral Imaging**
Hisamoto Moriguchi[1]*, Jonathan S. Lewin*[1]*, Jeffrey L. Duerk*[1]
[1]University Hospitals of Cleveland and Case Western Reserve University, Cleveland, Ohio, USA.

377. **Automatic Inter-Exam Image Alignment using Spherical Navigator Echoes**
Edward Brian Welch[1]*, Armando Manduca*[1]*, Roger C. Grimm*[1]*, Heidi A. Ward*[1]*, Clifford R. Jack*[1]
[1]Mayo Clinic, Rochester, Minnesota, USA.

378. **Optimization of Steady State Free Precession Sequences by Continuous Transition into Driven Equilibrium (TIDE)**
Jürgen Hennig[1]*, Klaus Scheffler*[1]
[1]University of Freiburg, Freiburg, Germany.

379. **Shinnar-Le Roux Design for Steady-State Manipulation Sequences**
Brian Hargreaves[1]*, John M. Pauly*[1]*, Dwight G. Nishimura*[1]
[1]Stanford University, Stanford, California, USA.

380. **Correction for Gradient Field Distortions in Moving Table Imaging**
Jason Polzin[1]*, Jean Brittain*[1]*, David Gurr*[1]*, Josef Debbins*[1]*, David Kruger*[2]*, Stephen Riederer*[2]
[1]GE Medical Systems, Milwaukee, Wisconsin, USA; [2]Mayo Clinic, Rochester, Minnesota, USA.

381. **Analysis and Correction of the Effect of Spatial Gradient Field Distortions on Velocity Measurements with Phase Contrast MRI**
Michael Markl[1]*, Mary Draney*[1]*, Norbert J. Pelc*[1]
[1]Stanford University, Stanford, California, USA.

382. Reduction of Blurring in View Angle Tilting MRI

Kim Butts[1], John M. Pauly[1]
[1]Stanford University, Stanford, California, USA.

Molecular and Cellular Imaging

383. Renal Tubular Damage Detected by Dynamic Micro-MRI with a Dendrimer-Based Macromolecular MR Contrast Agent; G4D-(1B4M-Gd)$_{64}$

Hisataka Kobayashi[1], Satomi Kawamoto[2], Sang-Kyung Jo[1], Noriko Sato[3], Tsuneo Saga[3], Akira Hiraga[5], Junji Konishi[3], Kaori Togashi[3], Martin W Brechbiel[1], Robert A Star[1]
[1]National Institutes of Health, Bethesda, Maryland, USA; [2]Johns Hopkins University, Baltimore, Maryland, USA; [3]Kyoto University, Kyoto, Kyoto, Japan.

384. Gene Reporter Molecules: A Novel Approach Revealing β-galactosidase Activity

Ralph Peter Mason[1], Pieter Otten[1], Yingming Li[1], Kenneth Koeneman[1]
[1]University of Texas Southwestern Medical Center at Dallas, Dallas, Texas, USA.

385. A Novel NMR Reporter Molecule for Transmembrane pH Gradients: Para-fluoro-ortho-nitrophenol

Weina Cui[1], Pieter Otten[2], Matthew Merritt[1], Ralph Mason[1]
[1]University of Texas Southwestern Medical Center at Dallas, Dallas, Texas, USA.

386. Paramagnetic Viral Particles: Potential as MR Contrast Agent and pH Switch for Targeted Drug Delivery

Jeff W Bulte[1,2], Holly A Zywicke[2], Joseph A Frank[2], Trevor Douglas[3]
[1]Johns Hopkins University, School of Medicine, Baltimore, Maryland, USA; [2]National Institutes of Health, Bethesda, Maryland, USA; [3]Montana State University, Bozeman, Montana, USA.

387. Molecular Targeting of Alzheimer's Amyloid Plaques for Contrast-Enhanced MR Imaging

Clifford R. Jack[1], Thomas M Wengenack[1], Geoff L Curran[1], Thomas Wisniewski[2], Einar Sigurdsson[2], Bret J Borowski[1], Joseph F Poduslo[1]
[1]Mayo Clinic, Rochester, Minnesota, USA; [2]New York University, New York, New York, USA.

388. MR Micro-imaging of Contrast Tagged Amyloid Plaques in Transgenic Mouse Models of Alzheimer's Disease

Youssef Zaim Wadghiri[1], Einar Sigurdsson[1], Cheuk Tang[2], Juan Gilberto Aguilnaldo[2], Karen Duff[1], Thomas M. Wisniewski[1], Daniel H. Turnbull[1]
[1]New York University, School of Medicine, New York, New York, USA; [2]Mount Sinai School of Medicine, New York, New York, USA.

389. Magnetic Resonance Imaging of Inducible E-selectin Expression in Human Endothelial Cell Culture

Hye Won Kang[1], Lee Josephson[1], Alexander Petrovsky[1], Ralph Weissleder[1], Alexei Bogdanov[1]
[1]Massachusetts General Hospital, Charlestown, Massachusetts, USA.

390. MR Molecular Imaging of Her-2/Neu Receptor with Gd based Targeted Contrast Agent

Dimitri Artemov[1], Noriko Mori[2], Rajani Ravi[2], Zaver Bhujwalla[2]
[1]Johns Hopkins University, School of Medicine, Baltimore, Maryland, USA.

391. Intracellular Labeling of Mammalian Cells by Combining FDA approved Superparamagnetic Iron Oxide MR Contrast Agents and Commonly Used Transfection Agents

Joseph A Frank[1], Holly Zywicke[1], Brad Miller[1], Ali S Arbab[1], E Kay Jordan[1], Bobbi K Lewis[1], L Henry Bryant[1], Jeff Wm Bulte[1]
[1]National Institutes of Health, Bethesda, Maryland, USA.

392. Tracking of Immune Cells with MR Imaging: Implications for Type 1 Diabetes

Anna Moore[1], David Cory[2], Myra A. Lipes[3], Ralph Weissleder[1]
[1]Massachusetts General Hospital, Harvard Medical School, Charlestown, Massachusetts, USA; [2]Massachusetts Institute of Technology, Cambridge, Massachusetts, USA; [3]Joslin Diabetes Center, Boston, Massachusetts, USA.

fMRI in Animal Models

393. Improved Anesthesia Protocols for fMRI Studies in Rats: The Use of Medetomidine for Stable, Reversible Sedation

Mathieu Sommers[1], Jeroen Pikkemaat[1], Leo Booij[1], Arend Heerschap[1]
[1]University Medical Centre Nijmegen, Nijmegen, Netherlands.

394. Neurotransmitter Turnover and Brain Energy Metabolism in Deep Pentobarbital Anesthesia

In-Young Choi[1], Hongxia Lei[1], Rolf Gruetter[1]
[1]University of Minnesota, Minneapolis, Minnesota, USA.

395. Does BOLD Reflect Neuronal Activity? Uncoupling of the Hemodynamic Response by Inhibition of the Neuronal NO-Synthetase

Michael Burke[1], Wolfram Schwindt[1], Afonso Silva[2], Alan P. Koretsky[2], Mathias Hoehn[1]
[1]MPI for Neurological Research, Köln, Germany; [2]National Institutes of Health, Bethesda, Maryland, USA.

396. The Role of NMDA and AMPA Glutamate Receptors in the Cerebrovascular Coupling during a Somatosensory Activation in the Rat

Willy Gsell[1], Michael Burke[1], Wolfram Schwindt[1], Dirk Wiedermann[1], Mathias Hoehn[1]
[1]Max Planck Institute, Köln, Germany.

397. fMRI of the Cerebellum and Visual Cortex during Simple Delay Eyeblink Conditioning in Conscious Rabbits

Michael J. Miller[1], Nan-Kuei Chen[1], Limin Li[1], Craig Weiss[2], John F. Disterhoft[2], Alice M. Wyrwicz[1]
[1]Northwestern University, Evanston, Illinois, USA; [2]Northwestern University, Medical School, Chicago, Illinois, USA.

398. Simultaneous Mapping of Functional Maps and Axonal Connectivity in Cat Visual Cortex

Dae-Shik Kim[1], Itamar Ronen[1], Elia Formisano[2], Kamil Ugurbil[1], Susumu Mori[3], Rainer Goebel[2]
[1]University of Minnesota Medical School, Minneapolis, Minnesota, USA; [2]University of Maastricht, Maastricht, The Netherlands; [3]Johns Hopkins University School of Medicine, Baltimore, Maryland, USA.

399. Retinotopic Mapping in Adult Cat at 9.4T

Cheryl Olman[1], Itamar Ronen[1], Kamil Ugurbil[1], Dae-Shik Kim[1]
[1]University of Minnesota, Minneapolis, Minnesota, USA.

400. Regional fMRI Activation and c-Fos Expression during Visceral Pain Stimulation in the Adult Rat Brain

Jelena Lazovic-Stojkovic[1], Helena F Wrzos[1], Qing X. Yang[1], Michael B Smith[1], Christopher M. Collins[1], Ralph Norgreen[1], Kathleen Smith[1], Ann Ouyang[1]
[1]Pennsylvania State University College of Medicine, Hershey, Pennsylvania, USA.

401. Functional MRI Mapping of Age-associated Changes in the Basal Ganglia of Normal Rhesus Monkeys

Zhiming Zhang[1], Anders Andersen[1], Greg Gerhardt[1], Don Gash[1]
[1]University of Kentucky School of Medicine, Lexington, Kentucky, USA.

402. Compromised Hemodynamic Response in Amyloid Precursor Protein Transgenic Mice Detected by Functional MRI

Thomas Mueggler[1], Christine Sturchler-Pierrat[1], Diana Baumann[1], Martin Rausch[1], Markus Rudin[1]
[1]Novartis, Pharma AG, Basel, Switzerland.

Lung MR Angiography and MR Imaging

403. Contrast Bolus MR Transit Time Through the Pulmonary Circulation in Pulmonary Hypertension-A Novel Noninvasive Index of Pulmonary Flow

, Jeffrey Goldman[1], E. Cohen[1], A. Rosenbluth[1], M. Poon[1]
[1]Mount Sinai School of Medicine, New York, New York, USA.

404. Sequential 2D SSFP Volume Imaging of the Thorax

Piotr Alfred Wielopolski[1], Koen Nieman[2], Robert Jan Van Geuns[2], Pim De Feyter[2], Peter Pattynama[3], Gabriel Krestin[3]
[1]Dr. Daniel Den Hoed Kliniek, Rotterdam, Netherlands; [2]The Thorax Center, AZR, Rotterdam, Netherlands; [3]Academic Hospital Rotterdam, Rotterdam, Netherlands.

405. All MR Pulmonary V/Q and Angiography: A Preliminary Study

Jie Zheng[1], Jason Leawoods[1], Dmitriy Yablonskiy[1], Hong Cheng[1], John Leyendecker[1], Pamela K. Woodard[1], Robert J. Gropler[1], Mark S. Conradi[1]
[1]Washington University in St. Louis, St. Louis, Missouri, USA.

406. Dynamic Oxygen-Enhanced MR Imaging Reflects Diffusing Capacity of the Lung

Yoshiharu Ohno[1], Hiroto Hatabu[2], Daisuke Takenaka[1], Marc Van Cauteren[3], Masahiko Fujii[1], Kazuro Sugimura[1]
[1]Kobe University, Graduate School of Medicine, Kobe City, Japan; [2]University of Pennsylvania, Philadelphia, Pennsylvania, USA; [3]Philips Medical Systems, Tokyo, Japan.

407. Ventilation-Perfusion Ratio of Signal Intensity in Human Lung using Oxygen-Enhanced and Arterial Spin Labeling Techniques

Vu M. Mai[1], Benjamin Liu[2], Jason A. Polzin[3], Wei Li[1], Saban Kurucay[3], Alexander A. Bankier[4], Jack Knight-Scott[5], Manojkumar Saranathan[3], Thomas K. Foo[3], Anthony Vu[3], Priti Madhav[6], Robert R Edelman[1], Qun Chen[1]
[1]Evanston Hospital, Evanston Northwestern Healthcare, Evanston, Illinois, USA; [2]Northwestern Medical School, Chicago, Illinois, USA; [3]GE Medical Systems, Milwaukee, Wisconsin, USA; [4]University of Vienna, Vienna, Austria; [5]University of Virginia, Charlottesville, Virginia, USA; [6]Northwestern University, Evanston, Illinois, USA.

408. Assessment of Human Lung Function using the ΔR_1-slope during Oxygen Enhancement

Peter Michael Jakob[1], Tungte Wang[1], Helge Hebestreit[1], Alexandra Hebestreit[1], Marco Elfeber[1], Georg Schultz[1], Dietbert Hahn[1]
[1]University of Wuerzburg, Wuerzburg, Germany.

409. The Contributions of Ventilation and Perfusion in Oxygen-enhanced Pulmonary MR Imaging: Results from Rabbit Models of Pulmonary Embolism and Bronchial Obstruction

Shella Dawn Keilholz[1], Jack Knight-Scott[2], Jaime Mata[2], Naomi Fujiwara[2], Talissa Ann Altes[2], Stuart Scott Berr[2], Klaus Hagspiel[2]
[1]National Institutes of Health, Rockville, Maryland, USA; [2]University of Virginia, Charlottesville, Virginia, USA.

410. Diffusion-Weighting as a Contrast Enhancement Mechanism for ^{1}H MR Lung Imaging

Jack Knight-Scott[1], Vu M. Mai[2]
[1]University of Virginia, Charlottesville, Virginia, USA; [2]Evanston Hospital, Evanston Northwestern Healthcare, Evanston, Illinois, USA.

411. Detection of Pulmonary Lesions: MRT-HASTE vs. MultiSlice CT

Tobias Schroeder[1], Stefan G Ruehm[1], Mark E Ladd[1], Florian Mathias Vogt[1], Silke Bosk[1], Susanne Goehde[1], Jörg Barkhausen[1], Thomas C. Lauenstein[1], Jörg Debatin[1]
[1]University Hospital Essen, Essen, Germany.

412. Pulmonary Effects of Repeated Allergen Challenge in Actively Sensitised Brown Norway Rats Assessed Non-Invasively by MRI

Bruno Tigani[1], Matthias Irouschek[1], John R Fozard[1], Nicolau Beckmann[1]
[1]Novartis Pharma AG, Basel, Switzerland.

MR Imaging and Spectroscopy of Seizure Disorders

413. Clinical and MR Correlations of Anterior Temporal Changes in Children with Hippocampal Sclerosis

L. Anne Mitchell[1], Simone A. Mandelstam[1], Lee T. Coleman[1], A. Simon Harvey[1], Graeme D. Jackson[2]
[1]Royal Children's Hospital, Melbourne, Australia; [2]Brain Research Institute, Melbourne, Australia.

414. White Matter Changes in Temporal Lobe Epilepsy: A Diffusion Tensor MRI Study

Konstantinos Arfanakis[1], Bruce P. Hermann[1], Victor M. Haughton[1], John Carew[1], Baxter Rogers[1], M. Meyerand[1]
[1]University of Wisconsin-Madison, Madison, Wisconsin, USA.

415. Non-Monoexponential Diffusion in Live Human Hippocampal Slices Undergoing Tonicity Changes

Timothy M. Shepherd[1], Huan-Xin Chen[1], Edward D. Wirth[1], Jonathan D. Bui[2], Steven N. Roper[1], Stephen J. Blackband[1]
[1]University of Florida, Gainesville, Florida, USA; [2]Harvard University, Boston, Massachusetts, USA.

416. Glutamate-Glutamine Cycling is Decreased in the Epileptogenic Human Hippocampus

Ognen A.C. Petroff[1], Laura D. Errante[1], Jung Kim[1], Douglas L. Rothman[1], Dennis D. Spencer[1]
[1]Yale University School of Medicine, New Haven, Connecticut, USA.

417. Glutamate-Glutamine Cycling in Epileptic Patients on Ketogenic Diets

Stefan Bluml[1], Frederick Shic[1], Lawrence Polung Lai[1], Kareem Yahya[1], Alexander Lin[2], Brian David Ross[2]
[1]Rudi Schulte Research Institutes, Santa Barbara, California, USA; [2]Huntington Medical Research Institutes, Pasadena, California, USA.

418. Frontal Lobe Myoinositol Abnormalities in Temporal Lobe Epilepsy

Robert Mark Wellard[1], Regula Sofia Briellmann[1], Ari Syngeniotis[1], Graeme Jackson[1]
[1]Brain Research Institute, Heidelberg West, Melbourne, Victoria, Australia.

419. Bioenergetic abnormalities in temporal lobe epilepsy

Hoby Hetherington[1], Jullie W. Pan[1], Katrina S Firlik[2], Dennis D Spencer[2]
[1]Albert Einstein College of Medicine, Bronx, New York, USA; [2]Yale University School of Medicine, New Haven, Connecticut, USA.

420. A Comparison of Metabolite Concentrations in Primary Generalised Epilepsy and Partial Epilepsy using Short Echo Time Proton Spectroscopy and a Double Quantum GABA Filter

Robert Simister[1], Mary McLean[1], Gareth Barker[1], John Duncan[1]
[1]Institute of Neurology, University College London, London, England, UK.

421. Magnetization Transfer (MT) MR Imaging in Patients with Posttraumatic Epilepsy

Rakesh Kumar Gupta[1], Rajesh Kumar[1], Mazhar Husain[2], Davender Kumar Vatsal[2], Sanjeev Chawla[1], Sunil Pradhan[1]
[1]Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow, UP, India; [2]King George's Medical College, Lucknow, UP, India.

422. Hippocampal Volumetry and T_2 Relaxometry Provide Evidence of Acute Hippocampal Abnormality following Prolonged Febrile Convulsion in Young Children

Rodney Craig Scott[1], Martin David King[1], David Geoffrey Gadian[1], Brian G R Neville[1], Alan Connelly[1]
[1]Institute of Child Health, University College London, London, England, UK.

Physiologic MR Imaging: Development and Aging

423. Predictive Value of MR Imaging for Evaluation of Fetal Brain Abnormalities: Comparison with Post Natal MR Images and Autopsy Findings

, Kyoko Enomoto[1], T. Watanabe[1], M. Amanuma[1], A. Heshiki[1]
[1]Saitama Medical School, Iruma-Gun, Saitama, Japan.

424. Normal and Abnormal Brain Development in Premature Newborns: A Longitudinal Study using Diffusion Tensor Magnetic Resonance Imaging

Steven P. Miller[1], Daniel B. Vigneron[1], Roland Henry[1], Mary Ann Bohland[1], Camilla Ceppi-Cozzio[1], Nancy Newton[1], John Colin Partridge[1], Donna Ferriero[1], Anthony James Barkovich[1]
[1]University of California San Francisco, San Francisco, California, USA.

425. Diffusion Tensor Imaging at Term-Equivalent Age May Predict Functional Neurological Outcome in Preterm Infants with Normal Conventional MRI

Yervant Arzoumanian[1], Majid Mirmiran[1], Kevin Woolley[1], Ronald Ariagno[1], Michael E. Moseley[1], Patrick Barnes[1], Scott W. Atlas[1]
[1]Stanford University School of Medicine, Stanford, California, USA.

426. Age Dependence of MR Perfusion Measures in Children under Two Years Old

Joanna Elizabeth Perthen[1], Rodney Craig Scott[1], Fernando Calamante[1], David Geoffrey Gadian[1], Alan Connelly[1]
[1]University College London, Institute of Child Health, London, England, UK.

427. IQ Correlates with Diffusion Tensor Imaging Parameters in Normal Children

Vincent J. Schmithorst[1], Marko Wilke[1], Bernard J. Dardzinski[1], Scott K. Holland[1]
[1]Children's Hospital, Cincinnati, Ohio, USA.

428. Assessment of Children with Developmental Delay using Tensor MR

Christopher G Filippi[1], Apostolos Tsiouris[1], Linda A Heier[1], Richard Watts[1], Aziz Ulug[1]
[1]Cornell University, Weill Medical College, New York, New York, USA.

429. White Matter Maturation from Birth through Adulthood: A High b Value Diffusion Weighted Imaging Study

Dafna Ben-Bashat[1], Liat Ben-Sira[1], Moshe Graif[1], Elka Miller[1], Talma Hendler[1], Yoram Cohen[2], Yaniv Assaf[1]
[1]Tel Aviv Sourasky Medical Center, Aviv, Israel; [2]Tel Aviv University, Tel Aviv, Israel.

430. Influence of Diffusivity and Transverse Relaxation on Brain White Matter Anisotropy in Normal Aging

Adolf Pfefferbaum[1], Edith V. Sullivan[2]
[1]SRI International, Menlo Park, California, USA; [2]Stanford University, Stanford, California, USA.

431. Normal Cerebral Perfusion Measurements using CASL: Reproducibility, Age, and Gender Effects

Laura Michelle Parkes[1], Waqar Rashid[1], Declan Chard[1], Paul Stephen Tofts[1]
[1]Institute of Neurology, University College London, London, England, UK.

432. Normal Cerebral Perfusion Changes with Age using Continuous Arterial Spin Labelling

Laura Biagi[1], Michela Tosetti[1], Arturo Abbruzzese[2], Alberto Del Guerra[3], Giovanni Cioni[1], David Alsop[4]
[1]Stella Maris Scientific Institute, Calambrone, Pisa, Italy; [2]S.Chiara Hospital, Pisa, Italy; [3]University of Pisa, Pisa, Italy; [4]Beth Israel Deaconess Medical Center and Harvard Medical School, Boston, Massachusetts, USA.

Diffusion Methodology

433. Hyperecho Diffusion Imaging: A New Look at Diffusion Mechanisms

Jürgen Hennig[1], Anja Carina Schulte[1], Kamil Il'Yasov[1], Oliver Speck[1], Valerij Kiselev[1]
[1]University Hospital Freiburg, Freiburg, Germany.

434. Improved Diffusion Sensitivity with Hyperechoes

Lawrence Frank[1], Eric Wong[1], Thomas Liu[1], Richard Buxton[1]
[1]University of California San Diego, La Jolla, California, USA.

435. Turboprop - An Improved PROPELLER Sequence for Diffusion Weighted MRI

James Pipe[1]
[1]Barrow Neurological Institute, Phoenix, Arizona, USA.

436. Diffusion-Weighted PROPELLER Imaging of the Human Brain at 3 Tesla

Andrew L. Alexander[1], Xiangyang Ma[2], Xuli Zong[3], James G Pipe[4]
[1]University of Wisconsin, Madison, Wisconsin, USA; [2]G. E. Medical Systems, Milwaukee, Wisconsin, USA; [3]G. E. Corporate R & D Center, Niskayuna, New York, USA; [4]Barrow Neurological Institute, Phoenix, Arizona, USA.

437. Fiber Tracking using SENSE-DTI at 3 Tesla

Thomas Jaermann[1], Gerard Crelier[1], Klaas P. Pruessmann[1], Xavier Golay[2], Thomas Netsch[3], Arianne M.C. Van Muiswinkel[4], Susumu Mori[2], Peter C. Van Zijl[2], Spyros Kollias[5], Peter Boesiger[1]
[1]University and ETH Zurich, Zurich, Switzerland; [2]Johns Hopkins University, Baltimore, Maryland, USA; [3]Philips, Inc., Hamburg, Germany; [4]Philips Medical Systems, Best, The Netherlands; [5]University Hospital of Zürich, Zurich, Switzerland.

438. Simultaneous Correction of Eddy Currents and Motion in DTI using the Residual Error of the Diffusion Tensor: Comparisons with Mutual Information

Stefan Skare[1], Jesper Andersson[1]
[1]Karolinska Institute, Stockholm, Sweden.

439. Use of a Novel Diffusion Weighted Segmented-EPI Sequence with Re-Acquisition of Motion Corrupted Data in Neonates with Suspected Hypoxic Ischaemic Encephalopathy

Alan Bainbridge[1], Shanthi Shanmugalingam[1], Quyen Nguygen[1], John S Thornton[1], John S Wyatt[1], Roger J Ordidge[1]
[1]University College London, London, England, UK.

440. Sub-voxel Measurement of Fiber Orientation using High Angular Resolution Diffusion Tensor Imaging

Adam Anderson[1], Zhaohua Ding[1]
[1]Yale University, New Haven, Connecticut, USA.

441. Diffusion Spectrum Imaging of Complex Cortical Cytoarchitecture in Adult Rats

Wen-Yih Isaac Tseng[1], Chin-Po Lin[1], Jyh-Horng Chen[1], Van J Wedeen[2]
[1]National Taiwan University, Taipei, Taiwan; [2]Massachusetts General Hospital, Harvard Medical School, Charlestown, Massachusetts, USA.

442. Validation of Diffusion Spectrum Magnetic Resonance Imaging with Registered Manganese-enhanced Optic Tracts and Phantom

Ching-Po Lin[1], Van Wedeen[2], Ching Yao[3], Jyh-Horng Chen[1], Wen-Yih Tseng[4]
[1]National Taiwan University, Taipei, Taiwan; [2]Massachusetts General Hospital, Charlestown, Massachusetts, USA; [3]National Health Research Institute, Taipei, Taiwan; [4]National Taiwan University Medical College, Taipei, Taiwan.

CLINICAL SCIENCE FOCUS SESSION
^{1}H MR Spectroscopy for Monitoring Cancer

443. Towards an Advanced Protocol for Tumour Detection in The Prostate Gland using 3D ^{1}H MR Spectroscopic Imaging and Dynamic Contrast Enhanced MRI

Ferdinand A. Van Dorsten[1], Dennis Klomp[1], Jurgen Fütterer[1], Mark Rijpkema[1], Jean De La Rosette[1], Jelle Barentsz[1], Arend Heerschap[1]
[1]University Medical Center Nijmegen, Nijmegen, Netherlands.

444. Metabolic Profiles Associated with Prostate Tissue Subcomponents

Radka Stoyanova[1], Mark G. Swanson[2], Daniel B. Vigneron[2], John Kurhanewicz[2], Truman R. Brown[3]
[1]Fox Chase Cancer Center, Cheltenham, Pennsylvania, USA; [2]University of California San Francisco, San Francisco, California, USA; [3]Columbia University, New York, New York, USA.

445. Reproducibility of MRSI Data for Serial Monitoring of Prostate Cancer Patients

Rao P Gullapalli[1], Mark Swanson[2], Vivian Weinberg[2], Daniel B. Vigneron[2], John Kurhanewicz[2]
[1]University of Maryland at Baltimore, Baltimore, Maryland, USA; [2]University of California San Francisco, San Francisco, California, USA.

446. The Utility of ^{1}H MRSI in Detecting Cancer in the Prostate Transition Zone

Kristen Zakian[1], Steven Eberhardt[1], Shanon Kleinman[1], Amita Shukla-Dave[1], Manickam Muruganandham[1], Victor Reuter[1], Peter Scardino[1], Hedvig Hricak[1], Jason Koutcher[1]
[1]Memorial Sloan Kettering Cancer Center, New York, New York, USA.

447. Proton MR Spectroscopic Imaging of Human Breast Cancer

Michael A. Jacobs[1], Peter B. Barker[1], David A. Bluemke[1], Cindy Maranto[1], Cheryl Arnold[1], Zaver Bhujwalla[1]
[1]Johns Hopkins University School of Medicine, Baltimore, Maryland, USA.

448. Monitoring Response to Neoadjuvant Chemotherapy for Locally Advanced Breast Cancer using 4T ^{1}H MRS

Eva H Baker[1], Patrick J Bolan[1], Lance DelaBarre[1], Hellmut Merkle[1], Douglas Yee[1], Lenore I Everson[1], Michael Garwood[1]
[1]University of Minnesota, Minneapolis, Minnesota, USA.

449. Does Taurine and Inositol have a Role in Characterizing Medulloblastomas? - An *In Vivo* and *In Vitro* Proton MRS Study

Tariq Shah[1], Rama Jayasundar[1], Virender Paul Singh[1], Chitra Sarkar[1]
[1]All India Institute of Medical Sciences, New Delhi, India.

450. Lipids by Proton MRSI in High-Grade Pediatric Brain Tumors Relate to Necrosis and Differentiate Clinical Outcome

Loukas Astrakas[1,2], Maria Zarifi[1], Tina Young-Poussaint[1], Mark Kieran[1], Liliana Goumnerova[1], David Zurakowski[2], Leo L Cheng[2], A. Aria Tzika[1,2]
[1]Harvard University, Children's Hospital, Boston, Massachusetts, USA; [2]Harvard University, Massachusetts General Hospital, Boston, Masachusetts, USA.

451. Grading of Gliomas – An *In Vivo* Proton MRS Study

Tariq Shah[1], Rama Jayasundar[1], Virender Singh[1], Chitra Sarkar[1]
[1]All India Institute of Medical Sciences, New Delhi, India.

452. Using Magnetic Resonance Spectroscopic Imaging to Guide Intensity Modulated Radiation Therapy

Lei Xing[1], Sandeep Hunjan[1], Cristian Cotrutz[1], Elfar Adalsteinsson[1], Iris Gibbs[1], Quynh-Thu Le[1], Sarah S Donaldson[1], Steven D Chang[1], Peter Heilbrun[1], Arthur L Boyer[1], Daniel M Spielman[1]
[1]Stanford University School of Medicine, Stanford, California, USA.

453. Application of Independent Component Analysis to the Proton Spectroscopic Imaging of Human Brain Tumours

Juhani Pulkkinen[1], Anna-Maija Häkkinen[2], Nina Lundbom[2], Risto Kauppinen[1], Yrjö Hiltunen[3]
[1]University of Kuopio, Kuopio, Finland; [2]Helsinki University Hospital, Helsinki, Finland; [3]University of Oulu, Oulu, Finland.

454. Comparison of a Cho-NAA Index with the MIB-1 Proliferative Index and Cell Density of Tissue Samples from Grades II and III Glioma

Tracy R McKnight[1], Daniel B Vigneron[1], Tonya D Love[1], Kathleen R. Lamborn[1], King Chiu[1], Mitchel S. Berger[1], Michael W. McDermott[1], Sarah J. Nelson[1]
[1]University of California San Francisco, San Francisco, California, USA.

CLINICAL SCIENCE FOCUS SESSION
MR Imaging of the Pelvis: Male, Female, and Fetal

455. Intraurethral MR Imaging of the Female Urethra: A Novel Look at Urethral Anatomy and Pathology
Katarzyna J. Macura[1], Rene Genadry[1], Jacek Mostwin[2], Tracy L. Borman[2], David A. Bluemke[2]
[1]Johns Hopkins University, Baltimore, Maryland, USA.

456. Investigation of Flow Characteristics of the Placental Basal Plate using Pixel Phase Analysis
J Fulford[1], R Duckett[1], R Moore[1], P Baker[1], I Johnson[1], P Gowland[1]
[1]University of Nottingham, Nottingham, England, UK.

457. Diffusion Tensor Imaging of the Prostate using Single-Shot Fast Spin Echo
Daniel Vigneron[1], Duan Xu[1], Albert Chen[1], Mark Swanson[1], John Kurhanewicz[1]
[1]University of California San Francisco, San Francisco, California, USA.

458. Diffusion Weighted Imaging of the Prostate: Tensor Analysis using Tetrahedral Encoding
Peter Gibbs[1], Lindsay W Turnbull[1]
[1]Hull Royal Infirmary, Hull, England, UK.

459. Reproducibility of Image Interpretation in MRI of the Prostate
Ullrich Gerd Mueller-Lisse[1], Ulrike Lotti Mueller-Lisse[1], Juergen E Scheidler[1], Gerhardt Klein[1], Maximilian F Reiser[1]
[1]Klinikum der Universitaet Muenchen - Grosshadern, Muenchen, Germany.

460. Data Acquisition Improvements in MR Elastography of the Prostate
M. Alex Dresner[1], Richard Ehman[1]
[1]Mayo Clinic, Rochester, Minnesota, USA.

461. Trace Diffusion Coefficient of the Prostate in Normal and Diseased States
Shantanu Sinha[1], Usha Sinha[1], John William Grinstead[1]
[1]University of California Los Angeles, Los Angeles, California, USA.

462. Fetal Brain Maturation Monitored using T_2
J Fulford[1], S Ong[1], P Baker[1], D James[1], P Gowland[1]
[1]University of Nottingham, Nottingham, England, UK.

463. MRI Assessment of Fetal Posterior Fossa Volume
Sara C. Chen[1], Erin M Simon[2], John Haselgrove[2]
[1]University of Pennsylvania, School of Medicine, Philadelphia, Pennsylvania, USA; [2]Children's Hospital of Philadelphia, Philadelphia, Pennsylvania, USA.

464. Fetal MR Imaging: Measurements of Signal Intensities and Volumes for Assessment of Lung Development and Diagnosis of Lung Pathologies
Thomas M Keller[1], Annett Rake[1], Sven CA Michel[1], Burkhardt Seifert[2], Simon Wildermuth[1], Borut Marincek[1], Rahel A Kubik-Huch[1]
[1]University Hospital Zurich, Zurich, Switzerland; [2]University of Zurich, Zurich, Switzerland.

465. Using SENSivity Encoding (SENSE) Acceleration and Inner Volume Imaging (Zoom) Techniques to Decrease Energy Deposition and Increase Image Acquisition Speed in Fetal MR: Work-in-Progress
Taylor Chung[1], Raja Muthupillai[2]
[1]Texas Childrens Hospital, Houston, Texas, USA; [2]Philips Medical Systems, Houston, Texas, USA.

466. Hepatic Carbohydrate Metabolism is Programmed in Fetal Life
Helena Claire Murphy[1], Robert Donald Cohen[1], Richard Anthony Iles[1], Shamus Patrick Burns[1]
[1]St Barts and The Royal London School of Medicine, Queen Mary, University of London, London, England, UK.

Rapid Imaging

467. On-Demand Real-time Imaging: Interactive Multislice Acquisition Applied to Prostate and Fetal Imaging

Reed F Busse[1], Andres Carrillo[1], Jean H Brittain[1], Stephen J Riederer[2], Daniel B Vigneron[3], John Kurhanewicz[2], Orit A Glenn[2], Anthony James Barkovich[2]
[1]GE Medical Systems, Menlo Park, California, USA; [2]Mayo Clinic, Rochester, Minnesota, USA; [3]University of California San Francisco, San Francisco, California, USA.

468. Adaptive Architecture for Real-Time Imaging Systems

Juan Manuel Santos[1], Graham Wright[2], Phillip Yang[1], John M. Pauly[1]
[1]Stanford University, Stanford, California, USA; [2]ASL-West, GE Medical Systems, Menlo Park, California, USA.

469. Real-Time Interactive Radial Multi-Echo Steady State Free Precessing (SSFP) Imaging

Tobias Schaeffter[1], Holger Eggers[1], Steffen Weiss[1], Volker Rasche[1]
[1]Philips Research, Hamburg, Germany.

470. Improved Spectral Selectivity and Reduced Susceptibility in True-FISP using a Near Zero TE Undersampled 3D PR Sequence

Aiming Lu[1], Thomas M. Grist[1], Walter F. Block[1]
[1]University of Wisconsin-Madison, Madison, Wisconsin, USA.

471. A Comparison of Reduced *k*-Space Encoding Schemes For Dual Contrast TrueFISP Imaging

Robert David Merrifield[1], Jennifer Keegan[2], David Firmin[2], Guang-Zhong Yang[1]
[1]Imperial College, London, England, UK; [2]Royal Brompton Hospital, London, England, UK.

472. On-Resonance Implementation of Fluctuating Equilibrium Sequences

Chris Flask[1], Jonathan S. Lewin[1], Jeffrey L. Duerk[1]
[1]University Hospitals of Cleveland and Case Western Reserve University, Cleveland, Ohio, USA.

473. Steady-State Free Precession Imaging with Inherent Fat Suppression

Christopher J. Hardy[1], W. Thomas Dixon[1]
[1]GE Corporate Research & Development, Schenectady, New York, USA.

474. Steady-State Sequence Synthesis

William R. Overall[1], Dwight G. Nishimura[1], Bob S. Hu[1]
[1]Stanford University, Stanford, California, USA.

475. SNR Analysis of Multiple Acquisition SSFP

Neal Bangerter[1], Shreyas Vasanawala[1], Dwight G. Nishimura[1]
[1]Stanford University, Stanford, California, USA.

476. Chemical Shift Selective Missing Pulse Steady State Free Precession (MP-SSFP)

Ken-Pin Hwang[1], Chris Flask[1], Jonathan S. Lewin[1], Jeffrey L. Duerk[1]
[1]Case Western Reserve University and University Hospitals of Cleveland, Cleveland, Ohio, USA.

fMRI in Neuroscience: Primary Sensory and Motor

477. Separating Human Visual Areas MT & MST using fMRI for Studies of Visual Motion Aftereffect

Kyle Bernheim[1], David Dubowitz[1]
[1]California Institute of Technology, Pasadena, California, USA.

478. Dependence of the Auditory Cortex Activation upon Rippled Noise Characteristics as Detected by Functional MRI

Dave Langers[1], Pim Van Dijk[1], Walter Backes[2]
[1]Maastricht University (Universiteit Maastricht), Maastricht, Netherlands; [2]University Hospital of Maastricht, Maastricht, Netherlands.

479. Ampliotopic Organization of the Human Auditory Cortex

Anja-Carina Schulte[1], Erich Seifritz[2], Jürgen Hennig[1], Klaus Scheffler[1], Deniz Bilecen[2]
[1]University of Freiburg, Freiburg, Germany; [2]University of Basel, Basel, Switzerland.

480. Local Functional Mapping of Human Auditory Cortex

Xiaojian Kang[1], David L Woods[1]
[1]University of California at Davis, Medical School, Martinez, California, USA.

481. Acoustic Stimulus Processing during Sleep: Is Deactivation Regional Specific and Independent of the Stimulus Type?

Michael Czisch[1], Renate Wehrle[1], Thomas C. Wetter[1], Christian Kaufmann[1], Thomas Pollmächer[1], Dorothee P. Auer[1]
[1]Max Planck Institute of Psychiatry, München, Germany.

482. Effective Connectivity to Motor Cortex Measured with Functional MRI

Baxter Rogers[1], Chad H. Moritz[1], M. Meyerand[1]
[1]University of Wisconsin-Madison, Madison, Wisconsin, USA.

483. Hand Motor and Sensory Cortex Reorganization in the Deaf: An fMRI Study

Dean Shibata[1], Jianhui Zhong[2]
[1]University of Washington School of Medicine, Seattle, Washington, USA; [2]University of Rochester School of Medicine and Dentistry, Rochester, New York, USA.

484. Force-Correlated Activation of the Motor Cortex during Isometric Handgrip Exercise

Robert W. Reid[1], Mark Charles Delano[1], Robert W. Wiseman[1], Thomas G. Cooper[1], Ronald Meyer[1]
[1]Michigan State University, East Lansing, Michigan, USA.

485. Inhibitory Neural Activity Produces a Significant BOLD Response in Human Cortical Areas

Archana Purushotham[1], Seong-Gi Kim[1]
[1]University of Minnesota, Minneapolis, Minnesota, USA.

486. fMRI Reveals Supplementary Motor Area Involvement in Response Preparation and Inhibition

Stewart H Mostofsky[1], Michael T. Abrams[1], Melissa C. Goldberg[1], Joanna G.B. Schafer[1], Susan M. Courtney[1], Vince D. Calhoun[1], Michael A. Kraut[1], Martha B. Denckla[1], James J. Pekar[1]
[1]Johns Hopkins University, Baltimore, Maryland, USA.

Cancer MR Imaging: Models

487. Combined and Co-Registered MRI, MRSI and Optical Imaging Characterization of Tumor Vascularization, Metabolism and Hypoxia

Venu Raman[1], Dimitri Artemov[1], Yelena Mironchik[1], Zaver Bhujwalla[1]
[1]Johns Hopkins University School of Medicine, Baltimore, Maryland, USA.

488. Rapid Dynamic Contrast-Enhanced MRI versus BOLD/MGRE Imaging in GH3 Prolactinomas

Dominick Jo McIntyre[1], Simon P Robinson[1], Franklyn A Howe[1], John R Griffiths[1]
[1]St. George's Hospital Medical School, London, England, UK.

489. Vessel Size Imaging in Rat Brain Tumors

Irène Troprès[1], Michel Péoc'h[2], Régine Farion[2], Michel Décorps[2], Chantal Rémy[2]
[1]European Synchrotron Radiation Facility, Grenoble, France; [2]Joseph Fourier University, Grenoble, France.

490. Quantification of Tumor Tissue Populations by Multispectral Analysis

Richard Alan Duray Carano[1], Adrienne Lee Ross[1], Jed Ross[1], Simon-Peter Williams[1], Hartmut Koeppen[1], Ralph Harold Schwall[1], Nicholas Van Bruggen[1]
[1]Genentech Inc., South San Francisco, California, USA.

491. Imaging Oxygen using Overhauser Enhanced MRI

Murali Cherukuri[1], Sean English[1], Koen Reijnders[1], Sankaran Subramanian[1], James B Mitchell[1]
[1]National Cancer Institute, Bethesda, Maryland, USA.

492. Over Expression and Secretion of Heparanase Markedly Promote Angiogenesis in Wound-Healing and Tumor Progression

Rinat Abramovitch[1], Orit Goldshmidt[1], Eyal Zcharia[1], Shula Metzger[1], Israel Vlodavsky[1]
[1]Hadassah University Hospital, Jerusalem, Israel.

493. Up-regulation of Platelet Derived Growth Factor Receptor in Gd-DTPA Contrast Enhanced Areas of Tumor as Determined by MR-Guided Functional Genomics Analysis

Samira Guccione[1], Carina Mari[1], Yi-Shan Yang[1], Dan Lee[1], Mark Bednarski[1]
[1]Stanford University School of Medicine, Stanford, California, USA.

494. MRI Studies on a Transgenic Human Tumor Model in the Mouse Brain: VEGF Expression is a Key Factor for Tumor Detection by MRI

Jeroen Pikkemaat[1], William P.J. Leenders[1], Benno Kuesters[1], Robert M.W. De Waal[1], Pieter Wesseling[1], Jelle Barentsz[1], Arend Heerschap[1]
[1]Nijmegen University Medical Center, Nijmegen, Netherlands.

495. MRI Detection of Lymphatic Drain in VEGF Over-Expressing Tumors following Intravenous Administration of Macromolecular Contrast Material

Hagit Dafni[1], Laura E. Benjamin[2], Zaver Bhujwalla[3], Michal Neeman[1]
[1]The Weizmann Institute of Science, Rehovot, Israel; [2]Beth Israel Deaconess Medical Center, Boston, Massachusetts, USA; [3]Johns Hopkins University School of Medicine, Baltimore, Maryland, USA.

496. Interstitial MR-Lymphography with Gadobutrol: Initial Results in Rats

Christian Fink[1], Michael Bock[1], Stefan Heckl[1], Fabian Kieß ling[1], Stefan Delorme[1]
[1]German Cancer Research Center (DKFZ), Heidelberg, Germany.

EPR and NMR Microscopy

497. Evaluation of Tissue-Engineered Bone Constructs by Proton NMR Microscopy

Kimberlee Potter[1], Newell R. Washburn[2], Paul Anderson[3]
[1]Armed Forces Institute of Pathology, Rockville, Maryland, USA; [2]National Institute of Standards and Technology, Gaithersburg, Maryland, USA; [3]Queen Mary and Westfield College, University of London, London, England, UK.

498. MR Microscopy in Forensic Medicine: Analysis of Electric Injury Patterns in Human Skin

Michael J. Thali[1], Kathrin Yen[2], Richard Dirnhofer[2], Kimberlee Potter[3]
[1]Office of the Armed Forces Medical Examiner, Rockville, Maryland, USA; [2]Institute of Forensic Medicine, University of Berne, Berne, Switzerland; [3]Armed Forces Institute of Pathology, Rockville, Maryland, USA.

499. Probing Boundary Roughness of Structural Materials by NMR 2D q-Space Imaging

Chih-Liang Chin[1], Felix W. Wehrli[1], Scott N. Hwang[1], Suzanne L. Wehrli[2], David B. Hackney[1]
[1]University of Pennsylvania, Philadelphia, Pennsylvania, USA; [2]The Children's Hospital of Pennsylvania, Philadelphia, Pennsylvania, USA.

500. Micro-Imaging with RF Coils Incorporated into a Joule-Thomson Micro-Refrigerator

Alexander C. Wright[1], Hee Kwon Song[1], Dawn M. Elliot[1], Felix W. Wehrli[1]
[1]University of Pennsylvania, Philadelphia, Pennsylvania, USA.

501. Osmolyte Distribution and Diffusion in Isolated Single Neurons

Samuel C. Grant[1], Stephen Blackband[1]
[1]University of Florida, Gainesville, Florida, USA.

502. Diffusion-Weighted Micro MR Studies of Intra-Axonal ADCs in Live Excised Larval Sea Lamprey Spinal Cord

Masaya Takahashi[1], Guixin Zhang[1], Micheal E. Selzer[1], Felix W. Wehrli[1], Suzanne L. Wehrli[2], Alexander C. Wright[1], David B. Hackney[1]
[1]University of Pennsylvania, Philadelphia, Pennsylvania, USA; [2]Children's Hospital of Philadelphia, Philadelphia, Pennsylvania, USA.

503. Authentication of C57BL6/J Mice Brain Microstructures Visualized by T_2*-Weighted MR Microscopy

Lin Zhang[1], Samuel C. Grant[2], H. Daniel Plant[2], Stephen J. Blackband[2], Helene Benveniste[1]
[1]Broohaven National Laboratory, SUNY-Stony Brook, Upton, New York, USA; [2]University of Florida, Gainesville, Florida, USA.

504. Single Point (Constant Time) Imaging in Radiofrequency FT-EPR

Sankaran Subramanian[1], Nallathamby Devasahayam[1], John A Cook[1], James B Mitchell[1], Murali Krishna Cherukuri[1]
[1]National Institutes of Health, Bethesda, Maryland, USA.

505. Multimodal Apparatus for Low Field (35.7 mT) Pulsed EPRI and MRI: First Imaging Results

Giuseppe Placidi[1], Marcello Alecci[1], Antonello Sotgiu[1]
[1]Università dell'Aquila, L'Aquila, Italy.

506. Proton MRI Co-Imaging of Living Mice with EPR Functional Imaging of Free Radicals

Guanglong He[1], Yuanmu Deng[1], Haihong Li[1], Periannan Kuppusamy[1], Jay L. Zweier[1]
[1]Johns Hopkins University School of Medicine, Baltimore, Maryland, USA.

Endogenous Contrast-Based Cardiac Imaging

507. Characterization of Myofiber Architecture in Post-Infarct Remodeling Myocardium using Diffusion Tensor MRI

Junjie Chen[1], Sheng-Kwei Song[1], Wei Liu[1], Mark Mclean[1], Stacy Allen[1], Samuel Wickline[1], Xin Yu[1]
[1]Washington University, St. Louis, Missouri, USA.

508. MR Imaging of Myocardial Strain and Fiber Architecture in Athlete´s Heart

Mao-Yuan Marine Su[1], Ming-Ting Wu[2], Van J Wedeen[3], Timothy G Reese[3], Huay-Ben Pan[2], Chien-Fang Yang[2], Wen-Yih Isaac Tseng[4]
[1]Institude of Radiologic Sicences, National Yang-Ming University, Sanchung, Taiwan; [2]Kaoshiung Veterans General Hospital, Kaoshiung, Taiwan; [3]Massachusetts General Hospital, Harvard Medical School, Charlestown, Massachusetts, USA; [4]National Taiwan University Medical College, Taipei, Taiwan.

509. Visualization of Myocardial Microstructure by High Resolution T_2* Imaging of Isolated Rat Heart at 11.75 T

Sascha Köhler[1], Karl-Heinz Hiller[1], Christiane Waller[2], Peter Michael Jakob[1], Wolfgang Bauer[2], Axel Haase[1]
[1]University Würzburg, Würzburg, Germany; [2]Medizinische Universitätsklinik, Würzburg, Germany.

510. Vasodilator Response Assessment in Porcine Myocardium using MR Relaxometry

Warren Foltz[1], Hong Huang[1], Stephen Fort[1], Graham Wright[1,2]
[1]University of Toronto, Toronto, Ontario, Canada; [2]ASL West, GE Medical Systems, Menlo Park, California, USA.

511. *In-Vivo* MRI Measurement of Blood Oxygen Saturation in Children with Congenital Heart Disease

Xiuling Qi[1], Emanuela R Valsangiacomo[1], Christopher Macgowan[1], Lynne Nield[1], Shi Joon Yoo[1], L K Hornberger[1], Graham Wright[1,2]
[1]University of Toronto, Toronto, Ontario, Canada; [2]ASL West, GE Medical Systems, Menlo Park, California, USA.

512. Multi-Echo Single Shot T_2 Measurement in the Human Heart

Brigitte Poncelet[1], Timothy G. Reese[1], Van Wedeen[1], Thomas J. Brady[1]
[1]Massachusetts General Hospital, Charlestown, Massachusetts, USA.

513. Assessment of Myocardial Perfusion using a New T_2-Prepared TrueFISP Blood Oxygen Level Dependent (BOLD) Pulse Sequence

David Steven Fieno[1], Stephen M. Shea[1], Richard Tang[1], Yongzhong Li[1], Kathleen R. Harris[1], Paul Finn[1], Debiao Li[1]
[1]Northwestern University Medical School, Chicago, Illinois, USA.

514. Quantitative Assessment of Myocardial Perfusion in Human Heart under Rest and Adenosine Induced Stress Breathing Air and Oxygen at 2 Tesla

Florian Fidler[1], Stefan Hirn[1], Christian Michael Wacker[1], Wolfgang Bauer[1], Peter Michael Jakob[1], Axel Haase[1]
[1]Universitat Würzburg, Würzburg, Germany.

515. Calculation of Intra-Ventricular Pressure Gradients with Phase Contrast MRI: *In-Vivo* Validation with High Fidelity Pressure Transducers

Richard B Thompson[1], Daniel Ennis[1,2], J. Andrew Derbyshire[1], Elliot R. McVeigh[1,2]
[1]National Institutes of Health, Bethesda, Maryland, USA; [2]Johns Hopkins University School of Medicine, Baltimore, Maryland, USA..

516. Respiratory Resolved Cine Phase Contrast MRI: Measurement of Right and Left Heart Cardiac Output during Inspiration and Expiration

Richard B Thompson[1], Daniel Ennis[1,2], J. Andrew Derbyshire[1], Andrew Arai[1], Elliot McVeigh[1,2]
[1]National Institutes of Health, Bethesda, Maryland, USA; [2]Johns Hopkins University School of Medicine, Baltimore, Maryland, USA..

MR Imaging of the Bowel

517. A Potential Usage for Manganese Based Contrast Agents in Gastrointestinal Tract Imaging

C. S. Zuo[1], P. Seoane[2], I. Nasser[1], P. Harnish[2], D. Lim[1], N. M. Rofsky[1]
[1]Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, Massachusetts, USA; [2]Eagle Vision Pharmaceutical Corp., Chester Springs, Pennsylvania, USA.

518. EPI Measurements of Meal Accommodation and Comparison of Gastric Function Assessed with Scintigraphy and Manometry: Application to a Clinical Trial of a Novel 5-HT_3 Receptor Agonist

Luca Marciani[1], N S Coleman[2], P E Blackshaw[2], M Parker[2], J Wright[2], A Perkins[2], R C Spiller[2], P A Gowland[1]
[1]University of Nottingham, Nottingham, England, UK; [2]QMC Hospital, Nottingham, England, UK.

519. Intragastric Distribution and Gastric Emptying of Iron Oxide Labeled Tablet Formulations in Different Meals – An MRI Study in Seated Volunteers

Andreas Steingoetter[1], Dominik Weishaupt[2], Patrik Kunz[3], Karsten Mäder[3], Hans Lengsfeld[3], Miriam Thumshirn[2], Michael Fried[2], Werner Schwizer[2], Peter Boesiger[1]
[1]University of Zurich and ETHZ, Zurich, Switzerland; [2]University Hospital Zurich, Zurich, Switzerland; [3]F. Hoffmann LaRoche, Basel, Switzerland.

520. 3D Reconstruction of MR Enteroclysis Data using Gradient-Enhanced Volume Rendering

Michael Wyss[1], Markus B Scheidegger[1], Michael A Patak[2], Johannes M Froehlich[2], Constantin Von Weymarn[2], Klaus-Ulrich Wentz[2]
[1]Philips Medical Systems Switzerland, Zurich, Switzerland; [2]Kantonsspital Winterthur, Winterthur, Switzerland.

521. A Non-Invasive Approach using Perfusion MRI of the Small Bowel to Diagnose Mesenteric Ischemia

Thomas C Lauenstein[1], Dennis Hibbeln[1], Silke Bosk[1], Jörg Debatin[1], Stefan Ruehm[1]
[1]University Hospital Essen, Essen, Germany.

522. Noninvasive Assessment of Small Gut Motility with MRI

Johannes M. Froehlich[1], Michael A Patak[1], Constantin Von Weymarn[1], Christoph L. Zollikofer[1], Klaus U. Wentz[1]
[1]Kantonsspital Winterthur, Winterthur, Switzerland.

523. MR Imaging of Strangulated Small Bowel Obstruction (SBO): "Peristalsis Gap Sign" and "Intraluminal Bleeding Sign"

Taro Takahara[1], Hiroki Haradome[1], Toshiaki Nitatori[1], Junichi Hachiya[1], Yuji Itai[2]
[1]Kyorin University, Toyko, Japan; [2]Tsukuba University, Tsukuba, Japan.

524. New Aspects of Fecal Tagging for MR Colonoscopy

Thomas C Lauenstein[1], Gerald Holtmann[1], Stefan Ruehm[1], Susanne C Goehde[1], Jörg Debatin[1]
[1]University Hospital Essen, Essen, Germany.

525. Exploration of High-Resolution Fast Spin Echo Techniques for MR Colonography after Distention of the Colon with Air

Hilde Bosmans[1], Maarten Thomeer[1], Iacopo Carbone[2], Kenneth Coenegrachts[1], Dirk Vanbeckevoort[1], Paul Rutgeerts[1], Guy Marchal[1]
[1]University Hospitals of the KU Leuven, Leuven, Belgium; [2]University Hospital of Rome, Rome, Italy.

526. Withdrawn

MR Spectroscopy Processing, etc.

527. Influence of Composition of the Basis Set in Linear Combination Model Fitting of ^{1}H-MR Spectra of Human Brain

Lucie Hofmann[1], Chris Boesch[1], Roland Kreis[1]
[1]University Berne, Berne, Switzerland.

528. On the Quantification of Low Concentration Metabolites by ^{1}H NMR Spectroscopy in the Human Brain at 7 Tesla

Ivan Tkac[1], Kamil Ugurbil[1], Rolf Gruetter[1]
[1]University of Minnesota, Minneapolis, Minnesota, USA.

529. Metabolite Nulling Improves Reliability of LCModel Analysis of Short Echo Time Spectroscopy

Mary McLean[1], Robert Simister[1], Gareth Barker[2], John Duncan[1]
[1]National Society for Epilepsy, Gerrards Cross, England, UK; [2]University College London, National Hospital, London, England, UK.

530. Automatic Quantitation of *In Vivo* ^{13}C Spectra using LCModel

Pierre-Gilles Henry[1], Ivan Tkac[1], Rolf Gruetter[1]
[1]University of Minnesota, Minneapolis, Minnesota, USA.

531. Complex Geometric Averaging of Time Domain Data Applied to Localized *In Vivo* ^{1}H NMR Spectroscopy

Wolfgang Dreher[1], Dieter Leibfritz[1]
[1]Universität Bremen, Bremen, Germany.

532. Motion Correction for 2D CSI

Dong-Hyun Kim[1], E. Adalsteinsson[1], Daniel Spielman[1]
[1]Stanford University, Stanford, California, USA.

533. Filter Functions for Variable-Density Spiral CSI

E. Adalsteinsson[1], Daniel Spielman[1]
[1]Stanford University School of Medicine, Stanford, California, USA.

534. Estimation of Intrinsic Relaxation Times by Echo Time-Domain Quantitation

Sophie Cavassila[1], Denis Grenier[1], Olivier Beuf[1], Danielle Graveron-Demilly[1]
[1]Université Claude Bernard Lyon1, CPE, Villeurbanne, France.

535. Performance of a Multiple Inversion Recovery as a Water Suppression Technique for ^{1}H Magnetic Resonance Spectroscopy

Andreana Petrova Haley[1], Carol Anne Manning[1], Vu M. Mai[2], Virginia I. Simnad[1], Jack Knight-Scott[1]
[1]University of Virginia, Charlottesville, Virginia, USA; [2]Evanston Hospital, Evanston Northwestern Healthcare, Evanston, Illinois, USA.

536. Dynamic Shim Updating (DSU) for Multi-Slice Signal Acquisition

Robin De Graaf[1], Peter Brown[1], Scott McIntyre[1], Douglas Rothman[1], Terry Nixon[1]
[1]Yale University School of Medicine, New Haven, Connecticut, USA.

Diffusion-Based Fiber Tracking

537. Virtual *In Vivo* Interactive Dissection (VIVID) of White Matter Fasciculi in the Human Brain by Diffusion Tensor MRI

Marco Catani[1,2], Robert J Howard[1], Sinisa Pajevic[3], Derek K Jones[1]
[1]Insititute of Psychiatry, London, England, UK; [2]University of Perugia, Perugia, Italy; [3]National Institutes of Health, Bethesda, Maryland, USA.

538. A Novel Fibre-Tracking Technique: Front Evolution using a Fibre Orientation Probability Density Function

Jacques-Donald Tournier[1], Fernando Calamante[1], David Gadian[1], Alan Connelly[1]
[1]University College London, Institute of Child Health, London, England, UK

539. White Matter Tractography using Random Vector (RAVE) Perturbation

Mariana Lazar[1], Andrew L Alexander[2]
[1]University of Utah, Salt Lake City, Utah, USA; [2]University of Wisconsin, Madison, Wisconsin, USA.

540. Automated Fuzzy Clustering of Neuronal Pathways in Diffusion Tensor Tracking

Joshua Shimony[1], Avi Snyder[1], Nicholas Lori[1], Thomas Conturo[1]
[1]Washington University in St. Louis, St. Louis, Missouri, USA.

541. White Matter Fiber Orientation Distribution in Normal Adult Brains Is Not Evenly Distributed Overall

Tie-Qiang Li[1]
[1]Indiana University School of Medicine, Indianapolis, Indiana, USA.

542. Diffusion Tensor Fiber Tractography on a Population Averaged Brain

Derek K Jones[1], Marco Catani[1,2], Daniel Alexander[3], Robert J Howard[1]
[1]Institute of Psychiatry, London, England, UK; [2]University of Perugia, Perugia, Italy; [3]University College London, London, England, UK.

543. Directional Coherence Tensor Formalism for Diffusion Tensor MRI: Mapping Structure in Spinal Cord Gray Matter

Evren Ozarslan[1], Thomas H. Mareci[1]
[1]University of Florida, Gainesville, Florida, USA.

544. Visualization of Collateral Nerve Fibers of Human Cervical Spinal Cord: Direct Histologic Validation of Diffusion Tensor Imaging

Hatsuho Mamata[1], Carl-Fredrik Westin[1], Umberto De Girolami[1], Ferenc A. Jolesz[1], Stephan E. Maier[1]
[1]Brigham and Women's Hospital, Harvard University, Boston, Massachusetts, USA.

545. Diffusion Tensor Imaging of Periventricular Leukomalacia Shows Affected Sensory Cortex White Matter Pathways

Susumu Mori[1], William T. Lawrie[1], Elias Melhem[1], Elsie M Reinhardt[1], Peter C. Van Zijl[1], Meiyappan Solaiyappan[1], H. Jiang[1], Michael V Johnston[1], Alexander H Hoon[1]
[1]Johns Hopkins University, Baltimore, Maryland, USA.

546. A Novel Fiber-Tracking Method using Vector Criterion and Predictive Directivity in Diffusion Tensor Imaging

Keun Ho Kim[1], Itamar Ronen[1], Elia Formisano[2], Susumu Mori[3], Kamil Ugurbil[1], Rainer Goebel[2], Dae-Shik Kim[1]
[1]University of Minnesota, Minneapolis, Minnesota, USA; [2]University of Maastricht, Maastricht, Netherlands; [4]Johns Hopkins University School of Medicine, Baltimore, Maryland, USA.

THURSDAY

PLENARY LECTURE
Ethics in Research

547. How to Protect Yourself from Research Misconduct in Your Laboratory
Alan R. Price[1]
[1]Office of Research Integrity, Rockville, Maryland, USA.

548. Ethics of Scientific Journalism
Lee F. Rogers[1]
[1]American Journal of Roentgenology, Winston-Salem, North Carolina, USA.

549. Academics and Industry: Conflicts of Interest
Judy M. Johncox[1]
[1]Indiana University, Indianapolis, Indiana, USA.

fMRI in Neuroscience: Language and Cognition

550. Mapping Language Development in Normal Children using fMRI at 3T
Scott K. Holland[1], *Elena M. Plante*[2], *Anna Weber Byars*[1], *Vincent J. Schmithost*[1], *M. Wilke* [1], *Lori Arlinghaus*[1], *Jennifer R. Frey*[1]
[1]Children's Hospital Medical Center, Cincinnati, Ohio, USA; [2]University of Arizona, Tucson, Arizona, USA.

551. Neuroplasticity in Neonates – An fMRI Study of Language Stimulated Auditory Activation
Shantanu Sinha[1], *Susan Y Bookheimer*[1], *John William Grinstead*[1], *Mark Cohen*[1], *Lina Z Badr*[1]
[1]University of California Los Angeles, Los Angeles, California, USA.

552. Connectivity in the Language System: The Role of Posterior Cingulate Deactivation
Anthony B Waites[1], *David F Abbott*[1], *Michael M Saling*[1], *Ari Syngeniotis*[1], *Graeme D Jackson*[1]
[1]Austin and Repatriation Medical Centre, Melbourne, Victoria, Australia.

553. Mapping The Functional Anatomy of Reading
Manzar Ashtari[1], *Kenneth E. Perrine*[1], *Rania Elbaz*[1], *Uzma Syed*[1], *Alan B Ettinger*[1], *Alexandra E McBride*[1], *Alan Diamond*[1]
[1]North Shore LIJ Health Systems, Albert Einstein College of Medicine, New Hyde Park, New York, USA.

554. fMRI of Writing and Mirror Writing in Right and Left Handed Subjects
Arshad Zaman[1], *Karolina Wortolowska*[2], *Neil Roberts*[1]
[1]University of Liverpool, Liverpool, England, UK; [2]Medical University of Lodz, Lodz, Poland.

555. Real-time fMRI of Single Trial Amygdala Activation during Sad Mood Induction with Feedback
Stefan Posse[1], *Daniel A Fitzgerald*[1], *Ute Habel*[2], *David R. Rosenberg*[1], *Gregory J. Moore*[1], *Frank Schneider*[2]
[1]Wayne State University, Detroit, Michigan, USA; [2]University of Duesseldorf, Duesseldorf, Germany.

556. Variable-Length Block Memory Encoding Paradigm Demonstrates Individual Subject Hippocampal fMRI Response
Chad H. Moritz[1], *Sterling C. Johnson*[2], *M. E. Meyerand*[1]
[1]University of Wisconsin-Madison, Madison, Wisconsin, USA; [2]Barrow Neurological Institute, Phoenix, Arizona, USA.

557. Area Spt: An Auditory-Motor Integration Area in the Dorsal Auditory Stream
Gregory Hickok[1], *Bradley Buchsbaum*[1], *Lutfi Muftuler*[1], *Orhan Nalcioglu*[1]
[1]University of California Irvine, Irvine, California, USA.

558. Crossmodal Interaction of Color and Smell

Robert Alexander Osterbauer[1], Paul Mattews[1], Gemma Anne Calvert[1]
[1]University of Oxford, Oxford, England, UK.

559. 5-HT Modulation of Behavioural Inhibition and Localized Brain Activation. A Functional and Pharmacological MRI Study

Lynn Clarke[1], Rebecca Elliott[1], Bhavna Kulkhani[1], William Deakin[1], Stephen Williams[1], Ian Anderson[1]
[1]University of Manchester, Manchester, England, UK.

Novel Body MR Imaging Concepts

560. Continuously Acquired Moving Table MRI: A Method for Rapid Whole Body Scanning

Peter Choyke[1], Vincent Ho[2], Hani Marcos[1], Maureen N. Hood[2], Sandy Hess[1], Thomas Foo[3]
[1]National Institutes of Health, Bethesda, Maryland, USA; [2]Uniformed Services University of the Health Sciences, Bethesda, Maryland, USA; [3]G. E. Medical Systems, Milwaukee, Wisconsin, USA.

561. 3D VIBE Whole Body MRI for Tumor Screening using a Rolling Table Platform

Thomas C Lauenstein[1], Christoph U. Herborn[1], Carsten Oberhoff[1], Tobias Engelhorn[1], Stefan Ruehm[1], Mathias Goyen[1], Jörg Debatin[1], Jörg Barkhausen[1]
[1]University Hospital Essen, Essen, Germany.

562. Whole-Body MRI: A Simple Approach using Automatic Table Movement and Dedicated Post-Processing

Michael Bock[1], Steffen Volz[1], Sven Zühlsdorff[1], Reiner Umathum[1], Wolfhard Semmler[1]
[1]German Cancer Research Center (DKFZ), Heidelberg, Germany.

563. Clinical Evaluation of Parallel Imaging for Accelerated VIBE MRI of the Liver

Charles McKenzie[1], Daniel Lim[1], Martina Morrin[1], Ivan Pedrosa[1], Ernest Yeh[1,2], Daniel Sodickson[1,2], Neil Rofsky[1]
[1]Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, Massachusetts, USA; [2]Harvard-MIT Division of Health Sciences and Technology, Boston, Massachusetts, USA.

564. Feasibility Study of using 3D FSPGR and Subtracted 3D FIESTA for Imaging of Arterial, Portal and Venous Vasculatures

Yi Wang[1], Xiangke Du[1], Thomas Foo[2], Guang Cao[3]
[1]People's Hospital, Peking University, Beijing, China; [2]GE Medical Systems, Milwaukee, Wisconsin, USA; [3]GE Medical Systems-China, Hong Kong, Hong Kong.

565. Characterisation of the Severity of Diffuse Liver Disease in Patients with Hepatitis C using ^{31}P-Magnetic Resonance Spectroscopy

Adrian KP Lim[1], Nayna Patel[1], Gavin Hamilton[1], Daniel Forton[1], Martin Blomley[1], Howard Thomas[1], David Cosgrove[1], Joseph V. Hajnal[1], Simon Taylor-Robinson[1]
[1]Imperial College of Science, Technology and Medicine, Hammersmith Hospital, London, England, UK.

566. Interactive Fluoroscopic MRCP: Diagnostic Performance

Fiona NAC Miller[1], Sanjeeva Abeywickrama[1], Malek Makki[1], Martin J Graves[1], Hilary J Franklin[1], David J. Lomas[1]
[1]University of Cambridge, Cambridge, England, UK.

567. Imaging of Pancreatic Beta Cell Function by Mn^{2+}-Enhanced MRI

Barjor Gimi[1], Lara Leoni[1], Tejal A. Desai[1], Richard Lloyd Magin[1], Brian B Roman[1]
[1]University of Illinois at Chicago, Chicago, Illinois, USA.

568. Screening - A New Application for MR Imaging?

Susanne C Goehde[1], Thomas Lauenstein[1], Peter Hunold[1], Tobias Engelhorn[1], Christoph U. Herborn[1], Michael Forsting[1], Jörg F Debatin[1]
[1]University Hospital Essen, Essen, Germany.

569. Clinical Whole Body MRI at 3.0 T – Initial Experience

James Hugg[1], Neil Rofsky[2], Saul Stokar[1], Galit Eyal[1], Avram Montag[1]
[1]GE Medical Systems, Haifa, Israel; [2]Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, Massachusetts, USA.

Clinical Cancer MR Spectroscopy

570. *In Vivo* ^{1}H MR Spectroscopic Study of Thyroid Lesions: Correlation with Pathology

Wei Huang[1], Patricia Roche[1], Terry Button[1], Maisie Shindo[1]
[1]State University of New York, Stony Brook, New York, USA.

571. Evaluation of Solid Components of Ovarian Tumors by Quantitative *In-Vivo* Proton MR Spectroscopy

Toshiko Okada[1], Masafumi Harada[1], Kenji Matsuzaki[1], Hiromu Nishitani[1], Minoru Irahara[1]
[1]University of Tokushima, Tokushima, Japan.

572. Automated Classification of Brain Tumours from ^{1}H MRS Spectra in INTERPRET, a Multi-Centre Collaboration

A. Rosemary Tate[1], M. Margarita Julia-Sapé[2], Christophe Ladroue[1], Mary Murphy[1], Alison Loosemore[1], B Anthony Bell[1], Peter Wilkins[1], Antoni Capdevila[3], Carles Majós[4], Angel Moreno[3], Franklyn Howe[1], Carlos Arús[2], John R. Griffiths[1]
[1]St George's Hospital Medical School, London, United Kingdom; [2]Universitat Autònoma de Barcelona, Barcelona, Spain; [3]Central Diagnostic Pedralbes, Barcelona, Spain; [4]IDI Centre, Barcelona, Spain.

573. Clinical Impact of Single Voxel *In Vivo* Proton MR Spectroscopy (^{1}H MRS) on the Diagnosis of Focal Brain Lesions - An Analysis of 293 Cases using Cluster and Discriminant Analysis

S. Herminghaus[1], U. Pilatus[1], H. Lanfermann[1], M. Setzer[1], J. Lang[1], F. E. Zanella[1]
[1]University of Frankfurt/Main, Frankfurt, Germany.

574. ^{1}H Magnetic Resonance Spectroscopic Imaging as a Tool for Evaluating Patients with Recurrent Gliomas being Considered for Treatment with Gamma Knife Radiosurgery

Antoinette S. Antiniw[1], Aubrey Lau[1], Sarah J. Nelson[1]
[1]University of California San Francisco, San Francisco, California, USA.

575. Clinical Decision Making in Irradiated Gliomas: Value of Proton MR Spectroscopy Compared to FDG-PET and IMT-SPECT

Matthias Philipp Lichy[1], Markus Henze[1], Steffen Sammet[1], Andrew A. Maudsley[2], Peter Bachert[1], Juergen Debus[1], Heinz-Peter Wilhelm Schlemmer[1]
[1]German Cancer Research Center, Heidelberg, Germany; [2]University of California San Francisco, Veterans Administration Medical Center, San Francisco, California, USA.

576. Comparison of Anatomic and Metabolic Abnormalities for Newly Diagnosed Glioma Patients Prior to Treatment with Fractionated Radiation Therapy

Xiaojuan Li[1], Sarah J. Nelson[1]
[1]University of California San Francisco, San Francisco, California, USA.

577. Spectroscopic and Perfusion MR Imaging Predictors of Progression in Pediatric Brain Tumors

Loukas G. Astrakas[1,2], Maria K. Zarifi[2], Tina Young-Poussaint[2], Liliana Goumnerova[2], David Zurakowski[2], Mark Kieran[1], A. Aria Tzika[1,2]
[1]Massachusetts General Hospital, Harvard Medical School, Boston, Massachusetts, USA; [2]Children's Hospital, Harvard Medical School, Boston, Massachusetts, USA.

578. Correlation of the ^{1}H MRS Metabolic Profile of Human Brain Tumors with Patient Survival

Franklyn Howe[1], Mary M Murphy[2], Peter Wilkins[2], Alison Loosemore[2], B Anthony Bell[2], John R Griffiths[1]
[1]St. George's Hospital Medical School, London, England, UK; [2]Atkinson Morleys Hospital, London, England, UK.

579. Addition of ^{1}H MRS and Perfusion MRI to Conventional Dynamic Contrast MRI Improves Specificity in Detection of Breast Malignancy

T. Button[1], K. Dulaimy[1], P. Fisher[1], B. O'Hea[1], L. Merriam[1], V. Geronimo[1], Wei Huang[1]
[1]State University of New York, Stony Brook, New York, USA.

MR Spectroscopy in Animals: Cerebral Metabolism

580. Identification of Metabolites Emerging during Autolysis and Bacterial Heterolysis of Decomposing Brain Tissue by ^{1}H-MRS *In Situ* and *In Vitro*

Michael Ith[1], Peter Bigler[1], Eva Scheurer[1], Roland Kreis[1], Lucie Hofmann[1], Richard Dirnhofer[1], Chris Boesch[1]
[1]University Bern, Bern, Switzerland.

581. *In Vivo* ^{1}H MRS, T_2-Weighted and Diffusion-Weighted MRI during Pilocarpine-Induced Status Epilepticus in the Rat

Pieter Van Eijsden[1], Onno Van Nieuwenhuizen[1], Robbert Notenboom[2], Pierre De Graan[2], Klaas Nicolay[1], Kees Braun[1]
[1]University Medical Center Utrecht, Utrecht, Netherlands; [2]Rudolf Magnus Institute for Neurosciences, Utrecht, Netherlands.

582. Effects of 2-Deoxy-D-glucose on Focal Cerebral Ischemia in Hyperglycemic Rats

Jingna Wei[1], David Marshall Cohen[2], Michael J. Quast[1]
[1]University of Texas Medical Branch at Galveston, Galveston, Texas, USA; [2]Baylor College of Medicine, Houston, Texas, USA.

583. Induction of Choline Rise in the Rat Hippocampus by Electroconvulsive Shock Treatment

Alexander Sartorius[1], Claudia Neumann-Haefelin[2], Barbara Vollmayr[1], Mathias Hoehn[2], Fritz A. Henn[1]
[1]Central Institute of Mental Health, Mannheim, Germany; [2]Max Planck Institute for Neurological Research, Cologne, Germany.

584. Antidepressants Prevent Stress-Induced Reductions of Cerebral Metabolites

Thomas Michaelis[1], Takashi Watanabe[1], Oliver Natt[1], Susann Boretius[1], Marieke Van Der Hart[2], Boldizsar Czeh[2], Gabriel De Biurrun[2], Eberhard Fuchs[2], Jens Frahm[1]
[1]Biomedizinische NMR Forschungs GmbH, Göttingen, Germany; [2]Deutsches Primaten Zentrum, Göttingen, Germany.

585. MDMA ("ECSTACY") Increases Striatal But Not Prefrontal GABA in Rat Brain: Studies with High-Resolution Magic Angle Spinning Proton Magnetic Resonance Spectroscopy (HR-MAS ^{1}H-MRS)

Matthew P Galloway[1], Stanley T Fricke[1], Todd R Mitchell[1], Navid Seraji-Bozorgzad[1], Gregory J Moore[1]
[1]Wayne State University School of Medicine, Detroit, Michigan, USA.

586. Localized, High-Sensitivity, High-Resolution ^{1}H-[^{13}C]-NMR Spectroscopy of Rat Brain *In Vivo* at 7 Tesla

Robin De Graaf[1], Peter Brown[1], Graeme Mason[1], Douglas Rothman[1], Kevin Behar[1]
[1]Yale University School of Medicine, New Haven, Connecticut, USA.

587. Neuronal and Glial Tricarboxylic Acid Cycles and the Glutamine Cycle as Precursors of Cerebral Glutamine and GABA in the Adult Rat Brain

María Antonia García-Espinosa[1], María Luisa García-Martín[1], M. Benito[1], Paloma Ballesteros[2], Sebastian Cerdán[1]
[1]Inst Investigaciones Biomédicas, Madrid, Spain; [2]UNED, Chemistry, Madrid, Spain.

588. ^{13} C-Enriched Food versus Infusion: A Novel Approach to Study the Metabolism of N-Acetyl-L-Aspartate

Gunnar Karelson[1], André Ziegler[1], Basil Künnecke[1], Joachim Seelig[1]
[1]Biocenter of the University, Basel, Switzerland.

589. Hemispheric and Gender Differences in Brain Metabolites in Normal Rat Brain Detected by ^{1}H MRS

Christine C Cloak[1], Russell E Poland[1]
[1]Cedars-Sinai Medical Center, University of California Los Angeles, Los Angeles, California, USA.

Multiple Sclerosis: MR Spectroscopy, Diffusion Tensor Imaging, and MR Imaging

590. Axonal Integrity and Fractional Anisotropy in the Normal-Appearing White Matter of Patients with Multiple Sclerosis: Relationship to Cerebro-Functional Reorganization and Clinical Disability

Zografos Caramanos[1], Jennifer S.W. Campbell[1], Sridar Narayanan[1], Simon J. Francis[1], Samson B. Antel[1], Hasini Reddy[2], Paul M. Matthews[2], Dominique Louis Sappey-Marinier[3], Bruce Pike[1], Douglas Arnold[1]
[1]Montreal Neurological Institute, McGill University, Montreal, Quebec, Canada' [2]University of Oxford, Oxford, England, UK; [3]Université Claude Bernard Lyon1, Lyon, France.

591. Regional Proton Magnetic Resonance Spectroscopy, Diffusion Tensor and Magnetization Transfer Imaging Metrics Related to Clinical Disability in Relapsing Remitting and Secondary Progressive Multiple Sclerosis

Joonmi Oh[1], Daniel Pelletier[1], Roland G Henry[1], Sharmila Majumdar[1], Sarah J. Nelson[1]
[1]University of California San Francisco, San Francisco, California, USA.

592. Neuronal Damage in Thalamic Grey Matter in Relapsing-Remitting Multiple Sclerosis

Marzena Wylezinska[1], Alberto Cifelli[1], Paul Matthews[1], Jackie Palace[1], Peter Jezzard[1]
[1]University of Oxford, Oxford, England, UK.

593. Proton Magnetic Resonance Spectroscopic Findings in Normal Appearing Grey and White Matter in Early Relapsing Remitting Multiple Sclerosis

D. T. Chard[1], M. A. McLean[2], C. M. Griffin[1], A. J. Thompson[1], D. H. Miller[1]
[1]Institute of Neurology, University College London, London, England, UK; [2]National Society for Epilepsy, Gerrards Cross, England, UK.

594. Assessment of Axonal Injury and Demyelination in the Cerebral Normal-Appearing White Matter of Patients with Multiple Sclerosis

Sridar Narayanan[1], Simon J. Francis[1], John Sled[1], Antonio Carlos Santos[1], Samson Antel[1], Ives Levesque[1], Steven Brass[1], Yves Lapierre[1], Dominique Louis Sappey-Marinier[2], Bruce Pike[1], Douglas Arnold[1]
[1]McGill University, Montréal Neurological Institute, Montréal, Québec, Canada; [2]Université Claude Bernard Lyon1, Lyon, France.

595. Correlation Studies of Multiple Sclerosis using ^{1}H MRS, Volumetric MRI, and Cognitive Test

Wei Huang[1], C. Christodoulou[1], L Li[3], A. Tudorica[1], X. Li[1], P. Roche[1], W. Scherl[1], R. Peyster[1], C. Roque[1], P. Melville[1], V. Geronimo[1], Z. Liang[1], L. Krupp[1]
[1]State University of New York, Stony Brook, New York, USA.

596. Normal-Appearing White and Grey Matter Damage in Patients at Presentation with Clinically Isolated Syndrome Suggestive of Multiple Sclerosis: An *In Vivo* DT-MRI Study

Marco Bozzali[1], Marco Rovaris[1], C. Kesavadas[1], Vittorio Martinelli[1], Angelo Ghezzi[2], Andrea Falini[1], Giuseppe Scotti[1], Giancarlo Comi[1], Massimo Filippi[1]
[1]Scientific Institute H. San Raffaele, Milan, Italy; [2]Multiple Sclerosis Center, Gallarate, Italy.

597. Identification of Gray Matter and White Matter Tissue Loss in Relapsing-Remitting Multiple Sclerosis: Fractional Volumetric Analysis

Yulin Ge[1], Robert I. Grossman[1], Jayaram K Udupa[2], James S Babb[1], Dennis L Kolson[2]
[1]New York University School of Medicine, New York, New York, USA; [2]University of Pennsylvania School of Medicine, Philadelphia, Pennsylvania, USA.

598. Whole Brain N-Acetylaspartate Concentrations are Reduced in Patients at Presentation with Clinically Isolated Syndromes Suggestive of MS

Marco Bozzali[1], Anna Gambini[1], Marco Rovaris[1], Andrea Falini[1], Angelo Ghezzi[2], Vittorio Martinelli[1], Giuseppe Scotti[1], Oded Gonen[3], Robert Grossman[3], Giancarlo Comi[1], Massimo Filippi[1]
[1]Scientific Institute H. San Raffaele, Milan, Italy; [2]Multiple Sclerosis Center, Gallarate, Italy; [3]New York University, New York, USA.

599. Effect of Glatiramer Acetate Treatment on Multiple Sclerosis Lesions with Different Degrees of MRI-Measured Inflammation

Marco Rovaris[1], Giancarlo Comi[1], Maria Codella[1], Lucia Moiola[1], Angelo Ghezzi[2], Mauro Zaffaroni[2], Gianluigi Mancardi[3], Elena Capello[3], Francesco Sardanelli[3], Massimo Filippi[1]
[1]Scientific Institute H. San Raffaele, Milan, Italy; [2]Multiple Sclerosis Center, Gallarate, Italy; [3]University Hospital, Genoa, Italy.

Flow Quantification Techniques

600. Rapid Flow Imaging using 3D Variable-Density Spiral Trajectories

Jin Hyung Lee[1], Brian A. Hargreaves[1], Dwight G. Nishimura[1]
[1]Stanford University, Stanford, California, USA.

601. Using Velocity-Encoded MRI and The Velocity-Time Integral Approach to Analyze the Aortic Valve in Patients with Aortic Stenosis: A Reproducibility Study

Shelton D. Caruthers[1,2], S. J. Lin[1], Mary Watkins[1], Todd Williams[1], Peggy A. Brown[1], Katherine Lehr[1], Gregory Mark Lanza[1], Samuel Wickline[1]
[1]Washington University in St. Louis, St. Louis, Missouri, USA; [2]Philips Medical Systems, Best, Netherlands.

602. Flow Quantification in Small Vessels using Fourier Velocity Encoding

Christof Baltes[1], Sebastian Kozerke[1], Peter Boesiger[1]
[1]Institute of Biomedical Engineering, University of Zurich and ETHZ, Zurich, Switzerland.

603. Adaptive Averaging of Real-Time Velocity Spectra using Variable-Density Trajectories

Christopher Macgowan[1], Graham Wright[2,3], Marshall Sussman[2]
[1]The Hospital for Sick Children, Toronto, Ontario, Canada; [2]Sunnybrook and Women's College Health Sciences Centre, Toronto, Ontario, Canada; [3]ASL-West, GE Medical Systems, Menlo Park, California, USA.

604. 2-Dimensional Flow Quantitative MRI of Aortic Arch Blood Flow Patterns: Effect of Age, Gender and Presence of Carotid Atheromatous Disease on Prevalence of Spiral Blood Flow

Graham Houston[1], Stephen Gandy[1], Declan Sheppard[1], John Dick[1], Jill Belch[1], Peter Stonebridge[1]
[1]Tayside University Hospitals NHS Trust, Dundee, Scotland, UK.

605. Improved Blood Flow Quantification in the Coronary Artery with Breath-hold Phase Contrast Cine MR Sequence Employing Parallel Imaging Technique

Yasutaka Ichikawa[1], Hajime Sakuma[1], Kakuya Kitagawa[1], Nanaka Ishida[1], Munenobu Motoyasu[1], Kan Takeda[1], Takeshi Nakano[1], Atsushi Nozaki[2]
[1]Mie University Hospital, Tsu, Japan; [2]GE Yokogawa Medical Systems Asia, Tokyo, Japan.

606. Balanced Phase Contrast Steady State Free Precession (PC-SSFP): Velocity Encoding by Gradient Inversion

Michael Markl[1], Marcus Alley[1], Norbert J. Pelc[1]
[1]Stanford University, Stanford, California, USA.

607. Ungated Fourier Velocity-Encoding using Spiral Trajectories

Jong Buhm Park[1], Dwight G. Nishimura[1]
[1]Stanford University, Stanford, California, USA.

608. Three-Dimensional Velocity Measurements in the Carotid Artery for Assessment of Wall Shear Stresses

Shengping Wu[1], Steffen Ringgaard[1], Sten Oyre[1], Erik Morre Pedersen[1]
[1]Aarhus University Hospital, Aarhus, Denmark.

609. High Temporal Resolution Study of the Wall Shear Stresses in the Carotid Artery using a 4D Phase Contrast Sequence

Panorea Papathanasopoulou[1], Ian Marshall[1]
[1]University of Edinburgh, Edinburgh, Scotland, UK.

Contrast Mechanisms and Relaxometry

610. Application of Static Dephasing Regime Theory to Superparamagnetic Iron-Oxide Loaded Cells

Chris Van Bowen[1], Xiaowei Zhang[1], Paula Gareau[1], Brian Rutt[1]
[1]Robarts Research Institute, London, Ontario, Canada.

611. BEST-CEST: B_0-Error Shift Tracking Chemical Exchange Saturation Transfer Imaging

Azar Peter Dagher[1,2], Robert Balaban[2], Anthony Homer Aletras[2]
[1]Anne Arundel Medical Center, Annapolis, Maryland, USA; [2]National Institutes of Health, Bethesda, Maryland, USA.

612. Probing the Molecular Mechanisms of MT with Fluorine

Scott D. Swanson[1]
[1]University of Michigan, Ann Arbor, Michigan, USA.

613. A Novel MR Imaging Method of the Brain Based on Double Quantum Filtered Magnetization Transfer

Arnon Nefeld[1], Uzi Eliav[1], Gil Navon[1]
[1]Tel Aviv University, Tel Aviv, Israel.

614. Contrast Mechanisms in Intermolecular Double Quantum Coherence Imaging: A Warning

Geoffrey David Charles-Edwards[1], Geoffrey Payne[1], Martin O. Leach[1], Angelo Bifone[1,2]
[1]Institute of Cancer Research and the Royal Marsden NHS Trust, Sutton, Surrey, England, UK; [2]Glaxo SmithKline Research Centre, Verona, Italy.

615. Microscopic Susceptibility Contrast in the CRAZED Experiment

Sarah Gutteridge[1], Chandrasekhar Ramanathan[1], Richard Bowtell[1]
[1]University of Nottingham, Nottingham, England, UK.

616. T_1 Dispersion Measurements using a Prepolarized MRI Scanner

Sharon Ella Ungersma[1], Blaine Chronik[1], Albert Macovski[1], Greig Scott[1], Steven Conolly[1]
[1]Stanford University, Stanford, California, USA.

617. Effects of Alternating Local Magnetic Fields on $T_{1\rho}$ Imaging

Enrico De Vita[1], A T Tidswell[1], David S Holder[1], David Gadian[1], Roger J Ordidge[1]
[1]University College London, London, England, UK.

618. *In Vivo* Measurement of $T_{1\rho}$ Dispersion in the Human Brain

Arijitt Borthakur[1], Sarma V.S. Akella[1], Ravinder Regatte[1], Andrew James Wheaton[1], Sridhar Charagundla[1], Ravinder Reddy[1]
[1]University of Pennsylvania, Philadelphia, Pennsylvania, USA.

619. R_2 and Chemical Exchange in Isolated Mammalian Muscle

Bruce Murray Damon[1], Andrea S Freyer[1], John C Gore[1]
[1]Yale University, New Haven, Connecticut, USA.

Spin Tagging Methodology

620. Selective Arterial Spin Labelling (SASL): Perfusion Territory Mapping of Selected Feeding Arteries Tagged using Two-Dimensional RF Pulses

Nigel Paul Davies[1], Peter Jezzard[1]
[1]University of Oxford, Oxford, England, UK.

621. Velocity Selective Arterial Spin Labeling

Eric Wong[1], Thomas Liu[1], Karam Sidaros[2], Lawrence Frank[1], Richard Buxton[1]
[1]University of California, San Diego, La Jolla, California, USA; [2]Hvidovre Hospital, Hvidovre, Denmark.

622. Practical Method of Quantitative Cerebral Blood Flow Imaging using an Arterial Spin Labeling: Error Estimation of Approaches with Fixed Model Parameters

Tokunoki Kimura[1]
[1]Toshiba Corporation, Tochigi, Japan.

623. Issues in Quantitative Perfusion and Arterial Transit Time Mapping using Pulsed AST

Patricia Figueiredo[1], Stuart Clare[1], Peter Jezzard[1]
[1]University of Oxford, Oxford, England, UK.

624. Improved SNR in Perfusion fMRI by Offset Correction

Karam Sidaros[1], Thomas T Liu[2], Torben E Lund[1], Eric C Wong[2], Richard B Buxton[2]
[1]Hvidovre Hospital, Hvidovre, Denmark; [2]University of California San Diego, San Diego, California, USA.

625. Inversion Profile of Adiabatic Inversion Pulses for Flowing Spins - Effects on Labeling Efficiency and Labeling Accuracy in Perfusion Imaging with Pulsed Arterial Spin-Labeling

Wang Zhan[1], Hong Gu[1], Hanhua Feng[1], Su Xu[2], David A. Silbersweig[1], Emily Stern[1], Yihong Yang[1]
[1]Cornell University, New York, New York, USA; [2]Memorial Sloan-Kettering Cancer Center, New York, New York, USA.

626. Comparison of Quantitative Perfusion Imaging using Arterial Spin Labeling at 1.5 and 4 Tesla

Jiongjiong Wang[1], David C. Alsop[2], Lin Li[1], John Listerud[1], Julio B. Gonzalez-At[1], Mitchell D. Schnall[1], John A. Detre[1]
[1]University of Pennsylvania, Philadelphia, Pennsylvania, USA; [2]Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, Massachusetts, USA.

627. Perfusion-based High-Resolution Functional Imaging in the Human Brain at 7 Tesla

Josef Pfeuffer[1], Gregor Adriany[1], Amir Shmuel[1], Essa Yacoub[1], Pierre-Francois Van De Moortele[1], Xiaoping Hu[1], Kamil Ugurbil[1]
[1]University of Minnesota, Minneapolis, Minnesota, USA.

628. Assessment of Perfusion with Arterial Spin Labeling and TrueFISP

Klaus Scheffler[1], Thorsten Thiel[2], Stefan Thesen[3]
[1]University of Frieburg, Freiburg, Germany; [2]Bruker Medical, Ettlingen, Germany; [3]Siemens Medical Systems, Erlangen, Germany.

629. Dynamic Spin Labeling Cerebral 2D-Angiography: A Comparison between FLASH and Spiral Readout

Michael Amann[1], Carsten Warmuth[2], Matthias Günther[2], Claus Zimmer[2], Lothar Rudi Schad[1]
[1]German Cancer Research Center, Heidelberg, Germany; [2]Charité, Berlin, Germany; [3]Advanced MRI Technologies, Sebastopol, California, USA.

CLINICAL SCIENCE FOCUS SESSION
Breast MR Imaging

630. MR-Elastographic Features of Benign and Malignant Breast Tumors
Eva Sondermann[1], Ralph Sinkus[2], Nushin Morakkabati[1], Claudia Leutner[1], Charlotte Reichel[1], Christiane Katharina Kuhl[1]
[1]University of Bonn, Bonn, Germany; [2]Philips Research Hamburg, Hamburg, Germany.

631. Hormone Replacement Therapy Induced Changes of Parenchymal Volume and Gd-DTPA Pharmacokinetics in Breast
Martin Lowry[1], David J. Manton[1], Adrian J. Knowles[1], Clare M. Kearney[1], David Purdie[1], Lindsay W. Turnbull[1]
[1]Hull Royal Infirmary, Hull, England, UK.

632. Combining *In Vivo* Proton MR Spectroscopy (MRS) and Contrast-enhanced MRI for Evaluation of Suspicious Breast Lesions
Patricia L Rausch[1], Debra M Ikeda[2], Bruce L Daniel[2], Robyn L Birdwell[2], Katherine J Fong[2], Lara A Stables[2], Marowan Zakhour[2], Robert J Herfkens[2], Sandeep Hunjan[2], Daniel M Spielman[2]
[1]Stanford University, Stanford, California, USA.

633. MR-Directed Breast Localization using Hematoma Injection as a Substitute for Traditional Wire Localization
, SE Harms[1], LF Smith[1], R Henry-Tillman[1], T Hronas[1], AT Mancino[1], KC Westbrook[1], S Korourian[1], VS Klimberg[1]
[1]University of Arkansas for Medical Sciences, Little Rock, Arkansas, USA.

634. Dynamic Breast MR Imaging using Sensitivity Encoding (SENSE)
Christiane Kuhl[1], Nushin Morakkabati[1], Eva Sondermann[1], Ralph Sinkus[2], Juergen Gieseke[2], Hans Schild[1]
[1]University of Bonn, Bonn, Germany; [2]Philips Research Laboratory, Hamburg, Germany.

635. Multi-Component Magnetic Resonance Diffusion Imaging of Breast Tumours
Lanette J. Friesen Waldner[1], Paula J. Gareau[1], Brian K. Rutt[1]
[1]The John P. Robarts Research Institute, London, Ontario, Canada.

636. Automated Bilateral Shimming for Breast MRI
Dong-Hyun Kim[1], Daniel Mark Spielman[1], Bruce Daniel[1]
[1]Stanford University, Stanford, California, USA.

637. A System for Accurate Co-registration of MRI and US Breast Images
Cameron Anthony Piron[1], Petrina Causer[1], Rene Shumak[1], Donald Plewes[1]
[1]University of Toronto, Toronto, Ontario, Canada.

638. Gadobenate Dimeglumine vs. Gadopentetate Dimeglumine for MR Imaging of the Breast: Evaluation of the Accuracy for Lesion Characterization
Isabella Salerio[1], Anna La Noce[1], Miles Kirchin[1]
[1]Bracco Imaging SpA, Milan, Italy.

639. MRI for Monitoring Treatment Response and Predicting Disease Recurrence in Breast Cancer
Savannah C Partridge[1], Jessica E Gibbs[1], David C Newitt[1], Laura J Esserman[1], Nola M Hylton[1]
[1]University of California San Francisco, San Francisco, California, USA.

640. Enhanced Sensitivity to Contrast Agents: High Spectral and Spatial Resolution MR Imaging of the Breast
Weiliang Du[1], Yiping P. Du[1], Ulrich Bick[1], Xiaobing Fan[1], Peter M. MacEneaney[1], Marta A. Zamora[1], Milica Medved[1], Gregory S. Karczmar[1]
[1]University of Chicago, Chicago, Illinois, USA.

641. MRI Evaluation of Breast Cancer Residua Soon after Surgery: Appearance and Accuracy

P. T. Weatherall[1], J. Payne[1], G. J. Metzger[2], W. Parsons[1], E. Naftalis[1], G. Peters[1]
[1]University of Texas Southwestern Medical Center at Dallas, Dallas, Texas, USA; [2]Philips Medical Systems, Best, Netherlands.

fMRI: Physiological Measurements

642. Sustained Negative BOLD and Blood Flow Response and its Coupling to the Positive Response in the Human Brain

Amir Shmuel[1], Essa Yacoub[1], Josef Pfeuffer[1], Pierre-Francois Van De Moortele[1], Gregor Adriany[1], Kamil Ugurbil[1], Xiaoping Hu[1]
[1]University of Minnesota, Minneapolis, Minnesota, USA.

643. IVIM Weighted fMRI and Independent Component Analysis Allow Inferences about Hemodynamic Responses from Different Vascular Compartments

Lynn Reed[1], Martin J. McKeown[1], Hua Guo[1], Allen Song[1]
[1]Duke University Medical Center, Durham, North Carolina, USA.

644. Quantification of Relative CBV Changes during Neural Stimulation

Sang-Pil Lee[1], Noam Harel[2], Tsukasa Nagaoka[2], Seong-Gi Kim[2]
[1]The Nathan S. Kline Institute, Orangeburg, New York, USA; [2]University of Minnesota Medical School, Minneapolis, Minnesota, USA.

645. Spatio-temporal Analysis of BOLD and CBV fMRI in Awake, Behaving Macaques at 3 Tesla

Francisca P. Leite[1], Doris Tsao[1], Wim Vanduffel[1], Lawrence Wald[1], Anders Dale[1], Kenneth Kwong[1], Bruce Rosen[1], Roger Blake Tootell[1], Joseph B. Mandeville[1]
[1]Massachusetts General Hospital, NMR Center, Charlestown, Massachusetts, USA.

646. Drug Effects on Oxidative Metabolism and Cerebral Blood Flow Changes in Sensorimotor Activation

Keith St. Lawrence[1], Frank Ye[1], Bobbi Lewis[1], Joseph A Frank[1], Alan McLaughlin[1]
[1]National Institutes of Health, Bethesda, Maryland, USA.

647. Dynamic Changes of $CMRO_2$ and Oxygen Extraction Ratio in Event-Related Functional MRI

Ching-Mei Janet Feng[1], Ho-Ling Liu[2], Jia-Hong Gao[1]
[1]University of Texas Health Science Center at San Antonio, San Antonio, Texas, USA; [2]Chang Gung Memorial Hospital, Kweishan, Taoyuan, Taiwan.

648. Simultaneous Measurements of Cerebral Oxygenation Changes during Brain Activation by Near-Infrared Spectroscopy and Functional Magnetic Resonance Imaging in Healthy Young and Elderly Subjects

Bas Van Der Kallen[1], Jannet Mehagnoul-Schipper[1], Willy Colier[1], Leon Van Erning[1], Rene Jansen[1], Henk Thijssen[1]
[1]University Medical Center Nijmegen, Nijmegen, Netherlands.

649. Hemodynamic Modeling for Event Related Motor and Visual Stimuli as Measured by Near Infrared Spectroscopy

David Boas[1], Gary Jasdzewski[1], Gary Strangman[1], Joe P Culver[1], Russ A Poldrack[1]
[1]Massachusetts General Hospital, Charlestown, Massachusetts, USA.

650. A Comparison of Hemodynamic Contrasts for Functional Imaging with Diffuse Optical Tomography

Joseph P. Culver[1], Andy Siegel[1], Maria Angela Franceschini[1], John Marota[1], Joseph B. Mandeville[1], David Boas[1]
[1]Massachusetts General Hospital, Harvard Medical School, Charlestown, Massachusetts, USA.

651. Quantitative NIRS, BOLD and FAIR in a Human Breath Hold Challenge

Bradley J Macintosh[1], L. Martyn Klassen[1], Ravi Menon[1]
[1]Robarts Research Institute, University of Western Ontario, London, Ontario, Canada.

Bolus Contrast Perfusion Methodology

652. Comparison of Cerebral Perfusion Measurement by Contrast Enhanced CT and MR

Richard A. Coulden[1], Martin Graves[2], Emer Sonnex[1], Leigh Clements[1], Michael Hayball[1]
[1]Papworth Hospital, Cambridge, England, UK; [2]Addenbrooke's Hospital, Cambridge, England, UK.

653. Quantitative Assessment of Cerebral Blood Flow: A Comparison of MRI and PET

Timothy Carroll[1]
[1]University of Wisconsin-Madison, Madison, Wisconsin, USA.

654. Absolute CBF and CBV Measurements by MRI Bolus Tracking Before and after Acetazolamide Challenge: Comparison with $H_2{}^{15}O$ and ^{11}CO PET in Humans

Cecile Beatrice Grandin[1], Anne Bol[1], Anne Marie Smith[1], Guy Cosnard[1], Eric Constant[1], Christian Michel[1]
[1]Université Catholique de Louvain, Brussels, Belgium.

655. SNR Characteristics in Quantitative Cerebral Perfusion

Michael Richard Smith[1], Hong Lu[1], Richard Frayne[1]
[1]University of Calgary, Calgary, Alberta, Canada.

656. A New Method for Quantitative Estimation of Bolus Dispersion Errors in Perfusion MRI

Fernando Calamante[1], Peter J. Yim[2], Juan R. Cebral[3]
[1]Institute of Child Health, London, England, UK; [2]National Institutes of Health, Bethesda, Maryland, USA; [3]George Mason University, Fairfax, Virginia, USA.

657. Measurement of a Calibration Curve of Gd-DTPA in Flowing Human Blood for Arterial Input Function Measurements

M.J.P. Van Osch[1], Evert-Jan Vonken[1], Chris Bakker[1], Max Viergever[1]
[1]University Medical Center Utrecht, Utrecht, Netherlands.

658. Reduced Aliasing of Arterial Input Functions by Interlaced Sampling

Melanie Kotys[1], Erbil Akbudak[1], Thomas E Conturo[1]
[1]Washington University in St. Louis, School of Medicine, Saint Louis, Missouri, USA.

659. Defining a Local Input Function for Perfusion Quantification with Bolus Contrast MRI

David Alsop[1], Alexei Wedmid[1], Gottfried Schlaug[1]
[1]Harvard University, Beth Israel Deaconess Medical Center, Boston, Massachusetts, USA.

660. Perfusion Calculations using Singular Value Decomposition are Biased by Tracer Arrival Timing

Ona Wu[1,2], Leif Østergaard[2], Thomas Benner[2], Bruce R. Rosen[2], Robert M. Weisskoff[2], A. Gregory Sorensen[2]
[1]Massachusetts Institute of Technology, Cambridge, Massachusetts, USA; [2]Massachusetts General Hospital, Boston, Massachusetts, USA.

661. Quantitative Estimation of Blood Velocity in T_2* Susceptibility Contrast Imaging

Neil Thacker[1], Marietta Louise Juanita Scott[1], Maja Pokric[1], Alan Jackson[1]
[1]University of Manchester, Manchester, England, UK.

Clinical Cancer MR Imaging

662. Image Guided Proteomics in Human Gliomas

Susan K Hobbs[1], Gongyi Shi[1], Ronald J Homer[1], Griffith R Harsh[1], Scott W Atlas[1], Mark D Bednarski[1]
[1]Stanford University Medical Center, Palo Alto, California, USA.

663. A Comparison of K^{trans} Measurements in Gliomas Obtained with a Conventional and First Pass Model

Hamied Ahmad Haroon[1], David L. Buckley[1], Tufail A. Patankar[1], Graham Dow[2], Scott Rutherford[3], Alan Jackson[1]
[1]University of Manchester, Manchester, England, UK; [2]Manchester Royal Infirmary, Manchester, England, UK; [3]Hope Hospital, Manchester, England, UK.

664. Quantitative MRI Estimates of Microvascular Permeability in Human Brain Tumors: Detection of Regional Heterogeneity and Correlation with Histological Grade

Axel Gossmann[1], Christopher Bangard[1], Jürgen Voges[1], Karin Rygol[1], Markus Zähringer[1], Klaus Lackner[1]
[1]University of Cologne, Cologne, Germany.

665. Macromolecular Contrast Agent for Measurement of Vessel Permeability and Blood Volume in Human Breast Cancer - First Experience

Jana Rydland[1], Atle Bjørnerud[2], Geir Torheim[3], Kjell Arne Kvistad[1], Olav Haraldseth[4]
[1]Trondheim University Hospital, Trondheim, Norway; [2]National Hospital, Oslo, Norway; [3]Amersham Health Norway, Oslo, Norway; [4]Norwegian University of Science and Technology, Trondheim, Norway.

666. Correlation between Dynamic Gadolinium Uptake and ^{18}Fluoro-2-Deoxy-Glucose Uptake in Colorectal Liver Metastases

Hanneke Van Laarhoven[1], Lioe-Fee De Geus-Oei[1], Mark Rijpkema[1], Wim Oyen[1], Kees Punt[1], Theo Wagener[1], Theo Ruers[1], Jelle Barentsz[1], Arend Heerschap[1]
[1]University Medical Center Nijmegen, Nijmegen, Netherlands.

667. Preoperative Nodal Staging of Urinary Bladder Cancer with MRI using Ultra Small Super Paramagnetic Iron Oxide Particles

Willem M.L.L.G. Deserno[1], Jelle Barentsz[1], Mukesh Harisinghani[2], Mathias Taupitz[3], Fred Witjes[1], Peter Mulders[1], Jean De La Rosette[1], Emiel Ruijter[1], Christina Hulsbergen-Van De Kaa[1], Ralph Weissleder[2], Bernd Hamm[3], Johan Blickman[1]
[1]Nijmegen University, Nijmegen, Netherlands; [2]Massachusetts General Hospital Boston, Massachusetts, USA; [3]Charité, Berlin, Germany.

668. MR Lymphangiography for Detection of Minimal Nodal Disease in Patients with Prostate Cancer

Mukesh G Harisinghani[1], Jelle Barentsz[2], P.F. Hahn[1], Willem Deserno[2], Jean De La Rosette[2], James Perumpillichiria[1], Katarina Marten[1], Ralph Weissleder[1]
[1]Massachusetts General Hospital, Harvard Medical School, Boston, Massachusetts, USA; [2]University Medical Center St. Radboud, Nijmegen, Netherlands.

669. Whole-Body Turbo STIR MR Imaging by using Panoromic Table in Patients with Metastatic Disease

Ali Firat[1], Ahmet Muhtesem Agildere[1], Oguz Akin[1], Zafer Akcali[1], Ali Arican[1], Arzu Gencoglu[1]
[1]Baskent University, Ankara, Turkey.

670. Whole Body-MRI in Detection of Metastastic Disease: A Comparison with Whole-Body FDG-PET

Nadir Alexander Ghanem[1], Carsten Altehoefer[1], Stefan Högerele[1], Mathias Langer[1]
[1]University Hospital Freiburg, Freiburg, Germany.

671. Effects of Breathing a Hyperoxic Hypercapnic Gas Mixture on the Oxygenation and Vascularity of Meningiomas as Measured by MRI

Mark Rijpkema[1], Janneke Schuuring[1], Johannes Kaanders[1], Albert Van Der Kogel[1], Arend Heerschap[1]
[1]University Hospital Nijmegen, Nijmegen, Netherlands.

Liver MR Imaging

672. A Novel Radial Fast Spin-Echo Method for Obtaining High-Resolution T_2-Weighted Images and T_2 Maps of the Liver in a Breath Hold

Maria I Altbach[1], Eric K Outwater[1], Theodore P Trouard[1], Elizabeth A. Krupinski[1], Rebecca J Theilmann[1], Alison T. Stopeck[1], Arthur Gmitro[1]
[1]University of Arizona, Tucson, Arizona, USA.

673. Accuracy of 3D Mangfodipir Trisodium-Enhanced MRCP Imaging in the Pre-operative Evaluation of Living Related Liver Donors

J Goldman[1], A Berning[1], S Florman[1], T Fishbein[1], M Schwartz[1], L Kim-Schluger[1], M Poon[1]
[1]Mount Sinai School of Medicine, New York, New York, USA.

674. "All-in-One" Imaging Protocols for Potential Living Liver Donors: Comparison of MRT and Multislice-CT with the Intraoperative Findings

Tobias Schroeder[1], Stefan G Ruehm[1], Silke Bosk[1], Sandra Heistrüvers[1], Massimo Malagó[1], Mathias Goyen[1], Silvio Nadalin[1], Jörg F. Debatin[1]
[1]University Hospital Essen, Essen, Germany.

675. Clinical Safety Experience from Phase III Studies of Gd-EOB-DTPA, A New Liver Specific MR Contrast Medium

Josy Kühnen[1], Kohkan Shamsi[2], Rick Carter[3], David Feldman[2], Thomas Balzer[1]
[1]Schering AG, Berlin, Germany; [2]Berlex Labsoratories, Inc., Montville, New Jersey, USA; [3]Schering Health Care Ltd, UK, West Sussex, UK.

676. MR Imaging of Focal Nodular Hyperplasia (FNH) with Gadobenate Dimeglumine (Gd-BOPTA) and SPIO (ferumoxides): A Comparison

Luigi Grazioli[1], Gianni Morana[2], Miles Kirchin[3], P. Caccia[1], M. Testoni[2], L. Romanini[1], C. Procacci[2], A. Chiesa[1]
[1]Spedali Civili, Brescia, Italy; [2]Policlinico Borgo Roma, Verona, Italy; [3]Bracco Imaging SpA, Milan, Italy.

677. Hypervascular Hepatic Lesions: Dynamic and Late Enhancement Patterns with Gadobenate Dimeglumine

Gianni Morana[1], Luigi Grazioli[2], Gunther Schneider[3], Miles Kirchin[4], Antonio Chiesa[2], Carlo Procacci[1]
[1]Policlinico Borgo Roma, Verona, Italy; [2]Spedali Civili, Brescia, Italy; [3]Universitaetskliniken des Saarlandes, Homburg/Saar, Germany; [4]Bracco Imaging SpA, Milan, Italy.

678. The Usefulness of Double Arterial-Phase Dynamic MR Imaging with Sensitivity Encoding (SENSE) Technique for Detecting Hypervascular Hepatocellular Carcinoma

Takatoshi Kitamura[1], Tomoaki Ichikawa[1], Tatsuaki Tsukamoto[1], Tsutomu Araki[1], Ryouji Amemiya[2], Kouji Miyazaki[2], Eiji Okamoto[3]
[1]Yamanashi Medical University, Yamanashi, Japan; [2]Yamanashi Kouseiren Health Center, Kofu, Yamanashi, Japan; [3]Philips Medical Systems.

679. Hepatic Lesion Detection with SPIO-Enhanced Breathhold Imaging: Comparison of Optimised Sequences at 1.5T

Janice Ward[1], J Ashley Guthrie[1], Daniel Wilson[1], Philip J Robinson[1]
[1]St James's University Hospital, Leeds, England, UK.

680. Assessment of Pancreatic Lesions by MRI: TrueFISP versus HASTE

Christoph U. Herborn[1], Florian Mathias Vogt[1], Jörg Debatin[2], Stefan Ruehm[2]
[1]University Hospital Essen, Essen, Germany.

681. Comparison of Gd-DTPA with Mn-DPDP for Enhanced MRI Evaluation of Hepatocellular Carcinoma

Deng-Bin Wang[1], Yi-Xiang J Wang[1], Kang-Rong Zhou[2], Ke-Min Chen[1]
[1]Rui Jin Hospital, Shanghai Second Medical University, Shanghai, China; [2]Zhong Shan Hospital, Fudan University, Shanghai, China.

Cardiovascular MR Spectroscopy

682. Quantification of Cardiac Creatine Kinase Flux in the Human Heart at Rest and during Stress
Robert G. Weiss[1], Ronald Ouwerkerk[1], Gary Gerstenblith[1], Paul Bottomley[1]
[1]Johns Hopkins University School of Medicine, Baltimore, Maryland, USA.

683. Cardiac Energy Metabolism and Myocardial Hypertrophy in Friedreich's Ataxia
Michael Bunse[1], Nana Bit-Avragim[2], Axel Riefflin[1], Oliver Schmidt[1], Andreas Perrot[2], Friedmar R Kreuz[3], Wulf-Ingo Jung[4], Karl Josef Osterziel[2]
[1]Max Grundig Clinic, Bühl, Germany; [2]Charité, Campus Buch & Virchow Hospital, Humboldt University, Berlin, Germany; [3]Medical Faculty Carl Gustav Carus, Technical University Dresden, Dresden, Germany; [4]Physikalisches Institut, Universität Tübingen, Tübingen, Germany.

684. Oxygen Limitation in the Hypertrophic Myocardium
Youngran Chung[1]
[1]University of California Davis, School of Medicine, Davis, California, USA.

685. Myoglobin Accelerates Recovery from Ischemia-Reperfusion Injury in the Heart by Inactivation of Superoxide Radicals
Ulrich Flögel[1], Axel Gödecke[1], Jürgen Schrader[1]
[1]Institut für Herz- und Kreislaufphysiologie, Heinrich-Heine-Universität Düsseldorf, Düsseldorf, Germany.

686. Fast High-Sensitivity ^{23}Na Imaging of the Human Heart by 3D Density-weighted Chemical Shift Imaging (denCSI)
Andreas Greiser[1], Florian Odoj[1], Axel Haase[1], Markus Von Kienlin[1]
[1]University of Würzburg, Würzburg, Germany.

687. ^{31}P Stress Test is Predictive of Myocardial Events in the Women's Ischemia Syndrome Evaluation
Steven Buchthal[1], Jan Den Hollander[1], Hee-Won Kim[2], Katherine N. Scott[2], Carl Pepine[2], Delia Johnson[3], Marion Olson[3], Sheryl M Kelsey[3], Gerald Pohost[4]
[1]University of Alabama at Birmingham, Birmingham, Alabama, USA; [2]University of Florida, Gainesville, Florida, USA; [3]University of Pittsburgh, Pittsburgh, Pennsylvania, USA; [7]University of Southern California, Los Angeles, California, USA.

688. ^{1}H Coronary Angiography and Quantitative Mapping of Reduced ^{31}P Metabolites by 3D awCSI in a Coronary Artery Stenosis Model of the Isolated Rat Heart
Andreas Greiser[1], Thomas Neuberger[1], Sascha Köhler[1], Matthias Nahrendorf[1], Wolfgang Bauer[1], Markus Von Kienlin[1], Axel Haase[1]
[1]Physikalisches Institut, University Würzburg, Würzburg, Germany.

689. Myocardial Steatosis Contributes to Heart Dysfunction in Obese Humans
Lidia S Szczepaniak[1], Robert L Dobbins[1], Gregory J Metzger[2], Greta S D'Ambrosia[1], Debbie Arbique[1], Wanpen Vongpatanasin[1], Roger Unger[1], Ronald G Victor[1]
[1]University of Texas Southwestern Medical Center at Dallas, Dallas, Texas, USA; [2]Philips Medical Systems, Dallas, Texas, USA.

690. Effects of High-Dose Cariporide in a Long-Term Ischemia/Reperfusion Model
Kerry Thompson[1], R. Terry Thompson[1], Jane Sykes[1], Gerald Wisenberg[2]
[1]Lawson Health Research Institute, London, Ontario, Canada; [2]University of Western Ontario, Medicine & Dentistry, London, Ontario, Canada.

691. Atherosclerotic Plaque Calcification is Closely Related to Bone Mineral: A Solid State NMR Spectroscopy Study
Gyunggoo Cho[1], Denise P. Hinton[1], Jerome L. Ackerman[1]
[1]Massachusetts General Hospital, Charlestown, Massachusetts, USA.

MR Spectroscopy of Brain: Neurological and Psychiatric Disorders

692. MR Imaging and Multislice Proton MR Spectroscopic Imaging (MRSI) Reveal Cerebral Abnormalities in Females Heterozygous for X- linked Adrenoleukodystrophy

Ali Fatemi[1], Peter B. Barker[1], Florian Eichler[2], Aziz M. Ulug[1], Gerald V. Raymond[1], Hugo W. Moser[1], Sakkubai Naidu[1]
[1]Johns Hopkins University School of Medicine, Baltimore, Maryland, USA; [2]Geisinger Medical Center, Danville, Pennsylvania, USA.

693. Magic Angle Spinning ^{1}H MR Spectroscopy of Autopsy Samples from Patients with Neuronal Ceroid Lipofuscinoses Reveals Decreased Neuronal Metabolites

Anna-Maija HäKkinen[1], Beathe Sitter[2], Taina Autti[1], J Tyynelä[3], Tone Bathen[2], Ursula Sonnewald[4], Ingrid Gribbestad[2]
[1]Helsinki University Central Hospital, Helsinki, Finland; [2]SINTEF Unimed, Trondheim, Norway; [3]Helsinki University, Helsinki, Finland; [4]NTNU, Trondheim, Norway.

694. Proton MRS in the Differential Diagnosis of Intraventricular Meningiomas and Central Neurocytomas

Tariq Shah[1], Rama Jayasundar[1], Virender Paul Singh[1], Chitra Sarkar[1]
[1]All India Institute of Medical Sciences New Delhi, New Delhi, India.

695. Comparison of *In Vitro* and *In Vivo* CSF Lactate in A3243G MELAS Patients: A Viable Method for Absolute Quantitation of CSF Lactate by ^{1}H MRSI

Dikoma C. Shungu[1], Xiangling Mao[1], Petra Kaufmann[1], Kris Engelstad[1], J. Regus[1], S. Jhung[1], W.S. Millar[1], M. Sano[1], S. Dimauro[1], D.C. De Vivo[1]
[1]Columbia University, College of Physicians and Surgeons, New York, New York, USA.

696. The X Chromosome and the Brain: A Magnetic Resonance and Neuropsychological Study of Turner Syndrome

Caroline Rae[1], Pam Joy[2], Jenny Harasty[3], Allan Kemp[2], Stacey Kuan[4], John Christodoulou[2], Christopher Cowell[2], Max Coltheart[4]
[1]University of Sydney, Sydney, New South Wales, Australia; [2]The Childrens Hospital at Westmead, Sydney, New South Wales, Australia; [3]Prince of Wales Medical Research Institute, Randwick, New South Wales, Australia; [4]Macquarie Centre for Cognitive Sciences, Sydney, Australia.

697. Short TE Proton MRS in Graves´ Disease

Else Danielsen[1], Tina Elberling[1], Gunhild Waldemar[1], Ulla Feldt-Rasmussen[1], Carsten Thomsen[1]
[1]University Hospital Rigshospitalet, Copenhagen, Denmark.

698. MRS Measurements of Phenylalanine in Phenylketonuria – Evidence for Intra-Individual Variation

Halima Hawesa[1], Anupam Chakrapani[1], Maureen Cleary[1], Stephen Williams[1]
[1]University of Manchester, Manchester, England, UK

699. Cerebral 2D L-COSY and Neuropsychological Correlates in Hepatic Encephalopathy

Nader Binesh[1], Mary Bugbee[1], Lynn Fairbanks[1], Natalie Rasgon[1], Kenneth Yue[1], Steven Huy Han[1], Pablo A. Davanzo[1], Paul Martin[1], Bary Guze[1], Albert Michael Thomas[1]
[1]University of California Los Angeles, Los Angeles, California, USA.

700. A 4.0 Tesla Proton Spectroscopy Study of First Episode and Chronic Schizophrenic Patients

Jean ThÉBerge[1], Peter Charles Williamson[1], Robert Bartha[2], Ravi Menon[2], R. W.J. Neufeld[1], Ashok Kumar Malla[1], Jatinder Takhar[1], Al-Semaan Yousef[1], Dick J. Drost[1]
[1]University of Western Ontario, London, Ontario, Canada; [2]The John P. Robarts Research Institute, London, Ontario, Canada.

701. An MRS Study of Brain Homocarnosine Levels in Unipolar Depressed Patients

Michael Appel[1], Gerard Sanacora[1], Douglas L. Rothman[1], Ognen A.C. Petroff[1], John H. Krystal[1], Graeme F. Mason[1]
[1]Yale University School of Medicine, New Haven, Connecticut, USA.

MR Safety and Bioeffects

702. The Efficacy of Decoupling Methods to Minimize RF Heating Due to Internal Conducting Devices Used in MRI

Ingmar Viohl[1], A Lardo[1], S Tully[1], P Karmakar[1], P.A Bottomley[2]
[1]Surgi-Vision, Inc., Gaithersburg, Maryland, USA; [2]Johns Hopkins University, Baltimore, Maryland, USA.

703. Accurately Modeling RF Heating at the Tips of Wires in Interventional MRI

Christopher Joseph Yeung[1], Robert Charles Susil[1], Ergin Atalar[1]
[1]Johns Hopkins University, Baltimore, Maryland, USA.

704. Temperature Calculations for a Multi-tissue Human Head within Volume and Surface Coils at 64 and 300 MHz

Christopher M. Collins[1], Wanzhan Liu[1], Jinghua Wang[1], Michael B. Smith[1]
[1]Pennsylvania State University, College of Medicine, Hershey, Pennsylvania, USA.

705. FDTD Method for Modelling the Effect of Switched Gradients on the Human Body in MRI

Huawei Zhao[1], Stuart Crozier[1], Feng Lui[1]
[1]Queensland University, Brisbane, Queensland, Australia.

706. Peripheral-Nerve-Stimulation-Optimized Gradient Waveform Design

Beibei Zhang[1], Graeme McKinnon[2], Brian K. Rutt[1]
[1]The John P. Robarts Research Institute, London, Ontario, Canada; [2]GE Medical Systems, Milwaukee, Wisconsin, USA.

707. Peripheral Nerve Stimulation: Head Gradient Coils vs. Switch Coils

Martin Brand[1], Ralph Kimmlingen[2], Oliver Heid[2], Axel Haase[1]
[1]Physikalisches Institut, Universität Würzburg, Würzburg, Germany; [2]Siemens AG Medical Solutions, Erlangen, Germany.

708. Impact of Increased dB/dT on Peripheral Nerve Stimulation in Clinical MRI

Florian Matthias Vogt[1], Mark Ladd[1], Serban Mateiescu[1], Franz Hebrank[2], Al Zhang[3], Susanne Charlotte Goehde[1]
[1]University Hospital Essen, Germany, Essen, Germany; [2]Siemens Medical Solutions, Erlangen, Germany; [3]Siemens Medical Solutions, Chicago, Illinois, USA.

709. Searching for a Simple Physiological Correlation to Human Magnetostimulation Thresholds in Whole-Body MRI Gradient Coils

Blaine Chronik[1], Meena Ramachandran[1]
[1]Stanford University, Stanford, California, USA.

710. *In Vitro* Evaluation of MR Related Effects on Migration of Human Fetal and Embryonic Cells

Enno Rodegerdts[1], Eckart F GrömewäLler[1], Wolfgang M Schöber[1], Nina F Schwenzer[1], Swenja Tilgner[1], Stefan H Duda[1]
[1]University of Tübingen, Tübingen, Germany.

711. An Investigation of the Toxicity of Gadolinium-Based MRI Contrast Agents

Gerald Robert Moran[1], Julius Pekar[1], Miria Batolini[1], David R Chettle[1], Fiona McNeill[1], April Scott[1], Jenny Gibbons[2], Frank Prato[2]
[1]McMaster University, Hamilton, Ontario, Canada; [2]Lawson Health Research Institute, University of Western Ontario, London, Ontario, Canada.

MR Imaging of Brain: Animal Models II

712. Identification of Transplanted Stem Cells by Bifunctional, Contrast Agent-Enhanced, Magnetic Resonance Imaging

Mike M. Modo[1], Diana Cash[1], Karen Mellodew[1], Scott E. Fraser[2], Tom J. Meade[2], Jack Price[1], Helen Hodges[1], Steven C.R. Williams[1]
[1]King's College London, Institute of Psychiatry, London, England, UK; [2]California Institute of Technology, Pasadena, California, USA.

713. *In Vivo* Observation of Stem Cell Migration: A High-Resolution Magnetic Resonance Investigation

Ekkehard Küstermann[1], Thorsten Trapp[1], James Blunk[1], Dirk Wiedermann[1], Christian Bührle[1], Stefan Wecker[1], Melanie Föcking[1], Wolfram Schwindt[1], Jürgen Hescheler[2], Mathias Hoehn[1]
[1]Max-Planck-Institut for Neurological Research, Köln, Germany; [2]University of Cologne, Köln, Germany.

714. Temporal Profiles of Epileptogenesis as Detected by Multiparametric MRI in a Rat Model of Temporal Lobe Epilepsy

Jaak Nairismägi[1], Olli Gröhn[1], Mikko Kettunen[2], Jari Nissinen[1], Asla Pitkänen[1], Risto Kauppinen[1]
[1]University of Kuopio, Kuopio, Finland.

715. Cortical Layers Revealed by Manganese Enhanced Magnetic Resonance Imaging (MEMRI) in the Rat Brain after Systemic Administration

Ichio Aoki[1], Yi-Jen Lin Wu[2], Afonso Silva[1], Alan Koretsky[1]
[1]National Institutes of Health, Bethesda, Maryland, USA; [2]Carnegie Mellon University, Pittsburgh, Pennsylvania, USA.

716. MR Measurement of Tetramethyl Ammonium Ion ADC in Rat Brain

Christopher D. Kroenke[1], Joseph J.H. Ackerman[1], Jeffrey Neil[1]
[1]Washington University in St. Louis, St. Louis, Missouri, USA.

717. MR Microscopy of Magnetically Labeled Neurosphere Transplants in the Lewis EAE Rat

Jeff W Bulte[1,2], Tamir Ben-Hur[3], Brad Miller[1], Rachel Mizrachi-Kol[3], Ophira Einstein[3], Holly Zywicke[1], Trevor Douglas[4], Joseph Alan Frank[1]
[1]National Institutes of Health, Bethesda, Maryland, USA; [2]Johns Hopkins University School of Medicine, Baltimore, Maryland, USA; [3]Hadassah University Hospital, Jerusalem, Israel; [4]Montana State University, Bozeman, Montana, USA.

718. Detection of Macrophage Accumulation in the Ischemic Borderzone by Uptake of MIONs

Dirk Wiedermann[1], Michael Schroeter[2], Andreas Saleh[2], S. Jander[2], Ekkehard Kuestermann[1], Mathias Hoehn[1]
[1]Max-Planck-Institute for Neurological Research, Köln, Germany; [2]University Hospital Düsseldorf, Düsseldorf, Germany.

719. Neuroprotection by the Endocannabinoid Anandamide against *In Vivo* Neuronal Injury in the Rat

Wouter B. Veldhuis[1], Mario Van Der Stelt[2], Gijs W. Van Haaften[2], Dop(P) R. Bär[1], Gerrit A. Veldink[2], Johannes F.G. Vliegenthart[2], Vincenzo Di Marzo[3], Klaas Nicolay[1]
[1]University Medical Center Utrecht, Utrecht, Netherlands; [2]Utrecht University, Utrecht, Netherlands; [3]Endocannabinoid Research Group, Pozzuoli, Italy.

720. Detection of pH Effects in the Water Signal through Selective Saturation Transfer via Exchangeable Amide Protons of Mobile Intracellular Proteins: *P*rotein *P*roton *T*ransfer *I*maging (PPTI)

Jinyuan Zhou[1], Jean-Francois Payen[1,2], David A. Wilson[1], Richard J. Traystman[1], Peter C. Van Zijl[1]
[1]Johns Hopkins University, School of Medicine, Baltimore, Maryland, USA; [2]Grenoble University School of Medicine, Grenoble, France.

721. DT-MRI Reveals Different Architectural Patterns in the Cerebral and Cerebellar Cortex

Carlo Pierpaoli[1], Uliano Guerrini[2], Stefano Marenco[1], Peter J Basser[1], Alan S Barnett[1], Ryszard M Pluta[1]
[1]National Institutes of Health, Bethesda, Maryland, USA; [2]Faculty of Pharmacy, Milan, Italy.

FRIDAY

PLENARY LECTURE
Image Reconstruction

722. **The Computed Image: A Comparative History of Medical Image Reconstruction**
Gary H. Glover[1]
[1]Stanford University, Stanford, California, USA.

723. **Current Issues in MR Image Reconstruction**
Peter Börnert[1]
[1]Philips Research Laboratories, Hamburg, Germany.

724. **Current Issues in MR Spectroscopic Image Reconstruction and Signal Processing**
Andrew A. Maudsley[1]
[1]University of California San Francisco, Veterans Administration Medical Center, San Francisco, California, USA.

Clinical Applications of fMRI

725. **Preoperative Mapping of the Supplementary Motor Area in Patients with Medial Frontal Lobe Brain Tumors**
Lindsey Nelson[1], *Samir Lapsiwala*[1], *Victor M. Haughton*[1], *J. Noyes*[1], *Amir Sadrzadeh*[1], *Chad H. Moritz*[1], *Behnam Badie*[1], *M. Meyerand*[1]
[1]University of Wisconsin-Madison, Madison, Wisconsin, USA.

726. **Reduced Habituation to Visual Stimulation in Migraine**
Ulrike Dydak[1], *Peter S. Sandor*[2], *Gerard R. Crelier*[1], *Spyros S. Kollias*[2], *Reto Agosti*[2], *Peter Boesiger*[1]
[1]University and ETH Zürich, Zürich, Switzerland; [2]University Hospital of Zürich, Zürich, Switzerland.

727. **Adolescents with Disruptive Behavior Disorder Have Different Frontal Lobe fMRI Activation Patterns as Compared to Control Subjects**
Yang Wang[1], *Vincent P Mathews*[1], *Joseph T Lurito*[1], *Mark J. Lowe*[1], *Mario Dzemedzic*[1], *Micheal D Phillips*[1], *William Kronenberger*[1], *David Dunn*[1]
[1]Indiana University School of Medicine, Indianapolis, Indiana, USA.

728. **Abnormal Functional MRI in Cognitively Asymptomatic HIV Patients**
Thomas Ernst[1], *Linda Chang*[1], *Jorge Jovicich*[2], *Sheeba Arnold*[1]
[1]Brookhaven National Laboratory, Upton, New York, USA; [2]Massachusetts Institute of Technology, Cambridge, Massachusetts, USA.

729. **Assessment of Comatose Brain Injured Patients with Functional MR Imaging**
Chad H. Moritz[1], *Victor M. Haughton*[1], *Howard A. Rowley*[1], *Behnam Badie*[2], *John C. Jones*[1], *M. E. Meyerand*[1]
[1]University of Wisconsin-Madison, Madison, Wisconsin, USA.

730. **Functional MRI of the Cortical Response to Photic Stimulation in Acute Optic Neuritis: A Serial Study**
Ahmed T Toosy[1], *Simon J Hickman*[1], *Gordon T Plant*[2], *Gareth J Barker*[1], *David H Miller*[1], *Alan J Thompson*[1]
[1]University College London, Institute of Neurology, London, England, UK; [2]The National Hospital for Neurology and Neurosurgery, London, England, UK.

731. **Probing the Effective Functionality by Combined fMRI and DTI: Clinical Applications in Brain Surgery**
Talma Hendler[1], *Pia Rotshtein*[1], *Ariela Gigi*[1], *Pazit Pianka*[1], *Maya Bleich*[1], *Irith I. Reider-Groswasser*[1], *Yoram Segev*[1], *Moshe Graif*[1], *Dafna Ben-Bashat*[1], *Itzhak Fried*[1], *Yaniv Assaf*[1]
[1]Tel Aviv Sourasky Medical Center, Wohl Institute for Advacned Imaging, Tel Aviv, Israel.

732. Anticipation of Visceral Pain: A Functional Magnetic Resonance Imaging Study

Steven John Coen[1], Lloyd James Gregory[1], Lidia YáGüEz[2], Edson Amaro[2], Simon Smale[3], Anthony Hobson[1], Steve Williams[2], David Thompson[1], Qasim Aziz[1]
[1]University of Manchester, Salford, England, UK; [2]Institute of Psychiatry, London, England, UK; [3]Kings College Hospital, London, England, UK

733. fMRI Measurement of the Pharmacokinetics of Remifentanil by its Modulation of Pain-Related Activity

Richard Geoffrey Wise[1], Richard Rogers[1], Deborah Painter[1], Pauline Williams[2], Garth Rapeport[3], Irene Tracey[1]
[1]University of Oxford, Oxford, England, UK; [3]GlaxoSmithKline, Harlow, England, UK; [4]GlaxoSmithKline, Stevenage, England, UK.

734. fMRI in Amblyopia: The Effects of L-dopa

Antonio Algaze[1], Lawrence E Leguire[2], Gary L Rogers[2], Mark Smith[2], Petra Schmalbrock[1], Cynthia Roberts[1]
[1]The Ohio State University, Columbus, Ohio, USA; [2]Children's Hospital, Columbus, Ohio, USA.

Image Reconstruction

735. Phased Array Coil Compatible T_2-weighted Fast Spin Echo Dixon Imaging

Jingfei Ma[1], Sanjay Singh[1], Ashok Kumar[1], Norman Leeds[1], Lyle Broemeling[1]
[1]University of Texas M.D. Anderson Cancer Center, Houston, Texas, USA.

736. Water and Fat SSFP Imaging with Four-Point Dixon Techniques

Scott Brian Reeder[1], Marcus Alley[1], Norbert J. Pelc[1]
[1]Stanford University, Stanford, California, USA.

737. Field-Corrected Imaging using Joint Estimation of Image and Field Map

Bradley Sutton[1], Jeffrey A. Fessler[1], Douglas C. Noll[1]
[1]University of Michigan, Ann Arbor, Michigan, USA.

738. Real-Time Optimized Reconstruction Algorithm for Adaptive Imaging

Juan Manuel Santos[1], Graham Wright[2], John M. Pauly[1]
[1]Stanford University, Stanford, California, USA; [2]ASL-West, GE Medical Systems, Menlo Park, California, USA.

739. Feedback Regularization for SENSE Reconstruction

Jeffrey Tsao[1], Klaas Pruessmann[1], Peter Boesiger[1]
[1]ETH Zürich, Zürich, Switzerland.

740. Improving k-space Trajectory Design by Eigenvector Analysis

Bart Desplanques[1], Rik Van De Walle[1], Ignace Lemahieu[1]
[1]University of Ghent, Ghent, Belgium.

741. Iterative Reconstruction in Diffusion Tensor Tomography using Total Variation Regularization on Eigenvalue and Tensor Component Images

Vladimir Y Panin[1], Gengsheng L Zeng[2], James N Lee[2], Grant Theodore Gullberg[2]
[1]CTI Systems, Inc., Knoxville, Tennessee, USA; [2]University of Utah, Salt Lake City, Utah, USA.

742. Reinterpretation of Apparent Diffusion Coefficients at High b-Factors

John J. Lee[1]
[1]University of Illinois at Urbana-Champaign, Urbana, Illinois, USA.

743. Comparison of Gridding- and Convolution-Based Iterative Reconstruction Algorithms for Sensitivity-Encoded Non-Cartesian Acquisitions

Holger Eggers[1], Peter Boernert[1], Peter Boesiger[2]
[1]Philips Research Hamburg, Hamburg, Germany; [2]University and ETH Zurich, Zurich, Switzerland.

744. Block Uniform Resampling (BURS) Algorithm using SVD Regularization and Variable Window Size

Benjamin Stuart Wilbur[1], Dennis Lee Parker[1]
[1]University of Utah, Salt Lake City, Utah, USA.

fMRI Processing Methods

745. Fractal Analysis of Noise in fMRI Time Series Reveals Brain Activity

Christian Windischberger[1], Stefan Thurner[1], Ewald Moser[1], Markus Barth[1]
[1]Universitat Wien, Vienna, Austria.

746. Processing Strategies for Event-Related Perfusion fMRI

Thomas Liu[1], Eric Wong[2], Lawrence Frank[1,2], Richard Buxton[1]
[1]University of California San Diego, La Jolla, California, USA; [2]VA San Diego Healthcare System, La Jolla, California, USA.

747. HRF Modelling in a Fully Bayesian Spatio-temporal Framework

Mark W Woolrich[1], Stephen M Smith[1], J M Brady[1]
[1]University of Oxford, Oxford, England, UK.

748. Probabilistic Independent Component Analysis in fMRI

Christian F. Beckmann[1], Stephen M. Smith[1]
[1]University of Oxford, Oxford, England, UK.

749. Independent Component Analysis of fMRI Data in the Complex Domain

Vince Calhoun[1], Tulay Adali[2], Godfrey D. Pearlson[1], Peter C. Van Zijl[1], James Pekar[1]
[1]Johns Hopkins University, Baltimore, Maryland, USA; [2]University of Maryland Baltimore County, Baltimore, Maryland, USA.

750. Fourier Method for Detection of fMRI Signal in Noise of Unknown Power Spectral Density

Kaundinya Gopinath[1], Richard W Briggs[1]
[1]University of Florida, Gainesville, Florida, USA.

751. Comparison between Singular Spectrum Analysis and Filtering Methods to Calculate Functional Synchrony in the Human Hippocampus Region

Gaohong Wu[1], Zhu Li[1], Feng Luo[1], Piero Antuono[1], Shi-Jiang Li[1]
[1]Medical College of Wisconsin, Milwaukee, Wisconsin, USA.

752. Unbiased Volterra Kernel Analysis of Event-Related fMRI Data

Thomas Liu[1], Richard B. Buxton[1], Eman Ghobrial[1]
[1]University of California San Diego, La Jolla, California, USA.

753. Diagnosis of Linear Models for fMRI

Thomas Nichols[1], Wen-Lin Luo[1]
[1]University of Michigan, Ann Arbor, Michigan, USA.

754. Multiple Networks Recruited during a Story Processing Task Found using Group Inferences across Subjects from Independent Component Analysis

Vincent Schmithorst[1], Scott K. Holland[1]
[1]Children's Hospital, Cincinnati, Ohio, USA.

Hyperpolarized Gas Imaging

755. Hyperpolarising ^{13}C for MR Studies

Andrea Cherubini[1], Geoffrey S. Payne[1], Martin O. Leach[1], Angelo Bifone[1,2]
[1]Institute of Cancer Research, Sutton, Surrey, England, UK; [2]Glaxo SmithKline Research Center, Verona, Italy.

756. Functional Hyperpolarized ^{3}He MR Microscopy of Methacholine-Induced Bronchoconstriction in Rats

Ben T. Chen[1], Anja Brau[1], G. Allan Johnson[1]
[1]Duke University, Durham, North Carolina, USA.

757. Helium3 Imaging and Morphometric Measurements for Regional Characterization of Alveolar Sizes Changes in Emphysema-induced Rat Models

Yannick Crémillieux[1], Jesus Ruiz-Cabello[2], David Dupuich[1], German Peces-Barba[3], Ignacio Rodriguez[2], Mercedes Ortega[3], Virginie Callot[1], Carmen Martin-Mosquero[3], Maria Rubio[2], Yves Berthezène[4], Nicolas Gonzales-Mangado[3]
[1]Laboratoire de RMN, Villeurbanne, France; [2]Unitad de RMN, Madrid, Spain; [3]Fundacion Jimenez Diaz, Madrid, Spain; [4]Creatis, Lyon, France.

758. Chemical Shift Imaging of Human Brain after Inhaling Hyperpolarized ^{129}Xe-Gas

Wolfgang Kilian[1], Frank Seifert[1], Herbert Rinneberg[1]
[1]Physikalisch-Technische Bundesanstalt, Berlin, Germany.

759. Microstructure of Human Lung as Revealed by Hyperpolarized ^{3}He Diffusion MRI

Dmitriy A. Yablonskiy[1], Alexander L. Sukstanskii[1], Jason C. Leawoods[1], David S. Gierada[1], G. Larry Bretthorst[1], Steven S. Lefrak[1], Joel D. Cooper[1], Mark S. Conradi[5]
[1]Washington University in St. Louis, St. Louis, Missouri, USA.

760. Hyperpolarized ^{3}He Diffusion Imaging in Smokers: A Comparison with Computed Tomography and Spirometry

Michael Salerno[1], John Mugler[1], Brian Cooley[1], James R. Brookeman[1], Eduard E. De Lange[1], Talissa Altes[1]
[1]University of Virginia, Charlottesville, Virginia, USA.

761. Aerated versus Ventilated Lung: Value of ^{3}He MRI and CT

Julia Zaporozhan[1], Sebastian Ley[1], Klaus Kurt Gast[1], Konstantin Katsaros[1], Alexander Hanke[1], Andreas Stepniak[1], Balthasar Eberle[1], Wolfgang Schreiber[1], Carsten Bletz[1], Joerg Schmiedeskamp[1], Hans-Ulrich Kauczor[1]
[1]Johannes Gutenberg-University, Mainz, Germany.

762. Post-LVRS Lung Function Improvements in Emphysema Examined by ^{3}He Ventilation and Diffusivity

Jason Leawoods[1], Dmitriy A. Yablonskiy[1], David Gierada[1], Joel Cooper[1], Mark S. Conradi[1]
[1]Washington University in St. Louis, St. Louis, Missouri, USA.

763. Airway Segmentation via Hyperpolarized ^{3}He Gas MRI using Scale-Based Fuzzy Connectedness

Binquan Wang[1], Punam Saha[1], Rahim Rizi[1], David A. Roberts[1], David Lipson[1], James Baumgardner[1], Masaru Ishii[1], Warren Gefter[1], Mitchell Schnall[1], G. Allan Johnson[2], Jayaram K Udupa[1]
[1]University of Pennsylvania, Philadelphia, Pennsylvania, USA; [2]Duke University, Durham, North Carolina, USA.

764. Comprehensive Pulmonary MR Imaging using Hyperpolarized ^{3}He, O_2, and Gadolinium

Shella Keilholz[1], Talissa Ann Altes[2], Jack Knight-Scott[2], John Christopher[2], Stuart Scott Berr[2], Eduard E. De Lange[2]
[1]National Institutes of Health, Bethesda, Maryland, USA; [2]University of Virginia, Charlottesville, Virginia, USA.

RF Coils and Subsystems

765. Quadrature Coaxial Reentrant Cavity (ReCav) Coils for High Frequency Large Volume MRI/S

Barbara Beck[1], Jeffrey R. Fitzsimmons[1], Stuart Crozier[2], Stephen Blackband[1]
[1]University of Florida, Gainesville, Florida, USA; [2]Queensland University, St. Lucia, Queensland, Australia.

766. A LN_2 Cooled Toroid Cavity Resonator

Christian Pschierer[1], Mark Griswold[1], Titus Lanz[1], Martin Blaimer[1], Axel Haase[1]
[1]Universität Würzburg, Würzburg, Germany.

767. Preamp-Decoupling Improvement in Quadrature Phased-Array (PA) Coils and an Image-based Coil Element Coupling Measurement Method

Ceylan Celil Guclu[1], Ed Boskamp[1], Ricardo Becerra[1], Leroy Blawat[1], Phil Steen[1]
[1]GE Medical Systems, Milwaukee, Wisconsin, USA.

768. A Hardware Combiner to Achieve "Optimal" SNR using Sum-of-Squares Reconstruction

Stephen Varosi[1], Scott King[1], George Randy Duensing[1]
[1]MRI Devices Corporation, Gainesville, Florida, USA.

769. A Multi-nuclear MRI System Incorporating Local T/R Switches

David Herlihy[1], Alan Collins[1], Joseph V. Hajnal[1]
[1]Hammersmith Hospital, London, England, UK.

770. A Multiply-Tuned Hybrid Birdcage Volume Resonator for Transmit/Receive and Transmit-Only High Field NMR Imaging, Spectroscopy, and Multi-Nuclear Phased Array Applications

Enzo Antonio Barberi[1], Joseph Gati[1], Eric Jensen[2], Robert Bartha[1], Dick J. Drost[3], Ravi Menon[1]
[1]The John P. Robarts Research Institute, London, Ontario, Canada; [2]St. Joseph's Health Centre, London, Ontario, Canada; [3]University of Western Ontario, London, Ontario, Canada.

771. N-Dimensional Orthogonality of Volume Coil Arrays

Randy Duensing[1], Uli Gotshal[1], Scott King[1], Feng Huang[2]
[1]MRI Devices Corporation, Gainesville, Florida, USA; [2]University of Florida, Gainesville, Florida, USA.

772. Intrinsic Hybrid Surface Coil Array for Improved SNR in Cardiac MRI

Christoph Leussler[1], Peter Mazurkewitz[3], Peter Börnert[1]
[1]Philips Research Laboratories, Hamburg, Germany; [2]TUHH Technologie GmbH, Hamburg, Germany.

773. FDTD Calculations of B_1-field and SAR for 3T Whole Body Coil

Zhiyong Zhai[1], Gordon D. DeMeester[1], Shmaryu M. Shvartsman[1], Michael A. Morich[1]
[1]Philips Medical Systems (Cleveland), Cleveland, Ohio, USA.

774. Effects of End Ring Configuration on Homogeneity and Signal to Noise Ratio in a Birdcage Coil Loaded with the Human Head

Wanzhan Liu[1], Christopher M. Collins[1], Michael B. Smith[1]
[1]Pennsylvania State University College of Medicine, Hershey, Pennsylvania, USA.

Myocardial Function: Tagging

775. Ultrafast Dense Technique for Mapping the Volumetric 3D Wall Motion of the Left Ventricle

Eric Bennett[1], Vinay Manjunath Pai[1], Han Wen[1]
[1]National Institutes of Health, Bethesda, Maryland, USA.

776. Validation of Unsupervised Reconstruction of Left Ventricular Strain from Tagged MRI

Thomas S. Denney[1], Bernard Gerber[2], Litao Yan[1]
[1]Auburn University, Auburn University, Alabama, USA; [2]Johns Hopkins University School of Medicine, Baltimore, Maryland, USA.

777. Myocardial Tagging Reveals Completely Normal Remote Zone Function Early after Infarction in iNOS Knockout Mice

Frederick H. Epstein[1], Wesley D. Gilson[1], Zequan Yang[1], Victor E. Laubach[1], Stuart Scott Berr[1], Brent A. French[1]
[1]University of Virginia, Charlottesville, Virginia, USA.

778. Assessment of Myocardial Oxygen Extraction Fraction: Initial Experience

Jie Zheng[1], Dmitriy A. Yablonskiy[1], Mark Nolte[1], Debiao Li[2], Pamela K. Woodard[1], Nikolaos Tsekos[1], Robert J. Gropler[1]
[1]Washington University in St. Louis, St. Louis, Missouri, USA; [2]Northwestern University Medical School, Chicago, Illinois, USA.

779. Spiral CSPAMM Myocardial Tagging: First experiments with High Spatial and Temporal Resolution

Salome Ryf[1], Kraig Kissinger[2], Peter Börnert[3], Marcus Spiegel[1], Peter Boesiger[1], Warren J. Manning[2], Matthias Stuber[2]
[1]University and ETH Zurich, Zurich, Switzerland; [2]Beth Israel Deaconess Medical Center, Boston, Massachusetts, USA; [3]Philips Research Laboratories, Hamburg, Germany.

780. Delineation of Stunned Myocardium with Manganese Contrast Enhanced MRI

Gabriele Anja Krombach[1], Maythem Saeed[1], Charles B. Higgins[1], Viktor Novikov[1], Michael F. Wendland[1]
[1]University of California San Francisco, San Francisco, California, USA.

781. High-Dose Dobutamine Stress Magnetic Resonance Imaging for Follow-up after Coronary Revascularization Procedures in Patients with Wall Motion Abnormalities at Rest

Andreas Wahl[1], Stefan Roethemeyer[1], Ingo Paetsch[1], Christoph Klein[1], Eckart Fleck[1], Eike Nagel[1]
[1]German Heart Institute Berlin, Berlin, Germany.

782. SSFP Myocardial Tagging

Daniel A. Herzka[1,2], Michael A. Guttman[2], Elliot McVeigh[2,1]
[1]Johns Hopkins University School of Medicine, Baltimore, Maryland, USA; [2]National Institutes of Health, Bethesda, Maryland, USA.

783. Displacement and Strain Measurements in the Human Heart with SPAMM and meta-DENSE

Anthony Aletras[1], Gauri Tilak[1], Shravan Ambati[1], Daniel Ennis[1], Cengizhan Ozturk[1], Andrew Arai[1]
[1]National Institutes of Health, Bethesda, Maryland, USA.

784. Breath-held 3D Fast CINE: Retrospective CINE Interpolation for Full R-R Coverage using FIESTA

Dan Rettmann[1], Ernesto Castillo[2], Marcela Montequin[1], Thomas Foo[1]
[1]GE Medical Systems, Baltimore, Maryland, USA; [2]Johns Hopkins University School of Medicine, Baltimore, Maryland, USA.

MR Spectroscopy Localization and Editing

785. Detection of Glutamate in the Human Brain at 3 Tesla using Optimized CT-PRESS

Dirk Mayer[1], Daniel M. Spielman[1]
[1]Stanford University, Stanford, California, USA.

786. Normal Human Brain GABA Measured Pre and Post Vigabatrin, using Numerical Simulation for Optimisation of STEAM Timings

Christopher C Hanstock[1], Nick Coupland[1], Peter S Allen[1]
[1]University of Alberta, Edmonton, Alberta, Canada.

787. GABAssale: Selective Homonuclear MQC Transfer Schemes for Unambiguous *In Vivo* GABA Detection with Full Signal Recovery and Complete Water Suppression in a Single Scan

Dikoma C. Shungu[1], Arthur G. Palmer[1], Ravi Ramasamy[1]
[1]Columbia University, New York, New York, USA.

788. Measurement of Reduced Glutathione (GSH) in Human Brain using MEGA Editing

Melissa Terpstra[1], Rolf Gruetter[1]
[1]University of Minnesota, Minneapolis, Minnesota, USA.

789. *In Vivo* ^{1}H-localized ^{13}C Spectroscopy of the Rat Brain

Pierre-Gilles Henry[1], Rolf Gruetter[1]
[1]University of Minnesota, Minneapolis, Minnesota, USA.

790. A Localization Method for the Measurement of Fast Relaxing ^{13}C Signals in the Human Brain

GüLin Oz[1], Pierre-Gilles Henry[1], Rolf Gruetter[1]
[1]University of Minnesota, Minneapolis, Minnesota, USA.

791. Rapid Three Dimensional Citrate Mapping of the Prostate *In Vivo*

Tom WJ Scheenen[1], Stefan RUoll[2], Dennis WJ Klomp[1], Ferdi A Van Dorsten[1], Jürgen J Fütterer[1], Arend Heerschap[1]
[1]University Medical Center Nijmegen, Nijmegen, Netherlands; [2]Siemens Medical Solutions, Erlangen, Germany.

792. Fast ^{31}P Chemical Shift Imaging using SSFP Methods

Oliver Speck[1], Klaus Scheffler[1], Jürgen Hennig[1]
[1]University of Freiburg, Freiburg, Germany.

793. *In Vivo* Cross Polarisation for PME and PDE Detection

Laura Mancini[1], Geoffrey Sthephen Payne[1], Martin O. Leach[1]
[1]Institute of Cancer Research, Sutton, Surrey, England, UK.

794. SENSE Spectroscopic Imaging: 3D versus 2D Multi-Slice

Ulrike Dydak[1], Sebastian Kozerke[1], Gerald Van Ensbergen[2], Dieter Meier[1], Klaas P. Pruessmann[1], Peter Boesiger[1]
[1]University and ETH Zürich, Zürich, Switzerland; [2]Philips Medical Systems, Best, The Netherlands.

Pediatric MR Imaging and Spectroscopy

795. Visuospatial Processing Deficits in Children of Very Low Birthweight - A Neural Correlate

David Gadian[1], Elizabeth Isaacs[1], Caroline Edmonds[1], Alan Lucas[1]
[1]Institute of Child Health, University College London, London, England, UK.

796. Improved Detection of Hemorrhagic Shearing Injuries in Children with Post-Traumatic Diffuse Axonal Injury using Susceptibility Weighted Imaging (SWI): Correlation with Severity and Outcome

Karen Angela Tong[1], Stephen Ashwal[1], Barbara Ann Holshouser[1], Lori Shutter[1], Gwenael Herigault[2], E. Mark Haacke[2]
[1]Loma Linda University Medical Center, Loma Linda, California, USA; [2]The MR Institute for Biomedical Research, St. Louis, Missouri, USA.

797. Neonatal MR Diffusion Imaging following Perinatal Asphyxia: Correlation with Subsequent NeuroMotor Outcome

Maryann Bohland[1], Steven P. Miller[1], Donna M. Ferriero[1], J. Colin Partridge[1], Nancy Newton[1], Roland G. Henry[1], A. James Barkovich[1], Daniel B. Vigneron[1]
[1]University of California San Francisco, San Francisco, California, USA.

798. The Evolution of the Fast and Slow Diffusion Tensors in the Pediatric Brain

Richard Alan Jones[1,2], Susan Palasis[1], Damien Grattan-Smith[1]
[1]Children's Healthcare of Atlanta, Atlanta, Georgia, USA; [2]Emory University, Atlanta, Georgia, USA.

799. MR Compatible Incubator for Imaging Pre- and Term Neonates

Ravi Srinivasan[1], T. Loenneker-Lammers[2], R Shah[1]
[1]Advanced Imaging Research, Cleveland, Ohio, USA; [1]Lammers Medical Technology GbmH; [1]Case Western Reserve University, Cleveland, Ohio, USA.

800. 3D MRSI and Diffusion Tensor Imaging of the Neonatal Brain following Birth Asphyxia

Daniel Vigneron[1], Steven P. Miller[1], Roland Henry[1], Donna Ferriero[1], Maryann Bohland[1], Ying Lu[1], Nancy Newton[1], Orit A. Glenn[1], Terry Chun[1], John Colin Partridge[1], Anthony James Barkovich[1]
[1]University of California San Francisco, San Francisco, California, USA.

801. Regional Distribution of Brain Metabolite Ratios in Childhood Autism Determined by ^{1}H MRSI

Joseph O'Neill[1], Jennifer Levitt[1], James T. McCracken[1], Jeffry R. Alger[1]
[1]University of California Los Angeles, Medicine, Los Angeles, California, USA.

802. Cerebral Energy Metabolism in Phenylketonuria Investigated by Quantitative *In Vivo* ^{31}P-MR Spectroscopy

Roland Kreis[1], Chris Boesch[1], Andre Rupp[2], Friedrich Ebinger[2], Dietz Rating[2], Ertan Mayatepek[2], Joachim Pietz[2]
[1]University Bern, Bern, Switzerland; [2]University Heidelberg, Children's Hospital, Heidelberg, Germany.

803. A Second Creatine Deficiency Syndrome Detected by Proton MR Spectroscopy: Defects in the Creatine Transporter

Kim Maria Cecil[1], Gajja S Salomons[2], William S Ball[1], Cornelis Jakobs[2], Ton J DeGrauw[1]
[1]Children's Hospital Medical Center, Cincinnati, Ohio, USA; [2]Vrije University Medical Center, Amsterdam, Netherlands.

804. Altered Metabolic Brain Development after Prenatal Stress in Newborns with Intrauterine Growth Restriction: Quantitative ^{1}H-MRS study

Aileen Chen[1], Francois Lazeyras[2], Frank Henry[2], Cristina Borradori-Tolsa[1], Pierre Magistretti[3], Petra Hüppi[1,4]
[1]University of Geneve Children's Hospital, Geneva, Switzerland; [2]University Hospital of Geneva, Geneva, Switzerland; [3]Université de Lausanne, Lausanne, Switzerland; [4]Children's Hospital of Boston, Harvard Medical School, Boston, Massachusetts, USA.

Body MR: Renal Function

805. Effect of Hypertension on Renal Medullary Oxygenation as Evaluated by BOLD MRI

Luping Li[1], David Kim[1], Pippa Storey[1], Wei Li[1], Pottumarthi Prasad[1]
[1]Evanston Northwestern Healthcare, Northwestern Medical School, Evanston, Illinois, USA.

806. Detetection and Localization of Proteinuria by Dynamic Contrast Enhanced MRI

Yantian Zhang[1], Peter Choyke[1], Huiyang Lu[1], Hani Marcos[1], Hideko Mobaraki[1], Marty Lizak[1], Daryl Despres[1], Jeffery Kopp[1]
[1]National Institutes of Health, Bethesda, Maryland, USA.

807. MRI Measurement of Filtration Fraction (FF) and Single-Kidney GFR (skGFR)

Yakir Levin[1], Lawrence C Chow[1], Daniel M Spielman[1], F. Graham Sommer[1]
[1]Stanford University, Stanford, California, USA.

808. Evaluation of Reproducibility of Response to Waterload on Intrarenal Oxygenation as Evaluated by BOLD MRI

Luping Li[1], Jason Polzin[2], Linda Pierchala[1], Pippa Storey[1], Wei Li[1], Linda Odom[1], Pottumarthi Vara Prasad[1]
[1]Evanston Northwestern Healthcare, Northwestern Medical School, Evanston, Illinois, USA; [2]GE Medical Systems, Milwaukee, Wisconsin, USA.

809. Diffusion MR Imaging of the Rat Kidney at 7T

Dewen Yang[1], Donald S Williams[1], Qing Ye[1], Chien Ho[1]
[1]Carnegie Mellon University, Pittsburgh, Pennsylvania, USA.

810. Renal Extraction Fraction of Gd-DTPA: Technical Factors Affecting the MR Measurement

Michael H. Buonocore[1], Richard W. Katzberg[1]
[1]University of California Davis, School of Medicine, Sacramento, California, USA.

811. Quantitative Assessment of Renal Function using Dynamic Gd-DTPA-enhanced MRI

David L. Buckley[1], Ala'a E. Shurrab[2], Andrew P. Jones[3], Judith E. Kilgallon[3], Hari Mamtora[2], Philip A. Kalra[2]
[1]University of Manchester, Manchester, England, UK; [2]Hope Hospital, Manchester, England, UK; [3]North Western Medical Physics, Manchester, England, UK.

812. Evaluation of Renal Cortical Perfusion in Patients with Renal Artery Stenosis using Contrast Enhanced Magnetic Resonance Renography (CE-MRR)

Stephen Gandy[1], Graeme Houston[1], Declan Sheppard[1], Trudy McLeay[1], Lyndsay Allan[1], Patricia Martin[1], Wendy Milne[1]
[1]Ninewells Hospital and Medical School, Tayside University NHS Trust, Dundee, Scotland, UK.

813. Cine Phase Contrast Measurement of Renal Blood Flow as a Marker of Disease Progression in Autosomal Dominant Polycystic Kidney Disease

James F Glockner[1], Bernard F King[1], Vicente E Torres[1], Arlene B Chapman[2], Marijn Brummer[2], Kyongtae T Bae[3], Consortium for Radiologic Imaging Studies of Polycystic Kidney Disease (CRISP)
[1]Mayo Clinic, Rochester, Minnesota, USA; [2]Emory University, Atlanta, Georgia, USA; [3]Mallinckrodt Institute of Radiology, St. Louis, Missouri, USA.

814. Pretransplant Assessment of Renal Viability: Clinical Results Correlated with ^{31}P-MRS and -CSI

Miriam B Niekisch[1], Dominik Von Elverfeldt[1], André El Saman[1], G. Kirste[1], U. T. Hopt[1], M. Langer[1], Jürgen Hennig[1]
[1]University Hospital Freiburg, Freiburg, Germany.

POSTER SESSIONS

Gradients and Magnets

815. Multi-layer Actively Shielded Gradient Coils

James Leggett[1], Stuart Crozier[2], Richard Bowtell[1]
[1]University of Nottingham, Nottingham, England, UK; [2]Queensland University, Brisbane, Queensland, Australia.

816. Birdcage-Decoupled Z Gradient Coil for an Embedded RF Shield

Ed Boskamp[1], Richard P Mallozzi[1], Leroy Blawat[1], William A Edelstein[2]
[1]G. E. Medical Systems, Milwaukee, Wisconsin, USA; [2]MRScience LLC, Schenectady, New York, USA.

817. Shielded Gradient Coil Design with Variable Field-of-View

Gordon D. Demeester[1], Michael A. Morich[1], Shmaryu M. Shvartsman[1]
[1]Philips Medical Systems (Cleveland), Cleveland, Ohio, USA.

818. A Comparison of a Harmonic Minimisation Approach to Gradient Coil Design with the SUSHI Method

James Leggett[1], Richard Bowtell[1]
[1]University of Nottingham, Nottingham, England, UK.

819. Uniplanar Gradient Coils for Brain Imaging

Daniel Green[1], Richard Bowtell[1], Peter Morris[1]
[1]University of Nottingham, Nottingham, England, UK.

820. Shim Design and Construction for a Prepolarized MRI Readout Magnet

Sharon Ella Ungersma[1], Hao Xu[1], Blaine Chronik[1], Albert Macovski[1], Greig Scott[1], Steven Conolly[1]
[1]Stanford University, Stanford, California, USA.

821. High-Strength Gradient Insert Coils Interfaced to Clinical MR Imagers

Yuteng Chen[1], Andrew Alejski[2], Paula Gareau[2], Brian K. Rutt[2]
[1]University of Western Ontario, London, Ontario, Canada; [2]John P. Robarts Research Institute, London, Ontario, Canada.

822. A Method for Correcting Eddy Currents Induced by B_0 Compensation Coils

Joseph Gati[1], Enzo Barberi[1], Chris Bowen[1], Ravi Menon[1]
[1]The John P. Robarts Research Institute, London, Ontario, Canada.

823. Technique for Hessian Matrix Formation in Transverse Gradient Coil Optimization

Hanbing Lu[1], Andrzej Jesmanowicz[1], James Hyde[1]
[1]Medical College of Wisconsin, Milwaukee, Wisconsin, USA.

824. A Simple Method of Gradient Design Due to Local Minor Changes of a k-Space Trajectory using Bézier Curves

Hisamoto Moriguchi[1], Jeffrey L. Duerk[1]
[1]University Hospitals of Cleveland and Case Western Reserve University, Cleveland, Ohio, USA.

825. A Simple Model to Study Acoustic Noise Induced by Transverse Gradient Coils

Dardo Gustavo Tomasi[1]
[1]Brookhaven National Laboratory, Upton, New York, USA.

826. Acoustic Noise Reverberation in the MR Environment

A Moelker[1], MW Vogel[1], M Ouhlous[1], PMT Pattynama[1]
[1]Erasmus University Medical Center Rotterdam, Rotterdam, Netherlands.

827. Design and Optimization of a Planar Gradient Coil System for a Mobile Magnetic Resonance Device

Hartmut Popella[1], Gerhard Henneberger[1]
[1]RWTH Aachen, Aachen, Germany.

828. Optimization of Planar Stream Functions for Gradient Coil Design

D. Tomasi[1]
[1]Brookhaven National Laboratory, Upton, New York, USA.

829. EPI Gradient Preemphasis Optimization: using Neural Networks

San-Chao Hwang[1], Ching Yao[2], Jyh-Horn Chen[1]
[1]National Taiwan University, Taiwan University, Taipei, Taiwan; [2]National Health Research Institutes, Taipei, Taiwan.

830. Automatic Eddy Current Compensation in Echo Planar Imaging

Yu-Kun Lin[1], Ching Yao[2], Jyh-Horng Chen[1]
[1]National Taiwan University, Taipei, Taiwan; [2]National Health Research Institutes, Taipei, Taiwan.

831. Modeling Magnetic Dipoles to Improve Accuracy of Passive Shimming

Vinai Roopchansingh[1], Andrzej Jesmanowicz[1], James S. Hyde[1]
[1]Medical College of Wisconsin, Milwaukee, Wisconsin, USA.

832. Reduction of T_1 and T_2 Relaxation Times by Electrical Currents

Masaki Sekino[1], Kikuo Yamaguchi[1], Norio Iriguchi[1], Shoogo Ueno[1]
[1]University of Tokyo, Tokyo, Japan.

833. Effects of Material Outside the FOV on Magnetic Field Uniformity

Vinai Roopchansingh[1], Robert W. Cox[2], Andrzej Jesmanowicz[1], James S. Hyde[1]
[1]Medical College of Wisconsin, Milwaukee, Wisconsin, USA; [2]National Institute of Mental Health, Bethesda, Maryland, USA.

834. VRMS Homogeneity Definition: A Proposal

Timothy John Havens[1], Tomas Duby[1], Jinhua Huang[1], Dewain Purgill[2]
[1]GE Medical Systems, Florence, South Carolina, USA; [2]GE Medical Systems, Milwaukee, Wisconsin, USA.

835. Development of a Compact MRI System for Trabecular Bone Volume Fraction Measurements

Katsumi Kose[1], Y. Matsuda[1], S. Hashimoto[1], Y. Yamazaki[1], T. Haishi[2], S. Utsuzawa[2], H. Yoshioka[1], A. Nakahishi[3], S. Okada[3], M. Endo[3], M. Aoki[3], T. Tsuzaki[3]
[1]University of Tsukuba, Tsukuba, Japan; [2]MR Technology, Inc., Japan; [3]Sumitomo Special Metals Company, Ltd., Japan.

836. Design and Construction of an Open Human-Scale Low-Field Imaging System

Bill Hersman[1], Iulian Ruset[1], Samuel Patz[2], Mirko I. Hrovat[3], Ross W. Mair[4], Matthew S. Rosen[4], Ronald L. Walsworth[4]
[1]University of New Hampshire, Durham, New Hampshire, USA; [2]Brigham and Women's Hospital & Harvard Medical School, Boston, Massachusetts, USA; [3]Mirtech, Inc., Brockton, Massachusetts, USA; [4]Harvard-Smithsonian Center for Astrophysics, Cambridge, Massachusetts, USA.

837. Design of Low Field RF Coil for Open MRI System using Electric Dipole Radiation and Metropolis Algorithm

Gyong-Luck Khym[1], Hyung-Jin Yang[1], Chang-Hyun Oh[1]
[1]Korea University, Seoul, South Korea.

838. A Mobile System for Unilateral NMR Tomography: The NMR Surface Scanner

H. Popella[1], J. Felder[1], M. Wenzel[1], S. A.R. Kannengießer[1], G. Henneberger[1], B. Rembold[1], T. G. Noll[1]
[1]RWTH Aachen, Aachen, Germany.

839. Development of a Low Field MRI System for Small Animal Veterinary Diagnosis

Jonathan C. Sharp[1], Qunli Deng[1], Donghui Yin[1], Richard Bernhardt[1], Troy Goodman[1], Calvin Bewsky[1], Andrew Procca[1], Thomas Asker[1], Vyacheslav Volotovskyy[1], Gordon Goodridge[3], John Pharr[2], Scott Sutherland[4], Boguslaw Tomanek[1]
[1]Institute for Biodiagnostics, National Research Council of Canada, Winnipeg, Manitoba, Canada; [2]Western College of Veterinary Medicine, Saskatoon, Saskatchewan, Canada; [3]Centennial Animal Hospital, Winnipeg, Manitoba, Canada; [4]Health Sciences Centre, Winnipeg, Manitoba, Canada.

840. FDTD Calculations of Induced E-field in a Cylindrical Z-gradient Coil

Shmaryu Shvartsman[1], Zhiyong Zhai[1], Gordon DeMeester[1], Michael A. Morich[1]
[1]Philips Medical Systems (Cleveland), Cleveland, Ohio, USA.

841. A Dedicated DSP Processor Based Less Complex Shim and Gradient Coils For MRI And MRS

Tadanki Sasidhar[1], P C Mathias[1]
[1]Indian Institute of Science, Bangalore, Karnataka, India.

MR Safety and Bioeffects

842. Numerical Calculations of the Electric Field and Current Density Induced in the Human Body by Temporally Varying Magnetic Field Gradients

Martin Bencsik[1], Richard Bowtell[1], Roger Bowley[1]
[1]University of Nottingham, Nottingham, England, UK.

843. Neurostimulation Systems Used for Deep Brain Stimulation: *In Vitro* Evaluation of MRI-Related Heating at 1.5-Tesla

Paul Ruggieri[1], Daniel Finelli[1], Ali Rezai[1], Jean Tkach[1], A. Sharan[1], John Nyenhuis[2], Greg Hrdlicka[3], Paul Stypulkowski[3], Frank Shellock[4]
[1]Cleveland Clinic Foundation, Cleveland, Ohio, USA; [2]Purdue University, West Lafayette, Indiana, USA; [3]Medtronic, Inc., Minneapolis, Minnesota, USA; [4]University of Southern California, Los Angeles, California, USA.

844. Development of FDTD Methods for Investigating Peripheral Nerve Stimulation in MRI Gradient Coils

Christopher M. Collins[1], Blaine A. Chronik[2], Michael B. Smith[1]
[1]Pennsylvania State University College of Medicine, Hershey, Pennsylvania, USA; [2]Stanford University, Stanford, California, USA.

845. Effects of Varying Methods of Electric Field Calculation on Analysis of MRI Gradient Coil Magnetostimulation Studies

Blaine A. Chronik[1], Christopher M. Collins[2]
[1]Stanford University, Stanford, California, USA; [2]Pennsylvania State University, Hershey, Pennsylvania, USA.

846. Comparison of Peripheral Nerve Stimulation Thresholds of SSFP and EPI

Beibei Zhang[1], Paul Licato[2], Brian K. Rutt[1]
[1]The John P. Robarts Research Institute, London, Ontario, Canada; [2]G. E. Medical Systems, Milwaukee, Wisconsin, USA.

847. Acoustic Noise Reduction in the Interventional MR Suite

A Moelker[1], MW Vogel[1], M Ouhlous[1], PMT Pattynama[1]
[1]Erasmus University Medical Center Rotterdam, Rotterdam, Netherlands.

848. Acoustic Noise Measurements in a 4T Whole-Body MRI Scanner

Carl Gazdzinski[1], Chris K. Mechefske[2], Brian K. Rutt[1]
[1]The John P. Robarts Research Institute, London, Ontario, Canada; [2]Queens University, Kingston, Ontario, Canada.

849. Translational and Rotational Forces on Heart Valve Prostheses Subjected *Ex Vivo* to a 4.7 T MR System

Maria-Benedicta Edwards[1], Roger John Ordidge[2], David L Thomas[2], Jeff W Hand[1], Kenneth M Taylor[1], Ian R Young[1]
[1]Imperial College of Science, Technology and Medicine, London, England, UK; [2]University College London, London, England, UK.

850. Reduction of Cable Shield Currents Generated by High Field Body Coils at 3 Tesla and Above

David M Peterson[1], Barbara Beck[2,3], Randy Duensing[1]
[1]MRI Devices Corporation, Gainesville, Florida, USA; [2]University of Florida, Gainesville, Florida, USA; [3]National High Magnetic Field Laboratory, Tallahassee, Florida, USA.

851. Calculation of E-M Field Intensity and SAR for 3.0 Tesla TX/RX Spine RF Coils

, Yeun-Chul Ryu[1], G.L. Khym[1], S.H. Ryu[1], B.Y. Choe[2], C.H. Oh[1]
[1]Korea University, Seoul, South Korea; [2]Catholic Medical Center, Seoul, South Korea.

BASIC SCIENCE FOCUS SESSION (WITH POSTERS)
RF Coil Array Design for Parallel Imaging

852. A 16 channel Neurovascular SENSE Array

Ed Boskamp[1], Leroy Blawat[1], Kevin F King[1], John Lorbiecki[1], Anniruddha Tiwari[2]
[1]G. E. Medical Systems, Milwaukee, Wisconsin, USA; [2]University of Illinois, Chicago, Illinois, USA.

853. Sensitivity Encoded Imaging from Multiple Mode Birdcage Volume Coil

Fa-Hsuan Lin[1,2], Kenneth Kwong[2], John Belliveau[2], Lawrence Wald[2]
[1]Harvard-MIT Division of Health Sciences and Technology, Boston, Massachusetts, USA; [2]Harvard University, Massachusetts General Hospital, Charlestown, Massachusetts, USA.

854. 2D Full-Wave Modeling of SENSE Coil Geometry Factors at High-Fields

Steven M. Wright[1]
[1]Texas A&M University, College Station, Texas, USA.

855. Parallel Imaging of the Heart at 3T: Increased SNR and Reduced Energy Deposition

Josef Debbins[1], Kiaran Mcgee[2], Ed Boskamp[1], Leroy Blawat[1], Lisa Angelos[1], Kevin F King[1]
[1]G. E. Medical Systems, Milwaukee, Wisconsin, USA; [2]Mayo Clinic, Rochester, Minnesota, USA.

856. Feasibility of a TEM Surface Array for Parallel Imaging

James S. Tropp[1], Daniel Sodickson[2], M.A. Ohliger[2,3]
[1]GE Medical Systems, Fremont, California, USA; [2]Beth Israel Deaconess Medical Center, Boston, Massachusetts, USA; [2]Harvard-MIT Health Sciences and Technology, Boston, Massachusetts, USA.

857. Comparison of Several 8-element Surface Coil Configurations for Cardiac Imaging using SENSE

Peter Kellman[1], J. Andrew Derbyshire[1], H. Douglas Morris[1], Patrick Ledden[2], Elliot McVeigh[1]
[1]National Institutes of Health, Bethesda, Maryland, USA; [2]Nova Medical, Inc., Wakefield, Massachusetts, USA.

858. A Novel 8-Channel "Saddle-Train" Array Coil for Cardiac SENSE Imaging at 1.5T

Hiroyuki Fujita[1,2], Dan K. Spence[1]
[1]USA Instruments, Inc., Aurora, Ohio, USA; [1]Case Western Reserve University, Cleveland, Ohio, USA.

859. Torso Array Coil with Eight QD-Surface Coils for Parallel Imaging

Kazuya Okamoto[1], Yoshinori Hamamura[1], Yoshio Machida[1]
[1]Medical Systems R&D Center, Toshiba, Otawara, Tochigi, Japan.

860. Four Channel Array Coil for 4 Tesla Brain Imaging

Gregor Adriany[1], Keith Heberlein[1], Xiaoping Hu[1], Peter Andersen[1], Kamil Ugurbil[1], J. Thomas Vaughan[1]
[1]University of Minnesota, Minneapolis, Minnesota, USA.

861. SNR Evaluation of Dedicated 6 Channel Arrays for Parallel Imaging Applications

Eddy Y Wong[1], Arne Reykowski[2], Jianmin Wang[2]
[1]Case Western Reserve University, Cleveland, Ohio, USA; [2]Siemens Medical Solutions, Erlangen, Germany.

862. A Computer Simulator for Designing Receiver-Coil Arrays for Parallel MRI

Yo Taniguchi[1], Hisaaki Ochi[1], Tetsuhiko Takahashi[2], Masahiro Takizawa[2], Tomohiro Goto[2], Shin-Ichiro Umemura[1]
[1]Hitachi, Ltd., Central Research Laboratory, Kokubuji-shi, Tokyo, Japan; [2]Hitachi Medical Corporation, Kashiwa, Chiba, Japan.

863. Receiver Design for Parallel Imaging with Large Arrays

David G. Brown[1], Mary Preston McDougall[1], Steven M. Wright[1]
[1]Texas A&M University, College Station, Texas, USA.

RF Coils: Specialized Applications

864. Optimization of a Phased-Array Coil for High-Resolution MR of the Carotid Arteries

Anja Liffers[1], Harald Quick[2], Mark Ladd[2], Christoph U. Herborn[2], Helmut Ermert[1]
[1]Ruhr-University Bochum, Bochum, Germany; [2]University Hospital Essen, Essen, Germany.

865. Relative RF Coil Performance in Cervical Carotid Imaging

J. Rock Hadley[1], John Roberts[1], K. Craig Goodrich[1], Henry Buswell[1], Dennis Lee Parker[1]
[1]University of Utah, Salt Lake City, Utah, USA.

866. Dedicated Phased-Array Coils for High Resolution MRI of the Carotid Artery

M. Ouhlous[1], A. Moelker[1], M.W. Vogel[1], P.M.T. Pattynama[1], A. Van Der Lugt[1]
[1]Erasmus University Medical Center Rotterdam, Rotterdam, Netherlands.

867. Phased-Array Coils for MR Microscopy of the Skin *In Vivo*

Anja Liffers[1], Mark Ladd[2], Harald Quick[2], Stefan Maderwald[1], Helmut Ermert[1]
[1]Ruhr-Univeersity Bochum, Bochum, Germany; [2]University Hospital Essen, Essen, Germany.

868. The SQT2 Litz Coil - An Exceptionally Robust Knee Coil for 3T

F. David Doty[1], Wayne Bass[1], Qing Yang[2], George Entzminger[1], Jianghu H. Wang[2], Glenn Nathan Doty[1], Laura L Holte[1], Michael Smith[2]
[1]Doty Scientific, Inc., Columbia, South Carolina, USA; [2]Pennsylvania State University, Hershey, Pennsylvania, USA.

869. Use of Independent Transmit/Receive Coils for Reduction of Acquisition Time in Imaging of the Legs

Phillip J. Rossman[1], Stephen Riederer[1], Thomas Hulshizer[1], Joel Felmlee[1], David Kruger[1]
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870. Actively Tuned Dual RF Resonator System for Functional MRI of Small Animals

Reinhold Ludwig[1], Gene Bogdanov[1], John M. Sullivan[1], Jean A. King[2], Craig Frederick Ferris[2]
[1]Worcester Polytechnic Institute, Worcester, Massachusetts, USA; [2]University of Massachusetts Medical School (Worcester), Worcester, Massachusetts, USA.

871. An Insulated Three Coil Set-Up for MR Studies on Swimming Fish Operating in Seawater

Christian Bock[1], Hans O. Pörtner[1], Dale M. Webber[2], Rolf M. Wittig[1], Sven Junge[3]
[1]Alfred-Wegener-Institute for Polar and Marine Research, Bremerhaven, Germany; [2]Vemco Ltd, Halifax, Nova Schotia, Canada; [3]Bruker Medical GmbH, Ettlingen, Germany.

872. Actively Decoupled Coil Combination for the Primary Visual Cortex of the Cat in 9.4 T

Mina Kim[1], Hellmut Merkle[2], Gregor Adriany[1], Itamar Ronen[1], Kamil Ugurbil[1], Dae-Shik Kim[1]
[1]University of Minnesota, Minneapolis, Minnesota, USA; [2]National Institutes of Health, Bethesda, Maryland, USA.

RF Coils: Specialized Designs

873. Understanding Approximately Degenerate Eigenmodes in Two-Ring and Three-Ring RF Birdcages

T. Eagan[1], T. Chmielewski[2], J. Flock[2], Y. Cheng[1], T. Kidane[1], Sh. Shvartsman[2], G. Demeester[2], W. Dannels[2], R. Brown[1]
[1]Case Western Reserve University, Cleveland, Ohio, USA; [2]Philips Medical Systems (Cleveland), Cleveland, Ohio, USA.

874. Fast Drop Off Cylindrical RF Transmit Coils

Ed Boskamp[1]
[1]G. E. Medical Systems, Milwaukee, Wisconsin, USA.

875. Higher Sensitivity using Tailored Coils: An Oval Birdcage Head Coil Example

Nicola F. De Zanche[1], Peter S. Allen[1]
[1]University of Alberta, Edmonton, Alberta, Canada.

876. Two Placements of Cosine Coil Legs

Baiyu Tang[1], Linda Ann Jelicks[1]
[1]Albert Einstein College of Medicine, Yeshiva University, Bronx, New York, USA.

877. A Whole Body RF Coil Design to Reduce Acoustic Noise

Daniel Weyers[1], Shizhe Li[2], David E Dean[1]
[1]G. E. Medical Systems, Waukesha, Wisconsin, USA; [2]IGC Medical Advances, Milwaukee, Wisconsin, USA.

878. Nitrogen Cooled RF-Coils for *In Vivo* Application

Stefan Wecker[1], Ekkehard Küstermann[1], Bernd Radermacher[1], Mathias Hoehn[1]
[1]Max-Planck-Institut for Neurological Research, Köln, Germany.

879. *In Vivo* MR Imaging using Liquid Nitrogen Cooled Phased Array RF Receiver Coil at 1.5T

Wing-Chi Edmund Kwok[1], Zhigang You[1], S.M. Totterman[1], Jianhui Zhong[1]
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880. EPR Resonators for Medical Research

Ilia Geifman[1], Iryna Golovina[2]
[1]Oakton Community College, Skokie, Illinois, USA; [2]Institute of Semiconductors Physics, Kiev, Ukraine.

881. Comparison Study of Microstrip Transmission Line (MTL) Volume Coil and Shielded Birdcage Coil at 4T

Xiaoliang Zhang[1], Qing Yang[2], Hao Lei[1], Kamil Ugurbil[1], Wei Chen[1]
[1]University of Minnesota, Minneapolis, Minnesota, USA; [2]Pennsylvania State University, Hershey, Pennsylvania, USA.

882. Multiple-Tuned "Millipede" Coil for High Field Imaging Applications

Ernest Wai Ha Wong[1], Subramaniam Sukumar[1]
[1]Varian Inc., Palo Alto, California, USA.

883. A Vertical Field NV Array Coil using DCR Solenoid Element

Sunyu Su[1], Mark Zou[1]
[1]USA Instruments, Aurora, Ohio, USA.

884. Volume RF Transmit Coil with Integrated Power MOSFETs

Krishna Kurpad[1], Ed Boskamp[2], Cherik Bulkes[2]
[1]Texas A&M University, College Station, Texas, USA; [2]G. E. Medical Systems, Milwaukee, Wisconsin, USA.

885. Simulation and Analysis of Balanced Matching Circuits at 3 Tesla

David Peterson[1], Bryan Lee Wolverton[2]
[1]MRI Devices Corporation, Gainesville, Florida, USA; [2]University of Florida, Gainesville, Florida, USA.

RF Coils: Interventional and Intracavitary

886. Magnetic Resonance Imaging of Lumen Wall using Quadrature-typed Inside-out Receiver Coil

J.W. Cho[1], M.Y. Paek[1], J.Y. Jo[1], H.Y. Lee[2], W.J. Shin[2], C.K. Eun[1], S.M. Seo[3], J.H. Yi[4], S.Y. Lee[5], M.H. Cho[5], C.W. Mun[1]
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887. A Novel Intravascular Quarter-Wave Length Resonator for Imaging Atherosclerosis

Jaroslaw Wosik[1], Krzystof Nesteruk[2], Lei-Ming Xie[1], James A Bankson[3], Maged Kamel[1], Morteza Naghavi[4], John Hazle[3], James T. Willerson[4]
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888. Design and Construction of MRI Receiver Coils for Homogeneous Circular Lumination

Volker Matschl[1,2], Heinz Julius Jaensch[2], Johannes Heverhagen[2], Hans-Joachim Wagner[2], Klaus Jochen Klose[2]
[1]Siemens Medical Solutions, Erlangen, Germany; [2]Philipps-University, Marburg, Germany.

889. Design of an Implanted RF Coil for Determining Input Function of Rat Carotid Artery at 9.4T

Xiaoliang Zhang[1], Runxia Tian[1], Xiao-Hong Zhu[1], Yi Zhang[1], Hellmut Merkle[1], Wei Chen[1]
[1]University of Minnesota, Minneapolis, Minnesota, USA.

890. Optimization of Endoluminal Loop RF Coil Geometries for Gastrointestinal Wall Imaging

Mircea Armenean[1], Olivier Beuf[1], Frank Pilleul[2], Hervé Saint-Jalmes[1]
[1]Université Claude Bernard Lyon 1, Villeurbanne, France; [2]Hôpital Edouard Herriot, Lyon, France.

891. Dual Frequency Intestinal Intraluminal Coil for *In Vivo* MRIS

Richard Amador[1,2], Emilio Sacristan[1,2], Alfredo Odon Rodriguez[1]
[1]UAM-Iztapalapa, Mexico City, D.F., Mexico; [2]Yale University School of Medicine, New Haven, Connecticut, USA.

892. An Inductively Coupled Dipole Resonator for Interventional Applications

Martin Blaimer[1], Titus Lanz[1], Mark Griswold[1], Florian Fidler[1], Axel Haase[1], Andrew Webb[2]
[1]Universität Würzburg, Würzburg, Germany; [2]University of Illinois at Urbana-Champaign, Urbana, Illinois, USA.

893. Autotuning Electronics for Varactor Tuned, Flexible Interventional RF Coils

Ross D Venook[1], Garry E. Gold[1], Bob Hu[1], Greig Scott[1]
[1]Stanford University, Stanford, California, USA.

RF Coils: Coupling/Decoupling/SNR

894. Preamplifier Noise Input Coupling for Phased Arrays

Greig Scott[1]
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895. An Investigation of the Effect of Increased Coil Output Impedance on Array Element Isolation

David J Gilderdale[1], David J Larkman[1]
[1]Imperial College, Hammersmith Hospital Campus, London, England, UK.

896. Non-Diode Decoupling Technique for HTS Coil Imaging

KC Chan[1], KH Lee[1], BP Yan[1], EZ Gao[1], GX Shen[1], QY Ma[1], ES Yang[1]
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897. Challenges of HTS Volume Coil: Decoupling and Cryostat

Gary Shen[1], Eddie Chan[1], Kelvin Wong[1], Simon Yeung[1], Francis Lee[1], Geng Li[1], Dorothy Mak[1], Q.Y. Ma[1], E.S. Yang[1]
[1]University of Hong Kong, Jockey Club MRI Engineering Centre, Pokfulam, Hong Kong.

898. Null-B_1 Point Method of Inherent Decoupling for Solenoidal Array

Sunyu Su[1]
[1]USA Instruments, Aurora, Ohio, USA.

899. Image Reconstruction Issues: Volume Phased Array vs. Single-Channel Coils. Proper Methods of Determining SNR and Uniformity, following the NEMA Standard

Scott B. King[1], Steve Varosi[1], Feng Huang[2], Charlie Saylor[1], G. Randy Duensing[1]
[1]MRI Devices Corporation, Gainesville, Florida, USA; [2]University of Florida, Gainesville, Florida, USA.

900. Improving Quality of MR Parallel Imaging by Compensating the Receiver Impedance

Zhigang You[1], Wing-Chi Edmund Kwok[1], Jianhui Zhong[1]
[1]University of Rochester, Rochester, New York, USA.

RF Multichannel Systems: Coils and Receivers

901. An 8 Channel Volume RF Transmit Coil

Daniel Weyers[1], Ed Boskamp[1]
[1]G. E. Medical Systems, Milwaukee, Wisconsin, USA.

902. A New Coil Array for SENSE Imaging with Four or Eight Receivers

Dan Spence[1], Hiroyuki Fujita[1,2]
[1]USAInstruments, Aurora, Ohio, USA; [2]Case Western Reserve University, Cleveland, Ohio, USA.

903. Whole Body LPSA Transceive Array with Optimized Transmit Homogeneity

Ed Boskamp[1], Ray F Lee[2]
[1]G. E. Medical Systems, Milwaukee, Wisconsin, USA; [2]GE Ccorporate R &D, Schenectady, New York, USA.

904. An 8 Channel Cardiac SENSE Array

Julia H.A. Klinge[1], Steven C Davis[1], Deependra D Gangakhedkar[1], Scott A Lindsay[1], Leroy Blawat[1], Ed Boskamp[1]
[1]G. E. Medical Systems, Milwaukee, Wisconsin, USA.

905. How to Calculate The SNR Limit of SENSE Related Reconstruction Techniques

Arne Reykowski[1]
[1]Siemens Medical Solutions, Erlangen, Germany.

906. Multiple-Sample Multi-Coil Imaging with an 8-Channel Receiver on a Clinical MR Scanner

H. Douglas Morris[1], A. Scott Chesnick[1], J. Andrew Derbyshire[1], Elliot McVeigh[1]
[1]National Institutes of Health, Bethesda, Maryland, USA.

907. Head-Neck Parallel Imaging on a 0.3-T Open-MRI System

Masahiro Takizawa[1], Tomohiro Goto[1], Tetsuhiko Takahashi[1]
[1]Hitachi Medical Corporation, Kashiwa, Chiba, Japan.

908. Development of a Compact 8-Channel Parallel MRI Console for Super-Parallel MR Microscope

Yoshimasa Matsuda[1], Shin Utsuzawa[2], Takeaki Kurimoto[1], Tomoyuki Haishi[2], Yukako Yamazaki[1], Katsumi Kose[1], Izumi Anno[1], Mistuhiro Marutani[2]
[1]University of Tsukuba, Tsukuba, Japan; [2]MRTechnology Inc., Tsukuba, Japan; [3]Zyonan denshi Resarch Inc, Tsukuba, Japan.

909. Development of a Flexible Multi-Channel, Multi-Frequency Transceiver for a Dedicated Low Field Neonatal MR System

Martyn Paley[1], Elspeth Whitby[1], Jim Wild[1], Stan Fichele[1], Edwin van Beek[1], Paul Griffiths[1]
[1]University of Sheffield, Sheffield, England, UK.

RF Coils: Field Distributions

910. Wave Behavior and Polarization of RF Field in Lossy Dielectric Samples at High Field

Jinghua Wang[1], Qing X. Yang[1], Christopher M. Collins[1], Michael B. Smith[1], Xiaoliang Zhang[2], Gregor Adriany[2], Haiying Liu[2], Xiao-Hong Zhu[2], J. Thomas Vaughan[2], Kamil Ugurbil[2], Wei Chen[2]
[1]Pennsylvania State University College of Medicine, Hershey, Pennsylvania, USA; [2]University of Minnesota, Minneapolis, Minnesota, USA.

911. Analysis of the Electromagnetic Polarization of Fields Induced by RF Coils at Various Field Strength

Tamer Selim Ibrahim[1], Robert Lee[1], Petra Schmalbrock[1], Donald Chakeres[1]
[1]The Ohio State University, Columbus, Ohio, USA.

912. RF Field Penetration as a Function of Quality Factor in Simple Dielectric Resonators

James S. Tropp[1]
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913. Phantom Design in the Presence of Wave Behavior of the Radiofrequency Field

Qing X. Yang[1], Jinghua Wang[1], Xiaoliang Zhang[2], Michael B. Smith[1], Gregor Adriany[2], Xiaohong Zhu[2], Kamil Ugurbil[2], Wei Chen[2]
[1]Pennsylvania State University, Hershey, Hershey, Pennsylvania, USA; [2]University of Minnesota, Minneapolis, Minnesota, USA.

914. Comprehensive Electromagnetic Characterization of 3T Head Coils: MR Based Mapping of B_1-Amplitude, B_1-Phase, and SAR-Induced Temperature Changes

Frank Seifert[1], Sven Junge[2], Herbert Rinneberg[1]
[1]Physikalisch-Technische Bundesanstalt, Berlin, Germany; [2]Bruker Medical GmbH, Ettlingen, Germany.

915. Numerical Evaluation of Power Radiated and Dissipated by a Loaded Surface Coil at High Field

Wanzhan Liu[1], Qing X. Yang[1], Christopher M. Collins[1], Michael B. Smith[1]
[1]Pennsylvania State University, Hershey, Pennsylvania, USA.

916. A Novel Endcap Design for Optimal RF Field Distribution of 3 Tesla Birdcage Coils

Marcello Alecci[1], Christopher Collins[2], Wanzhan Liu[2], Michael B. Smith[2], Peter Jezzard[1]
[1]University of Oxford, Oxford, England, UK; [2]Pennsylvania State University, Hershey, Pennsylvania, USA.

917. Optimization of RF Coils at Ultra High Field MRI: Correlation with Patient Comfort

Tamer Selim Ibrahim[1], Allahyar Kangarlu[1], Amir Abduljalil[1], Petra Schmalbrock[1], Ryan Gilbert[1], Donald Chakeres[1]
[1]The Ohio State University, Columbus, Ohio, USA.

918. A Method for Predicting Human Head Signal Distribution at 9.4 T

Jinghua Wang[1], Qing X Yang[1], Christopher M Collins[1], Michael B. Smith[1], Xiaoliang Zhang[2], Gregor Adriany[2], Kamil Ugurbil[2], Wei Chen[2]
[1]Pennsylvania State University, Hershey, Pennsylvania, USA; [2]University of Minnesota, Minneapolis, Minnesota, USA.

RF Pulse Design

919. The Pseudo-Adiabatic RF Pulse: A Fast Adiabatic Quality RF Pulse with Low SAR

Gilles Beaudoin[1], Jean-Charles Cote[2]
[1]CHUM-Hôpital Notre Dame, Montréal, Québec, Canada.

920. 2D and 3D Adiabatic RARE Imaging at 7 Tesla

Robin De Graaf[1], Douglas Rothman[1], Kevin Behar[1]
[1]Yale University School of Medicine, New Haven, Connecticut, USA.

921. A More Accurate SLR Transform

Stephen Pickup[1]
[1]University of Pennsylvania, Philadelphia, Pennsylvania, USA.

922. RF Pulse Design using Combinatorial Optimization

Ayman M. Khalifa[1], Abou-Bakr M. Youssef[2], Yasser M. Kadah[2]
[1]Helwan University, Giza, Egypt; [2]Cairo University, Giza, Egypt.

923. Still Iterating . . . and Iterating . . . to Solve Pulse Design Problems

James B. Murdoch[1]
[1]Philips Medical Systems, Cleveland, Ohio, USA.

924. Chebyshev Series for the Optimal Control Problem in Pulse Design

Jose Luis Ulloa[1], Marcelo Guarini[1], Pablo Irarrazaval[1]
[1]Pontificia Universidad Católica de Chile, Santiago, RM, Chile.

925. TurboFLASH FAIR Imaging with Optimized Inversion and Imaging Profiles

Gaby Pell[1], David P Lewis[1], Roger John Ordidge[2], Craig Branch[1]
[1]Nathan Kline Institute, Orangeburg, New York, USA; [2]University College London, London, England, UK.

926. Deep Integration of Pulse Sequence Simulations with an MR Console using an 18-CPU Linux Beowulf Cluster

Jonathan C. Sharp[1], Donghui Yin[1], Qunli Deng[1]
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Head and Neck MR Imaging

927. High Resolution 3D Imaging of Human Cochlea at 9.4T

Xiaodong Zhang[1], Robert Silver[1], Hellmut Merkle[1], Xiaoping Hu[1]
[1]University of Minnesota, Minneapolis, Minnesota, USA.

928. High-Resolution MR Imaging of the Petrous Bone using a Single-Slab Three-dimensional T_2-weighted Fast Spin-Echo Sequence

Lei Zhao[1], Soenke Bartling[1], John Mugler[2], Robert Mulkern[1], Dominik Meier[1], Lawrence P. Panych[1], H Becker[3], Ron Kikinis[1], James R. Brookeman[2], Ferenc A. Jolesz[1], Charles Guttmann[1]
[1]Brigham & Women's Hospital, Harvard Medical School, Boston, Massachusetts, USA; [2]University of Virginia School of Medicine, Charlottesville, Virginia, USA; [3]Medical School of Hannover, Hannover, Germany.

929. High Resolution MRI of Intraocular Lenses

Lawrence M Strenk[1], Susan A Strenk[2], Edward F Kubiez[3], Adrian G Krudy[3], John L Semmlow[2]
[1]Middleburg Heights, Ohio, USA; [2]UMDNJ-Robert Wood Johnson Medical School, New Brunswick, New Jersey, USA; [3]MR Imaging Center, Willoughby Hills, Ohio, USA..

930. MRI Quantitative Parameters and its Role in Detection of Thyroid Cancer

Jasna Mihailovic[1]
[1]Institute of Oncology, Sremska Kamenica, Yugoslavia.

931. Reduced Hippocampal and Total White Matter Volume in Posttraumatic Stress Disorder

Ira Driscoll[1], Laura M Rowland[1], Helen Petropoulos[1], Jaqueline A Griego[1], Derek A Hamilton[1], Gerardo Villarreal[1], Blaine Hart[1], William M Brooks[1]
[1]University of New Mexico, Albuquerque, New Mexico, USA.

932. MR Fluoroscopic Findings of the Upper Airway in Patients with Obstructive Sleep Apnea Syndrome (OSAS) under Natural Sleep with and without Oral Splint: Relation between the Morphological Character on MR and Response to the Treatment

Hiroshi Fukatsu[1], Shinji Naganawa[1], Takeo Ishigaki[1], Akiko Noda[1]
[1]Nagoya University School of Medicine, Nagoya, Aichi, Japan.

933. MR Imaging in Maxillary Sinus Lift Surgery

Izlem Izbudak[1], Serpil Duran[2], Figen Cizmeci Senel[2], Onur Icten[2]
[1]MedMar Imaging Center, Ankara, Turkey; [2]Ankara University Faculty of Dentistry, Ankara, *.

Spine MR Imaging

934. Cervical Cord Damage in Patients with Clinically Isolated Syndrome Suggestive of Multiple Sclerosis: A Study with MTR Histogram Analysis

Marco Rovaris[1], Marco Bozzali[1], Vittorio Martinelli[1], Angelo Ghezzi[2], Giancarlo Comi[1], Massimo Filippi[1]
[1]Scientific Institute H. San Raffaele, Milan, Italy; [2]Multiple Sclerosis Center, Gallarate, Italy.

935. Diffusion Tensor MRI of the White Matter Tracts of the Brainstem

Nan Hong[1]
[1]People's Hospital of Peking University, Beijing, P.R.China.

936. MRI Evaluation of the Onset of Chronic Inflammation after Contusion Injury in Rat Spinal Cord

M. Muruganandham[1], S. Xu[2], N. Kalderon[2], J.A. Koutcher[1]
[1]Memorial Sloan Kettering Cancer Center, New York, New York, USA; [2]Sloan-Kettering Institute for Cancer Research, New York, New York, USA.

937. High-Resolution Single Shot DW EPI of the Spine using SENSE

Frank G.C. Hoogenraad[1], James Eastwood[2], Arianne M.C. Van Muiswinkel[1], Hans Jenniskens[1], Johan Van Den Brink[1]
[1]Philips Medical Systems, Best, Netherlands; [2]Duke University, Durham, North Carolina, USA.

938. MRI Detection of Neuron Loss in ALS Transgenic Mouse Model

Ed Wu[1], V Jackson-Lewis[1], S Przedorski[1], Truman R Brown[1]
[1]Columbia University, New York, New York, USA.

939. Susceptibility Weighted Imaging (SWI) of the Rodent Spinal Cord: Visualization of the Veins with 80µ Resolution

S. Madi[1], A. Obenaus[1], E. M. Haacke[2]
[1]Loma Linda University, Loma Linda, California, USA; [2]MRI Institute for Biomedical Research, St. Louis, Missouri, USA.

940. Measurement of Myelin Water in Human and Bovine Spinal Cord

Evan Minty[1], Alexander MacKay[1], Kenneth Whittall[1]
[1]University of British Columbia, Vancouver, British Columbia, Canada.

941. High-Resolution MR Myelography using 3D Fast Imaging Employing STeady-state Acquisition(FIESTA) on 0.2 Tesla MRI

Masaaki Hori[1], Toshiyuki Okubo[1], Keiichi Ishigame[1], Tsutomu Araki[1], Susumu Kosugi[2], Aki Yamazaki[2], Noriko Hirasawa[2], Kenji Suzuki[2], Toru Hayasaka[2]
[1]Yamanashi Medical University, Nakakoma-gun, Yamanashi, Japan; [2]GE Yokogawa Medical Systems, Hino, Tokyo, Japan.

942. A Serial MRI Study of Spinal Cord Atrophy in Multiple Sclerosis using an Active Surface Segmentation Technique

Simon Hickman[1], Olivier Coulon[2], Geoffrey Parker[3], Gareth Barker[1], Val Stevenson[1], Declan Chard[1], Simon Arridge[1], Alan Thompson[1], David Miller[1]
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MR Spectroscopy in Animals: Cerebral Metabolism

943. ^{1}H-[^{13}C]-NMR Spectroscopy of [1,6-$^{13}C_2$]-Glucose Metabolism in Rat Brain Gray and White Matter

Robin De Graaf[1], Graeme Mason[1], Douglas Rothman[1], Kevin Behar[1]
[1]Yale University School of Medicine, New Haven, Connecticut, USA.

944. Brain Glycogen: An Endogenous, Insulin-Sensitive Energy Reservoir

In-Young Choi[1], Rolf Gruetter[1]
[1]University of Minnesota, Minneapolis, Minnesota, USA.

945. Cerebral Metabolism - A Paradigm Shift in Understanding

Randy Lee Tyson[1], Clare Gallagher[1], Garnette Roy Sutherland[1]
[1]University of Calgary, Calgary, Alberta, Canada.

946. *In Vivo* Measurement of the TCA Cycle Rate in the Striatum of Macaque Monkeys using Semi-selective POCE and BISTRO Localization

Fawzi Boumezbeur[1], Vincent Lebon[1], Laurent Besret[2], Françoise Vaufrey[1], Philippe Hantraye[2], Gilles Bloch[1]
[1]CEA-SHFJ, Orsay, France; [2]URA CEA-CNRS 2210, Orsay, France.

947. Inhibition of Glutamine Transport Decreases ^{13}C Flux into Neurotransmitter Glutamate and GABA

Caroline Rae[1], Nathan J Hare[1], William A Bubb[1], Stefan Bröer[2]
[1]University of Sydney, Sydney, New South Wales, Australia; [2]ANU.

948. GABA/Gln Cycle Flux Increases with Brain Activity in Rat Cortex

Anant B. Patel[1], Douglas L. Rothman[1], Robin A. De Graaf[1], Bei Wang[1], Robert G. Shulman[1], Kevin L. Behar[1]
[1]Yale University, New Haven, Connecticut, USA.

949. The effect of a Group II Metabotropic Glutamate Receptor Antagonist on Brain Metabolism

Caroline Rae[1], Charbel Moussa[1], William A Bubb[1], Vladimir J Balcar[1,2]
[1]University of Sydney, Sydney, New South Wales, Australia; [2]Kanazawa University, Japan.

950. Plasma Glutamine Potentiates the Cerebral Metabolic Response to Methionine Sulfoximine

David Marshall Cohen[1], Jingna Wei[2], E. O'Brian Smith[1], Michael J. Quast[2]
[1]Baylor College of Medicine, Houston, Texas, USA; [2]University of Texas Medical Branch at Galveston, Galveston, Texas, USA.

MR Spectroscopy in Animals: Physiology and Pathophysiology

951. Proton MRS of Rat Brain after Chronic Repetitive Transcranial Magnetic Stimulation

Thomas Michaelis[1], David Liebetanz[2], Takashi Watanabe[1], Boldizsar Czeh[3], Walter Paulus[2], Eberhard Fuchs[3], Jens Frahm[1]
[1]Biomedizinische NMR Forschungs GmbH, Göttingen, Germany; [2]Georg-August-Universität, Göttingen, Germany; [3]Deutsches Primatenzentrum, Göttingen, Germany.

952. *Ex Vivo* Neurochemical Kinetics in Brain Tissue Specimens Monitored via Quantitative HR-MAS Proton Magnetic Resonance Spectroscopy at 11.7T

Stanley Thomas Fricke[1], Matthew Peter Galloway[1], Navid Seraji-Bozorgzad[1], Todd Ryan Mitchell[1], Stefan Posse[1], Gregory J. Moore[1]
[1]Wayne State University School of Medicine, Detroit, Michigan, USA.

953. Brain Thermometry by ^{1}H MRS using a Thulium-Based Shift Reagent ($TmDOTP^{5-}$)

Hubert K.F. Trubel[1], Paul K. Maciejewski[1], Jacqueline H. Farber[1], Fahmeed Hyder[1]
[1]Yale University School of Medicine, New Haven, Connecticut, USA.

954. Cerebral Energy Recovery after Deep Hypothermic Circulatory Arrest at Different Temperatures of 13°C and 20°C Assessed by *In Vivo* ^{1}H and ^{31}P Magnetic Resonance Spectroscopy

Meong-Gun Song[1], Suk Jung Choo[1], Keun Ho Lim[1], Hyn Chang Ha[1], In Chol Choi[1], Jae-Won Lee[1], Hyun Song[1], Jung Hee Lee[1], Tae Hwan Lim[1]
[1]University of Ulsan College of Medicine, Seoul, South Korea.

955. Increased Cerebral Lactate Synthesis during Coma Stage of Acute Liver Failure

Claudia Zwingmann[1,2], Nicolas Chatauret[1], Dieter Leibfritz[2], Roger F Butterworth[1]
[1]CHUM Hospital Saint-Luc, Montreal, Quebec, Canada; [2]University of Bremen, Bremen, Germany.

956. MRI and Proton MRS of Parkinsonian Rats after Stem Cell Transplantion

Takashi Watanabe[1], Paul C Baier[2], Claudia Trenkwalder[2], Walter Paulus[2], Jan Schindehütte[3], Oliver Natt[1], Susann Boretius[1], Thomas Michaelis[1], Jens Frahm[1]
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957. *In Vivo* Detection of Reversible Neurochemical Changes during Acute SIV Infection (AIDS) with MR Spectroscopy

Jane Brock Greco[1], Ken E Sakaie[1], Julian He[1], Sahar Aminipour[1], Patricia Lani Lee[1], Leo Cheng[1], Susan Westmoreland[2], Andrew A. Lackner[2], Ramon Gilberto Gonzalez[1]
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958. Abnormal $GABA_A$ Function in mdx Mouse: An Explanation for the Mental Deficit in Duchenne Muscular Dystrophy?

Caroline Rae[1], Trent Wallis[2], William A Bubb[2], Stewart I Head[2]
[1]University of Sydney, Sydney, New South Wales, Australia; [2], .

959. Metabolite and Diffusion Changes in the Rat Brain after Leksell Gamma Knife Irradiation

Vít Herynek[1], Martin Burian[1], Daniel Jirák[1], Roman Liscák[2], Katerina Námesktová[3,4], Milan Hájek[1], Eva Sykova[3,4]
[1]Institute for Clinical and Experimental Medicine, Prague, Czech Republic; [2]Hospital Na Homolce, Prague, Czech Republic; [3]Charles University, Prague, Czech Republic; [4]Institute of Experimental Medicine, Academy of Sciences, Prague, Czech Republic.

960. *In Vivo* MR Studies in a Transgenic Mouse Model of Huntington´s Disease

Rupert A Page[1], Daniel Alexander West[2], Ernest Brunton Cady[2], John Stephen Thornton[2], Gillian P Bates[3], B Woodman[3], Andrew Nicholas Priest[2], Roger John Ordidge[2], Charles A Davie[1]
[1]Royal Free Hospital, London, England, UK; [2]University College London, London, England, UK; [3]Guy's Hospital, London, England, UK.

961. Striatal Oxidative Metabolic Failure in an Improved Rat Model of Huntington´s Disease Monitored via HR-MAS Proton Magnetic Resonance Spectroscopy at 11.7T

Todd Ryan Mitchell[1], Matthew Peter Galloway[1], Stanley Thomas Fricke[1], Navid Seraji-Bozorgzad[1], Caroline Zajac-Benitez[1], Gregory J. Moore[1]
[1]Wayne State University School of Medicine, Detroit, Michigan, USA.

962. Long-Term Effects of *In Utero* Nicotine Exposure on Striatal GABA as Measured by *Ex Vivo* ^{1}H MRS

Christine C. Cloak[1], Russell E. Poland[1]
[1]Cedars-Sinai Medical Center, University of California Los Angeles, Los Angeles, California, USA.

Human Brain MR Spectroscopy: Other

963. Determination of the Isotopic Composition of Acetyl CoA in the Human Brain using ^{13}C Isotopomers

Jun Shen[1], Robin De Graaf[2], Vincent Lebon[2], Douglas L. Rothman[2]
[1]Nathan Kline Institute, Orangeburg, New York, USA; [2]Yale University School of Medicine, New Haven, Connecticut, USA; [3]CEA-SHFJ, Orsay, France.

964. Metabolic Rate Measurement in Patient Brain following Oral Administration of [1-^{13}C] Glucose with 2-T Highly Sensitive ^{13}C-MRS System

Kazuya Okamoto[1], Hidehiro Watanabe[1], Masaaki Umeda[1], Masanori Oda[2], Tomoyuki Kanamatsu[2], Yasuzou Tsukada[2], Taisuke Otsuki[3]
[1]Toshiba Co., Otawara, Tochigi, Japan; [2]Institute of Life Science, Soka University, Tokyo, Japan; [3]National Center of Neurology and Psychiatry, Tokyo, Japan.

965. Measurements of the Tricarboxylic Acid Cycle and Glutamate-Glutamine Cycling with Oral Administration of [1-^{13}C]Glucose Require Greater Signal-to-Noise Ratios than Intraveneous Administration

Graeme F. Mason[1], Kitt M. Falk Petersen[1], Robin A. De Graaf[1], Tomoyuki Kanamatsu[2], T. Otsuki[3], Douglas L. Rothman[1]
[1]Yale University School of Medicine, New Haven, Connecticut, USA; [2]Institute of Life Science, Soka University, Kodaira, Hachioji, Japan; [3]National Center of Neurology and Psychiatry, Tokyo, Japan.

966. Reproducibility of Short TE STEAM ^{1}H MR Spectra from Frontal, Occipital, and Parietal Brain Regions Acquired without Outer Volume Suppression

Zenon Starcuk[1], Petr Krupa[2], Jaroslav Horky[1], Zenon Starcuk[1]
[1]Academy of Sciences of the Czech Reputlic, Brno, Czech Republic; [2]St. Anne's University Hospital, Brno, Czech Republic.

967. Proton MR Spectroscopic Imaging of Normal Human Brain: Regional Variations in the Frontal Gray Matter and Corpus Callosum

Mahaveer N Degaonkar[1], Martin G Pomper[1], Peter B Barker[1]
[1]Johns Hopkins University School of Medicine, Baltimore, Maryland, USA.

968. ^{1}H-MRS T_2 Measurements of Water in the Brain Tissue of Hyperhydrated Healthy Young Adults

Sarah Rebecca Rossmiller[1], Elana Farace[1], Virginia I. Simnad[1], Helmy M. Siragy[1], Carol Anne Manning[1], Eugene Joseph Barrett[1], Jack Knight-Scott[1]
[1]University of Virginia, Charlottesville, Virginia, USA.

969. Memory Exercise Alters Creatine and Choline in Hippocampus of Healthy Elderly

Michael Valenzuela[1], Megan Jones[1], Wei Wen[1], Caroline Rae[2], Scott Graham[3], Ron Shnier[3], Perminder Sachdev[1]
[1]Neuropsychiatric Institute, Prince of Wales Hospital, Sydney, New South Wales, Australia; [2]University of Sydney, Sydney, New South Wales, Australia; [3]St. George Hospital, Sydney, New South Wales, Australia.

970. MR Spectroscopy Follow-Up Shows Increasing Prevalence of Brain Lactate and Lipid Signals with Aging

Paul E Sijens[1], Tom Den Heijer[2], Sahra E Vermeer[2], Monique MB Breteler[2], Albert Hofman[2], Matthijs Oudkerk[1]
[1]University Hospital Groningen, Groningen, Netherlands; [2]Erasmus University Medical School, Rotterdam, Netherlands.

971. ^{1}H MRS in Mild Cognitive Impairment (MCI) and Alzheimer´s Disease (AD); Comparison of 1.5 T and 3T

Kejal Kantarci[1], Ronald C. Petersen[1], Bradley F. Boeve[1], David Knopman[1], Steven D. Edland[1], Glenn E Smith[1], Robert J Ivnik[1], Eric G Tangalos[1], Clifford R Jack[1]
[1]Mayo Clinic, Rochester, Minnesota, USA.

972. *In Vivo* ^{31}P-MR Spectroscopy of the Brain in Young People with a Familial Risk of Schizophrenia

Reinhard Rzanny[1], Silke Klemm[1], Jürgen R Reichenbach[1], Stefan O Pfleiderer[1], Beate Schmidt[1], Hans-Peter Volz[1], Bernhard Blanz[1], Werner A. Kaiser[1]
[1]Klinikum der Friedrich-Schiller-University of Jena, Jena, Germany.

973. Reproducibility of Magnetic Resonance Spectroscopy (MRS) Measurements in Schizophrenic Patients

Paul Gerald Mullins[1], Laura Rowland[1], Juan Bustillo[1], William Brooks[1]
[1]University of New Mexico, Albuquerque, New Mexico, USA.

974. Longitudinal Study of Neurochemistry in Minimally-Treated Early Schizophrenia: A Proton MR Spectroscopy Study

Laura M. Rowland[1], Rex E. Jung[1], Juan R. Bustillo[1], John Lauriello[1], Helen Petropoulos[1], William Brooks[1]
[1]University of New Mexico, Albuquerque, New Mexico, USA.

975. Proton Magnetic Resonance Spectroscopy of the Centrum Semiovale in Adolescents with Schizophrenia-Like Psychosis

Kelvin O. Lim[1], Todd Lencz[2], Peter Kingsley[3], Barbara Cornblatt[2]
[1]University of Minnesota, Medical School, Minneapolis, Minnesota, USA; [2]NS-LIJ Health System, Hillside Hospital, Glen Oaks, New York, USA; [3]North Shore University Hospital, Manhasset, New York, USA.

976. Brain NAA T_2 Values Are Significantly Lower in Schizophrenia

Yong Ke[1], J. Coyle[1], N.S. Simpson[1], S. Gruber[1], P. Renshaw[1], D. Yurgelun-Todd[1]
[1]Harvard University, McLean Hospital, Belmont, Massachusetts, USA.

977. Regional Metabolic Effects of Sleep Deprivation in Depressed Patients Assessed by Proton Magnetic Resonance Spectroscopy

Dorothee P. Auer[1], Dagmar Schmid[1], Thomas Merl[1], Harald Murck[2], Axel Steiger[1]
[1]Max Planck Institut Psychiatry, Munich, Germany; [2]Lichtwer, Berlin, Germany.

978. Absolute Quantification of Metabolic Changes in the Brain of Depressive Patients

Andreas Stadlbauer[1,2], Stephan Gruber[1], Richard Frey[1], Vladimir Mlynárik[1], Siegfried Kasper[1], Ewald Moser[1]
[1]University of Vienna, Vienna, Austria; [2]University of Erlangen-Nürnberg, Erlangen, Germany.

979. 3T MR Spectroscopy and Neuropsychology of Bipolar Disorder

Albert Michael Thomas[1], Mark Frye[1], Kenneth Yue[1], Joseph Ventura[1], Nader Binesh[1], Pablo A. Davanzo[1], Susan Masseling[1], Art Ambrosio[1], Lori Altshuler[1], Barry Guze[1]
[1]University of California Los Angeles, Los Angeles, California.

980. Altered Metabolite Levels and Correlations with Attention Performance in ADHD: A Multi-voxel *In Vivo* ^{31}P Spectroscopy Study

Jeffrey A Stanley[1], Oscar Bukstein[1], Jay W Pettegrew[1], Kanagasabai Panchalingam[1], Richard J McClure[1], Debra M. Montrose[1], Matcheri S Keshavan[1]
[1]University of Pittsburgh, Pittsburgh, Pennsylvania, USA.

981. Staging of Progressive Multifocal Leukoencephalopathy Lesions using Proton MR Spectroscopy at 3T

Rachel Katz-Brull[1], Igor J. Koralnik[1], Mary A. McLean[2], Robert E. Lenkinski[1]
[1]Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, Massachusetts, USA; [2]National Society for Epilepsy, Gerrards Cross, England, UK.

982. Proton MRS of Childhood Adrenoleukodystrophy at 4 Tesla

Gülin Oz[1], Ivan Tkac[1], In-Young Choi[2], J. Thomas Vaughan[1], Elsa G. Shapiro[3], Michael C. Gibbs[3], Lawrence R Charnas[3], Rolf Gruetter[1]
[1]University of Minnesota, Minneapolis, Minnesota, USA.

983. Cerebral Metabolic Abnormalities in Children with Hydrocephalus by ^{1}H MR Spectroscopy: Its Correlation with Outcome

Young-Shin Ra[1], Yong-Su Kim[1], Hee-Jin Cho[1], Inwoo Lee[1], Sang-Tae Kim[1], Keun-Ho Lim[1], Jung Hee Lee[1]
[1]University of Ulsan College of Medicine, Seoul, South Korea.

984. Incidence of Cerebral Lactic Acidosis in Children with Mitochondrial Encephalomyopathy

Alberto Bizzi[1], Ugo Danesi[1], Isabella Moroni[1], Alessandra Erbetta[1], Marianna Bugiani[1], Graziella Uziel[1], Mario Savoiardo[1]
[1]Istituto Nazionale Neurologico 'C. Besta', Milano, Italy.

985. Broad Etiological Classification of Brain Abscesses with *In Vivo* Proton MR Spectroscopy

Rakesh Kumar Gupta[1], Monika Garg[1], Mazhar Husain[2], Kashi Nath Prasad[1], Sanjeev Chawla[1], Rajesh Kumar[1], Raja Roy[1]
[1]Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow, UP, India; [2]KG Medical College, Lucknow, UP, India.

986. Proton MRS in HIV Patients at 4 Tesla

Linda Chang[1], Kai Zhong[1], Dana Carasig[1], Lisa Zimmerman[1], Thomas Ernst[1]
[1]Brookhaven National Laboratory, Upton, New York, USA.

987. Proton Magnetic Resonance Spectroscopy of the Thalamus: Evaluation of Patients with Chronic Neuropathic Pain following Spinal Cord Injury

Pradip M Pattany[1], B C Bowen[1], R P Yezierski[3], E G Widerstrom-Noga[2], A Martinez-Arizala[2], R M Quencer[1]
[1]University of Miami, Miami, Florida, USA; [2]Miami Project to Cure Paralysis, Miami, Florida, USA; [3]University of Florida, Gainesville, Florida, USA.

988. Comparison of Single Voxel and Multivoxel Proton MR Spectroscopy in Predicting 3 and 6 Month Neurologic Outcome after Adult Traumatic Brain Injury

Barbara A. Holshouser[1], Lori Shutter[1], Austin R.T. Colohan[1], Karen A Tong[1]
[1]Loma Linda University, Loma Linda, California, USA.

989. Brain Metabolism in Vascular Dementia: A Quantitative Proton MR Spectroscopy Study

Ulrich Pilatus[1], S. Herminghaus[1], T. Kratzsch[1], J. Peters[1], H. Lanfermann[1], L. Frölich[1], F. E. Zanella[1]
[1]Johann Wolfgang Goethe Universität Frankfurt, Frankfurt, Germany.

990. Increased Levels of Choline-Containing Compounds Found in the Basal Ganglia of Patients with Chronic Fatigue Syndrome

Barrie Condon[1], Abhijit Chaudhuri[1], Donald Hadley[1], David Brennan[1]
[1]Institute of Neurological Sciences, Glasgow, Scotland, UK.

991. Proton MR Spectroscopy in Untreated and Treated Wilson´s Disease

Rama Jayasundar[1], A.K. Sahani[1], Sailesh Gaikwad[1], Sumeet Singh[1], Madhuri Behari[1]
[1]All India Institute of Medical Sciences, New Delhi, India.

992. Effect of Poorly Controlled Diabetes on Cerebral Glucose Concentrations and Transport

Rolf Gruetter[1], Ivan Tkac[1], Gegory Damberg[1], William Thomas[1], Elizabeth R Seaquist[1]
[1]University of Minnesota, Minneapolis, Minnesota, USA.

993. Frontal Lobe Phosphocreatine Levels Decrease with Treatment for Cocaine Dependence - An ^{1}H MRS T_2 Relaxometry Study

Yong Ke[1], Steven Lowen[1], Chris C. Streeter[2], Leanne E. Nassar[1], Domenic A. Ciraulo[2], Perry F. Renshaw[1]
[1]Harvard University, McLean Hospital, Belmont, Massachusetts, USA; [2]VA Medical Center, Boston University, Boston, Massachusetts, USA.

994. **Altered Metabolism Due to Nicotine: A Preliminary Multi-voxel *In Vivo* ^{31}P Spectroscopy Study**
Jeffrey Stanley[1], K Panchalingam[1], Richard McClure[1], Kenneth A Perkins[1], Jay W Pettegrew[1]
[1]University of Pittsburgh, Pittsburgh, Pennsylvania, USA.

995. **Double Quantum Coherence Filtering for the Detection of Glutathione at 3.0 T**
Rolf Feodor Schulte[1], Andreas H. Trabesinger[2], Dieter Meier[1], Peter Boesiger[1]
[1]University and ETH Zurich, Zurich, Switzerland; [2]University of California Berkeley, Berkeley, California, USA.

996. **Multivoxel ^{1}H-MRS to the Edge of the Human Brain: Intrinsic Lipids Suppression at High Magnetic Fields**
Belinda S.Y. Li[1], Oded Gonen[1]
[1]New York Universty School of Medicine, New York, New York, USA.

997. **Phantom for Quality Assurance Testing of MRSI Data Incorporated into Radiation Treatment Planning**
Sandeep Hunjan[1], Dan Spielman[1], Elfar Adalsteinsson[1], Arthur Boyer[1], Lei Xing[1]
[1]Stanford University, Stanford, California, USA.

998. **Hypoxic Chronic Obstructive Pulmonary Disease following Oxygen Therapy and Changes in Brain Membrane Phospholipids: Analysis of the Broad Band Resonance in the *In Vivo* Phosphorus-31 MR Spectrum**
Joanna Allsop[1], Gavin Hamilton[1], Daniel M Forton[1], Rajat Mathur[1], Rory Shaw[1], Simon D. Taylor-Robinson[1]
[1]Imperial College School of Medicine, Hammersmith Hospital, London, England, UK

High-Field MR Imaging

999. **Human Safety High Field 8 Tesla MR Physiologic Testing and Questionnaire Results**
Allahyar Kangarlu[1], Richard N. Nelson[1], Donald William Chakeres[1]
[1]Ohio State University, Columbus, Ohio, USA.

1000. **Optimization of Clinical Neuro-Imaging Sequences at 3.0 Tesla**
Paul Ruggieri[1], Jean Tkach[1], Jeffrey Ross[1], Daniel Finelli[1], Angela Dagirmanjian[1], Kalliopi Petropoulou[1], Thomas J. Masaryk[1]
[1]Cleveland Clinic Foundation, Cleveland, Ohio, USA.

1001. **T_2- Relaxometry at High-Field Strength: First Clinical Experiences**
Regula Sofia Briellmann[1], Ari Syngeniotis[1], Steve Fleming[1], Stephen Wood[2], David F Abbott[1], Graeme D. Jackson[1]
[1]Brain Research Institute, Heidelberg West, Victoria, Australia; [2]Mental Health Research Institute, Parkville, Victoria, Australia.

1002. **3D Steady State Free Precession (3D-FIESTA) Imaging of the Basilar Cisterns at 3.0 Tesla**
Norbert G. J. Campeau[1], Gary M. Miller[1]
[1]Mayo Clinic, Rochester, Minnesota, USA.

1003. **High Field, High Resolution Imaging of Brain Iron**
John Schenck[1], Abdalmajeid Alyassin[1], David Alsop[2], Kamran Shahid[2], Robert Lenkinski[2], Allen Song[3], Arnulf H Koeppen[4]
[1]G. E. Corporate R & D Center, Niskayuna, New York, USA; [2]Harvard University, Beth Israel Deaconess Medical Center, Boston, Massachusetts, USA; [3]Duke University, Durham, North Carolina, USA; [4]Albany Veterans Affairs Medical Center, Albany, New York, USA.

1004. **Whole-brain Bolus Perfusion Imaging in Humans at 3T Compared to 1.5T**
Erbil Akbudak[1], Joanne Markham[1], Melanie Kotys[1], Glenn Foster[1], Thomas Conturo[1]
[1]Washington University in St. Louis, School of Medicine, Saint Louis, Missouri, USA.

1005. Gender and Age Effects in Human White Matter on MR Spectroscopy at 4 Tesla

Kai Zhong[1], Linda Chang[1], Dana Carasig[1], Lisa Zimmerman[1], Thomas Ernst[1]
[1]Brookhaven National Laboratory, Upton, New York, USA.

1006. 8 Tesla Imaging of Multiple Sclerosis

Allahyar Kangarlu[1], Kottil Rammohan[1], Eric Bourekas[1], Donald Chakeres[1]
[1]Ohio State University, Columbus, Ohio, USA.

1007. MRI Contrast Enhancement of Brain Tumors at 3 Tesla versus 1.5 Tesla

Siegfried Trattnig[1], Iris Melanie Nöbauer[1], Ahmed Ba-Ssalamah[1], Vladimir Mlynárik[1], Markus Barth[1], Andreas Schöggl[1], Amura Fog[2], Gerhard Lechner[1]
[1]University Hospital of Vienna, Vienna, Austria; [2]Nycomed Company, Norway.

Vascular Disorders and Perfusion Diffusion Measurements

1008. Quantitative Perfusion and Spectroscopic Imaging of Geriatric Patients with Orthostatic Hypotension

M.J.P. Van Osch[1], P.A.F. Jansen[1], R.W. Vingerhoets[1], Jeroen Van Der Grond[1]
[1]University Medical Center Utrecht, Utrecht, Netherlands.

1009. Quantitative Continuous Arterial Spin Labeling(CASL) and T_2*Dynamic Susceptibility (T_2*DSC) Perfusion Imaging of the Patients with Chronic Occlusive Cerebrovascular Disease

Hirohiko Kimura[1], Hirotsugu Kado[1], Yoshio Koshimoto[1], Tatsuro Tsuchida[1], Yoshiharu Yonekura[1], Harumi Itoh[1]
[1]Fukui Medical University, Fukui, Japan.

1010. Hemodynamic Change after Percutaneous Transluminal Angioplasty and Stenting: Evaluation with Mean Transit Time Obtained by Dynamic Susceptibility Contrast MRI

Keiichi Kikuchi[1], Kenya Murase[2], Hitoshi Miki[1], Teruhiko Shimizu[1], Yoshifumi Sugawara[1], Teruhito Mochizuki[1], Junpei Ikezoe[1], Tishihiro Ueda[1], Shiro Ohue[1]
[1]Ehime University School of Medicine, Ehime, Japan; [2]Osaka University Medical School, Suita, Osaka, Japan.

1011. MRA of Collateral Compensation in Asymptomatic and Symptomatic Internal Carotid Artery Stenosis

Jeroen Hendrikse[1], Bert C Eikelboom[1], Jeroen Van Der Grond[1]
[1]University Medical Center Utrecht, Utrecht, Netherlands.

1012. Dynamic Susceptibility Contrast and Diffusion Imaging in Hyperacute Stroke: Increased Contrast Agent Mean Transit Time Predicts Infarct Growth

Jussi Perkiö[1,3], Lauri Soinne[1], Leif Østergaard[2], Turgut Tatlisumak[1], Aki Kangasmäki[1], Johanna Helenius[1], Sami Martinkauppi[1], Oili Salonen[1], Sauli Savolainen[1], Markku Kaste[1], Hannu Aronen[1,4]
[1]Helsinki University Central Hospital, Helsinki, Finland; [2]Århus University Hospital, Århus, Denmark; [3]Helsinki University, Helsinki, Finland; [4]Kuopio University Hospital, Kuopio, Finland.

1013. Continuous Arterial Spin Labeling (CASL) on 3T MR System: Evaluation of Tissue Transit Time

Hirohiko Kimura[1], Hiroyuki Kabasawa[2], Yoshiyuki Ishimori[1], Yoshiharu Yonekura[1], Harumi Itoh[1]
[1]Fukui Medical University, Fukui, Japan; [2]G.E. Yokogawa Medical Systems, Tokyo, Japan.

1014. Differentiation of Hemodynamic Changes with Perfusion-weighted MRI (DSC)

Kristina Szabo[1], Stefanie Schwenk[1], Jochen G. Hirsch[1], Michael Hennerici[1], Achim Gass[1]
[1]Neurologische Universitätsklinik Mannheim, Universität Heidelberg, Mannheim, Germany.

1015. Comparison of FAIR with Two Different TI and Dynamic Perfusion MRI in Chronic Occlusive Cerebrovascular Disease

Kazuhide Yoneda[1], Masafumi Harada[1], Naomi Morita[1], Hiromu Nishitani[1], Masaaki Uno[1]
[1]University of Tokushima, Tokushima, Japan.

1016. Correlation between Cerebral Flow Reserve and Signal Change of Flow-sensitive Alternating Inversion Recovery(FAIR) Imaging Depending on Different Inversion Times

Masafumi Harada[1], Kazuhide Yoneda[1], Naomi Morita[1], Mayumi Takeuchi[1], Hiromu Nishitani[1], Masaaki Uno[1], Tsuyoshi Matsuda[2]
[1]University of Tokushima, Tokushima, Japan; [2]GE-Yokogawa Medical Systems, Tokyo, Japan.

1017. Time Evolution of the Relationship between Apparent Diffusion Coefficient and Absolute Cerebral Blood Flow

Yueh Z. Lee[1], Jin-Moo Lee[2], Katie Vo[2], Chung Y. Hsu[2], Weili Lin[1]
[1]University of North Carolina at Chapel Hill, Chapel Hill, North Carolina, USA; [2]Washington University, St. Louis, Missouri, USA.

1018. Diffusion Tensor Imaging in Patients with Chronic Brain Ischemia

Takashi Inoue[1], Kuniaki Ogasawara[1], Hiromu Konno[1], Akira Ogawa[1], Hiroyuki Kabasawa[2]
[1]Iwate Medical University, Morioka, Iwate, Japan; [2]GE Yokogawa Medical Systems Ltd, Hino, Tokyo, Japan.

1019. Quantitative Analysis of White Matter Lesions in Hemodynamic Impaired Hemispheres

Robertus Bisschops[1], Catharina Klijn[1], Jaap Kappelle[1], Cees Van Huffelen[1], Jeroen Van Der Grond[1]
[1]University medical Center Utrecht, Utrecht, Netherlands.

Head and Neck MR Imaging: Other

1020. Dynamic MR Sialograpy in the Evaluation of Xerostomia in Sjögren Syndrome

Hisao Tonami[1], Munetaka Matoba[1], Hajime Yokota[1], Itaru Yamamoto[1], Susumu Sugai[1]
[1]Kanazawa Medical University, Ishikawa, Japan.

1021. Degree of Enhancement in Extraocular Muscles in Patients with Hyperthyroidism on Contrast Enhanced MRI

Toshiaki Taoka[1], Satoru Iwasaki[1], Hiroyuki Nakagawa[1], Akio Fukusumi[1], Katutosi Takayama[1], Masahiko Sakamoto[1], Takeshi Wada[1], Kimihiko Kichikawa[1], Hajime Ohishi[1]
[1]Nara Medical University, Kashihara, Japan.

1022. Optimization and Comparison of Two High Resolution Imaging Sequences for the Inner Ear

Carl J. Snyder[1], Lizann Bolinger[1], Jay Rubinstein[1]
[1]University of Iowa, Iowa City, Iowa, USA.

1023. Imaging of the Inner Ear using Inner Volume 3D-RARE

Kui Cai[1], Hans-Peter Fautz[1], Klaus Scheffler[1], Jürgen Hennig[1]
[1]University of Freiburg, Freiburg, Germany.

1024. Relationship between the Proton T_2 Relaxation Components of Peripheral Nerve and Their Microanatomical Compartments

K. Wachowicz[1], K. Craddock[1], R. E. Snyder[1]
[1]University of Alberta, Edmonton, Alberta, Canada.

1025. MR Imaging of Plastinated Tissue

Ian J. Rowland[1], Helle J. Simonsen[1], Morten Møller[2]
[1]Danish Research Centre for Magnetic Resonance, Hvidovre, Denmark; [2]Institute of Medical Anatomy, Copenhagen, Denmark.

1026. Indirect Imaging of Brain Ethanol via Magnetization Transfer at High and Low Magnetic Fields

Mohammad R. Estilaei[1], Gerald B. Matson[1], Dieter J. Meyerhoff[1]
[1]University of California San Francisco, D.V.A. Medical Center, San Francisco, California, USA.

Human Brain MR Spectroscopy: Stroke and Seizure

1027. Hippocampus Volumetry and Shape Analysis in mTLE with (TLE-MTS) and without (TLE-no) Evidence for Mesial Temporal Sclerosis

Susanne G. Mueller[1], Xiaoping Zhu[1], Kenneth D. Laxer[1], Michael W. Weiner[1]
[1]University of California San Francisco, San Francisco, California, USA.

1028. Spectroscopic Metabolic Abnormalities in mTLE with and without MRI Evidence for Mesial Temporal Sclerosis using Hippocampal Short TE MRSI

Susanne G. Mueller[1], Kenneth D. Laxer[1], Ria C. Lopez[1], Michael W. Weiner[1]
[1]University of California San Francisco, San Francisco, California, USA.

1029. Usefulness of Combination of Magnetization Transfer Ratios and Proton MR Spectroscopy in Patients with Chronic Cerebrovascular Disease: A Correlative Study among Ischemic Groups Characterized by PET Parameters

Hirotsugu Kado[1], Hirohiko Kimura[1], Yoshio Koshimoto[1], Yoshiharu Yonekura[1], Harumi Itoh[1]
[1]Fukui Medical University, Fukui, Japan.

1030. Post-Stroke Cerebral Reorganization in Human Brain Identified by ^{31}P MR Spectroscopic Imaging and F-18 FDG PET

Wen-Jang Chu[1], Elmer C. San Pedro[1], Hoby P. Hetherington[2], Hong-Gang Liu[1], James M. Mountz[1]
[1]University of Alabama at Birmingham, Birmingham, Alabama, USA; [2]Albert Einstein College of Medicine, Bronx, New York, USA.

1031. Evaluation of Cerebral Metabolism using *In Vivo* Localized ^{1}H MR Spectroscopy for Children Undergoing Open Heart Surgery for Closure of Atrial Septal Defect (ASD) under Cariopulmonary Bypass

In-Sook Park[1], So Young Yoon[1], Young Hwue Kim[1], Jae Kon Ko[1], Dong Man Seo[1], Tae Jin Yoon[1], Sang-Tae Kim[1], Keun-Ho Lim[1], Jung Hee Lee[1]
[1]University of Ulsan, Seoul, South Korea.

1032. Ketogenic Diet in Intractable Epilepsy: An ^{1}H-MRS Follow-Up Study in Children

Dorothee Auer[1], Marko Wilke[2], Gisela Liebhaber[3], Fritz Am Baumeister[3]
[1]Max-Planck-Institute of Psychiatry, München, Germany; [2]Children's Hospital Research Foundation, Cincinnati, Ohio, USA; [3]Children's Hospital, Technical University, München, Germany.

1033. *In Vivo* Measurement of Brain GABA in Ketogenic Diet using Two-Dimensional Double-Quantum MR Spectroscopy

Zhiyue J Wang[1], Christina Bergqvist[1,2], Jill V Hunter[1,2], Brenden Tavelli[1], Qi Cao[1], Maxwells Scherzer[2], Dongzhu Jin[1], Dah-Jyuu Wang[1], Suzanne Wehrli[1], Robert Zimmerman[1,2], John A Detre[1,2]
[1]Children's Hospital of Philadelphia, Philadelphia, Pennsylvania, USA; [2]University of Pennsylvania, Philadelphia, Pennsylvania, USA.

1034. Metabolites Reversible Depletion during Photic Stimulation in Migraneurs and Normal Subjects

Roberto Tarducci[1], Otello Presciutti[1], Paola Sarchielli[2], Andrea Alberti[2], Giuseppe Stipa[2], Virgilio Gallai[2], Gian Piero Pelliccioli[1], Emilio Carmelo Gentile[1], Gianni Gobbi[1]
[1]Azienda Ospedaliera di Perugia, Perugia, Italy; [2]Università di Perugia, Perugia, Italy.

1035. Spectral Pattern Analysis in Correlation with Functional Disability for Patients with Congestive Heart Failure

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1036. The Value of Arterial Hyperintensity on Flair Images as the Index of Hemodynamic Stress in Ischemic Cerebrovascular Diseases: Correlation with Perfusion MR Study

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1037. Predictive Value of Phase Contrast MRA in Acute Ischemic Stroke: A Series Study with Combined Diffusion and Perfusion MRI

Yawu Liu[1], Jari O Karonen[1], Juho Nuutinen[1], Ritva L Vanninen[1], Pauli A Vainio[1], Seppo Soimakallio[1], Hannu J Aronen[1,2]
[1]Kuopio University Hospital, Kuopio, Finland; [2]Helsinki University Central Hospital, Helsinki, Finland.

1038. Apolipoprotein E Polymorphism and Acute Ischemic Stroke:A Diffusion- and Perfusion-Weighted Magnetic Resonance Imaging Study

Yawu Liu[1], Mikko P Laakso[1], Jari O Karonen[1], Ritva L Vanninen[1], Juho Nuutinen[1], Pauli Vainio[1], Seppo Soimakallio[1], Hannu J Aronen[1,2]
[1]Kuopio University Hospital, Kuopio, Finland; [2]Helsinki University Central Hospital, Helsinki, Finland.

1039. Temporal Evolution of Cerebral Infarction with Perfusion MR Images and ^{1}H MRS: Deep Watershed versus Territorial Subtypes in the Middle Cerebral Arterial Territory

Chang-Shin Lee[1], Yi-Jui Liu[2], Ing-Jye Huang[2], Hsiao-Wen Chung[2], Cheng-Yu Chen[1]
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1040. Diffusion Post-processing Strategies for Hyper-acute Stroke

Ashley Dianne Harris[1], Raoul S Pereira[1], Joseph Ross Mitchell[1], Michael D Hill[1], Robert J Sevick[1], Richard Frayne[1]
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1041. MRI Assessement of Perfusion-Related Parameters in Acute Ischemic Stroke Patients: A New Method Based on Independent Component Analysis

Kader Boulanouar[1], Christophe Cognard[2], Jean François Albucher[2], Isabelle Berry[2], Claude Manelfe[2], Pierre Celsis[1], François Chollet[1]
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1042. Predicting Tissue Infarction in Hyperacute Human Cerebral Ischemia using a Hierarchical Mixture of Experts

Ona Wu[1,2], Walter J. Koroshetz[2], Leif Østergaard[2], Thomas Benner[2], Ramon Gilberto Gonzalez[2], William Copen[2], Bruce R. Rosen[2], Robert M. Weisskoff[2], A. Gregory Sorensen[2]
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1043. Prediction of Final Outcome in Acute Stroke by an Instance Based Algorithm

Christian Gottrup[1,2], Knud Thomsen[2], Ona Wu[3], Peter Locht[2], A. Gregory Sorensen[3], Carsten Gyldensted[1], Leif Østergaard[1]
[1]Aarhus University Hospital, Aarhus, Denmark; [2]Dimac Imaging I/S, Højbjerg, Denmark; [3]Massachusetts General Hospital, Charlestown, Massachusetts, USA.

1044. Reliability in Detection of Hemorrhage in Acute Stroke by a New 3-D GRE Susceptibility Weighted Imaging Technique Compared to Computed Tomography: A Retrospective Study

Nathaniel D. Wycliffe[1], Udochukwu E. Oyoyo[1], Daniel K. Kido[1]
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1045. Phase Venous Vessels Enhancement in High Field Brain MR Imaging

Amir M. Abduljalil[1], Petra Schmalbrock[1], Vera Novak[2], Donald Chakeres[1]
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1046. Quantitative Assessment of Cerebral Blood Volume and T_2 in Carotid Stenosis

Martin Kavec[1], Pasi Tuunanen[1], Jussi-Pekka Usenius[2], Aimo Rissanen[3], Risto Kauppinen[1]
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1047. Quantification of *In Vivo* Cerebral Venous and Arterial Blood Volumes Separately in Humans using Magnetic Resonance Imaging

Hongyu An[1], Weili Lin[1]
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1048. Blood T_1 Relaxation at 4.7 T: Dependence on Hematocrit and Oxygen Saturation

Johanna Silvennoinen[1], Mikko Kettunen[1], Risto Kauppinen[1]
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1049. Single/Triple Quantum ^{23}Na MRI of Evolving Focal Brain Ischemia in the Monkey

Fernando Emilio Boada[1], Edwin M. Nemoto[1], Charles A. Jungreis[1]
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1050. 3.0T 3D Time of Flight MR Angiography using Magnetization Transfer

Gordon F. Gibbs[1], John Huston[1], Matt Bernstein[1], Chen Lin[1]
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1051. MR Image Fusion Treatment Planning Technique for Intracranial Arteriovenous Malformations using Contrast-enhanced MR Angiography

Vladimir Ivanovic[1], John Huston[1], Kiaran P. McGee[1]
[1]Mayo Clinic & Foundation, Rochester, Minnesota, USA.

1052. Evaluation of Large Intracranial Aneurysms by Combining ECG-Gated Cine MRA and 3D Contrast-Enhanced MRA (3D-CEMRA)

Wenzhen Zhu[1], Liming Xia[1], Chengyuan Wang[1], Dingyi Feng[2], Jianpin Qi[2]
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1053. Heritable Predisposition to Intracrainal Aneurysms: Preliminary Results in the Use of MRA in Screening a Susceptible Population

Jay Tsuruda[1], Lisa Cannon-Albright[1], Dennis Parker[1], Rock Hadley[1], Jeff MacDonald[1], Henry Buswell[1], Gregg Wood[1], Eun-Kee Jeong[1]
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1054. Imaging Gated Complex Flows: A Cautionary Note

Toby Sucharov[1], John Fenner[1], Iain Wilkinson[2], Paul Griffiths[2], Yasuo Noguchi[3], Mahmoud Wishah[3]
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1055. Time-Resolved MR Digital Subtraction Angiography of the Head using Sensitivity Encoding (SENSE)

Toshiyuki Okubo[1], Masaaki Hori[1], Keiichi Ishigame[1], Tsutomu Araki[1], Ryoji Amemiya[2], Koji Miyazaki[2], Kazuhisa Kobayashi[2], Eiji Okamoto[3]
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1056. Routine Ultra High-Resolution 3D Time of Flight Imaging using 8-Channel Head Array Coil with EXCITE Data Acquisition Technology

David Zhu[1], Anthony T. Vu[1]
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1057. A Phantom for Quantitative Spin Tagging Perfusion Measurements
Gregory Ryan Lee[1], Luis Hernandez-Garcia[1], Douglas C. Noll[1]
[1]University of Michigan, Ann Arbor, Michigan, USA.

1058. Measurement of Transit Times and Arterial Blood Volumes using EPISTAR
Alison Sleigh[1], Susan Francis[1], Richard Bowtell[1], Penelope Gowland[1]
[1]University of Nottingham, Nottingham, England, UK.

1059. Novel Double Inversion of Both Tagged and Reference Images for Pulsed Arterial Spin Labeling
Geon-Ho Jahng[1], Xiaoping Zhu[1], Gerald B Matson[1], Michael W Weiner[1], Norbert Schuff[1]
[1]University of California San Francisco, VA Medical Center, San Francisco, California, USA.

1060. Absolute Quantification of High Resolution Perfusion Imaging in Human Brain
, Wen-Ming Luh[1], J. Bodurka[1], E. Kapler[1], P.A. Bandettini[1]
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1061. Whole Brain 3D Perfusion MRI at 3T using CASL with a Separate Labeling Coil
S. L. Talagala[1], F. Q. Ye[1], K. St. Lawrence[1], S. Chesnick[1]
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1062. Dynamics of Arterial Labeled Spins Investigated by using 2-coil DASL
Tae Kim[1], Seong-Gi Kim[1]
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1063. Offset Correction in PICORE QUIPSS II Imaging
Karam Sidaros[1,2], Thomas Liu[3], Eric Wong[3], Richard Buxton[3]
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1064. Reduced SAR using Oblique Arterial Spin Labeling
Michael H. Gach[1], Sardha Lalith Talagala[2], Anthony W. Kam[1]
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1065. Effect of Inversion Slab Width on FAIR Results
Hu Cheng[1], Adam Anderson[1], John C. Gore[1], Isak Prohovnik[1]
[1]Yale University, New Haven, Connecticut, USA.

1066. Intrinsic Intravascular Crushing in a Perfusion Sequence with Optimized Imaging Profile
David P Lewis[1], Gaby Pell[1], Craig Branch[1,2]
[1]Nathan Kline Institute, Orangeburg, New York, USA; [2]Albert Einstein College of Medicine, Bronx, New York, USA.

1067. Measurement of Regional Cerebral Blood Flow in the Visual Cortex: A PET and fMRI Study
Marguerite Wieckowska[1], Ernst Meyer[1], Bruce Pike[1]
[1]McGill University, Montréal Nueurological Institute, Montreal, Québec, Canada.

1068. Investigation of the Vascular Origin of the FAIR Perfusion Signal in the Rat
Gaby Pell[1], David P Lewis[1] Roger J Ordidge[3], Craig Branch[1,2]
[1]Nathan Kline Institute, Orangeburg, New York, USA; [2]Albert Einstein College of Medicine, Bronx, New York, USA; [3]University College London, London, England, UK.

1069. The Effect of Vascular Crushing on FAIR Perfusion Kinetics, using a BIR-4 Pulse in a Magnetization Prepared FLASH Sequence

Janneke Schepers[1], Thijs Van Osch[1], Klaas Nicolay[1]
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1070. Sources of Overestimation of CBF by FAIR

Hu Cheng[1], Adam Anderson[1], John C. Gore[1], Isak Prohovnik[1]
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1071. Inversion Efficiencies in Pulsatile Flow for Arterial Spin Labeling

Michael H. Gach[1]
[1]University of Pittsburgh, Pittsburgh, Pennsylvania, USA.

1072. T_1-Weighted Perfusion Mapping at 4T during Acute Focal Ischemia in Rabbits

Mohamed El-Din[1], Mathew Hogan[2], Sarah Hughes[1], T. Y. Lee[1], Mike Gillard[1], Brian Rutt[1], Ravi Menon[1], Robert Bartha[1]
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1073. A Comparison between Absolute Perfusion Parameters Measured in Normal Rabbit Brain by CT Perfusion and Novel MR Perfusion Methods

Michael Gillard[1], Ting-Yim Lee[1], Brian Rutt[1]
[1]The John P Robarts Research Institute, University of Western Ontario, London, Ontario, Canada.

1074. Quantitative Measurements of Cerebral Venous Blood Volume and Cerebral Blood Oxygen Saturation: Asymmetric Spin Echo Approach

Hongyu An[1], Weili Lin[1]
[1]University of North Carolina at Chapel Hill, Chapel Hill, North Carolina, USA.

1075. Dynamic Transit Time and Hemispheric Histogram in Evaluation of Cerebral Perfusion

Chi Chen[1], Ann Ragin[1], Pottumarthi Prasad[1], Robert Edelman[1], Steve Warach[2]
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1076. Measurement of Regional Cervical-Cerebral Transit Time at High Temporal Resolution using Dynamic Susceptibility Contrast

J. A. Butman[1], A. J. Rebmann[1], S. L. Talagala[1]
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1077. Susceptibility Contrast Perfusion Imaging using Sensitivity Encoding

Gernot Reishofer[1,2], Stefan Ropele[1], Franz Fazekas[1], Franz Ebner[1], Peter Kindl[2], Rudolf Stollberger[1]
[1]Karl Franzens University of Graz, Graz, Austria; [2]Technical University of Graz, Graz, Austria.

1078. Perfusion Measured using a Dual Relaxation Rate Sequence

Irene K Andersen[1], Egill Rostrup[1], Sverre Rosenbaum[1], Henrik B.W. Larsson[2]
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1079. Quantitative MR Cerebral Blood Flow using ARMA-Based Deconvolution

Hong Lu[1], Michael R Smith[1], Richard Frayne[1]
[1]University of Calgary, Calgary, Alberta, Canada.

1080. Absolute CBF Quantification: An Alternative Approach with Substantial Accuracy Improvement

Fu-Nien Wang[1,2], Ing-Jye Huang[1], Cheng-Yu Chen[2], Hsiao-Wen Chung[1,2]
[1]National Taiwan University, Taipei, Taiwan; [2]Tri-service General Hospital, Taipei, Taiwan.

1081. A Comparison of T_2*-Weighted Magnitude and Phase Imaging Techniques for Measuring the Arterial Input Function in the Rat Aorta following Intravenous Injection of Gd Contrast Agent

Greg O Cron[1], Julia Wallace[1], W. Dale Stevens[1], Teresa Fortin[1], Bruce A. Pappas[1], R. C. Wilkins[2], Frederick Kelcz[3], Giles E. Santyr[1]
[1]Carleton University, Ottawa, Ontario, Canada; [2]Health Canada, Radiation Protection Bureau, Ottawa, Ontario, Canada; [3]University of Wisconsin-Madison, Madison, Wisconsin, USA.

1082. Accurate Estimation of Contrast Arrival in T_2* Susceptibility Contrast Imaging

Neil Thacker[1], Marietta Louise Juanita Scott[1], Anthony Lacey[1], Geoff Parker[1]
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1083. Improved Deconvolution for Perfusion Quantification

Irene K Andersen[1], Jacob Rorbech Marstrand[1], Lars K Hansen[2]
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1084. Rapid Estimation of Brain Perfusion in Acute Stroke using Cross Correlation Maps

Yueh Z. Lee[1], Jin-Moo Lee[2], Katie Vo[2], J Keith Smith[1], Chung Y. Hsu[2], Weili Lin[1]
[1]University of North Carolina at Chapel Hill, Chapel Hill, North Carolina, USA; [2]Washington University, St. Louis, Missouri, USA.

1085. A New Method for Quantitative Calculation of Net Blood Flow using T_2* Susceptibility Imaging

Neil Thacker[1], Marietta Louise Juanita Scott[1], David Buckley[1], Alan Jackson[1]
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1086. Improving Perfusion Quantification in Stroke by Principal Component Filtering

Lars Hanson[1], Elizabeth Kalowska[1], Egill Rostrup[1]
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1087. Assessment of Cerebral Blood Flow: Wavelet-Based Noise Reduction for Improved Deconvolution of Time-Series Data from Dynamic Susceptibility Contrast MRI

Ronnie Wirestam[1], Freddy Ståhlberg[1]
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1088. Assessment of Microvessel Anatomy in Tumor Patients with a Combined GE/SE EPI Sequence

Valerij G. Kiselev[1], Ralph Strecker[1], Oliver Speck[1], Sargon Ziyeh[1], Joachim Klisch[1], Sebastian Arnold[2], Roland Löw[2], Jürgen Hennig[1]
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1089. Quantification of Blood Flow Enhancement in fMRI using Transient GRE-EPI Data Sets

Yousef Mazaheri[1], James S. Hyde[1]
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1090. High Temporal Resolution CBF Mapping in Rat Brain by MRI

Ikuhiro Kida[1], Paul K. Maciejewski[1], Fahmeed Hyder[1]
[1]Yale University, New Haven, Connecticut, USA.

1091. Field-Dependence of the Hyperfine BALD (Blood Agent Level Dependent) Effect: Equilibrium Transendothelial Water Exchange

Thomas E. Yankeelov[1], William D. Rooney[1], Charles S. Springer[1]
[1]Brookhaven National Laboratory, SUNY Stony Brook, Upton, New York, USA.

1092. Brain Perfusion Measurement using Hyperpolarized Xenon-129 MRI

Guillaume Duhamel[1], Philippe Choquet[2], Emmanuelle Grillon[1], Jean-Louis Leviel[1], Anne Ziegler[1], André Constantinesco[2]
[1]INSERM-U438, Grenoble, France; [2]CHU Hautepierre, Strasbourg, FRANCE.

1093. Cerebral Blood Flow Measurements by ^{17}O Magnetic Resonance Spectroscopic Imaging with Bolus Injection of $H_2{}^{17}O$ in Rat: A Revisit

Hao Lei[1], Xiao-Hong Zhu[1], Xiaoliang Zhang[1], Yi Zhang[1], Haiying Liu[1], Wei Chen[1]
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1094. Evidence of Limited Permeation of Metabolic Water in Rat Brain Observed by ^{17}O Magnetic Resonance Spectroscopic Imaging and Its Implications

Xiao-Hong Zhu[1], Hao Lei[1], Yi Zhang[1], Xiaoliang Zhang[1], Nanyin Zhang[1], Kamil Ugurbil[1], Wei Chen[1]
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1095. Arterial Delivery of Oxygen-17 Contrast Agent in Primates

Alex De Crespigny[1], Helen D'Arceuil[1], Julian He[1], Chris Putman[1], Ron Budzik[1], Ramon Gilberto Gonzalez[1]
[1]Massachusetts General Hospital, Charlestown, Massachusetts, USA.

1096. Modeling Blood Flow in Combined Inversion Recovery and Displacement-Encoded ^{19}F MR

Michael Marxen[1], Timothy Q. Duong[2], R. Mark Henkelman[1]
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1097. High Speed High Resolution BOLD Venographic Imaging using 3D Interleaved EPI

Song Lai[1], Jiongjiong Wang[1], Geon-Ho Jahng[1], Arthur Pinkerton[1], Randall Benson[1], Robert Dowsett[1]
[1]University of Connecticut School of Medicine, Farmington, Connecticut, USA.

1098. Assessment of Magnetic Resonance Angiography Image Quality using Bi-Quadratic Surface Fitting

John E. Stewart[1], John Huston[1], Gordon F. Gibbs[1], Chen Lin[1]
[1]Mayo Clinic, Rochester, Minnesota, USA.

1099. Sensitivity Encoding in Phase-Contrast Angiography at 3T

Michael E. Huber[1], Klaas Pruessmann[1], Dieter Meier[1], Rolf Lamerichs[2], Peter Boesiger[1]
[1]University and ETH Zurich, Zurich, Switzerland; [2]Philips Medical Systems, Best, Netherlands.

1100. Sub-millimeter Dynamic Spin Labeling Cerebral 2D-Angiography with 40ms Temporal Resolution

Matthias Günther[1], Carsten Warmuth[2], Claus Zimmer[2]
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Diffusion Acquisition Methods

1101. Quality Control of Diffusion Weighted Imaging: The Role and Optimisation of Test Solutions

L Moore[1], I Delakis[2], E Day[1], J P De Wilde[2], M O Leach[1]
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1102. ADC Histograms – An Inter-Vendor Study

Stefan C.A. Steens[1], Faiza Behloul[1], Jorrit A. Schaap[1], Paul S. Tofts[2], Mark A. Van Buchem[1]
[1]Leiden University Medical Center, Leiden, Netherlands; [2]University College London, Institute of Neurology, London, England, UK.

1103. Diffusion-weighted Imaging (DWI) and Fluid-inversion Prepared Diffusion Imaging (FLIPD) in Acute Stroke

Jessica E. Simon[1], Michael Eliasziw[1], Michael D. Hill[1], Ashley D. Harris[1], Richard Frayne[1]
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1104. Brain ADC Histogram Parameters Depend on b-Values and CSF-Suppression

Stefan C.A. Steens[1], Faiza Behloul[1], Jorrit A. Schaap[1], Frank G.C. Hoogenraad[2], Paul S. Tofts[3], Mark A. Van Buchem[1]
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1105. A Study of the Effect of CSF Suppression on White Matter Anisotropy of Human Brain

Nikos Papadakis[1], Kay M Martin[2], Mohammed H Mustafa[1], Christopher LH Huang[2], Iain D Wilkinson[1], Paul D Griffiths[1], Peter WR Woodruff[1]
[1]University of Sheffield, Sheffield, England, UK; [2]University of Cambridge, Cambridge, Eng.and, UK.

1106. Optimal Choice of Directions for Diffusion Tensor Imaging

Philipp G Batchelor[1], David Atkinson[1], Derek Hill[1], Fernando Calamante[2], Alan Connelly[3]
[1]Guy's Hospital, London, London, England, UK; [2]Institute of Child Health, London, England, UK; [3]Great Ormond Street Hospital for Children, London, England, UK.

1107. A Referenceless, Balanced and Efficient Encoding Scheme for Diffusion Tensor Imaging

Khader M. Hasan[1], Konstantinos Arfanakis[1], Andrew L. Alexander[1]
[1]University of Wisconsin-Madison, Madison, Wisconsin, USA.

1108. DTI and q-Space Imaging of the Cat Brain using Adiabatic Pulses at 9.4T

Itamar Ronen[1], Michael Garwood[1], Susumu Mori[2], Kamil Ugurbil[1], Dae-Shik Kim[1]
[1]University of Minnesota, Minneapolis, Minnesota, USA; [2]Johns Hopkins University School of Medicine, Baltimore, Maryland, USA.

1109. Calculation of Diffusion Effect for Arbitrary Pulse Sequences

Valerij G. Kiselev[1]
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1110. Self-Navigated Spirals for High Resolution Steady-State Diffusion Imaging

Karla L. Miller[1], Craig H. Meyer[1], John M. Pauly[1]
[1]Stanford University, Stanford, California, USA.

1111. Diffusion Tensor Spiral Imaging

Roland Bammer[1], Gary H. Glover[1], Michael E. Moseley[1]
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1112. Nonlinear Navigated Motion Correction for Diffusion Imaging

Karla L Miller[1], John M. Pauly[1]
[1]Stanford University, Stanford, California, USA.

1113. Characterization of and Correction for Eddy Current-Induced Distortions in Diffusion-Weighted Spiral Imaging

Roland Bammer[1], Michael E. Moseley[1], Gary H. Glover[1]
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1114. Comparison of DIFRAD-FSE with Single-Shot EPI for Diffusion-Weighted MRI of Acute Stroke

Theodore Trouard[1], Jared Saul[1], Joachim Seeger[1], Rebecca Theilmann[1], Maria Altbach[1], Dina Gabaeff[1], Arthur Gmitro[1]
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1115. "Functional" Diffusion Tensor Imaging of the Optic Nerve using a Non CPMG Fast Spin Echo Sequence

Steren Chabert[1], Nicolas Molko[1], Yann Cointepas[1], Patrick Le Roux[2], Denis Le Bihan[1]
[1]Commissariat à l'Energie Atomique, Orsay, France; [2]General Electric Medical Systems, Buc, France.

1116. Diffusion Tensor Imaging using Single-Shot Fast Spin Echo

Duan Xu[1], Roland Henry[1], Lucas Carvajal[1], Anthony James Barkovich[1], Daniel Vigneron[1]
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1117. Diffusion-Weighted Imaging of the Human Spine using PROPELLER

Xiaohong Joe Zhou[1], Norman E. Leeds[1], James G. Pipe[2], Xiangyang Ma[3]
[1]University of Texas M.D. Anderson Cancer Center, Houston, Texas, USA; [2]Barrow Neurological Institute, Phoenix, Arizona, USA; [3]G. E. Medical Systems, Milwaukee, Wisconsin, USA.

1118. Optimised Cardiac Gating for High-Resolution Whole Brain DTI on a Standard Scanner

Claudia Wheeler-Kingshott[1], Philip Andrew Boulby[1], Mark Symms[2], Gareth Barker[1]
[1]Institute of Neurology, London, England, UK; [2]National Society for Epilepsy, Gerrards Cross, England, UK.

1119. High Resolution Diffusion MRI with Segmented 3D SSFP

Seong-Eun Kim[1], Eun-Kee Jeong[1], Greg Katzman[1], Dennis L. Parker[1]
[1]University of Utah, Salt Lake City, Utah, USA.

Diffusion Analysis and Fiber Tracking

1120. Primary Motor Cortex Connectivity Studied using fMRI Correlated DTI-Tractography

Maxime Guye[1], Geoffrey Parker[2], Mark Symms[1], Philip Andrew Boulby[1], Claudia Wheeler-Kingshott[1], Afraim Salek-Haddadi[1], Gareth Barker[1], John Duncan[1]
[1]University College London, Institute of Neurology, London, England, UK; [2]University of Manchester, Manchester, England, UK.

1121. A Measure of Curve Fitting Error for Filtering Diffusion Tensor Imaging Data

Nikos G Papadakis[1], Kay M Martin[2], Christopher LH Huang[2], Iain D Wilkinson[1], Paul D Griffiths[1], Peter WR Woodruff[1]
[1]University of Sheffield, Sheffield, England, UK; [2]University of Cambridge, Cambridge, England, UK.

1122. Just How Reproducible are Estimates of Axonal Fiber Orientation by DT-MRI? Characterizing the Cone of Uncertainty

Derek K Jones[1], Sinisa Pajevic[2], Robert J Howard[1]
[1]Institute of Psychiatry, London, England, UK; [2]National Institutes of Health, Bethesda, Maryland, USA.

1123. Improved White Matter Fibre Tracking by Diffusion Tensor Imaging using Relaxation Labelling

Christopher R Tench[1], Paul S Morgan[1], Martin Wilson[1], Lance D Blumhardt[1], Cris Constaninescu[1]
[1]University of Nottingham, Nottingham, England, UK.

1124. Towards Quantitative DTI Tractography: Evaluating Congenital Hemiplegia in Corticospinal Tracts

Jeffrey I Berman[1], Orit A Glenn[1], Daniel B Vigneron[1], Anthony James Barkovich[1], Roland Henry[1]
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1125. White Matter Tractography Error Analysis in a Brain Diffusion Tensor Field

Mariana Lazar[1], Andrew L. Alexander[2]
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1126. Resolving Fibre Crossing using the Diffusion Tensor Model

Thomas R. Barrick[1], Chris A. Clark[1]
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1127. Characterising a Population Distribution of Diffusion Tensors

Derek K Jones[1], Lewis D Griffin[2], Daniel C Alexander[3], Steve Williams[1], Robert J Howard[1]
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1128. Visualizing Inter-Subject Coherence of Axonal Fiber Orientation by Diffusion Tensor MRI

Derek K Jones[1], Daniel Alexander[2], Steven Charles Rees Williams[1], Robert J Howard[1]
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1129. Use of Diffusion Tensor Tracking to Identify the White Matter Pathways Underlying MRI Contrast and Lesions

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1130. White Matter Fibre Tract Likelihood Evaluated using Normalized RMS Diffusion Distance

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1131. White Matter Tractography using Sequential Importance Sampling

Anders Brun[1,2], Mats Björnemo[1,2], Ron Kikinis[1], Carl-Fredrik Westin[2]
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1132. Reproducibility of Tracing White-Matter Pathways in the Human Brain using DT and Fast Marching Tractography

Olga Ciccarelli[1], Geoffrey JM Parker[2], Claudia AM Wheeler-Kingshott[1], Ahmed T Toosy[1], Gareth J Barker[1], Philip A Boulby[3], David H Miller[1], Alan J Thompson[1]
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1133. A Global Approach for Non-invasive Axonal Fiber Tracking on Diffusion Tensor Magnetic Resonance Image

Jun-Cheng Weng[1], Chung-Ming Chen[1], Wen-Yih Tseng[1], Ching-Po Lin[1], Jyh-Horng Chen[1]
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1134. High resolution DTI-based Fiber Tracking of Human Cerebellar Peduncle by 3.0T MRI

Masaki Fukunaga[1], Chuzo Tanaka[1], Hiroki Yamamoto[2], Masahiro Umeda[1], Shoji Naruse[3], Yoshiaki Someya[1], Noriaki Hattori[4], Noriko Inoue[4], Tohru Sawada[4], Toshihiko Ebisu[1], Yasuharu Watanabe[1], Yuuki Mori[1], Y Ejima[1], Hiroyuki Kabasawa[5], Robert Thomas Engelhardt[5]
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1135. Fibre-Tracking by Solving the Diffusion-Convection Equation

Philipp Batchelor[1], DLG Hill[1], David Atkinson[1], Fernando Calamante[2], Alan Connelly[2]
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1136. Magnetization Transfer Profiles and T_2 Characterization of White Matter Tracts

Xavier Golay[1], Francesca Pizzini[1], Hangyi Jiang[1], Susumu Mori[1], Peter C. Van Zijl[1]
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1137. Color Coded DTI in Developmental Brain Abnormality

Achim Gass[1], Jochen Hirsch[1], Christina Rossmanith[1], Kristina Szabo[1], Stephanie Schwenk[1], Oliver Sedlaczek[1], Michael Hennerici[1]
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1138. Anisotropy Thresholds and Tracking Efficiency

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1139. Slice Resolution Enhancement in White Matter Tractography via Diffusion Tensor Imaging

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1140. Asymmetry of Subinsular Anisotropy by *In Vivo* Diffusion Tensor Imaging

Y Cao[1], J Huang[1], K L Berger[1], M C DeLano[1]
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1141. Distribution Analysis of Diffusion Tensor Data

Aziz M. Ulug[1]
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1142. A Probabilistic Framework for Estimating Neural Connectivity from Diffusion Weighted MRI

Tim E.J. Behrens[1], Mark Jenkinson[1], J. M. Brady[1], Stephen M. Smith[1]
[1]University of Oxford, Oxford, England, UK.

1143. A Measure of Restricted Water Diffusion in Neural Tissue

Kevin Bennett[1], Kathleen Schmainda[1], Kelly Rebro[1], James Hyde[1]
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1144. The Analysis of the Water Diffusion Directionality in White Matter using Directional Correlation

Shu-Wei Sun[1,3], Chung-Yi Hong[1], Sheng-Kwei Song[2], Woei C Chu[3], Chen Chang[1]
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1145. Mapping Diffusion Anisotropy without Computing the Diffusion Tensor

Aziz Poonawalla[1], Xiaohong Zhou[1]
[1]University of Texas M.D. Anderson Cancer Center, Houston, Texas, USA.

1146. Human Erythrocyte Ghosts: Exploring the Origins of Multiexponential Water Diffusion in a Model Biological Tissue with Magnetic Resonance

Peter E Thelwall[1], Samuel C Grant[1], Stephen J Blackband[1]
[1]University of Florida, Gainesville, Florida, USA.

1147. Multi-Component Magnetic Resonance Diffusion Imaging in a Rabbit Stroke Model

Lanette J. Friesen Waldner[1], Brian K. Rutt[1]
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1148. Validity of the Bi-Exponential Analysis of the Diffusion Curves

Greg J. Stanisz[1]
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1149. *Intra*cellular Water ADC Decrease following a Reduction in Cell ATP Levels

Jonathan V. Sehy[1], Joseph J.H. Ackerman[1], Jeffrey J. Neil[1]
[1]Washington University in St. Louis, St. Louis, Missouri, USA.

1150. Bi-exponential Diffusion Attenuation in the Rat Spinal Cord: Computer Simulations Based on Anatomic Images of Axonal Architecture

Chih-Liang Chin[1], Felix W. Wehrli[1], Scott N. Hwang[1], Masaya Takahashi[1], David B. Hackney[1]
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1151. Multi-exponential Analysis of Gray and White Matter Structures in the Human Brain

Chunlei Liu[1], Roland Bammer[1], Michael E. Moseley[1]
[1]Stanford University, Stanford, California, USA.

1152. Approximating the q-Slice Condition for Study of Temporal Lobe Epilepsy in the Rat Brain

Shawnee Eidt[2], Edward Kendall[2], Andre Obenaus[1,2]
[1]Loma Linda University, Loma Linda, California, USA; [2]University of Saskatchewan, Saskatoon, Saskatchewan, Canada.

1153. Diffusion Tensor and q-space MR are Complementary and Consistent Methodologies

Peter Basser[1]
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1154. The Apparent Diffusion of Water, Ions, and Small Molecules in the *Xenopus* Oocyte is Consistent with Brownian Displacement

Jonathan Sehy[1], Joseph J.H. Ackerman[1], Jeffrey J. Neil[1]
[1]Washington University in St. Louis, St. Louis, Missouri, USA.

1155. Apparent Water Diffusion at Short Diffusion Times in Healthy and Globally Ischaemic Rat Brain

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1156. Diffusion Time Dependence of Multi-exponential Diffusion Curves in Normal and Ischemic Rat Brain and Peripheral Nerve *In Vivo*

Edward C. Parsons Jr.[1], Mark D. Does[1], John C. Gore[1]
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1157. Mohr Diagram Representation of Anisotropic Diffusion Tensor in MRI

Mehmet Bilgen[1], Ponnada Aswadha Narayana[1]
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1158. Tissue Structure Complexity Maps from High Angular Resolution Diffusion Weighted Magnetic Resonance Measurements

Daniel Alexander[1], Gareth Barker[1], Simon Arridge[1]
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1159. A Correlative Measure for Processing Multi-angle DW-MRI

James Pipe[1]
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1160. Bayesian Parameter Estimation in Diffusion Weighted MRI

Tim E.J. Behrens[1], Mark W. Woolrich[1], Mark Jenkinson[1], J. M Brady[1], Stephen M. Smith[1]
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1161. High Angular Resolution Diffusion Imaging (HARDI) – An Alternative Approach to DSI?

Jochen G. Hirsch[1], Stefanie M. Schwenk[1], Christina Rossmanith[1], Michael Hennerici[1], Achim Gass[1]
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1162. Evaluation of Human Brain White Matter Integrity using Diffusion Tensor MR Histograms

Ryuta Itoh[1], Elias Melhem[2], Kiyoshi Murata[1], Sawako Kitahara[1], Susumu Mori[2], G V Raymond[2], Hugo W Moser[2]
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1163. Quantitative Detection of Diffusion Anisotropy Loss due to White Matter Disease

Neeraj Chepuri[1], Joseph Maldjian[1], Jeffrey Potter[1], Jonathan Burdette[1]
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1164. Diffusion Tensor Image Registration using Nonlinear Spatial Transformation

Sungheon Kim[1], Jeong-Won Jeong[1], Tae-Seong Kim[1], Manbir Singh[1]
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1165. A Framework for a Streamline-Based Probabilistic Index of Connectivity (PICo) using a Structural Interpretation of Anisotropic Diffusion

Geoffrey James Martin Parker[1], Gareth Barker[2], Neil Thacker[1], Alan Jackson[1]
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1166. A Dual Tensor Basis Solution to the Stejskal-Tanner Equations for DT-MRI

Carl-Fredrik Westin[1], S.E. Maier[1]
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1167. Analytical Error Propagation in Diffusion Anisotropy Calculations

Aziz Poonawalla[1], Xiaohong Zhou[1]
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1168. Model-Independent Analysis of Diffusion Tensor MRI Data using Principal Component Analysis

Nikos G Papadakis[1], Ying Zheng[1], Iain D Wilkinson[1], Paul D Griffiths[1], Peter WR Woodruff[1]
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1169. Evaluation of Diffusion Anisotropy and T_2 Relaxation during Sheep Brain Development

Rong Xue[1], Peter C. Van Zijl[1], Richard J. Traystman[1], Susumu Mori[1]
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1170. Correlation between High b Value Diffusion Weighted Imaging and N-acetyl-apsartate in Multiple Scleosis

Yaniv Assaf[1], Joab Chapman[2], Dafna Ben Bashat[1], Yoram Segev[1], Talma Hendler[1], Moshe Graif[1], Amos D Korczyn[1], Yoram Cohen[2]
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1171. Spin Echo Attenuation to Diffusion Displacement Density: A General Inversion for Measurements on a Sphere

Kalvis Jansons[1], Daniel Alexander[1]
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1172. Assessment of Spatial Gradient Field Distortion in Diffusion-Weighted Imaging

Roland Bammer[1], Michael Markl[1], Norbert J. Pelc[1], Michael E. Moseley[1]
[1]Stanford University, Stanford, California, USA.

1173. Non-linear Gradients on Clinical MRI Systems Introduce Systematic Errors in ADC and DTI Measurements

Matthew David Robson[1]
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1174. Inter-Sequence and Inter-Scanner Variability of Diffusion Tensor-MRI Histogram-Derived Metrics of the Brain of Healthy Volunteers

Mara Cercignani[1], Roland Bammer[2,3], Maria Pia Sormani[1], Franz Fazekas[2], Massimo Filippi[1]
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1175. A Markov Chain Monte Carlo Simulation Analysis of the Temporal Apparent Diffusion Coefficient and DC Potential Responses to Focal Ischaemia

Martin David King[1], Martin J Crowder[2], David Hand[2], Neil Harris[3], Stephen Ross Williams[4], Tiho Obrenovitch[5], David Geoffrey Gadian[1]
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1176. Multiscale Approaches for Diffusion Tensor MRI

Sinisa Pajevic[1], Peter Basser[1], Gustavo Kunde Rohde[1], Carlo Pierpaoli[1], Derek Jones[1], Akram Aldroubi[2]
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Multiple Sclerosis: MR Imaging and Spectroscopy

1177. Quantitative Magnetization Transfer for Assessment of Tissue Damage in Individual Multiple Sclerosis Lesions

A. Carlos Santos[1,2], John G. Sled[1], Sridar Narayanan[1], Simon James Francis[1], Steven David Brass[1], Ives Levesque[1], Zografos Caramanos[1], G. Bruce Pike[1], Douglas L. Arnold[1]
[1]Montreal Neurological Institute, McGill University, Montreal, Quebec, Canada; [2]Ribeirao Preto Medical School, Sao Paulo, Brazil..

1178. Regional Variations of Quantitative Magnetization Transfer Imaging Parameters in Normal Appearing Gray Matter and Normal Appearing White Matter in Multiple Sclerosis

Steven David Brass[1], A.C. Santos[1], Simon J Francis[1], Zografos Caramanos[1], Guillermo Parrilla[1], Yves Lapierre[1], Ives Levesque[1], Sridar Narayanan[1], John Sled[1], Bruce Pike[1], Douglas Arnold[1]
[1]McGill University, Montreal Neurological Institute, Montreal, Quebec, Canada.

1179. Quantitative Magnetization Transfer Imaging Parameters in White Matter, Gray Matter, and Lesions in Patients with Multiple Sclerosis Compared to Normal Controls

Steven David Brass[1], A.C. Santos[1], Simon Francis[1], Zografos Caramanos[1], Guillermo Parrilla[1], Yves Lapierre[1], Ives Levesque[1], Sridar Narayanan[1], John Sled[1], Bruce Pike[1], Douglas Arnold[1]
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1180. Bound Water Magnetization Transfer Measurements in Patients with Multiple Sclerosis: A Pilot Study

Catherine Mary Dalton[1], Anita Ramani[1], Claudia Wheeler-Kingshott[1], Gareth Barker[1], David Miller[1], Paul Stephen Tofts[1]
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1181. *In-Vivo* Measurements of Magnetization Transfer Rates in White Matter

Cornelia Laule[1], Irene M Vavasour[1], Donald W Paty[1], David KB Li[1], Alexander MacKay[1]
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1182. Normal Appearing Brain Tissue MTR Histograms in Multiple Sclerosis: Correlations with Disability, Atrophy and T_2 Lesion Load

Anthony Traboulsee[1], Jamshid Dehmeshki[2], Gareth Barker[3], David Miller[2]
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1183. Comparison of MTR and qMT Imaging of Multiple Sclerosis Lesions

Ives Levesque[1], John Sled[1], Steven David Brass[1], Antonio Carlos Santos[1], Sridar Narayanan[1], Simon Francis[1], Douglas Arnold[1], Bruce Pike[1]
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1184. Abnormal Appearing White Matter in Multiple Sclerosis: Volumetric and Magnetization Transfer Ratio Histogram Analysis

Yulin Ge[1], Robert I. Grossman[1]
[1]New York University School of Medicine, New York, New York, USA.

1185. Normal Appearing Brain Tissue MTR Abnormalities in Patients with Clinically Isolated Syndromes and Early Multiple Sclerosis

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[1]University of British Columbia, Vancouver, British Columbia, Canada; [2]Medicsight, Ltd., London, England, UK; [3]University College London, National Hospital, London, England, UK.

1186. The Longitudinal Relationship between Brain Lesion Loads and Atrophy in Clinically Isolated Syndromes and Multiple Sclerosis

D. T. Chard[1], P. A. Brex[1], O. Ciccarelli[1], C. M. Griffin[1], G. J. Parker[2], C. Dalton[1], A. J. Thompson[1], D. H. Miller[1]
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1187. Voxel-Based Analysis of Fractional Anisotropy in Different MS Phenotypes

Elisabetta Pagani[1], Giovanna Rizzo[1], Maria A. Rocca[1], Giancarlo Comi[1], Massimo Filippi[1]
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1188. Correlation of Multicomponent T_2-Relaxation Data with Diffusion Tensor Anisotropy Measures in Human Brain

Burkhard Mädler[1], Kenneth Whittall[1], Alexander MacKay[1]
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1189. Enhanced Resolution of the T_2 Components in Multiple Sclerosis using a Variable Echo Spacing in a Multiple Echo Sequence

Matthew G Skinner[1], Kenneth P Whittall[1], Alexander L MacKay[1]
[1]University of British Columbia, Vancouver, British Columbia, Canada.

1190. Directional Diffusion Tensor Imaging in Multiple Sclerosis

Roland G Henry[1], Joonmi Oh[1], Sarah J Nelson[1], Daniel Pelletier[1]
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1191. Cognitive Performance and 3 T MRI Abnormalities in Multiple Sclerosis

Catherine J Archibald[1], James N Scott[1], Carla J Wallace[1], Luanne M Metz[1], J Ross Mitchell[1]
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1192. The Ependymal "Dot-Dash" Pattern of Very Early Multiple Sclerosis

William Guerin Bradley[1], Patrick Asbach[2], Christopher Lisanti[1], Dar-Yeong Chen[1]
[1]Long Beach Memorial MRI Center, Long Beach, California, USA; [2]University of Regensburg School of Medicine, Regensburg, Germany.

1193. Triple Dose Gadolinium Enhanced MRI of the Brain and Spinal Cord in Early Relapsing Remitting Multiple Sclerosis is Predictive of Future Relapses

Gerard Robert Davies[1], Declan Chard[1], Colette Maria Griffin[1], Waqar Rashid[1], Alan Thompson[1], David Miller[1]
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1194. Serial Brain MRI Shows Fluid Volume Increases in Light Drinkers after Alcohol Consumption

Frank Ezekiel[1], Robert Blumenfeld[1], Michael W Weiner[1], Dieter J. Meyerhoff[1]
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1195. Reproducible High Resolution Brain Segmentation using T_1 Relaxation Maps Obtained with the SPGR Method: An Application for Multiple Sclerosis

Radhika Srinivasan[1], Roland Henry[1], Daniel Pelletier[1], Sarah J. Nelson[1]
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1196. Evolution of T_1 Black Holes in RRMS Patients Followed for 4 Years with Serial Monthly MRI: Implications for Disease Course

, Francesca Bagnato[1], R. Stone[1], J. Ohayon[1], J.A. Frank[1], H. McFarland[1]
[1]National Institutes of Health, Bethesda, Maryland, USA.

1197. Analysis of Individual Changes of Multiple Sclerosis Lesions´ 3-D Geometry Over Time using Spherical Harmonics

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1198. Guidelines for a Standardized MRI Protocol for the Diagnosis and Follow-up of Multiple Sclerosis

David Kwok-Boon Li[1], Anthony Traboulsee[1], Donald W Paty[1]
[1]University of British Columbia, Vancouver, British Columbia, Canada.

1199. ^{1}H-MRS and Cognitive Impairment in Relapsing Forms of Multiple Sclerosis

Julio Alonso[1], Cecilia Borras[2], Alex Rovira[1], Maite Barrios[2], Joana Porcel[2], Xavier Montalban[2]
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1200. Normal-Appearing Matter surrounding T_1-Hypointense "Black Holes" in Relapsing-Remitting Multiple Sclerosis - Regional Analysis using *In Vivo* 3D ^{1}H MR Spectroscopy

Belinda S.Y. Li[1], Juleiga Regal[1], Robert I. Grossman[1], Oded Gonen[1]
[1]New York University School of Medicine, New York, New York, USA.

1201. Metabolic Characterization of Cerebral T_1 Lesions in Multiple Sclerosis

Jullie W. Pan[1], Patricia Coyle[2], Khurram Bashir[3], John Whitaker[3], Lauren Krupp[2], Hoby Hetherington[1]
[1]Albert Einstein College of Medicine, Bronx, New York, USA; [2]SUNY Stony Brook, School of Medicine, Stony Brook, New York, USA; [3]University of Alabama Birmingham School of Medicine, Birmingham, Alabama, USA.

1202. Spectroscopic Measures of Cognitive Fatigue in Multiple Sclerosis

Jullie W. Pan[1], Lauren Krupp[2], Jing-Huei Lee[3], Patricia Melville[2], Hoby Hetherington[1]
[1]Albert Einstein College of Medicine, Bronx, New York, USA; [2]SUNY Stony Brook, School of Medicine, Stony Brook, New York, USA; [3]Brookhaven National Laboratory, Upton, New York, USA.

1203. Influence of Increased Tissue Water Content in Multiple Sclerosis Lesions on the Metabolite Concentrations as Measured by Proton MR Spectroscopy

Leszek Stawiarz[1], Hans Link[1]
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MR Imaging of Brain: Animal Models

1204. Tracking of Brain Pathology in a Transgenic Mouse Model of Alzheimer´s Disease by *In Vivo* MR Microscopy

Helene Benveniste[1,2], L. Zhang[2], K. Bales[3], S M Paul[3]
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1205. *In Vivo* MRI Can Discern Amyloid Plaques in the Alzheimer APP[V717I] Mouse Model

Greetje Vanhoutte[1], Ilse Dewachter[2], Peter Borghgraef[2], Fred Van Leuven[2], Anne-Marie Van Der Linden[1]
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1206. Three-Year Longitudinal Monitoring of Anatomic and Vascular Changes in the Aging Canine Brain: Correlation with Cognitive Performance under Antioxidant Diet and Environmental Enrichment Interventions

Min-Ying Su[1], E. Head[1], Jun Wang[1], Jr-Yuan Chiou[1], Hon Yu[1], B. A. Muggenburg[2], C. W. Cotman[1], Orhan Nalcioglu[1]
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1207. A Decrease in Muscle Volume Detected in G93A SOD1 Mice using MRI: An Early Marker for Motor Neurone Disease?

Keith John Brooks[1], Mark D Hill[1], David G Reid[1], Alan E White[1], Heather L Lloyd[1], Judy Latcham[1], Stephen D Skaper[2], Sean C Smart[2], Colin Dingwall[2], Anthony H Pullen[3], Timothy E Bates[3]
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1208. Morphologic and Metabolic Alterations in a APP/PS Double-Transgenic Mouse Model for Alzheimer's Disease

Markus Von Kienlin[1], Basil Kuennecke[1], Guy Higgins[1], Horst Bluethmann[2], J. Grayson Richards[1]
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1209. Texture Analysis of Rat Brain MRI Applied to the Lithium-Pilocarpine Model of Epilepsy

Olivier Yu[1], Yves Mauss[1], Catherine Roch[2], Izzie Namer[1], Jacques Chambron[3]
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1210. Longitudinal Monitoring of Progressive Experimental Autoimmune Encephalomyelitis (EAE) in the Common Marmoset with Quantitative MRI

Erwin Blezer[1], Herbert PM Brok[2], Bert LA 't Hart[2], Klaas Nicolay[1]
[1]University Medical Center Utrecht, Utrecht, Netherlands; [2]Biomedical Primate Research Center, Rijswijk, Netherlands.

1211. A Look at the Transverse Relaxation Spectra of Mammalian Optic Nerve at 3.0 T and 11.7 T

Keith Wachowicz[1], Richard E. Snyder[1]
[1]University of Alberta, Edmonton, Alberta, Canada.

1212. *In Vivo* Multi-Component T_2 Imaging of Rat Sciatic Nerve at 1.5 T

Stephanie Webb[1], Catherine A Munro[1], Rajiv Midha[1], Greg J Stanisz[1]
[1]University of Toronto, Sunnybrook & Women's College Health Sciences Centre, Toronto, Ontario, Canada.

1213. Quantitative T_2 Relaxation Time Measurements at 7 Tesla in a Transgenic Mouse Brain Model of ß-Amyloid Burden

Joseph A. Helpern[1], Victor Dyakin[1], Adam Bogart[1], Sang-Pil Lee[1], Maria Fatima Falangola[1], Babak Ardekani[1], Craig Branch[1], Karen Duff[1], J O'Shea[1], Ralph A Nixen[1]
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1214. Quantitative Measurements of T_1 and T_2 Relaxation Times in the Mouse Brain at 7.0T

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1215. Operator Independent 3D Segmentation of Surface Coil Recorded 3D IR-RARE Images from Mouse Lemur Primate Brain

Marc Dhenain[1], Calvin K. Hisley[2], Fabienne Aujard[3], Martine Perret[3], Andreas Volk[1]
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1216. Analysis of Tissue and Brain Lithium from ^{7}Li MR Images of Rats

Subbaraya Ramaprasad[1]
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1217. MRI and ^{31}P NMR Studies of Brain Metabolism in European Ground Squirrels during Hibernation and Arousal

Christian Bock[1], Arjen M. Strijkstra[2], Hans O. Poertner[1]
[1]Alfred-Wegener-Institute for Polar and Marine Research, Bremerhaven, Germany; [2]University of Groningen, Haren, Netherlands.

1218. Repeated Manganese Enhanced-MRI of the Song Control Nuclei of Female Starlings Allows Monitoring Volumetric Changes after Testosterone Implantation

Vincent Van Meir[1], Philippe Absil[1], Marcel Eens[1], Jacques Balthazart[2], Annemie Van Der Linden[1]
[1]University of Antwerp, Antwerp, Belgium; [2]University of Liège, Liège, Belgium.

1219. *In Vivo* MRI of Neuronal Connections in the Macaque Monkey

Burkhard Prause[1], Kadharbatcha S. Saleem[2], Jon Pauls[1], Mark Augath[1], Torsten Trinath[1], Tsutomu Hashikawa[2], Nikos K. Logothetis[1]
[1]Max-Planck-Institute for Biological Cybernetics, Tübingen, Germany; [2]Riken Brain Science Institute, Saitama, Japan.

1220. A Novel, Non-Invasive Method for the Physiological Monitoring of Small Mammals during High-Field Magnetic Resonance Studies

John Stephen Thornton[1], Rupert A Page[2], Daniel Alexander West[1], Martin E Fry[1], Roger John Ordidge[1]
[1]University College London, London, England, UK; [2]Royal Free Hospital, London, England, UK.

1221. Recording Seizures in an MR Environment: The Role of MR Compatible Animal Monitoring

John Zempel[1], John R. Ives[2], Jeffrey J. Neil[1]
[1]Washington University in St. Louis, St Louis, Missouri, USA; [2]Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, Massachusetts, USA.

1222. Assessment of Cerebral Water Formation by Indirect Deuterium Imaging in Rats

Shinya Yamada[1,2], Kouichi Takahashi[1,2], S Bluml[1,2], Marvin D Nelson[1], John Gordon McComb[1]
[1]Childrens Hospital Los Angeles, Los Angeles, California, USA; [2]Rudi Schulte Research Institute, Santa Barbara, California, USA.

1223. Reperfusion Hyperemia on Perfusion MRI in Transient Ischemia: Relationship with Apoptosis

Seung-Koo Lee[1], Dong Ik Kim[1], Jong Eun Lee[1]
[1]Yonsei University College of Medicine, Seoul, Korea.

1224. Quantitative Permeability Measurements of Hemorrhagic Transformation in Embolic Stroke using MRI

Quan Jiang[1,2], James R Ewing[1,2], Zhenggang Zhang[1], Polly Arniego[1], Li Zhang[1], Guang Liang Ding[1], Jiani Hu[3], Qing Jiang Li[1], Robert A Knight[1,2], Michael Chopp[1,2]
[1]Henry Ford Hospital, Detroit, Michigan, USA; [2]Oakland University, Rochester, Michigan, USA; [3]Wayne State University, Detroit, Michigan, USA

1225. Cerebral Blood Volume Measurements in the Brain: Comparison between Synchrotron Radiation Computed Tomography and MRI

Irene Troprès[1], Geraldine Le Duc[1], Yosr Bouhlal[1], Jean-François Adam[1], François Estève[1,2], Jean-François Le Bas[1,2], William Thomlinson[1]
[1]European Synchrotron Radiation Facility, Grenoble France; [2]CHU Michallon, Grenoble, France.

1226. The Progression of Neuronal Injury in the Perfusion-Diffusion Mismatch Region in a Rat Model of Permanent Focal Cerebral Ischemia

Michael A. Jacobs[1], James Ewing[2], Robert A. Knight[2], Zheng Zhang[2], Joseph Fenstermacher[2], Michael Chopp[2]
[1]Johns Hopkins University School of Medicine, Baltimore, Maryland, USA; [2]Henry Ford Health Sciences Center, Detroit, Michigan, USA.

1227. Diffusion and Extracellular Space Volume Fraction in the Brain of APP23 Mice: An Alzheimer´s Disease Model

Ivan Vorisek[1], Tatiana Antonova[1], Tomas Mazel[1], Melanie Meyer-Lühmann[2], Matthias Staufenbiel[3], Mathias Jucker[2], Milan Hájek[4], Eva Syková[1]
[1]Institute of Experimental Medicine ASCR, Prague, Czech Republic; [2]University of Basel, Basel, Switzerland; [3]Novartis Pharma Ltd., Basel, Switzerland; [4]IKEM RADP, Prague, Czech Republic.

1228. Influence of Traumatic Brain Injury on Selected Regions of Excised Rat Brain Examined by Diffusion Tensor Imaging

Evren Ozarslan[1], S Michelle Deford[1], Thomas H. Mareci[1], Ronald L Hayes[1]
[1]University of Florida, Gainesville, Florida, USA.

1229. *In-Vivo* MR Microscopy and Diffusion Imaging of Late Radiation Complication in the Rat Cervical Spinal Cord at 7 Tesla

Jeroen Pikkemaat[1], Henk P. Bijl[2], Marielle E.P. Philippens[1], Dennis W.J. Klomp[1], Susan Schellekens[1], Mathieu G. Sommers[1], Bert J. Van Der Kogel[1], Arend Heerschap[1]
[1]Nijmegen University Medical Center, Nijmegen, Netherlands; [2]University Hospital Groningen, Groningen, Netherlands.

1230. Diffusional Changes during the Development of Brain Edema in Aquaporin-4 Deficient Transgenic *mdx* Mice

Zsolt Vajda[1], Michael Pedersen[2], Hans Stødkilde Jørgensen[2], Ernst-Martin Füchtbauer[1], Jørgen Frøkiær[1], Søren Nielsen[1]
[1]University of Aarhus, Aarhus, Denmark; [2]Aarhus University Hospital, Aarhus, Denmark.

1231. Diffusion Tensor Mapping of Living Mouse Brain using Half-Fourier Single-Shot STEAM MRI

Susann Boretius[1], Takashi Watanabe[1], Oliver Natt[1], Thomas Michaelis[1], Jürgen Finsterbusch[1], Jens Frahm[1]
[1]Biomedizinische NMR Forschungs GmbH, Göttingen, Germany.

1232. Diffusion Tensor Microscopy of "Active-Stained" Mouse Brains

Edward W. Hsu[1], Shelley K. Shih[1], Boma Fubara[1], Laurence W. Hedlund[1], G. Allan Johnson[1]
[1]Duke University, Durham, North Carolina, USA.

1233. Evaluation of White Matter Lesions Induced by 3-Nitropropionic Acid using Magnetic Resonance Diffusion Tensor Imaging

Shu-Wei Sun[1,2], Woei C Chu[2], Chen Chang[1]
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1234. Imaging of Stem Cells in the Hippocampus using MRI

Konstanze Fabel[1], Klaus Fabel[1], Samira Guccione[1], Roland Bammer[1], Mark D Bednarski[1], Theo D Palmer[1]
[1]Stanford University, Stanford, California, USA.

MR Imaging of Brain: Animal Models of Ischemia

1235. Caspase-3-Dependent Apoptosis is Profound in Both Ischemic Core and Penumbra after Focal Ischemia in Immature Brain

Michael F. Wendland[1], Christine Fox[1], Nikita Derugin[1], B. Henry Han[1], David Holtzman[1], Donna M. Ferriero[1], Zinaida S. Vexler[1]
[1]University of California San Francisco, San Francisco, California, USA.

1236. MRI Detection of Early Endothelial Activation in Cytokine-induced CNS Inflammation

Nicola Sibson[1], Daniel Anthony[2], Andrew Blamire[1], Jean-Marie Colet[3], Robert Muller[3], Peter Styles[1]
[1]University of Oxford, Oxford, England, UK; [2]University of Southampton, Southampton, England, UK; [3]University of Mons-Hainaut, Mons, Belgium.

1237. Delayed Treatment with SPD-502 Reduces Infarct Size in Rat Cortical Stroke

Elisabeth S. Hildebrandt-Eriksen[1], Egill Rostrup[1], Thomas Christensen[2], Nils Henrik Diemer[2]
[1]Hvidovre Hospital, Hvidovre, Denmark; [2]University of Copenhagen, Copenhagen, Denmark.

1238. Carr-Purcell LASER Imaging during Acute Ischemia at 4.0 Tesla

Robert Bartha[1], Nagalingam Rajakumar[1], Sarah Hughes[1], T. Y. Lee[1], Ravi Menon[1]
[1]The John P. Robarts Research Institute, University of Western Ontario, London, Ontario, Canada.

1239. Effects of Fasting or Dexamethasone Pretreatment on Oxygen Consumption during Hypoxia-Ischemia in the Immature Rat

Jian-Li Wang[1], Shannon Beabes[1], Bernard Dardzinski[2], Michael Smith[1]
[1]Pennsylvania State University College of Medicine, Hershey, Pennsylvania, USA; [2]University of Cincinnati College of Medicine, Cincinnati, Ohio, USA.

1240. Delayed Reperfusion in Selectively Vulnerable Brain Regions following Global Ischemia

Mark Lythgoe[1], David L Thomas[1], Martin King[1], Roger Ordidge[1], David Gadian[1]
[1]University College London, London, England, UK.

1241. A New Reversible, Remote-Controlled Three Vessel Occlusion in the Sprague-Dawley Rat - for NMR Studies

Daniel Alexander West[1], Edward Proctor[1], Enrico De Vita[1], Mark Lythgoe[1], David L Thomas[1], Jane Utting[1], David Gadian[1], Roger Ordidge[1]
[1]University College London, London, England, UK.

1242. Age-Dependent Cerebral Hypoxic-Ischemic Changes in T_1 Relaxation and Water Content in Developing Rats

M. Qiao[1], P. Latta[1], S. Bascaramurty[1], T. Foniok[1], E. McKenzie[1], S. Meng[1], B. Tomanek[1], U. I. Tuor[1]
[1]National Research Council, Calgary, Alberta, Canada.

1243. Therapeutic Window of Nitric Oxide Synthase Inhibitor on a Hyperglycemic Rat Model of Reversible Focal Ischemia

Jingna Wei[1], Michael J. Quast[1]
[1]University of Texas Medical Branch at Galveston, Galveston, Texas, USA.

1244. Visualization of USPIO-Labeled Macrophages in a Rat Model of Transient Cerebral Ischemia

Thomas Mueggler[1], Diana Baumann[1], U. Neubacher[1], Markus Rudin[1], Martin Rausch[1]
[1]Novartis Pharma AG, Basel, Switzerland.

1245. Characterization of Hemorrhagic Transformation of Embolic Stroke using MRI

Quan Jiang[1,2], Ruilan Zhang[1], Zhenggang Zhang[1], James R Ewing[1,2], Robert A Knight[1,2], Guang Liang Ding[1], Jiani Hu[3], Qing Jiang Li[1], Polly Arniego[1], Li Zhang[1], Michael Chopp[1,2]
[1]Henry Ford Hospital, Detroit, Michigan, USA; [2]Oakland University, Rochester, Michigan, USA; [3]Wayne State University, Detroit, Michigan, USA.

1246. MR Angiography after Thromboembolic Stroke in Rats: Predictor of Probability for Recanalization and Tissue Survival after rt-PA Treatment

Thomas Hilger[1], Frank Niessen[1], Michael Diedenhofen[1], Konstantin-Alexander Hossmann[1], Mathias Hoehn[1]
[1]Max-Planck-Institute for Neurological Research, Cologne, Germany.

1247. A Multi-Parametric, MRI Time-Course Analysis of Experimental Traumatic Brain Injury

Neil Harris[1], Mark Lythgoe[2], David L Thomas[2], Jane Utting[2], Enrico De Vita[2], Szu-Fu Chen[1], David Gadian[2], John Pickard[1]
[1]University of Cambridge, Cambridge, England, UK; [2]University College London, London, England, UK.

1248. Delayed Treatment with Interferon-β Protects Against Ischemic Stroke

Wouter B. Veldhuis[1], Peter H. Van Der Meide[2], Dop(P.) R. Bär[1], Klaas Nicolay[1]
[1]University Medical Center Utrecht, Utrecht, Netherlands; [2]Utrecht University, Utrecht, Netherlands.

1249. Quantitative $T_{1\rho}$ and Magnetization Transfer MRI of Acute Ischaemia in the Rat

Heidi Mäkelä[1], Mikko Kettunen[1], Olli Gröhn[1], Risto Kauppinen[1]
[1]University of Kuopio, Kuopio, Finland.

1250. Distribution and Kinetics of Intraventricularly Infused Contrast Agents in Rat Brain

Paul A. Schornack[1], Robert J. Gillies[1]
[1]University of Arizona, Health Sciences Center, Tucson, Arizona, USA.

1251. Magnetic Resonance Micro-Imaging Studies of *Ex-Vivo* Transgenic APP+PS1 Mouse Brains

Jiangyang Zhang[1], Paul J. Yarowsky[2], Marcia N. Gordon[3], Peter C. Van Zijl[1], Susumu Mori[1]
[1]Johns Hopkins University, School of Medicine, Baltimore, Maryland, USA; [2]University of Maryland at Baltimore, Baltimore, Maryland, USA; [3]University of South Florida, Tampa, Florida, USA.

1252. *In Vivo* MR Imaging of *CYLN2 (Cytoplasmatic linker-2)* Knock Out Mice Confirms the Williams Syndrome Phenotype

Nadja Van Camp[1], Marleen Verhoye[1], Casper Hoogenraad[2], Niels Galjart[2], Chris I. De Zeeuw[2], Annemie Van Der Linden[1]
[1]University of Antwerp, Antwerp, Belgium; [2]Erasmus University, Rotterdam, Netherlands.

1253. *In Vivo* High-Resolution 3D MRI of Mouse Brain at Low Field (2.35 T)

Oliver Natt[1], Takashi Watanabe[1], Susann Boretius[1], Thomas Michaelis[1], Jens Frahm[1]
[1]Biomedizinische NMR Forschungs GmbH, Göttingen, Germany.

1254. 3D MRI of Murine Hippocampal Subfields and Projections *In Vivo* using Mn^{2+}-Contrast

Takashi Watanabe[1], Oliver Natt[1], Jelena Radulovic[2], Joachim Spiess[2], Susann Boretius[1], Thomas Michaelis[1], Jens Frahm[1]
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1255. An Efficient Method to Label Stem Cells for Longitudinal *In Vivo* NMR-Studies

Ekkehard Küstermann[1], Dirk Wiedermann[1], Christian Bührle[1], Heinz Arnold[1], Melanie Föcking[1], Thorsten Trapp[1], Mathias Hoehn[1]
[1]Max-Planck-Institut for Neurological Research, Köln, Germany.

1256. *In Vivo*, Dynamic Mn^{2+} Enhanced MRI (MEMRI) Tract Tracing along White Matter Tracts

Robia G. Pautler[1], Russell E. Jacobs[1]
[1]California Institute of Technology, Pasadena, California, USA.

1257. Validation of MRI Visibility of Cells Magnetically Labeled for Implantation into Brain

Dirk Wiedermann[1], Ekkehard Küstermann[1], James Blunk[1], Stefan Wecker[1], Christian Buehrle[1], Wolfram Schwindt[1], Thorsten Trapp[1], Melanie Föcking[1], Jürgen Hescheler[2], Mathias Hoehn[1]
[1]Max-Planck-Institute for Neurological Research, Köln, Germany; [2]University of Colone, Köln, Germany.

1258. BOLD Responses and T_2 Changes of Cerebral Metabolites during Forebrain Ischemia in Rat at High Field

Hao Lei[1], Run-Xia Tian[1], Xiao-Hong Zhu[1], Wei Chen[1]
[1]University of Minnesota, Minneapolis, Minnesota, USA.

Neurological Disorders

1259. Adaptive Functional Changes in Patients with Migraine and Brain Abnormalities on Conventional MRI Scans

Maria Rocca[1], Elisabetta Pagani[1], Maria Codella[1], Andrea Falini[1], Bruno Colombo[1], Giuseppe Scotti[1], Giancarlo Comi[1], Massimo Filippi[1]
[1]Scientific Institute of H San Raffaele, Milan, Italy.

1260. Posterior Circulation Territory Lesions in Migraine - A Population-Based Case-Control MRI Study - the CAMERA-Project

Mark C. Kruit[1], Lenore J. Launer[2], Gisela M. Terwindt[1], Michel D. Ferrari[1], Mark A. Van Buchem[1]
[1]Leiden University Medical Center, Leiden, Netherlands; [2]National Institutes of Health, Bethesda, Maryland, USA.

1261. White Matter Hyperintensities In Migraine - A Population-Based Case-Control MRI Study - The CAMERA-Project

Mark C. Kruit[1], Lenore J. Launer[2], Gisela M. Terwindt[1], Michel D. Ferrari[1], Mark A. Van Buchem[1]
[1]Leiden University Medical Center, Leiden, Netherlands; [2]National Institutes of Health, Bethesda, USA.

1262. Absolute Blood Flow in Children with Sickle Cell Disease Measured using Continuous Arterial Spin Labeling (CASL)

Xavier Golay[1], Kader K. Oguz[1], Peter C. Van Zijl[1], Elias R. Melhem[1]
[1]Johns Hopkins University, Baltimore, Maryland, USA.

1263. Prospective Brain Imaging of Healthy Siblings of Sickle Cell Disease Patients: An Association between Vasculopathy and Sickle Trait

R. Grant Steen[1], Temitope Emudianughe[1], G. Hankins[1], Kathleen Helton[1]
[1]St Jude Children's Research Hospital, Memphis, Tennessee, USA.

1264. Comparative Investigation of Cerebral Perfusion in Multiple Sclerosis using a Novel Technique

Waqar Rashid[1], L M Parkes[1], G T Ingle[1], D T Chard[1], P S Tofts[1], D H Miller[1]
[1]University College London, Institute of Neurology, London, England, UK.

1265. Brain Volume Change in Multiple Sclerosis Detected with Deformation-Based Morphometry (DBM)

Andrew L Janke[1], Douglas L Arnold[1], Yves Lapierre[1], D Louis Collins[1]
[1]Montreal Neurological Institute, Montreal, Quebec, Canada, .

1266. Automatic Delineation of Enhancements in MS

Renjie He[1], Ponnada Aswadha Narayana[1]
[1]University of Texas Health Science Center at Houston, Houston, Texas, USA.

1267. Magnetization Transfer Imaging in Acute Optic Neuritis

Simon Hickman[1], Ahmed Toosy[1], Stephen Jones[2], David MacManus[1], Gareth Barker[1], Gordon Plant[3], Alan Thompson[1], David Miller[1]
[1]Institute of Neurology, University College London, London, England, UK; [2]The National Hospital for Neurology and Neurosurgery, London, England, UK; [3]Moorfields Eye Hospital, London, England, UK.

1268. Optic Nerve Magnetization Transfer Imaging using a 3D Gradient Echo Sequence: Application in Optic Neuritis

Simon Hickman[1], Gareth Barker[1], David MacManus[1], Paul Tofts[1], David Miller[1]
[1]Institute of Neurology, University College London, London, England, UK.

1269. Temporal Lobe Epilepsy: Clinical Correlations with Quantitative Magnetic Resonance Imaging

Pedro M Goncalves Pereira[1], Mario Forjaz Secca[2], Alberto Leal[3], Constanca Ribeiro[4], Pedro Evangelista[4], Pedro Rosado[4], Joao Paulo Cunha[5]
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1270. Anteroposterior T_2 Relaxometry Analysis of the Hippocampus in Temporal Lobe Epilepsy

Pedro M Goncalves Pereira[1], Mario Secca[2], Alberto Leal[3], Constanca Ribeiro[4], Pedro Evangelista[4], Pedro Rosado[4]
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1271. Brain Morphological Changes in Patients with Epilepsy: A Community-Based Longitudinal MRI Study

Louis Lemieux[1], Rebecca Liu[1], John Duncan[2], Gail Bell[1], Sanjay Sisodiya[1], Ley Sander[1]
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1272. Differential Gray and White Matter Losses in Different Brain Lobes in Alzheimer´s Disease

An-Tao Du[1], Norbert Schuff[1], Colin Studholme[1], William J. Jagust[2], Bruce L. Miller[1], Michael W Weiner[1]
[1]University of California San Francisco, San Francisco, California, USA; [2]University of California Davis, School of Medicine, Sacramento, California, USA.

1273. The Effects of Cerebrovascular and Alzheimer Disease on Patterns of Ventricular Expansion Rate Derived from Serial MRI

Colin Studholme[1], Valerie A Cardenas-Nicolson[1], Norbert Schuff[1], M Krishnan[1], Helena C. Chui[2], Michael Weiner[1]
[1]University of California San Francisco, VA Medical Center, San Francisco, California, USA; [2]University of Southern California, Los Angeles, California, USA.

1274. T_2 and T_2* Relaxation in Normal and Alzheimer's Formalin Fixed Hippocampus at 8T

Chastity Diane Shaffer Whitaker[1], Douglas Scharre[1], David Beversdorf[1], Mariarita Santi[1], Roger Dashner[1], Donald Chakeres[1], Petra Schmalbrock[1]
[1]Ohio State University, Columbus, Ohio, USA.

1275. Volumetric and Magnetization Transfer Analysis of the Entorhinal Cortex in Mild Cognitive Impairment and Alzheimer's Disease

Noor Kabani[1], Adrienne Dorr[1], John Sled[1], Jens Pruessner[1], Howard Chertkow[1]
[1]McGill University, Montreal, Quebec, Canada.

1276. Higher Rates of Atrophy of Entorhinal Cortex than of Hippocampus in Alzheimer´s Disease

An-Tao Du[1], Norbert Schuff[1], Xiao-Ping Zhu[1], William J. Jagust[2], Helena C Chui[3], Michael W Weiner[1]
[1]University of California San Francisco, San Francisco, California, USA; [2]University of California Davis, School of Medicine, Sacramento, California, USA; [3]University of Southern California, Los Angeles, California, USA.

1277. "Pulvinar Sign" on FLAIR and DWI in Classic Form Creutzfeldt-Jacob Disease (CJD)

Geoffrey S. Young[1], William P Dillon[1], Roland G Henry[1], Jennifer L Martindale[1], Michael Geschwind[1], Bruce Miller[1]
[1]University of California San Francisco, San Francisco, California, USA.

1278. Diffusion Tensor Imaging in Amyotrophic Lateral Sclerosis

Victoria Williams[1], Andrew Simmons[2], Catherine Ellis[1], Virginia Ng[2], Steve Williams[2], Derek Jones[2,3], P Nigel Leigh[1]
[1]Kings College London, London, England, UK; [2]Institute of Psychiatry, London, England, UK; [3]Leicester Royal Infirmary, Leicester, England, UK.

1279. Quantification of CSF Velocity Field Abnormalities in Patients with Chiari Malformations

Mark F Quigley[1], Timothy J. Carroll[1], Charles A. Mistretta[1], Victor M. Haughton[1]
[1]University of Wisconsin-Madison, Madison, Wisconsin, USA.

1280. Diffusion Weighted Imaging of Hematomas: *In Vivo* and *In Vitro* Analysis

T. Reichel[1], E. Babcock[1], C. Hsu[1], J. Fleckenstein[1]
[1]University of Texas Southwestern Medical Center at Dallas, Dallas, Texas, USA.

1281. Long-term Changes in Blood and CSF Flow Dynamics following Mild Traumatic Brain Injury

Noam Alperin[1], B.Varadarajalu[1], C. Fisher[1], T. Lichtor[1]
[1]University of Illinois at Chicago, Chicago, Illinois, USA.

1282. Disruptive Behavior Disorder in Adolescents Investigated by using an Optimized Diffusion Tensor Imaging Protocol

Tie-Qiang Li[1], Vincent Mathews[1], Yang Wang[1], William Kronenberger[1], David Dunn[1]
[1]Indiana University School of Medicine, Indianapolis, Indiana, USA.

1283. Quantitative Diffusion Tensor Imaging in X-linked Adrenoleukodystrophy: An Early Indicator of Cerebral White Matter Involvement?

Kamil A. Il'Yasov[1], Jacques F.L. Schneider[2], Eugen Boltshauser[2], Jürgen Hennig[1], Ernst Martin[2]
[1]Freiburg University Hospital, Freiburg, Germany; [2]University Children's Hospital Zurich, Zurich, Switzerland.

1284. Disease Progression in Cerebral X-linked Adrenoleukodystrophy based on MR Imaging: The Role of Contrast Enhancement and Location of Brain Lesion

Daniel J. Loes[1], Ali Fatemi[2], Elias R. Melhem[2], Nikhil Gupte[2], Lena Bezman[2], Hugo W. Moser[2], Gerald V. Raymond[2]
[1]Suburban Radiology Consultants Ltd., Minneapolis, Minnesota, USA; [2]Johns Hopkins University, Baltimore, Maryland, USA.

1285. T2-Relaxation and MRS Measurements Reveal White Matter Abnormalities in Patients with Phenylketonuria (PKU)

Burkhard Mädler[1], Peter Pavlovich[1], Sandra Sirrs[2], Alexander MacKay[1]
[1]University of British Columbia, Vancouver, British Columbia, Canada; [2]Vancouver General Hospital, Vancouver, British Columbia, Canada.

1286. White Matter Abnormalities in Phenylketonuria: Qualitative Evaluation of Anisotropic Diffusion Weighted Images

Domenico Montanaro[1], Michela Tosetti[2], Cristina Maria Bianchi[1], Roberta Battini[2], Vincenzo Leuzzi[3]
[1]S.Chiara Hospital, Pisa, Italy; [2]Stella Maris Scientific Institute, Calambrone, Pisa, Italy; [3]University La Sapienza, Roma, Italy.

1287. Unsupervised Segmentation of Fluid-Attenuation Inversion Recovery (FLAIR) Brain Images Used to Quantify the Relationship between White-Matter Hyperintensity Volumes and CSF Sorbitol Concentrations in Mood Disorder Patients

William Regenold[1], Kenneth Calvin Hisley[1]
[1]University of Maryland, Medicine, Baltimore, Maryland, USA.

1288. Reversal T_2-Weighted Signal Abnormalities within the Hemispheric White Matter in Chronic Liver Failure

Julio Alonso[1], Alex Rovira-Cañellas[1], Joan Córdoba[2], Elisenda Grivé[1], Francesc Sanpedro[2], Antoni Rovira-Gols[1]
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1289. Metabolites in Ventricular CSF Detected by Proton MRSI: Presentation of Three Cases

Lidia Mayumi Nagae-Poetscher[1], Nancy Braverman[1], Martin Pomper[1], Ali Fatemi[1], Mahaveer Narayan Degaonkar[1], Alena Horská[1], Peter B. Barker[1]
[1]Johns Hopkins University, Baltimore, Maryland, USA.

Improved Structural Imaging/CSF Flow

1290. 3D Double Inversion Recovery for High Resolution Gray Matter Brain Imaging

Petra Pouwels[1], Joost Kuijer[1], Esther Korf[1], Jeroen Geurts[1], Frederik Barkhof[1]
[1]VU University Medical Center, Amsterdam, Netherlands.

1291. A Whole Brain 3D Double Inversion Recovery (DIR) Sequence for Imaging the Cortex

Philip Andrew Boulby[1,2], Mark Symms[1,2], Gareth Barker[1,2]
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1292. Evaluation of PROPELLER MRI: Preliminary Experiences

Harushi Mori[1], Shigeki Aoki[1], Osamu Abe[2], Yoshitaka Masutani[1], Tomohiko Masumoto[1], Naoto Hayashi[1], Takeharu Yoshikawa[2], Akira Kunimatsu[2], Kimiaki Saito[2], Yasushi Watanabe[1], Yoshirou Satake[1], Shigeru Kiryu[1], Kuni Ohtomo[2], Hiroyuki Kabasawa[3]
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1293. Evaluation of a Thermal Diffusion Cortical Blood Flow (TD-CBF) Sensor in a 1.5 T MRI Scanner

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1294. A High-resolution Clinical Whole-Brain Scan using Single-Slab Three-dimensional T_1W, T_2W and FLAIR Fast Spin-Echo Sequences

Lei Zhao[1], John Mugler[2], Xingchang Wei[1], Nankuei Chen[1], Robert Mulkern[1], Lawrence P. Panych[1], Nancy Richmond[1], Ronald Skorstad[1], James R. Brookeman[2], Alvand Hassankhani[1], Ferenc A. Jolesz[1], Charles Guttmann[1]
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1295. Multi-Slab FLASH 3D Post Contrast Neuro Imaging

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1296. T_1-Contrast Optimization in Spin-Echo Brain Imaging: The Effect of Proton Density Difference

Ceylan Celil Guclu[1], Graeme McKinnon[1], Robert Vavrek[1]
[1]GE Medical Systems, Milwaukee, Wisconsin, USA.

1297. Development of a Clinical Protocol for Perfusion Measurements with TILT Arterial Spin Labeling

Jeroen Hendrikse[1], M.J.P. Van Osch[1], Chris Bakker[1], Jeroen Van Der Grond[1]
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1298. Global Optimization for Retrospective 3D Registration of MR Images

Renjie He[1], Ponnada Aswadha Narayana[1]
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1299. Fluid Attenuation Failure in FLAIR Sequence

Wen-Ching Liu[1], Bharat Biswal[1], Calude Kirsch[1], Leo Wolansky[1]
[1]University of Medicine and Dentistry of New Jersey, Newark, New Jersey, USA.

1300. The Elastance Index for Intracranial Pressure Estimation:A Cine Phase-Contrast MR Study with a Fluid Dynamics Model

Teng-Yi Huang[1], Ming-Yen Chen[2], Lung-Hui Giiang[3], Hsiao-Wen Chung[1], Cheng-Yu Chen[3]
[1]National Taiwan University, Taipei, Taiwan; [2]Yuan-Pei Institute of Science and Technology, Hsin Chu, Taiwan; [3]Dept. of Radiology,Tri-Service General Hospital, Taipei, Taiwan..

1301. Quantification of CSF Circulation Volume in Healthy Adults: A High Temporal and Spatial Resolution 2D Cine Phase-Contrast MRI Study

Teng-Yi Huang[1], Ming-Yen Chen[2], Lung-Hui Giiang[3], Hsiao-Wen Chung[1], Cheng-Yu Chen[3]
[1]National Taiwan University, Taipei, Taiwan; [2]Yuan-Pei Institute of Science and Technology, Hsin Chu, Taiwan; [3]Tri-Service General Hospital, Taipei, Taiwan,.

1302. To Assess the Notch in a Flow Pattern with Quantifying Aqueductal CSF Flow by using 2D Cine Phase Contrast MR Images

Ming-Yen Chen[1], Teng-Yi Huang[2], Hsiao-Wen Chung[2], Cheng-Yu Chen[3]
[1]Yuan-Pei Institute of Science and Technology, Hsin Chu, Taiwan; [2]National Taiwan University, Taipei, Taiwan; [3]Tri-Service General Hospital, Taipei, Taiwan.

1303. Is There Any Difference in the Selection of Locations of the Cerebral Aqueduct for CSF Flow Quantification?

Jeong Hyun Lee[1], Ho Kyu Lee[1], Choong Gon Choi[1], Dae Chul Suh[1]
[1]University of Ulsan College of Medicine, Seoul, South Korea.

1304. Evaluation of CSF Contrast Change on CE-FLAIR with Computer Simulation

Hitoshi Miki[1], Kenya Murase[2], Keiichi Kikuchi[1], Teruhiko Shimizu[1], Takashi Takeguchi[1], Teruhito Mochizuki[1], Junpei Ikezoe[1]
[1]Ehime University School of Medicine, Ehime, Japan; [2]Osaka University Medical School, Osaka, Japan.

Premature and Normal Brain Physiology

1305. High-resolution Anatomical Study of Human Fetal Brain Development Based on Diffusion Tensor Imaging

Susumu Mori[1], Rong Xue[1], Jiangyang Zhang[1], Peter C. Van Zijl[1], Paul J. Yarowsky[2]
[1]Johns Hopkins University School of Medicine, Baltimore, Maryland, USA; [2]University of Maryland at Baltimore, Baltimore, Maryland, USA.

1306. The Predictive Value of Magnetic Resonance (MRI) and Ultrasound (US) Imaging in Preterm Neonates

Maria Jose Miranda[1], Peter A. Born[1], Karin Nørgaard[2], O. Pryds[3], Ch. Strandberg[1], A-M Lefters[1], M. Herning[1], H. Lou[2], B. Peitersen[1]
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1307. Diffusion Tensor Imaging in Abnormalities of Neocortical Development

Iain D Wilkinson[1], Nikos G Papadakis[1], Paul D Griffiths[1]
[1]University of Sheffield, Sheffield, England, UK.

1308. Whole Brain Diffusion Tensor Imaging of Preterm Infants with No Parenchymal Lesion on Conventional MRI: Histogram Analysis to Predict Clinical Outcome

Yervant Arzoumanian[1], Majid Mirmiran[1], Kevin Woolley[1], Ronald Ariagno[1], Michael E. Moseley[1], Patrick Barnes[1], Scott W. Atlas[1]
[1]Stanford University, School of Medicine, Stanford, California, USA.

1309. Cerebral and Cerebellar Composition in Preterm Children with Learning Disabilities

William Riddle[1], Susan C. DonLevy[1], Evon B. Lee[1], Shiyan Pan[1], Benoit M. Riddle[1]
[1]Vanderbilt University, Nashville, Tennessee, USA.

1310. Mapping Age-Related Changes in DTI Values in the Brains of Normal Children

Joan Rubin[1], Erin Simon[1], Dongzhu Jin[1], John Haselgrove[1]
[1]Children's Hospital of Philadelphia, Philadelphia, Pennsylvania, USA.

1311. Differences between the Sexes: Grey Matter Changes as a Function of Age

Patricia E Cowell[1], Iain D Wilkinson[1], Simon Keller[1], Charles AJ Romanowski[1], Neil Roberts[2], Paul D Griffiths[1]
[1]University of Sheffield, Sheffield, England, UK; [2]University of Liverpool, Liverpool, England, UK.

1312. Age and Gender Effects on Whole Brain, Gray and White Matter Volumes and MTR Histograms in a Normal Control Population

Anthony Traboulsee[1], D. T. Chard[2], David Miller[2]
[1]University of British Columbia, Vancouver, British Columbia, Canada; [2]University College London, London, England, UK.

1313. Regional Variations in Normal Brain Shown by Quantitative Magnetization Transfer Imaging

John G Sled[1], Ives Levesque[1], Carlos Santos[1], Simon J Francis[1], Sridar Narayanan[1], Steven D Brass[1], Douglas Arnold[1], Bruce Pike[1]
[1]McGill University, Montreal Neurological Institute, Montreal, Quebec, Canada.

1314. Quantitative 4T Determination of Normal Human Brain Vascular Properties Suggests CR Transport Across BBB

William D. Rooney[1], Frank W. Telang[2], Charles S. Springer[1,2]
[1]Brookhaven National Laboratory, Upton, New York, USA; [2]State University of New York, Stony Brook, New York, USA.

1315. Regional ADC Values of the Normal Brain: The Effect of Aging, Comparison between Male and Female, and Comparison between Right and Left Side

Shinji Naganawa[1], Kimihide Sato[2], Toshio Katagiri[2], Takeo Mimura[2], Takeo Ishigaki[1]
[1]Nagoya University School of Medicine, Nagoya, Aichi, Japan; [2]First Kamiiida General Hospital, Nagoya, Aichi, Japan.

1316. Prefrontal Dorsalateral 2D L-COSY of Elderly Controls

Nader Binesh[1], Anand Kumar[1], Albert Michael Thomas[1]
[1]University of California Los Angeles, Los Angeles, California, USA.

1317. Proton Spectroscopy of White Matter in the Healthy Elderly: Relationships with Age, Working Memory, and APOE Status

Ronald A. Yeo[1], Ira Driscoll[1], Joel Bish[1], David Weers[1], Helen Petropoulos[1], Rex Jung[1], Sharon Kernen[1], Richard Baumgartner[1], Phillip Garry[1], William M Brooks[1]
[1]University of New Mexico, Albuquerque, New Mexico, USA.

1318. Proton MRSI Study on Normal Aging: Correlations with Neuropsychological Test Scores

Alena Horska[1], Jason Brandt[1], David Schretlen[1], Claudia Kawas[2], Peter Barker[1]
[1]Johns Hopkins University, Baltimore, Maryland, USA; [2]University of California Irvine, Irvine, California, USA.

fMRI Acquisition Methods

1319. High Resolution fMRI with Interleaved Half *k*-space GR-EPI at 3T

James S. Hyde[1], Hanbing Lu[1], Yousef Mazaheri[1]
[1]Medical College of Wisconsin, Milwaukee, Wisconsin, USA.

1320. Comparison of Ultrafast Full Brain 3D-Imaging Techniques: 3D-GRASE, EVI, 3D-EPI and 3D-PRESTO

Matthias Günther[1], Koichi Oshio[1], Kai Ruppert[1], David Feinberg[1]
[1]Advanced MRI Technologies, Sebastopol, California, USA.

1321. A Reduced Acquisition Scheme for 2D and 3D Functional MRI Studies

Itamar Ronen[1], Gary H. Glover[2], Kamil Ugurbil[1], Dae-Shik Kim[1]
[1]University of Minnesota, Minneapolis, Minnesota, USA; [2]Stanford University School of Medicine, Stanford, California, USA.

1322. Quantitative Single Shot T_2* Mapping during Functional Activation at 1.5 and 3T

Oliver Speck[1], Thorsten Thiel[2], Thomas Kluge[3], Jürgen Hennig[1]
[1]University of Freiburg, Freiburg, Germany; [2]Bruker BioSpin MRI, Ettlingen, Germany; [3]Siemens Medical, Erlangen, Germany.

1323. Simultaneous Estimation of I_0, R_2*, and Field Map using a Multi-Echo Spiral Acquisition

Bradley Sutton[1], Scott J. Peltier[1], Jeffrey A. Fessler[1], Douglas C. Noll[1]
[1]University of Michigan, Ann Arbor, Michigan, USA.

1324. The Effect of T_2' Changes on Spin-Echo EPI-derived Brain Activation Maps

Rasmus Birn[1], Peter Bandettini[1]
[1]National Institutes of Health, Bethesda, Maryland, USA.

1325. Imaging of Electrical Currents: What Matters Most -- Field Strength or Electronics?

Alexander B. Pinus[1,2], Feroze B Mohamed[2], Scott H Faro[2], Suzanne L Wehrli[3]
[1]Drexel University, Philadelphia, Pennsylvania, USA; [2]MCP Hahnemann University, Philadelphia, Pennsylvania, USA; [3]Children's Hospital of Philadelphia, Philadelphia, Pennsylvania, USA.

1326. Towards the Direct Detection of Neuronal Activity in the Brain: Simulating and Measuring the Magnetic Field from an Extended Current Dipole in a Homogeneous Conducting Sphere

Daniel Konn[1], Penelope Gowland[1], Richard Bowtell[1]
[1]University of Nottingham, Nottingham, England, UK.

1327. A Simple System for Highly Precise Stimulus Delivery and Subject Feedback Timing

Jerzy Bodurka[1], Peter Anthony Bandettini[1]
[1]National Institutes of Health, Bethesda, Maryland, USA.

1328. The Effect of Contrast Adaptation on BOLD Signal Changes

Clemens Janz[1], Sven P. Heinrich[1], Jürgen Hennig[1]
[1]University Hospital Freiburg, Freiburg, Germany.

1329. Comparison of Signal Intensity Time Courses in Conventional BOLD, and BOLD-Insensitive fMRI

Patrick Stroman[1], Krisztina Malisza[1], Victoria Krause[1], Jane Lawrence[1], Uta Frankenstein[1], Boguslaw Tomanek[1,2]
[1]National Research Council of Canada, Winnipeg, Manitoba, Canada; [2]University of Calgary, Calgary, Alberta, Canada.

1330. Optimization of BOLD Sensitivity in MR Imaging using Intermolecular Double-Quantum Coherence (iDQC)

Jianhui Zhong[1], Edmund Kwok[1], Zhong Chen[1], Scott D Kennedy[1], Zhigang You[1]
[1]University of Rochester, Rochester, New York, USA.

1331. A Novel Technique for Estimating the Susceptibility-Induced MR Signal for *Arbitrary* Microvascular Geometries: The Finite Perturber Method

Arvind P Pathak[1], Douglas B Ward[2], Anthony G Hudetz[2], Kathleen (Donahue) Schmainda[2]
[1]Johns Hopkins University School of Medicine, Baltimore, Maryland, USA; [2]Medical College of Wisconsin, Milwaukee, Wisconsin, USA.

1332. Short-term Reproducibility of Perfusion and BOLD fMRI

Peter Van Gelderen[1], Carolyn Wan-Hsun Wu[1], Leo Cohen[1], Mark Hallett[1], Jeff Duyn[1]
[1]National Institutes of Health, Bethesda, Maryland, USA.

1333. Functional Perfusion Imaging using Continuous Arterial Spin Labeling with Separate Labeling and Imaging Coils at 3 Tesla

Toralf Mildner[1], Robert Trampel[1], Andreas Schaefer[1], Christopher J. Wiggins[1], David G. Norris[1]
[1]Max Planck Institute of Cognitive Neuroscience, Leipzig, Germany.

1334. High-Resolution, Spin-Echo BOLD and CBF fMRI: Single-Shot, Slab-Selective EPI

Timothy Q Duong[1], Essa Yacoub[2], Xiaoping Hu[2], Gregor Adriany[2], Hellmut Merkle[2], P. Andersen[2], J. Thomas Vaughan[2], Kamil Ugurbil[2], Seong-Gi Kim[2]
[1]University of Massachusetts Medical School, Worcester, Massachusetts, USA; [2]University of Minnesota, Minneapolis, Minnesota, USA.

1335. High Resolution Background-Suppressed Functional Perfusion Imaging at 3T

Frank Ye[1], H. Hekeren[1], K. St. Lawerence[1], A.C. McLaughlin[1], S. Marrett[1], P.A. Bandettini[1]
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1336. Arterial Spin Labeling Perfusion fMRI with Very Low Task Frequency

Jiongjiong Wang[1], Daniel Y. Kimberg[1], Anne C. Roc[1], Mitchell D. Schnall[1], John A. Detre[1]
[1]University of Pennsylvania, Philadelphia, Pennsylvania, USA.

1337. Effects of Restricted Diffusion on FID Signal Formation

Alexander Sukstanskii[1], Dmitriy Yablonskiy[1]
[1]Washington University in St. Louis, St.Louis, Missouri, USA.

1338. Study on the Source of the Functional Diffusion MRI Signal

Nicolas F Lori[1], Steren Chabert[1], Carlos C Meca[1], Denis Le Bihan[1]
[1]Commissariat à l'Energie Atomique, Orsay, France.

1339. Enhanced Spatial Precision of fMRI Signal Localization using Simultaneous IVIM and BOLD Contrasts

Allen Song[1], Marty Woldorff[1], G. Ron Mangum[1], Gregory McCarthy[1]
[1]Duke University Medical Center, Durham, North Carolina, USA.

1340. Functional Changes in the Apparent Diffusion Coefficient at 4T

Charles R. Michelich[1], James R. MacFall[1]
[1]Duke University Medical Center, Durham, North Carolina, USA.

fMRI in Combination with Other Methods

1341. Discrepancy from the BOLD Theory in Capillaries: A Bridging Theory of fMRI and Near-Infrared Spectroscopy

Tohru Yamamoto[1], Toshinori Kato[2]
[1]Hokkaido University, Sapporo, Japan; [2]Hamano Life Science Research Foundation, Tokyo, Japan.

1342. Non-Invasive Absolute Deoxyhemoglobin Concentration Measurements using High Field MRI and Near Infrared Spectroscopy

L. Martyn Klassen[1], Ravi S. Menon[1]
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1343. TMS Coil Positioning System for MR Image-guided Interleaved TMS/fMRI

Daryl E. Bohning[1], Stewart Denslow[1], Peter A Bohning[1], Jonathan A. Marsh[1], Ziad Nahas[1], Mikhail P. Lomarev[1], Mark S. George[1]
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1344. Integrating fMRI with TMS

Joseph Maldjian[1], Celeste Williams[1], Jonathan Burdette[1], George F. Wittenberg[1]
[1]Wake Forest University, Winston-Salem, North Carolina, USA.

1345. Isokinetic Dynamometry in the MR Environment

Brennan Ryan[1,2], Lawrence Ryner[1], Ryan C.N. D'Arcy[1], Wolfgang Richter[1], Adina Mincic[1], Michelle M. Porter[2]
[1]The National Research Council of Canada, Winnipeg, Manitoba, Canada; [2]University of Manitoba, Winnipeg, Manitoba, Canada.

1346. EEG/MRI Recordings using Active Electrodes and Wide Dynamic Range

Giorgio Bonmassar[1], John R Ives[2], Leonardo Angelone[1], John S George[3], John W Belliveau[1]
[1]Massachusetts General Hospital, Harvard University, Charlestown, Massachusetts, USA; [2]Beth Israel Deaconess Medical Center, Harvard University, Boston, Massachusetts, USA; [3]Los Alamos National Laboratories, Los Alamos, New Mexico, USA.

1347. The Differences of Frequency Responses of Brain Activities Obtained by fMRI and MEG

Keiji Iramina[1], Shoogo Ueno[1]
[1]University of Tokyo, Tokyo, Japan.

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1348. Localized Echo Planar Imaging for fMRI Studies

Limin Li[1], Alice M. Wyrwicz[1]
[1]ENH Research Institute, Evanston, Illinois, USA.

1349. Activation of the Hippocampus with and without Theta Rhythm Studied with Perfusion Weighted fMRI

K. Bockhorst[1], Martin Meier[1], Elmar Busch[3], Wolfgang Dreher[1], Dieter Leibfritz[1]
[1]Universität Bremen, Bremen, Germany; [2]Universität Essen, Essen, Germany.

1350. fMRI in Mice: Correlation of CBV Changes with Amplitude of Stimulus during Hindpaw Stimulation

Thomas Mueggler[1], Diana Baumann[2], Martin Rausch[2], Markus Rudin[2]
[1]University of Basel, Basel, Switzerland; [2]Novartis Pharma AG, Basel, Switzerland.

1351. Functional MRI of the Rat Motor Cortex using Passive Forepaw Movement

Elmar Busch[1], Kurt Bockhorst[2], Martin Meier[2], Gerhard Roth[2], Dieter Leibfritz[2], Wolfgang Dreher[2]
[1]University of Essen, Essen, Germany; [2]University of Bremen, Bremen, Germany.

1352. Functional Imaging of Brain Activity in Conscious Animals: The Smell of Fear

Jean A. King[1], Craig Frederick Ferris[1], Timothy Duong[1], Mark D. Does[3], Reinhold Ludwig[2], John M. Sullivan[2]
[1]University of Massachusetts Medical School (Worcester), Worcester, Massachusetts, USA; [2]Worcester Polytechnic Institute, Worcester, Massachusetts, USA; [3]Yale University School of Medicine, New Haven, Connecticut, USA.

1353. A System for Stimulus Presentations and Behavioral Measurements in Eyeblink Conditioning Paradigms

Limin Li[1], Craig Weiss[2], John F. Disterhoft[2], Alice M. Wyrwicz[1]
[1]Northwestern University, Evanston, Illinois, USA; [2]Northwestern University, Medical School, Chicago, Illinois, USA.

1354. Positive Contralateral `and´ Negative Ipsilateral BOLD Contrast Changes during Electrical Stimulation of Rat Forepaw

Andrew Sheridan Lowe[1], Matthew Ireland[1], John Samuel Beech[2], Steven Charles Rees Williams[1]
[1]King's College London, Institute of Psychiatry, London, England, UK; [2]Cambridge University, Cambridge, England, UK.

1355. Subregions of *macaque* Somatosensory Cortex are Delineated by fMRI at 7 Tesla

Michael L Lipton[1,2], Charles Schroeder[1,2], Craig Branch[1,2]
[1]Albert Einstein College of Medicine, Bronx, New York, USA; [2]Nathan Kline Institute, Orangeburg, New York, USA.

1356. Groups Statistical Parametric Maps of Rat Forepaw Stimulation using Single and Multiple Echo Data

Matthew Ireland[1], Andrew Lowe[1], John Beech[2], Steven Williams[1]
[1]King's College London, Institute of Psychiatry, London, England, UK; [2]University of Cambridge, Cambridge, England, UK.

1357. BOLD-phMRI Response to Diazepam Depends on Innate Emotionality in Rats - Differential Involvement of Prefrontal Cortex

Raffael Kalisch[1], Alexandra Wigger[1], Christoff Gössl[1], Michael Czisch[1], Rainer Landgraf[1], Dorothee Paxides Auer[1]
[1]Max Planck Institute of Psychiatry, Munich, Germany.

1358. The Cannabinoid Antagonist SR161714A Blocks the BOLD Response of the Cannabinoid Agonist HU210 in the Rat

Yasmene Banu Shah[1], Aisling Lisa Dixon[3], Malcolm Prior[1], Charles Marsden[2], Peter Morris[1]
[1]University of Nottingham, Nottingham, England, UK; [2]Queens Medical Centre University of Nottingham, Nottingham, England, UK; [3]University of Leicester, Leicester, England, UK.

1359. Drug Sensitization in Rats as Detected by fMRI

Feng Luo[1], Sachin Patel[1], Gaohong Wu[1], Chuang Liu[1], Elliot A Stein[1], Shi-Jiang Li[1]
[1]Medcial College of Wisconsin, Milwaukee, Wisconsin, USA.

1360. Differentiation of Cocaine- and Cocaine Methiodide-induced BOLD Signals in Rat Brain

Feng Luo[1], Gaohong Wu[1], Zhu Li[1], Shi-Jiang Li[1]
[1]Medical College of Wisconsin, Milwaukee, Wisconsin, USA.

1361. fMRI Pharmacology of Cocaine in Rats: Dopamine Agonists and Serotonin Antagonists

Joseph B. Mandeville[1], Deniz Belen[1], John Marota[1], Christian Waeber[1], Barry E. Kosofsky[1]
[1]Massachusetts General Hospital, Charlestown, Massachusetts, USA.

1362. Hemodynamic Changes in Rat Brain following Pharmacological Stimulation by Amphetamine: Correlation of fMRI Signals and Cerebral Glucose Utilization

Martin Rausch[1], Diana Baumann[1], Jeremie Weber[1], Andre Sauter[1], Markus Rudin[1]
[1]Novartis Pharma AG, Basel, Switzerland.

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1363. Neural correlate of CBF-based Functional MRI

Louis Joseph Toth[1], Itamar Ronen[2], Seong-Gi Kim[2], Kamil Ugurbil[2], Dae-Shik Kim[2]
[1]Harvard Medical School Boston, Massachusetts, USA; [2]University of Minnesota, Minneapolis, Minnesota, USA.

1364. First Observation of mPOA Activation during Sleep - Wakefulness Pattern of Conscious Rat Brain using Simultaneous EEG and MRI

Manjula Khubchandani[1], H N Mallick[1], V M Kumar[1], N R Jagannathan[1]
[1]All India Institute of Medical Sciences, New Delhi, India.

1365. Relationship between Spiking Activity and Energy Metabolism in Rat Somatosensory Cortex

Fahmeed Hyder[1], Arien J. Smith[1], Hal Blumenfeld[1], Kevin L. Behar[1], Douglas L. Rothman[1], Robert G. Shulman[1]
[1]Yale University, New Haven, Connecticut, USA.

1366. The Biophysical Mechanism of fMRI-BOLD Signal Response to Breath Hold in Anesthetized Rats

Sridhar Kannurpatti[1], Bharat Biswal[1], Antony Hudetz[2]
[1]University of Medicine and Dentistry of New Jersey, Newark, New Jersey, USA; [2]Medical College of Wisconsin, Milwaukee, Wisconsin, USA.

1367. Critical Threshold of Arterial Blood Pressure for BOLD Responses to Visual Stimulation in Anesthetized Cats

Tsukasa Nagaoka[1,2], Noam Harel[2], Fuqiang Zhao[2], Ping Wang[2], Seong-Gi Kim[2]
[1]Albert Einstein College of Medicine, Bronx, New York, USA; [2]University of Minnesota Medical School, Minneapolis, Minnesota, USA.

1368. Measurement of $CMRO_2$ Changes during Forepaw Stimulation in Rat using ^{17}O MRSI Approach at 9.4T: A Preliminary Study

Xiao-Hong Zhu[1], Run-Xia Tian[1], Hao Lei[1], Yi Zhang[1], Nanyin Zhang[1], Seong-Gi Kim[1], Kamil Ugurbil[1], Wei Chen[1]
[1]University of Minnesota, Minneapolis, Minnesota, USA.

1369. Physiological Modulation of fMRI Signal in the Retina

Timothy Duong[1]
[1]University of Massachusetts Medical School, Worcester, Massachusetts, USA.

1370. On the Role of Blood Flow in Brain Temperature Regulation

Dmitriy A. Yablonskiy[1], James D. Quirk[1], Deepika Nehra[1], G. Larry Bretthorst[1], Joseph J. H. Ackerman[1]
[1]Washington University in St. Louis, St. Louis, Missouri, USA.

1371. Functional MRI of the Rat Lumbar Spinal Cord upon Capsaicin Injection

Krisztina Malisza[1], Patrick Stroman[1], Allan Turner[1], Tad Foniok[1], Lori Gregorash[1], Anthony Wright[2]
[1]National Research Council Canada, Winnipeg, Manitoba, Canada; [2]Curtin University, Perth, Australia.

1372. Functional MRI and Concurrent Intracranial EEG in a Sheep Model of Focal Epilepsy

Paolo Federico[1], Helen I Opdam[1], David F Abbott[1], John S Archer[1], R Mark Wellard[1], Gavin C Fabinyi[1], Ari Syngeniotis[1], Michael McKinley[1], Rinaldo Bellomo[1], Graeme J Jackson[1]
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1373. Hypoxic Response Induced by Apnea in the Rat Brain: fMRI-BOLD Signal Characteristics and Regional Variability

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[1]University of Medicine and Dentistry of New Jersey, Newark, New Jersey, USA; [2]Medical College of Wisconsin, Milwaukee, Wisconsin, USA.

1374. T_2* Variability at 7 Tesla in Primate Brain

Craig Branch[1,2], Michael L. Lipton[1,2], Gaby Pell[1], Joseph A. Helpern[1,3]
[1]Nathan Kline Institute, Orangeburg, New York, USA; [2]Albert Einstein College of Medicine, Bronx, New York, USA; [3]New York University, New York, New York, USA.

Physiological Aspects of fMRI

1375. Influence of Scanner Noise Induced by Echo-Planar Imaging on Acoustic fMRI

Ute Ludwig[1], Thomas Loenneker[2], Ernst Martin[2], Jürgen Hennig[1]
[1]Universität Freiburg, Freiburg, Germany; [2]University Children's Hospital Zürich, Zürich, Switzerland.

1376. Functional MRI during Short Breath Holding

Ho-Ling Liu[1,2], Ru-Jiuann Huang[1,2], Chien-Te Wu[1,2], Yuan-Yu Hsu[1]
[1]Chang Gung Memorial Hospital, Taoyuan, Taiwan; [2]Chang Gung University, Taoyuan, Taiwan.

1377. Single Shot Measurement of BOLD, rCBV, and Oxygenation: A Complete Model including Intra- and Extra-Vascular Signals

Oliver Speck[1], Valerij Kiselev[1], Jürgen Hennig[1]
[1]University of Freiburg, Freiburg, Germany.

1378. $T_{1\rho}$ Relaxation of Blood at 4.7 T: BOLD and Dependence on Hematocrit

Johanna Silvennoinen[1], Mikko Kettunen[1], Chekesha Clingman[2], Peter C. Van Zijl[2], Risto Kauppinen[1]
[1]University of Kuopio, Kuopio, Finland; [2]Johns Hopkins University, Baltimore, Maryland, USA.

1379. Caffeine-Induced Perfusion Decreases Result in BOLD Signal Increases in fMRI

Barbara Brigitta Bendlin[1], Theodore Trouard[1], Lee Ryan[1]
[1]University of Arizona, Tucson, Arizona, USA.

1380. Coupling of Oxidative Metabolism and Cerebral Blood Flow in Sensorimotor Activation

Keith St. Lawrence[1], Frank Ye[1], Bobbi Lewis[1], Joseph A Frank[1], Alan McLaughlin[1]
[1]National Institutes of Health, Bethesda, Maryland, USA.

fMRI: BOLD Response Characterization

1381. Age-Dependent Change in Metabolic Response to Photic Stimulation of the Primary Visual Cortex in Infants: A fMRI Study

Satoshi Muramoto[1], Hiroki Yamada[1], Norihiro Sadato[2], Hirohiko Kimura[1], Yukuo Konishi[3], Kouki Kimura[1], Masato Tanaka[1], Takanori Kouchiyama[4], Yoshiharu Yonekura[1], Harumi Ito[1]
[1]Fukui Medical University, Fukui, Japan; [2]National Institute for Physiological Sciences, Okazaki, Japan; [3]Saitama Medical School, Saitama, Japan; [4]Kyoto University, Kyoto, Japan.

1382. fMRI and the BOLD Effect: New Insights by Comparison with Optical Imaging

Andreas Hess[1,2], Detlef Stiller[1], Thomas Kaulisch[1], Henning Scheich[1]
[1]Leibniz Institute for Neurobiolog, Magdeburg, Germany; [2]FAU, Erlangen-Nürnberg, Germany.

1383. A Fluid Mechanical Approach to Modeling Hemodynamics in fMRI

Alberto L. Vazquez[1], Douglas C. Noll[1]
[1]University of Michigan, Ann Arbor, Michigan, USA.

1384. Nonlinearity of BOLD Hemodynamic Response as Revealed by Periodic and Randomized Single Trial Experimental Designs

Elizabeth J. Yoder[1], Thomas T. Liu[1], Eman Ghobrial[1], Richard B. Buxton[1]
[1]University of California San Diego, San Diego, California, USA.

1385. Non-linear Event-Related fMRI BOLD Responses in Human Somatosensory Cortex

Catherine Nangini[1], William Richard Staines[2], William I. McIlroy[1], Simon Graham[1]
[1]University of Toronto, Toronto, Ontario, Canada; [2]York University, Canada.

1386. Effect of Basal Conditions on the Magnitude and Dynamics of the Hemodynamic Response

Eric R. Cohen[1,2], Kamil Ugurbil[2], Seong-Gi Kim[2]
[1]SUNY Upstate Medical University Syracuse, New York, USA; [2]University of Minnesota, Minneapolis, Minnesota, USA.

1387. Linearity and Saturation of BOLD Contrast as a Function of Inter-stimulus Interval

Arjen Van Der Schaaf[1], Matthijs Vink[1], Hans Hoogduin[2], R.S. Kahn[1], Nick Ramsey[1]
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1388. Increase in Nonlinearity of the BOLD Response along a Functionally Connected Neural Pathway

Kaundinya Gopinath[1], Kyung K Peck[1], Timothy W Conway[1], Richard W Briggs[1]
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1389. Testing for Nonlinearity in fMRI with Surrogate Data

Angela R. Laird[1], Baxter P. Rogers[1], M. Elizabeth Meyerand[1]
[1]University of Wisconsin-Madison, Madison, Wisconsin, USA.

fMRI: Spatial and Temporal Characteristics

1390. The Spatial Pattern of the Positive BOLD Response at High Magnetic Field is Approximately Stationary

Amir Shmuel[1], Essa Yacoub[1], Josef Pfeuffer[1], Pierre-Francois Van De Moortele[1], Gregor Adriany[1], John Paul Strupp[1], Kamil Ugurbil[1], Xiaoping Hu[1]
[1]University of Minnesota, Minneapolis, Minnesota, USA.

1391. Comparing Spatial Discrimination of Perfusion and BOLD fMRI

Peter Van Gelderen[1], Carolyn Wan-Hsun Wu[1], Jeff Duyn[1]
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1392. Local Spatial Correlations in Brain Perfusion are Fractal

Laura Michelle Parkes[1], Paul Stephen Tofts[1]
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1393. Investigating the Point Spread Function of BOLD and CBF fMRI in the Cat Visual Cortex

Itamar Ronen[1], Louis Joseph Toth[2], Kamil Ugurbil[1], Dae-Shik Kim[1]
[1]University of Minnesota, Minneapolis, Minnesota, USA; [2]Harvard Medical School, Boston, Massachusetts, USA.

1394. Evidence of Significant Microvascular Partial Volume Effects to Sub-Cubic Millimeter Voxels in BOLD fMRI

Essa Yacoub[1], Timothy Duong[1], Pierre-Francois Van De Moortele[1], Gregor Adriany[1], Seong-Gi Kim[1], Kamil Ugurbil[1], Xiaoping Hu[1]
[1]University of Minnesota, Minneapolis, Minnesota, USA.

1395. Optimum Voxel Size in BOLD fMRI

Gary H. Glover[1], Gunnar Krueger[2]
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1396. The Optimal Spatial Resolution for fMRI – Temporal Sensitivity and Signal to Noise Considerations

Natalia Petridou[1], Frank Ye[1], Alan McLaughlin[1], Peter A. Bandettini[1]
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1397. Temporal Resolution and Contrast-to-Noise Ratio in Functional MRI

Ho-Ling Liu[1], Jian-Chuan Chen[1], Yau-Yau Wai[1], Yung-Liang Wan[1]
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1398. Temporal Resolution in fMRI: Simulation and Experimental Studies

Manbir Singh[1], Witya Sungkarat[1], Jeong-Won Jeong[1], Yongxia Zhou[1]
[1]University of Southern California, Los Angeles, California, USA.

1399. Assessment of Minimal Resolvable Temporal Maxima of Event-related fMRI Responses using Temporal Clustering Analysis

Jian-Chuan Chen[1,3], Yau-Yau Wai[1,2], Yung-Liang Wan[1,2], Tieh-Chi Chu[1,3], Ho-Ling Liu[1,2]
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1400. Supertemporal Resolution of 2-D BOLD EPI fMRI Timecourse Data

Sea Chen[1], Mark J. Lowe[1], Charles Bouman[2]
[1]Indiana University School of Medicine, Indianapolis, Indiana, USA; [2]Purdue University, West Lafayette, Indiana, USA.

1401. TR and Flip Angle Dependent Increases and Decreases in Activation-Related Signal Changes in Event-Related fMRI Experiments at 1.5 T

Hanzhang Lu[1], Xavier Golay[1], Peter C. Van Zijl[1]
[1]Johns Hopkins University, Baltimore, Maryland, USA.

fMRI: Physiological Noise and Other Artifacts

1402. Detection of Functional Activation in the Human Brain by Separation of the Physiological Noise in BOLD MRI

Gunnar Krueger[1], Gary H Glover[2]
[1]Siemens Medical Solutions, Erlangen, Germany; [2]Stanford University, Stanford, California, USA.

1403. Mechanisms of Cardiac-Induced Signals in BOLD-Weighted Voxel Time Courses Acquired by fMRI

Gaohong Wu[1], Zhu Li[1], Xiaoli Zhao[1], Shi-Jiang Li[1]
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1404. Cardiac-Induced Physiologic Noise in Tissue is a Direct BOLD Effect

Pallab K Bhattacharyya[1], Mark J. Lowe[1]
[1]Indiana University School of Medicine, Indianapolis, Indiana, USA.

1405. Respiration-Induced B_0 Fluctuations in the Human Brain at 7 Tesla and its Spatial Distribution

Pierre-François Van De Moortele[1], Josef Pfeuffer[1], Gary H. Glover[2], Kamil Ugurbil[1], Xiaoping Hu[1]
[1]University of Minnesota, Minneapolis, Minnesota, USA; [2]Stanford University, Stanford, California, USA.

1406. Echo Time Dependence, Spatial Distribution, and Spectral Characteristics of Physiologic Fluctuations

Natalia Petridou[1], Peter A. Bandettini[1]
[1]National Institutes of Health, Bethesda, Maryland, USA.

1407. Image-Space Based Estimation and Removal of Respiration Noise from fMRI Data

Ulas Ziyan[1], John Ulmer[2], Thomas M Talavage[1]
[1]Purdue University, West Lafayette, Indiana, USA; [2]Medical College of Wisconsin, Milwaukee, Wisconsin, USA.

1408. Innovative Head Restraint System Minimizes Head Motion in fMRI

Ryan C.N. D'Arcy[1], Lawrence Ryner[1], Brennan Ryan[1], Adina Mincic[1], Brendon Matwiy[1], Jarod Matwiy[1], Michelle Porter[2]
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1409. Infrared Position Tracking for fMRI at 1.5T

Marleine Tremblay[1], Simon Graham[1]
[1]University of Toronto, Toronto, Ontario, Canada.

1410. A Simulation Study on the Reduction of Susceptibility Artifacts with Reversed Spiral Scanning

Yihong Yang[1], Wang Zhan[1], Hong Gu[1], Hanhua Feng[1], Su Xu[2], David A. Silbersweig[1], Emily Stern[1]
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1411. Reducing Background Susceptibility Effects in AVID BOLD Imaging

Gwenael Herigault[1], E. Mark Haacke[1]
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1412. Artifacts in fMRI: Comparison of EPI and Spiral

Christine S. Law[1], Gary H. Glover[1]
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1413. Reduction of Gradient Acoustic Noise using SENSE-EPI

Jacco A. De Zwart[1], Peter Van Gelderen[1], Peter Kellman[1], Jeff H. Duyn[1]
[1]National Institutes of Health, Bethesda, Maryland, USA.

1414. Improvement of Local BOLD Sensitivities in the Presence of Susceptibility Gradients by using Tilted Slices

Ralf Deichmann[1], Robert Turner[1]
[1]Institute of Neurology, London, England, UK.

fMRI: Data Preprocessing

1415. Application of an Independent Component Analysis to Estimate the Effect of Noise Reduction Algorithms for fMRI

Toshiharu Nakai[1,2], Shigeru Muraki[1], Chikako Kato[3], Kayako Matsuo[1,2]
[1]National Institute of Advanced Industrial Science, Osaka, Japan; [2]Institute of Biomedical Research and Innovation, Kobe, Japan; [3]Toyohashi Sozo College, Toyohashi, Japan.

1416. Denoising of Event-Related fMRI Data Based on Rician Noise Model For Robust Analysis using ICA

Yasser M. Kadah[1], Stephen LaConte[2], Xiaoping Hu[2]
[1]Cairo Univeristy, Giza, Egypt; [2]University of Minnesota, Minneapolis, Minnesota, USA.

1417. Noise Reduction in BOLD-Based fMRI using Component Analysis

Christopher G. Thomas[1], Richard A Harshman[1], Ravi Menon[1]
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1418. Motion Artefact Decorrelation in FMRI Analysis using ICA

Peter R Bannister[1], Christian F Beckmann[1], Mark Jenkinson[1], Stephen M Smith[1], J Michael Brady[1]
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1419. Filtering Noise from fMRI Data using the Stockwell Transform

Bradley Gordon Goodyear[1], Hongmei Zhu[1], Richard Frayne[2], J. Ross Mitchell[1]
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1420. Optimal Spline Smoothing of fMRI Time Series

John Carew[1], Grace Wahba[1], Xianhong Xie[1], Erik Nordheim[1], M. Meyerand[1]
[1]University of Wisconsin-Madison, Madison, Wisconsin, USA.

1421. Outlier Detection in fMRI Time Series

Robert W Cox[1]
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1422. Large Vessel Suppression in fMRI using Magnitude and Phase BOLD Time Series

Ravi Menon[1]
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1423. Trend Removal from fMRI Time-Series using Translation Invariant Wavelet Transform

Babak Ardekani[1,2], Gholam-Ali Hossein-Zadeh[1,3], Hamid Soltanian-Zadeh[3]
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1424. The Effect of Detrending when Computing Regression Coefficients in Block Design fMRI

Steven Wayne Morgan[1], Daniel Rowe[1]
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1425. On the Dependency of Accuracy and Noise in Motion Detection in fMRI

Stefan Thesen[1], Michael Zwanger[1], Edgar Müller[1]
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1426. Effects of Applying Realignment and Field Correction in fMRI Analysis

Jr-Yuan Chiou[1], Lutfi Muftuler[1], Orhan Nalcioglu[1]
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1427. Retrospective Motion Correction of 3D EPI fMRI during Go-No-Go Task Allows Robust BOLD Signal Detection

Yang Wang[1], Vincent P. Mathews[1], Mark J. Lowe[1], Mario Dzemedzic[1], Joseph T. Lurito[1], Micheal D. Phillips[1], William Kronenberger[1], David Dunn[1]
[1]Indiana University School of Medicine, Indianapolis, Indiana, USA.

fMRI: Statistical Analysis

1428. Group Analysis of fMRI Data using Penalized Maximum Likelihood Method

Steven Roys[1], Eric Moulton[1], Ranjan Maitra[2], Joel Greenspan[1], Rao Gullapalli[1]
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1429. Extraction of the Hemodynamic Response from Randomized Event-Related fMRI Data using a Least-Square Conjugate Gradient Algorithm

Yi-Fen Yen[1], Narter Ari[2], Paul J. Laurienti[2]
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1430. A Signal Subspace for Modeling the Hemodynamic Response Function in fMRI

Gholam-Ali Hossein-Zadeh[1], Babak Ardekani[1]
[1]The Nathan S. Kline Institute, Orangeburg, New York, USA.

1431. Real-time Estimation of GLM Coefficients using an Orthogonalization Procedure

Epifanio Bagarinao[1], Toshiharu Nakai[2], Kayako Matsuo[2], Shunsuke Sato[1]
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1432. Generating Task Reference Covariables for Real-Time Event-Related fMRI and Near Real-Time Deconvolution of the Hemodynamic Response Function

Brent Lantz Eaton[1], Randall Frank[2], Sonya Mehta[1], Lizann Bolinger[1], Thomas Grabowski[1]
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1433. Pain Dynamics Observed by the fMRI Time-Varying-Correlation-Function Technique

Zang-Hee Cho[1], Young-Don Son[1], Jae-Yong Han[2], Edward K. Wong[1]
[1]University of California Irvine, Irvine, California, USA; [2]Kyung-Hee University, Seoul, South Korea.

1434. Temporal Frequency Analysis of fMRI Time Courses of Braille Readers with the Continuous Wavelet Transform

James Stefansic[1], Victoria Morgan[1], Doug Hardin[1], Peter Melzer[1], Ford Ebner[1]
[1]Vanderbilt University, Nashville, Tennessee, USA.

1435. Wavelet-Based Analysis of Event-Related fMRI Signal

Yongxia Zhou[1], Manbir Singh[1], Tae-Seong Kim[1]
[1]University of Southern California, Los Angeles, California, USA.

1436. Determining the Size of fMRI Activated Brain Areas by Adaptive Threshold Scaling

James T Voyvodic[1], P B Mack[1], T B Nguyen[1], J Goldstein[1], A Friedman[1], J Petrella[1]
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1437. Event-related fMRI Data Analysis using Partial Least Squares Method

Wing-Ki Wilkin Chau[1], Barry Giesbrecht[2], George R. Mangun[2], Anthony R. McIntosh[1]
[1]University of Toronto, Toronto, Ontario, Canada; [2]Duke University, Durham, North Carolina, USA.

1438. Nonparametric Analysis of fMRI Data using Bootstrap in Autoregression

Rajesh Ranjan Nandy[1], Christopher G Green[1], Dietmar Cordes[1]
[1]University of Washington, Seattle, Washington, USA.

1439. Iterative Temporal Clustering Analysis for the Detection of Multiple Response Peaks in fMRI

Seong-Hwan Yee[1], Fang Zhu[1], John Roby[1], Trevor Andrews[1], Hugo Sandoval[1], Jia-Hong Gao[1]
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1440. Template Free Spatial Canonical Self-Correlation

William Auffermann[1], Xiaoping Hu[1]
[1]University of Minnesota, Minneapolis, Minnesota, USA.

1441. Canonical Correlation Analysis and Modified ROC Methods for fMRI Techniques

Rajesh Ranjan Nandy[1], Christopher G Green[1], Dietmar Cordes[1]
[1]University of Washington, Seattle, Washington, USA.

1442. A Canonical Correlation Approach to Exploratory Data Analysis in fMRI

Magnus Borga[1], Ola Friman[1], Peter Lundberg[1], Hans Knutsson[1]
[1]Linköping University, Linköping, Sweden.

1443. Hierarchical Temporal Blind Source Separation of fMRI Data

Ola Friman[1], Magnus Borga[1], Peter Lundberg[1], Hans Knutsson[1]
[1]Linköping University, Linköping, Sweden.

1444. Separate Neural Networks for Language Processing Determined using Hypothesis-Driven Independent Component Analysis

Vincent Schmithorst[1], Scott Holland[1]
[1]Children's Hospital Medical Center, Cincinnati, Ohio, USA.

1445. PCA-Preprocessing of fMRI Data Adversely Affects the Results of ICA

Christopher George Green[1], Rajesh Ranjan Nandy[1], Dietmar Cordes[1]
[1]University of Washington, Seattle, Washington, USA.

fMRI Data Analysis: Other

1446. What is One Subject Worth in an fMRI Experiment?

Nicole A. Lazar[1], Rebecca Landes McNamee[2], William F. Eddy[1], Joel Welling[1]
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1447. Type II Errors in Statistical Analysis of fMRI: A Comparative Study of 3T versus 1.5T Results

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1448. Testing Reproducibility in fMRI using the Bootstrap

William Auffermann[1], Xiaoping Hu[1]
[1]University of Minnesota, Minneapolis, Minnesota, USA.

1449. fMRI Reproducibility at 1.5T in Strictly Controlled Motor Tasks

Jing Z. Liu[1], Luduan Zhang[1], Guang H. Yue[1]
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1450. Real-Time Detection of Speech Envelopes for fMRI

Brian T. Quinn[1], Sonya Mehta[1], Brent Eaton[1], Thomas J. Grabowski[1], Lizann Bolinger[1]
[1]University of Iowa, Iowa City, Iowa, USA.

fMRI: Spatial Correlations and Connectivity

1451. Partially Supervised Clustering: A Useful Tool for Investigating Functional Connectivity in the Human Brain by fMRI

Richard Baumgartner[1], Ray Somorjai[1], Arthur Summers[1], Christopher Bowman[1], Lawrence Ryner[1]
[1]National Research Council, Winnipeg, Manitoba, Canada.

1452. Model-Free Functional Connectivity Detection using Self-Organizing Maps

Scott J. Peltier[1], Thad A. Polk[1], Douglas C. Noll[1]
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1453. New Spatial-Temporal Connectivity Method to Separate between the Global and the Local Vascular Response Resulting from Neuronal Activity

Gadi Goelman[1], Galit Pelled[1], Omer Grigg[1], Yaniv Assaf[1]
[1]Hadassah Hebrew University Hospital, Jerusalem, Israel.

1454. CBF-Based Resting-State Functional Connectivity Maps

Jiahong Gao[1], Jinhu Xiong[1], Fang Zhu[1], Seonghwan Yee[1], Ching-Mei Feng[1]
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1455. Association of Sympathetic Nervous Activity with Resting-State Synchronous Low-Frequency Signal Fluctuations in Rat Brain

Masayuki Kamba[1], Wei Chen[2], Toshinori Kato[1]
[1]Hamano Life Science Research Foundation, Tokyo, Japan; [2]University of Minnesota, Minneapolis, Minnesota, USA.

1456. V-Signal Connectivity and V-Signal Suppression in Rat Somatosensory Cortex

Ronald Peeters[1], Anthony John Martindale[2], Nadja Van Camp[1], Anne Marie Van Der Linden[1], John Mayhew[2]
[1]RUCA, Antwerp, Belgium; [2]University of Sheffield, Sheffield, England, UK.

1457. Contribution of B_0 -Fluctuations on the Resting-State Functional Connectivity Maps in fMRI

Bharat Biswal[1]
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1458. Resting State Function at 3.0 T ?

Marc Burock[1,2], *Hiroshi Fukatsu*[2], *Shinji Naganawa*[2], *Takeo Ishigaki*[2]
[1]University of Pennsylvania, Philadelphia, Pennsylvania, USA; [2]Nagoya University, Nagoya, Japan.

1459. Low Frequency Signals in fMRI-"Resting State Networks" and the "Intensity Normalisation Problem"

Marilena De Luca[1,2], *Christian F. Beckmann*[1], *Tim E.J. Behrens*[1], *Stuart Clare*[1], *Nicola De Stefano*[2], *Paul Matthews*[1], *Mark W Woolrich*[1], *Stephen M Smith*[1]
[1]University of Oxford, Oxford, England, UK; [2]University of Siena, Siena, Italy.

1460. What Processes Contribute to the Low-Frequency Fluctuations in fMRI Signal?

Mehrdad Razavi[1], *Brent Eaton*[1], *Marla Johnson*[1], *Merideth Metcalf*[1], *Thomas J. Grabowski*[1], *Lizann Bolinger*[1]
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1461. Using Low Frequency Steady State Correlations in the fMRI Time Series to Investigate Functional Connectivity of Human Brain - Working Memory Protocol for Clinical Studies

Pawel Skudlarski[1], *Naomi R Driesen*[1], *John C Gore*[1]
[1]Yale University, New Haven, Connecticut, USA.

1462. The Development of SSM PCA Analysis of fMRI Data to Investigate Functional Connectivity: Application to Major Depressive Disorder

Lisa Dawn Nickerson[1], *Michael E Henry*[1], *Perry F Renshaw*[1], *Blaise B Frederick*[1]
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1463. Functional Anatomy of Stereopsis: Effective Connectivity Identified using NARMAX

Hector Gabriel Acosta-Mesa[1], *John Frisby*[1], *David Buckley*[1], *Ying Zheng*[1], *Iain Wilkinson*[1], *John Mayhew*[1]
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1464. Localization of Alpha Producing Regions in the Human Brain and their Connectivity

Manbir Singh[1], *Jeong-Won Jeong*[1], *Sungheon Kim*[1], *Witaya Sungkarat*[1], *Yongxia Zhou*[1], *Tae-Seong Kim*[1]
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fMRI Neuroscience: Primary Sensory-Motor

1465. Identification of the Myelinated Layers in Striate Cortex on High Resolution MRI at 3 Tesla

Stuart Clare[1], *Peter Jezzard*[1], *PM Matthews*[1]
[1]University of Oxford, Oxford, England, UK.

1466. Functional MRI Study of Neuronal Interaction in Human V1 by Hemifield Visual Stimulation

Xiao-Hong Zhu[1], *Nanyin Zhang*[1], *Kamil Ugurbil*[1], *Seiji Ogawa*[2], *Wei Chen*[1]
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1467. Characterization of the Human Visual V6 Complex by Functional MRI

Peter Dechent[1], *Jens Frahm*[1]
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1468. fMRI Activation from Passive Listening to Classical Instrumental Music

Stephen J. Uftring[1], *David N. Levin*[1]
[1]University of Chicago, Chicago, Illinois, USA.

1469. Rapid Change in Sound Pressure and its Cortical Representation in the Human Brain: A Block-Design and Event-Related fMRI Study

Deniz Bilecen[1], Jürgen Hennig[2], Anja-Carina Schulte[2]
[1]University of Basel, Basel, Switzerland; [2]University of Freiburg, Freiburg, Germany.

1470. Visualization of Auditory Habituation by Means of fMRI

Bettina Pfleiderer[1], Nikolaus Michael[1], Jens Ostermann[1], Peter Sörös[1], Walter Heindel[1]
[1]University of Münster, Münster, Germany.

1471. Differential Post-Stimulus Inhibition of N1 Activity Underlies Mismatch Response Generation at the Human Auditory Cortex

Iiro P. Jaaskelainen[1], Jyrki Ahveninen[2], Giorgio Bonmassar[1], Patrick May[2], Risto Ilmoniemi[3], Sari Levanen[1], Fa-Hsuan Lin[1], Steven Stufflebeam[1], Jennifer Melcher[4], Anders Dale[1], Hannu Tiitinen[2], John Belliveau[1]
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1472. Effects of Vibrotactile Stimulus Duration: A High and Low Resolution Study

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1473. Characteristics of High Resolution Vibrotactile fMRI and MEG signals

Pasi Ilmari Tuunanen[1], Martin Kavec[1], Riitta Salmelin[2], Veikko Jousmäki[2], Riitta Hari[2], Jussi-Pekka Usenius[3], Risto Kauppinen[1]
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1474. Activation of the SMA and PMA More Depends on the Temporal Sequencing than the Amount of Movement

Toshiharu Nakai[1,2], Kayako Matsuo[1,2], Tetsuo Moriya[1], Chikako Kato[3]
[1]National Institute of Advanced Industrial Science and Technology, Ikeda, Osaka, Japan; [2]Institute of Biomedical Research and Innovation, Kobe, Japan; [3]Toyohashi Sozo College, Toyohashi, Japan.

1475. Frequency Effects of Finger Movements and Visual Cues on fMRI Signals

Tetsuo Moriya[1], Kayako Matsuo[1], Masahiro Ozawa[2], Chikako Kato[3], Toshiharu Nakai[1]
[1]National Institute of Advanced Industrial Science and Technology, Ikeda, Osaka, Japan; [2]Osaka University, Graduate School of Engineering Science, Toyonaka, Osaka, Japan; [3]Toyohashi Sozo College, Toyohashi, Japan.

1476. Evaluation of Reproducibility in Sensorimotor Activation: Long-term fMRI Study

Seung-Schik Yoo[1], Xingchang Wei[1], Chandlee C Dickey[1], Gauri Paralkar[2], Heather M O'Leary[2], Charles RG Guttmann[1], Lawrence P Panych[1]
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1477. Collaboration of Superior Parietal Lobule and Pre-Motor Area to Generate Motor Sequence

Toshiharu Nakai[1], Chikako Kato[2], Tetsuo Moriya[1], Gary H. Glover[3], Kayako Matsuo[1]
[1]National Institute of Advanced Industrial Science and Technology, Ikeda, Osaka, Japan; [2]Toyohashi Sozo College, Toyohashi, Japan; [3]Stanford University, Stanford, California, USA.

1478. Motor Imagery Does Not Activate the Human Primary Motor Cortex

Peter Dechent[1], Klaus Dietmar Merboldt[1], Jens Frahm[1]
[1]Biomedizinische NMR Forschungs GmbH, Göttingen, Germany.

1479. BOLD Activation in Motor Cortex Induced by Transcranial Magnetic Stimulation and Volitional Movement: Repeatability and Comparison of Location Assessed by Interleaved TMS/fMRI

Stewart Denslow[1], Daryl E. Bohning[1], Mikhail P Lomarev[1], Mark S George[1]
[1]Medical University of South Carolina, Charleston, South Carolina, USA.

1480. Cerebral Cortex Activation Changes Involved In Motor Learning

Dusan Suput[1], Miha Rogac[1]
[1]University of Ljubljani School of Medicine, Ljubljana, Slovenia.

1481. The Coupling between Motor Cortices in Bimanual Coordination: An fMRI Study

Jiancheng Zhuang[1], Kan Zhang[2], Xiaoping Hu[1]
[1]University of Minnesota, Minneapolis, Minnesota, USA; [2]Chinese Academy of Sciences, Beijing, China.

fMRI Neuroscience: Language

1482. Modality Independence of Word Comprehension

James R. Booth[1,2], Douglas D. Burman[1], Joel R. Meyer[2], Darren R. Gitelman[3], Todd B. Parrish[3], M. Marsel Mesulam[3]
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1483. Inter-Subject Variance of Language Lateralisation Index

Minna D Nørgaard[1], Torben E Lund[1], Egill Rostrup[1], Bjørn Quistorff[1], Olaf B Paulson[1]
[1]Danish Reseach Center for Magnetic Resonance, Hvidovre, Denmark.

1484. Broca´s Area is More Efficient during Semantic Processing in Male Symphony Orchestra Musicians than in Non-Musicians: Evidence from fMRI

Vanessa Sluming[1], Jonathan Brooks[1], Matthew Howard[2], Glen Cox[1], Neil Roberts[1]
[1]The University of Liverpool, Liverpool, England, UK; [2]University of Melbourne, Melbourne, Victoria, Australia.

1485. Division of Computational Labor between Broca´s Area and Wernicke´s Area in Reading Visually Presented Words

Jie Huang[1], Lucia Colombo[2], Thomas H. Carr[1], Yue Cao[1]
[1]Michigan State University, East Lansing, Michigan, USA; [2]Università di Padova, Padova, Italia.

1486. Comparing Cortical Activation of Regular and Irregular Inflection in German

Jie Huang[1], Alan Beretta[1], Carrie Campbell[1], Thomas H. Carr[1], Kiel Christianson[1], Lothar M. Schmitt[2], Yue Cao[1]
[1]Michigan State University, East Lansing, Michigan, USA; [2]University of Aizu, Aizu, Japan.

1487. A Functional MRI Comparison of Overt vs. Covert Mono- and Multisyllabic Speech

Susan K. Lemieux[1], Linda I. Shuster[1]
[1]West Virginia University Health Sciences Center, Morgantown, West Virginia, USA.

1488. Test-Retest Reliability of the Word Frequency Effect in a Block Design fMRI Experiment

Michael Wei-Liang Chee[1], Hwee Ling Lee[1], Chun Siong Soon[1], Christopher Westphal[1], Joshua Goh[1]
[1]Singapore General Hospital, Singapore, Singapore.

1489. Discrimination of Exner's Area and the Frontal Eye Field - An fMRI Study during Language and Saccade Tasks

Kayako Matsuo[1], Chikako Kato[2], Chika Sumiyoshi[3], Masahiro Ozawa[4], Tetsuo Moriya[1], Toshiharu Nakai[1]
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1490. Braille Reading and Tactile Imagery in Early Blind Subjects

R. Lanzenberger[1], C. Windischberger[1], A. Gartus[1], A. Geissler[1], M. Barth[1], V. Edward[1], F. Uhl[1], E. Moser[1], L. Deecke[1], R. Beisteiner[1]
[1]University of Vienna and General Hospital, Vienna, Austria.

1491. Comparison of Functional Time Course Patterns in Broca's Area and Supplementary Motor Area during Silent Sentence Generation Task in fMRI

Kyung K Peck[1], Kaundinya Gopinath[1], David Soltysik[1], Anna Moore[1], Christina Wierenga[1], Bruce Crosson[1], Richard W. Briggs[1]
[1]University of Florida, Gainesville, Florida, USA.

1492. Background-Suppressed AST Studies of Continuous Overt Speech Tasks

Frank Ye[1], S. Kemeny[1], J. Thompson[1], L. Hosey[1], C.N. Carlo[1], A.C. McLaughlin[1], A. Braun[1]
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fMRI Neuroscience: Memory, Attention, and Learning

1493. Working Memory for Color and Location as Revealed by Functional Magnetic Resonance Imaging

Virve Vuontela[1], Sami Martinkauppi[2], Juha Koivisto[2], Pia Rämä[1], Hannu J Aronen[2], SynnöVe Carlson[1]
[1]University of Helsinki, Helsinki, Finland; [2]Helsinki University Central Hospital, Helsinki, Finland.

1494. Visuospatial and Color Working Memory in Normal School-Aged Children as Revealed by Functional Magnetic Resonance Imaging

Maija-Riikka Steenari[1,2], Virve Vuontela[2], Eeva Tuulikki Aronen[1], Juha Koivisto[1,2], Sami Martinkauppi[1], Synnöve Carlson[2]
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1495. Brain Activities in Working Memory for Phonologically Ambiguous Syllables: An fMRI Study

Chika Sumiyoshi[1], Kayako Matsuo[2], Chikako Kato[3], Fukujiro Ozawa[4], Yasuo Takehara[4], Haruo Isoda[4], Satoshi Isogai[4], Harumi Sakahara[4], Toshiharu Nakai[2]
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1496. Distinct Neural Components of the Semantic Memory Processing Network

Perttu Immonen[1,3], Maija Pihlajamäki[2], Hannu Aronen[1,4], Hannu Tanila[2], Synnöve Carlson[3]
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1497. Functional MRI of Auditory Working Memory: Reproducibility of Activation

Xingchang Wei[1], Seung-Schik Yoo[1], Chandlee C. Dickey[2], Gauri Paralker[3], Heather M. O'Leary[3], Charles R.G. Guttmann[1], Lawrence P. Panych[1]
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1498. Hippocampal Activation during Memory Related Tasks and Canonical Correlation Analysis

Rajesh Ranjan Nandy[1], Christopher G Green[1], Dietmar Cordes[1]
[1]University of Washington, Seattle, Washington, USA.

1499. Sensitivity of the Hippocampus Proper for fMRI Signal Changes: Comparison with Cortical Areas

R. Todd Constable[1], Richard P Kennan[2], Robert Astur[1], Dennis D Spencer[1]
[1]Yale University School of Medicine, New Haven, Connecticut, USA; [2]Albert Einstein School of Medicine, Bronx, New York, USA.

1500. Retrospecitve Event-related Analysis of a Block-Designed fMRI CPT Experiment

Ping Zou[1], Nicolas S Phillips[1], Robert Ogg[1]
[1]St. Jude Children's Research Hospital, Memphis, Tennessee, USA.

1501. Differences in Cortical Recruitment between Male Symphony Orchestra Musicians and Non-Musicians during 3D Mental Rotation Task Revealed by fMRI

Jonathan Brooks[1], Vanessa Sluming[1], Matt Howard[2], Glen Cox[1], Neil Roberts[1]
[1]The University of Liverpool, Liverpool, England, UK; [2]University of Melbourne, Melbourne, Victoria, Australia.

1502. Variations in the Response of Human SI & SII to Microstimulation Due to Changes in Frequency of Stimulation and Crossmodal Shifts in Attention

S Francis[1], M Trulsson[2], F Mcglone[3], G Westling[4], R Bowtell[1], E Kelly[5]
[1]University of Nottingham, Nottingham, England, UK; [2]Karolinska Institue, Huddinge, Sweden; [3]University of Wales, Bangor, Wales, UK; [4]Umea University, Umea, Sweden; [5]University of North Carolina, Chapel Hill, North Carolina, .

1503. Separation of Motor Function from Auditory-Attention with a Frequency Analysis Method

Loukas G. Astrakas[1,3], Martin H. Teicher[2], A. Aria Tzika[1,3]
[1]Massachusets General Hospital, Harvard Medical School, Boston, Massachusetts, USA; [2]McLean Hospital, Harvard Medical School, Belmont, Massachusetts, USA; [3]Children's Hospital, Harvard Medical School, Boston, Massachusetts, USA.

1504. The Role of Cortico-Striatal Circuits in Learning: An fMRI Study

F. Fera[1], T. Weickert[1], T.E. Goldberg[1], S. Lee[1], A. Tessitore[1], A.R. Hariri[1], D.R. Weinberger[1], V.S. Mattay[1]
[1]National Institutes of Health, Bethesda, Maryland, USA.

fMRI Neuroscience: Perception and Pain

1505. Perception of Three-Dimensional Structure from Visual Motion Displayed by a Frame-Transforming Method: An fMRI Study

Chikako Kato[1], Yasuo Takehara[2], Haruo Isoda[2], Fukujiro Ozawa[2], Kayako Matsuo[3], Toshiharu Nakai[3], Harumi Sakahara[2]
[1]Toyohashi Sozo College, Toyohashi, Aichi, Japan; [2]Hamamatsu University, Hamamatsu, Shizuoka, Japan; [3]National Institute of Advanced Industrial Science and Technology, Ikeda, Osaka, Japan.

1506. The Effects of Intensity of Emotional Context on the Cerebral Processing and Subjective Perception of Esophageal Sensation

Sarah Christina Cullen[1], Steven John Coen[2], Lloyd James Gregory[2], Mary L. Phillips[1], Steven C.R. Williams[1], Simon Smale[3], Chris Andrew[1], Fernando Zelaya[1], Qasim Aziz[2]
[1]Institute of Psychiatry, London, England, UK; [2]University of Manchester, Manchester, England, UK; [3]King's College Hospital, London, England, UK.

1507. Involvement of the Cerebellum in Visual Feature Discrimination: An fMRI Study

H.Y. Rao[1], Z. Qu[1], Y. Cui[2], Y.P. Xue[2], T.G. Zhou[1], Y. Zhuo[1], L. Chen[1]
[1]University of Science and Technology of China, Beijing, China; [2]Beijing Chaoyang Hospital, Beijing, China.

1508. fMRI Studies of Thermosensation and Nociception using Graded Thermal Stimuli

Jonathan Brooks[1], Turo Nurmikko[2], William Bimson[1], Neil Roberts[1]
[1]The University of Liverpool, Liverpool, England, UK; [2]University Hospital Aintree, Liverpool, England, UK.

1509. Spinal fMRI with Graded Thermal Stimulation Showing Graded Neuronal Response

Patrick Stroman[1], Victoria Krause[1], Uta Frankenstein[1], Krisztina Malisza[1], Boguslaw Tomanek[1,2]
[1]National Research Council of Canada, Winnipeg, Manitoba, Canada; [2]University of Calgary, Calgary, Alberta, Canada.

1510. Group Analysis of Dose-Response Relationships between Electrical Peripheral Nerve Stimulation and Cortical Response using fMRI

Rao P Gullapalli[1], Gadi Alon[1], Gerald V Smith[2], Lisa M Estrada[1], Matt Lewis[1], Rakesh Arya[2]
[1]University of Maryland at Baltimore, Baltimore, Maryland, USA; [2]University of Maryland Baltimore County, Baltimore, Maryland, USA.

1511. Acute Effects of Remifentanil on Human Brain Activity as Revealed by Functional Magnetic Resonance Imaging

Paula Irmeli Aronpää[1], Sami Petteri Martinkauppi[1], Antti Korvenoja[1], Jouni Ahonen[1], Synnöve Carlson[2], Eija Kalso[1], Per Rosenberg[3], Hannu Juhani Aronen[1,3]
[1]Helsinki University Central Hospital, Helsinki, Finland; [2]Helsinki University Helsinki, Finland; [3]Kuopio University Hospital, Kuopio University, Kuopio, Finland.

1512. The Spatial Correspondence of fMRI Activation and EEG Sources during Repeated Painful Stimulation

Andrej Stancák[1], Jaroslav Tintera[2], Jiri Vrána[1], Hubert Polácek[1], Rosa Rachmanová[1], Jiri Kralik[1]
[1]Charles University, Prague, Czech Republic; [2]IKEM, Prague, Czech Republic.

1513. Effects of Morphine on Neuronal Activation in Response to Pressure Pain

Srikanth Mahankali[1], Stephen N Palmer[1], Edward F Jackson[1], Murlidhar Tekchandani[1], Charles S Cleeland[1]
[1]University of Texas M.D. Anderson Cancer Center, Houston, Texas, USA.

1514. Modulation by Breath-Holding of the Event-Related BOLD Response Induced by Painful Stimulation

Richard Geoffrey Wise[1], Richard Rogers[1], Deborah Painter[1], Pauline Williams[2], Garth Rapeport[3], Peter Jezzard[1], Irene Tracey[1]
[1]University of Oxford, Oxford, England, UK; [2]GlaxoSmithKline, Harlow, England, UK; [3]GlaxoSmithKline, Stevenage, England, UK.

1515. MRI of Hunger and Insula Activation during a Fasting Paradigm

G. Andrew James[1], Guojun He[1], Amy Wagner Miller[1], Yasmine Taeb[1], Yijun Liu[1]
[1]University of Florida, Gainesville, Florida, USA.

fMRI Neuroscience: Other

1516. A Platform for Combining Virtual Reality and fMRI through Multidisciplinary Experiments Involving Basic Neuroscience, Engineering, and Neuropsychology

Richard Mraz[1], James Hong[1,3], Genevieve Quintin[2], Konstantine Zakzanis[2], Simon Graham[1,2]
[1]Sunnybrook and Women's College Health Sciences Centre, Toronto, Ontario, Canada; [2]University of Toronto, Toronto, Ontario, Canada; [3]University of Waterloo, Waterloo, Ontario, Canada.

1517. Activity in the Supplementary Eye-Fields are Critical to Suppressing Reflexive Saccades: An Event-Related fMRI Antisaccade Study at 4T

Clayton E Curtis[1], Mark D'Esposito[1]
[1]University of California Berkeley, Berkeley, CA, USA.

1518. Development of Cerebral Pathways for Calculation: A fMRI Study in Children and Adults

Thomas Loenneker[1], Karin Kucian[1], Valentine Leslie Marcar[1], Salome Jaggy[1], Ernst Martin[1], Michael Von Aster[2]
[1]University Children's Hospital Zurich, Zurich, Switzerland; [2]University of Zurich, Zurich, Switzerland.

1519. Independent Component Analysis Facilitates fMRI of a Naturalistic Behavior: Hypothesized Neural Substrates of Simulated Driving

Vince Calhoun[1,2], Tülay Adali[1], James Pekar[1], Godfrey D. Pearlson[2]
[1]Johns Hopkins University, Baltimore, Maryland, USA; [2]University of Maryland Baltimore County, Baltimore, Maryland, USA.

1520. Predictions Derived from a Neurocomputational Model of Sequential Processing in Frontal Regions Tested using fMRI

John W. Bickle[1], Scott Holland[2], Vincent Schmithorst[2], Malcolm J. Avison[3]
[1]University of Cincinnati, Cincinnati, Ohio, USA; [2]Children's Hospital Medical Center, Cincinnati, Ohio, USA; [3]University of Kentucky, Medicine, Lexington, Kentucky, USA.

1521. Olfactory fMRI of Human Brain: Emotional and Other Brain System Responses to Different Odors

Jian-Li Wang[1], Qing Yang[1], Paul J. Eslinger[1], Lukas Ansel[1], Michael B. Smith[1]
[1]Pennsylvania State University College of Medicine, Hershey, Pennsylvania, USA.

1522. Assessment of Fetal Brain Response to a Vibro-Acoustic Stimulus

J Fulford[1], S Dodamphala[1], S Vadeyar[1], R Moore[1], P Baker[2], D James[1], P Gowland[1]
[1]University of Nottingham, Nottingham, England, UK.

1523. A fMRI Study of Correlation between Acupoints and Brain Cortical Sites Involved in Language Functions

Geng Li[1], HL Liu[2], RTF Cheung[1], YC Hung[2], JC Chen[2], G Cao[3], KK Wong[1], A Chou[2], YY Wai[2], GG Shen[1], QY Ma[1], ES Yang[1]
[1]University of Hong Kong, Hong Kong, China; [2]Chang Gung University, Taiwan; [3]GE Medical Systems Asia.

1524. The Effects of Manual and Electroacupuncture on the Human Brain as Measured by fMRI

Vitaly Napadow[1], Jing Liu[1], Nikos Makris[1], Norman Kettner[2], Kenneth Kwong[1], Kathleen Hui[1]
[1]Massachusetts General Hospital, Harvard Medical School, Charlestown, Massachusetts, USA; [2]Logan College of Chiropractic, Chesterfield, Missouri, USA.

1525. Retrograde Neuronal Pathway Tracing with Functional Localization using Diffusion Tensor and BOLD Functional MR Imaging : Preliminary Study

Jin Suh Kim[1], Richard Kanaan[2], Godfrey Pearlson[1]
[1]Johns Hopkins University, Baltimore, Maryland, USA; [2]Maudsley Hospital, King's College, London, England, UK.

Clinical fMRI: Neurology

1526. Sensory Driven Plasticity in Human Swallowing Motor Cortex: fMRI Evidence for Increased Cortical Recruitment

Chris Fraser[1], Maxine Power[1], John Rothwell[2], David Hobday[1], Igor Hollander[1], Pippa Tyrell[1], Anthony Hobson[1], Stephen Williams[1], David Thompson[1], Shaheen Hamdy[1]
[1]University of Manchester, Manchester, England, UK; [2]Institute of Neurology, London, England, UK.

1527. Functional MRI Study of Mirror Movement in Recovered Stroke Patients

Yongmin Chang[1], Sung Ho Jang[2], Woo Mok Byun[2], Yong Sun Kim[1], Duk-Sik Kang[1]
[1]Kyungpook National University, Taegu, South Korea; [2]YeungNam University, Taegu, South Korea.

1528. Quantitative Assessment of Functional MRI in Sensorimotor Function Recovery of Stroke

Kelvin Wong[1], Jieguang Sun[1], Geng Li[1], CT Leung[1], Ho Ying Mak[1], Guang Cao[2], Qiyuan Ma[1], Edward Yang[1]
[1]University of Hong Kong, Hong Kong, China; [2]GE Medical Systems Asia, Hong Kong, China.

1529. Cortical Surface-Based Functional MRI Analysis of Somatosensory and Motor Activation Patterns in Chronic Stroke Patients

Rick M. Dijkhuizen[1], Christopher I. Moore[1], Maureen Glessner[1], Bruce R. Rosen[1], Judith D. Schaechter[1]
[1]Massachusetts General Hospital, Harvard Medical School, Charlestown, Massachusetts, USA.

1530. Functional BOLD Imaging following Occlusion of the Internal Carotid Artery

Todd Parrish[1], Darren R Gitelman[1], Marsel M Mesulam[1], Jayashree Srinivasan[1]
[1]Northwestern University, Chicago, Illinois, USA.

1531. A Functional MRI Study of Patients with Clinically Definite Multiple Sclerosis and `Atypical´ Conventional MRI

Elisabetta Pagani[1], Maria A. Rocca[1], Andrea Falini[1], Angelo Ghezzi[1], Maria Codella[1], Giuseppe Scotti[1], Giancarlo Comi[1], Massimo Filippi[1]
[1]Scientific Institute and University H San Raffaele, Milan, Italy.

1532. A Functional MRI Study of Patients at Presentation with Clinically Isolated Syndromes Suggestive of Multiple Sclerosis

Maria Rocca[1], Elisabetta Pagani[1], Andrea Falini[1], Vittorio Martinelli[1], Angelo Ghezzi[1], Giuseppe Scotti[1], Giancarlo Comi[1], Massimo Filippi[1]
[1]Scientific Institute and University H San Raffaele, Milan, Italy.

1533. Recovery from Homonymous Hemianopia in MS - A 2 year Follow-Up Study with fMRI and DTI

Achim Gass[1], Jochen Hirsch[1], Fritz Henn[2], Michael Hennerici[1], Dieter Braus[2]
[1]Universitätsklinikum Mannheim der Universität Heidelberg, Mannheim, Germany; [3]Central Institute of Mental Health, Mannheim, Germany.

1534. Increased Visual Cortical Activation in the Recovery Period from Optic Neuritis – A Serial fMRI Study

Annika Reynberg Langkilde[1], E Rostrup[1], D Olsen[2], J Jensen[2], J Frederiksen[2], M Lauritzen[2], H.B.W. Larsson[2]
[1]Danish Research Centre for Magnetic Resonance, University Hospital, Hvidovre, Denmark; [2]University Hospital, Glostrup, Denmark.

1535. Laterality of Language using fMRI: Issues of fMRI Quantification and Comparison with Wada Testing

R. Todd Constable[1], Mike Westerveld[1], Ken Pugh[1], Dennis D Spencer[1]
[1]Yale University School of Medicine, New Haven, Connecticut, USA.

1536. MRI Functional Connectivity to Lateralize Temporal Lobe Epilepsy

Victoria Morgan[1], Bassel Abou-Khalil[1], Pradeep Modur[1], Curtis Wushensky[1], Ronald R. Price[1]
[1]Vanderbilt University Medical Center, Nashville, Tennessee, USA.

1537. Assessment of the Memory Impairment in Alzheimer´s Disease using Functional Magnetic Resonance Imaging (fMRI)

Florence Remy[1], Fakhereh Mirrashed[1]
[1]National Research Council of Canada, Winnipeg, Manitoba, Canada.

1538. fMRI in the Diagnosis of Early Alzheimer's Disease

Mary M. Machulda[1], Heidi A. Ward[1], Bret Borowski[1], Clifford R. Jack[1]
[1]Mayo Clinic, Rochester, Minnesota, USA.

1539. Examination of Sensory Processing in Parkinsonian and Essential Tremor using Multi-Echo Functional Magnetic Resonance Imaging

Andrea Lindahl[1,2], Susan Francis[1], Jennifer Newton[1], Kay Head[1], Peter Morris[1], Guy Sawle[2]
[1]University of Nottingham, Nottingham, England, UK; [2]University Hospital, Nottingham., Nottingham, England, UK.

1540. Motor Processing Abnormalities during Overt Movement and Motor Imagery in Essential Tremor

Andrea Lindahl[1,2], Susan Francis[1], Kay Head[1], Peter Morris[1], Guy Sawle[2]
[1]University of Nottingham, Nottingham, England, UK; [2]University Hospital, Nottingham, Nottingham, Nottingham, .

Clinical fMRI: Psychiatry

1541. A Preliminary Examination of Functional Connectivity of Inner Speech in Schizophrenia

Richard Antony Kanaan[1], Sukhi Shergill[1], Edson Amaro[1], Michael J Brammer[1], Robin M Murray[1], Phillip K McGuire[1]
[1]Institute of Psychiatry, London, England, UK.

1542. Task Difficulty Manipulations Determine Brain Activity Differences between Schizophenic and Control Groups, an Event Related fMRI Study using a Visual Delayed-Match-to-Sample Design

H. H. Holcomb[1], T.J. Cullen[1], L. Beason-Held[1], M.A. Tagamets[1], D.R. Medoff[1], C.A. Tamminga[1]
[1]Maryland Psychiatric Research Center and University of Maryland, Baltimore, Maryland, USA.

1543. Decreased Activation in the VOA Subdivision of Anterior Cingulate in Schizophrenic Patients: An fMRI Study

Staci A. Gruber[1], Jadwiga Rogowska[1], Deborah A. Yurgelun-Todd[1]
[1]McLean Hospital, Harvard Medical School, Belmont, Massachusetts, USA.

1544. Using fMRI to Investigate the Perception of Human Voices in External Auditory Space

Mike D Hunter[1], Iain D Wilkinson[1], Timothy D Griffiths[2,3], Thomas D Farrow[1], Ying Zheng[1], W Woods[3], Sean A Spence[1], Peter WR Woodruff[1]
[1]University of Sheffield, Sheffield, England, UK; [2]Wellcome Department of Neurology, London, UK; [3]University of Newcastle, Newcastle, England, UK.

1545. Vagus Nerve Stimulation (VNS) Synchronized BOLD fMRI Suggests that VNS in Depressed Adults has Frequency And/Or Dose Dependent Effects

Mikhail P Lomarev[1], Stewart Denslow[1], Ziad Nahas[1], Jeong-Ho Chae[1], Mark S George[1], Daryl E Bohning[1]
[1]Medical University of South Carolina, Charleston, South Carolina, USA.

1546. Activation of Cue-Elicited Cocaine Craving in Human Orbitofrontal Cortex by fMRI

Zhu Li[1], Gaohong Wu[1], Feng Luo[1], Shi-Jiang Li[1]
[1]Medical College of Wisconsin, Milwaukee, Wisconsin, USA.

1547. fMRI Scanning of Craving in Alcoholism

Conor K Farren[1], Cheuk Y Tang[1], Alexei M Kampov-Polevoi[1], Lyuba Gorelik[1], Monte S. Buchsbaum[1]
[1]Mount Sinai School of Medicine, New York, New York, USA.

Clincal fMRI: Other

1548. Presurgical Functional Magnetic Resonance Imaging at 1 Tesla: Usefulness as Perceived by the Clinicians

Ann Tieleman[1], Karel Deblaere[1], Pieter Vandemaele[1], Jacques Camaert[1], Paul Boon[1], Luc Defreyne[1], Eric Achten[1]
[1]Ghent University Hospital, Ghent, Belgium.

1549. fMRI for Use in Clinical Trials: The Effects of Practice on Language Tasks

Peter Hurh[1], Chia-Shang Jason Liu[2], John Haselgrove[1]
[1]Children's Hospital of Philadelphia, Philadelphia, Pennsylvania, USA; [2]University of Pennsylvania, Philadelphia, Pennsylvania, USA.

1550. "Brain switching": fMRI Evidence of Rapid Functional Brain Reorganisation

Graeme D Jackson[1], Anthony B Waites[1], David F Abbott[1], Ari Syngeniotis[1], Gavin C A Fabinyi[1], Michael M Saling[1]
[1]Austin and Repatriation Medical Centre, Melbourne, Victoria, Australia.

1551. Independent Component Analysis Applied to Clinical Functional MR Imaging with Confounding Head Motion Artifacts

Chad H. Moritz[1], Baxter P. Rogers[1], Victor M. Haughton[1], Howard A. Rowley[1], M. E. Meyerand[1]
[1]University of Wisconsin-Madison, Madison, Wisconsin, USA.

1552. Word Choice versus Word Generation Paradigms in Clinical Functional Mapping of Chinese Language Processing using fMRI

Ru-Jiuann Huang[1], Dinah Wan[1], Amy Hsu[1], Jian-Chuan Chen[1], Chien-Te Wu[1], Yau-Yau Wai[1], Yung-Liang Wan[1], Li Hai Tan[2], Ho-Ling Liu[1]
[1]Chang Gung Memorial Hospital, Kweishan, Taiwan; [2]University of Hong Kong, Hong Kong, China.

1553. Neural Correlates of Stuttering as Revealed by fMRI

Christine M. Preibisch[1], Anne-Lise Giraud[1], Katrin Neumann[1], Peter Raab[1], Harald A. Euler[2], Alexander W. Von Gudenberg[4], Heinrich Lanfermann[1], Friedhelm Zanella[1]
[1]Universitaetsklinikum Frankfurt, Neuroradiology, Frankfurt, Germany; [2]University Kassel, Kassel, Germany; [4]Kasseler Stottertherapie, Kassel, Germany.

1554. Event-Related fMRI Study of Overt Speech in Adults with Developmental Stuttering

Jinhu Xiong[1], Roger Ingham[2], Janis Ingham[2], Crystal Franklin[1], Peter Fox[1]
[1]University of Texas Health Science Center at San Antonio, San Antonio, Texas, USA; [2]University of California Santa Barbara, Santa Barbara, California, USA.

1555. Auditory Functional MRI in Patients with Unilateral Sensory Neural Hearing Loss of Acute Onset

Si Yeon Kim[1], Dong-Ik Kim[1]
[1]Yonsei University Medical College, Seoul, Korea.

1556. Evaluation of the Effect of Testosterone Supplementation on the Brain Activity Associated with Sexual Arousal in Hypogonadal Patients: Functional MRI

Sung Jong Eun[1], Gwang-Woo Jeong[1], Heoung-Keun Kang[1], Jeong-Jin Seo[1], Hyung-Joong Kim[1], Kwang Sung Park[1]
[1]Chonnam National University Medical School, Kwang-Ju, South Korea.

1557. Measure of Fetal Brain Activity in Response to a Visual Stimulus

J Fulford[1], S Vadeyar[1], R Moore[1], P Young[1], P Baker[1], D James[1], P Gowland[1]
[1]University of Nottingham, Nottingham, England, UK.

1558. Neurologic Findings in Healthy Children on Pediatric fMRI: Incidence and Significance

Judy Illes[1], Brian S. Kim[1], Rick T. Kaplan[1], Allan L. Reiss[1], Scott W. Atlas[1]
[1]Stanford University, Stanford, California, USA.

1559. Real-time fMRI of Symptom Provocation in Children with Obsessive Compulsive Disorder

Stefan Posse[1], Daniel Fitzgerald[1], Elisa Lorch[1], David Rosenberg[1]
[1]Wayne State University, Detroit, Michigan, USA.

1560. The Hemodynamic Response to Visual Stimulation in Childhood Cancer Survivors

Ping Zou[1], Holly White[1], Jaekeun Park[1], Timothy Cooper[1], James Langston[1], Raymond K Mulhern[1], Robert J Ogg[1]
[1]St. Jude Children's Research Hospital, Memphis, Tennessee, USA.

1561. Sustained Attention in Childhood Cancer Survivors

Robert J Ogg[1], Ping Zou[1], Holly White[1], Jaekeun Park[1], Timothy Cooper[1], James Langston[1], Raymond K Mulhern[1]
[1]St. Jude Children's Research Hospital, Memphis, Tennessee, USA.

Vessel Wall Imaging

1562. Quadruple Inversion-Recovery: A Method for Quantitative Contrast-Enhanced Black-Blood Imaging

Vasily Leonidovich Yarnykh[1], Chun Yuan[1]
[1]University of Washington, Seattle, Washington, USA.

1563. Feasibility of Multi-Slice Black-Blood Double Inversion-Recovery Imaging

Vasily Leonidovich Yarnykh[1], Chun Yuan[1]
[1]University of Washington, Seattle, Washington, USA.

1564. High Resolution MR Imaging of Carotid Arteries using GeneRalized Autocalibrating Partially Parallel Acquisitions (GRAPPA): A Feasibility Study

Claudia M Hillenbrand[1], Eddy Wong[1], Mark Griswold[2], Shaoxiong Zhang[1], Arne Reykowski[3], Frank Wacker[1], Jonathan Lewin[1], Jeffrey L Duerk[1]
[1]University Hospitals of Cleveland/Case Western Reserve University, Cleveland, Ohio, USA; [2]University of Wuerzburg, Wuerzburg, Germany; [3]Siemens Medical Solutions, Erlangen, Germany.

1565. Three-Dimensional Black-Blood Magnetic Resonance Coronary Vessel Wall Imaging Demonstrates Positive Arterial Remodeling in Patients with Non-significant Coronary Artery Disease

Won Yong Kim[1,2], Matthias Stuber[1,4], Peter Börnert[3], Kraig Kissinger[1], Warren J. Manning`[1], René Michael Botnar[1,4]
[1]Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, Massachusetts, USA; [2]Aarhus University Hospital, Aarhus, Denmark; [3]Philips Research Laboratories, Hamburg, Germany; [4]Philips Medical Systems, Best, Netherlands.

1566. Highly Efficient Double-Inversion Spiral Technique for Coronary Vessel Wall Imaging

Hee Kwon Song[1]
[1]University of Pennsylvania, Philadelphia, Pennsylvania, USA.

1567. An Exhaustive Study of MR Methods to Resolve Carotid Plaque/Flow Signal Uncertainty in a Single Individual with Minimal Atherosclerotic Disease

K. Craig Goodrich[1], Jay S. Tsuruda[1], Greg L Katzman[1], Henry R. Buswell[1], J. Rock Hadley[1], Marilyn C. Masiker[1], Dennis L. Parker[1]
[1]University of Utah, Salt Lake City, Utah, USA.

1568. Association of Patient Symptoms with Quantitative Measurements from Dynamic Contrast-Enhanced MRI of Carotid Atherosclerosis

William Kerwin[1], Jianming Cai[1,2], Thomas S. Hatsukami[1,3], Chun Yuan[1]
[1]University of Washington, Seattle, Washington, USA; [2]PLA General Hospital, Beijing, China; [3]Veterans Afairs Puget Sound Health Care System, Seattle, Washington, USA.

1569. Semi-automatic Analysis of Atherosclerotic Lesion Burden using an Ellipse-Fitting and Histogram-Based Thresholding Method

Ronald Wolf[1], Jeffrey Duda[1], Hee Kwon Song[1], Alexander Wright[1], Punam Saha[1], Emile Mohler[1], Felix Wehrli[1]
[1]University of Pennsylvania, Philadelphia, Pennsylvania, USA.

1570. Towards MR Assessment of Plaque Vulnerability: Image Acquisition and Segmentation

Milan Sonka[1], Daniel Thedens[1], Christian Schulze-Bauer[2], Gerhard Holzapfel[2], Rudolf Stollberger[2,3], Lizann Bolinger[1], Andreas Wahle[1]
[1]University of Iowa, Iowa City, Iowa, USA; [2]Graz University of Technology, Graz, Austria; [3]University of Graz, Graz, Austria.

1571. *In-Vivo* MR Imaging of Carotid Atherosclerosis: Correlation with High-Resolution *Ex-Vivo* Imaging and Histology

Sharon Elizabeth Clarke[1], Yuteng Chen[1], Stephen Lownie[3], Robert Hammond[3], Brian Rutt[1]
[1]John P.Robarts Research Institute, London, Ontario, Canada; [2]London Health Sciences Centre, University of Western Ontario, London, Ontario, Canada.

1572. Characterization of Intimal Changes in Early Coronary Lesions by Magnetic Resonance Microscopy

Breno S. Pessanha[1], Kimberlee Potter[1], Frank D. Kolodgie[1], Allen Burke[1], Andrew Farb[1], Erik Mont[1], Renu Virmani[1]
[1]Armed Forces Institute of Pathology, Washington, DC, USA.

1573. Imaging of Calcified Carotid Plaques

D. Saloner[1], L. Alkureishi[1], S. Majumdar[1], J.H. Rapp[1], and the ACSCEPT Investigators[1]
[1]University of California San Francisco, San Francisco, California, USA.

1574. High-Resolution MRI Imaging of the Atherosclerotic Vessel Wall by Simultaneous Use of Internal and External Coils

Gabor Mizsei[1], Roberto Corti[1], Eric Tamaroff[2], Juan Jose Badimon[1], Valentin Fuster[1], Zahi Fayad[1]
[1]Mount Sinai School of Medicine, New York, New York, USA; [2]General Electric Medical Systems, Milwaukee, Wisconsin, USA.

1575. Longitudinal, High-Resolution MRI Study of Atherosclerotic Plaque Progression and Regression in the NZW Rabbit

Al Busza[1], L Hegyi[2], P Overend[1], DC Grimsditch[1], JN Skepper[2], GA Whelan[1], GM Benson[1], PD Hockings[1], DG Reid[1], TA Carpenter[2], KE Suckling[1], PL Weissberg[2]
[1]GlaxoSmithKline, Welwyn, England, UK; [2]Cambridge University, Cambridge, England, UK.

1576. Quantitation of Atherosclerosis *In Vivo* in LDLR Knockout Mice by 3D MRI

Paul D. Hockings[1], Toby Roberts[1], David G. Reid[1], Martin Vidgeon-Hart[1], Dorothy A. Harris[1], Pieter H.E. Groot[1], Keith E. Suckling[1], G. Martin Benson[1]
[1]GlaxoSmithKline, Welwyn, England, UK.

1577. Assessment of Contrast Enhanced 3DFGRE For Atherosclerotic Plaque Burden Measurement

Ying Luo[1], Shaoxiong Zhang[1], Nayak Polissar[1], Niranjan Balu[1], Jianmin Cai[1], Chun Yuan[1]
[1]University of Washington, Seattle, Washington, USA.

1578. Analysis of Dynamic Contrast-Enhanced MRI of Carotid Atherosclerosis Quantifies Plaque Neovasculature

William Kerwin[1], Marina Ferguson[2], Thomas S. Hatsukami[1,3], Chun Yuan[1]
[1]University of Washington, Seattle, Washington, USA; [2]Marina Ferguson Inc., Seattle, Washington, USA; [3]Veterans Affairs Puget Sound Health Care System, Seattle, Washington, USA.

1579. EP-1242: A Fibrin Targeted Contrast Agent for Thrombus Imaging

P Caravan[1], A F Kolodziej[1], J M Greenwood[1], S Witte[1], A W Case[1], S Shannon[1], R J Looby[1], Z Zhang[1], M Spiller[2], T J McMurry[1], R M Weisskoff[1], P B Graham[1]
[1]EPIX Medical, Inc., Cambridge, Massachusetts, USA; [2]New York Medical College, Valhalla, New York, USA.

1580. MR Contrast-Enhancement of Atherosclerotic Plaque in Watanabe Rabbits: Effects of a Lipid-Rich Diet

Linda Chaabane[1], Francis Contard[2], Philippe Douek[3], Claire Corot[4], Daniel Guerrier[2], André Briguet[1], Emmanuelle Canet[3]
[1]Laboratoire de RMN, Villeurbanne, France; [2]Lipha SA, , France; [3]CREATIS, UMR 5515 CNRS, Lyon, France; [4]Laboratoire Guerbet, Roissy, France.

1581. Plaque Inflammation in Atherosclerotic Rabbits and Mice Can Be Identified by SPIO, Introducing a Non-Invasive Method for Imaging Macrophage Infiltration in Active or Inflamed Vulnerable Plaques

Maziar Azadpour[1], Silvio Litovsky[1], Mohammad Madjid[1], Pondana Narayana[2], John D Hazle[3], Alireza Zarrabi[1], Ward Casscells[1], James T Willerson[1], Morteza Naghavi[1]
[1]University of Texas-Houston Health Science Center, and Texas Heart Institute, Houston, Texas, USA; [2]University of Texas-Houston Health Science Center, Houston, Texas, USA; [3]MD Anderson Cancer Center, Houston, Texas, USA.

1582. Factors Regulating Macrophage Uptake of Iron Oxide Nanoparticles: Significance for Imaging Atherosclerosis

Walter John Rogers[1]
[1]Allegheny General Hospital, Pittsburgh, Pennsylvania, USA.

1583. Overestimation of Vascular Wall Thickness: Effect of the Parabolic Intraluminal Velocity Profile

Walter John Rogers[1], Robert WW Biederman[1]
[1]Allegheny General Hospital, Pittsburgh, Pennsylvania, USA.

1584. Determination of Wall Shear Stress in Stenosis Models using Phase Contrast MR: Direct Calculation versus Computational Fluid Dynamics

Daniel Roberts Karolyi[1,2], John Oshinski[1,3], Don P. Giddens[1]
[1]Georgia Institute of Technology, Atlanta, Georgia, USA; [2]Medical College of Georgia, Augusta, Georgia, USA; [3]Emory University, Atlanta, Georgia, USA.

Coronary MR Imaging

1585. Coronary Artery Imaging with a Reduced Field-Of-View

Steven Shea[1], Andrew Larson[1], Jordin Green[1], Vibhas Deshpande[1], John Paul Finn[1], Debiao Li[1]
[1]Northwestern University, Chicago, Illinois, USA.

1586. 3D Magnetization Prepared TrueFISP using a Linear Flip Angle Series

Vibhas Deshpande[1], Yiu-Cho Chung[2], Al Zhang[2], Steven Shea[1], J. Paul Finn[1], Debiao Li[1]
[1]Northwestern University, Chicago, Illinois, USA; [2]Siemens Medical Solutions, Inc., Chicago, Illinois, USA.

1587. 3D True-FISP Imaging of Coronary Arteries: Improved Contrast with T_2-Preparation

Steven Shea[1], Vibhas Deshpande[1], Yiu-Cho Chung[2], John Paul Finn[1], Debiao Li[1]
[1]Northwestern University, Chicago, Illinois, USA; [2]Siemens Medical Solutions, Inc., Chicago, Illinois, USA.

1588. 3D-Navigator MR Angiography of the Coronary Arteries: Comparison of Gradient-Echo and Steady State Free Precession Sequences

Jörg Barkhausen[1], Peter Hunold[1], Markus Jochims[2], Florian Vogt[1], Jörg Debatin[1], Gerhard Laub[3]
[1]University Hospital Essen, Essen, Germany; [2]Elisabeth Hospital Essen, Essen, Germany; [3]Siemens Medical Systems, Inc., Chicago, Illinois, USA.

1589. Spiral SSFP Coronary Artery Imaging

Brian Hargreaves[1], Craig H. Meyer[1], Phillip Yang[1], Bob S. Hu[1], Dwight G. Nishimura[1]
[1]Stanford University, Stanford, California, USA.

1590. Magnetization-Prepared, Free-Breathing, Steady State Free Precession, Cartesian and Radial Coronary MR Angiography

Oliver M. Weber[1], Alastair J. Martin[1], Gautham P. Reddy[1], Charles B. Higgins[1]
[1]University of California at San Francisco, San Francisco, California, USA.

1591. Toward Rapid Real-time Navigator Guided Coronary MRA using Sensitivity Encoding (SENSE) and Motion Adapted Gating (MAG)

Raja Muthupillai[1,3], Steve Hong[2], Jouke Smink[1], Scott D Flamm[2,3]
[1]Philips Medical Systems, Houston, Texas, USA; [2]Baylor College of Medicine, Houston, Texas, USA; [3]St. Luke's Episcopal Hospital, Houston, Texas, USA.

1592. Coronary Artery Imaging: Do We Need Blood Pool Agent?

Jie Zheng[1], Vibhas Deshpande[2], Paul Finn[2], Friedrich Michael Cavagna[3], Fabio Maggioni[3], Debiao Li[2]
[1]Washington University in St. Louis, St. Louis, Missouri, USA; [2]Northwestern University, Chicago, Illinois, USA; [3]Bracco Spa, Milano,.

1593. Dynamic Contrast-enhanced MRA Technique is Necessary to Accurately Image Occluded Coronary Arteries with Collateral Reconstitution

Pamela K. Woodard[1], Jie Zheng[2], Nikolaos V. Tsekos[2], John P. Lasala[2], R. Todd Constable[1], Robert J. Gropler[2]
[1]Yale University School of Medicine, New Haven, Connecticut, USA; [2]Washington University in St. Louis, St. Louis, Missouri, USA.

1594. Optimized Navigator Gated Sequence for 3D Contrast Enhanced Free-Breathing Coronary MRA: Application with the New Intravascular Contrast Agent B-22956

Michael E. Huber[1], Ingo Paetsch[2], Bernhard Schnackenburg[3], Axel Bornstedt[2], Eike Nagel[2], Peter Boesiger[1], Friedrich Michael Cavagna[4], Matthias Stuber[5,6]
[1]University of Zurich, Zurich, Switzerland; [2]German Heart Institute of Berlin (DHZB), Berlin, Germany; [3]Philips Medical Systems, Hamburg, Germany; [4]Bracco Spa, Milano, Italy; [5]Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, Massachusetts, USA; [6]Philips Medical Systems, Best, Netherlands.

1595. Contrast-enhanced MR Imaging of Coronary Arteries with Gadomer-17: Preliminary Results

Christoph U. Herborn[1], Jörg Barkhausen[1], Kohkan Shamsi[2], Marianne Mahler[2], Eike Nagel[3]
[1]University Hospital Essen, Essen, Germany; [2]Schering AG, Berlin, Berlin, Germany; [3]German Heart Center Berlin, Berlin, Germany.

1596. Motion of Coronary Arteries: Correlation between Volumetric Navigator Echo, Diaphragm Motion and the ECG Signal

Thanh Nguyen[1], Yi Wang[1], Martin R. Prince[1]
[1]Cornell University Weill Medical College, New York, New York, USA.

1597. Three-dimensional Analysis of Coronary Motion in CAD Patients: Implications for MR Coronary Angiography

Salil J. Patel[1], John Oshinski[1], Mark Leimbach[1], Puneet Sharma[2], Roderic Pettigrew[1]
[1]Emory University, Atlanta, Georgia, USA; [2]Georgia Institute of Technology, Atlanta, Georgia, USA.

1598. New Technique for Investigation of Dynamic Respiratory Motion of the Heart using Real-time Multi 2D MRI and Image-based Motion Registration

Dirk Manke[1], Kay Nehrke[2], Peter Rösch[2], Peter Börnert[2], Olaf Dössel[1]
[1]University of Karlsruhe, Karlsruhe, Germany; [2]Philips Research Hamburg, Hamburg, Germany.

1599. Real-Time Adaptive Weighted Correlated Averaging for Coronary MR-Angiography on a DSP Platform

Ingmar Graesslin[1], Li Fang[2], Tobias Schaeffter[1], Peter Börnert[1], Thomas Netsch[1], Dieter Riekmann[1], Holger Eggers[1], Roland Proksa[1], Otto Lange[3]
[1]Philips Research Hamburg, Hamburg, Germany; [2]University of Applied Science, Hamburg Germany; [3]Technical University Hamburg-Harburg, Hamburg Germany,

1600. Real-Time Enhanced High-Resolution Magnetic Resonance Coronary Angiography

Phillip Yang[1], Craig Meyer[1], Masahiro Terashima[1], Jan Engvall[1], Shu Kaji[1], Michael McConnell[1], Al Macovski[1], John Pauly[1], Dwight Nishimura[1], Bob Hu[1]
[1]Stanford University, Stanford, California, USA.

1601. No Nitroglycerin Tolerance Develops in the Right Coronary Artery: Results from a Randomized, Placebo-Controlled and Double Blind Crossover Trial

Sten Oyre[1], Michael Hansen[2]1 Helle Sorensen[1], Keld Sorensen[1], Jens Erik Nielsen-Kudsk[1], Erik Pedersen[1]
[1]Aarhus University Hospital, Aarhus, Denmark.

1602. Evaluation of Reproducibility of Breath-Hold and Navigator Gated MR Techniques for Coronary Volume Flow Quantification

Willemijn L.F. Bedaux[1], Mark B.M. Hofman[1], Cees A. Visser[1], Albert C. Van Rossum[1]
[1]VU University Medical Center, Amsterdam, Netherlands.

1603. Wall Shear Stress Values in the Right Coronary Artery Determined from Navigator Echo Gated Phase Velocity Mapping and Analytical Simulation

John N Oshinski[1], Francis Loth[2]
[1]Emory University School of Medicine, Atlanta, Georgia, USA; [2]University of Illinois at Chicago, Chicago, Illinois, USA.

1604. Breath-Hold Interleaved Spiral Phase Velocity Mapping of Right and Left Coronary Artery Blood Flow

Jennifer Keegan[1], Peter Gatehouse[1], Guang-Zhong Yang[1], David Firmin[1]
[1]Royal Brompton and Harefield NHS Trust and Imperial College of Science, Technology and Medicine, London, England, UK.

Myocardial Perfusion

1605. A Method For Measuring The Blood Input Bolus during First-Pass Myocardial Perfusion Imaging with High Contrast Agent Concentrations

Peter Gatehouse[1], Andrew Elkington[1], Dudley Pennell[1], David N. Firmin[1]
[1]Royal Brompton Hospital and Imperial College of Science, Technology and Medicine, London, England, UK.

1606. Systematic Investigation of the Influence of Arterial Input Function on Quantitative Evaluation of Myocardial Blood Flow with Contrast Enhanced MRI

Melanie Schmitt[1], Oliver K. Mohrs[1], Steffen E. Petersen[1], Karl-Friedrich Kreitner[1], Thomas Voigtländer[1], Georg Horstick[1], Thomas Wittlinger[1], Steffen Ziegler[1], Wolfgang G. Schreiber[1]
[1]Johannes Gutenberg-Universität Mainz, Mainz, Germany.

1607. Model-Independent Quantification of Myocardial Blood Flow with Extracellular Contrast Agents: The Central Volume Principle Revisited

Michael Jerosch-Herold[1], Cory M. Swingen[1], Ravi Teja Seethamraju[1]
[1]University of Minnesota, Minneapolis, Minnesota, USA.

1608. Where Does Upslope Normalization Fail in Cardiac Perfusion MRI?

Dara L Kraitchman[1], Raymond C Boston[2]
[1]Johns Hopkins University School of Medicine, Baltimore, Maryland, USA; [2]University of Pennsylvania, Philadelphia, Pennsylvania, USA.

1609. A Comparison of Temporal Filtering Methods for Myocardial Perfusion Studies

Edward V.R. DiBella[1], Yijing Wu[1], Andrew L. Alexander[2], Dennis Lee Parker[1], Douglas Green[1], Chris J. McGann[1]
[1]University of Utah, Salt Lake City, Utah, USA; [2]University of Wisconsin, Madison, Wisconsin, USA.

1610. Self-Adaptive Free-form Registration for First Pass Myocardial Perfusion Imaging with PLSR

Jianxin Gao[1], Nick Ablitt[1], Guang-Zhong Yang[1]
[1]Imperial College of Science, Technology and Medicine, London, England, UK.

1611. Interactively Piloted Parametric Mapped Data for Improved Placement of Contrast Uptake Evaluation of Myocardial Perfusion

Dee H Wu[1], Sara Hagey[1], Sara M Oberrecht[1]
[1]Philips Medical Systems - Cleveland, Cleveland, Ohio, USA.

1612. Comprehensive Visualization of First-Pass Myocardial Perfusion: The Uptake Movie and the Perfusogram

Marcel Breeuwer[1]
[1]Philips Medical Systems, Best, Netherlands.

1613. Diagnostic Values of Delayed Contrast-enhanced MRI and First-pass Perfusion MRI in Predicting Functional Recovery in Patients with Acute Myocardial Infarction

Kakuya Kitagawa[1], Hajime Sakuma[2], Tadanori Hirano[1], Kan Takeda[2], Katsutoshi Makino[1]
[1]Matsusaka Central Hospital, Matsusaka, Mie, Japan; [2]Mie University, Tsu, Mie, Japan.

1614. Resting Magnetic Resonance First Pass Myocardial Perfusion Imaging Correlated with Stress/Rest SPECT and Heart Catheterization

B. Nicholas Hatton[1], Salil Patel[1], John Vansant[1], John Oshinski[1], Puneet Sharma[1], Rob Van Der Geest[1], Roderic Pettigrew[1]
[1]Emory University School of Medicine, Atlanta, Georgia, USA.

1615. Cardiac Motion Tracking for 3D Myocardial Perfusion Imaging

Nicholas Akbar Ablitt[1], Peter Gatehouse[2], Jianxin Gao[1], David N. Firmin[2], Guang-Zhong Yang[1,2]
[1]Imperial College of Science, Technology and Medicine, London, England, UK; [2]Royal Brompton Hospital, London, England, UK.

1616. Comparison of Wall Motion Analysis during High-Dose Dobutamine-Atropine Stress with Perfusion Imaging during Adenosine Stress for Diagnosis of Inducible Myocardial Ischemia, as Assessed by Invasive Coronary Angiography

Andreas Wahl[1], Stefan Roethemeyer[1], Ingo Paetsch[1], Kristof Graf[1], Daniela Foell[1], Christoph Klein[1], Holger Langreck[1], Eckart Fleck[1], Eike Nagel[1]
[1]German Heart Institute Berlin, Berlin, Germany.

1617. The Effect of Adrenergic Stimulation on Rb^+ Uptake in Normal and Ischemic Areas of Isolated Pig Hearts: ^{87}Rb MRI Study

Valerie Kupriyanov[1,2], Bo Xiang[1], Jiankang Sun[1], Olga Jilkina[2], Roxanne Deslauriers[1,2]
[1]National Research Council - Canada, Winnipeg, Manitoba, Canada; [2]University of Manitoba, Winnipeg, Manitoba, Canada.

1618. Imaging of Ischemia and Infarction in Blood-Perfused Pig Hearts using ^{87}Rb MRI

Valerie Kupriyanov[1,2], Bo Xiang[1], Jiankang Sun[1], Olga Jilkina[1], Bozena Kuzio[1], Roxanne Deslauriers[1,2]
[1]National Research Council - Canada, Winnipeg, Manitoba, Canada; [2]University of Manitoba, Winnipeg, Manitoba, Canada.

1619. Differences in R_1 and Water Exchange Measurements *In* and *Ex Vivo* in Porcine Myocardium in the Presence of NC100150Injection

Tomas Bjerner[1], Lars Johansson[1], Anders Ericsson[1], Gerhard Wikström[1], Hakan Ahlström[1]
[1]Uppsala University Hospital, Uppsala, Sweden.

1620. Correlation of Iron Concentration and $1/T_2$ of Gerbil Heart

Zhiyue J Wang[1], Lurong Lian[1], Micheal Scully[1], Qiukai Chen[1], Huaqing Zhao[1], Tosio Asakura[1], Alan R Cohen[1]
[1]Children's Hospital of Philadelphia, Philadelphia, Pennsylvania, USA.

1621. Measurments of the Extent of Microvascular Injury in Acute Reperfused Infarction by USPIO (Clariscan) and T_2-Weighted Spin-Echo Imaging

Gabriele Anja Krombach[1], Charles B Higgins[1], Maythem Saeed[1]
[1]University of California San Francisco, San Francisco, California, USA.

1622. One Stop Pre-operative Comprehensive Cardiac and Vascular MR Examination: Initial Experience and Feasibility

J. Goldman[1], A. Rosenbluth[1], F. Macaluso[1], J. Sullivan[1], M. Poon[1]
[1]Mount Sinai School of Medicine, New York, New York, USA.

BASIC SCIENCE FOCUS SESSION (WITH POSTERS)
Myocardial Function: Viability and Motion

1623. Fast Three-Dimensional, Free-breathing Imaging of Myocardial Infarction

Manojkumar Saranathan[1], Thomas Foo[1], Ernesto Castillo[2], Bernice E. Hoppel[1], Katherine Wu[2]
[1]G. E. Medical Systems, Milwaukee, Wisconsin, USA; [2]Johns Hopkins University, Baltimore, Maryland, USA.

1624. Breath-held 3D Imaging of Delayed Hyper-enhancement for Assessment of Myocardial Viability using Variable Sampling in Time (VAST)

Thomas Foo[1], David Stanley[1], Ernesto Castillo[2], Katherine Wu[2], Joao Lima[2], David A. Bluemke[2]
[1]G. E. Medical Systems, Milwaukee, Wisconsin, USA; [2]Johns Hopkins University School of Medicine, Baltimore, Maryland, USA.

1625. 3D Breath-held SSFP Cardiac MR with Projection Reconstruction

Dana Ceceilia Peters[1], Daniel Ennis[2], Elliot McVeigh[1,2]
[1]National Institutes of Health, Bethesda, Maryland, USA; [2]Johns Hopkins University, Baltimore, Maryland, USA.

1626. Assessment of Delayed Hyperenhancement Volume for Reperfused Myocardium Infarction using Single Breath-Hold 3D Acquisition

Yi Wang[1], Xiangke Du[1], Thomas Foo[2], Guang Cao[3]
[1]Peking University People's Hospital, Beijing, China; [2]GE Medical Systems, Milwaukee, Wisconsin, USA; [3]GE Medical Systems, Hong Kong, China.

1627. The Time Required after Gd-DPTA Injection for Delayed Enhancement to Accurately Determine Infarct Size Depends on the Infarct Size

John Oshinski[1], Zequan Yang[2], Jeffery R Jones[2], Jaime Mata[2], Brent A. French[2]
[1]Emory University School of Medicine, Atlanta, Georgia, USA; [2]University of Virginia, School of Medicine, Charlottesville, Virginia, USA.

1628. Reverse Redistribution on Stress-redistribution Thallium-201 Myocardial SPECT: Comparison with Delayed Contrast-enhanced MRI and Cine MRI

Yukako Yahara[1], Hajime Sakuma[2], Kakuya Kitagawa[1], Tadanori Hirano[1], Kan Takeda[2], Satoshi Ohta[1], Tamaki Kitai[1], Katsutoshi Makino[1]
[1]Matsusaka Central Hospital, Matsusaka, Mie, Japan; [2]Mie University, Tsu, Mie, Japan.

1629. Blood Pool MRI Contrast Media for Assessing Suppression of Microvascular Permeability after Nicorandil Therapy in Early Post-Infarction Reperfusion

Gabriele Anja Krombach[1], Charles B. Higgins[1], Mitsuaki Chujo[2], Maythem Saeed[1]
[1]University of California San Francisco, San Francisco, California, USA; [2]Chugai Pharmaceutical Co., Ltd, Tokyo, Japan.

1630. Manganese Ions as Intracellular Contrast Agents: Studies of T_1 Relaxation and Calcium Interactions in Rat Myocardial Tissue

Wibeke Nordhøy[1], Henrik W Anthonsen[2], Morten Bruvold[3], Jostein Krane[4], Heidi Brurok[1], Per Jynge[1]
[1]Norwegian University of Science and Technology, Trondheim, Norway.

1631. Real-Time Imaging of Myocardial Strain Patterns using a Fast HARP Sequence with CSPAMM

Smita Sampath[1], J. Andrew Derbyshire[2], Nael F. Osman[1], Jerry Ladd Prince[1]
[1]Johns Hopkins University, Baltimore, Maryland, USA; [2]National Institutes of Health, Bethesda, Maryland, USA.

1632. Rapid Classification of Tagged Cardiac MR Images

Dilek Goksel[1], Mehmed Ozkan[1], Cengizhan Ozturk[1]
[1]Bogazici University, Istanbul, Turkey.

1633. A Study of the Motion and Deformation of the Heart due to Respiration

Kate McLeish[1], Derek Hill[1], David Atkinson[1], Jane M Blackall[1], Reza Razavi[2]
[1]King's College London, London, England, UK; [2]Guy's Hospital, London, England, UK.

1634. Evaluating Pacing-Induced Improvements in Contractile Function in the Failing Heart using Local Strain Measurements

Owen Patrick Faris[1,2], Christophe Leclercq[1], Ritsushi Kato[1], Frank Evans[2], Michael A. Guttman[2], Henry R. Halperin[1], David A. Kass[1], Elliot McVeigh[1,2]
[1]Johns Hopkins University, Baltimore, Maryland, USA; [2]National Institutes of Health, Bethesda, Maryland, USA.

Myocardial Viability

1635. Delayed Hyperenhancement Overestimates Acute Myocardial Infarction Size in Humans

Wiphada Patricia Ingkanisorn[1], Kenneth L. Rhoads[1], Andrew Arai[1]
[1]National Institutes of Health, Bethesda, Maryland, USA.

1636. Accelerated Phase Sensitive Inversion Recovery for Detecting Myocardial Infarction using Gd-DTPA Delayed Hyperenhancement

Peter Kellman[1], Andrew Arai[1], Elliot McVeigh[1], Anthony Aletras[1]
[1]National Institutes of Health, Bethesda, Maryland, USA.

1637. Multi-Slice Phase Sensitive Delayed Hyperenhancement MRI of Myocardial Infarction

Andrew E. Arai[1], Peter Kellman[1], Anthony H. Aletras[1]
[1]National Institutes of Health, Bethesda, Maryland, USA.

1638. Arrhythmia-Insensitive Delayed Enhancement Imaging after Gd-Injection: Theoretical Simulations

Puneet Sharma[1], John Oshinski[1,2], Salil Patel[2], Roderic Pettigrew[1,2]
[1]Georgia Institute of Technology, Atlanta, Georgia, USA; [2]Emory University, Atlanta, Georgia, USA.

1639. True Real-time Free-breathing Interactive Imaging for Myocardial Viability

Allison B Robbins[1], Manojkumar Saranathan[1], Ernesto Castillo[2], Katherine Wu[2], Vincent B. Ho[3], Thomas Foo[1]
[1]General Electric Medical Systems, Baltimore, Maryland, USA; [2]Johns Hopkins University, Baltimore, Maryland, USA; [3]Uniformed Services University of the Health Sciences, Bethesda, Maryland, USA.

1640. Free-breathing Contrast-enhanced MR Imaging of Myocardial Dysfunction: Clinical Application of Real-time Navigator Echo Imaging

James Goldfarb[1], Meir Shinnar[1]
[1]University of Medicine and Dentistry of New Jersey, New Brunswick, New Jersey, USA.

1641. Myocardial Infarction Size Validation with Single Breath-Hold Three-Dimensional Inversion-Recovery-Prepared MRI

Ernesto Castillo[1], Dara L. Kraitchman[1], Luciano Amado[1], Bernhard L. Gerber[1], Thomas Foo[2], David A. Bluemke[1], Joao Lima[1]
[1]Johns Hopkins University School of Medicine, Baltimore, Maryland, USA; [2]G. E. Medical Systems, Milwaukee, Wisconsin, USA.

1642. Myocardial Viability Imaging: Advantages of a Constant Infusion versus a Bolus Injection

Gerald Moran[1], Rebecca Thornhill[2], Deanna Bellamy[2], Raoul Pereira[3], Jane Sykes[2], Gerald Wisenberg[4], Frank Saverio Prato[2]
[1]McMaster University, Hamilton, Ontario, Canada; [2]Lawson Health Research Institute, St. Joseph's Health Care, London, Ontario, Canada; [3]Foothills Medical Centre, University of Calgary, Calgary, Alberta, Canada; [4]University of Western Ontario, Medicine & Dentistry, London, Ontario, Canada.

1643. Accurate Three-Dimensional Displays of Myocardial Perfusion and Viability with Magnetic Resonance Imaging

Cory M. Swingen[1], Ravi Teja Seethamraju[1], Michael Jerosch-Herold[1]
[1]University of Minnesota, Minneapolis, Minnesota, USA.

1644. The Evaluation of the Intra-aortic Balloon Pump to Reduce Infarct Size in a Reperfused Canine Model

Luciano Amado[1], Bernhard Gerber[1], Ernesto Castillo[1], Atanas Kissiov[1], Joao Augusto Lima[1], Dara Kraitchman[1]
[1]Johns Hopkins University, Baltimore, Maryland, USA.

1645. Cardiac Manganese Enhanced MRI (MEMRI): Application to a Canine Model of Ischemia

Tom Chih-Chuang Hu[1], Timothy F. Christian[1], Anthony H. Aletras[1], Joni Taylor[1], Alan P. Koretsky[1], Andrew E. Arai[1]
[1]National Institutes of Health, Bethesda, Maryland, USA.

1646. Assessment of Myocardial Infarct Size using Manganese Enhanced MRI at 4.7 Tesla

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1647. *In-Vivo* Compensatory Reductions in Calcium Influx in Transgenic Mice with Mutant Troponin I (TnI) Quantitated with Manganese Enhanced MRI (MEMRI)

Tom C.-C. Hu[1], Guy A. MacGowan[2], Alan P. Koretsky[1]
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1648. The Potential of Extracellular and Necrosis Specific Gd-mesoporphyrin MR Contrast Media for Predicting Left Ventricular Remodeling

Maythem Saeed[1], Norbert Watzinger[1], Gunnar K. Lund[1], Gabriele Anja Krombach[1], Michael M. Wendland[1], Hanns-Joachim Weinmann[2], Charles B Higgins[1]
[1]University of California San Francisco, San Francisco, California, USA; [2]Schering AG, Berlin, Germany, , .

1649. MRI Assessment of the No-Reflow Phenomenon in Reperfused Myocardial Infarction: Value of the Potassium Channel Opener Therapy

Maythem Saeed[1], Gabriele Anja Krombach[1], Mitsuaki Chujo[2], Charles Higgins[1]
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Myocardial Function

1650. Safety and Feasibility of High-Dose Dobutamine-Atropine Stress Magnetic Resonance Imaging for Diagnosis of Myocardial Ischemia: Experience in 500 Consecutive Patients

Andreas Wahl[1], Albrecht Gollesch[1], Stefan Roethemeyer[1], Ingo Paetsch[1], Daniela Foell[1], Christoph Klein[1], Holger Langreck[1], Bernhard Schnackenburg[1], Axel Bornstedt[1], Eckart Fleck[1], Eike Nagel[1]
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1651. Quantitative Analysis Supports a Qualitative Assessment of Left Ventricular Regional Function

Lilia Mercedes Sierra-Galan[1], Andrew Ernest Arai[1]
[1]National Institutes of Health, Bethesda, Maryland, USA.

1652. Dobutamine Challenge: A Novel Technique for the Noninvasive MR Assessment of Right Ventricular Reserve in Pulmonary Arterial Hypertension

Jeffrey Goldman[1], A. Rosenbluth[1], John Gentile[1], Michael Poon[1]
[1]Mount Sinai School of Medicine, New York, New York, USA.

1653. Complete LV Assessment (Mass, Volume, and Wall Motion) in a Single Short Breath Hold using Triggered Real-Time Imaging

Krishna S. Nayak[1], Dwight G. Nishimura[1], Shuichiro Kaji[1], John M. Pauly[1], Bob Hu[1]
[1]Stanford University, Stanford, California, USA.

1654. Displacement of the Mid-Papillary Muscles between End-Systole and End-Diastole Serves as a New Marker of Ventricular Twist and Translation

Andrew Wynn Bowman[1], Shelton D. Caruthers[1], Mary P. Watkins[1], Sándor J. Kovács[1]
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1655. Rapid Evaluation of Right and Left Ventricular Function using Real-Time True-FISP Cine MR Imaging without Breath-Hold

Yoshiro Hori[1], Naoaki Yamada[1], Masahiro Higashi[1], Nobuhiko Hirai[1], Shinichi Urayama[1], Hiroaki Naito[1]
[1]National Cardiovascular Center, Osaka, Japan.

1656. Increased Efficiency in the Evaluation of Myocardial Function using Multiple Preparatory Excitations Implemented throughout the Cardiac Cycle

Dee H Wu[1], Stephen Galambos[1], James Snicer[1]
[1]Philips Medical Systems Cleveland, Cleveland, Ohio, USA.

1657. Non-Invasive Measurement of Left Ventricular Pressure during the Systolic Ejection Period using MR Function and Tagged Images

Marc Eric Miquel[1], David Atkinson[1], Lachlan Clarck[1], Raghavendra Chandrashekara[2], Daniel Rueckert[2], Derek Hill[1], Reza Razavi[1]
[1]King's College London, Guy's Hospital, London, England, UK; [2]Imperial College of Science, Technology and Medicine, University of London, London, England, UK.

1658. DENSE Detects Abnormal Regional Contractile Function in Myocardium with Intermediate Gd-DTPA Contrast Enhancement

Anthony Aletras[1], Kwabena Agyeman[1], Wiphada Patricia Ingkanisorn[1], Andrew Arai[1]
[1]National Institutes of Health, Bethesda, Maryland, USA.

1659. Assessment of Cardiac Function using 2D CINE FIESTA Imaging in Combination with Parallel Imaging

Ralph Noeske[1], Kevin F King[2], Matthias Gero Friedrich[3], Thoralf Niendorf[1]
[1]GE Medical Systems, Berlin, Germany; [2]GE Medical Systems, Milwaukee, Wisconsin, USA; [3]Franz-Volhard-Klinik, Charité, Berlin, Germany.

1660. MR Assessment of Left Ventricular Function: Quantitative Comparison of Fast Imaging Employing Steady-State Acquisition (FIESTA) with Fast Gradient Echo Cine Technique

Wei Li[1], Jessica S Stern[1], Vu M Mai[1], Robert R Edelman[1], Pottumarthi V Prasad[1]
[1]Northwestern University, Evanston Northwestern Healthcare, Evanston, Illinois, USA.

1661. Left Ventricular Mass Measurement: Comparison of TrueFISP and FLASH Cine-Angiography in Two Large Animal Models

David Steven Fieno[1], Christopher J. Francois[1], Stephanie M. Shors[1], Richard M. McCarthy[1], J. Paul Finn[1]
[1]Northwestern University Medical School, Chicago, Illinois, USA.

1662. Accurate Quantification of Right Ventricular Mass using Cine TrueFISP Magnetic Resonance Imaging

Stephanie Marie Shors[1], Christopher Jean-Pierre Francois[1], J. Paul Finn[1], David Steven Fieno[1]
[1]Northwestern University Medical School, Chicago, Illinois, USA.

1663. Manual Versus Automatic Cardiac Image Segmentation with TrueFISP Cine Imaging

Christopher Jean-Pierre Francois[1], Dave Fieno[1], Stephanie Shors[1], John Paul Finn[1]
[1]Northwestern University, Chicago, Illinois, USA.

1664. Parallel Acquisition Techniques for Cardiac Cine MRI: Comparison of Image Quality

Peter Hunold[1], Stefan Maderwald[2], Mark Ladd[1], Thomas Kluge[3], Vladimir Jellus[3], Jörg Debatin[1], Jörg Barkhausen[1]
[1]University Hospital Essen, Essen, Germany; [2]Ruhr-University Bochum, Bochum, Germany; [3]Siemens Medical Solutions, Erlangen, Germany.

1665. Validation of MRI Measurement of Cardiac Output in the Dog

Paul D. Hockings[1], Joanne Byrne[1], Gemma L. Taylor[1], Albert L. Busza[1], Sean C. Smart[1], Alan E. White[1], Heather L. Lloyd[1], Belinda A. Farnfield[1], Axel J. Krebs-Brown[1], David G. Reid[1], Bela Patel[1], David Templeton[1]
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1666. Rapid Assessment of Interpolation Effects in Cine Anatomic and Phase-Velocity Images

John C Wood[1]
[1]Childrens Hospital of Los Angeles, University of Southern California School of Medicine, Los Angeles, California, USA.

1667. Septal Eccentricity Index (SEI) as Determined by MRI is a Marker of Worsening Clinical and Hemodynamic Status in Pulmonary Hypertension

Michael Poon[1], R. Sulica[1], A.B. Rosenbluth[1], L.M. Boxt[1], L.R. Depalo[1], J.P. Goldman[1]
[1]Mount Sinai School of Medicine, New York, New York, USA.

1668. 3D Active Appearance Models: Fully Automatic Detection of Endo- and Epicardial Contours in Short-Axis Cardiac MR Data

Boudewijn Lelieveldt[1], Rob Van Der Geest[1], Steven Mitchell[2], Johan Bosch[1], Milan Sonka[2], Johan Reiber[1]
[1]Leiden University Medical Center, Leiden, Netherlands; [2]University of Iowa, Iowa City, Iowa, USA.

Myocardial Function: Tagging

1669. Myocardial Hibernation Diagnosis by Tag MRI and HARP Analysis

Christophe Dornier[1], Marko K. Ivancevic[1], Guillaume Lecoq[1], Alberto Righetti[1], Dominique Didier[1], Jean-Paul Vallée[1]
[1]Geneva University Hospital, Geneva, Switzerland.

1670. Heterogeneous Alterations in Left Ventricle Mechanics after Myocardial Infarction Quantified using MR Tagging

Wei Liu[1], Junjie Chen[1], J. Stacy Allen[1], Mark McLean[1], Samuel Wickline[1], Xin Yu[1]
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1671. Rapid Analysis of Left Ventricular Midwall Deformation from Tagged MRI

William Kerwin[1]
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1672. Model-Based 3D tracking of Cardiac Motion in HARP Images

Idith Haber[1], Carl-Fredrik Westin[2]
[1]Harvard Medical School, Children's Hospital of Boston, Boston, Massachusetts, USA; [2]Harvard Medical School, Brigham & Women's Hospital, Boston, Massachusette, USA.

1673. Improved Myocardial Tagging Contrast with Alternative Inversion Recovery AIR-SPAMM

Raisa Freidlin[1], Andrew Arai[1], Anthony Aletras[1]
[1]National Institutes of Health, Bethesda, Maryland, USA.

1674. Real-Time Two-Dimensional Myocardial Strain Acquisition with Harmonic Phase MR Imaging: A Validation Study in Humans

Ernesto Castillo[1], Smita Sampath[1], John Andrew Derbyshire[2], Li Pan[1], Jerry L. Prince[1], Nael F. Osman[1], David A. Bluemke[1]
[1]Johns Hopkins University, Baltimore, Maryland, USA; [2]National Institutes of Health, Bethesda, Maryland, USA.

1675. Myocardial Tagging: Comparing Imaging at 3.0 T and 1.5 T

Salome Ryf[1], Sebastian Kozerke[1], Marcus Spiegel[1], Rolf Lamerichs[2], Peter Boesiger[1]
[1]University and ETH Zurich, Zurich, Switzerland; [2]Philips Medical Systems, Best, Netherlands.

1676. Detection of Anatomic Structures in MR Tagging Data: One Step Further Towards Automatic Tagging Analysis

Juerg Schwitter[1], Salome Ryf[2], Marcus Spiegel[2], David Huerlimann[1], Peter Boesiger[2]
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1677. The Effect of Respiratory Motion on the Accuracy of HARP Imaging

Sharmeen Masood[1], Peter D. Gatehouse[1], David N. Firmin[1], Guang-Zhong Yang[1]
[1]Imperial College of Science, Technology and Medicine, University of London, London, England, UK.

1678. Clinical Assessment and Applications of 4D-Flow Imaging

Frandics P. Chan[1], Michael Markl[1], Marcus Alley[1], Bruce L. Daniel[1], Robert J. Herfkens[1], Norbert J. Pelc[1]
[1]Stanford University, Stanford, California, USA.

1679. Mechanical Ventricular Constraint Post Infarction Promotes Recovery of Stunned Myocardium

Aaron S. Blom[1], James J. Pilla[1], Daniel J. Brockman[1], Frank Bowen[1], Qing Yuan[1], Joseph Giammarco[1], Victor A. Ferrari[1], Joseph H. Gorman[1], Robert C. Gorman[1], Michael A. Acker[1]
[1]University of Pennsylvania Medical Center, Philadelphia, Pennsylvania, USA.

1680. Assessment of the Left Ventricle Ejection Fraction by MRI Tagging: Comparisons with Cine MRI and Coronary Angiography

Christophe Dornier[1], Marko K. Ivancevic[1], Guillaume Lecoq[1], Nael F. Osman[2], David Foxall[3], Alberto Righetti[1], Jean-Paul Vallée[1]
[1]Geneva University Hospital, Geneva, Switzerland; [2]Johns Hopkins University, Baltimore, Maryland, USA; [3]Philips Medical Systems, Cleveland, Ohio, USA.

1681. Respiratory and Cardiac Gated 3D Imaging for Improved Spatial and Temporal Resolution

Daniel B Ennis[1,2], Richard B Thompson[2], J. Andrew Derbyshire[2], Elliot McVeigh[1,2]
[1]Johns Hopkins University, Baltimore, Maryland, USA; [2]National Institutes of Health, Bethesda, Maryland, USA.

1682. Complex Function of Myocardial Laminar Sheets in Normal Humans Defined with Diffusion and Strain MRI

Jiangang Dou[1,2], Timothy Reese[1], Wen-Yih Tseng[3], Van Wedeen[1]
[1]Massachusetts General Hospital, Boston, Massachusetts, USA; [2]Harvard-MIT Division of Health Sciences and Technology, Boston, Massachusetts, USA; [3]National Taiwan University Medical College, Taipei, Taiwan.

Cardiac Function: Animal Models

1683. Effects of Propranolol Treatment on Ventricular Mass and Function in Aortic Banding Mice: CINE MRI Study

Giulia Carpinelli[1], R. Canese[1], C. Testa[1], G. Marano[1], S. Palazzesi[1], A.Vergari[2], A.U. Ferrari[3], F. Podo[1]
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1684. Quantitation Evaluation of Ventricular Dysfunction in MMP1 Transgenic Mice using MRI

Ed Wu[1], Cris Towe[1], Haiying Tang[1], J. D'Armiento[1]
[1]Columbia University, New York, New York, USA.

1685. Simultaneous High Resolution Imaging of Myocardial Infarct Area and Displacement in Mice using Gadolinium-Enhanced CSPAMM-Based DENSE

Wesley D. Gilson[1], Daniel Kim[1], Zequan Yang[1], Frederick H. Epstein[1]
[1]University of Virginia, Charlottesville, Virginia, USA.

1686. Spatial Modulation of Magnetization for Cardiac Tagging using Sinc Modulated RF Pulse Train

Ed Wu[1], Haiying Tang[1]
[1]Columbia University, New York, New York, USA.

1687. Will an Epicardial Restraining Mesh (Nitinol) Thwart the Post-Infarct LV Remodeling Process?

Robert Wallace Williams Biederman[1], Leah Teekell-Taylor[1], Sunil Mankad[1], Walter John Rogers[1], Jane Ripple[1], June Yamrozik[1], Dennis Trumbull[1], Kathleen Simpson[1], James Magovern[1]
[1]Alleghney General Hospital, Pittsburgh, Pennsylvania, USA.

1688. Passive Ventricular Constraint in a Model of Heart Failure Secondary to Acute Infarction Improves Myocardial Energetics as Measured by MRI

James J Pilla[1], Aaron S Blom[1], Daniel J Brockman[1], Qing Yuan[1], Victor Ferrari[1], Michael A Acker[1]
[1]University of Pennsylvania, Philadelphia, Pennsylvania, USA.

1689. *In Vivo* Time-Resolved Quantitative Motion Mapping of Healthy and Infarcted Murine Myocardium with Phase Contrast MRI

Volker Herold[1], Jörg U.G. Streif[1], Michael Szimtenings[1], Titus E. Lanz[1], Matthias Nahrendorf[2], Frank Wiesmann[2], Eberhard Rommel[1], Axel Haase[1]
[1]Universität Würzburg, Würzburg, Germany; [2]Medizinische Universitätsklinik, Würzburg, Germany.

1690. Analysis of Right Ventricular Morphology and Function in Mice by *In Vivo* High-Resolution Magnetic Resonance Imaging

Frank Wiesmann[1], Alex Frydrychowicz[1], Ralf Illinger[1], Eberhard Rommel[1], Axel Haase[1], Stefan Neubauer[2]
[1]Universität Würzburg, Würzburg, Germany; [2]John Radcliffe Hospital, Oxford, England, UK.

1691. MRI Tagging Revealed Reduced Ventricular Torsion in Muscular Dystrophic Mice

Xin Yu[1], Wei Liu[2], Junjie Chen[1], Shiow Jiuan Lin[1], Mark McLean[1], Stacy Allen[1], R. Mark Grady[1], Samuel Wickline[1]
[1]Washington University in St. Louis, St. Louis, Missouri, USA.

1692. Myocardial Blood Flow and Function in a Canine Model of Chronic Critical Coronary Stenosis

Katie S. Lekx[1], Jane Sykes[1], Gerald Wisenberg[1], Frank Saverio Prato[1]
[1]University of Western Ontario, London, Ontario, Canada.

Cardiac MR Spectroscopy in Humans and Animals

1693. 3D Density-weighted Chemical Shift Imaging (denCSI) for Quantitative ^{31}P Metabolite Mapping of the Human Heart

Andreas Greiser[1], Markus Von Kienlin[1]
[1]Universität Würzburg, Würzburg, Germany.

1694. Assessment of Individual Myocardial Energy Metabolism in Humans: Application to Left Ventricular Hypertrophy in Friedreich's Ataxia (FRDA)

Michael Bunse[1], Nana Bit-Avragim[2], Oliver Schmidt[1], Axel Riefflin[1], Andreas Perrot[2], Otto Lutz[3], Karl Josef Osterziel[2], Wulf-Ingo Jung[3]
[1]Max Grundig Clinic, Bühl, Germany; [2]Charite, Campus Buch & Virchow Hospital, Humboldt University, Berlin, Germany; [3]Universität Tübingen, Tübingen, Germany.

1695. ECG-Gated ^{23}Na-MRI using a 3D-Radial Projection Technique with Short Echo Times

Renate Jerecic[1], Michael Bock[1], Reiner Umathum[1], Christian Michael Wacker[2], Wolfgang Bauer[2], Lothar Schad[1]
[1]German Cancer Research Institute, Heidelberg, Germany; [2]Universität Würzburg, Würzburg, Germany.

1696. Cardiac ^{31}P Spectroscopy using Adiabatic Plane Rotation Pulses

Sebastian Kozerke[1], Michael Schär[1], Peter Boesiger[1]
[1]University and ETH Zurich, Zurich, Switzerland.

1697. Dynamical *In Vivo* ^{13}C NMR Spectroscopy for the Assessment of Myocardial Metabolic Fluxes

André Ziegler[1], Christian E. Zaugg[2], Peter T. Buser[2], Joachim Seelig[1], Basil Künnecke[3]
[1]Biocenter of the University, Basel, Switzerland; [2]University Hospital Basel, Basel, Switzerland; [3]F. Hoffmann-La Roche Ltd, Basel, Switzerland.

1698. Navigator Based Gating and Volume Tracking For Cardiac ^{1}H Spectroscopy

Sebastian Kozerke[1], Mike Schär[1], Dieter Meier[1], Peter Boesiger[1]
[1]University of Zurich, Zürich, Switzerland.

1699. Cardiac ^{31}P MRS Identifies Ischemia in Women with Chest Pain but Normal Coronary Angiograms

Hee-Won Kim[1], Katherine N. Scott[1], Angela P. Bruner[1], Steven Buchthal[2], Jan Den Hollander[2], Gerald M. Pohost[2], Carl J. Pepine[2]
[1]University of Florida, College of Medicine, Gainesville, Florida, USA; [2]University of Alabama at Birmingham, Birmingham, Alabama, USA.

1700. Phosphomonoester Signals in Cardiac ^{31}P NMR Spectra from Control Subjects

Oliver Schmidt[1,2], Wulf-Ingo Jung[2], Otto Lutz[2], Michael Bunse[1,2]
[1]Max Grundig Clinic, Bühl, Germany; [2]Universität Tübingen, Tübingen, Germany.

1701. Gated Flip Angle Weighting for Cardiac Spectroscopic Imaging

Michael Schär[1], Sebastian Kozerke[1], Peter Boesiger[1]
[1]University and ETH, Zürich, Switzerland.

1702. Combined Ischemic Blockade of the Sodium Channel and the NHE in Isolated Rat Hearts: A ^{23}Na and ^{31}P MRS Study

Michiel Ten Hove[1], Cees J.A. Van Echteld[2]
[1]Interuniversity Cardiology Institute of the Netherlands, Utrecht, Netherlands; [2]University Medical Center, Utrecht, Netherlands.

1703. Thyroid Modulation of Cardiac Energy Metabolism

Michael A. Portman[1], Xue-Han Ning[2]
[1]University of Washington, Seattle, Washington, USA.

1704. Hypoxia-Induced Bioenergetic Rearrangements in the Heart Detected by ^{18}O-assisted ^{31}P MRS and ^{1}H MRS

Darko Pucar[1], Petras P.P. Dzeja[1], Peter Bast[1], Nenad Juranic[1], Slobodan Macura[1], Andre Terzic[1]
[1]Mayo Clinic, Rochester, Minnesota, USA.

1705. Changes in Cytosolic Redox Levels and Extracellular Ca^{2+} Alter TCA Cycle and Exchange Fluxes in Rat Perfused Hearts: A Kinetic Isotopomer Analysis by ^{13}C NMR

Tiago Brandão Rodrigues[1], Rui Albuquerque Carvalho[1], Piyu Zhao[3], Mark Jeffrey[2], Craig R. Malloy[2], A. Dean Sherry[2,3]
[1]University of Coimbra, Coimbra, Portugal; [2]University of Texas Medical Center, Dallas, Texas, USA; [3]University of Texas at Dallas, Richardson, Texas, USA.

1706. Differential Bioenergetics in β_1- versus β_2-adrenergic Receptor Stimulated Rat Hearts Exists under High Flow

Patrick McConville[1], Edward Lakatta[1], Richard Spencer[1]
[1]NIH/National Institute on Aging, Baltimore, Maryland, USA.

1707. P-1075 Opens Mitochondrial K_{ATP} Channels in Intact Rat Hearts

Olga Jilkina[1], Bozena Kuzio[1], Gary J Grover[2], Valery Kupriyanov[1,3]
[1]National Research Council of Canada, Winnipeg, Manitoba, Canada; [2]Bristol-Myers Squibb Pharmaceutical Research Institute, Princeton, New Jersey, USA; [3]University of Manitoba, Winnipeg, Manitoba, Canada.

1708. Role of Myoglobin as a Scavenger of Cellular NO

Ulrike Kreutzer[1], Thomas Jue[1]
[1]University of California Davis, Davis, California, USA.

1709. Changes in Energy Reserve after Myocardial Infarction Occur Earlier than Changes of Left Ventricular Function

Michael Horn[1], Helga Wagner[2], Stefan Neubauer[3]
[1]Wallenberg Laboratory and Swegene Center for Bioimaging, Göteborg, Sweden; [2]Medizinische Universitätsklinik, Würzburg University, Würzburg, Germany; [3]John Radcliffe Hospital, Oxford, England, UK.

1710. The Function of Uncoupling Protein 2 (UCP2) in the Myocardium

Youngran Chung[1], Craig Warden[1], Thomas Jue[1]
[1]University of California Davis, Davis, California, USA.

Flow MR Imaging

1711. Partial Differential Equation Based Flow Correction using Mass Conservation for Phase Contrast Angiography

Masao Watanabe[1,2], Ron Kikinis[2], Carl-Fredrik Westin[2]
[1]Kyushu University, Fukuoka, Japan; [2]Brigham and Women's Hospital, Harvard Medical School, Boston, Massachusetts, USA.

1712. Time Resolved 3D Phase Contrast MRI (4D-Flow): Assessment of Three Directional Velocity Vector Fields

Michael Markl[1], Frandics P. Chan[1], Marcus Alley[1], Kristin Wedding[1], Mary Draney[1], Chris Elkins[1], Robert J. Herfkens[1], Norbert J. Pelc[1]
[1]Stanford University, Stanford, California, USA.

1713. Velocity Encoding using Longitudinal Magnetization

Shinji Kurokawa[1], Kohji Hayashi[2], Shinobu Mizuta[1], Tetsuya Matsuda[1]
[1]Kyoto University, Kyoto, Japan; [2]Rakuwakai Otowa Hospital, Kyoto, Japan.

1714. Rapid Measurements of Aortic Blood Flow with Segmented k-Space Magnetic Resonance Phase Velocity Mapping

George P. Chatzimavroudis[1,2], Haosen Zhang[1], Sandra S. Halliburton[1,2], James R. Moore[3], Orlando P. Simonetti[3], Paulo R. Schvartzman[2], Arthur E. Stillman[2], Richard D. White[2]
[1]Cleveland State University, Cleveland, Ohio, USA; [2]Cleveland Clinic Foundation, Cleveland, Ohio, USA; [3]Siemens Medical Systems, Chicago, Illinois, USA.

1715. Quantitative Analysis of Retrospectively Gated 3D Phase Contrast Sequence for Sinusoidal Flow

Panorea Papathanasopoulou[1], Malcolm B. Robertson[1], Ian Marshall[1]
[1]University of Edinburgh, Edinburgh, Scotland, UK.

1716. Absolute Renal Blood Flow Quantification by MRI: An *In Vivo* Validation

Xavier Montet[1], Marko K. Ivancevic[1], Jacques Belenger[1], Manuel Jorge-Costa[1], Sibylle Pochon[2], François Terrier[1], Jean-Paul Vallée[1]
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Cardiac MR Imaging: Other

1717. A Novel T_2*-Weighted Snapshot FLASH Preparation Sequence and its Implementation for Cardiac Imaging

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[1]University of Aberdeen, Aberdeen, Scotland, UK; [2]Aberdeen Royal Hospitals NHS Trust, Aberdeen, Scotland, UK.

1718. A Robust Assessment of Myocardial T_2-weighted Signal Decays

Warren Foltz[1], Jeffrey Stainsby[1], Graham Wright[1,2]
[1]University of Toronto, Toronto, Ontario, Canada; [2]ASL-West, GE Medical Systems, Menlo Park, California, USA.

1719. Inflow Effect Correction for the Determination of the Arterial Input Function: Experimental Model Validation and *In Vivo* Application

Marko K. Ivancevic[1], Ivan Zimine[1], François Lazeyras[1], Jean-Noel Hyacinthe[1], David Foxall[2], Jean-Paul Vallée[1]
[1]Geneva University Hospital, Geneva, Switzerland; [2]Philips Medical Systems, Cleveland, Ohio, USA.

1720. Measurement of Fast Flow Jets using Short-TR Spiral Phase Contrast

Krishna S. Nayak[1], Brian Hargreaves[1], Bob S Hu[1], John M. Pauly[1]
[1]Stanford University, Stanford, California, USA.

1721. Breath-Hold Signal Loss Sequence for the Qualitative Assessment of Blood Flow Disturbances in Cardiovascular MR

Jennifer Keegan[1], Peter Gatehouse[1], Anna John[1], Raad Mohiaddin[1], David Firmin[1]
[1]Royal Brompton and Harefield NHS Trust and Imperial College of Science, Technology and Medicine, London, England, UK.

1722. Blood-Suppressed Single Shot Fast Spin Echo Cardiac Imaging with Interactive Contrast Control

Malek Makki[1], Martin Graves[1], Richard Coulden[1], David Lomas[1]
[1]University of Cambridge and Addenbrooke's NHS Trust, Cambridge, Cambridge, England, UK.

1723. A Double-Inversion Radial Fast Spin-Echo (DBIR RAD-FSE) Method for Cardiac Imaging

Maria I Altbach[1], Theodore P Trouard[1], Rebecca J Theilmann[1], Arthur F Gmitro[1]
[1]University of Arizona, Tucson, Arizona, USA.

1724. Cardiac Imaging with Single Shot Black Blood Fiesta: A Comparison with Double Inversion Fast Spin Echo Imaging

James F Glockner[1], Kiaran McG ee[1], David Stanley[2], Jason Polzin[2]
[1]Mayo Clinic, Rochester, Minnesota, USA; [2]GE Medical Systems, Milwaukee, Wisconsin, USA.

1725. FLOSENS: Flow-Sensitive Navigators for Cardiac Tracking

Vinay Manjunath Pai[1], Han Wen[1]
[1]National Institutes of Health, Bethesda, Maryland, USA.

1726. Realtime TrueFISP Cardiac Cine: Combining Echo-sharing and Parallel Imaging

Qiang Zhang[1], Jianmin Wang[2], Mathias Nittka[2], Gerhard Laub[1], Orlando Simonetti[1]
[1]Siemens Medical Solutions USA, Chicago, Illinois, USA; [2]Siemens Medical Solutions, Erlangen, Germany.

1727. Parallel Imaging Concept for Accelerated Patient Prescreening

Michael E. Huber[1], Salome Ryf[1], Marcus Spiegel[1]
[1]University and ETH Zurich, Zurich, Switzerland.

1728. Quantification of Mitral Valve Regurgitation by 3D Velocity-Encoded MRI in Radial Long-Axis Orientation

Jos J. M. Westenberg[1], Mike G. Danilouchkine[1], Joost Doornbos[1], Rik J Van Den Hout[1], Gerda Labadie[1], Rob J. Van Der Geest[1], Hildo J. Lamb[1], Albert De Roos[1], Johan H.C. Reiber[1]
[1]Leiden University Medical Center, Leiden, Netherlands.

1729. Value of MRI for Diagnosing Aortic Valve Stenosis

Carola Van Pul[1,2], Natascha M.C.M. Jong[1,2], Lucas M. van Beek[2], Huub L.M. Pasmans[2], Romboud F. Visser[2], Pieter F.F. Wijn[1,2]
[1]Eindhoven University of Technology, Eindhoven, Netherlands; [2]Saint Joseph Hospital Veldhoven, Veldhoven, Netherlands.

1730. Guided Valve Tracking: A Method for Automated Tracking of Valve Planes for Phase Contrast Imaging Studies

Manojkumar Saranathan[1], Christopher Hardy[2], Thomas Foo[1]
[1]G. E. Medical Systems, Waukesha, Wisconsin, USA; [2]G. E. Corp. Research & Development, Schenectady, New York, USA.

1731. Detection of Patent Foramen Ovale using Real-Time MRI

David Bolon[1], Paul Licato[2], Sylvain Milet[2], Cindy Comeau[1], Steven Wolff[1]
[1]Lenox Hill Hospital, New York, New York, USA; [2]GE Medical Systems, Milwaukee, Wisconsin, USA.

1732. Pulmonary Regurgitation following Total Repair of Tetralogy of Fallot: Correlation of MR Flow Quantification with Clinical ECG Findings

Marc Eric Miquel[1], Edward James Baker[1], Christopher Derek Mitchell[1], Reza Razavi[1]
[1]King's College London, Guy's Hospital, London, England, UK.

1733. Multiphase 3D Cardiac Imaging with Vastly Undersampled Isotropic Projection Imaging (VIPR) and Retrospective ECG Gating

Oliver Wieben[1], Walter F. Block[1], Andrew V. Barger[1], Thomas M. Grist[1], Frank R. Korosec[1], Charles A. Mistretta[1]
[1]University of Wisconsin-Madison, Madison, Wisconsin, USA.

1734. Comparison of 1.5T and 3.0T Cardiovascular MRI: Preliminary Results

Denise P. Hinton[1], Lawrence L.Wald[1], Godtfred Holmvang[1], Raymond Chan[1], John Kirsch[2], Franz Schmitt[2]

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1735. Local Linear Shimming for Cardiac SSFP Imaging at 3T

Michael Schär[1], Sebastian Kozerke[1], Paul R. Harvey[1], Peter Boesiger[1]
[1]University and ETH, Zürich, Switzerland; [2]Philips Medical Systems, Best, Netherlands.

1736. Cardiac SSFP Imaging using SENSE at 3T

Sebastian Kozerke[1], Mike Schär[1], Stefan Ernst Fischer[2], Peter Boesiger[1]
[1]University and ETH Zurich, Zürich, Switzerland; [2]Philips Medical Systems, Best, The Netherlands.

1737. Sequence Optimization for Cardiac SSFP Imaging at 3T

Sebastian Kozerke[1], Mike Schär[1], Stefan Ernst Fischer[2], Peter Boesiger[1]
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Peripheral MR Angiography

1738. Multicenter Prospective Database of Routine Peripheral MRA: Considerations for Quality Standards

The Consortium For Peripheral MRA[1]
[1]Department of Radiology, Maastricht, Netherlands.

1739. Moving-Table Contrast-Enhanced Three-Dimensional MR Angiography with Small Injection Dose: Optimized Protocol of Contrast Media Injection and Imaging Parameters

H. Mitsui[1], Y. Watanabe[1], T. Tabuchi[1], N. Morimoto[1], K. Nakada[1], M. Kumashiro[1], T. Kiyono[1], M. Nagayama[1], M. Van Cauteren[2]
[1]Kurashiki Central Hospital, Kurashiki, Japan; [2]Philips Medical Systems, Best, Netherlands.

1740. Lower Extremity MRA with Full Prior Specification of Bolus Transit Times

John Paul Finn[1], Christopher Jean-Pierre Francois[1], James R Moore[2], Richard Niemczura[1]
[1]Northwestern University Medical School, Chicago, Illinois, USA; [2]Siemens Medical Solutions USA, Chicago, Illinois, USA.

1741. A Time-resolved (PR-HyperTRICKS) Bolus Chase Technique for 4D-Peripheral MRA

Jiang Du[1], Timothy J. Carroll[1], Kris R. Pillai[1], Walter F. Block[1], Thomas M. Grist[1], Charles A. Mistretta[1]
[1]University of Wisconsin-Madison, Madison, Wisconsin, USA.

1742. Whole Body Contrast Enhanced Magnetic Resonance Angiography. A Tool for Stenosis Screening and Evaluation of Total Plaque Burden?

Lars Johansson[1,3], Anders Lundberg[1], Mats-Ola Eriksson[1], Romhild Hoogeveen[2], Hakan Ahlström[1]
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1743. 3D Gd-Enhanced Moving Table Peripheral MR Angiography using Multi-Station SENSE to include the Pedal Vasculature

Jeffrey H Maki[1], Gregory J Wilson[2], William B Eubank[1], Jerry P O'Regan[1], Romhild M Hoogeveen[3]
[1]University of Washington, Seattle, Washington, USA; [2]VA Medical Center, Seattle, Washington, USA; [3]Philips Medical Systems, Best, Netherlands.

1744. Comparison of Gd-BOPTA and Gd-DOTA for Peripheral CE-MRA: A Double-Blind Clinical Study

Michael A Patak[1], Johannes Fröhlich[1], Hendrick A. Lohr[1], Markus Pfyffer[1], Christoph W Bader[1], Christoph L Zollikofer[1], Klaus U. Wentz[1,2]
[1]Kantonsspital Winterthur, Winterthur, Switzerland; [2]University of Witten-Herdecke, Germany.

1745. 3D Time Resolved CE MRA with Elliptical Centric View Ordering - Initial Clinical Experience to Evaluate Tibio-Peroneal Arteries

J Kevin Demarco[1], Barry Stein[2], Lawrence N Tanenbaum[3], Yong Zhou[4]
[1]University of Medicine and Dentistry of New Jersey, New Brunswick, New Jersey, USA; [2]Hartford Hospital, Hartford, Connecticut, USA; [3]Edison Imaging, Edison, New Jersey, USA; [4]G. E. Medical Systems, Milwaukee, Wisconsin, USA.

1746. Comparison of Contrast-Enhanced Time-Resolved Projection Reconstruction (PR-HyperTRICKS) and 2D Time-of-Flight for Peripheral MRA

Krishna R. Pillai[1], Jaing Du[1], Timothy Carroll[1], Charles A. Mistretta[1], Thomas Grist[1]
[1]University of Wisconsin-Madison, Madison, Wisconsin, USA.

1747. Dynamic Monitoring of Contrast Distribution in Lower Extremities for Timing and Localizing Targeted 3D MRA

Yuexi Huang[1], Naeem Merchant[2], Graham Wright[1,3]
[1]University of Toronto, Toronto, Ontario, Canada; [2]Toronto General Hospital, Toronto, Ontario, Canada; [3]ASL-West, GE Medical Systems, Menlo Park, California, USA.

1748. ECTRICKS: 3D Time-resolved MRA with Elliptic Centric View Ordering - Initial Clinical Experience in Evaluation of the Feet

James F Glockner[1], Kiaran McGee[1], Yong Zhou[2]
[1]Mayo Clinic, Rochester, Minnesota, USA; [2]G. E. Medical Systems, Milwaukee, Wisconsin, USA.

1749. 3D Contrast Enhanced MR Angiography in the Evaluation of Popliteal Entrapment Syndrome

Krishna R. Pillai[1], Thomas Grist[1]
[1]University of Wisconsin-Madison, Madison, Wisconsin, USA.

1750. Evaluation of Lower Extremity Arterial Diseases using Flow-Dephasing Spoiler Pulses in ECG-Gated 3D half-Fourier FSE: Initial Experience

Joji Urata[1], Hirofumi Wada[1], Rie Kuwahara[1], Mitsue Miyazaki[2], Taiji Nishiharu[1], Yasuyuki Yamashita[3]
[1]Saiseikai Kumamoto Hospital, Kumamoto, Japan; [2]Toshiba Corp. R&D Medical Center, Tochigi, Japan; [3]Kumamoto University, School of Medicine, Kumamoto, Japan.

1751. Improvement in Separation of Arteries from Veins in Peripheral Non-Contrast MRA using Flow-Dephasing Spoiler Gradient Pulses in ECG-triggered 3D half-Fourier FSE

Mitsue Miyazaki[1], Hiroshi Takai[1], Satoshi Sugiura[1], Hirofumi Wada[2], Rie Kuwahara[2], Joji Urata[2]
[1]Toshiba Corp. Medical R&D Center, Tochigi, Japan; [2]Saiseikai Kumamoto Hospital, Kumamoto, Japan.

1752. The Improvement of the Fourier Transform Arteriography by Use of the Ramped Profile RF Pulse and Multiple Projections

Kwan Jin Jung[1], Il Young Kim[2], Man Woo Lee[3], Sun Kyung Kim[2], Seung Hoon Park[4], Yun Yi[4]
[1]KAIST, Daejeon, South Korea; [2]Medinus, Seoul, Korea; [3]Chi, Inc., Seoul, Korea; [4]Korea University, Chochiwon, Choong Nam, Korea.

1753. Real-time Flow Measurements using 2D Spatially Selective RF Pulses for the Assessment of the Hyperemic Response

Markus Oelhafen[1], Juerg Schwitter[2], Sebastian Kozerke[1], Barbara Wyss[2], Peter Boesiger[1]
[1]University and ETH Zurich, Zurich, Switzerland; [2]University Hospital Zurich, Zurich, Switzerland.

Abdominal MR Angiography

1754. The Clinical Value of Renal Transplant MRA

Boudewijn Vasbinder[1], Marianne De Vries[1], Jos Van Engelshoven[1], Tim Leiner[1]
[1]University Hospital Maastricht, Maastricht, Netherlands.

1755. Contrast-Enhanced Magnetic Resonance Angiography in Patients with Renovascular Arterial Hypertension

Jose Victor Kairiyama[1], Claudio Campi De Castro[1], Jose Rodrigues Parga Filho[1], Luiz Francisco Rodrigues De Avila[1], Heron Rached[1], Giovanni Guido Cerri[1], Luiz Bortolotto[1], Helio Bernardes Da Silva[1], Joao Sadi Lerner[1], Luiz Junya Kajita[1]
[1]University of Sao Paulo - Brazil, Sao Paulo, SP, Brazil.

1756. Fat-Suppressed Three-Dimensional MR Angiography Technique with Elliptical Centric View Order and No Prolonged Breath-Holding Time

Yasuo Amano[1], Katsuya Takahama[1], Toshio Tsuchihashi[1], Tsuyoshi Matsuda[2], Kazuyuki Uchiumi[2], Tatsuo Kumazaki[1]
[1]Nippon Medical School, Tokyo, Tokyo, Japan; [2]GE Yokogawa Medical Ststems, Hino, Tokyo, Japan.

1757. A Direct Comparison Study to Evaluate the Utility of Sensitivity Encoding (SENSE) in Renal MR Angiography

Gregory J Wilson[1], Jeffrey H Maki[1], William B Eubank[1], Boudewijn Vasbinder[2], Matthew Evitts[3], Romhild M Hoogeveen[4]
[1]Puget Sound VA HCS, Seattle, Washington, USA; [2]University Hospital Maastricht, Maastricht, Netherlands; [3]University of Washington, Seattle, Washington, USA; [4]Philips Medical Systems, Best, Netherlands.

1758. Breath-Hold 3D MRA of the Abdomen: Protocol for Routine Exam

Yann Billaud[1], Olivier Beuf[2], Frank Pilleul[3]
[1]Hôpital Desgenettes, Lyon, France; [2]Université Claude Bernard Lyon 1, Villeurbanne, California, France; [3]Hôpital Edouard Herriot, Lyon, France.

1759. Contrast Enhanced 3D MR Angiography: Gadopentetate dimeglumine (Gd-DTPA) vs Gadobenate dimeglumine (Gd-BOPTA)

Ernesto Di Cesare[1], Sandro Mazzola[3], Miles Kirchin[2], Giuseppe Palmieri[2], Carlo Masciocchi[1]
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1760. MR Angiography of the Renal Arteries using Steady-State Coherent Gradient-Echo Technique: Comparison with Contrast-Enhanced MR Angiography

T. Tabuchi[1], Y. Watanabe[1], H. Mitsui[1], N. Morimoto[1], K. Nakada[1], M. Kumashiro[1], T. Kiyono[1], M. Nagayama[1], M. Van Cauteren[2]
[1]Kurashiki Central Hospital, Kurashiki, Japan; [2]Philips Medical Systems, Best, Netherlands.

1761. Abdominal MR Angiography with Fat-Suppressed Steady-State Gradient-Echo Technique: Optimization of TR/TE and Water Selective Excitation

N. Morimoto[1], Y. Watanabe[1], T. Tabuchi[1], H. Mitsui[1], K. Nakada[1], M. Kumashiro[1], T. Kiyono[1], M. Nagayama[1], M. Obara[1], M. Van Cauteren[2]
[1]Kurashiki Central Hospital, Kurashiki, Japan; [1]Philips Medical Systems, Best, Netherlands.

1762. High-Resolution 3D Breath-Hold Inflow Balanced-FFE of the Renal Arteries

Romhild Hoogeveen[1], Boudewijn Vasbinder[2]
[1]Philips Medical Systems, Best, Netherlands; [2]University Hospital Maastricht, Maastricht, Netherlands.

1763. Non-Contrast-Enhanced MR Angiography with Balanced Turbo Field Echo (b-TFE) Sequence: Comparison of Source Images, Full MIP, and Parallel MIP

M. Nagayama[1], Y. Watanabe[1], A. Okumura[1], T. Tabuchi[1], H. Mitsui[1], N. Morimoto[1], K. Nakada[1], M. Kumashiro[1], T. Kiyono[1], Y. Amoh[1], S. Nakashita[1], Y. Dodo[1], D. Geraats[2], M. Van Cauteren[2]
[1]Kurashiki Central Hospital, Kurashiki, Japan; [2]Philips Medical Systems, Best, Netherlands.

1764. Diagnostic Value of 3D Balanced-TFE in Renal MRA

Boudewijn Vasbinder[1], Tim Leiner[1], Jeffrey H. Maki[2], Romhild Hoogeveen[3], Jos Van Engelshoven[1]
[1]University Hospital Maastricht, Maastricht, Netherlands; [2]University of Washington, Puget Sound VA Hosital, Seattle, Washington, USA; [3]Philips Medical Systems, Best, Netherlands.

1765. MR Venography with 3-D Fiesta: A New Approach To Renal Vein Thrombosis

Hani Marcos[1], Vincent Ho[1,2], Thomas Foo[3], Maureen N. Hood[1,2], Peter Choyke[1,2]
[1]National Institutes of Health, Bethesda, Maryland, USA; [2]Uniformed Services University, Bethesda, Maryland, USA; [3]G. E. Medical Systems, Baltimore, Maryland, USA.

1766. The Detection of Orthostatically Induced Deep Venous Thrombosis (DVT) using Magnetic Resonance Direct Thrombus Imaging (MRDTI)

Gota Singh Delay[1], Alan Rowland Moody[1], Ian Brian Crossley[1]
[1]University Hospital Nottingham, Nottingham, England, UK.

Thoracic and Carotid MR Angiography

1767. Magnetic Resonance Imaging versus Multi-Slice Computed Tomography in Patients with Vascular Endoprostheses in the Thoracic Aorta

Elmar Max Merkle[1,2], Stefan Klein[1], Christian Wisianowsky[1], Thorsten R Fleiter[1], Johannes Görich[1]
[1]University Hospitals of Ulm, Ulm, Germany; [2]University Hospitals of Cleveland, Cleveland, Ohio, USA.

1768. Accuracy and Incremental Value of TrueFISP, Subsecond MRA and Conventional MRA in the Evaluation of the Thoracic Aorta

James Carr[1], F. Scott Pereles[1], Visveshwar Baskaran[1], Richard Martin McCarthy[1], Gerhard Laub[2], Paul Finn[1]
[1]Northwestern University Medical School, Chicago, Illinois, USA; [2]Siemens Medical Systems, Inc., Chicago, Illinois, USA.

1769. Accuracy of a Rapid Non-contrast MR Examination of the Thoracic Aorta with Only True Fast Imaging with Steady State Precession

F. Scott Pereles[1], James Carr[1], Jeremy D Collins[1], Visveshwar Baskaran[1], Richard Mc Carthy[1], Elizabeth A. Krupinski[2], Paul Finn[1]
[1]Northwestern University Medical School, Chicago, Illinois, USA; [2]University of Arizona, Tucson, Arizona, USA.

1770. Contrast-Enhanced 3D MRA Screening of Entire Non-Peripheral Arterial Vasculature: A 30-Minute Approach

Catherine Callahan[1], Richard Niemczura[2], J. Paul Finn[2], James R. Moore[3], F. Scott Pereles[2]
[1]Advanced MRI Consulting, Inc, Evergreen Park, Illinois, USA; [2]Northwestern University, Chicago, Illinois, USA; [3]Siemens Medical Systems, Chicago, Illinois, USA.

1771. High Resolution Contrast-Enhanced MR Angiography in the Evaluation of Rabbit Carotid Artery

Ren Hua Wu[1,2], David F Kallmes[2], M J Spellman[2], J M Christopher[2], J P Mugler[2], Kang Mei Kong[1]
[1]Shantou University, Shantou, Guangdong, China; [2]University of Virginia, Charlottesville, Virginia, USA.

1772. Pitfalls of Carotid MRA: A Comparison of Time-of-Flight and Contrast-Enhanced MRA

Richard Watts[1], Hale Ersoy Erel[1], Christopher Filippi[1], Yi Wang[1], Martin R. Prince[1]
[1]Cornell University, Weill Medical College, New York, New York, USA.

1773. Combined MRI Measurement and CFD Simulation of Pulsatile Flow in a Carotid Artery Bifurcation Phantom

Shun Zhi Zhao[1], Xiao Yun Xu[1], Panorea Papathanasopoulou[2], Ian Marshall[2]
[1]Imperial College of Science, Technology and Medicine, University of London, London, England, UK; [2]Edinburgh University, Edinburgh, Scotland, UK.

1774. Time Resolved Contrast Enhanced MRA in the Evaluation of Adult Congenital Heart Disease

J.P. Goldman[1], A. Rosenbluth[1], W. Lai[1], R. Golinko[1], M. Poon[1]
[1]Mount Sinai School of Medicine, New York, New York, USA.

1775. 3D Gadolinium-Enhanced MR Angiography of Congenital Heart Disease: Comparison of High-Resolution Recirculation and First-Pass Techniques

James P Earls[1], Bruce Urban[1], Elise Berman[1], Charlene Curry[1], Sherif Tawfik[1], Steve Shapiro[1], Bechara Akl[1], Lucas Collazo[1]
[1]Inova Fairfax Hospital, Falls Church, Virginia, USA.

1776. CE-MRA and 3D Visualization of Pulmonary Venous Anatomy to Assist Radiofrequency Ablative-Isolation

Evert-Jan Vonken[1], Birgitta Velthuis[1], Maarten-Jan Cramer[2], Fred Wittkampf[2], Benno Rensing[2], Richard Derksen[2]
[1]University Medical Center Utrecht, Utrecht, Netherlands; [2]Heart Lung Center Utrecht, Utrecht, Netherlands.

1777. Pulmonary Venous Anatomy Assessed by Magnetic Resonance Imaging in Patients with Focal Atrial Fibrillation Undergoing Radiofrequency Ablation

Ru-San Tan[1], Raad Mohiaddin[2], V Markides[3], R J Schilling[3], N S Peters[3], D W Davies[3], Dudley J Pennell[2]
[1]National Heart Center, Singapore; [2]Royal Brompton Hospital, London, England, UK; [3]St Mary's Hopsital, London, England, UK.

1778. Accuracy of Ultrafast Contrast Enhanced MRA in the Diagnosis of Segmental Arterial Pulmonary Emboli

, J.P. Goldman[1], R. Lookstein[1], A. Rosenbluth[1], M. Poon[1]
[1]Mount Sinai School of Medicine, New York, New York, USA.

1779. Sub-Second 3D Contrast-Enhanced MRA of the Thorax with Radial K-Space Sampling

J. Paul Finn[1], Andrew Larson[1], James R. Moore[2], Orlando Simonetti[2]
[1]Northwestern, Medical School, Chicago, Illinois, USA; [2]Siemens Medical Solutions, Chicago, Illinois, USA.

1780. Multiphase Three-Dimensional Contrast-Enhanced MRA of the Lung using SENSE

Masahiko Fujii[1], Yoshiharu Ohno[1], Hideaki Kawamitsu[1], Takanori Higashino[1], Hirokazu Watanabe[1], Kazuhiko Kubo[1], Mayumi Kiguchi[1], Daisuke Takenaka[1], Kazuro Sugimura[1]
[1]Kobe University School of Medicine, Kobe, Japan.

1781. Non-Contrast-Enhanced Selective MR Pulmonary Arteriography using Time-Spatial Labeling Inversion Tag Pulse

Yasuyuki Kurihara[1], Yoshiko K. Yakushiji[1], Yasuo Nakajima[1], Minako Higashi[2], Mitsue Miyazaki[2]
[1]St. Marianna University, Kawasaki City, Japan; [2]Toshiba Medical System, Tokyo, Japan.

1782. Combined Pulmonary Perfusion MRI/MRA using Interleaved Back Projection

David A. Roberts[1], Lawrence Dougherty[1], Rahim Rizi[1], David A. Lipson[1], James Baumgardner[1], Warren Gefter[1], Masaru Ishii[1], Mitchell Schnall[1]
[1]University of Pennsylvania Medical Center, Philadelphia, Pennsylvania, USA.

MR Angiography Techniques

1783. Comparison of Time-Resolved, Under-Sampled 3D Projection Imaging with Conventional Methods for 3D Contrast-Enhanced MRA

Krishna R. Pillai[1], Walter Block[1], Andrew Barger[1], Thomas Grist[1], Charles A. Mistretta[1]
[1]University of Wisconsin-Madison, Madison, Wisconsin, USA.

1784. Recessed Elliptical-Centric View Ordering for Contrast-Enhanced Carotid MRA

Richard Watts[1], Yi Wang[1], Priscilla A. Winchester[1], Martin R. Prince[1]
[1]Cornell University, Weill Medical College, New York, New York, USA.

1785. 2D Spiral MRDSA in the Lower Extremity and Neck

Jianqi Li[1], Yi Wang[1], Martin R. Prince[1], Marissa Cunningham[1], Hale Erel[1], Sanjay Rajagopalan[1]
[1]Cornell University, Weill Medical College, New York, New York, USA.

1786. Reduction of Fatty Background in High-Resolution, Flow-Compensated 3DTOF MR Angiography, by Fat/Water Out-Of-Phase using Variable TE

Eun-Kee Jeong[1], Jay S. Tsuruda[1], Jong-Yun Won[1,2], Dennis L. Parker[1]
[1]University of Utah, Salt Lake City, Utah, USA; [2]Yonsei University, Seoul, Korea.

1787. TOF and BOLD 3D Gradient Echo Imaging of Cerebral Vasculature at 8T

Petra Schmalbrock[1], Amir Abduljalil[1], Trong-Kha Truong[1], Allahyar Kangarlu[1], Eric Bourekas[1], Greg Christoforidis[1], Donald W Chakeres[1]
[1]Ohio State University, Columbus, Ohio, USA.

1788. Contrast Bolus Timing: The Long Axis is More Robust

David Sosnouski[1], Alan Stolpen[1], Lizann Bolinger[1]
[1]University of Iowa, Iowa City, Iowa, USA.

1789. High-Resolution Real-Time and Color-Flow MRI of Nitinol Stents

Masahiro Terashima[1], Erasmo De La Pena-Almaguer[1], Krishna S. Nayak[1], John M. Pauly[1], Phillip Yang[1], Bob Hu[1], Michael McConnell[1]
[1]Stanford University, Stanford, California, USA.

1790. Contrast Transport in Stented Saccular Aneurysms

Liang-Der Jou[1], David A. Saloner[2], Kenneth C. Ong[2]
[1]University of Tennessee, Knoxville, Tennessee, USA; [2]University of California San Francisco, San Francisco, California, USA.

1791. Coronary Magnetic Resonance Angiography in the Presence of Stents: A Technique for Signal Quantification in the Stentlumen *In Vitro*

David C. Maintz[1,2], René Michael Botnar[1], Roman Fischbach[2], Walter L Heindel[2], Warren J. Manning[1], Matthias Stuber[1]
[1]Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, Massachusetts, USA; [2]University of Münster, Münster, Germany.

1792. Non-Invasive Quantification of Stent Stenosis in the Lumen of an Endovascular Nitinol Stent: *In-Vitro* Validation using a Flow Phantom

Titus A. Kuehne[1], Steffen Weiss[2], Matthias Gutberlet[3], Bernhard Schnackenburg[2], Maythem Saeed[4]
[1]University Hospital Eppendorf, Hamburg, Germany; [2]Philips Research Hamburg, Hamburg, Germany; [3]Virchow Klinikum Berlin, Berlin, Germany; [4]University of California San Francisco, San Francisco, California, USA.

1793. Evaluation of an Artery-Vein Segmentation Algorithm Applied to Steady State, Contrast Enhanced MRA Data of the Peripheral Vasculature vs. Dynamic MRA Data using X-ray Angiographic Studies as the Standard of Comparison

Robert Stefancik[1], Michael Hartmann[1], Jasmine Young[1], Robert Weisskoff[1], Steve Shannon[1], Tiahnu Lei[2], Jayaram Udupa[2], Chieh Min Fan[3], Scott Reid[4], Kurt Muetterties[5], Arthur Waltman[3]
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1794. Information Enrichment and Acquisition Efficiency: 3DTOF vs. 3DFSE MRA

Kecheng Liu[1]
[1]Philips Medical Systems, Cleveland, Ohio, USA.

1795. Stereo-Viewing: Added Diagnostic Accuracy for Assessing 3D MRA Datasets

Uwe Fronz[1], Mathias Goyen[2], Jörg Barkhausen[3], Jörg Debatin[2], Stefan Ruehm[2]
[1]University Hospital Essen, Essen, Germany.

1796. Analysis of the Z-Buffer Segmentation Algorithm

Shandra Johnson[1], Dennis L Parker[1]
[1]University of Utah, Salt Lake City, Utah, USA.

1797. Central Axis Based Segmentation of the Carotids

Cornelis Marnix Van Bemmel[1], Luuk Spreeuwers[1], Max Viergever[1], Wiro Joep Niessen[1]
[1]University Medical Center Utrecht, Utrecht, Netherlands.

1798. Comparison of Blood Flow Measurements using SENSE at Different Reduction Factors

Per Thunberg[1,2], Tino Ebbers[2], Matts Karlsson[2], Lars Wigström[2]
[1]Örebro University Hospital, Örebro, Sweden; [2]Linköping University, Linköping, Sweden.

1799. Phase Contrast 3D Flow Spectrum Acquisition using VIPR

Tianliang Gu[1], Walter F Block[1], Frank R Korosec[1], Andrew V Barger[1], Thomas M Grist[1], Charles A Mistretta[1]
[1]University of Wisconsin-Madison, Madison, Wisconsin, USA.

1800. Rapid and Robust Renal Artery Blood-Flow Measurement with Ungated Spiral Phase-Contrast

Jong Buhm Park[1], Juan Manuel Santos[1], Brian Hargreaves[1], Bob Hu[1], Dwight G. Nishimura[1]
[1]Stanford University, Stanford, California, USA.

1801. One-Shot Fourier Velocity-Encoding Integrated with a Real-Time Imaging System

Julie Camille DiCarlo[1], Bob Hu[1], Dwight G. Nishimura[1], John M. Pauly[1]
[1]Stanford University, Stanford, California, USA.

1802. Cardiac-Gated Multi-Shot Fourier Velocity-Encoding

Julie Camille Dicarlo[1], Krishna S. Nayak[1], Bob Hu[1], Dwight G. Nishimura[1], John M. Pauly[1]
[1]Stanford University, StanStanford, California, USA.

1803. Functionally-focused Magnetic Resonance Angiography (fMRA)

David A. Roberts[1], Rahim R. Rizi[1], David A. Lipson[1], Alvin Yamamoto[2], Warren Gefter[1], John Hansen-Flaschen[1]
[1]University of Pennsylvania, Philadelphia, Pennsylvania, USA; [2]University of California San Francisco, San Francisco, California, USA.

Musculoskeletal MR Imaging: Other Basic and Animal Studies

1804. Non-invasive, Weight Bearing MRI Analysis of Tibio-Femoral Biomechanics

Vikas V. Patel[1], Katherine Hall[1], Michael Ries[1], W. Colman[1], Colleen Lindsey[1], Eugene Ozhinsky[1], Sharmila Majumdar[1]
[1]University of California San Francisco, San Francisco, California, USA.

1805. Comparison of Muscle Kinematics Quantification using Phase-Contrast and Spin Tagging Methods of Visualizing Motion

Shantanu Sinha[1], John A Hodgson[1], Alexander Lai[1], John W Grinstead[1], Reginald V. Edgerton[1]
[1]University of California at Los Angeles, Los Angeles, California, USA.

1806. A MR-Compatible Device for the *In Vivo* Assessment of Isometric Contractile Parameters of Mouse Hindlimb Muscle

Anneriet Heemskerk[1], Maarten Drost[2], Gustav Strijkers[1], Klaas Nicolay[1]
[1]Eindhoven University of Technology, Eindhoven, Netherlands; [2]Maastricht University, Maastricht, Netherlands.

1807. Tissue Lithium Studies in Rat Thigh Muscle Regions by ^{7}Li MR

Subbaraya Ramaprasad[1], Noel Johnson[1], Paul Knoll[1], Michael Boska[1]
[1]University of Nebraska Medical Center, Omaha, Nebraska, USA.

1808. Feasibility of Measuring Thigh VX2 Tumor Perfusion using Flow-sensitive Alternating Inversion Recovery with an Extra Radiofrequency Pulse

Ren Hua Wu[1,2], David F Kallmes[2], V M Mai[2], A D Williams[2], Kang Mei Kong[1]
[1]Shantou University, Shantou, Guangdong, China; [2]University of Virginia, Charlottesville, Virginia, USA.

1809. Measurement of the Spatial Redistribution of Water in Rabbit Achilles Tendon in Response to Static Tensile Loading

Karl Helmer[1], Jeremy Wellen[1], Peter Grigg[2], Christopher Sotak[1,2]
[1]Worcester Polytechnic Institute, Worcester, Massachusetts, USA; [2]University of Massachusetts Medical School (Worcester), Worcester, Massachusetts, USA.

1810. Trabecular Structure Assessment using High Resolution MRI and Synchrotron Radiation Microtomography in Calcaneus Samples

Olivier Beuf[1], HélèNnFollet[2], Marie-Jo Seurin[1], Claude Rumelhart[2], Françoise Peyrin[3], André Briguet[1]
[1]Université Claude Bernard Lyon 1, Villeurbanne, France; [2]INSA Lyon, Lyon, France; [3]CREATIS, INSA Lyon, Lyon, France.

1811. Measurement of Trabecular Bone Volume Fraction in the Proximal Femur

Bryon Gomberg[1], Maria Fernandez-Seara[1], Babette S. Zemel[2], Punam Saha[1], Eilat Vardi[1], Louise Loh[1], Luna Hilaire[1], Felix Wehrli[1]
[1]University of Pennsylvania, Philadelphia, Pennsylvania, USA; [2]Children's Hospital of Philadelphia, Philadelphia, Pennsylvania, USA.

1812. Trabecular Bone Structure Analysis of the Proximal Femur using High-Resolution Magnetic Resonance Imaging

Ahi Sema Issever[1], Volker Vieth[2], Albrecht Lotter[2], Sharmila Majumdar[1], Thomas Link[2]
[1]University of California San Francisco, San Francisco, California, USA; [2]University of Muenster, Muenster, Germany.

1813. Trabecular Bone Volume Fraction Measurements of 108 Female Volunteers using a Dedicated Compact MRI System

K. Kose[1], Y. Matsuda[1], S. Hashimoto[1], Y. Yamazaki[1], T. Haishi[2], S. Utsuzawa[2], H. Yoshioka[1], A. Nakanishi[3], S. Okada[3], M. Endo[3], M. Aoki[3], T. Tsuzaki[3]
[1]University of Tsukuba, Tsukuba, Japan; [2]MR Technology Inc., Tsukuba, Japan; [3]Sumitomo Special Metals Company Ltd., Tsukuba, Japan.

1814. Effects of anti-resorptive Agents on Bone and Bone Marrow Composition in a Rat Model of Osteoporosis

Fakhereh Mirrashed[1], Jonathan Sharp[2], Peter Latta[1], Michael Weber[1], Masahiko Sato[2], Linda Ma[2]
[1]National Research Council-Canada, Winnipeg, Manitoba, Canada; [2]Lilly Research Laboratories, Indianapolis, Indiana, USA.

1815. MRI of Bone Marrow in Competitive Athletes: Is There Any Correlation between Hematological Data and Performance?

Nadir Alexander Ghanem[1], Carsten Altehoefer[1], Martin Büchert[1], Mathias Langer[1]
[1]University Hospital Freiburg, Freiburg, Germany.

1816. Spatial Characterization of the Time-Dependent ADC of Water in Rabbit Achilles Tendon Subject to Tensile Loading

Jeremy Wellen[1], Karl Helmer[1], Peter Grigg[2], Christopher Sotak[1,2]
[1]Worcester Polytechnic Institute, Worcester, Massachusetts, USA; [2]University of Massachusetts Medical School, Worcester, MA, USA.

1817. Estimated Contractile Costs in Steady-State Twitches for Isolated Superfused Fast- and Slow-Twitch Mouse Muscles

Robert W. Wiseman[1], Jeroen A. L. Jeneson[2], Martin J. Kushmerick[3]
[1]Michigan State University, East Lansing, Michigan, USA; [2]University of Utrecht, Utrecht, Netherlands; [3]University of Washington, Seattle, Washington, USA.

Musculoskeletal MR Imaging: Clinical Studies

1818. Quantitative Characterization of Arthrodial Tissues using High-resolution 8 Tesla Spin Echo Imaging

Harpal Gahunia[1], Alayar Kangarlu[2], Ryan Gilbert[2], Ronald Kolata[3], Donald Chakeres[2]
[1]DePuy Orthopaedics, Inc., Warsaw, Indiana, USA; [2]Ohio State University, Columbus, Ohio, USA; [3]Ethicon Endo Surgery, Cincinnati, Ohio, USA.

1819. Dynamic Contrast Enhancement Patterns in the Knee of Children with JRA

Bernard Dardzinski[1], Tal Laor[1], Vincent J Schmithorst[1], Thomas Brent Graham[1]
[1]University of Cincinnati College of Medicine, Cincinnati, Ohio, USA.

1820. Osteoarthritis of the Knee Joint: Cartilage Imaging with Water-Excitation 3D Spoiled Gradient-Echo Sequences and Fat-Suppressed Three-Dimensional Spoiled Gradient-Echo MR Imaging

Hiroshi Yoshioka[1], Daniel Steines[2], Marcus Alley[2], Kathryn Jane Stevens[2], Mark C. Genovese[2], Michael F Dillingham[2], Philipp Lang[3]
[1]University of Tsukuba, Tsukuba, Ibaraki, Japan; [2]Stanford University, Stanford, California, USA; [3]Brigham and Women's Hospital, Boston, Massachusetts, USA.

1821. *Ex Vivo* Magnetic Resonance Microscopy of an Osteochondral Transfer

Erik F. Petersen[1], Leila Laouar[2], Kenneth W. Fishbein[1], Richard GS Spencer[1], James Wenz[3]
[1]National Institutes of Health, Baltimore, Maryland, USA; [2]University of Alberta, Calgary, Alberta, Canada; [3]Johns Hopkins University, Baltimore, Maryland, USA.

1822. Baker's Cyst and Medial Meniscus Tear: Is There a Direct Correlation?

Michael E. Mulligan[1], Joseph D. Inzinna[1]
[1]University of Maryland at Baltimore, Baltimore, Maryland, USA.

1823. Knees of Triathletes: MR Imaging Assessment of Older Competitors (>35 Years Old)

Frank Shellock[1], George R. Ainge[2], W. Douglas B. Hiller[2], David W. Brown[2], Laura Dierenfield[2]
[1]University of Southern California, Los Angeles, California, USA; [2]North Hawaii Community Hospital, Kamuela, Hawai'i, USA.

1824. Acromiohumeral Distance with Functional MRI in a Seated Position

Luc Jean Hébert[1,2], Hélène Moffet[2,3], Marie Dufour[4], Christian Moisan[4]
[1]National Defense of Canada, Ottawa, Ontario, Canada; [2]Quebec Rehabilitation Institute, Quebec, Quebec, Canada; [3]Laval University, Quebec, Quebec, Canada; [3]Hopital St-François D'Assise, Quebec, Quebec, Canada.

1825. Incidental Shoulder Pathology on Magnetic Resonance Imaging of Shoulder Pain

Justin Q. Ly[1], Douglas P. Beall[2], Timothy G. Sanders[1]
[1]Wilford Hall Medical Center, Lackland AFB (San Antonio), Texas, USA; [2]The Uniformed Services Health University, San Antonio, Texas, USA.

1826. Anterior Coronal MR Imaging of the Shoulder in Diagnosing Lesions of the Inferior Glenohumeral Ligamentous Complex (IGHLC)

Miriam Antoinette Bredella[1], David W Stoller[2], Phillip Frederick Tirman[2], Gene Wolf[2], Harry K Genant[1]
[1]University of California San Francisco, San Francisco, California, USA; [2]California Pacific Medical Center, San Francisco, California, USA.

1827. Posterior-Inferior Glenoid Rim Shapes by MR Imaging

Michael Mulligan[1], Chae-Im Santos Pontius[1]
[1]University of Maryland at Baltimore, Baltimore, Maryland, USA.

1828. Wrist MR Arthrography by using Three-Dimensional Spoiled Gradient-Recalled-Echo Sequence in the Evaluation of Scapholunate Ligament and Lunotriquetral Ligament Tear: Correlation with Digital Subtraction Wrist Arthrography and Cadavaric Resection

Sang Hoon Lee[1], Jin-Suck Suh[1], Byung Il Lim[1]
[1]Yonsei University, Seoul, South Korea.

1829. High Resolution (HR) MRI in Acute Wrist Trauma: Indications and Therapeutic Consequences

Martin G. Mack[1], Sabine Keim[1], Ralf Straub[1], Jörn O. Balzer[1], Joachim Windolf[1], Thomas J Vogl[1]
[1]University of Frankfurt, Frankfurt, Germany.

1830. MRI Diagnosis of Periodontal Inflamation

Rok Schara[1], Igor Sersa[2], Vladimir Jevtic[3], Uros Skaleric[1]
[1]University of Ljubljana, Ljubjana, Slovenia; [2]Jozef Stefan Institute, Ljubljana, Slovenia; [3]University Clinical Hospital, Ljubljana, Slovenia.

1831. Biodegradable Implants (BDI) and their Degradation on MRI

Thomas W. Solbach[1], Bernd Evers[1], Lutz Claes[2], B. Kress[2], Heinz Gerngross[1], Wolfgang Baehren[1]
[1]Bundeswehrkrankenhaus Ulm, Ulm, Germany; [2]Universitaet Ulm, Ulm, Germany.

1832. Preoperative Evaluation with High Resolution MR Imaging in Patients with Soft-Tissue Tumors of the Finger

Hisao Tonami[1], Munetaka Matoba[1], Hajime Yokota[1], Itaru Yamamoto[1], Naotaka Ishikura[1], Shigehiko Kawakami[1]
[1]Kanazawa Medical University, Ishikawa, Japan.

1833. Apparent Diffusion Coefficient using Multishot Echo Planar Technique in Musculoskeletal Diseases: Differentiation between Cystic Lesions and Vascular Tumors

Lee Sang Hoon[1], Jin-Suck Suh[1], Eun-Kee Jeong[1], Byung Il Lim[1], Eun-Ju Kim[1], Dae-Hong Kim[1], Doo Hoe Ha[2]
[1]Yonsei Univesity, Seoul, South Korea; [2]CHA University, Seongnam, South Korea.

1834. Whole Body Black-Blood Fast Short Inversion Time Inversion Recovery MR Imaging for Staging of Malignant Lymphoma

Yasuo Amano[1], Kenji Tajika[1], Nachiko Uchiyama[1], Katsuya Takahama[1], Kazuo Dan[1], Tatsuo Kumazaki[1]
[1]Nippon Medical School, Tokyo, Tokyo, Japan.

1835. Imaging Activation Impairment in Post-stroke Hemiparesis

Carolynn Patten[1,3], June Srisethnil[1], Deanna Schmidt Asakawa[1,3], Graham A. Wright[2], Garry E. Gold[1,3]
[1]VA Palo Alto Health Care System, Palo Alto, California, USA; [2]ASL-West GE Medical Systems, Menlo Park, California, USA; [3]Stanford University, Stanford, California, USA.

1836. Musculo-Skeletal Simulation: Finite Element Meshes Derived from Magnetic Resonance Volumes

Avril D McCarthy[1], Iain D Wilkinson[1], Rodney Hose[1], David Barber[1], Steven Wood[1], Gail Darwent[1], David Chan[1], Derek R Bickerstaff[1]
[1]University of Sheffield, Sheffield, England, UK.

1837. Parameters of MRI Acquisitions for Back Muscles Segmentation

Gnahoua Zoabli[1,3], Pierre A Mathieu[1,3], Gilles Beaudoin[1,2], Marie Beauséjour[3], Carl-Éric Aubin[1,3]
[1]Université de Montréal et École Polytechnique, Montréal, Québec, Canada; [2]CHUM-Hôpital Notre-Dame, Montréal, Québec, Canada; [3]Hôpital Sainte-Justine, Montréal, Québec, Canada.

1838. Quantitative MRI at the Calcaneus Predicts Osteoporotic Vertebral Deformities

Felix W. Wehrli[1], Luna Hilaire[1], Peter J. Snyder[1], Louise Loh[1], Babette S. Zemel[1], Bryon R. Gomberg[1]
[1]University of Pennsylvania, Philadelphia, Pennsylvania, USA.

1839. Determination of Thoracic Spine Level by MRI

Nogah Shabshin[1], Mark E Schweitzer[2], John A Carrino[2]
[1]MCP-Hahnemann University Hospital, Philadelphia, Pennsylvania, USA; [2]Thomas Jefferson University Hospital, Philadelphia, Pennsylvania, USA.

1840. Measurement of the Diffusion Coefficient within Lumbar Intervertebral Disks using High Dose Gadodiamide Enhanced MRI

Martina F Callaghan[1], Amy H Herlihy[1], Joanna Allsop[1], Angela Oatridge[1], David J Larkman[1], Joseph V Hajnal[1], Sean PF Hughes[1], Graeme M Bydder[1]
[1]Imperial College, Hammersmith Hospital Campus, London, England, UK.

1841. Diffusion-weighted MR Imaging in Patients with Lumbar Disk Disease

Toshiyuki Okubo[1], Masaaki Hori[1], Keiichi Ishigame[1], Yuko Adachi[1], Yasushi Sasaki[1], Hiroshi Kumagai[1], Tsutomu Araki[1], Hiroyuki Kabasawa[2]
[1]Yamanashi Medical University, Nakakoma-gun, Yamanashi, Japan; [2]GE Yokogawa Medical Systems, Hino, Tokyo, Japan.

MR Imaging of Cartilage: Basic Studies

1842. Age-dependent Collagenous Network Structures of Articular Cartilage

Uta Reibetanz[1], Göran Hanke[1], Daniela Dartsch[1], Christian Labadie[1], Tilo Reinert[1], Tilman Butz[1], Wilfried Gründer[1]
[1]University of Leipzig, Leipzig, Germany.

1843. Correlations between MRI, Biomechanical and Biochemical Measurements of Chondroitinase-Treated Cartilage Grown in a Hollow Fiber Bioreactor

Kenneth W. Fishbein[1], Chris Chen[2], Walter E. Horton[3], Peter A. Torzilli[2], Richard G.S. Spencer[1]
[1]National Institutes of Health, Baltimore, Maryland, USA; [2]Hospital for Special Surgery, New York, New York, USA; [3]Northeastern Ohio Universities College of Medicine, Rootstown, Ohio, USA.

1844. Comparison of Gd-DTPA Enhanced T_1 Decrease with Changes of ADC in Articular Cartilage with Early Degenerative Disease

Vladimir Mlynárik[1], Michal Bittsansky[2], Irene Sulzbacher[1], Reinhard Fuiko[3], Siegfried Trattnig[1]
[1]University of Vienna, Vienna, Austria; [2]Comenius University, Bratislava, Slovakia; [3]Orthopedic Hospital Gersthof, Vienna, Austria.

1845. dGEMRIC, T_2 and $T_{1\rho}$ in the Evaluation of Cartilage Degradation

Nina M. Menezes[1], Martha L. Gray[1], Deborah Burstein[2]
[1]Massachusetts Institute of Technology, Cambridge, Massachusetts, USA; [2]Beth Israel Deaconess Medical Center, Boston, Massachusetts, USA.

1846. T2 Quantitation of Articular Cartilage at 1.5T

Cynthia Maier[1], R. Scott Hinks[1], Steven Tan[1], Lloyd Estkowski[1], Hollis Potter[2]
[1]G. E. Medical Systems, Milwaukee, Wisconsin, USA; [2]Hospital for Special Surgery, New York, New York, USA.

1847. A Mechanical Cartilage Phantom for Magnetic Resonance Imaging

Garry E. Gold[1,2], Derek Lindsey[1], Christopher F. Beaulieu[2], Gary Beaupre[1]
[1]Palo Alto VA Health Care System, Palo Alto, California, USA; [2]StanfordUniversity, Stanford, California, USA.

1848. Combined Magnetic Resonance and Computed Tomographic Microscopy of a Rabbit Model of Osteoarthritis

Danika L Batiste[1], Alexandra Kirkley[1], Sheila Laverty[2], Nancy Ford[1], Joseph Gati[1], Paula Gareau[1], Hua Qian[1], Lisa M. F. Thain[1], Alison Spouge[1], David Wayne Holdsworth[1]
[1]University of Western Ontario, London, Ontario, Canada; [2]Université de Montréal, St. Hyacinthe, Québec, Canada.

1849. Monitoring Initiation and Progression of Spontaneous Osteoarthritis in Guinea Pigs by *In-Vivo* 3D MRI

Jean Joseph Louis Tessier[1], Jonathan Bowyer[1], Nicola Brownrigg[1], Rod Pickford[1], Russel Westwood[1], John C Waterton[1], Rose A Maciewicz[1]
[1]AstraZeneca, Macclesfield, England, UK.

1850. Understanding the Functional Angiogenic Process in an Antigen-Induced Arthritis Model: Correlative BOLD MR Imaging (fMRI) of the Stages of Synovitis along the Time Course of the Disease

Andrea S Doria[1], Paul S Babyn[1], Mike Noseworthy[1,2], Adrian Crawley[3], Kenneth Pritzker[4], Marilyn Ranson[1], Robert B Salter[1]
[1]Hospital for Sick Children, Toronto, Ontario, Canada; [2]University of Toronto, Toronto, Ontario, Canada; [3]Toronto Western Hospital, Toronto, Ontario, Canada; [4]Mount Sinai Hospital, Toronto, Ontario, Canada.

MR Imaging of Cartilage: Human Studies

1851. $T_{1\rho}$ Imaging of Human Wrist *In Vivo*

Sarma V.S. Akella[1], Ravinder Regatte[1], Arijitt Borthakur[1], H. Ralph Schumacher[1], J. Bruce Kneeland[1], John Leigh[1], Ravinder Reddy[1]
[1]University of Pennsylvania, Philadelphia, Pennsylvania, USA.

1852. *In Vivo* T_2 Mapping of the Proximal Interphalangeal (PIP) Joint at 3T

Jelena Lazovic-Stojkovic[1], Timothy J. Mosher[1], Harvey E. Smith[1], Qing X. Yang[1], Bernard J. Dardzinski[2], Michael B. Smith[1]
[1]Pennsylvania State University College of Medicine, Hershey, Pennsylvania, USA; [2]University of Cincinnati College of Medicine, Cincinnati, Ohio, USA.

1853. The Spatial Dependence of $T_{1\rho}$ Relaxation and Dispersion in Human Cartilage *In Vivo*

Umamaheswar Duvvuri[1], Bernard Dardzinski[2], Jonathan Kaufman[1], Ravinder Reddy[1], John Leigh[1]
[1]University of Pennsylvania, Philadelphia, Pennsylvania, USA; [2]University of Cincinnati College of Medicine, Cincinnati, Ohio, USA.

1854. Detection of Changes in Cartilage Water Content using T_2 Mapping *In Vivo*

Carsten Liess[1], Steffen Lüsse[1], Norbert Karger[1], Martin Heller[1], C.-C. Glüer[1]
[1]University of Kiel, Kiel, Germany.

1855. Visualized Change in Knee Cartilage T_2 after Running

Timothy J. Mosher[1], Harvey E. Smith[1], Christopher M. Collins[1], Jason Hancey[1], Bernard Dardzinski[2], Michael B. Smith[1]
[1]Pennsylvania State University College of Medicine, Hershey, Pennsylvania, USA; [2]University of Cincinnati College of Medicine, Cincinnati, Ohio, USA.

1856. *In Vivo* Quantification of Sodium Content in Human Patellar Cartilage using MRI

Andrew James Wheaton[1], Arijitt Borthakur[1], Alexander Gougoutas[1], Erik Shapiro[1], Erik Insko[1], Ravinder Reddy[1]
[1]University of Pennsylvania, Philadelphia, Pennsylvania, USA.

1857. Bilaminar Pattern of Tibial Condyle Cartilage Layer on the Fat-Suppressed 3D Gradient Echo Images: Artifact or Structural and Biochemical Difference in Composition of Cartilage?

Siegfried Trattnig[1], Vladimir Mlynárik[1], Bettina Jung[1], Stefan Marlovits[1], Nadja Schibany[1], Irene Sulzbacher[1]
[1]University Hospital of Vienna, Vienna, Austria.

1858. Magnetic Resonance Imaging of Articular Cartilage of the Knee: Comparison between Fat-Suppressed 3D SPGR Imaging, Fat-Suppressed FSE Imaging and Fat-Suppressed 3D DEFT Imaging and Correlation with Arthroscopy

Hiroshi Yoshioka[1], Kathryn Jane Stevens[2], Brian Hargreaves[2], Mark C. Genovese[2], Michael F. Dillingham[2], Philipp Lang[3]
[1]University of Tsukuba, Tsukuba, Ibaraki, Japan; [2]Stanford University, Stanford, California, USA; [3]Brigham and Women's Hospital, Boston, Massachusetts, USA.

1859. Measurement of Serial Changes in Knee Cartilage Thickness and Volume at Sites of Focal T_2 Abnormalities using Multiple Pulse Sequences, Image Registration and Automated Segmentation

John A. Lynch[1], Souhil Zaim[1], Jenny Zhao[1], Bachir Taouli[1], Ali Guermazi[1], Charles G Peterfy[2], Harry K Genant[1]
[1]University of California San Francisco, San Francisco, California, USA; [2]Synarc Inc, San Francisco, California, USA,

1860. Comparison of Novel Imaging Sequences for Imaging Articular Cartilage

Brian Hargreaves[1], Garry E. Gold[1], Christopher F. Beaulieu[1], Shreyas Vasanawala[1], Dwight G. Nishimura[1], John M. Pauly[1]
[1]Stanford University, Stanford, California, USA.

1861. MRI of Articular Cartilage: Normal Patterns Mimicking Pathology in Normal Subjects and Patients with Osteoarthritis

Hiroshi Yoshioka[1], Kathryn Jane Stevens[2], Mark C. Genovese[2], Michael F Dillingham[2], Philipp Lang[3]
[1]University of Tsukuba, Tsukuba, Ibaraki, Japan; [2]Stanford University, Stanford, California, USA; [3]Brigham and Women's Hospital, Boston, Massachusetts, USA.

1862. Rapid Cartilage Imaging with SSFP and Four-Point Dixon Techniques

Scott Brian Reeder[1], Marcus Alley[1], Norbert J. Pelc[1], Garry E. Gold[1,2]
[1]Stanford University, Stanford, California, USA; [3]Palo Alto VA Health Care System, Palo Alto, California, USA.

1863. Value of High Resolution MRI in Osteochondral Lesions of the Talar Dome

Nadja Schibany[1], Stefan Marlovits[1], Ahmed Ba-Ssalamah[1], Vladimir Mlynárik[1], Iris Nöbauer[1], Mitra Shodjai[1], Georg Heinze[1], Siegfried Trattnig[1]
[1]University of Vienna, Vienna, Austria.

1864. MR Appearance after Autogeneous Osteochondral Mosaicplasty: Evaluation by 3D-FLASH with Fat Suppression

Hisashi Tanaka[1], Katsuyuki Nakanishi[1], Nobuo Kashiwagi[1], Ken Nakata[1], Hideaki Yoshimura[1], Norihiko Fujita[1], Norio Hirabuki[1], Hironobu Nakamura[1]
[1]Osaka University Medical School, Osaka, Japan.

1865. High Resolution Imaging of Articular Cartilage with FEMR

Garry E. Gold[1,2], Brian Hargreaves[1], Ann Shimakawa[3], Shreyas Vasanawala[1], Vince Castillo[3], Jean Brittain[3], Dwight G. Nishimura[1], Christopher F. Beaulieu[1]
[1]Stanford University, Stanford, California, USA; [2]Palo Alto VA Health Care System, Palo Alto, California, USA; [3]ASL-West, G. E. Medical Systems, Palo Alto, California, USA.

1866. A Multiecho FLASH3D Technique to Facilitate the Analysis of Articular Cartilage

Peter A. Hardy[1]
[1]University of Kentucky, Lexington, Kentucky, USA.

1867. A Simple, Inexpensive Device for Compression of the Horizontal Human Body during MRI in Extremely Constricted Spaces

Christopher M. Collins[1], Harvey E. Smith[1], Timothy J. Mosher[1], Michael B. Smith[1]
[1]Pennsylvania State University College of Medicine, Hershey, Pennsylvania, USA.

Musculoskeletal MR Spectroscopy

1868. Rosiglitazone Reduces Intramyocellular and Hepatic Lipid in Zucker Rat

Paul D. Hockings[1], K. Kumar Changani[1], Heather L. Lloyd[1], David G. Reid[1], C. Nigel Toseland[1], Jeffrey M. Birmingham[1], Janette A. Osborne[1], Robin E. Buckingham[1]
[1]GlaxoSmithKline, Welwyn, England, UK.

1869. ^{31}P MRS Reveals a Compromised Phosphoryl Transfer System in Mice Lacking both Cytosolic CK and AK

Klaasjan Renema[1], Edwin Janssen[1], Jaap Janssen[1], Frank Oerlemans[1], Be Wieringa[1], Arend Heerschap[1]
[1]University Medical Center Nijmegen, Nijmegen, Netherlands.

1870. ^{31}P-MRS-Based Evidence for Mitochondrial Adaptations in M-type Creatine Kinase-Deficient Mouse Muscle

Marijn Kruiskamp[1], Frank Ter Veld[1], Laurence Kay[1], Gerard Van Vliet[1], Klaas Nicolay[1,2]
[1]Utrecht University, Utrecht, Netherlands; [2]Eindhoven University of Technology, Eindhoven, Netherlands.

1871. Mapping and Distribution Analysis of Intra-myocellular Lipids in Human Calf Muscle

Peter Vermathen[1], Roland Kreis[1], Chris Boesch[1]
[1]University Bern, Bern, Switzerland.

1872. Determinants of Intramyocellular Lipid Levels in Rat Hindleg Muscle

Claudia Neumann-Haefelin[1], Johanna Kuhlmann[1], Ulrich Belz[1], Jürgen Kalisch[1], Andreas Herling[1], Hans Paul Juretschke[1]
[1]Aventis Pharma Deutschland GmbH, Frankfurt, Germany.

1873. Association of Increased IMCL Content with Visceral Fat Accumulation and the Development of Insulin Resistance in Zucker Rats

Didier Laurent[1], John Gounarides[1], James Wasvary[1], Dongming Sun[1], Amin Islam[1], Richard Deacon[1], Kevin Poirier[1], Jiaping Gao[1]
[1]Novartis Biomedical Research Institute, Summit, New Jersey, USA.

1874. Measurement of the Lactate Dipolar Coupling in *Ex Vivo* Frog Skeletal Muscles using a New Lactate Editing Pulse Sequence

H. Carl Le[1], Paul C Lauterbur[1], M. Joan Dawson[1]
[1]University of Illinois at Urbana-Champaign, Urbana, Illinois, USA.

1875. *In Vivo* T_2 and ^{31}P NMR Characterization of Exercising Muscle: Effects of Intracellular pH and Glycogen Utilization

Graydon H. Raymer[1], Mohan Krishnan Raja[1], Chris Devine[1], Robert Thompson[1], Gregory Marsh[1], Paul Picot[1], M. A. Tarnopolsky[2], Tim Doherty[2]
[1]University of Western Ontario, Lawson Health Research Institute, London, Ontario, Canada; [2]McMaster University, Hamilton, Ontario, Canada.

1876. Gated ^{31}P-NMR Demonstrates Profound Energy Deficit at the Onset of Contractions in MM Creatine Kinase Knockout Mice

Brian B Roman[1], Robert W. Wiseman[2], Roop Jayaraman[2], Ronald Meyer[2]
[1]University of Illinois at Chicago, Chicago, Illinois, USA; [2]Michigan State University, East Lansing, Michigan, USA.

1877. The Slow Component of Pulmonary Oxygen Uptake (VO_2) and the Calculated Intramuscular [ADP] during High-Intensity Knee-Extensor Exercise in Humans

Harry Bartlett Rossiter[1], Susan A Ward[2], Franklyn Arron Howe[1], John M Kowalchuk[3], John R Griffiths[1], Brian J Whipp[1]
[1]St George's Hospital Medical School, London, England, UK; [2]The University of Glasgow, Glasgow, Scotland, UK; [3]The University of Western Ontario, London, Ontario, Canada.

1878. *In Vivo* ^{31}P-NMR Studies of Speeding Fish: Online Monitoring of Muscular Energetics in Atlantic Cod (*Gadus morhua*)

Hans O. Pörtner[1], Dale M. Webber[2], Christian Bock[1], R.-M. Wittig[1]
[1]Alfred-Wegener-Institute for Polar and Marine Research, Bremerhaven, Germany; [2]Vemco Ltd, Halifax, Canada.

1879. Metabolic Abnormalities in Muscle Correlate with Weakness and Fatigue in Scleroderma

Kenneth J. Niermann[1], Jane Harting Park[1], Lloyd E. King[1], Lauren A. Gandhi[1], Rebecca J. Meyer[1], Nancy J. Olsen[1]
[1]Vanderbilt University School of Medicine, Nashville, Tennessee, USA.

1880. Metabolic Effects of Induced Alkalosis during Progressive Exercise

Graydon H. Raymer[1], Gregory Marsh[2]
[1]The Lawson Health Research Institute, The University of Western Ontario, London, Ontario, Canada; [2]St. Joseph's Health Centre, London, Ontario, Canada.

1881. Correlation between IMCL and Insulin Sensitivity in Zucker Diabetic Fatty Rats

Claudia Neumann-Haefelin[1], Johanna Kuhlmann[1], Ulrich Belz[1], Jürgen Kalisch[1], Andreas Herling[1], Hans Paul Juretschke[1]
[1]Aventis Pharma Deutschland GmbH, Frankfurt, Germany.

1882. Effect of Muscle pH and Molecular Charge on Dipolar Coupling Interactions in Muscle Observed by Double Quantum ^{1}H MRS

Iris Asllani[1], Eric Shankland[1], Marty Kushmerick[1]
[1]University of Washington, Seattle, Washington, USA.

1883. Changes in Intramyocellular Lipids following Short Term Exercise in Women

Hee-Won Kim[1], Michael A. Ferguson[1], Lesley J. White[1], Sean C. McCoy[1], Katherine N. Scott[1]
[1]University of Florida, Gainesville, Florida, USA.

1884. Diurnal Changes in Muscle Glycogen in Type 2 Diabetes and in Normal Subjects

Jane Halliday[1], J. E.M. Snaar[1], Peter Carey[2], Roy Taylor[2], Peter Morris[1]
[1]University of Nottingham, Nottingham, England, UK; [2]University of Newcastle upon Tyne, Newcastle upon Tyne, England, UK.

MR Imaging of the Pelvis: Female and Fetal

1885. Fetal Cardiographic Monitoring (CTG) during 1.5 Tesla Magnetic Resonance Imaging

Sven Claude Andre Michel[1], Annett Rake[1], Thomas Markus Keller[1], Renate Huch[1], Volker König[1], Burkhardt Seifert[2], Borut Marincek[1], Rahel A Kubik-Huch[1]
[1]University Hospital Zurich, Zurich, Switzerland; [2]University of Zurich, Zurich, Switzerland.

1886. Measurement of IVIM Parameters in the Spiral Arteries:Variation with Gestational Age in Normal and Compromised Pregnancies

J Fulford[1], R Duckett[2], R Moore[1], P Baker[2], D James[2], P Gowland[1]
[1]University of Nottingham, Nottingham, England, UK; [2]City Hospital, Nottingham, England, UK.

1887. Withdrawn

1888. Normal and Pathologic Findings of the Pelvic Ring Joints Postpartum using MRI

Susanne Wurdinger[1], Jürgen R. Reichenbach[1], Kathrin Humbsch[1], Gertrud Peiker[1], Hans-Joachim Seewald[1], Werner A. Kaiser[1]
[1]Friedrich-Schiller-Universität Jena, Jena, Germany.

1889. Investigating Patterns of Blood Movement in the Human Placenta using Anti-Symmetric Sensitising Gradients

Damian Tyler[1], Jonathan Fulford[1], Caroline Hoad[1], Rachel Moore[1], Stephen Ong[1], Ian Johnson[1], Philip Baker[1], Penelope Gowland[1]
[1]University of Nottingham, Nottingham, England, UK.

1890. Uterine Junctional Zone and Uterine Peristalsis in the Postmenopausal Women

Aki Kido[1], Kaori Togashi[1], Asako Nakai[1], Takashi Koyama[1], Junji Kishi[2], Tadashi Sagoh[2], Masato Noguchi[2], S. Fujii[1], Junji Konishi[1]
[1]Kyoto University, Kyoto, Japan; [2]Fukui Red Cross Hospital, Fukui, Fukui, Japan.

Renal MR Imaging

1891. Metastatic Renal Carcinoma or Incidental Double Cancer? Differentiation by Subtraction Chemical Shift Mapping

Makoto Amanuma[1], Kyoko Enomoto[1], Tsuneya Watabe[1], Atsuko Heshiki[1]
[1]Saitama Medical School, Iruma, Saitama, Japan.

1892. Functional Differentiation of Healthy Kidneys from Damaged Kidneys

Henrik Jakob Michaely[1], Michael Bock[1], Matthias Guenther[1], Stefan Schoenberg[1]
[1]German Cancer Research Center, Heidelberg, Germany.

1893. Sodium MR Renography of Diuresis: Spatial and Kinetic Response

Nimrod Maril[1], Raanan Margalit[1], Mayer Brezis[2], Joel Mispelter[3], Hadassa Degani[1]
[1]Weizmann Institute of Sciences, Rehovot, Israel; [2]Hadassah-Hebrew University Medical Center, Jerusalem, Israel; [3]Institut Curie, Orsay, France.

1894. Effects of Furosemide on Functional Key-Parameters in the Rat Kidney

Michael Pedersen[1], Zsolt Vajda[2], Hans Stødkilde-Jørgensen[1], Leif Østergaard[1], Søren Nielsen[2], Jørgen Frøkiær[2]
[1]Aarhus University Hospital, Aarhus, Denmark; [2]Aarhus University, Aarhus, Denmark.

1895. Fat-Suppressed Multi-Slab FLASH 3D Imaging

Robert A Pooley[1], Mellena D Bridges[1], Helmuth Schultze-Haakh[2], David M Thomasson[2]
[1]Mayo Clinic Jacksonville, Jacksonville, Florida, USA; [2]Siemens Medical Systems, Iselin, New Jersey, USA.

MR Imaging of the Male Pelvis

1896. High Resolution Imaging of Canine Prostate using Endorectal/Endourethral Phased Array Coils

Andrew C Yung[1], Ali Yusuf Oner[1], Jean-Michel Serfaty[1], Mark Feneley[1], Xiaoming Yang[1], Ergin Atalar[1]
[1]Johns Hopkins University, Baltimore, Maryland, USA.

1897. Prostatic Citrate and PSA Levels in Patients on Hormone Deprivation Therapy for Locally Confined Prostate Cancer

Ullrich Gerd Mueller-Lisse[1], Mark Gunnard Swanson[2], Daniel B Vigneron[2], John Kurhanewicz[2]
[1]Klinikum der Universitaet Muenchen - Grosshadern, Muenchen, Germany; [2]University of California San Francisco, San Francisco, California, USA.

1898. Assesment of Coils for High Resolution Prostate Imaging

Adrian Knowles[1], Menno Van Wetten[2], Martijn Van Melick[2]
[1]Philips Medical Systems, Best, Netherlands; [2]Fontys Paramedische Hogeschool, Eindhoven, Netherlands.

1899. Evaluation of High Resolution Diffusion Weighted Imaging in the Prostate at 1.5T and 3.0T

Adrian Knowles[1], Pieter Piels[2], Raymond Oyen[2], Paul Van Hecke[2]
[1]Philips Medical Systems, Best, Netherlands; [2]Katholieke Universiteit Gasthuisberg, Leuven, Belgium.

1900. Is DCE-MRI Reliable following Trans-urethral Resection of the Prostate?

Bin Wang[1,2], Martin Lowry[1], Lindsay W. Turnbull[1]
[1]University of Hull, Hull, England, UK; [2]Weifang Medical University, Weifant, P.R. China.

1901. Feasibility of True-FISP MR Voiding Cysturethrography

Ulrike Lotti Mueller-Lisse[1], Ullrich Gerd Mueller-Lisse[1], Andreas Lienemann[1], Peter Schneede[1], Maximilian F Reiser[1]
[1]Klinikum der Universitaet Muenchen - Grosshadern, Muenchen, Germany.

1902. Testicular Masses in Association with Congenital Adrenal Hyperplasia: MR Features Compared with Sonographic Findings

Harold M Suliman[1], Nike M.L. Stikkelbroeck[1], Barto J Otten[1], Ad R.M.M. Hermus[1], Gerrit J Jager[1], Hans J.G. Blickman[1]
[1]University Medical Center Nijmegen, Nijmegen, Netherlands.

1903. Diffusion Measurement in Pelvic Tumours using Single Shot FSE

M. E. Bourgeois[1], A. S.K. Dzik-Jurasz[1], Claudia Domenig[2], Martin O. Leach[1], Simon Doran[2]
[1]Institute of Cancer Research, Sutton, Surrey, England, UK; [2]University of Surrey, Guildford, Surrey, England, UK.

Breast MR Imaging

1904. Detection of Residual Disease after Neoadjuvant Chemotherapy using Breast MRI

Jessica E Gibbs[1], Savannah C Partridge[1], Ying Lu[1], Daniel Sudilovsky[1], Laura J Esserman[1], Nola M Hylton[1]
[1]University of California San Francisco, San Francisco, California, USA.

1905. Characterization of Breast Lesions using 3D Volume-Rendered Color MRI Movies

Phyllis Jacquelyn Yang[1], Bruce L Daniel[1], Lara A Stables[1], Robert J Herfkens[1], Debra M Ikeda[1], Robyn L Birdwell[1], Timothy Colt[1], Marowan Zakhour[1], Gary H Glover[1]
[1]Stanford University, Stanford, California, USA.

1906. Contrast-Enhanced Breast MR Imaging: Sensitivity and Specificity of an Intensity-Modulated Parametric Mapping Technique, Lesion Morphology and Kinetic Enhancement Curves in Ductal Carcinoma *In-Situ* vs. Fibrocystic Change

Michelle Minhha Nguyen[1], Debra M. Ikeda[1], Bruce L. Daniel[1], Robyn L. Birdwell[1], Katherine J. Fong[1], Lara A. Stables[1], Marowan Zakhour[1], Robert J. Herfkens[1]
[1]Stanford University, Stanford, California, USA.

1907. Dynamic Breast Cancer Imaging with High Spatiotemporal Resolution using Reduced-Encoding

Lara A. Stables[1], Gary H. Glover[1], Norbert J. Pelc[1], Zhi-Pei Liang[2]
[1]Stanford University, Stanford, California, USA; [2]University of Illinois at Urbana-Champaign, Urbana, Illinois, USA.

1908. The Effect of Sampling Rate and Total Acquisition Time for Quantitative Contrast-Enhanced Dynamic MR Imaging

Yi-Jui Liu[1], Ing-Jye Huang[1], Hsiao-Wen Chung[1]
[1]National Taiwan University, Taipei, Taiwan.

1909. Refinement and Testing of a Lexicon for Reporting Contrast-Enhanced Breast Magnetic Resonance (MR) Imaging Studies

Debra Masako Ikeda[1], Nola M Hylton[2], Elizabeth A Morris[3], Rebecca Lewis[4], Jeffrey C Weinreb[5], Mary G Hochman[6], Christiane K Kuhl[7], Werner A Kaiser[8], John Lewin[9], Petra Viehweg[10], Mitchell D Schnall[11]
[1]Stanford Univeristy, Stanford, California, USA; [2]University of California San Francisco, San Francisco, California, USA; [3]Memorial Sloan Kettering Cancer Center, New York, New York, USA; [4]American College of Radiology, Reston, Virginia, USA; [5]New York University, New York, New York, USA; [6]Beth Israel Deaconess Medical Center, Boston, Massachusetts, USA; [7]University of Bonn, Bonn, Germany; [8]Freiderich-Schiller Universitaet, Jena, Germany; [9]University of Colorado, Denver, Colorado, USA; [10]University of Halle-Wittenberg, Halle, Germany; [11]Univeristy of Pennsylvania, Philadelphia, Pennsylvania, USA.

1910. Clinical Utility of Textural Analysis of the Breast

Peter Gibbs[1], Lindsay W Turnbull[1]
[1]Hull Royal Infirmary, Hull, England, UK.

1911. Influence of Fat Suppression on Diffusion-Weighted Imaging of the Breast

Savannah C Partridge[1], Roland G Henry[1], Nola M Hylton[1]
[1]University of California San Francisco, San Francisco, California, USA.

Body MR: MR Spectroscopy

1912. Metabolic Change in Hepatic Parenchyma after Transcatheter Arterial Embolization

Waka Saito[1], June Watzl[2], Uwe Himmelreich[2], Carolyn Mountford[2], Atsuko Heshiki[1]
[1]Saitama Medical School, Iruma-gun, Saitama, Japan; [2]University of Sydney, Sydney, New South Wales, Australia.

1913. Lactate Magnetization Transfer in ^{1}H NMR of Rat Liver

Tom Dresselaers[1], Niki Bergans[1], Florent Vanstapel[1], Paul Van Hecke[1]
[1]Katholieke Universiteit Leuven, Leuven, Belgium.

1914. Proton–Decoupled ^{31}P MR Spectroscopy in Patients with Alcoholic Liver Disease

Heinz-Peter Wilhelm Schlemmer[1], Tanja Sawatzki[1], Steffen Sammet[1], Ines Dornacher[2], Peter Bachert[1], Helmut Karl Seitz[2]
[1]German Cancer Research Center, Heidelberg, Germany; [2]Salem Medical Center, Heidelberg, Germany.

1915. Utility of Hepatic ^{31}P MRS in Assessing the Severity of Liver Disease in a Rat Model of Biliary Cirrhosis

, I.R. Corbin[1], J. Peeling[1], M. Zhang[1], G.Y. Minuk[1]
[1]University of Manitoba, Winnipeg, Manitoba, Canada.

1916. *In Vivo* Monitoring of Hepatic Energy Status in Chronic Ethanol-Treated Rats during Challenge

Lesley May Foley[1], R. Terry Thompson[2], Melissa Jamie Yau[1], Manfred Brauer[1]
[1]University of Guelph, Guelph, Ontario, Canada; [2]Lawson Health Research Institute, London, Ontario, Canada.

1917. Quantitative Phamacokinetics using ^{19}F MRS and Application to the Antimicrobial DU-6859a

Geoffrey Payne[1], David Collins[1], Peter Loynds[2], Graham Mould[2], Philip Murphy[1], P Kessar[1], M Yamaguchi[3], Martin O. Leach[1]
[1]Institute of Cancer Research and Royal Marsden Hospital, Sutton, Surrey, England, UK; [2]Guildford Clinical Pharmacology, Guildford, England, UK; [3]Daiichi Pharmaceuticals, Tokyo, Japan.

1918. Intestinal Energy Metabolism after Ischaemia-Reperfusion: Effects of Moderate Hypothermia and Perfluorocarbons

Paisarn Vejchapipat[1,2], Edward Proctor[2], Andy Petros[2], Alan Ramsay[2], David G Gadian[2], Lewis Spitz[2], Agostino Pierro[2]
[1]Chulalongkorn University, Bangkok, Thailand; [2]Institute of Child Health and Great Ormond Street Hospital, London, England, UK.

1919. Metabolic Derangement during Endotoxaemia in Neonatal Rats

Paisarn Vejchapipat[1,2], Simon Eaton[2], Koji Fukumoto[2], Harry Parkes[2], Tony Reynolds[2], Lewis Spitz[2], Agostino Pierro[2]
[1]Chulalongkorn University, Bangkok, Thailand; [2]Institute of Child Health and Great Ormond Street Hospital, London, England, UK.

1920. Robust Retrospective Fat-Removal for MR-Spectroscopy of the Prostate

Stefan Röll[1], Tom WJ Scheenen[2], Dennis WJ Klomp[2], Ferdinand Van Dorsten[2], Uwe Boettcher[1], Arend Heerschap[2]
[1]Siemens Medical Solutions, Erlangen, Germany; [2]University Medical Center Nijmegen, Nijmegen, Netherlands.

1921. MR Observations of Prostate Metabolites at 3 Tesla

Kagayaki Kuroda[1,2], Yasushi Kaji[3], Robert V. Mulkern[4], Naoyuki Takei[1,5], Yuri Kitamura[3], Mitsuru Tamura[6], Kazuro Sugimura[3]
[1]Institute of Biomedical Research and Innovation, Kobe, Hyogo, Japan; [2]Tokai University, Kobe, Japan; [3]Kobe University School of Medicine, Kobe, Hyogo, Japan; [4]Harvard University, The Children's Hospital, Boston, Massachusetts, USA; [5]Osaka City University, Osaka, Japan; [6]Tamura Artistic Design, Tokyo, Japan.

1922. MRI/MRSI Assessment of Cancer Extent and Gland Volume during Hormone Deprivation Therapy

Ullrich Gerd Mueller-Lisse[1], Mark Gunnard Swanson[2], Daniel B Vigneron[2], Juergen E Scheidler[1], John Kurhanewicz[2]
[1]Klinikum der Universitaet Muenchen - Grosshadern, Muenchen, Germany; [2]University of California San Francisco, San Francisco, California, USA.

Gastrointestinal MR Imaging

1923. EPI Investigation of Intragastric Processing of Fat Emulsions

Luca Marciani[1], Martin Wickham[2], Jeff Wright[3], Debbie Bush[3], Richard Faulks[2], Annette Fillery-Travis[2], Robin C Spiller[3], Penny A Gowland[1]
[1]University of Nottingham, Nottingham, England, UK; [2]Institute of Food Research, Norwich, England, UK; [3]University Hospital, Nottingham, England, UK.

1924. Intraindividual Optimization of Oral Contrast Compounds for Small Bowel MRI

Thomas C Lauenstein[1], Hubert Schneemann[1], Kerstin Friedrich[1], Stefan Ruehm[1], Jörg Debatin[1]
[1]University Hospital Essen, Essen, Germany.

1925. Detection of Colorectal Mass using Intraluminal Air as Contrast Agent (Preliminary Result)

Man-Ching So[1], Wynnie Wai-Man Lam[1], Darren Mann[1]
[1]Prince of Wales Hospital, Hong Kong, China.

1926. *In Vivo* Gastrointestinal Wall Imaging using Endoluminal Coils: Feasibility Study on Rabbit

Olivier Beuf[1], Frank Pilleul[2], Mircea Armenean[1], Guylaine Hadour[3], Hervé Saint-Jalmes[1]
[1]Université Claude Bernard Lyon 1, Villeurbanne, France; [2]Hôpital Edouard Herriot, Lyon, France; [3]Hôpital Cardiologique Louis Pradel, Lyon, France.

1927. Esophageal Magnetic Resonance Fluoroscopy with T_1-weighted Fast Field Echo Sequence: Volunteer Study

Tomoko Manabe[1], Masahiko Fujii[1], Hong Li[1], Takanori Higashino[1], Hideaki Kawamitsu[1], Kazuro Sugimura[1]
[1]Kobe University School of Medicine, Kobe, Hyougo, Japan.

1928. Diagnostic Ability of MR Imaging in Large Bowel Obstruction (LBO)

Hiroki Haradome[1], Taro Takahara[1], Toshiaki Nitatori[1], Junichi Hachiya[1]
[1]Kyorin University, Toyko, Japan.

1929. Dark Lumen MR Colonography – Initial Experiences

Thomas C Lauenstein[1], Christian Hogh[1], Jörg Debatin[1], Stefan Ruehm[1]
[1]University Hospital Essen, Essen, Germany.

1930. Non-Invasive Distension for MR Imaging of the Small Bowel: Positive and Negative Intraluminal Contrast in Volunteers and Patients

Michael A Patak[1], Johannes M Fröhlich[1], Marc A Ritz[1], Constantin Von Weymarn[1], Christoph L Zollikofer[1], Klaus Wentz[1,2]
[1]Kantonsspital Winterthur, Winterthur, Switzerland; [2]University Witten-Herdecke, Witten, Germany.

1931. MR Imaging of Appendix: Normal and Acute Appendicitis

Norihisa Nitta[1], Masashi Takahashi[1], Kiyoshi Murata[1], Ryutarou Takazakura[1], Ryuta Itoh[1], Akira Furukawa[1], Michio Yamasaki[1], Masanobu Fukushima[2]
[1]Shiga University of Medical Science, Otsu, Shiga, Japan; [2]Hoyu Hospital, Joyo, Kyoto, Japan.

Body MR: MRCP

1932. MR Cholangiopancreatoangiographic (MRCPA) Images with Balanced Turbo Field-Echo (balanced TFE) Sequence: A Comparison with Single-Shot Fast Spin-Echo (SSFSE) Sequence

Tomoaki Ichikawa[1], Tatsuaki Tsukamoto[1], Takatoshi Kitamura[1], Ryouji Amemiya[2], Eiji Okamoto[3], Kouji Miyazaki[2], Tsutomu Araki[1]
[1]Yamanashi Medical University, Nakakoma, Yamanashi, Japan; [2]Yamanashi Kouseiren Health Center, Kofu, Yamanashi, Japan; [3]Philips Medical Systems, Best, Netherlands.

1933. Efficacy of a Combination of Sensitivity Encoding (SENSE) Technique with 3D-MRCP Imaging with Balanced Turbo Field-Echo and Single-Shot Fast Spin-Echo Sequences

Tomoaki Ichikawa[1], Tatsuaki Tsukamoto[1], Takatoshi Kitamura[1], Ryouji Amemiya[2], Eiji Okamoto[3], Kouji Miyazaki[2], Tsutomu Araki[1]
[1]Yamanashi Medical University, Nakakoma, Yamanashi, Japan; [2]Yamanashi Kouseiren Health Center, Koufu, Yamanashi, Japan; [3]Philips Medical Systems, Best, Netherlands.

1934. Interactive Fluoroscopic MRCP: Technical Performance

David J. Lomas[1], Hilary J Franklin[1], Sanjeeva Abeywickrama[1], Fiona NA Miller[1], Malek Makki[1], Martin J Graves[1]
[1]University of Cambridge and Addenbrooke's NHS Trust, Cambridge, England, UK.

1935. Biliary Imaging using Gadolinium-Ethoxybenzyl-DTPA (Eovist): Is a Twenty-Minute Delay Sufficient for Biliary Enhancement?

Jill D. Branam[1], Ruth C. Carlos[1], Qian Dong[1], Hero K. Hussain[1], Isaac R. Francis[1]
[1]University of Michigan, Ann Arbor, Michigan, USA.

Body MR Techniques

1936. Robust MR Fluid Volume Measurement

Hiroyuki Kabasawa[1], Akira Nabetani[1], Tetsuji Tsukamoto[1], Kazuhiro Kono[1]
[1]GE Yokogawa Medical Systems, Hino-shi, Tokyo, Japan.

1937. Quantifying Changes in Liver Volume using Non-Rigid Registration

Mark Holden[1], Nadeem Saeed[2], K. Kumar Changani[2], David Templeton[2], Derek L Hill[1]
[1]King's College London, London, England, UK; [2]GlaxoSmithKline, Welwyn, England, UK.

1938. Abdominal MR Imaging at 4 Tesla

Hidemasa Uematsu[1], Lawrence Dougherty[1], Masaya Takahashi[1], Yoshiharu Ohno[1], Masashi Nakatsu[1], Mitchell Schnall[1], Hiroto Hatabu[1]
[1]University of Pennsylvania Medical Center, Philadelphia, Pennsylvania, USA.

1939. Liver Perfusion MRI using Arterial Spin Labeling

Michael H. Gach[1], Tao Li[1], Juan Carlos Lopez-Talavera[1], Anthony W. Kam[1]
[1]University of Pittsburgh, Pittsburgh, Pennsylvania, USA.

1940. Four Times Acceleration in Body MRI on an Eight Channel Scanner using a Parallel Imaging Technique

Qun Chen[1], P. Madhav[1], Jason Polzin[2], Kevin F King[2], Lisa Angelos[2], Patrick Ledden[3], Robert Edelman[1]
[1]Evanston Northwestern Healthcare and Northwestern University Medical School, Evanston, Illinois, USA; [2]GE Medical Systems, Milwaukee, Wisconsin, USA; [3]Nova Medical, Inc., Wakefield, Massachusetts, USA.

1941. Sliding Multi-Slice Acquisition for Whole Body Imaging

Hans-Peter Fautz[1], Klaus Scheffler[1], Jürgen Hennig[1]
[1]University of Freiburg, Freiburg, Germany.

1942. Background Suppression with Arterial Spin Labeling for the Quantification of Abdominal Perfusion

Cedric MJ De Bazelaire[1], Guillaume D Duhamel[1], David C Alsop[1]
[1]Beth Israel Deaconess Medical Center, Harvard University, Boston, Massachusetts, USA.

1943. Reproducibility of ADC_w in Diffusion-Weighted MR Imaging of the Liver

Rebecca J Theilmann[1], James Ranger-Moore[1], Alison T. Stopeck[1], Eric Outwater[1], Rebecca Borders[1], Robert J. Gillies[1]
[1]University of Arizona, Tucson, Arizona, USA.

1944. Quantification of Intra-Abdominal Fat during Controlled Weight Reduction: Assessment using Water-Suppressed Breath-Hold MRI Technique

Jaroslav Tintera[1], Pavlina Harantová[1], Pavel Suchánek[1], Magda Adamová[1], Milan Hájek[1], Rudolf Poledne[1]
[1]IKEM, Prague, Czech Republic.

1945. Dynamic Response of Chronic Ethanol-Treated Rats to Physiological and Metabolic Challenges: An fMRI Study

Lesley May Foley[1], R. Terry Thompson[2], Melissa Jamie Yau[1], Manfred Brauer[1]
[1]University of Guelph, Guelph, Ontario, Canada; [2]Lawson Health Research Institute, London, Ontario, Canada.

1946. Measurement of Fat Content in CB1 Knock-Out Mice: A Follow-Up MRI Study at 7T

Mirjam I Schubert[1], Daniela Cota[1], Giovanni Marsicano[1], Günther K Stalla[1], Beat Lutz[1], Dorothee Auer[1]
[1]Max-Planck-Institute of Psychiatry, München, Germany.

Clinical Liver MR Imaging

1947. Gadobenate Dimeglumine-Enhanced Dynamic MR Imaging of Focal Liver Lesions in Previously Contrast-Enhanced Liver Parenchyma

Gunther Schneider[1], Katrin Altmeyer[1], Sanjay Saini[1], Luigi Grazioli[1], Gianni Morana[1], Bernhard Kramann[1], Miles Kirchin[1]
[1]University Hospital, Homburg/Saar, Germany.

1948. Hepatic Hemangioma with Extrahepatic Growth with Special Reference to Bare Areas of the Liver

Junko Takahama[1], Shinji Hirohashi[1], Satoru Kitano[1], Rina Hirohashi[1], Kimihiko Kichikawa[1], Hajime Ohishi[1]
[1]Nara Medical University, Kashihara, Nara, Japan.

1949. Comparison of Contrast Enhanced 2D Gradient Echo and Contrast Enhanced 3D Gradient Echo Imaging with Spectral Inversion of Lipids in the Detection of Hepatic Neoplasms

Mitesh Mehta[1], Godfrey Kim[1], Mahendra Mehta[1]
[1]St. Joseph's Health Centre, Toronto, Ontario, Canada.

1950. T_2 Contrast in the FRFSE Sequence: Application to Liver Lesions

Erik K. Insko[1], Leon Axel[2]
[1]University of Pennsylvania, Philadelphia, Pennsylvania, USA; [2]New York University School of Medicine, New York, New York, USA.

1951. Fusion of SPIO-Enhanced MR Images and Volume Data Sets Obtained with Multi-Detector Row Helical CT Scanner: Improved Ability for Hepatic Tumor Diagnosis

Masatoshi Hori[1], Jun Masumoto[1], Takamichi Murakami[1], Tonsok Kim[1], Yoshinobu Sato[1], Shinnichi Tamura[1], Hironobu Nakamura[1]
[1]Osaka University Medical School, Osaka, Japan.

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Masakatsu Tsurusaki[1], Koji Sugimoto[1], Masahiko Fujii[1], Kenta Izaki[1], Takanori Taniguchi[1], Takeki Mori[1], Kazuro Sugimura[1]
[1]Kobe University School of Medicine, Kobe, Hyogo, Japan.

1953. Parallel Imaging in Hepatic Lesion Detection: Utilization of ASSET with Single-Shot Fast Spin Echo Imaging

Jessica S. Stern[1], Qun Chen[1], Wei Li[1], Vahid Yaghmai[1], Jason Polzin[2], Kevin F King[2], Robert R. Edelman[1]
[1]Evanston Northwestern Healthcare, Northwestern University Medical School, Evanston, Illinois, USA; [2]G. E. Medical Systems, Milwaukee, Wisconsin, USA.

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Günther Schneider[1], Rainer Mass[2], Leo Schultze Kool[3], Klaus Peter Lodemann[4], Miles Kirchin[5]
[1]University Hospital, Homburg/Saar, Germany; [2]University Hospital Eppendorf, Hamburg, Germany; [3]The Netherlands Cancer Institute, Amsterdam, Netherlands; [4]Bracco-Byk Gulden, Konstanz, Germany; [5]Bracco Imaging SpA, Milan, Italy.

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Jeong-Sik Yu[1], Neil M Rofsky[1]
[1]Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, Massachusetts, USA.

1956. SSFSE MR Imaging of Focal Hepatic Lesions

Larry Allen Kramer[1], Rony M. Avritscher[1]
[1]University of Texas at Houston Medical School, Houston, Texas, U.S.A..

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Kohkan Shamsi[1], T Balzer[2], A Giovagnoni[3], B Hamm[4], P Reimer[5], T Vogl[6], M Stiskal[7], M Laniado[8], M Osteaux[9]
[1]Berlex Laboratory Inc, Montville, New Jersey, USA; [2]Schering AG, Berlin, Germany; [3]Hospital of Torretts, Ancona, Italy; [4]Humboldt University, Berlin, Germany; [5]Karlsruhe State Clinic, Karlsruhe, Germany; [6]Goethe University, Frankfurt, Germany; [7]City Hospital of Vienna-Lainz, Vienna, Austria; [8]University Clinic, Dresden, Germany; [9]University Hospital, Brussels, Belgium.

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Ming Yang[1], Nevzat Karabulut[1], Diego Martin[1]
[1]West Virginia University, Morgantown, West Virginia, USA.

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Shinji Hirohashi[1], Satoru Kitano[1], Matthias Taupitz[2], Bernd Hamm[2]
[1]Nara Medical University, Kashihara, Nara, Japan; [2]Universitätsklinikum Charité, Berlin, Germany.

1960. Dynamic MR Imaging of the Liver using Sensitivity Encoding (SENSE) Technique: Quantitative Analysis among Single, Double and Triple Arterial Phase Images

Masayuki Yamaguchi[1], Hiroshi Yoshioka[1], Nobuyuki Takahashi[1], Yukihisa Saida[1], Yuji Itai[1]
[1]University of Tsukuba, Tsukuba, Ibaraki, Japan.

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Satoru Kitano[1], Shinji Hirohashi[1], Matthias Taupitz[2], Bernd Hamm[2]
[1]Nara Medical University, Kashihara, Nara, Japan; [2]Universitätsklinikum Charité, Berlin, Germany.

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Young H Kim[1], Peter F Hahn[1], Peter R Mueller[1]
[1]Massachusetts General Hospital, Harvard Medical School, Boston, Massachusetts, USA.

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M. Nagayama[1], Y. Watanabe[1], A. Okumura[1], T. Tabuchi[1], H. Mitsui[1], N. Morimoto[1], K. Nakada[1], M. Kumashiro[1], Y. Kiyono[1], Y. Amoh[1], S. Nakashita[1], Y. Dodo[1], D. Geraats[2], M. Van Cauteren[2]
[1]Kurashiki Central Hospital, Kurashiki, Japan; [2]Philips Medical Systems, Best, Netherlands.

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Diego R Martin[1], Donald Seibert[1], Ming Yang[1], Mathis Frick[1], Nevzat Karabulut[1]
[1]West Virginia University, Morgantown, West Virginia, USA.

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Yvan Boulanger[1], Mourad Amara[1], Gilles Beaudoin[1], Luigi Lepanto[1], Bernard Willems[1], Marc Poliquin[1], Raymond Leduc[1], Bich Nguyen[1], Guy Allaire[1], Viviane Nicolet[1]
[1]Université de Montréal, Montréal, Québec, Canada.

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Pulmonary Perfusion, Ventilation, Motion, and Masses

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Christoph Losert[1], Konstantin Nikolaou[1], Juergen Scheidler[1], Christian J Mueller[2], Martin Schwaiblmair[1], Maximilian Reiser[1]
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Divya S. Bolar[1], David L. Levin[1], Susan R. Hopkins[1], Vu M. Mai[2], Qun Chen[2], Lawrence Frank[1], Thomas Liu[1], Eric Wong[1], Richard Buxton[1]
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[1]VU University Medical Center, Amsterdam, Netherlands.

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[1]GlaxoSmithKline, Welwyn, England, UK.

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Wolfgang Kilian[1], Frank Seifert[1], Herbert Rinneberg[1]
[1]Physikalisch-Technische Bundesanstalt, Berlin, Germany.

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[1]Carleton University, Ottawa, Ontario, Canada.

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[1]University of Pennsylvania, Philadelphia, Pennsylvania, USA.

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Stan Fichele[1], John Owers-Bradley[1], Richard Bowtell[1], Colin McGloin[1], Adbul Benattayallah[1], Paul Morgan[1], Alan R. Moody[1]
[1]University of Nottingham, Nottingham, England, UK.

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[1]Harvard-Smithsonian Center for Astrophysics, Cambridge, Massachusetts, USA; [2]Schlumberger-Doll Research, Ridgefield, Connecticut, USA; [3]Brigham and Women's Hospital, Boston, Massachusetts, USA; [4]Massachusetts Institute of Technology, Cambridge, Massachusetts, USA.

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[1]California Institute of Technology, Pasadena, California, USA; [2]Stanford University, Stanford, California, USA.

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[1]Rutherford Appleton Laboratory, Oxford, England, UK; [2]Metaspin Ltd., Nottingham, England, UK; [3]IPG Laser GmbH, Burbach, Germany; [4]FZJ, Juelich, Germany; [5]South Bank University, London, England, UK.

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Jonas Svensson[1], Sven MåNsson[1], J. Stefan Petersson[2], Lars Olsson[1]
[1]Malmö University Hospital, Malmo, Sweden; [2]Amersham Health R&D, Malmö, Sweden.

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[1]University of Virginia School of Medicine, Charlottesville, Virginia, USA.

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[1]University of Virginia, Charlottesville, Virginia, USA.

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[1]University of Sheffield, Sheffield, England, UK; [2]University of Mainz, Mainz, Germany; [3]Philips Medical Systems, USA.

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John Robert Owers-Bradley[1], Abdelmalek Benattayallah[1], Stan Fichele[2], Colin John McGloin[1], Richard Bowtell[3], Paul Simon Morgan[4], Alan R. Moody[4]
[1]University of Nottingham, Nottingham, England, UK.

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Nicholas J. Tustison[1], Dmitriy A. Yablonskiy[1], Jason Leawoods[1], David Gierada[1], Joel Cooper[1], Mark S. Conradi[1], Amir Arsham Amini[1]
[1]Washington University in St. Louis, St. Louis, Missouri, USA.

2018. Reducing Diffusion-Induced Signal Loss in Hyperpolarized ^{3}He MRI

John P. Mugler[1], Michael Salerno[1], James R. Brookeman[1]
[1]University of Virginia School of Medicine, Charlottesville, Virginia, USA.

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John P. Mugler[1], Michael Salerno[1], Eduard E. De Lange[1], James R. Brookeman[1]
[1]University of Virginia School of Medicine, Charlottesville, Virginia, USA.

2020. Signal Dynamics of Distal Airways and Lung Periphery Imaging in Humans using Hyperpolarized ^{3}He MRI

Angela C. Tooker[1], Erin L. McKinstry[2], Kwan Soo Hong[3,4], Philip Costello[3], Ferenc A. Jolesz[3], Mitchell S. Albert[3]
[1]Massachusetts Institute of Technology, Cambridge, Massachusetts, USA; [2]Boston University, Boston, Massachusetts, USA; [3]Brigham and Women's Hospital, Boston, Massachusetts, USA; [4]Korea Basic Science Institute, Seoul, USA.

2021. Intrapulmonary pO_2 Measured by Low Field MR Imaging of Hyperpolarized ^{3}He

Lars E. Olsson[1], Peter Magnusson[2], Anselm Deninger[2], Göran Pettersson[2], Per Åkeson[1], Stefan Petersson[2], Klaes Golman[2]
[1]Malmö University Hospital, Malmö, Sweden; [2]Amersham Health R&D, Malmö, Sweden.

2022. **Dynamic Ventilation ^{3}He-MRI with Lung Motion Correction in Single Lung Recipients**
Klaus Kurt Gast[1], Michael Ulrich Puderbach[1], Ignacio Rodriguez[2], Klaus Markstaller[1], Alexander Thomas Hanke[1], Norbert Weiler[1], Jana Lill[1], Wolfgang Georg Schreiber[1], Manfred Thelen[1], Hans-Ulrich Kauczor[1]
[1]Universität Mainz, Mainz, Germany; [2]Complutense Universidad, Madrid, Spain.

2023. **^{3}He-MRI Measurement of Ventilated Lung Volumes in Volunteers and Patients at Two Institutions - Comparison with Pulmonary Function Test**
Michael Ulrich Puderbach[1], Michael Salerno[2], Eduard E. De Lange[2], Norbert Weiler[1], Wolfgang G. Schreiber[1], Manfred Thelen[1], Hans-Ulrich Kauczor[1]
[1]Johannes Gutenberg Universität, Mainz, Germany; [2]University of Virginia, Charlottesville, Virginia, USA.

2024. **Bronchiolitis Obliterans following Lung Transplantation: Evaluation with Hyperpolarized Helium-3 MR Imaging**
Eduard E. De Lange[1], Talissa A. Altes[1], David R. Jones[1], Thomas M. Daniel[1], Michael Salerno[1], James R. Brookeman[1], John P. Mugler[1]
[1]University of Virginia, Charlottesville, Virginia, USA.

2025. **Quantitative Measurement of Regional Lung Ventilation using ^{3}He MRI**
Sven Månsson[1], Anselm J Deninger[2], Stefan J Petersson[2], Göran Pettersson[2], Klaes Golman[2]
[1]Malmö Univrsity Hospital, Malmö, Sweden; [2]Amersham Health R&D, Malmö, Sweden.

2026. **Counter-Intuitive Improvements in FID Projection Imaging of SF_6 in Lungs**
Dean O. Kuethe[1]
[1]New Mexico Resonance, Albuquerque, New Mexico, USA.

2027. **Transient, Position-Dependent Ventilation Defects of the Lung in Healthy Volunteers: Demonstration with Hyperpolarized Helium-3 MR Imaging**
Jaime Mata[1], Talissa Altes[1], John Christopher[1], John Mugler[1], James R. Brookeman[1], Eduard E. De Lange[1]
[1]University of Virginia, Charlottesville, Virginia, USA.

2028. **Automated Scoring of Hyperpolarized Helium-3 MR Lung Ventilation Images: Initial Development and Validation**
Bryan Cooley[1], Scott Acton[1], Michael Salerno[1], Nilanjan Ray[1], Eduard E. De Lange[1], James R. Brookeman[1], Nicholas Tustison[1], Talissa Altes[1]
[1]University of Virginia, Charlottesville, Virginia, USA.

2029. **Atelectasis: A Useful Evaluation by Hyperpolarized ^{3}Helium Magnetic Resonance Imaging**
Rahim Rizi[1], David A. Roberts[1], Punam Saha[1], Margaret Aranda[1], J. Baumgardner[1], Masaru Ishii[1], Ivan Dimitrov[1], Warren Gefter[1], Mitchell Schnall[1], John Leigh[1]
[1]University of Pennsylvania Medical Center, Philadelphia, Pennsylvania, USA.

2030. **Measurement of Lung Volume using Hyperpolarized Helium-^{3}He Gas MRI and Scale-Based Fuzzy Connectedness**
Rahim Rizi[1], Punam Saha[1], David A. Roberts[1], James Baumgardner[1], David Lipson[1], Binquan Wang[1], Masaru Ishii[1], Warren Gefter[1], Mitchell Schnall[1], John Leigh[1]
[1]University of Pennsylvania, Philadelphia, Pennsylvania, USA.

2031. **Dynamic Helium-3 MRI of the Paranasal Sinuses in an Animal Model**
Masaru Ishii[1], David A. Roberts[1], David A. Lipson[1], Hobart Lee[1], David W. Kennedy[1], Rahim Rizi[1]
[1]University of Pennsylvania, Philadelphia, Pennsylvania, USA.

Cancer MR Spectroscopy: Clinical

2032. **Multi-Voxel MR Spectroscopy - Distinguishing Brain Tumor from Non-Tumor**
CC Tchoyoson Lim[1], Violet GE Chua[1], Siew Peng Chai[1], Wai Leng Kong[1], Francis Hui[1]
[1]National Neuroscience Institute, Singapore.

2033. Treated Malignant Brain Tumor Assessment: Accuracy of ^{1}H-MR Spectroscopy as an Independent Measure

David Lefkowitz[1], Katrina M. Read[1], Lawrence S. Chin[1], Rao P Gullapalli[1]
[1]University of Maryland at Baltimore, Baltimore, Maryland, USA.

2034. Identification of Brain Tumors by Segmentation and Classification of MRI and MRSI Data

Arjan W. Simonetti[1], Willem J. Melssen[1], Mark Rijpkema[2], Arend Heerschap[2], Geert J. Postma[1], Janneke Schuuring[2], Lutgarde M.C. Buydens[1]
[1]Nijmegen University, Nijmegen, Netherlands; [2]University Hospital Nijmegen, Nijmegen, Netherlands.

2035. Detection of Elevated Glutathione in Meningiomas by Quantitative *In Vivo* ^{1}H MRS

Kirstie S Opstad[1], Steven W Provencher[2], Anthony Bell[3], John R. Griffiths[1], Franklyn A. Howe[1]
[1]St. George's Hospital Medical School, London, England, UK; [2]Oakville, Ontario, Canada; [3]Atkinson Morleys Hospital, London, England, UK.

2036. Glioma Grading with Multi-Voxel, Multi-TE, Multi-Slice Spectroscopic MRI and Multi-Slice Perfusion MRI

Meng Law[1], Soonmee Cha[1], Edmond Knopp[1], Glyn Johnson[1], Nouha Salibi[2]
[1]New York University Medical Center, New York, New York, USA; [2]Siemens Medical Systems, Iselin, New Jersey, USA.

2037. Diagnostic Potential of Proton MRS in Identifying Tumor Recurrence

Tariq Shah[1], Rama Jayasundar[1], Virender Paul Singh[1], Chander Shekar Bal[1], Sailesh Gaikwad[1], Chitra Sarkar[1]
[1]All India Institute of Medical Sciences, New Delhi, India.

2038. Serial Short-TE Single-Voxel MRS in Low Grade Gliomas for Early Detection of Malignant Transformation

Adam D Waldman[1,2], David G MacManus[2], Elizabeth A. Moore[2,3], John Stevens[2,3], Jeremy H Rees[2,3]
[1]Charing Cross Hospital, London, England, UK; [2]Institute of Neurology, London, England, UK; [3]National Hospital for Neurology & Neurosurgery, London, England, UK

2039. Prognostic Value of Proton MR Spectroscopy in Malignant Transformation of Cerebral Glioma: Report of a Case with Otherwise Initial Benign MR Imaging and Perfusion Findings

Wen-Chau Wu[1], Cheng-Yu Chen[2], Hsiao-Wen Chung[1], Hong-Wei Gao[2]
[1]National Taiwan University, Taipei, Taiwan; [2]Tri-Service General Hospital, Taipei, Taiwan.

2040. Proton MR Spectroscopy in Irradiated Brain Tumors

Heinz-Peter Wilhelm Schlemmer[1], Matthias Philipp Lichy[1], H. Henze[1], Steffen Sammet[1], Andrew A. Maudsley[2], Juergen Debus[1], Peter Bachert[1]
[1]German Cancer Research Center, Heidelberg, Germany; [2]University of California San Francisco, Veterans Administration Medical Center, San Francisco, California, USA.

2041. Serial ^{1}H Magnetic Resonance Spectroscopic Imaging of Gliomas after Fractionated Radiation Therapy

Edward E. Graves[1], Michelle Takahashi[1], Andrea Pirzkall[1], David Larson[1], Lynn J. Verhey[1], Susan Chang[1], Michael Prados[1], Daniel B. Vigneron[1], Sarah J. Nelson[1]
[1]University of California San Francisco, San Francisco, California, USA.

2042. Characterization of an Intracranial Neoplasm of Lipoid Origin by ^{1}H MR Spectroscopy

Mark Rijpkema[1], Yvonne Van Der Meulen[1], Janneke Schuuring[1], Eduard Mooyaart[1], Marinette Van Der Graaf[1], Arend Heerschap[1]
[1]University Medical Center Nijmegen, Nijmegen, Netherlands.

2043. Proton MR Spectroscopic Imaging Directed Stereotactic Biopsy of Previously Biopsied Suspicious Brain Lesions with Equivocal Histologic Results

Hui Mao[1], Chad A. Holder[1], Jeffrey J. Olson[1], Daniel J. Brat[1], Srini Mukundan[1]
[1]Emory University School of Medicine, Atlanta, Georgia, USA.

2044. Correlation of Serum Prostate Specific Antigen with MRI/MRSI Assessments of Prostate Cancer Extent and Aggressiveness

Saying Li[1], Kristin Lee Wright[1], Daniel B. Vigneron[1], Vivian Weinberg[1], Mark Swanson[1], John Kurhanewicz[1]
[1]University of California San Francisco, San Francisco, California, USA.

2045. MRI/MRSI Prediction of Prostate Cancer Progression in Patients on Watchful Waiting

James E. Chomas[1], Penelope J Wood[1], Mark Gunnard Swanson[1], Daniel B Vigneron[1], John Kurhanewicz[1]
[1]University of California San Francisco, San Francisco, California, USA.

2046. The Emerging Utility of Proton MRS in Characterizing Breast Lesions: Factors Influencing Diagnostic Performance

Rachel Katz-Brull[1], Philip T. Lavin[1], Robert E. Lenkinski[1]
[1]Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, Massachusetts, USA.

2047. Investigation of the Tumor Content of Phospholipid-Related Compounds Measured by *In Vivo* ^{31}P MR Spectroscopy in Advanced Breast Carcinoma

Fernando Arias-Mendoza[1], Jaime Cruz-Lobo[1], Frank Berardocco[1], Truman R Brown[1]
[1]Columbia Presbyterian Medical Center, New York City, New York, USA.

2048. Localised Two-Dimensional Correlated Spectroscopy for the Investigation of Human Lymphoma *In Vivo*

Andrew Prescot[1], Andrzej Dzik-Jurasz[1], Martin Leach[1], David Collins[1]
[1]Institute of Cancer Research, Royal Marsden Hospital, Sutton, Surrey, England, UK.

2049. Creatine: The Missing Link in RCC?

Lidia S Szczepaniak[1], Gregory J Metzger[2], Greta S D'Ambrosia[1], Hossein Saboorian[1], Arthur I Sagalowsky[1], Pamela Nurenberg[1]
[1]University of Texas Southwestern Medical Center at Dallas, Southwestern Medical School, Dallas, Texas, USA; [2]Philips Medical Systems, Dallas, Texas, USA.

2050. Predicting Prognosis and Clinical Outcome in Head and Neck Tumors: A Spectroscopic Approach

Tedros Bezabeh[1], Olva Odlum[2], Rakesh Patel[1], Stephen Ahing[2], Richard Nason[3], Donna Sutherland[3], Paul Kerr[3], Samy El-Sayed[3], Ian C.P. Smith[1]
[1]National Research Council of Canada, Winnipeg, Manitoba, Canada; [2]University of Manitoba, Winnipeg, Manitoba, Canada; [3]CancerCare Manitoba, Winnipeg, Manitoba, Canada.

2051. *In Vivo* ^{31}P MR Characterization of Malignant and Benign Thyroid Nodules

Rama Jayasundar[1]
[1]All India Institute of Medical Sciences, New Delhi, India.

2052. Identification of Prognostic Metabolic Markers in Sarcomas using Proton Decoupled Phosphorus Magnetic Resonance Spectroscopy

A. Shukla-Dave[1], K.L. Zakian[1], P. Meyers[1], R. Gorlick[1], J. Healey[1], D.M. Panicek[1], J.A. Koutcher[1]
[1]Memorial Sloan Kettering Cancer Center, New York, New York, USA.

2053. Quantitative Analysis of Localised DQF-COSY Spectra Recorded from Healthy and Leukaemic Bone Marrow *In Vivo*

Andrew Paul Prescot[1], David Collins[1], Andrzej Dzik-Jurasz[1], Bhawna Sirohi[1], Ray Powles[1], Martin Leach[1]
[1]Institute of Cancer Research, Royal Marsden Hospital, Sutton, Surrey, England, UK.

2054. Increased Choline and Lactate in the Metastatic Axillary Lymph Nodes in Breast Cancer: An *In-Vitro* ^{1}H NMR Study

Ambica Mehta[1], Uma Sharma[1], Vuthaluru Seenu[1], Naranamangalam R Jagannathan[1]
[1]All India Institute of Medical Sciences, New Delhi, India.

2055. Proton MRS Detects Metastatic Melanoma in Lymph Nodes

Roger Bourne[1], John Thompson[1], Chitra De Silva[1], Ling-Xi Li[1], Peter Russell[1], Carolyn Mountford[1], Cynthia Lean[1]
[1]University of Sydney, Sydney, New South Wales, Australia.

2056. **Localized *In Vivo* Proton MR Spectroscopy Detection of Axillary Lymph Node Metastasis in Patients with Breast Cancer**
David Yeung[1], Wei-Tse Yang[1], Gary MK Tse[1], Bonita K Law[1], Yu-Leung Chan[1]
[1]Prince of Wales Hospital, Chinese University of Hong Kong, Hong Kong, China.

Cancer MR Imaging: Clinical

2057. **New Manganese (Mn)-Based Contrast Agent for MRI Detection of Sentinel Lymph Nodes (SNL).**
Rola Saouaf[1], Mahmoud El-Tamer[1], Theodore S Wang[1], Xiangling Mao[1], Dikoma Shungu[1], Rashid A. Fawwaz[1]
[1]Columbia University, New York, New York, USA.

2058. **Is Bone Marrow MRI More Specific than Bone Scintigraphy to Demonstrate Bone Metastases?**
Fernando Arias-Mendoza[1], Jaime G. Cruz-Lobo[1], Frank Berardocco[1], Andrew Shear[2], Truman R. Brown[1]
[1]Columbia Presbyterian Medical Center, New York, New York, USA; [2]Fox Chase Cancer Center, Philadelphia, Pennsylvania, USA.

2059. **Continuous Arterial Spin-Labeling Perfusion MRI of Human Breast Cancer**
David A. Roberts[1], Qing Yuan[1], Lisa Desiderio[1], Susan Orel[1], Mitchell Schnall[1]
[1]University of Pennsylvania, Philadelphia, Pennsylvania, USA.

2060. **MR Characteristics of Palpable Breast Lesions with Negative Mammographic Findings**
Evelyn Carole Proctor[1], Margarita Rene Watkins[1], Dulcy Wolverton[1], Nola Hylton[1]
[1]University of California San Francisco, San Francisco, California, USA.

2061. **A Method for Quantifying Tissue Sodium in Breast Tumors with Short Echo Time ^{23}Na MRI and Co-registered Proton Images**
Ronald Ouwerkerk[1], Michael A. Jacobs[1], Paul A. Bottomley[1], Laurie L. Fajardo[1]
[1]Johns Hopkins University School of Medicine, Baltimore, Maryland, USA.

2062. **High Resolution Spatial and Spectral Imaging Aids Water-Fat Separation in Breast Imaging**
Milica Medved[1], Weiliang Du[1], Yiping Du[1], Ulrick Bick[1], Xiaobing Fan[1], Peter McEneany[1], Marta Zamora[1], Gregory S. Karczmar[1]
[1]University of Chicago, Chicago, Illinois, USA.

2063. **Diffusion-Weighted MRI for Lung Cancer using SPLICE Sequence**
Munetaka Matoba[1], Hisao Tonami[1], Hajime Yokota[1], Masaaki Kuginuki[1], Itaru Yamamoto[1]
[1]Kanazawa Medical University, Ishikawa, Japan.

2064. **Application of Digital Tissue Recognition in Cancer Staging**
Chris L. Stork[1], Justin P. Smith[1,2], Bradley T. Wyman[1]
[1]Confirma, Inc., Kirkland, Washington, USA; [2]First Hill Diagnostic Imaging, Seattle, Washington, USA.

2065. **Reproducibility of Human Tumour R_2* Maps Obtained from BOLD Images**
N. Jane Taylor[1], Katharine J Lankester[1], J. James Stirling[1], Gordon JS Rustin[1], Peter J Hoskin[1], Anwar R Padhani[1]
[1]Mount Vernon Hospital, Northwood, Middlesex, England, UK.

2066. **Multinuclear Imaging of Human Excised Prostate Specimens at 3T**
Robert E. Lenkinski[1], Rachel Katz-Brull[1], S. M. Gaston[1], W. C. DeWolf[1], H. G. Reynolds[2]
[1]Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, Massachusetts, USA; [2]G.E. Medical Systems, Milwaukee, Wisconsin, USA.

2067. **Quantifying the Effect of Dexamethasone on Peritumoural Oedematous Brain using Diffusion Tensor MR Imaging**
Saurabh Sinha[1], Mark Elliott Bastin[1], Ian Roger Whittle[1], Joanna M. Wardlaw[1]
[1]University of Edinburgh, Edinburgh, Scotland, UK.

2068. Mean Water Diffusivity and Total Tissue Water Fraction Measurements in Human Intracranial Tumours

Mark Elliott Bastin[1], Saurabh Sinha[1], Ian R. Whittle[1], Joanna M. Wardlaw[1]
[1]University of Edinburgh, Edinburgh, Scotland, UK.

2069. Histopathologic Investigations of Contrast Enhancement in Low-grade Astrocytomas Shown on MR Imaging

Yasutaka Kawamura[1], Hiroaki Takeuchi[1], Hirohiko Kimura[1], Toshihiko Kubota[1], Harumi Ito[1]
[1]Fukui Medical University, Fukui, Japan.

2070. Dynamic T_1 Changes of Brain Tumors during the Contrast Enhancement using Double Echo SPGR with Variable Flip Angle Preparation

Yoshiyuki Ishimori[1], Hirohiko Kimura[1], Yasutaka Kawamura[1], Tomokazu Ishida[1], Kyouji Higashimura[1], Harumi Itoh[1]
[1]Fukui Medical University, Matsuoka, Fukui, Japan.

2071. Non-invasive Monitoring of Human Brain Tumor Oxygen after Hyperbaric Oxygenation by MRI

Keiichi Kikuchi[1], Kenya Murase[2], Hitoshi Miki[1], Teruhiko Shimizu[1], Teruhito Mochizuki[1], Junpei Ikezoe[1], Kou Nakagawa[1], Shiro Ohue[1]
[1]Ehime University School of Medicine, Ehime, Japan; [2]Osaka University Medical School, Osaka, Japan.

2072. Separation of Gliosis from Edema in Degenerating Cysticercosis using Quantitative Multiparametric Imaging

Rakesh Kumar Gupta[1], Rajesh Kumar[1], Sunil Pradhan[1], Sanjeev Chawla[1], Sushmita Datta[2], Ram Kishore S Rathore[2]
[1]Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow, UP, India; [2]Indian Institute of Technology, Kanpur, UP, India.

2073. Magnetic Resonance Imaging and Quantitative Analysis of Protein-Liquid-Phantom and Intracranial Cystic Lesions

Song Ling Liu[1], Zhihua Sun[1], Yun-Ting Zhang[1]
[1]Tianjin Medical University General Hospital, Tianjin, P.R.China.

2074. Peritumoral Brain Edema in Intracranial Meningiomas Evaluated by Dynamic Perfusion-Weighted MR Imaging

Hidemasa Uematsu[1], Masayuki Maeda[2]
[1]University of Pennsylvania, Philadelphia, Pennsylvania, USA; [2]Mie University School of Medicine, Tsu, Japan.

2075. MR Imaging of Demyelinating Pseudotumor of the Central Nervous System

Lin Ma[1], Youquan Cai[1], Yuangui Gao[1], Yan Liang[1], Li Liang[1], Qiuping Gui[1]
[1]PLA General Hospital, Beijing, China.

2076. BOLD-Based fMRI of Gliomas during Breath-Holding

Yuan-Yu Hsu[1], Ru-Jiuann Huang[1], Jian-Chuan Chen[1], Ho-Ling Anthony Liu[1]
[1]Chang Gung Memorial Hospital, Taipei, Taiwan.

2077. Assessment of Tumor/White Matter Interaction with Diffusion-Tensor MRI

Andrew L. Alexander[1], Khader M. Hasan[1], Konstantinos Arfanakis[31], Brian Witwer[1], Aaron Field[1], Roham Moftakhar[1], Praveen Deshmukh[1], Victor Haughton[1], Howard Rowley[1], Jane Noyes[1], Bruce Hermann[1], M. Elizabeth Meyerand[1], Benham Badie[1]
[1]University of Wisconsin-Madison, Madison, Wisconsin, USA.

2078. Perfusion MRI Evaluation of Correlating Perfusion Constants with Histologic Findings in Meningiomas

Fang Zhu[1,2], Yicheng Zhou[1], Chengyuan Wang[1], Jiahong Gao[2], Jianpin Qi[1]
[1]Huazhong University of Science and technology Tongji Medical College, Wuhan, Hubei, P.R.China; [2]University of Texas Health Science Center, San Antonio, Texas, USA.

2079. Pharmacokinetic Imaging of Brain Tumors

Lutz Lüdemann[1], Wolf-Günther Grieger[1], Peter Wust[1], Claus Zimmer[1]
[1]Charité, Berlin, Germany.

2080. Assessing the Extent of Blood Brain Barrier Breakdown using Signal vs. Time Curves and rCBV Maps in Patients with High-Grade Brain Tumours

Carsten Liess[1], Stephan Ulmer[1], Olav Jansen[1], Martin Heller[1], C.-C. Glüer[1]
[1]University of Kiel, Kiel, Germany.

2081. Hemodynamics in Human Gliomas - Mean Transit Time and Histopathology

Päivi Marjut Ryynänen[1], Jussi Perkiö[1], Juha Halavaara[1], Olli Tynninen[1], Antti Brander[1], Anders Paetau[1], Juha Jääskeläinen[1], Leif Østergaard[2], Timo Paavonen[1], Hannu J Aronen[1,3]
[1]Helsinki University Central Hospital, University of Helsinki, Helsinki, Finland; [2]Aarhus University Hospital, Aarhus, Denmark; [3]Kuopio University Hospital, University of Kuopio, Kuopio, Finland.

2082. Steal Effect of rCBF and rCBV in Patients with High Grade Gliomas Demonstrated by Perfusion Weighted MR Imaging (PWI)

Stephan Ulmer[1], C. Liess[1], H. H. Hugo[1], C. C. Glüer[1], H. M. Mehdorn[1], O. Jansen[1]
[1]University of Kiel, Kiel, Germany.

2083. The Usefulness of turbo-Fluid-Attenuated Inversion-Recovery (tFLAIR) Image in Diagnosing Meningioma

Teruhiko Shimizu[1], Hitoshi Miki[1], Takashi Takeguchi[1], Keiichi Kikuchi[1], Teruhito Mochizuki[1], Junpei Ikezoe[1]
[1]Ehime University School of Medicine, Onsengun, Ehime, Japan.

2084. Assessment of Hemodynamics of Meningioma with Dynamic Susceptibility Contrast MRI

Yoshihisa Oka[1], Katsusuke Kusunoki[1], Seiji Nakamura[1], Ichiro Nochide[1], Tatsunori Kawai[1], Kazuhiko Sadamoto[1], Kiyoshi Nagasawa[2]
[1]Washokai Sadamoto Hospital, Matsuyama, Ehime, Japan; [2]GE-Yokogawa Medical System, , Tokyo, Japan.

2085. Serial Evaluation of Low-Grade Gliomas using Registered Volumetric MRI

Jeremy H. Rees[1,2], Elizabeth A. Moore[1,2], Nicholas C. Fox[1,2], Christopher Benton[2], Adam D Waldman[2,3], H Rolf Jäger[1,2], John Stevens[1,2]
[1]National Hospital for Neurology & Neurosurgery, London, England, UK; [2]Institute of Neurology, London, England, UK; [3]Charing Cross Hospital, London, England, UK.

2086. The Prognostic Importance of Tumour Size in Malignant Glioma

Mary Frances Dempsey[1], Barrie Condon[1], Donald Hadley[1]
[1]Institute of Neurological Sciences, Glasgow, Scotland, UK.

2087. Apparent Diffusion Coefficient in 54 Pre-Operative Cases of Primary Brain Tumor with Histopathologic Correlation

Jeffry R Alger[1], Rakesh Kumar Gupta[1], Usha Sinha[1], Timothy Cloughesy[1]
[1]University of California Los Angeles, Los Angeles, California, USA.

2088. Quantitative Multiparametric Magnetic Resonance Imaging and Spectroscopic Characterization of Supratentorial Oligodendroglioma

Jeffry R. Alger[1], Rakesh K Gupta[1], Timothy F. Cloughesy[1]
[1]University of California Los Angeles, Los Angeles, California, USA.

2089. Quantitative MR Assessment of Longitudinal Parenchymal Changes and Neurocognitive Performance in Children Treated for Medulloblastoma

Wilburn E. Reddick[1], Shawna L. Palmer[1], John O. Glass[1], Shengjie Wu[1], Larry E. Kun[1], Richard L. Heideman[1], Raymond K. Mulhern[1], Amar Gajjar[1]
[1]St. Jude Children's Research Hospital, Memphis, Tennessee, USA.

2090. Absolute Quantification of Tissue Sodium in Gliomas

Ronald Ouwerkerk[1], Karen B Bleich[1], Martin G Pomper[1], Paul A Bottomley[1]
[1]Johns Hopkins University School of Medicine, Baltimore, Maryland, USA.

2091. DCE-MRI Assessment of Acute Functional Microvascular Effects in Human Tumours Treated with Cytotoxic Chemotherapy

Katharine J Lankester[1], N Jane Taylor[1], J James Stirling[1], Jane Boxall[1], Gordon JS Rustin[1], Martin O Leach[2], Anwar R Padhani[1]
[1]Mount Vernon Hospital, Northwood, Middlesex, England, UK; [2]Royal Marsden Hospital, Sutton, Surrey, England, UK.

2092. Parametric Contrast-Enhanced MRI for Prostate Cancer Diagnosis and Staging

Edna Furman-Haran[1], Dafna Ben-Bashat[2], Yuval Bar-Yosef[2], Letizia Schreiber[2], Chuck Levine[2], Moshe Graif[2], Haim Matzkin[2], Hadassa Degani[1]
[1]The Weizmann Institute of Science, Rehovot, Israel; [2]Tel Aviv Sourasky Medical Center, Tel Aviv, Israel.

2093. Comparison of Kinetic Parameters Derived from Dynamic Contrast-Enhanced CT and MRI of Cervix Cancer

Masoom Haider[1], Michael D. Noseworthy[1,2], Elizabeth Henderson[1], Ivan Yeung[1], Michael Milosevic[1], Anthony Fyles[1], Ting-Yim Lee[3]
[1]Princess Margaret Hospital, University of Toronto, Toronto, Ontario, Canada; [2]University of Toronto, The Hospital for Sick Children, Toronto, Ontario, Canada; [3]University of Western Ontario, London, Ontario, Canada.

2094. Dynamic Contrast–Enhanced MRI of Prostate Cancer for Predicting Patient Outcome

Anwar R Padhani[1], Chris Parker[1], Andy Norman[1], David Dearnaley[1], Martin O. Leach[1], Janet Husband[1]
[1]Institute of Cancer Research and Royal Marsden Hospital, Sutton, Surrey, England, UK.

2095. Dynamic Contrast-Enhanced MRI Evaluation of the Effects of ZD6126 on Tumor Vasculature in a Phase I Clinical Trial

J. Evelhoch[1], P. LoRusso[1], Z. DelProposto[1], K. Stark[1], Z. Latif[1], P. Morton[1], J. Waterton[2], C. Wheeler[3], A. Barge[2]
[1]Wayne State University, Detroit, Michigan, USA; [2]AstraZeneca, Alderley Park, Cheshire, England, UK; [3]AstraZeneca, Boston, Massachusetts, USA.

2096. Gd-DTPA Enhanced Arterial Phase MRI for Characterizing Tissue Perfusion in Monitoring Anti-Angiogenesis Treatment Response of Hepatic Metastases from Colorectal Carcinoma

Thian C. Ng[1], Baolian Yang[1], James A. Posey[1], Albert F. LoBuglio[1]
[1]University of Alabama at Birmingham, Birmingham, Alabama, USA.

2097. Dynamic Contrast-Enhanced MRI for the Assessment of Change in Hepatic Tumor Vascularity in Response to Anticopper Antiangiogenesis Therapy

Hero K Hussain[1], Jorge Marrero[1], Hanh V Nghiem[1], Isaac R Francis[1], Frank J Londy[1], Eugene Charleston[1], Thomas L Chenevert[1]
[1]University of Michigan, University of Michigan, Ann Arbor, Michigan, USA.

2098. ADC Values Pre- And Post-Treatment Are Not Associated with Response in Low-Grade Glioma Treated with Temozolomide

A SK Dzik-Jurasz[1], L Moore[1], L Viviers[1], M Brada[1], M O Leach[1]
[1]The Institute of Cancer Research and The Royal Marsden Hospital NHS Trust, Sutton, Surrey, England, UK.

2099. Contrast Agent Dynamics as an Early Marker of Antiangiogenic Agent Action

Milica Medved[1], Peter MacEneany[1], Gregory S. Karczmar[1], Hedy Kindler[1], Tom Gajewski[1], Everett E. Vokes[1], Erin O'Connor[1], Walter Stadler[1]
[1]University of Chicago, Chicago, Illinois, USA.

2100. Comparison of Brain Tumor Microvcascularity Identified on Gradient Echo 8T MRI with Perfusion MRI at 1.5 T

Gregory Anthimos Christoforidis[1], Kaliopi Varakis[1], Herbert B Newton[1], Allahyar Kangarlu[1], Amir M Abduljalil[1], Petra Schmalbrock[1], Donald W Chakeres[1]
[1]Ohio State University, Columbus, Ohio, USA.

Tumor Perfusion and Permeability

2101. Simultaneous Determination of Tumor Vascular Volume and Vessel Permeability using Dynamic Contrast-Enhanced MRI with Extra-Cellular Contrast Agents

Timothy Carroll[1], Frederick Kelcz[1]
[1]University of Wisconsin-Madison, Madison, Wisconsin, USA.

2102. Assessment of Tumor Angiogenesis by Dynamic MRI: Potential of Low Molecular Contrast Agents

Juergen Griebel[1], Sascha Pahernik[2], Matthias Brandl[3], Alexander DeVries[24], Gunnar Brix[1], Marc Dellian[2]
[1]Federal Bureau of Radiation Protection, Neuherberg, Germany; [2]University of Munich, Munich, Germany; [3]GSF Research Center, Neuherberg, Germany; [4]University of Innsbruck, Innsbruck, Austria.

2103. Quantitative Estimates of Blood-Brain Barrier Permeability using MRI Contrast Agents

James Ewing[1], Stephen L. Brown[1], Robert A. Knight[1], Tavakerere Nagaraja[1], Polly Arniego[1], Quan Jiang[1], Tom Mikkelsen[1], Joseph Fenstermacher[1]
[1]Henry Ford Hospital, Detroit, Michigan, USA.

2104. Characterizing Tissue Parameters using an Intravascular Contrast Agent

Juimiin A Hong[1], Priya Panchal[1], Camille Achonu[1], Jeffrey Stainsby[1], Graham Wright[1,2]
[1]Sunnybrook and Women's College Health Science Centre, University of Toronto, Toronto, Ontario, Canada; [2]ASL-West, GE Medical Systems, Menlo Park, California, USA.

2105. Quantification of Intravascular and Extravascular Gadolinium using Energy Dispersive X-Ray Spectroscopy (EDS): Correlation with Dynamic MRI Findings in a VX2 Tumour

M. D. Noseworthy[1,3], C. Ackerley[1], Xiuling Qi[2], Graham Wright[2,3]
[1]The Hospital for Sick Children, Toronto, Ontario, Canada; [2]Sunnybrook and Women's Health Science Center, Toronto, Ontario, Canada; [3]University of Toronto, Toronto, Ontario, Canada.

2106. Characterizing Blood Volume Fraction (BVF) in a VX2 Tumor by MRI and Ultrasound

Xiuling Qi[1], Peter Burns[1], Juimiin Hong[1], Jeff Stainsby[1], Graham Wright[1,2]
[1]University of Toronto, Sunnybrook & Women's College Health Sciences Centre, Toronto, Ontario, Canada; [2]ASL-West, GE Medical Systems, Menlo Park, California, USA.

2107. Functional Imaging of Tumor Angiogenesis in Mice

Nick Costouros[1], Yantian Zhang[1], Marshall Miller[1], Felix Diehn[1], Marty Lizak[1], Michael Knopp[1], Steve Libutti[1], Peter Choyke[1]
[1]National Institutes of Health, Bethesda, Maryland, USA.

2108. Quantitative Vascular Density Assessed by a Semiautomatic Histological Method in Comparison with MRI Enhancements in Carcinogen Induced Benign and Malignant Mammary Tumors in Rats

Min-Ying Su[1], Michael Samoszuk[1], Leonard Leoner[1], Phillip M. Carpenter[1], Orhan Nalcioglu[1]
[1]University of California Irvine, Irvine, California, USA.

2109. Histological Correlations of Magnetic Susceptibility Contrast MR Techniques

Scott D. Packard[1], Stephanie Niloff[1], Kinya Terada[1], E. A. Chiocca[1], John J. A. Marota[1], Bruce R. Rosen[1]
[1]Massachusetts General Hospital, Charlestown, Massachusetts, USA.

2110. DC MRI of Angiogenic Tumors in Mice with Histologic Correlation using CD31 Antibody

Quido de Lussanet[1], Walter Backes[1], Regina Beets-Tan[1], Arjan Griffioen[1], Jos Van Engelshoven[1]
[1]Maastricht University Hospital, Maastricht, Netherlands.

2111. Patterns of Vascular Permeability and Blood Volume Evaluated Semi-Quantitatively in Cerebral Gliomas

Dow-Mu Koh[1], Andrzej Dzik-Jurasz[1], Anwar R. Padhani[1], Isabelle Baustert[1], Louis Viviers[1], Michael Brada[1], Janet Husband[1], Martin O. Leach[1]
[1]Institute of Cancer Research and The Royal Marsden NHS Trust, Sutton, England, UK.

2112. Withdrawn

2113. Relationship between Vascular Endothelial Permeability and Histological Grade in Human Gliomas using a Novel First Pass Method

Hamied Ahmad Haroon[1], Tufail A. Patankar[1], Graham Dow[2], Scott Rutherford[3], Alan Jackson[1]
[1]University of Manchester, Manchester, England, UK; [2]Manchester Royal Infirmary, Manchester, England, UK; [3]Hope Hospital, Manchester, England, UK.

2114. BOLus Enhanced Relaxation Overview, BOLERO

Thomas E. Yankeelov[1,2], William D. Rooney[1,2], Charles S. Springer[1,2]
[1]SUNY, Stony Brook, Upton, New York, USA; [2]State University of New York, Stony Brook, New York, USA.

2115. Editing Longitudinal Relaxation for the Longer T_1 Exchange Component in Rapid CR Bolus-Tracking Acquisitions

William D. Rooney[1], Xin Li[2], Charles S. Springer[1,2]
[1]Brookhaven National Laboratory, Upton, New York, USA; [2]State University of New York, Stony Brook, New York, USA.

2116. Pharmacokinetic Analysis is Affected by Fast-Exchange-Limit (FXL) Departure during Bolus CR Passage

Thomas E. Yankeelov[1,2], William D. Rooney[1,2], Xin Li[2], Jing-Huei Lee[2], Charles S. Springer[1,2]
[1]SUNY, Stony Brook, Upton, New York, USA; [2]Brookhaven National Laboratory, Upton, New York, USA.

2117. High-Field Allows Low CR Dose Advantages

Thomas E. Yankeelov[1,2], William D. Rooney[1,2], Charles S. Springer[1,2]
[1]SUNY, Stony Brook, Upton, New York, USA; [2]Brookhaven National Laboratory, Upton, New York, USA.

2118. The Effect of Normal Renal Function Variation on k^{trans} and v_e Measurements Made using Tofts' Model

Trevor S Ahearn[1], Roger T Staff[1], Thomas W Redpath[1], F.J. Gilbert[1]
[1]University of Aberdeen, Aberdeen, Scotland, UK.

2119. Reliability of Measuring Tumor Perfusion using Dynamic Susceptibility Contrast MRI: The Influence of Vascular Structure and Imaging Technique

Christopher Chad Quarles[1], Arvind Pathak[2], Doug Ward[1], Kelly Rebro[1], Kathleen (Donahue) Schmainda[1]
[1]Medical College of Wisconsin, Milwaukee, Wisconsin, USA; [2]Johns Hopkins University, Baltimore, Maryland, USA.

2120. The Influence of Transcapillary Water Exchange on the Analysis of Tracer Kinetics in Dynamic Gd-DTPA-Enhanced T_1-Weighted MRI

David L. Buckley[1]
[1]University of Manchester, Manchester, England, UK.

2121. Theoretical Accuracy of Quantitative Perfusion Analysis using Dynamic Contrast Enhanced MRI as Determined by Propogation of Error Analysis

John A. Jesberger[1], Brian Dale[1], Claudia M Hillenbrand[1], Jonathan S. Lewin[1], Jeffrey L. Duerk[1]
[1]Case Western Reserve University and University Hospitals of Cleveland, Cleveland, Ohio, USA.

2122. Reproducibility of Quantitative Dynamic MRI of Normal Human Tissues

Anwar R Padhani[1], Carmel Hayes[1], Sabine Landau[2], Martin O. Leach[1]
[1]Institute of Cancer Research and The Royal Marsden NHS Trust, Sutton, Surrey, England, UK; [2]Institute of Psychiatry, London, England, UK.

2123. Simultaneous Measurement of Blood Volume and Vascular Transfer Constant by First Pass Pharmacokinetic Modeling

Glyn Johnson[1], Stephan Wetzel[1], Soonmee Cha[1], Paul Stephen Tofts[2]
[1]New York University School of Medicine, New York, New York, USA; [2]University College London, Institute of Neurology, London, United Kingdom.

2124. Pixel-by-Pixel Kinetic Analysis of Dynamic Macromolecular Contrast Medium-Enhanced MRI: Noise Reduction using a Flexible Gray Level Model

Ka-Loh Li[1], Viktor Y. Novikov[1], Mary E. Spilker[1,2], Laure Fournier[1], Marlene Wiart[1], Yanjun Fu[1], Timothy P. Roberts[1], Robert C. Brasch[1]
[1]University of California San Francisco, San Francisco, California, USA; [2]University of Washington, Seattle, Washington, USA.

2125. A Novel Approach for Presentation of Dynamic Contrast-Enhanced MRI Data to Demonstrate Treatment Effects on Tumor Vasculature Throughout the Tumor

Kara E. Stark[1], Zachary DelProposto[1], Zahid Latif[1], Ergun Ahunbay[1], Jeffrey L. Evelhoch[1]
[1]Wayne State University, Detroit, Michigan, USA.

2126. Dynamic Contrast Enhanced and Anatomical MR Images as Aids in the Interpretation of Quantitative R_2* Maps

N. Jane Taylor[1], James D'Arcy[2], Katharine J Lankester[1], J James Stirling[1], Andreas Makris[1], Gordon JS Rustin[1], Martin O. Leach[2], Anwar R. Padhani[1]
[1]Mount Vernon Hospital, Northwood, Middlesex, England, UK; [2]Royal Marsden Hospital, Sutton, Surrey, England, UK.

2127. Estimation of Arterial Input Function of GdDTPA in the Mouse by Gated Cardiac Imaging

Rong Zhou[1], Stephen Pickup[1], Jerry D Glickson[1]
[1]University of Pennsylvania, Philadelphia, Pennsylvania, USA.

2128. *In-Vivo* Measurement of the Arterial Input Function using a T_2*-Weighted Image Acquired with a Dual Gradient Echo Sequence

Nathalie Just[1], James D'Arcy[2], David John Collins[2], Martin O. Leach[3]
[1]The Institute of Cancer Research and The Royal Marsden Hospital, Sutton, Surrey, England, UK.

2129. Quantitative Perfusion Imaging by Multi-Pulse Inversion of Arterial Spins: A Practical Alternative to Continuous Arterial Spin Labeling

Bradford A. Moffat[1], Thomas L. Chenevert[1], Dan Edward Hall[1], Brian D. Ross[1]
[1]University of Michigan, Ann Arbor, Michigan, USA.

BASIC SCIENCE FOCUS SESSION (WITH POSTERS)
Tumor Response to Therapy

2130. ^{13}C MR Spectroscopic Measurements of Glycolytic Rates as Early Indices of Tumor Therapeutic Response: Application to *In Vivo* RIF-1 Tumors Treated with Cyclophosphamide

Harish Poptani[1], Navin Bansal[1], Anthony Mancuso[1], David S Nelson[1], Robert A Graham[1], Edward James Delikatny[1], Jerry Glickson[1]
[1]University of Pennsylvania, Philadelphia, Pennsylvania, USA.

2131. Longitudinal Taxotere Chemotherapy Induced Vascular and Structural Changes Measured by Dynamic Enhanced MRI

Hon J. Yu[1], Min-Ying Su[1], Jun Wang[1], Orhan Nalcioglu[1]
[1]University of California Irvine, Irvine, California, USA.

2132. Phosphocholine Response to Nanomolar Doses of Taxotere in Human Breast Cancer Cells are Quantified and Correlated with Other Cellular Responses

David Morse[1], Constantin Job[1], Heather Gray[1], Robert J. Gillies[1]
[1]University of Arizona, Tucson, Arizona, USA.

2133. Pharmacokinetic Measurements of a 5FU Pro-Drug, Capecitabine, in Bladder Tumours Over-Expressing Thymidine Phosphorylase

Yuen-Li Chung[1], Helen Troy[1], Ian R Judson[2], Martin O. Leach[2], Marion Stubbs[1], Adrian L Harris[3], John R. Griffiths[1]
[1]St George's Hospital Medical School, London, England, UK; [2]Institute for Cancer Research, Sutton, Surrey, England, UK; [3]University of Oxford, Oxford, England, UK.

2134. Monitoring HSV-tk Gene Therapy Response with Carr-Purcell T_2 and $T_{1\rho}$ in Rat Glioma

Olli Gröhn[1,2], Tuula Väisänen[1], Piia Valonen[1], Mikko Kettunen[1], Seppo Ylä-Herttuala[1], Michael Garwood[2], Risto Kauppinen[1]
[1]University of of Kuopio, Kuopio, Finland; [2]University of Minnesota, Minneapolis, Minnesota, USA.

2135. Characterization of Apo-2L/TRAIL and Cpt-11 Combination Therapy in a Mouse Xenograft Model of Colorectal Cancer using Multispectral Analysis

Adrienne Lee Ross[1], Nicholas Van Bruggen[1], Hartmut Koeppen[1], Jed Ross[1], Simon Peter Williams[1], Ralph Harold Schwall[1], Richard Alan Duray Carano[1]
[1]Genentech, Inc., South San Francisco, California, USA.

2136. Dexamethasone Selectively Treats Tumor Vasculature as Demonstrated By Simultaneous GE and SE rCBV Measurements

Kathleen M. Schmainda[1], Scott D Rand[1], Michael Badruddoja[1], Arvind P Pathak[1], Kelly J. Rebro[1], Hendrikus G. Krouwer[1]
[1]Medical College of Wisconsin, Milwaukee, Wisconsin, USA.

2137. Effect of PTK787, a Specific VEGF Receptor Tyrosine Kinase Inhibitor, on Anatomy, Density and Permeability of Tumor Vessels in Murine Renal Cell Carcinoma (RENCA)

Peter R. Allegrini[1], R. Müller-Driver[2], C. Wittig[2], M. Konerding[2], J. Drevs[2], J. Wood[1]
[1]Novartis Pharma AG, Basel, Switzerland; [2]University of Freiburg, Freiburg, Germany.

2138. MRI Assessment of Endostatin Anti-angiogenesis Treatment of Human Brain Tumors in Nude Mice

Yanping Sun[1], Rona Carroll[1], Nicholas Seyfried[1], Marcel Machluf[1], Nils Schmidt[1], Robert Mulkern[2], Jeeva Munasinghe[3], Peter Black[1], Mitchell S. Albert[1]
[1]Brigham and Women's Hospital, Harvard Medical School, Boston, Massachusetts, USA; [2]Children's Hospital, Harvard Medical School, Boston, Massuchusetts, USA; [3]Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, Massachusetts, USA.

2139. Magnetic Resonance Imaging Detects Early Changes in Tumor Microvascular Permeability after Treatment with the Matrix Metalloprotease Inhibitor Prinomastat

Marlene Wiart[1], Laure F Fournier[1], Viktor Y Novikov[1], David M Shames[1], Timothy P Roberts[1], Yanjun Fu[1], David Shalinsky[2], Robert C Brasch[1]
[1]University of California San Francisco, San Francisco, California, USA; [2]Pfizer Global Research and Development-La Jolla/Agouron Pharmaceutical, Inc, San Diego, California, USA.

2140. Evaluation of Anti-Vascular Effects of ABT-751 and A-318315 using Dynamic Contrast-Enhanced MRI (DCE-MRI)

Yanping Luo[1], Vincent P Hradil[1], Kurt M Mohning[1], Merrill E Nuss[1], Hing L Sham[1], Saul H Rosenberg[1], Glenn A Reinhart[1], Bryan F Cox[1]
[1]Abbott Laboratories, Abbott Park, Illinois, USA.

2141. Modulating Tumor Sensitivity to the Anti-Vascular Drug Combretastatin A4 Phosphate

Stephanie Odette Mary Dyke[1], Daniel A. Beauregard[1], Kevin M. Brindle[1]
[1]Cambridge University, Cambridge, England, UK.

Cancer Models: Response to Therapy

2142. Time-Dependent Inhibition of 5-fluorouracil-induced NMR-visible Lipid Accumulation

Nalayini Sathasivam[1], Edward James Delikatny[2]
[1]University of Sydney, Sydney, New SouthWales, Australia; [2]University of Pennsylvania, Philadelphia, Pennsylvania, USA.

2143. The effect of Carbogen Breathing on 5-fluorouracil Treatment in C38 Murine Colon Carcinoma

Hanneke Van Laarhoven[1], Gertjan Muda[1], Jasper Lok[1], Yvonne Kamm[1], Kees Punt[1], Theo Wagener[1], Bert Van Der Kogel[1], Arend Heerschap[1]
[1]University Medical Center Nijmegen, Nijmegen, The Netherlands.

2144. Double-Resonance and Bio-Distribution Studies of Ifosfamide *In Vivo* with ^{31}P MRS

Geoffrey Payne[1], Andy Dzik-Jurasz[1], Laura Mancini[1], Sucheta Vaidya[1], Martin O. Leach[1]
[1]Institute of Cancer Research and Royal Marsden Hospital, Sutton, Surrey, England, UK.

2145. Quantification of Unsaturated Lipid Changes in Cyclophosphamide Treated Tumors

Ari Goldberg[1], Harish Poptani[1], Umamaheswar Duvvuri[1], Suzanne Wehrli[1], Krzysztof Pawel Wroblewski[1], John Leigh[1], Jerry Glickson[1], Edward James Delikatny[1]
[1]University of Pennsylvania, Philadelphia, Pennsylvania, USA.

2146. Pre-treatment Prediction and Early Monitoring of Tumor Response to Therapy using Diffusion-Weighted MRI (DWMRI)

Yiftach Roth[1], Arie Orenstein[1], Jesus Ruiz-Cabello[2], Stephan Maier[3], Jack S Cohen[1], Yael Mardor[1]
[1]Sheba Medical Center, Tel-Hashomer, Israel; [2]Universidad Complutense de Madrid, Madrid, Spain; [3]Brigham and Women's Hospital, Harvard Medical School, Boston, Massachusetts, USA.

2147. Gd-Labeled Liposomes for MRI Monitoring of Regional Tumor Accumulation of Liposome Chemotherapy

Michael F Wendland[1], Erika Rubesova[3], Ferco Berger[3], Keelung Hong[2], Kathyrin J Stevens[3], Charles A Gooding[1], Philipp Lang[3]
[1]University of California San Francisco, San Francisco, California, USA; [2]California Pacific Medical Center, San Francisco, California, USA; [3]Stanford University School of Medicine, Stanford, California, USA.

2148. *In-Vivo* Localized ^{1}H-MR Spectroscopy on the Effects of Radiation Damage in the Rat Cervical Spinal Cord

Jeroen Pikkemaat[1], Henk P. Bijl[2], Marielle E.P. Philippens[1], Dennis W.J. Klomp[1], Sjaak J.A. Van Asten[1], Bert J. Van Der Kogel[1], Arend Heerschap[1]
[1]Nijmegen University Medical Center, Nijmegen, Netherlands; [2]University Hospital Groningen, Groningen, Netherlands.

2149. Measurement of Tumor Oxygen Dynamics Correctly Predicts Beneficial Adjuvant Intervention for Radiotherapy in Dunning Prostate R3327-HI Tumors

Dawen Zhao[1], Anca Constantinescu[1], Cheng-Hui Chang[1], Kenneth Gall[1], Eric W Hahn[1], Ralph P Mason[1]
[1]University of Texas Southwestern Medical Center at Dallas, Dallas, Texas, USA.

2150. Chemoirradiation of Human Osteosarcoma in Mice: Early Response Assessment by MRI

Christian Brekken[1], Emil Veliyulin[1], Trond Erling Singstad[1], Jomar Frengen[2], Live Eikenes[3], Catharina De Lange Davies[3], Øyvind Sverre Bruland[4], Ingrid Gribbestad[1]
[1]SINTEF Unimed MR Center, Trondheim, Norway; [2]University Hospital of Trondheim, Trondheim, Norway; [3]Norwegian University of Science and Technology, Trondheim, Norway; [4]The Norwegian Radium Hospital, Oslo, Norway.

2151. Effect of Hyperthermia on Single-Quantum and Triple-Quantum-Filtered ^{23} Na and ^{31}P NMR of Subcutaneously Implanted RIF-1 Tumors in Mice

Shahryar Khan Hekmatyar[1], Harish Poptani[1], Andriy Babsky[1], Navin Bansal[1]
[1]university of Pennsylvania, Philadelphia, Pennsylvania, USA.

2152. Heat-Induced Changes in Intracellular Sodium, pH and Cellular Energy Status in Perfused RIF-1 Tumor Cells Monitored by ^{23}Na and ^{31}P MR Spectroscopy

Andriy Babsky[1], Shahryar Khan Hekmatyar[1], Suzanne Wehrli[2], David Nelson[1], Navin Bansal[1]
[1]University of Pennsylvania, Philadelphia, Pennsylvania, USA; [2]Children's Hospital of Philadelphia, Philadelphia, Pennsylvania, USA.

2153. Influence of Cryo-Temperature on the Viability of Hepa-1 Spheroids: A Diffusion Weighted MRI Study

Catherine Tempel Brami[1], Rinat Abramovitch[1], Yacov Itzchak[1], Michal Neeman[2], Tammar Kushnir[1]
[1]The Chaim Sheba Medical Center, Tel Hashomer, Israel; [2]Weizmann Institute of Science, Rehovot, Israel.

2154. Photodynamic Therapy (PDT) of Solid Tumors with Pd-bacteriopheophorbide (WST09): Functional Imaging by Blood Oxygen Level-Dependent (BOLD) MRI

Shimon Gross[1], Assaf Gilead[1], Avigdor Scherz[1], Michal Neeman[1], Yoram Salomon[1]
[1]Weizmann Institute of Science, Rehovot, Israel.

2155. Changes in Phospholipid Composition in Thymoma Cells Suggest Mechanism for Resistance to Dexamethasone-Induced Apoptosis. A ^{31}P NMR Spectroscopic Study of Cell Extracts

Norbert W Lutz[1], Margaret E Tome[1], Margaret M Briehl[1]
[1]University of Arizona, Tucson, Arizona, USA.

2156. Indomethacin Alters Phospholipid Metabolism in a pH-Independent Manner in Living Breast Cancer Cells

Kristine Glunde[1], Ellen Ackerstaff[1], Kshama Natarajan[1], Dmitri Artemov[1], Zaver Bhujwalla[1]
[1]Johns Hopkins University School of Medicine, Baltimore, Maryland, USA.

2157. Indomethacin Reduces the Invasion of the Human Breast Cancer Cell Line MDA-MB-435

Ellen Ackerstaff[1], Dimitri Artemov[1], Zaver Bhujwalla[1]
[1]Johns Hopkins University School of Medicine, Baltimore, Maryland, USA.

2158. Endostatin Gene Transduction of Glioma Cells Modifies Brain Tumor Development: Assessment by MRI

Christian Brekken[1], Peter C Huszthy[2], Per Øyvind Enger[2], Tina Bugge Pedersen[1], Rolf Bjerkvig[2], Olav Haraldseth[3]
[1]SINTEF Unimed MR Center, Trondheim, Norway; [2]University of Bergen, Bergen, Norway; [3]Norwegian University of Science and Technology, Trondheim, Norway.

2159. MRI Analysis of the Effect of Halofuginone - A Novel Anti-Cancer Drug on Metastatic Rat Brain Tumor Model

Rinat Abramovitch[1], Shai Yarkoni[2], Anna Itzik[1], Israel Vlodavsky[1], Tali Siegal[1]
[1]Hadassah University Hospital Jerusalem, Jerusalem, Israel; [2]Collgaard Biopharmaceuticals, Israel.

2160. The Effects of FK866 on Tumor Metabolism and Growth: ^{1}H-decoupled ^{31}P MRS Study

M. Muruganandham[1], Y. Chen[1], I. Schemainda[2], M. Hasmann[2], L. Saltz[1], J.A. Koutcher[1]
[1]Memorial Sloan-Ketterin Cancer Center, New York, New York, USA; [2]Klinge Pharma, GmbH, Munich, Germany.

2161. Characterisation of the C-*neu* Mammary Carcinoma in Oncomice® by ^{31}P MRS and MRI

Loreta Rodrigues[1], Simon P. Robinson[1], Marion Stubbs[1], John R. Griffiths[1]
[1]St. George's Hospital Medical School, London, England, UK.

2162. Effect of Herceptin on C-*neu* Mammary Carcinomas in Oncomice by *In Vivo* ^{31}P MRS

Loreta M. Rodrigues[1], Janine L. Mansi[1], John R. Griffiths[1]
[1]St.George's Hospital Medical School, London, England, UK.

2163. The Effects of the Novel Anticancer Compound CYC202 on Tumours Monitored by Magnetic Resonance Spectroscopy

Helen Troy[1], Yuen-Li Chung[1], Ian R Judson[2], Martin O. Leach[2], Marion Stubbs[1], Sabrina Ronen[2], Paul Workman[2], John R. Griffiths[1]
[1]St George's Hospital Medical School, London, England, UK; [2]Institute of Cancer Research, Sutton, Surrey, England, UK.

2164. The Pharmacodynamic Effects of the Novel Anticancer Drug 17-AAG on HT29 Xenografts in Mice Monitored by Magnetic Resonance Spectroscopy

Yuen-Li Chung[1], Helen Troy[1], Udai Banerji[2], Ian R Judson[2], Martin O. Leach[2], Marion Stubbs[1], Sabrina Ronen[2], Paul Workman[2], John R. Griffiths[1]
[1]St George's Hospital Medical School, London, England, UK; [2]Institute of Cancer Research, Sutton, Surrey, England, UK.

2165. MRS Evaluations of the Metabolic Response of Human Leukemia Cells to a New Tyrosine Kinase Inhibitor Gleevec

Sven Gottschalk[1], Carsten Hainz[1], Dieter Leibfritz[1], Natalie Serkova[1]
[1]University of Bremen, Bremen, Germany.

2166. Diffusion MRI Detects Heterogeneity within Brain Tumors following Gene Therapy

Daniel Edward Hall[1], Alnawaz Rehemtulla[1], Lauren D Stegman[1], Grace Chen[1], Mahaveer Swaroop Bhojani[1], Thomas L Chenevert[1], Brian D Ross[1]
[1]University of Michigan School of Medicine, Ann Arbor, Michigan, USA.

2167. *In Vivo* Imaging of Adoptive Immunotherapy: the CMS5/DUC18 Tumor Ablation Mouse Model

Joel R. Garbow[1], Ken Matsui[1], Leigh O'Mara[1], Mark S. Conradi[1], Timothy J. McCarthy[1], Paul M. Allen[1]
[1]Washington University in St. Louis, St. Louis, Missouri, USA.

2168. Magnetic Resonance Spectroscopy (MRS) Detection of Lactic Acid for *Salmonella* Localization in Tumors

Ray Zheng Xu[1], Janine Leffert[1], Stefano Sodi[1], Ivan King[2], John Pawelek[1], Earle Adams[1], Qiuhong He[3], Giuseppe Pizzorno[1]
[1]Yale University School of Medicine, New Haven, Connecticut, USA; [2]Vion Pharmaceuticals, Inc., New Haven, Connecticut, USA; [3]Memorial Sloan-Kettering Cancer Center, New York, New York, USA.

Cancer Models: Tumor Biology

2169. Parametric Diffusion MRI of Orthotopic Human Breast Cancer in Nude Mice

Yael Paran[1], Peter Bendel[1], Raanan Margalit[1], Hadassa Degani[1]
[1]Weizmann Institute of Science, Rehovot, Israel.

2170. Water Diffusion in Perfused Glioma Cell Culture

Jean-Philippe Galons[1], Joseph L Divijak[1], Kathy A. McGovern[1], Theodore Trouard[1]
[1]University of Arizona, Tucson, Arizona, USA.

2171. Heterogeneity of MR Parameters in Tumours

Greg J. Stanisz[1], George Kyritsis[1]
[1]University of Toronto, Sunnybrook & Women's College Health Sciences Centre, Toronto, Ontario, Canada.

2172. *In-Vivo* Multiple-Mouse Imaging at 1.5T

S Xu[1], T PF Gade[1], K Zakian[1], C Matei[1], S Soghomonian[1], J Tjuvajev[1], AA Alfieri[2], D Ballon[3], J A Koutcher[1]
[1]Memorial Sloan-Kettering Cancer Center, New York, New York, USA; [2]Albert Einstein College of Medicine, Bronx, New York, USA; [3]Weill College of Medicine of Cornell University, New York, New York, USA.

2173. MRI Visualization of Mouse Colon and Detection of Lesions in the MIN Mouse

Harvey Hensley[1], Bryan Lee[1], Wen-Chi Chang[1], Margie Clapper[1]
[1]Fox Chase Cancer Center, Philadelphia, Pennsylvania, USA.

2174. ^{1}H HR-MAS Spectroscopic Investigation of Prostate Cancer Development and Progression in the TRAMP Mouse

Mark G. Swanson[1], Robert A. Bok[1], Marc A. Shuman[1], Daniel B. Vigneron[1], John Kurhanewicz[1]
[1]University of California San Francisco, San Francisco, California, USA.

2175. Mitochondrial DNA Depletion Produces Changes in Choline Phospholipids in ^{1}H NMR Spectra

Noriko Mori[1], Robert Delsite[1], Kshama Natarajan[1], Vadappuram P. Chacko[1], Dimitri Artemov[1], Keshav K Singh[1], Zaver Bhujwalla[1]
[1]Johns Hopkins University School of Medicine, Baltimore, Maryland, USA.

2176. New Gadolinium Complexes as Tumor-Specific MR Imaging Contrast Agents for Cancer Detection in Nude Mice

, Dariyoush Shahbazi-Gahrouei[1], B.J. Allen[1]
[1]Sharekord University of Medical Sciences, Shahrekord, Chaharmahal, Iran; [2]St. George Hospital, Sydney, New South Wales, Australia.

2177. Interstitial Volume Measurement Method: Evaluation of Absolute Volume Measurement using a Mouse Tumor Model

Young Ro Kim[1], Mark D Savellano[1], D Högemann[1], A Bogdanov[1], R Weissleder[1]
[1]Massachusetts General Hospital, Harvard Medical School, Charlestown, Massachusetts, USA.

2178. Water Exchange Affects Blood Volume Measurement Accuracy: Rat Tumor Model

Young Ro Kim[1], Kathleen M Donahue[2], Kelly Rebro[2]
[1]Massachusetts General Hospital, Harvard University, Charlestown, Massachusetts, USA; [2]Medical College of Wisconsin, Milwaukee, Wisconsin, USA.

2179. Comparison of BOLD and Gd-DTPA Contrast Enhanced MRI for the Assessment of the Two Prostate Tumor Sublines Exhibiting Different Vascular Development

Lan Jiang[1], Dawen Zhao[1], Anca Constantinescu[1], Eric W Hahn[1], Ralph P Mason[1]
[1]University of Texas Southwestern Medical Center at Dallas, Dallas, Texas, USA.

2180. Characterization of Carcinogen ENU Induced Benign and Malignant Mammary Tumors in Rats: Volumetric Growth Rates, Contrast Enhancement Kinetics, and Longitudinal Monitoring

Hon J. Yu[1], Min-Ying Su[1], Jun Wang[1], Phillip M. Carpenter[1], Orhan Nalcioglu[1]
[1]University of California Irvine, Irvine, California, USA.

2181. Vascular Maturation of Implanted MLS Ovarian Epithelial Spheroids is not Sufficient for Vascular Stabilization, and for Tumor Exit from Dormancy

Assaf Gilead[1], Gila Meir[1], Michal Neeman[1]
[1]Weizmann Institute of Science, Rehovot, Israel.

2182. An *In Vivo* Assessment of the Relationship of Tumour Hypoxia and Angiogenesis

Simon P. Robinson[1], Vassiliki Kostourou[1], Helen Troy[1], Guy St.J. Whitley[1], John R. Griffiths[1]
[1]St. George's Hospital Medical School, London, England, UK.

2183. Effects of Carbogen on Tumor pO_2; Correlation of ^{19}F & ^{1}H MRI Measurements

Xiaobing Fan[1], Jonathan N. River[1], Marta Zamora[1], Hania A. Al-Hallaq[1], Gregory S. Karczmar[1]
[1]University of Chicago, Chicago, Illinois, USA.

2184. Human Umbilical Vein Endothelial Cells Promote Invasion of PC-3 under Hypoxia

Ellen Ackerstaff[1], Dimitri Artemov[1], Robert J. Gillies[2], Zaver Bhujwalla[1]
[1]Johns Hopkins University School of Medicine, Baltimore, Maryland, USA; [2]University of Arizona, Tucson, Arizona, USA.

2185. **Dynamic T_1-weighted MRI in C6-Gliomas using the Intravascular Contrast Agent VSOP-C155**
Andrea Karg[1], Elke M. Schreiber[1], Erik G. Klein[1], Matthias Taupitz[2], Susanne Wagner[3], Axel Heimann[1], Manfred Thelen[1], Wolfgang G. Schreiber[1]
[1]Johannes Gutenberg-University, Mainz, Germany; [2]Humboldt Universität, Berlin, Germany; [3]Ferropharm GmbH, Teltow, Germany.

MR Spectroscopy of Cells, Body Fluids, and Others

2186. **High Quality ^{1}H-HRMAS NMR Spectra from Fine Needle Biopsies of Prostatic Tissue**
Claudia Soede-Huijbregts[1], Michiel Sedelaar[1], Vincent Cuijpers[1], Jean De La Rosette[1], Albert Verhofstad[1], Arend Heerschap[1]
[1]University Medical Center Nijmegen, Nijmegen, Netherlands.

2187. ***In-Vitro* ^{1}H NMR Spectroscopic Characterization of Muscle Tissue Extracts in Duchenne Muscular Dystrophy Patients**
Uma Sharma[1], Surinder Atri[1], Chitra Sarkar[1], Naranamangalam R Jagannathan[1]
[1]All India Institute of Medical Sciences, New Delhi, India.

2188. **Lipid Profiles of Atherosclerotic Plaques by ^{13}C and ^{31}P NMR Spectroscopy**
Suzanne Wehrli[1], Ron Wolf[2], Sissel Lund Katz[1], Emile Mohler[2], Dan Rader[2], Felix Wehrli[2]
[1]Children's Hospital of Philadelphia, Philadelphia, Pennsylvania, USA; [2]University of Pennsylvania, Philadelphia, Pennsylvania, USA.

2189. **Composition of the Preservation Solution Affects Metabolism of Stored Pulmonary Allografts**
Timothy Thomas Hamilton[1], Tian-Teng He[1], Robert Yun-Nian Chao[1], Michael Erik Jessen[1], Dan Marshall Meyer[1]
[1]University of Texas Southwestern Medical Center at Dallas, Dallas, Texas, USA.

2190. **Oxygen Availability and Glucose Oxidation during Lung Preservation for Transplantation**
Timothy Thomas Hamilton[1], Michael Erik Jessen[1], Robert Yun-Nian Chao[1], Tian-Teng He[1], Dan Marshall Meyer[1]
[1]University of Texas Southwestern Medical Center at Dallas, Dallas, Texas, USA.

2191. **Inhibition of NMR-Visible Lipid Accumulation in WT, TNF-Knockout But Not IFNγ-Knockout T Lymphocytes**
Peter M. Hume[1], Nicholas J. King[1], Edward James Delikatny[2]
[1]University of Sydney, Sydney, New South Wales, Australia; [2]University of Pennsylvania, Philadelphia, Pennsylvania, USA.

2192. **Non-Invasive Assessment of Adipose Tissue in GLUT4 Null and Heterozygous Knockout Mice by MRI**
Linda Ann Jelicks[1], Baiyu Tang[1], Maureen J. Charron[1]
[1]Yeshiva University, Albert Einstein College of Medicine, Bronx, New York, USA.

2193. **^{31}P, ^{1}H and ^{23}Na NMR Spectroscopy Suggest a Critical Role of Glutamine and Glutamate Metabolism in Amino Acid-Stimulated Insulin Release in Pancreatic β-HC9 Cells**
Nicolai Doliba[1], Marko Vatamaniuk[1], Wei Qin[1], Carol Buettger[1], Heather Collins[1], Suzanne Wehrli[2], Franz Matschinsky[1]
[1]University of Pennsylvania, Philadelphia, Pennsylvania, USA; [2]Children's Hospital of Philadelphia, Philadelphia, Pennsylvania, USA.

2194. **Sources of Hepatic Glucose Production in Overnight-Fasted Cirrhotic Patients as Measured by ^2H_2O Ingestion and ^{2}H NMR Analysis of Plasma Glucose**
John Jones[1], Tiago Brandao Rodrigues[1], Carlos Geraldes[1], Rui Perdigoto[2]
[1]University of Coimbra, Coimbra, Portugal; [2]University Hospital Coimbra, Coimbra, Portugal.

2195. **Pathology of Perfused Mouse Liver Evidenced by Na CPMG Measurements**
Jean-Luc Dimicoli[1], Mihaela Lupu[2], Jacqueline Patry[1], Joël Mispelter[1]
[1]INSERM, Orsay, France; [2]IPNE "Horia Hulubei", Bucarest-Magurele, Romania.

2196. Oligomerisation State of Yeast Hexokinase *In Vivo*

Ignasi Barba[1], *Kevin Michael Brindle*[1]
[1]University of Cambridge, Cambridge, England, UK.

2197. Effect of Fluoxetine on Plasma and RBC Lithium- ^{7}Li MR Studies of Rat Blood

Subbaraya Ramaprasad[1], *Jane Fesler*[1], *Timothy Werling*[1], *Andrew Lieben*[1]
[1]University of Nebraska Medical Center, Omaha, Nebraska, USA.

2198. Experimental Elimination of Frequency Modulation Sidebands in Localized ^{1}H MRS Acquired without Water Suppression

Zhengchao Dong[1], *Wolfgang Dreher*[1], *Dieter Leibfritz*[1]
[1]Universität Bremen, Bremen, Germany.

Thermotherapy

2199. Indications and Results of MR-Guided LITT of Liver Metastases of Breast Cancer

Martin G. Mack[1], *Ralf Straub*[1], *Katrin Eichler*[1], *Thomas J Vogl*[1]
[1]University of Frankfurt, Frankfurt, Germany.

2200. MR-Guided Laser-Induced Interstitial Thermotherapy (LITT) of Malignant Liver Tumors: Side-Effects, Complications and Treatment

Ralf Straub[1], *Martin G. Mack*[1], *Katrin Eichler*[1], *Thomas J. Vogl*[1]
[1]Hospital of Johann Wolfgang Goethe-University Frankfurt am Main, Germany.

2201. MRI-Guided Focused Ultrasound Surgery in the Brain: Tests in a Primate Model

Nathan McDannold[1], *Ron Killiany*[2], *Mark Moss*[2], *Ferenc A. Jolesz*[1], *Kullervo Hynynen*[1]
[1]Brigham and Women's Hospital, Harvard University, Boston, Massachusetts, USA; [2]Boston University, Boston, Massachusetts, USA.

2202. Local Hyperthermia with Focused Ultrasound (FUS) or Interstitial Laser Applicator (LITT) under PRF-based MR-Temperature Monitoring in the Living Kidney of the Rabbit

Rares Salomir[1], *Jean Palussiere*[1], *Nicolas Grenier*[1], *Eric Dumont*[1], *Bruno Quesson*[1], *Chrit Moonen*[1]
[1]Université Bordeaux 2, Bordeaux, France.

2203. MR Monitoring Of Post-Adjuvant Saline Injection Radiofrequency (RF) Thermal Ablation of Porcine Paraspinal Muscles

Sherif Gamal Nour[1], *S Nahum Goldberg*[2], *Ian C Mitchell*[1], *Eugene Kim*[1], *Jeffrey L. Duerk*[1], *Jonathan S. Lewin*[1]
[1]University Hospitals of Cleveland, Case Western Reserve University, Cleveland, Ohio, USA; [2]Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, Massachusetts, USA.

2204. MRI-Guided *In Vivo* Evaluation of High-Power Catheter-Based Ultrasonic Applicators Designed for Prostate Tissue Ablation

Graham Sommer[1], *Christopher Diederich*[2], *William Nau*[2], *Anthony Ross*[2], *Lili Chen*[1], *Bruce Daniel*[1], *Harcharan Gill*[1], *Kim Butts*[1]
[1]Stanford University, Stanford, California, USA; [2]University of California San Francisco, San Francisco, California, USA.

2205. MRI Guided Focused Ultrasound Surgery - Treatment Acceleration by Acoustic Lenses

Jürgen Walter Jenne[1], *Ralf Rastert*[1], *Daniel Röder*[1], *Ioannis Simiantonakis*[1], *Guido Rademaker*[1], *Peter Ernst Huber*[1], *Jürgen Debus*[1]
[1]German Cancer Research Center, Heidelberg, Germany.

2206. MR Compatible Water-Coated Antenna (WACOA) Applicator for 3-D Heat Focussing

Waldemar Wlodarczyk[1], *Jacek Nadobny*[1], *Martin Seebass*[1], *Peter Wust*[1], *Roland Felix*[1]
[1]Humboldt University Berlin, Charité Medical School, Berlin, Germany.

2207. Gel Phantom for MR Calibration of Thermal Therapy Devices

Mark McDonald[1], Rajiv Chopra[1], Michael Bronskill[1]
[1]Sunnybrook & Women's College Health Sciences Centre, University of Toronto, Toronto, Ontario, Canada.

2208. Evaluation of Monte Carlo Simulations for the Treatment Planning of Laser-Induced Interstitial Thermotherapy (LITT)

Silvia Puccini[1], Nils-Karsten Bär[1], Martin Bublat[2], Harald Busse[1], Thomas Kahn[1]
[1]Leipzig University Hospital, Leipzig, Germany; [2]Institute for Applied Information Technology, St. Augustin, Germany.

2209. Internal Temperature Measurement using the MR-CDI Technique

Hyun Soo Khang[1], Seok Hun Oh[1], Soo Yeol Lee[1], Min Hyoung Cho[1], Eung Je Woo[1], Chi Woong Mun[2]
[1]Kyung Hee University, Yongin, Kyungki, Korea; [2]Inje University, Korea.

2210. Temperature Mapping using a Spin-Echo Gradient-Echo Sequence

Tao Wu[1], Joel Felmlee[1], Roger Grimm[1], John Rydberg[1]
[1]Mayo Clinic, Rochester, Minnesota, USA.

2211. Continuous FT Sliding Window MR Thermography

James D'Arcy[1], David Collins[1], Ian Rowland[1], Tim Ong[1], Ian Rivens[1], Martin O. Leach[1]
[1]Institute of Cancer Research and Royal Marsden Hospital, Sutton, Surrey, England, UK.

2212. Dynamic Updating of Spiral Interleaves for Magnetic Resonance Temperature Imaging

R. Jason Stafford[1], John Hazle[1]
[1]University of Texas M.D. Anderson Cancer Center, Houston, Texas, USA.

2213. Effects of Organ Motion and Deformation on MR Temperature Imaging

Kagayaki Kuroda[1,2], Daiki Harada[5], Etsuko Kumamoto[5], Atsuya Okada[3], Hisashi Abe[3], Bilgin Keserci[4], Susumu Fujii[5]
[1]Institute of Biomedical Research and Innovation, Kobe, Hyogo, Japan; [2]Tokai University, Japan; [3]Osaka University School of Medicine, Osaka, Japan; [4]GE Yokogawa Medical Systems, Inc., Tokyo, Japan; [5]Kobe University, Kobe, Japan.

2214. Movement Registration for PRF Based MR Thermometry

Mika Vogel[1], A. Moelker[1], Mohamed Ouhlous[1], Peter Pattynama[1]
[1]Erasmus University Medical Center Rotterdam, Rotterdam, Netherlands.

2215. T_1 Relaxation and Proton Resonant Frequency (PRF) Shift Parameters, Acquired with a SW-Double Echo Spoiled Gradient Recalled Sequence, as a Targeting Tool for Focused Ultrasound (FUS) Surgery

Joo Tim Ong[1], James D'Arcy[1], David J Collins[1], Ian Henry Rivens[1], Gail R Ter Haar[1], Martin O. Leach[1]
[1]Institute of Cancer Research and Royal Marsden Hospital, Sutton, Surrey, England, UK.

2216. T_1 Relaxation Time at 0.2 Tesla for Monitoring Regional Hyperthermia: Feasibility Study in Muscle and Adipose Tissue

Michael Peller[1], Herbert Reinl[1], Andreas Weigel[1], Martin Meininger[1], Rolf D Issles[1], Maximilian Reiser[1]
[1]University of Munich, München, Germany.

2217. MRI Determination of Temperature Distribution during RF-Thermotherapy using Spatial T_1 Determination and Intensity Calibration

Jens Brieger[1], Diethard Schmidt[1], Jochen Trübenbach[1], H. Putzhammer[1], Philippe Pereira[1], Claus Claussen[1], F. Schick[1]
[1]University Hospital Tuebingen,Germany, Tuebingen, Germany.

2218. An Analytic Method to Predict the Thermal Map of Cryosurgery Iceballs in MR Images

Romain Fournials[1], Amidou Sissou Traoré[1], Christian Moisan[1]
[1]Centre Hospitalier Universitaire de Québec, Québec, Québec, Canada.

BASIC SCIENCE FOCUS SESSION (WITH POSTERS)
Interventional MR Imaging Methodology

2219. ***In Vitro* and *In Vivo* Evaluation of MR Visible Coated-Devices**
Orhan Unal[1], Li Junwei[1], Charles M. Strother[1], Charles A. Mistretta[1], Thomas M. Grist[1], Hyuk Yu[1]
[1]University of Wisconsin-Madison, Madison, Wisconsin, USA.

2220. **Real-time MR Guidance of an MR-Compatible Atrial Septal Occluder in an Animal Model**
Arno Bücker[1], Elmar Spüntrup[1], Ralph Grabitz[2], Franz F Freudenthal[1], Eberhardt G Muehler[1], Tobias Schäffter[3], Joop J van Vaals[4], Rolf W Günther[1]
[1]Aachen University of Technology, Aachen, Germany; [2]Christian-Albrechts-Universität zu Kiel, Kiel, Germany; [3]Philips Research Laboratories, Hamburg, Germany; [4]Philips Medical Systems, Best, Netherlands.

2221. **Does "Cool-Wet" Radiofrequency Ablation Produce Significantly Larger Thermal Lesion Volumes Compared To The "Cool" Or "Wet"-Only Techniques?**
Sherif Gamal Nour[1], Charles B Armstrong[1], S Nahum Goldberg[2], Eugene Kim[1], Shaoxiong X Zhang[1], Jeffrey L. Duerk[1], Jonathan S. Lewin[1]
[1]University Hospitals of Cleveland, Case Western Reserve University, Cleveland, Ohio, USA; [2]Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, Massachusetts, USA.

2222. **Dynamic Gadolinium Uptake in Experimental Cerebral Tumors and in Thermally Exposed Canine Brain Tissue**
Marko Kangasniemi[1], Roger Stafford[1], Edward Jackson[1], John Hazle[1]
[1]University of Texas M.D. Anderson Cancer Center, Houston, Texas, USA.

2223. **A Handheld Device for MR-Guided Focused Ultrasound Ablation of the Prostate**
Ronald Dean Watkins[1], Joseph Piel[1], Kenneth Rohling[1], Charles Dumoulin[1]
[1]G. E. Research and Development Center, Niskayuna, New York, USA.

2224. **MRI-Guided Conformal Heating with Interstitial Ultrasound Heating Applicator**
Rajiv Chopra[1], Michael J Bronskill[1]
[1]Sunnybrook and Women's College Health Sciences Centre, University of Toronto, Toronto, Ontario, Canada.

2225. **MRI-Guided Focused Ultrasound through the Human Skull**
Greg Clement[1], Nathan McDannold[1], Jason White[1], Natalia Vyhhodtseva[1], Heather Martin[1], Kullervo Hynynen[1]
[1]Brigham and Women's Hospital, Harvard Medical School, Boston, Massachusetts, USA.

2226. **Fast Multi-Planar Magnetic Resonance Temperature Imaging using Multi-Shot EPI and Spiral Acquisitions: Sequence Comparison and Optimization**
R. Jason Stafford[1], John D. Hazle[1]
[1]University of Texas M.D. Anderson Cancer Center, Houston, Texas, USA.

2227. **A Navigated, Triggered Method for PRF Temperature Mapping with Respiratory Motion**
Karl Kristopher Vigen[1], Bruce L. Daniel[1], Kim Butts[1]
[1]Stanford University, Stanford, California, USA.

2228. **PRF Shift Thermometry at 0.2T: Quantitative Evaluation of Suppression and Thermal Profile Errors with a k-Space Based Background Phase Variation Correction Scheme**
Kestutis Joseph Barkauskas[1], Jonathan S. Lewin[1], Jeffrey L. Duerk[1]
[1]Case Western Reserve University, University Hospitals of Cleveland, Cleveland, Ohio, USA.

2229. **Signal Intensity and R_2* as Models for MR Thermometry in Frozen Tissue**
Janaka P. Wansapura[1], Bruce L. Daniel[1], John M. Pauly[1], Kim Butts[1]
[1]Stanford University, Stanford, California, USA.

2230. **X-Ray Tube for Use in Magnetic Fields**
Zhifei Wen[1], Rebecca Fahrig[1], Nianxiang Sun[1], Shanxiang Wang[1], Norbert J. Pelc[1]
[1]Stanford University, Stanford, California, USA.

Interventional MR Imaging

2231. A New Concept for Intraoperative Imaging: Surgery in the Fringe Field of a High-Field MR System

Christopher Nimsky[1], Oliver Ganslandt[1], Rudolf Fahlbusch[1]
[1]University Erlangen-Nuremberg, Erlangen, Germany.

2232. Microscope Tracking in an Open MRI for MR Guided Neurosurgery

Timo Schirmer[1], Michael Moche[2], Christos Trantakis[2]
[1]GE Medical Systems, München, Germany; [2]University Leipzig, Leipzig, Germany.

2233. Advanced Treatment Planning and Navigation Platform for MRI-Guided Interventions: One Year's Experience with Neurosurgical Applications

Harald Busse[1], Michael Moche[1], Matthias Seiwerts[1], Christos Trantakis[1], Arno Schmitgen[2], Thomas Kahn[1]
[1]Leipzig University Hospital, Leipzig, Germany; [2]Fraunhofer Institute for Applied Information Technology, St. Augustin, Germany.

2234. Assistance of Real Time MR Image Guidance with Customized Navigation Software and Newly-Developed Devices for Image Plane Control System

Shigehiro Morikawa[1], Toshiro Inubushi[1], Yoshimasa Kurumi[1], Shigeyuki Naka[1], Akihiko Shiino[1], Mikio Suzuki[1], Nobuhiko Hata[2], Viswanathan Seshan[3], Tetsuji Tsukamoto[3]
[1]Shiga University of Medical Science, Shiga, Japan; [2]University of Tokyo, Tokyo, Japan; [3]GE Yokogawa Medical Systems, Tokyo, Japan.

2235. MRI-Guided Neurosurgery: Accuracy of the Navigus Trajectory Guide

Mark McDonald[1], Norman Konyer[1], Michael Bronskill[1]
[1]Sunnybrook & Women's College Health Sciences Centre, University of Toronto, Toronto, Ontario, Canada.

2236. Resection of Soft Tissue Sarcomas with Intra-Operative Magnetic Resonance Guidance

Bijendra P. Patel[1], Tushar Agarwal[1], Stuart Gould[1], Wadislaw Gedroyc[1], Ara Darzi[1]
[1]St. Mary's Hospital, London, England, UK.

2237. A Realtime MRI System for Guidance and Monitoring of Prostate Biopsy

Robert Charles Susil[1], J. Andrew Derbyshire[2], Axel Kreiger[1], Attila Tanacs[1], Meiyappan Solaiyappan[1], Louis L Whitcomb[1], Elliot McVeigh[2], Gabor Fichtinger[1], Ergin Atalar[1]
[1]Johns Hopkins University, Baltimore, Maryland, USA; [2]National Institutes of Health, Bethesda, Maryland, USA.

2238. MR Guided Musculoskeletal Biopsies: A Valuable Tool in Certain Contexts

Bharti Khurana[1], John A. Carrino[2], Carl S. Winalski[1], Stuart Silverman[1], Frank Jolsez[1]
[1]Brigham and Women's Hospital, Boston, Massachusetts, USA; [2]Thomas Jefferson University, Jefferson Medical College, Philadelphia, Pennsylvania, USA.

2239. Real-time Chemical Shift MRI of Ethanol and Acetic Acid during Percutaneous Ablation Therapy

David A. Roberts[1], Mark Alan Rosen[1], Timothy Clark[1], Jeffrey Mondschein[1], Michael Soulen[1], Evan Siegelman[1], John Leigh[1]
[1]University of Pennsylvania Medical Center, Philadelphia, Pennsylvania, USA.

2240. Feasibility of Simple Respiratory Triggering in MR-Guided Interventional Procedures for Liver Tumors under General Anesthesia

Shigehiro Morikawa[1], Toshiro Inubushi[1], Yoshimasa Kurumi[1], Shigeyuki Naka[1], Viswanathan Seshan[2], Tetsuji Tsukamoto[2]
[1]Shiga University of Medical Science, Ohtsu, Shiga, Japan; [2]GE Yokogawa Medical Systems, Tokyo, Japan.

2241. System Design and Preliminary Clinical Experience: Medial/Lateral Breast Localization System

Cameron Anthony Piron[1], Petrina Causer[1], Rene Shumak[1], Donald Plewes[1]
[1]University of Toronto, Toronto, Ontario, Canada.

2242. Interventional MRI in Patients with Implanted Deep Brain Stimulation Electrodes: Safety Aspects

Ralf Girnus[1], Volker Hesselmann[1], Klaus Luyken[1], Barbara Krug[1], Günter Nimtz[1], Klaus Lackner[1]
[1]University of Cologne, Köln, Germany.

2243. *In-Vivo* High Resolution MR Imaging of the Pancreas using an Endoluminal MR Receiver Coil: Feasibility Study in an Animal Model

Frank K Wacker[1], Siegbert Faiss[2], Sherif Gamal Nour[1], Claudia Hillenbrand[1], Martin Zeitz[2], Jeffrey L. Duerk[1], Jonathan S. Lewin[1]
[1]University Hospitals of Cleveland, Case Western Reserve University, Cleveland, Ohio, USA; [2]Benjamin Franklin University Hospital, Free University, Berlin, Germany.

2244. A Method For Realtime Automated Scan Plane Selection

Daniel R. Elgort[1], Chris Flask[1], Eddy Wong[1], Jonathan S. Lewin[1], Jeffrey L. Duerk[1]
[1]Case Western Reserve University, University Hospitals of Cleveland, Cleveland, Ohio, USA.

2245. Switchable Resonant Fiducial Marker for Safe Instrument Localisation at All Marker Orientations

Steffen Weiss[1], Titus A. Kuehne[2], Michael Zenge[1]
[1]Philips Research Hamburg, Hamburg, Germany; [2]University Hospital Hamburg-Eppendorm, Hamburg, Germany.

2246. Improved Assessment of Probe Size and Location during Real-Time MR Needle-Guided Procedures

Eitzik Smouha[1], Benjamin Perelman[1], Stephen Hushek[2]
[1]GE Medical Systems Israel, Tirat Hacarmel, Israel; [2]Norton Hospital, Louisville, Kentucky, USA.

2247. Chemical Shift Markers for Improved Wireless Fiducial Marker Tracking

Chris Flask[1], Daniel Elgort[1], Ken-Pin Hwang[1], Jonathan S. Lewin[1], Jeffrey L. Duerk[1]
[1]University Hospitals of Cleveland, Case Western Reserve University, Cleveland, Ohio, USA.

2248. Manganese as a Marker for Gene Delivery

Jonathan M. Sorger[1,2], Randall R. Clevenger[2], Levent M. Akyürek[2], Elliot R. McVeigh[2,1]
[1]Johns Hopkins University, Baltimore, Maryland, USA; [2]National Institutes of Health, Bethesda, Maryland, USA.

Vascular Interventions

2249. Real-time Interactive Catheter Tracking by Multiresolution Volumetric MR Imaging

Pairash Saiviroonporn[1], Lei Zhao[1], Carl-Fredrik Westin[1], Christopher Hardy[2], Lawrence P. Panych[1], Ferenc A. Jolesz[1]
[1]Brigham and Women's Hospital, Harvard Medical School, Boston, Massachusetts, USA; [2]G. E. Corp. Research & Development, Schenectady, New York, USA.

2250. Accelerated Cardiac Interventional Imaging with Real-time Display

Michael A. Guttman[1], Alexander J. Dick[1], Robert J. Lederman[1], Jonathan M. Sorger[1], Venkatesh Raman[1], Peter Kellman[1], Elliot R. McVeigh[1]
[1]National Institutes of Health, Bethesda, Maryland, USA.

2251. Detection of Switchable Resonant Circuits in Time Series of Subsampled Images

Holger Eggers[1], Steffen Weiss[1], Peter Boesiger[2]
[1]Philips Research Hamburg, Hamburg, Germany; [2]University and ETH Zurich, Zurich, Switzerland.

2252. Steady State Imaging for Guiding Endovascular Interventions

Alastair J. Martin[1], Oliver M. Weber[1], Timothy P. Roberts[1]
[1]University of California San Francisco, San Francisco, California, USA.

2253. Invasive Procedures Guided by Projection Reconstruction with Real-time Adjustment of Temporal Resolution

Dana Ceceilia Peters[1], Robert Lederman[1], Alexander J. Dick[1], Michael A. Guttman[1], Venkatesh Raman[1], Elliot McVeigh[1]
[1]National Institutes of Health, Bethesda, Maryland, USA.

2254. Visualisation Techniques for Switchable Resonant Fiducial Markers

Steffen Weiss[1]
[1]Philips Research Hamburg, Hamburg, Germany.

2255. A Novel Approach to MRI Visibility of Catheters in Real-Time Studies

Samuel Patz[1], Samuel Zhong[2], Ronald Sahatjian[2]
[1]New England Medical Center, Tufts Medical School, Boston, Massachusetts, USA; [2]Boston Scientific Corportation, Natick, Massachusetts, USA.

2256. MR Imaging-Guidewire as a Heating Source for Enhancement of Gene Transduction in Human Vascular Smooth Muscle Cells

Xiangying Du[1], Bensheng Qiu[1], Danming Wang[1], Xiaoming Yang[1]
[1]Johns Hopkins University School of Medicine, Baltimore, Maryland, USA.

2257. Expandable Active MRI Stents aMRIs with Variable Resonating Frequency

Andreas Melzer[1,2], Thomas Bertsch[1,2], Gregor Schaefers[2], Waldemar Zylka[1], Martin H. J. Busch[2]
[1]University of Applied Sciences, Gelsenkirchen, Germany; [2]Simag GmbH, Gelsenkirchen, Germany.

2258. A New Stent Concept Enables Non Invasive MRI Diagnostic Measurements Inside a Stent

Rainer Wetzler[1], Martin H. J. Busch[1], Andreas Melzer[1,2], Gregor Schaefers[1], Thomas Bertsch[1], Bernd Hamm[3], Matthias Taupitz[3], Wolfgang Vollmann[4]
[1]Simag GmbH, Berlin, Germany; [2]University of Applied Sciences, Gelsenkirchen, Germany; [3]Charité, Humboldt-Universität zu Berlin, Berlin, Germany; [4]Berlin, Germany.

2259. MR Angiography in Patients after Implantation of Platinum Stents: Comparison with Conventional Stent Designs

Klaus D Hagspiel[1], Harjot S Dulai[1], Daniel A Leung[1], John Fritz Angle[1], David J Spinosa[1], Alan H Matsumoto[1], John Christopher[1], Stewart S Berr[1]
[1]University of Virginia, Charlottesville, Virginia, USA. , .

2260. Use of Internal Coils for Independent MRI-Guided Passive Catheter Tracking and Active Guidewire Visualization

Reed Omary[1], Jordin Green[1], Wayne Fang[1], Richard Tang[1], Yongzhong Li[1], Ingmar Viohl[2], J. Paul Finn[1], Debiao Li[2]
[1]Northwestern University, Chicago, Illinois, USA; [2]Surgi-Vision, Inc., Gaithersburg, Maryland, USA.

2261. A Physical Explanation of Active MRI Stents (aMRIs) and First "*In Vitro*" and "*In Vivo*" Results

Martin H. J. Busch[1], Rainer Wetzler[1], Thomas Bertsch[1], Gregor Schäfers[1], Andreas Melzer[2], Wolfgang Vollmann[3]
[1]Simag GmbH, Berlin, Germany; [2]Fachhochschule Berlin, Berlin, Germany; [3]TFH Berlin, Berlin, Germany.

2262. Improved Interstitial and Intravascular RF Coils

Norman Konyer[1], Raju Viswanathan[2], Raghu Raghavan[2], Gerry Mills[3], Martin Brady[2], Michael Bronskill[1]
[1]Sunnybrook & Women's College Health Sciences Centre, University of Toronto, Toronto, Ontario, Canada; [2]Image-Guided Neurologics, Baltimore, Maryland, USA; [3]Image-Guided Neurologics, Melbourne, Florida, USA.

2263. New Vena Cava Filter (VCF) with Integrated Inductively Coupled Resonator for MR Micro Imaging

Gregor Schaefers[1], Waldemar Zylka[2], Martin H. J. Busch[1], Andreas Melzer[1,2]
[1]Simag GmbH, Gelsenkirchen, Germany; [2]University of Applied Sciences Gelsenkirchen, Gelsenkirchen, Germany.

2264. Real-Time MR-Guided Particulate Embolization in a Dynamic Flow Model

Nicholas Fidelman[1], Mark Wilson[1], Oliver Weber[1], Alastair Martin[1], Robert Kerlan[1], Jeanne LaBerge[1], Roy Gordon[1]
[1]University of California San Francisco, San Francisco, California, USA.

2265. Testbolus in Interventional MR without Contrast Agent: Locally Induced Disturbance of Global Saturation using a Tip Coil

Maurits Karel Konings[1], Lambertus Wilhelmus Bartels[1], Chris J.G. Bakker[1]
[1]University Medical Center Utrecht, Utrecht, Netherlands.

2266. Interventional MR Guidance of Regional Hepatocellular Carcinoma Therapy with Adriamycin-bound Ferrous Agent

Nicholas Fidelman[1], Mark Wilson[1], Robert Kerlan[1], Roy Gordon[1], Jeanne LaBerge[1], Alan Venook[1]
[1]University of California San Francisco, San Francisco, California, USA.

2267. Real-time MRI Selective Arteriography and Angioplasty in Swine Facilitated with an Active Intravascular Guidewire Coil

Alexander James Dick[1], Michael A Guttman[1], Venkatesh K Raman[1], Dana C Peters[1], Richard B Thompson[1], Robert Lederman[1]
[1]National Institutes of Health, Bethesda, Maryland, USA.

2268. Feasibility of Direct Transcatheter Delivery of Therapeutics to the Myocardium using Dual X-Ray-MR Imaging

Maythem Saeed[1], Randy Lee[1], Alastair Martin[1], Gabriele Anja Krombach[1], Oliver Weber[1], Michael Lee[2], Simon Schalla[1], Charles B Higgins[1]
[1]University of California San Francisco, San Francisco, California, USA; [2]BIOHEART, Inc Santa Rosa, California, USA, .

2269. Percutaneous Endomyocardial Injection for Drug and Cell Delivery using Real-Time MRI (rtMRI)

Robert J Lederman[1], Michael A Guttman[1], Dana C Peters[1], Richard B Thompson[1], Alexander J Dick[1], Venkatesh K Raman[1], Jonathan M Hill[1], Jonathan M Sorger[1], Elliot R McVeigh[1]
[1]National Institutes of Health, Bethesda, Maryland, USA.

2270. Simultaneous MRI-Guided Passive Catheter Tracking and Intraarterial Gadolinium-Enhanced MR Angiography using Inversion-Recovery Prepared FLASH

Reed Omary[1], Jordin Green[1], Wayne Fang[1], Richard Tang[1], Yongzhong Li[1], J. Paul Finn[1], Debiao Li[1]
[1]Northwestern University Medical School, Chicago, Illinois, USA.

2271. Active Guidewire Tracking with Real-Time Undersampled Projection Reconstruction

Dana Ceceilia Peters[1], Alexander J Dick[1], Venkatesh Raman[1], Michael A. Guttman[1], J. Andrew Derbyshire[1], Robert Lederman[1]
[1]National Institutes of Health, Bethesda, Maryland, USA.

2272. Interactive Catheter Tracking: Automatic Slice Repositioning Controlled by the Catheter

S Zuehlsdorff[1], S Volz[1], S Thesen[2], H Meyer[2], W Nitz[2], W Semmler[1], M Bock[1]
[1]German Cancer Research Center, Heidelberg, Germany; [2]Siemens Medical Solutions, Erlangen, Germany.

2273. Three-Dimensional Visualization of Catheter using Stereoscopic MR Images

Etsuko Kumamoto[1], Kimitsugu Ono[1], Daiki Harada[1], Hisashi Abe[2], Atsuya Okada[2], Bilgin Keserci[3], Kagayaki Kuroda[4], Takamichi Murakami[2], Hironobu Nakamura[2], Susumu Fujii[1]
[1]Kobe University, Kobe, Japan; [2]Osaka University, Suita-City, Japan; [3]GE Yokogawa Medical Systems, Ltd., Tokyo, University; [4]Institute of Biomedical Research and Innovation, Kobe, Japan.

2274. *In Vitro* Determination of Optimal Injection Rates for Intraarterial Gadolinium-Enhanced MR Aortography

Wayne Fang[1], Jordin Green[1], Debiao Li[1], Syam Vasireddy[1], Paul Finn[1], Reed Omary[1]
[1]Northwestern University, Chicago, Illinois, USA.

Contrast Mechanisms and Relaxometry

2275. **B_0 Dependence of $T_{1\rho}$ Relaxation in Immobilized Albumine and *In Vivo***
Heidi Mäkelä[1], Matthew Silva[2], Olli Gröhn[1], Christopher Sotak[2], Risto Kauppinen[1]
[1]University of Kuopio, Kuopio, Finland; [2]Worcester Polytechnic Institute, Worcester, Massachusetts, USA.

2276. **A Method to Obtain $T_{1\rho}$-weighted MR Images with a Surface Coil**
Arijitt Borthakur[1], Sridhar Charagundla[1], Andrew James Wheaton[2], Ravinder Regatte[1], Sarma V.S. Akella[3], John Leigh[1], Ravinder Reddy[1]
[1]University of Pennsylvania, Philadelphia, Pennsylvania, USA.

2277. **^{19}F Off-resonance $T_{1\rho}$ Imaging with Back-projection Phase Encoding**
Limin Li[1], Huiming Zhang[2], Tongyu Ji[1], Alice M. Wyrwicz[1]
[1]ENH Research Institute, Evanston, Illinois, USA.

2278. **Quantitative Imaging of Magnetization Transfer using Selective Inversion Recovery**
Daniel F. Gochberg[1], John C. Gore[1]
[1]Yale University, New Haven, Connecticut, USA.

2279. **Optimized Application of MT in Central *K*-space**
Chen Lin[1], Matt Bernstein[1], John Huston[1]
[1]Mayo Clinic, Rochester, Minnesota, USA.

2280. **Magnetization Prepared Alternating Sign Subtraction (MPASS): Angiographic Applications**
Puneet Sharma[1], John Oshinski[1,2], Salil Patel[2], Roderic Pettigrew[1,2]
[1]Georgia Institute of Technology, Atlanta, Georgia, USA; [2]Emory University, Atlanta, Georgia, USA.

2281. **Proton Chemical Exchange Saturation Transfer using Off-Resonance RF Pulses**
Martin Lepage[1], Daniel F. Gochberg[1], John C. Gore[1]
[1]Yale University, New Haven, Connecticut, USA.

2282. **Obtaining MT Rates under Imperfect Saturation Conditions**
Stefan Ropele[1], Rudolf Stollberger[1], Franz Ebner[1], Franz Fazekas[1]
[1]Karl-Franzens University of Graz, Graz, Austria.

2283. **Improvement in MTR Histogram Multi-Centre Performance using a Receive-Only Head Coil: The PLUMB Plot**
Paul Stephen Tofts[1], Race Yeung[2], Gareth Barker[1]
[1]University College London, Institute of Neurology, London, England, UK; [2]IGE Medical Systems, Slough, England, UK.

2284. **T_2 Relaxation Measurements of Lactate in Abundant Lipid Environment by Selective Multiple Quantum Coherence Transfer (Sel-MQC)**
M. Muruganandham[1], J.A. Koutcher[1], Qiuhong He[1]
[1]Memorial Sloan-Kettering Cancer Center, New York, New York, USA.

2285. **Interplay between Single and Double Quantum T_2 and T_2^* in Double Quantum Experiments**
Fabrizio Fasano[1], Silvia Capuani[2,3,4], Iole Indovina[1], Gisela E. Hagberg[1], Bruno Maraviglia[2,3,4]
[1]Fondazione Santa Lucia, Rome, Italy; [2]Istituto Nazionale di Fisica Nucleare, Rome, Italy; [3]University La Sapienza, Rome, Italy; [4]E. Fermi Center, Rome, Italy.

2286. **First Results of Intermolecular Homonuclear Single-Quantum Coherences in Liquid NMR**
Zhong Chen[1,2], Bingwen Zheng[2,1], Jianhui Zhong[1]
[1]University of Rochester, Rochester, New York, USA; [2]Xiamen University, Xiamen, Fujian, China.

2287. Optimising the Signal to Noise Ratio in Double Quantum CRAZED Imaging

José Pedro Marques[1], Sarah Gutteridge[1], Richard Bowtell[1]
[1]University of Nottingham, Nottingham, England, UK.

2288. Optimal Phase Cycling Scheme for Signals from Intermolecular Zero-Quantum Coherences

Zhiwei Chen[1], Zhong Chen[1,2], Jianhui Zhong[2]
[1]Xiamen University, Xiamen, Fujian, China; [2]University of Rochester, Rochester, New York, USA.

2289. Multi-Echo Linear Combination for Myelin Water Imaging

Craig Jones[1], Qing-San Xiang[1], Kenneth Whittall[1], Alexander MacKay[1]
[1]University of British Columbia, Vancouver, British Columbia, Canada.

2290. Refocusing Rate Independence of T_2 in Grey and White Matter of the Occipital Lobe

Bojana Stefanovic[1], John G Sled[1], G Bruce Pike[1]
[1]Montréal Neurological Institute, Montréal, Québec, Canada.

2291. Improved T_2 Maps using Complex Wavelet-Packet Denoising

John C. Wood[1], Melanie Martin[2], Carol Readhead[2], Russell E. Jacobs[2]
[1]Childrens Hospital of Los Angeles, University of Southern California, Los Angeles, California, USA; [2]California Institute of Technology, Pasadena, California, USA.

2292. NMR Relaxation Times in Human Abdominal Tissues at 3.0 Tesla

Cedric MJ De Bazelaire[1], Guillaume D Duhamel[1], David C Alsop[1]
[1]Beth Israel Deaconess Medical Center, Harvard University, Boston, Massachusetts, USA.

2293. Comparison Methods for Mapping T_1 Relaxation for 8T Whole-Body MRI

Petra Schmalbrock[1], Tamer Selim Ibrahim[1], Chad Mitchell[1]
[1]Ohio State University, Columbus, Ohio, USA.

2294. Rapid Combined T_1 and T_2 Mapping using Gradient Recalled Acquistion in the Steady State

Sean Deoni[1], Brian K. Rutt[1], Terry M. Peters[1]
[1]The John P. Robarts Research Institute, University of Western Ontario, London, Ontario, Canada.

2295. On the Use of Bang Gel Polymer in the Commission of a Conical Collimator for the Treatment of Trigeminal Neuralgias with Radiosurgery

Miguel Martín-Landrove[1,3], Jesús E. Dávila[2], Rafael Martín[1]
[1]Universidad Central de Venezuela, Caracas, DF, Venezuela; [2]Instituto Médico La Floresta, Caracas, Venezuela; [3]Instituto de Resonancia Magnética La Florida, Caracas, Venezuela.

2296. Improved Performance of Gel-Dosimetry by Means of Modified T_2-Measurement Strategies

Achim Bankamp[1], Lothar Schad[1]
[1]German Cancer Research Center, Heidelberg, Germany.

2297. Method for Measuring the Magnetic Field Correlation Function for Water Protons in Biological Tissues

Jens H Jensen[1], Ramesh Chandra[1]
[1]New York University School of Medicine, New York, New York, USA.

2298. *In Vivo* Hematocrit Estimation?

Peter M Jakob[1], Tungte Wang[1], Mark A Griswold[1], Helge Hebestreit[1], Alexandra Hebestreit[1], Marco Elfeber[1], Georg Schultz[1], Dietbert Hahn[1]
[1]University of Würzburg, Würzburg, Germany.

2299. *In Vivo* Measurement of Exercising Skeletal Muscle Water using Bioimpedance and Nuclear Magnetic Resonance Relaxometry

Mohan Krishnan Raja[1], Gerald Moran[2], Graydon H. Raymer[1], Greg D Marsh[1], Miria Bartiolini[2], Kyle Wilson[2], Colin Webber[2], Robert Thompson[1]
[1]University of Western Ontario, London, Ontario, Canada; [2]McMaster University, Hamilton, Ontario, Canada.

2300. Artifact Reduction in $T_{1\rho}$-weighted Imaging with a Self-Compensating Spin-Locking Pulse

Sridhar Charagundla[1], Arijitt Borthakur[1], Ravinder Regatte[1], Sarma V.S. Akella[1], Andrew James Wheaton[1], John Leigh[1], Ravinder Reddy[1]
[1]University of Pennsylvania, Philadelphia, Pennsylvania, USA.

Motion Effects and Corrections

2301. Ringing Artifacts Due to Bulk Motion

Pippa Storey[1], Qun Chen[1], Pottumarthi Vara Prasad[1]
[1]Evanston Northwestern Healthcare, Northwestern University Medical School, Evanston, Illinois, USA.

2302. Theoretical Analysis of the Effect of fMRI Brain Activation on Motion Correction

Jeff J. Orchard[1], M. Stella Atkins[1]
[1]Simon Fraser University, Burnaby, British Columbia, Canada.

2303. Inflow Effects in TFE-Imaging with Application to Perfusion Measurements

Frank Peeters[1], Laurence Annet[1], Laurent Hermoye[1], Bernard Van Beers[1]
[1]Cliniques Universitaires St-Luc, Université de Louvain, Brussels, Belgium.

2304. Motion Correction with a Non-Linear Warping Solution for Activations in Temporal Region

Boklye Kim[1], Thomas L. Chenevert[2], Charles R. Meyer[1]
[1]University of Michigan Medical Center, Ann Arbor, Michigan, USA.

2305. In-Plane Translation Correction of Joint Images using Orthogonal *k*-Space Phase Difference

Edward Brian Welch[1], Joel P. Felmlee[1], Richard L. Ehman[1], Armando Manduca[1]
[1]Mayo Clinic, Rochester, Minnesota, USA.

2306. Motion Correction Method for the Elliptical Centric View Order

Matt Bernstein[1], Yunhong Shu[1], Andrew Elliott[1]
[1]Mayo Clinic, Rochester, Minnesota, USA.

2307. An Efficient Navigator Algorithm: Simultaneous Multiple Volume (SMV)

Vladimir N Kolomogorov[1], Yi Wang[1], Richard Watts[1], Martin R. Prince[1], Ramin Zabih[1]
[1]Cornell University, Weill Medical College, New York, New York, USA.

2308. Calculating a Reference from Navigators Placed over the Heart

Robert Schaffer[1], Craig H. Meyer[1], John M. Pauly[1], Bob Hu[1], Dwight G. Nishimura[1]
[1]Stanford University, Stanford, California, USA.

2309. Floating Navigator Echo for In-Plane Translational Motion Estimation

Yasser M. Kadah[1], Ayman A. Abaza[1], Abou-Bakr M. Youssef[1], Keith Heberlein[2], Xiaoping Hu[2]
[1]Cairo Univeristy, Giza, Egypt; [2]University of Minnesota, Minneapolis, Minnesota, USA.

2310. Improved Interleaved EPI Stability Via 'Internal' Navigators

Christopher John Wiggins[1], Michael Von Mengershausen[1]
[1]Max-Plank-Institut of Cognitive Neuroscience, Leipzig, Germany.

2311. The Importance of *k*-space Trajectory in Echo-Planar Myocardial Tagging

Daniel Kim[1], Michael Salerno[1], Frederick H. Epstein[1]
[1]University of Virginia, Charlottesville, Virginia, USA.

2312. Correction for Involuntary Motion Related Artifacts in Multi-Shot EPI using k-space Data Swapping

Hangyi Jiang[1], Xavier Golay[1], Peter C. Van Zijl[1], Susumu Mori[1]
[1]Johns Hopkins University, Baltimore, Maryland, USA.

Fields and Artifacts

2313. Artifacts Associated with Measuring Cardiac Electrical Currents in a Post-mortem Pig using Current Density Imaging

Tim P. DeMonte[1], Richard Yoon[1], Dawn Jorgenson[2], Michael Joy[1]
[1]University of Toronto, Toronto, Ontario, Canada; [3]Philips Medical Systems - Heartstream, Seattle, Washington, USA.

2314. Vector Analysis of Current Pathways in Post-mortem Pig Torso

Richard S. Yoon[1], Tim P. DeMonte[1], Karshi F. Hasanov[1], Dawn Jorgenson[2], Michael L.G. Joy[1]
[1]University of Toronto, Toronto, Ontario, Canada; [3]Philips Medical System - Heartstream, Seattle, Washington, USA.

2315. Resistivity Imaging using MR-CDI Technique: Phantom Experiment

Suk Hoon Oh[1], Hyun Soo Khang[1], Byung Il Lee[1], Soo Yeol Lee[1], Min Hyoung Cho[1], Eung Je Woo[1], Ohin Kwon[2], Jeong-Rock Yoon[3], Jin Keun Seo[4]
[1]Kyung Hee University, Kyungki, South Korea; [2]Konkuk University, Seoul, South Korea; [3]Korea Institute for Advanced Study, Seoul, South Korea; [4]Yonsei University, Seoul, South Korea.

2316. RF Inhomogeneity Correction: Validity of the Smooth-Bias Approximation

Lars G. Hanson[1], Tim Dyrby[2]
[1]Copenhagen University Hospital, Hvidovre, Denmark; [2]Technical University of Denmark, Lyngby, Denmark.

2317. Image Distortion Correction in EPI: Comparison of Field Mapping with PSF Mapping

Huairen Zeng[1], R. Todd Constable[1]
[1]Yale University School of Medicine, New Haven, Connecticut, USA.

2318. Correction of Off-Resonance Related Distortion with Asymmetric Spin-Echo EPI

Jr-Yuan Chiou[1], Orhan Nalcioglu[1]
[1]University of California Irvine, Irvine, California, USA.

2319. A Method of Generalised Projections (MGP) Phase Correction Algorithm for Interleaved EPI

Kuan Lee[1], David Barber[2], Martyn Paley[1], Iain Wilkinson[1], Nikos Papadakis[1], Paul Griffiths[1]
[1]University of Sheffield, Sheffield, England, UK; [2]Royal Hallamshire Hospital, Sheffield, England, UK.

2320. Robust Phase Unwrapping in the Plane

Sarah Patch[1], Tejaswini Shubhachint[1]
[1]G. E. Medical Systems, Milwaukee, Wisconsin, USA.

2321. Systematic Diagnosis of Phase Problems using a FSE Sequence

David Zhu[1]
[1]G. E. Medical Systems, Milwaukee, Wisconsin, USA.

2322. Correction of Magnetic Field Drift in Prepolarized MRI

Nathaniel Matter[1], Blaine Chronik[1], Steven Conolly[1], Albert Macovski[1], Greig Scott[1]
[1]Stanford University, Stanford, California, USA.

2323. Three-Dimensional Numerical Simulations of Susceptibility-Induced Magnetic Field Inhomogeneities in the Human Head at 8 Tesla

Trong-Kha Truong[1], Bradley D. Clymer[1], Donald W. Chakeres[1], Petra Schmalbrock[1]
[1]Ohio State University, Columbus, Ohio, USA.

2324. Simulation of Susceptibility Artifacts to Discriminate between Different Origins of Focal Hypo-intensities in MR Images

Jan-Henry Seppenwoolde[1], Chris Bakker[1], Max Viergever[1]
[1]University Medical Center Utrecht, Utrecht, Netherlands.

2325. Perturbation Calculation of B_0 Field for Non-Conducting Materials

Mark Jenkinson[1], James Lawrence Wilson[1], Peter Jezzard[1]
[1]University of Oxford, Oxford, England, UK.

2326. Magnetic Field Mapping in Real Time with a Single RF Pulse

Vinai Roopchansingh[1], Robert W. Cox[2], Andrzej Jesmanowicz[1], James S. Hyde[1]
[1]Medical College of Wisconsin, Milwaukee, Wisconsin, USA; [2]National Institute of Mental Health, Bethesda, Maryland, USA.

2327. A Simultaneous Estimation of Field Inhomogeneity and R_2* Maps using Extended Rosette Acquisition

Sangwoo Lee[1], Jeffrey A. Fessler[1], Douglas C. Noll[1]
[1]University of Michigan, Ann Arbor, Michigan, USA.

2328. Correction of Probe Induced Distortion of Image and Spectroscopic Information for Accurate Prostate Brachytherapy

Steven R Roys[1], Katrina Read[2], Keyanoosh Hosseinzadeh[1], Rao P Gullapalli[1]
[1]University of Maryland at Baltimore, Baltimore, Maryland, USA.

2329. Image-Guided Surgery Clinical Validation of Phantom-Based 3D MR Distortion Correction

David Wikler[1], Marcel Breeuwer[2], Marc Levivier[1], Philippe David[1], Thierry Metens[1]
[1]Université Libre de Bruxelles - Hôpital Erasme, Brussels, Belgium; [2]Philips Medical Systems, Best, Netherlands.

2330. Correction of Physiologically Induced Global Off-Resonance Effects in Dynamic Echo-Planar and Spiral Functional Imaging

Josef Pfeuffer[1], Pierre-François Van De Moortele[1], Kamil Ugurbil[1], Xiaoping Hu[1], Gary H. Glover[2]
[1]University of Minnesota, Minneapolis, Minnesota, USA; [2]Stanford University School of Medicine, Stanford, California, USA.

2331. Correction of Geometric Distortions in Echo-Planar MR Images via Image Registration and Morphing Techniques

Laura Traynor[1], Rob MacLeod[1]
[1]University of Utah, Salt Lake City, Utah, USA.

Novel Pulse Sequence Methods

2332. Three Dimensional *K*-Space Trajectory Design using Genetic Algorithms

Sebastian Sabat[1], Pablo Irarrazaval[1]
[1]Pontificia Universidad Católica de Chile, Santiago, Chile.

2333. Simple Analytic Variable-Density Spiral Design

Dong-Hyun Kim[1], Elfar Adalsteinsson[1], Daniel Mark Spielman[1]
[1]Stanford University, Stanford, California, USA.

2334. The Use of Measured *K*-Space Trajectory for Reconstruction of Radial MRI Data

Brian M. Dale[1], Jeffrey L. Duerk[1]
[1]Case Western Reserve University, University Hospitals of Cleveland, Cleveland, Ohio, USA.

2335. Whole Body Moving Table Imaging

Yudong Zhu[1], Charles Dumoulin[1]
[1]G. E. Corporate R & D Center, Niskayuna, New York, USA.

2336. Whole-Body Imaging with a Continuously Moving Patient Table

Jean H Brittain[1], David Gurr[1], Ann Shimakawa[1], Jason Polzin[1], Robert J. Herfkens[2], John M. Pauly[2]
[1]G. E. Medical Systems, Milwaukee, Wisconsin, USA; [5]Stanford University, Stanford, California, USA.

2337. Array Processing for Suppression of Streaking Artifacts in Radial Scanned Images

Maria I. Altbach[1], David O. Walsh[2]
[1]University of Arizona, Tucson, Arizona, USA; [2]Vista Clara, Mukilteo, Washington, USA.

2338. An Improved Multi-Echo Method for MRI with Imperfect Refocusing Pulses

Peter M. Joseph[1], Sergey Magnitsky[1]
[1]University of Pennsylvania, Philadelphia, Pennsylvania, USA.

2339. Two-Dimensional Spatially Selective RF Excitation Pulses in Echo-Planar Imaging

Susanne Rieseberg[1], Jens Frahm[1], Jürgen Finsterbusch[1]
[1]Biomedizinische NMR Forschungs GmbH, Göttingen, Germany.

2340. Adiabatic Spin Echo Pulses for Prepolarized MRI

Steven Conolly[1], Tina Pavlin[2], Blaine Chronik[1], Albert Macovski[1], Greig Scott[1]
[1]Stanford University, Stanford, California, USA; [2]California Institute of Technology, Pasadena, California, USA.

2341. A Fat Suppression Technique using Alternate TE In Interleaved Reversed Spiral Imaging

Hisamoto Moriguchi[1], Chris Flask[1], Jonathan S. Lewin[1], Jeffrey L. Duerk[1]
[1]Case Western Reserve University and University Hospitals of Cleveland, Cleveland, Ohio, USA.

2342. Keyhole Dixon Method For Faster Fat Suppression

Chris Flask[1], Kyle Salem[1], Jonathan S. Lewin[1], Jeffrey L. Duerk[1]
[1]University Hospitals of Cleveland, Case Western Reserve University, Cleveland, Ohio, USA.

2343. Combined Data Acquisition of Multi-Contrast Images

Ralf Mekle[1], Ed Xuekui Wu[1]
[1]Columbia University, New York, New York, USA.

2344. Applications of Slow Recovery FSE for Attenuating CSF Signal

Akihiro Ishikawa[1], Kazuhiro Takeo[1], Satoru Kohno[1], Koji Shimizu[1], Masahiro Umeda[2], Shoji Naruse[3]
[1]Shimadzu Corporation, Kyoto, Japan; [2]Meiji University of Oriental Medicine, Kyoto, Japan; [3]Kyoto Prefectural University of Medicine, Kyoto, Japan.

2345. High-Resolution, Low-SAR T_2 Imaging at High Magnetic Fields

Edward J. Auerbach[1], Keith Heberlein[1], Xiaoping Hu[1]
[1]University of Minnesota, Minneapolis, Minnesota, USA.

2346. The Introduction of Slice Gaps in to 3DFT Sequences for 50% or 75% Reduction in Acquisition Time

Jonathan C. Sharp[1], Peter Latta[1]
[1]National Research Council of Canada, Winnipeg, Manitoba, Canada.

2347. Pre-Polarised MR using a Trans-Cranial Magnetic Stimulator

Martyn Paley[1], Tony Barker[1], Jim Wild[1], Ian Young[2], Paul D Griffiths[1]
[1]University of Sheffield, Royal Hallamshire Hospital, Sheffield, England, UK; [2]Hammersmith Hospital, London, England, UK.

2348. Multipoint Mapping for Imaging of Semi-Solid Materials

Maria Fernández-Seara[1], Suzanne L Wehrli[2], Felix Wehrli[1]
[1]University of Pennsylvania, Philadelphia, Pennsylvania, USA; [2]Children Hospital, Philadelphia, Pennsylvania, USA.

2349. Artifacts in Multiple-Slice Echo-Dephasing Outer Volume Suppression for Spectroscopic Imaging

Archie Chu[1], Jeffry Alger[2], Gregory J. Moore[1], Stefan Posse[1]
[1]Wayne State University, Detroit, Michigan, USA; [2]University of California Los Angeles, Los Angeles, California, USA.

2350. A Deconvolution Algorithm for EPR Imaging Based on Optimal Cutoff Frequency Estimate

Yuanmu Deng[1], Guanglong He[1], Periannan Kuppusamy[1], Jay L. Zweier[1]
[1]Johns Hopkins University School of Medicine, Baltimore, Maryland, USA.

Rapid Imaging

2351. A SAR-reduced Steady State Free Precessing (SSFP) Acquisition

Tobias Schaeffter[1], Steffen Weiss[1], Peter Börnert[1]
[1]Philips Research Hamburg, Hamburg, Germany.

2352. Intervolume Imaging with Missing Pulse Steady State Free Precession (MP-SSFP)

Ken-Pin Hwang[1], Jonathan S. Lewin[1], Jeffrey L. Duerk[1]
[1]Case Western Reserve University and University Hospitals of Cleveland, Cleveland, Ohio, USA.

2353. Steady State Free Precession (SSFP) Imaging with Myocardial Tagging: Tagging Contrast and Tag Persistence

JJM Zwanenburg[1], JT Marcus[1], JPA Kuijer[1], AC Van Rossum[1], RM Heethaar[1]
[1]VU University Medical Center, Amsterdam, Netherlands.

2354. Analysis of Gradient Refocused Echoes in Missing Pulse Steady State Free Precession (MP-SSFP)

Ken-Pin Hwang[1], Jonathan S. Lewin[1], Jeffrey L. Duerk[1]
[1]Case Western Reserve University and University Hospitals of Cleveland, Cleveland, Ohio, USA.

2355. Three-Dimensional FIESTA-ET

Glenn Slavin[1], Dan Rettmann[1]
[1]GE Medical Systems, Baltimore, Maryland, USA.

2356. Multiecho Sequences with Variable Refocusing Flip Angles: Opimization of Signal Behavior using Smooth Transitions between Pseudo Steady States (TRAPS)

Jürgen Hennig[1], Thomas Kluge[2], Klaus Scheffler[1]
[1]University of Freiburg, Freiburg, Germany; [2]Siemens Medical, Erlangen, Germany.

2357. An Analytical Solution for the SSFP-Signal in MR Imaging

Wolfgang Hänicke[1], Horst U. Vogel[2]
[1]Max-Planck-Institut für biophysikalische Chemie, Göttingen, Germany; [2]Max-Planck-Institut für Strömungsforschung, Göttingen, Germany.

2358. SSFP FLAIR Imaging: Comparison with FSE FLAIR in Normal Brain

Daniel Thomas Stucker[1], Neal Bangerter[1], Dwight G. Nishimura[1], Barton Lane[1], Garry E. Gold[1,2]
[1]Stanford University, Stanford, California, USA; [2]Palo VA Health Care System, Palo Alto, California, USA.

2359. Gromit: A SSFP Imaging Sequence Employing Hardware Optimized Gradients and Just-in-Time Waveform Synthesis

J. Andrew Derbyshire[1], Elliot McVeigh[1]
[1]National Institutes of Health, Bethesda, Maryland, USA.

2360. Rapid Three-Dimensional Imaging with the Hourglass Trajectory

Daniel Thedens[1]
[1]University of Iowa, Iowa City, Iowa, USA.

2361. Time-Optimal Control of Gradients

Brian M. Dale[1], Jeffrey L. Duerk[1]
[1]Case Western Reserve University and University Hospitals of Cleveland, Cleveland, Ohio, USA.

2362. High Resolution Carr-Purcell MR Imaging with Spiral Readout

Shalom Michaeli[1], Josef Pfeuffer[1,2], Kamil Ugurbil[1], Michael Garwood[1]
[1]University of Minnesota, Minneapoli, Minnesota, USA; [2]Max-Planck-Institute for Biological Cybernetics, Tübingen, Germany

2363. Minimum Redundancy Non-Uniform Sampling in MRI using Statistical Criteria

Nitin Aggarwal[1], Yoram Bresler[1]
[1]University of Illinois at Urbana-Champaign, Urbana, Illinois, USA.

2364. The Fastest Circular K-Space Trajectories

Oliver Heid[1]
[1]Siemens Medical Solutions, Erlangen, Germany.

2365. Dynamic Partial Fourier Spin-Warp Imaging with High-Resolution Phase Correction

Nan-Kuei Chen[1], Charles Guttmann[1], Lawrence P. Panych[1]
[1]Harvard Medical School, Brigham & Women's Hospital, Boston, Massachusetts, USA.

2366. Dynamic Magnetic Resonance Imaging Based on Optimal Sampling and Time-varying Harmonic Model

Qi Zhao[1], Nitin Aggarwal[1], Yoram Bresler[1]
[1]University of Illinois at Urbana-Champaign, Urbana, Illinois, USA.

2367. Improving the Temporal Resolution of 3D Time Resolved MRA with Elliptic Centric View Ordering - A Partial Fourier Approach

Yong Zhou[1]
[1]G. E. Medical Systems, Milwaukee, Wisconsin, USA.

2368. High Spatial-Temporal Resolution EPI with Partial Odd- and Even-Fourier Sampling

Nan-Kuei Chen[1], Charles Guttmann[1], Lawrence P. Panych[1]
[1]Harvard Medical School, Brigham & Women's Hospital, Boston, Massachusetts, USA.

2369. Prior-Information-Enhanced Dynamic Imaging using Single or Multiple Coils with *k-t* BLAST and *k-t* SENSE

Jeffrey Tsao[1], Klaas Pruessmann[1], Peter Boesiger[1]
[1]ETH Zurich, Zurich, Switzerland.

2370. Rapid Multi-Slice Renal Perfusion MR Imaging with Simultaneous Angiographic Screening

Glenn Slavin[1], Sandeep Gupta[1], Peter Choyke[2], Thomas Foo[1]
[1]GE Medical Systems, Baltimore, Maryland, USA; [2]National Institutes of Health, Bethesda, Maryland, USA.

2371. Echo-Planar Imaging of the Rodent Brain at 11.7T with High Spatial Resolution

Afonso Silva[1], Shella Dawn Keilholz[1], Alan Koretsky[1]
[1]National Institutes of Health, Bethesda, Maryland, USA.

2372. Reference Scan Navigator-Aided High Resolution Half *K*-Space Interleaved EPI for fMRI at 3T

Hanbing Lu[1], Andrzej Jesmanowicz[1], Yousef Mazaheri[1], James Hyde[1]
[1]Medical College of Wisconsin, Milwaukee, Wisconsin, USA.

2373. Dual Contrast EPI for More Accurate fMRI Analysis

Kwan-Jin Jung[1]
[1]Korea Advanced Institute of Science & Technology, Daejeon, South Korea.

2374. Scan Efficacy and Contrast Preservation: A Comparison Study of Different T_2W 3D Fast Spin-Echo Acquisitions

Kecheng Liu[1], Tom Cull[1]
[1]Philips Medical Systems, Cleveland, Ohio, USA.

2375. Inner-Volume Single-Shot STEAM MRI Based on 2DRF Excitation

Jürgen Finsterbusch[1], Jens Frahm[1]
[1]Biomedizinische NMR Forschungs GmbH, Göttingen, Germany.

2376. Recovery of Signal Acquired through UNFOLD with Slice Interleaving

Calvin D Lew[1], Frandics P. Chan[1], Marcus Alley[1], Norbert J. Pelc[1]
[1]Stanford University, Stanford, California, USA.

2377. Improved Dynamic Image Consistency with k-Space Interpolation in Time (k-SPINIT)

Andrew L. Alexander[1], Yijing Wu[2], Ed V.R. Di Bella[2]
[1]University of Wisconsin, Madison, Wisconsin, USA; [2]University of Utah, Salt Lake City, Utah, USA.

2378. A Time-Warped Spectral Model for Minimum Redundancy Sampling in Cardiac Imaging

Nitin Aggarwal[1], Qi Zhao[1], Yoram Bresler[1]
[1]University of Illinois at Urbana-Champaign, Urbana, Illinois, USA.

2379. 3D Non-Fourier Dynamic Adaptive MRI via Near-Optimal Spatial Encoding: Towards Real-Time Imaging

Dimitrios Mitsouras[1], Alan S. Edelman[1], Lawrence P. Panych[2], Ferenc A. Jolesz[2], Gary P. Zientara[2]
[1]Massachusetts Institute of Technology, Cambridge, Massachusetts, USA; [2]Harvard University, Brigham & Women's Hospital, Boston, Massachusetts, USA.

2380. Doubly Adaptive Dynamic MRI Sequence Acquisition - Overview and Implementation

William Scott Hoge[1], Eric L Miller[2], Dana H. Brooks[2], Hanoch Lev-Ari[2], Lawrence P. Panych[1]
[1]Harvard University, Brigham & Women's Hospital, Boston, Massachusetts, USA; [2]Northeastern University, Boston, Massachusetts, USA.

2381. TRAIL (Two Reduced Acquisitions InterLeaved): A New Method to Reduce Image Readout Times by Half

Andrew Nicholas Priest[1], David Carmichael[1], Roger John Ordidge[1]
[1]UCL Hospitals NHS Trust and University College London, London, England, UK.

2382. Split-Displaced U-FLARE Imaging for Single-Shot MRI with 2D or 3D Spatial Resolution

Wolfgang Dreher[1], Dieter Leibfritz[1]
[1]Universität Bremen, Bremen, Germany.

2383. Reduction of Magnetization Transfer Effects in Multi-Slice HASTE Imaging by Varying Slice Excitation Ordering

Randolph Pawluk[1], April Cooney[2], Brian Chomay[2]
[1]University of Alberta, Edmonton, Alberta, Canada; [2]Meadowlark MRI/CT, Edmonton, Alberta, Canada.

2384. TRIM: TR-independent Multi-Slice Imaging

Hans-Peter Fautz[1], Klaus Scheffler[1], Jürgen Hennig[1]
[1]University of Freiburg, Freiburg, Germany.

BASIC SCIENCE FOCUS SESSION (WITH POSTERS)
Parallel MRI: SNR Limits and New Reconstructions

2385. Simulation of SNR Limit for SENSE Related Reconstruction Techniques

Arne Reykowski[1], Wilfried Schnell[1], Jianmin Wang[1]
[1]Siemens Medical Solutions, Erlangen, Germany.

2386. A Brute-Force Estimation of the SNR Limits of Sensitivity Encoding in a Cylindrical Geometry

Mark Griswold[1], Titus Lanz[1], Axel Haase[1], Peter Jakob[1]
[1]Universität Würzburg, Würzburg, Germany.

2387. Fundamental Physical Constraints on the Performance of Parallel Magnetic Resonance Imaging

Michael Ohliger[1], Ernest Yeh[1], Charles McKenzie[3], Daniel Sodickson[1,2]
[1]Harvard-MIT Division of Health Sciences and Technology, Boston, Massachusetts, USA; [2]Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, Massachusetts, USA.

2388. Making Better SENSE: Wavelet Denoising, Tikhonov Regularization, and Total Least Squares

Zhi-Pei Liang[1], Roland Bammer[2], Jim Ji[1], Norbert J. Pelc[2], Gary H. Glover[2]
[1]University of Illinois at Urbana-Champaign, Urbana, Illinois, USA; [2]Stanford University School of Medicine, Stanford, California, USA.

2389. Reconstruction of Sensitivity Encoded Images using Regularization and Discrete Time Wavelet Transform Estimates of the Coil Maps

Fa-Hsuan Lin[1,2], Kenneth Kwong[2], Ying-Jui Chen[3], John Belliveau[2], Lawrence Wald[2]
[1]Harvard-MIT Division of Health Sciences Technology, Boston, Massachusetts, USA; [2]Harvard University, Massachusetts General Hospital, Charlestown, Massachusetts, USA; [3]Massachusetts Institute of Technology, Cambridge, Massachusetts, USA.

2390. Self-Calibrated Spiral Parallel Imaging

Ernest Yeh[1,2], Matthias Stuber[1,3], Charles McKenzie[1], Michael Ohliger[1,2], Aaron Grant[1], Jacob Willig[1], Daniel Sodickson[1,2]
[1]Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, Massachusetts, USA; [2]Harvard-MIT Division of Health Sciences and Technology, Boston, Massachusetts, USA; [3]Philips Medical Systems, Boston, Massachusetts, USA.

2391. Sparse Matrices Aid Efficient Reconstruction in Generalized Parallel Imaging

Mark Bydder[1], David J. Larkman[1], Joseph V. Hajnal[1]
[1]Hammersmith Hospital, London, England, UK.

2392. Using Reference Lines to Improve the SNR of mSENSE

Jianmin Wang[1], Thomas Kluge[1], Mathias Nittka[1], Vladimir Jellus[1], Bernd Kühn[1], Berthold Kiefer[1]
[1]Siemens Medical Solutions, Erlangen, Germany.

2393. Recursive SENSE for Reducing Artifacts in Sensitivity-Encoded Spectroscopic Imaging

Xiaoli Zhao[1,2], Zhu Li[1], Shi-Jiang Li[1]
[1]Medical College of Wisconsin, Milwaukee, Wisconsin, USA; [2]GE Medical Systems, Milwaukee, Wisconsin, USA.

2394. Motion Artifacts Correction using SENSE

Yijing Wu[1], Dennis Lee Parker[1]
[1]University of Utah, Salt Lake City, Utah, USA.

2395. SMASH Navigators

David Atkinson[1], Mark Bydder[2], Joseph V. Hajnal[2], Derek Hill[1], David Larkman[2]
[1]Guy's Hospital, London, London, England, UK; [2]Hammersmith Hospital, London, England, UK.

2396. Underdetermined SENSE using *a-priori* Knowledge

Ulrich Katscher[1], Dirk Manke[2]
[1]Philips Research Laboratories, Hamburg, Germany; [2]Philips Research Laboratories, Hamburg, Germany.

Parallel Imaging

2397. Fast Imaging using Variable-Density Spiral Trajectories with Multi-Coil Receivers

Jin Hyung Lee[1], Dwight G. Nishimura[1]
[1]Stanford University, Stanford, California, USA.

2398. Interleaved Pulsed MAMBA : A New Method for Parallel Slice and Line Scan Imaging

Martyn Paley[1], Kuan Lee[1], Jim Wild[1], Elspeth Whitby[1], Paul Griffiths[1]
[1]University of Sheffield, Sheffield, England, UK.

2399. Parallel Imaging with Augmented Radius in *k*-Space (PARS)

Ernest Yeh[1,2], Charles McKenzie[1], Daniel Lim[1], Michael Ohliger[1,2], Aaron Grant[1], Jacob Willig[1], Neil Rofsky[1], Daniel Sodickson[1,2]
[1]Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, Massachusetts, USA; [2]Harvard-MIR Division of Health Sciences and Technology, Boston, Massachusetts, USA.

2400. Reduced Matrix Size for Generalized Parallel Imaging

Mark Bydder[1], David J. Larkman[1], Joseph V. Hajnal[1]
[1]Imperial College, Hammersmith Hospital, London, England, UK.

2401. Parallel Imaging of the Heart using SPACE RIP

Walid Elias Kyriakos[1,2], Lei Zhao[2], Ferenc A. Jolesz[2]
[1]Children's Hospital, Harvard Medical School, Boston, Massachusetts, USA; [2]Brigham & Women's Hospital, Harvard Medical School, Boston, Massachusetts, USA.

2402. 3D Parallel Imaging using SPACE RIP

Walid Kyriakos[1,2], Lawrence P. Panych[2], Ferenc Robert Mulkern[1,2], A. Jolesz[2]
[1]Children's Hospital, Harvard Medical School, Boston, Massachusetts, USA; [2]Brigham & Women's Hospital, Harvard Medical School, Boston, Massachusetts, USA.

2403. Fast Parallel MR Imaging with Interleaved Water/Fat Acquisition

Wing-Chi Edmund Kwok[1], Zhigang You[1], Saara M Totterman[1], Jianhui Zhong[1]
[1]University of Rochester, Rochester, New York, USA.

2404. Partially Parallel Imaging of Phase Sensitive Data: Increased Temporal Resolution for MR Thermography

James Andrew Bankson[1], R Jason Stafford[1], John D Hazle[1]
[1]The University of Texas M.D. Anderson Cancer Center, Houston, Texas, USA.

2405. 8-Channel Diffusion Tensor MRI with Sensitivity Encoding

Bryan J Mock[1], Lisa C Angelos[1], Kevin F King[1]
[1]G. E. Medical Systems, Milwaukee, Wisconsin, USA.

2406. Variable Density Single Shot Parallel Imaging in the Presence of T_2 Decay

Jacob Willig-Onwuachi[1], Charles McKenzie[1], Aaron Grant[1], Michael Ohliger[1,2], Ernest Yeh[1,2], Daniel Sodickson[1,2]
[1]Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA, USA; [2]Harvard-MIT Division of Health Sciences and Technology, Boston, Massachusetts, USA.

2407. Error Point Spread Functions for Parallel Imaging

Aaron K Grant[1], Charles McKenzie[1], Michael Ohliger[1,2], Jacob Willig[1], Ernest Yeh[1,2], Daniel Sodickson[1,2]
[1]Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, Massachusetts, USA; [2]Harvard-MIT Division of Health Sciences and Technology, Boston, Massachusetts, USA.

2408. Method for Quality Improvement of Images Reconstructed from Sensitivity-Encoded Data

Alexei A. Samsonov[1], Eugene G. Kholmovski[1]
[1]University of Utah,, Salt Lake City, Utah, USA.

2409. Time-Resolved Contrast-Enhanced MR Angiography by Combining SENSE with Dynamic Sampling Strategies

Yijing Wu[1], Craig Goodrich[2], Dennis Lee Parker[1]
[1]University of Utah, Salt Lake City, Utah, USA; [2]LDS Hospital, Salt Lake City, Utah, USA.

2410. The Use of an Adaptive Reconstruction for Array Coil Sensitivity Mapping and Intensity Normalization

Mark Griswold[1], David Walsh[2], Robin Heidemann[1], Axel Haase[1], Peter Jakob[1]
[1]Universitaet Wuerzburg, Wuerzburg, Germany; [2]Vista Clara, Inc, Mukilteo, Washington, USA.

2411. Iterative SENSE Reconstruction for Reduced Motion Artifacts

Kevin F King[1], Lisa Angelos[1], Lloyd Estkowski[1]
[1]G. E. Medical Systems, Milwaukee, Wisconsin, USA.

2412. Field-Of-View Restrictions for Artifact-Free SENSE Imaging

James Goldfarb[1], Meir Shinnar[1]
[1]University of Medicine and Dentistry of New Jersey, New Brunswick, New Jersey, USA.

2413. SNR Comparison between Parallel Acquisition Techniques GRAPPA and mSENSE

Stefan Maderwald[1], Jörg Barkhausen[2], Harald H. Quick[2], Anja Liffers[1], Jianmin Wang[3], Mathias Nittka[3], Mark E. Ladd[2]
[1]Ruhr-University Bochum, Bochum, Germany; [2]University Hospital Essen, Essen, Germany; [3]Siemens Medical Solutions, Erlangen, Germany.

2414. General Considerations about the CNR in Diffusion Weighted EPI using Partially Parallel Acquisition Methods

Robin Heidemann[1], Andrew Benfield[1], Mark Griswold[1], Axel Haase[1], Peter Jakob[1]
[1]Universität Würzburg, Würzburg, Germany.

Image Reconstruction: Dynamic Imaging

2415. Hierarchical Sliding Window Reconstruction

Holger Eggers[1], Tobias Schaeffter[1], Peter Boesiger[2]
[1]Philips Research Hamburg, Hamburg, Germany; [2]University and ETH Zurich, Zurich, Switzerland.

2416. 3D Rapid Dynamic Imaging using Radial Scanning

Ralf Lethmate[1], Jochen Van Osch[2], Frank Wajer[2], Dirk Van Ormondt[2], Danielle Graveron-Demilly[1]
[1]Université Claude Bernard Lyon 1, Villeurbanne, France; [2]Delft University of Technology, Delft, Netherlands.

2417. Combined 3DFT and Projection Reconstruction Acquisition for 3D MRI

Ananth Jayaseelan Madhuranthakam[1], Stephen Riederer[1], David Kruger[1]
[1]Mayo Clinic, Rochester, Minnesota, USA.

2418. Fast Algorithm for GS Model-Based Image Reconstruction in Data-Sharing Fourier Imaging

Zhi-Pei Liang[1], Bruno Madore[2], Gary H. Glover[3], Norbert J. Pelc[3]
[1]University of Illinois at Urbana-Champaign, Urbana, Illinois, USA; [2]Brigham and Women's Hospital, Harvard Medical School, Boston, Massachusetts, USA; [3]Stanford University School of Medicine, Stanford, California, USA.

2419. A 2-D Echo-Planar RIGR Approach to MRI of Cerebral Blood Flow at High Spatial and Temporal Resolution

Afonso Silva[1], Shella Dawn Keilholz[1], A Tableman[2], F E Boada[3], Alan Koretsky[1]
[1]National Institutes of Health, Bethesda, Maryland, USA; [2]Carnegie Mellon University, Pittsburgh, Pennsylvania, USA; [3]University of Pittsburgh, Pittsburgh, Pennsylvania, USA.

2420. New Image Reconstruction Method for 3D-TRICKS Based Contrast Enhanced Magnetic Resonance Angiography Measurements

Frank Wajer[1], Jochen Van Osch[1], Johan Van Den Brink[2], Miha Fuderer[2], Dirk Van Ormondt[1], Ron De Beer[1]
[1]Delft University of Technology, Delft, Netherlands; [2]Philips Medical Systems, Best, Netherlands.

Image Reconstruction: Non-Cartesian Trajectories

2421. Software-Based Fluoroscopic Gridding-Reconstruction using Only Standard MRI Hardware

Brian M. Dale[1], Jeffrey L. Duerk[1]
[1]Case Western Reserve University, University Hospitals of Cleveland, Cleveland, Ohio, USA.

2422. Accelerated Bayesian MR Image Reconstruction

Frank Wajer[1], Alain Coron[1], Ralf Lethmate[2], Jochen Van Osch[1], Loic Martinez[1], Danielle Graveron-Demilly[2], Dirk Van Ormondt[1]
[1]Delft University of Technology, Delft, Netherlands; [2]Université Claude Bernard Lyon 1, Villeurbanne, France.

2423. Gridding using Optimal Spatially Variant Kernel

Ahmed Samir Fahmy[1], Bassel S. Tawfik[2], Yasser M. Kadah[2]
[1]Johns Hopkins University, Baltimore, Maryland, USA; [2]Cairo Univeristy, Giza, Egypt.

2424. Using the Sigma Filter for Cleaning Off-Resonance Noise in SMART Acquired Data

Claudiu Valerian Schirda[1], Fernando E. Boada[1]
[1]University of Pittsburgh, Pittsburgh, Pennsylvania, USA.

2425. A New Model-Based Algebraic Solution to the Gridding Problem

Yasser M. Kadah[1], Shantanu Sarkar[2], Xiaoping Hu[1]
[1]Cairo Univeristy, Giza, Egypt; [2]University of Minnesota, Minneapolis, Minnesota, USA.

Image Reconstruction

2426. Towards a Practical Generalized Image Reconstruction Method for MRI

S. A.R. Kannengießer[1], T. G. Noll[1]
[1]Aachen University of Technology, Aachen, Germany.

2427. Contrast in Phase Images with 8 Tesla Whole Body Scanning

Amir Abduljalil[1], Petra Schmalbrock[1], Vera Novak[2], Donald Chakeres[1]
[1]Ohio State University, Columbus, Ohio, USA; [2]Harvard Medical School, Beth Israel Deaconess Medical Center, Boston, Massachusetts, USA.

2428. Gaussian Apodised Reference Phase Correction for EPI

Oliver Josephs[1]
[1]Institute of Neurology, London, England, UK.

2429. Improved Time Efficiency and Image Quality in Double Echo Black Blood Carotid MR Angiography

Eugene G. Kholmovski[1], Dennis Lee Parker[1]
[1]University of Utah, Salt Lake City, Utah, USA.

2430. Study of the SNR and Localization Properties of Chemical Shift Imaging k-space Acquisition Schemes

Yun Guo[1], Robert J Gropler[1], Nikolaos Tsekos[1]
[1]Washington University, St. Louis, Missouri, USA.

2431. 8-Channel Image Reconstruction with Independent Component Analysis

Frederick J. Frigo[1], Bryan Mock[1], James A. Heinen[2], Charles R. Giordano[1]
[1]GE Medical Systems, Milwaukee, Wisconsin, USA; [2]Marquette University, Milwaukee, Wisconsin, USA.

2432. High-Contrast, High-Resolution Imaging by Merging Multiple Slice Stacks: A Simulation Study of Image Reconstruction

Marijn Brummer[1], Timothée Bailloeul[1], Klaus Mewes[1]
[1]Emory University, Atlanta, Georgia, USA.

2433. Signal Reconstruction within a Non-Linear Magnetic Field

Mirko I. Hrovat[1], Samuel Patz[2]
[1]Mirtech, Inc., Brockton, Massachusetts, USA; [2]Harvard University, Brigham & Women's Hospital, Boston, Massachusetts, USA.

2434. Efficient Selection of *k*-Space Samples for Recovering Limited-Extent Images

Nic Blakeley[1], *Rick Millane*[1], *Peter Renaud*[1], *Philip Bones*[1]
[1]University of Canterbury, Christchurch, New Zealand.

2435. Optimal K-Space Averaging for Efficient Noise Reduction

Qing-San Xiang[1]
[1]University of British Columbia, Vancouver, British Columbia, Canada.

2436. Diffusion Tensor MR Imaging of Principal Directions with Known Eigenvalues: A Tensor Tomography versus Conventional MRI Approach

Vladimir Y Panin[1], *Gengsheng Zeng*[2], *Michel Defrise*[3], *Grant Theodore Gullberg*[2]
[1]CTI, Inc., Knoxville, Tennessee, USA; [2]University of Utah, Salt Lake City, Utah, USA; [3]Free University, Brussels, Belgium.

2437. Improving the Efficiency of Diffusion Tensor Microimaging with Prior-Information-Driven SLIM-BLAST Reconstruction

Jeffrey Tsao[1], *Andrew Webb*[2], *Vikas Gulani*[3]
[1]ETH Zurich, Zurich, Switzerland; [2]University of Illinois at Urbana-Champaign, Urbana, Illinois, USA; [3]University of Michigan, Ann Arbor, Michigan, USA.

2438. Confidence Interval Calculation for Nonlinear Reconstruction of Elastic Properties

Elijah E.W. Van Houten[1], *Keith D. Paulsen*[1], *Marvin M. Doyley*[1], *Francis E. Kennedy*[1], *John B. Weaver*[2]
[1]Dartmouth College, Hanover, New Hampshire, USA; [2]Dartmouth-Hitchcock Medical Center, Lebanon, New Hampshire, USA.

BASIC SCIENCE FOCUS SESSION (WITH POSTERS)
Image Processing: Other

2439. Comparison of ARGUS and MASS Software for the Analysis of Left Ventricular Function

Kerry Thompson[1], *Carolina Llobet-Arany*[1], *Maria Drangova*[2], *Gerald Wisenberg*[1,3], *Jane Sykes*[1], *R. Terry Thompson*[1,3]
[1]Lawson Health Research Institute, London, Ontario, Canada; [2]John P. Robarts Research Institute, London, Ontario, Canada; [3]St. Joseph's Health Care, London, Ontario, Canada.

2440. Automatic Myocardial Localization for Tagged MRI

Senol Isci[1], *Cengizhan Ozturk*[1]
[1]Bogazici University, Istanbul, Turkey.

2441. Nonlinear Registration of 3D Images using Patch Algorithm

Peter Zhilkin[1], *Murray Alexander*[1]
[1]National Research Council, Winnipeg, Manitoba, Canada.

2442. Removal of T_2 Relaxation Effects in MRI-Fricke-Infused Gel Dosimetry

Ying-Hui Wu[1], *Yi-Hsuan Kao*[1], *Wen Y. Chung*[2], *Wan Y. Guo*[2], *Woei-Chyn Chu*[1]
[1]Naitonal Yang-Ming University, Taipei, Taiwan, R.O.C.; [2]Veterans General Hospital Taipei, Taipei, Taiwan, R.O.C.

2443. Superiority of 3D Wavelet-Packet Denoising in MR Microscopy

Nilesh Ghugre[1], *John C. Wood*[2]
[1]University of Southern California, Los Angeles, California, USA; [2]Childrens Hospital of Los Angeles, University of Southern California School of Medicine, Los Angeles, California, USA.

2444. Pseudo-color Visualization of Dynamic Renal Perfusion in MRI

Ying Sun[1], *Dewen Yang*[1], *Qing Ye*[1], *Chien Ho*[1], *José M. F. Moura*[1]
[1]Carnegie Mellon University, Pittsburgh, Pennsylvania, USA.

2445. An Integrated Approach for Renal Perfusion Analysis

Sandeep N Gupta[1], Dan Rettmann[1], Glenn S Slavin[1]
[1]GE Medical Systems, Baltimore, Maryland, USA.

2446. Calibrated Magnetic Resonance Hydrometry (cMRH): Non-Invasive Quantification of the Bladder Volume

Johannes T. Heverhagen[1], Till Hartlieb[1], Dominik Boehm[2], Klaus J Klose[1]
[1]Philipps University, Marburg, Germany; [2]University of Bremen, Bremen, Germany.

2447. Noise Removal Filter for MRI Images Based on Sobel Edge Detection and Wavelet Analysis

Giuseppe Placidi[1], Marcello Alecci[1], Antonello Sotgiu[1]
[1]Università dell'Aquila, L'Aquila, Italy.

2448. ODIN - Object Oriented Development Interface for NMR

Thies Halvor Jochimsen[1], Michael Von Mengershausen[1]
[1]Max Planck Institute of Cognitive Neuroscience, Leipzig, Germany.

2449. The Stockwell Transform: A Potentially Powerful Processing Tool in MRI

Hongmei Zhu[1], Bradley Gordon Goodyear[1], Robert Allan Brown[1], Gregory Mayer[1], Alan G Law[1], M Louis Lauzon[1], J Ross Mitchell[1]
[1]University of Calgary and Seaman Family MR Research Centre, Calgary, Alberta, Canada.

2450. Non-Uniformity of TrueFISP Phase Images and its Correction

Shinichi Urayama[1], Leon Axel[2], Naoaki Yamada[1], Hiroshi Watabe[1], Hidehiro Iida[1]
[1]National Cardiovascular Center, Suita, Osaka, Japan; [2]New York University, New York, New York, USA.

Image Processing: Other

2451. Affine Registration: A Comparison of Several Methods

Peter Zhilkin[1], Murray Alexander[1]
[1]National Research Council Canada, Winnipeg, Manitoba, Canada.

2452. Improved Motion Correction using AIR Iteratively

Jeff J. Orchard[1], M. Stella Atkins[1]
[1]Simon Fraser University, Burnaby, British Columbia, Canada.

2453. Image Segmentation and Registration to Quantify Liver Volume Changes in Longitudinal Imaging of Rats

Nadeem Saeed[1], K. Kumar Changani[1], Paul D. Hockings[1], Howard Dennison[1], David Templeton[1]
[1]GlaxoSmithkline, Welwyn, England, UK.

2454. Magnetic Susceptibility Quantitation as a Boundary Value Problem

Lin Li[1], Zhiyue J Wang[2]
[1]University of Pennsylvania, Philadelphia, Pennsylvania, USA; [2]Texas Children's Hospital, Baylor College of Medicine, Houston, Texas, USA.

2455. An Image-Based Approach to Measure the Ferric Ion Diffusion Coefficient in MRI-Fricke Gel Dosimetry

Yin-Jiun Tseng[1], Woei-Chyn Chu[1], Sung-Cheng Huang[2]
[1]National Yang-Ming University, Taipei, Taiwan, R.O.C.; [2]UCLA School of Medicine, Los Angeles, California, USA.

2456. Rapid Analysis of Geometric Distortions using Harmonic Phase (HARP)

Richard Nicholas[1], Martin Graves[2]
[1]St. Mary's Hospital NHS Trust, Portsmouth, England, UK; [2]Addenbrooke's NHS Trust and University of Cambridge, Cambridge, Cambridge, England, UK.

2457. Automatic 3D Rigid Body Motion Correction of Head MRI Images

Armando Manduca[1], Yi Su[1], Clifford R. Jack[1], David S. Lake[1], Edward Brian Welch[1], Richard L. Ehman[1]
[1]Mayo Clinic, Rochester, Minnesota, USA.

2458. Novel Convergence Criteria for Robust Multi-Modality Image Registration

Bradley T. Wyman[1], Lydia Ng[1], Bobbi -F. Sparks[1], Vikram Chalana[1]
[1]Insightful Corporation, Seattle, Washington, USA.

2459. Performance of a Semi-Automated Segmentation Algorithm for Dynamic MR Renography

Yuri Boykov[1], Henry Rusinek[2], Bernard Sajous[2], Ravi Bansal[1], Vivian S Lee[2]
[1]Siemens Corporate Research, Princeton, New Jersey, USA; [2]New York University Medical Center, New York, New York, USA.

Image Processing: Cardiovascular

2460. Integrated Visualization of Physiologic Data in Cardiovascular Applications

Andres Carrillo[1], Graham A Wright[1], Jean Brittain[1], Krishna S. Nayak[2], Bob Hu[2]
[1]GE Medical Systems, Palo Alto, California, USA; [2]Stanford University, Stanford, California, USA.

2461. Visualization and Quantitative Analysis of the Left Ventricle Function using MRI

Myoung-Hee Kim[1], Jeong-Euy Park[2], Yeon-Hyeon Choe[2], Soo-Mi Choi[1], Yoo-Joo Choi[1], Soo-Kyung Chin[1], Min-Jung Kim[1]
[1]Ewha Womans University, Seoul, South Korea; [2]Sungkyunkwan University, Seoul, South Korea.

2462. An Automatic Approach to 3D Assessment of Myocardial Perfusion Starting from Contrast Enhanced MRI

Maria Filomena Santarelli[1], Vincenzo Positano[1], Alessandro Pingitore[1], Luigi Landini[2], Massimo Lombardi[1], Antonio Benassi[1]
[1]Institute of Clinical Physiology, Pisa, Italy; [2]Department of Information Engineering, Pisa, Italy.

2463. Automatic Calculation of Ejection Fraction using Dual Contrast Short-Axis Cardiac MR Images

Amol Pednekar[1], Ioannis A Kakadiaris[1], Raja Muthupillai[2], Scott D Flamm[3]
[1]University of Houston, Houston, Texas, USA; [2]Philips Medical Systems, Bothell, Washington, USA; [3]St. Luke's Episcopal Hospital, Houston, Texas, USA.

2464. A Robust Algorithm of Centerline for Heart Image Analysis

Baiyu Tang[1], Linda Ann Jelicks[1], David E. Gutstein[2]
[1]Albert Einstein College of Medicine, Yeshiva University, Brox, New York, USA; [2]Mount Sinai School of Medicine, New York, New York, USA.

2465. An Improved Method for Co-registration of *In-Vivo* MR Images with Corresponding *Ex-Vivo* Specimens

Aaron Stuart Blom[1], Eugene Gualtieri[1], James J. Pilla[1], Bao Xiaosong[1], Joseph Giammarco[1], Sina Moainie[1], T. Sloane Guy[1], Leon Axel[2]
[1]University of Pennsylvania, Philadelphia, Pennsylvania, USA; [2]New York University School of Medicine, New York, New York, USA.

2466. Interactive Visualization for Three-Dimensional Coronary Angiography using Live-Wire Vessel Path Segmentation

Daniel Thedens[1], Sardar Gautham[1]
[1]University of Iowa, Iowa City, Iowa, USA.

Image Processing: Brain

2467. Accuracy of MRI and Physical Sectioning for Estimating the Volume of Cerebral Hemisphere Compartments

Marta García-Fiñana[1,2], Luis M. Cruz-Orive[2], Clare Mackay[3], Bente Pakkenberg[4], Neil Roberts[1]
[1]University of Liverpool, Liverpool, England, UK; [2]University of Cantabria, Santander, Spain; [3]Warneford Hospital, University of Oxford, Oxford, England, UK; [4]Bartholin Institute, Copenhagen, Denmark.

2468. A Novel MR Brain Segmentation Technique using Dynamic Susceptibility Contrast

Bharat Biswal[1], Arvind Pathak[2]
[1]UMDNJ-New Jersey Medical School, Newark, New Jersey, USA; [2]Johns Hopkins School of Medicine, Baltimore, Maryland, USA.

2469. *In Vivo* Micro-Imaging of Primate Brain for Automatic 3D Segmentation and Rendering of White Matter and Gray Matter Surfaces

Arnaud Cachia[1,3,4], Laurent Besret[2], Jean-François Mangin[1,4], Fawzi Boumezbeur[1], Françoise Vaufrey[1], Isabelle Bloch[3,4], Gilles Bloch[1], Philippe Hantraye[1,2], Vincent LeBon[1]
[1]CEA-SHFJ, Orsay, France; [2]URA CEA-CNRS 2210, Orsay, France; [3]URA TSI/ENST-CNRS 820, Paris, France; [4]IFR 49, Paris, France.

2470. Post-Processing Analysis of Manganese Enhanced MRI (MEMRI) Tract Tracing Data in the Murine Olfactory System: Evidence of Multi-Synaptic Transport of Mn^{2+} Ion to Higher Order Structures

Robia G. Pautler[1], Alan Koretsky[2], Russell E. Jacobs[1]
[1]California Institute of Technology, Pasadena, California, USA; [2]National Institutes of Health, Bethesda, Maryland, USA.

2471. Semi-Automated Centerline Extraction and Analysis in Cerebral Angiography

John Roberts[1], Dennis Lee Parker[1], Janet Ogilvie[1]
[1]University of Utah, Salt Lake City, Utah, USA.

2472. Fast and Automatic Vessel Centerline Detection for MRA

Karl Krissian[1], Carl-Fredrik Westin[1], Ron Kikinis[1]
[1]Brigham and Women's Hospital, Harvard Medical School, Boston, Massachusetts, USA.

2473. Detection of MS Lesions in MRI Scans using Non-Parametric Image Subtraction

Paul Alan Bromiley[1], M. Pokric[1], N. A. Thacker[1], A. Jackson[1]
[1]University of Manchester, Manchester, England, UK.

2474. Building a Probabilistic Anatomical Brain Atlas for Multiple Sclerosis

Alexandre Guimond[1], Xingchang Wei[1], Charles Guttmann[1]
[1]Brigham and Women's Hospital, Harvard Medical School, Boston, Massachusetts, USA.

2475. Segmentation of Multiple Lesion Types in Multiple Sclerosis

Ying Wu[1], Simon Warfield[1], I Leng Tan[2], Dominik Meier[1], William Wells[1], Xingchang Wei[1], I. R. A Van Schijndel[2], Frederik Barkhof[2], Charles R.G Guttmann[1]
[1]Brigham and Women's Hospital, Harvard Medical School, Boston, Massachusetts, USA; [2]VU Medical Centre, Amsterdam, Netherlands.

2476. Magnetic Resonance Alzheimer´s Disease Images Segmentation using the *bubble wave* Algorithm

Harvey E Cline[1], Majied Alyassin[1], William E Lorensen[1], Siegwalt Ludke[1], Jeffrey A Kaye[2], Milar M Moore[2]
[1]G. E. Corporate R & D, Niskayuna, New York, USA; [2]Oregon Health Science University, Portland, Oregon, USA.

2477. Segmentation of Partial Volume Differences in Gliomas using Dynamic Contrast MRI

Donald J. Peck[1], David O. Hearshen[1], Hamid Soltanian-Zadeh[1], Charles Dodge[1], Lisa Scarpace[1], Tom Mikkelsen[1]
[1]Henry Ford Health System, Detroit, Michigan, USA.

2478. Spatial Statistical Analysis of MTr Images in Different Populations

Stephen Mark Smith[1], Nicola De Stefano[2]
[1]Oxford University, Oxford, England, UK; [2]University of Siena, Siena, Italy.

Image Registration: Brain

2479. Determining the Effect of Segmentation Accuracy on the Registration of Pre- and Post-Gadolinium MR Images

David Brennan[1], Barrie Condon[1], Donald Hadley[1]
[1]Southern General Hospital, Glasgow, Scotland, UK.

2480. Multi-Modal MR Image Registration using Mutual Information and Simulated Annealing

Jeong-Won Jeong[1], Tae-Seong Kim[1], Sungheon Kim[1], Manbir Singh[1]
[1]University of Southern California, Los Angeles, California, USA.

2481. Coregistration of EPI Image and Anatomical Image by Spatially-Variant Model-Based Spline

Kai-Hsiang Chuang[1], Hui-Ting Yang[1], Chung-Ming Chen[1], Jyh-Horng Chen[1]
[1]National Taiwan University, Taipei, Taiwan.

2482. Spatial Normalization of Apparent Diffusion Coefficient Map - Preliminary Experience using SPM99

Wen-Chau Wu[1,3], Ming-Ting Wu[2], Cheng-Yu Chen[3], Hsiao-Wen Chung[1,2]
[1]National Taiwan University, Taipei, Taiwan; [2]Veterans General Hospital, Kaohsiung, Taiwan; [3]Tri-Service General Hospital, Taipei, Taiwan.

2483. Information Theoretic Matching of Non-Scalar Images

Gustavo Kunde Rohde[1], Carlo Pierpaoli[1], Sinisa Pajevic[1], Peter Basser[1]
[1]National Institutes of Health, Bethesda, Maryland, USA.

2484. Segmentation and Registration of Transgenic Mice Brains and Ventricles in a Longitudinal Imaging Study

Nadeem Saeed[1], Alan White[1], Howard Dennison[1], Peter Maycox[2], David Reid[1], K. Kumar Changani[1]
[1]GlaxoSmithKline, Welwyn, England, UK.

2485. Assessment of 3-Tesla Parametric T_2 Reproducibility after Automated Image Registration in Longitudinal Studies of Brain Tumors

Andrew Frew[1], Paul Thompson[1], Timothy Cloughesy[1], Arthur Toga[1], Jeffry Alger[1]
[1]University of California Los Angeles, Los Angeles, California, USA.

2486. Simultaneous Registration of Multiple Postmortem Brain Slice Images to their Corresponding MRIs

Tae-Seong Kim[1], Manbir Singh[1], Sungheon Kim[1], Chris Zarow[1], Helena C. Chui[1]
[1]University of Southern California, Los Angeles, California, USA.

MR Spectroscopy: Pulse Sequences, Techniques, Quantitation, and Other

2487. Two-Dimensional Multiple Quantum Spectroscopy of GABA

In-Young Choi[1], Craig A. Branch[1], Jun Shen[1]
[1]The Nathan Kline Institute, Medical Physics, Orangeburg, New York, USA.

2488. Quantitation of GABA in the Human Brain with Correction of Macromolecule Contamination using a 3D Localized Selective Double Quantum Filter Sequence

Hidehiro Watanabe[1], Kazuya Okamoto[1], Masanori Oda[2], Tomoyuki Kanamatsu[2], Yasuzou Tsukada[2], Taisuke Otsuki[3]
[1]Toshiba Medical Systems R&D Center, Otawara, Japan; [2]Soka University, Hachioji, Japan; [3]National Center of Neurology and Psychiatry, Kodaira, Japan.

2489. Localization Schemes for Reducing Gradient-Induced Sidebands in MRS

Patrick J Bolan[1], Eva H. Baker[1], Michael Garwood[1]
[1]University of Minnesota, Minneapolis, Minnesota, USA.

2490. A Spherical Localization Method for Spectroscopic Imaging Exploiting Adiabatic Pulses

Olli Gröhn[1], Michael Garwood[2]
[1]University of Kuopio, Kuopio, Finland; [2]University of Minnesota, Minneapolis, Minnesota, USA

2491. A New Sequence for Spectroscopic Imaging at Ultra Short Echo Time Based on PRESS. Application to the Rat Brain *In Vivo*

Christian Geppert[1], Wolfgang Dreher[1], Dieter Leibfritz[1]
[1]Universität Bremen, Bremen, Germany.

2492. Human Cerebrum *In Vivo* Ultra-Short Echo Time PRESS Spectra Achieved with Rotated Oblique Voxels

Kai Zhong[1], Thomas Ernst[1]
[1]Brookhaven National Laboratory, Upton, New York, USA.

2493. PRESS CSI with Spiral Readout Gradients

Dong-Hyun Kim[1], E. Adalsteinsson[1], Daniel Spielman[1]
[1]Stanford University, Stanford, California, USA.

2494. Spiral Spectroscopic Imaging with Partial Solvent Suppression

David B Clayton[1], Elfar Adalsteinsson[1], Daniel M Spielman[1]
[1]Stanford University, Stanford, California, USA.

2495. Design of a New Adiabatic Inversion Pulse

Lorenz Mitschang[1], Florian Schubert[1], Herbert Rinneberg[1]
[1]Physikalisch-Technische Bundesanstalt, Berlin, Germany.

2496. Optimization of Selective Inversion Pulses by Temporal Preemphasis

Bernd Foerster[1], Edson L. G. Vidoto[1], Alberto Tannús[1], Horacio Panepucci[1]
[1]Universidade de São Paulo, São Carlos, SP, Brazil.

2497. Analytical Description of Transverse Magnetization Induced by Adiabatic Excitation with Modulated Gradients

João Teles[1], Horacio Panepucci[1], Alberto Tannús[1]
[1]Universidade de São Paulo, São Carlos, SP, Brazil.

2498. Composite Slice-Selective 90° Excitation Pulses with Adiabaticity

Jun Shen[1]
[1]Nathan Kline Institute for Psychiatric Research, Orangeburg, New York, USA.

2499. Localization by Outer Volume Suppression and Chemical Shift Imaging for *In Vivo* ^{13}C MR Spectroscopy at 1.5 T

Adrianus Van Den Bergh[1], Jack Van Asten[2], D. Klomp[2], Arend Heerschap[2]
[1]Siemens Medical Solutions the Netherlands, The Hague, Netherlands; [2]University Medical Center Nijmegen, Nijmegen, Netherlands.

2500. Evaluation of the Adequacy of Signal Processing Algorithms for Monitoring the Glycogen ^{13}C-1 NMR Signal during Glycogen Synthesis in Perfused Rat Liver

Niki Bergans[1], Tom Dresselaers[1], Leentje Vanhamme[1], Paul Van Hecke[1], Florent Vanstapel[1]
[1]Katholieke Universiteit Leuven, Leuven, Belgium.

2501. Simultaneous Acquisition of Echo Planar Images on Proton and Phosphor Frequencies

Andrzej Jesmanowicz[1], S.-J. Li[1], James S. Hyde[1]
[1]Medical College of Wisconsin, Milwaukee, Wisconsin, USA.

2502. Detection of Low Concentration ^{31}P Metabolites at 1.5T in Humans

D. Klomp[1], C. de Haan[1], J. Pikkemaat[1], C. Tack[1], A. Simonetti[2], A. Heerschap[1]
[1]University Medical Center Nijmegen, Nijmegen, Netherlands; [2]University of Nijmegen, Nijmegen, Netherlands.

2503. Long Repetition Time Experiments for Accurate Measurement of Concentrations in Systems with Chemical Exchange - Comparison of Methods with and without Correction for Saturation

Craig Galbán[1], Richard Spencer[1]
[1]National Institute on Aging, Baltimore, Maryland, USA.

2504. Experimental Demonstration of Quantitation Errors in MR Spectroscopy Resulting from Saturation Corrections under Changing Conditions: Relative Contributions of Chemical Exchange and T_1 Changes

Craig Galbán[1], Scott Jacob Ellis[2], Richard Spencer[1]
[1]National Institute on Aging, Baltimore, Maryland, USA; [2]Johns Hopkins University School of Medicine, Baltimore, Maryland, USA.

2505. Improving the Localisation of MRSI Data using an Iterative Extrapolation Technique for All Metabolites of Interest

Dawn Sellars[1], Martin O. Leach[1], Adam Schwarz[1]
[1]Institute of Cancer Research and Royal Marsden NHS Trust, Sutton, Surrey, England, UK.

2506. Variable-Density Spiral CSI for Metabolite Estimation in Segmented Tissue Compartments

E. Adalsteinsson[1], Adolf Pfefferbaum[1,2]
[1]Stanford University, Stanford, California, USA; [2]SRI International, Menlo Park, California, USA.

2507. Automatic Quantification of Pathological CSI Data: A Combination of Assumption-Free and Knowledge Based Procedures

Elisabeth Weiland[1], Stefan Röll[2], Gunnar Krueger[2], Dieter Leibfritz[1]
[1]University of Bremen, Bremen, Germany; [2]Siemens Medical Solutions, Erlangen, Germany.

2508. Improved Spectral Fitting in Spectroscopic Imaging using Variable Lineshapes

Brian J. Soher[1], Andrew A. Maudsley[1]
[1]University of California, Veterans Administration Medical Center, San Francisco, California, USA.

2509. Intrasubject and Intersubject Variability of SVS vs CSI Spectra from Spatially Matched Voxels

David Lefkowitz[1], Rao P Gullapalli[1], Katrina Read[1], Ranjan Maitra[1]
[1]University of Maryland at Baltimore, Baltimore, Maryland, USA.

2510. A Versatile Time Domain-Frequency Domain Program for MRS Quantification using Regularization for Non-Parametric Background Estimation

Florian Schubert[1], Clemens Elster[1], Alfred Link[1], Frank Seifert[1], Monika Walzel[1], Herbert Rinneberg[1]
[1]Physikalisch-Technische Bundesanstalt, Berlin, Germany.

2511. Water-Inversion Based Difference Techniques for Localized Proton Spectroscopy without Water Suppression

Zenon Starcuk, Jr.[1], Zenon Starcuk[1], Vladimir Mlynárik[2], Jaroslav Horky[1], Ewald Moser[2]
[1]Academy of Sciences of the Czech Republic, Brno, Czech Republic; [2]University of Vienna, Vienna, Austria.

2512. Quantifying Uncertainty in Metabolic Analysis with Bayesian Statistics

Matthew Edward Merritt[1], Brian C. Weis[1], Craig R. Malloy[1], G. Larry Bretthorst[2]
[1]University of Texas Southwestern Medical Center, Dallas, Texas, USA; [2]Washington University School of Medicine, St. Louis, USA.

2513. Simple Quantitation of Proton Spectra Acquired via Phased Array Coils using Tissue Water as an Internal Reference

Hidehiro Watanabe[1], Kazuya Okamoto[1], Masanori Oda[2], Tomoyuki Kanamatsu[2], Yasuzou Tsukada[2], Taisuke Otsuki[3]
[1]Toshiba Medical Systems R&D Center, Otawara, Japan; [2]Soka University, Hachioji, Japan; [3]National Center of Neurology and Psychiatry, Kodaira, Japan.

2514. A Post-processing Method to Accurately Quantify N-acetylaspartate in Short Echo Time *In Vivo* ^{1}H Spectra

Jeffrey Stanley[1], Kanagasabai Panchalingam[1], Matcheri S Keshavan[1], Jair C Soares[1], Jay W Pettegrew[1]
[1]University of Pittsburgh, Pittsburgh, Pennsylvania, USA.

2515. Reproducibility of Absolute Metabolite's Concentration Evaluated by Intraclass Correlation Coefficient using Clinical MR Apparatus

Hitoshi Kubo[1], Masafumi Harada[1], Minoru Sakama[1], Hiromu Nishitani[1]
[1]University of Tokushima, Tokushima, Japan.

2516. Correcting Respiratory-Induced Frequency Shifts in Breast MRS at High Field

Patrick J Bolan[1], Lance DeLaBarre[1], Eva H. Baker[1], Hellmut Merkle[1], Lenore I. Everson[1], Douglas Yee[1], Michael Garwood[1]
[1]University of Minnesota, Minneapolis, Minnesota, USA.

2517. Navigator Corrections in Proton Spectroscopic Imaging

Jan Willem C. Van Der Veen[1], Daniel R. Weinberger[1], Jeff Duyn[1]
[1]National Institutes of Health, Bethesda, Maryland, USA.

2518. Effects of Physiologic Human Brain Motion on Proton Spectroscopy: Quantitative Analysis and Correction by Cardiac Gating

Pradip M. Pattany[1], B.C. Bowen[1], I.H. Khamis[1], K. Goodkin[1], R.G. Weaver[2], J.B. Murdoch[2], R. M. Quencer[1]
[1]University of Miami, Miami, Florida, USA; [2]Philips Medical Systems.

2519. Water Referencing Technique for Proton Chemical Shift Imaging

Napapon Sailasuta[1], Thomas Raidy[1]
[1]General Electric Medical Systems, Fremont, California, USA.

2520. Automated Chemical Shift Correction of *In Vivo* ^{1}H NMR Spectroscopic Imaging Data using Self-Organizing Maps

Juhani Pulkkinen[1], Anna-Maija Häkkinen[2], Nina Lundbom[2], Risto Kauppinen[1], Yrjö Hiltunen[3]
[1]University of Kuopio, Kuopio, Finland; [2]Helsinki University Hospital, Helsinki, Finland; [3]University of Oulu, Rahhe, Finland.

2521. Off-Resonance Correction for Dual-Density Spiral Spectroscopic Imaging

Shantanu Sarkar[1], Keith Heberlein[1], Xiaoping Hu[1]
[1]University of Minnesota, Minneapolis, Minnesota, USA.

2522. Multisite Reproducibility of Metabolite Ratios *In Vivo* by Single-Voxel ^{1}H MR Spectroscopy

Richard Komoroski[1], K J Kotrla[2], L Lemen[3], D Lindquist[1], P Diaz[2], A Foundas[4]
[1]University of Arkansas for Medical Sciences, Little Rock, Arkansas, USA; [2]Baylor University, Houston, Texas, USA; [3]Louisiana State University Health Sciences Center, New Orleans, Louisiana, USA; [4]Tulane University Health Sciences Center, New Orleans, Louisiana, USA.

2523. Absolute Quantitation of 2D L-COSY

Kenneth Yue[1], Nader Binesh[1], TN Venkatraman[1], Albert Michael Thomas[1]
[1]University of California Los Angeles, Los Angeles, California, USA.

2524. Reproducibility of Localized 2D COSY *In Vivo*

Nader Binesh[1], Lynn Fairbanks[1], Kenneth Yue[1], Albert Michael Thomas[1]
[1]University of California Los Angeles, Los Angeles, California, USA.

2525. A Pulsed Optical Respiration Monitor for Use in High Magnetic Fields

Nicholas J. Yasillo[1], Xiaobing Fan[1], Jonathan River[1], Marta Zamora[1], Gregory Karczmar[1]
[1]University of Chicago, Chicago, Illinois, USA.

2526. MicroCatheter Coil for *In Vivo* ^{31}P NMRS: Applications to Genetic Models

Giorgio Angelo Moresi[1], Richard Lloyd Magin[1], Brian B Roman[1]
[1]University of Illinois at Chicago, Chicago, Illinois, USA.

2527. Iron-Catalyzed Lipid Peroxidation: Use of ^{1}H-NMR to Monitor Oxidative Damage

Gene A Morrill[1], Adele B Kostellow[1], Raj K Gupta[1]
[1]Albert Einstein College of Medicine, Bronx, New York, USA.

2528. Assessment of Fertility of Hydatid Cysts by *Ex Vivo* ^{1}H NMR Spectroscopy and its Correlation with Histopathology

Kashi Nath Prasad[1], Monika Garg[1], Rakesh Kumar Gupta[1], Sadiq S Sikora[1], Lily Pal[1], Sanjeev Chawla[1], Rajesh Kumar[1], Sudhir Saxena[1], Raja Roy[1]
[1]Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow, UP, India.

2529. System Quality Assurance in a Multicenter Study on Brain Tumor MR Spectroscopy (INTERPRET)

Marinette Van Der Graaf[1], Mark Rijpkema[1], Yvonne M Van Der Meulen[1], Carlos Majós[2], Angel Moreno[3], Anne Ziegler[4], Franklyn Howe[5], Kirstie Suzanne Opstad[5], Arend Heerschap[1]
[1]University Medical Center Nijmegen, Nijmegen, Netherlands; [2]Institut de Diagnòstic per la Imatge, Barcelona, Spain; [3]Centre Diagnòstic Pedralbes, Barcelona, Spain; [4]INSERM-Université Joseph Fourier, Grenoble, France; [5]St. George's Hospital Medical School, London, England, UK.

2530. The Effect of Flow Rate on Substrate Metabolism in the Isolated Perfused Lung Model

Timothy Thomas Hamilton[1], Michael Erik Jessen[1], Robert Yun-Nian Chao[1], Lacresia D. Adams[1], Dan Marshall Meyer[1]
[1]University of Texas Southwestern Medical Center at Dallas, Dallas, Texas, USA.

2531. High Resolution ^{1}H NMR Spectroscopy in Organs and Tissues using Slow Magic Angle Spinning

Robert Wind[1], Jianzhi Hu[1], Don Rommereim[1]
[1]Pacific Northwest National Laboratory, Richland, Washington, USA.

EPR and NMR Microscopy

2532. Near Real-Time T_2-Weighted MR Microscopy of Japanese Quail Embryos *In Ovo*

J. Michael Tyszka[1], Robia G. Pautler[1], Rusty Lansford[1], John Wood[2], Russell E. Jacobs[1]
[1]California Institute of Technology, Pasadena, California, USA; [2]Childrens Hospital Los Angeles, Los Angeles, California, USA.

2533. High Field 3D-NMR Imaging of Dolphin Embryos and Fetuses

Daniel Roland Haddad[1], Volker Christian Behr[1], H. H.A. Oelschläger[2], Axel Haase[1]
[1]University of Würzburg, Würzburg, Germany; [2]Johann Wolfgang Goethe-University Frankfurt, Frankfurt, Germany.

2534. Investigating Fetal Development of Wildtype and Cited2$^{-/-}$ Mice using High Resolution MRI

Jürgen E. Schneider[1], Simon D. Bamforth[1], Stuart M. Grieve[1], Kieran Clarke[1], Shoumo Bhattacharya[1], Stefan Neubauer[1]
[1]University of Oxford, Oxford, England, UK.

2535. *In Vivo* Serial High Resolution Magnetic Resonance Microscopy of Embryos in Osteopontin Knockout Mice

Juan Gilberto Saulog Aguinaldo[1], Zahi Adel Fayad[1], Vitalii V Itskovich[1], Xinjie Lin[1], William Chaplin[2], Susan R. Rittling[3], David T. Denhardt[3], Andrea Weintraub[1]
[1]Mount Sinai School of Medicine, New York, New York, USA; [2]University of Alabama, Tuscaloosa, Alabama, USA; [3]Rutgers University, Piscataway, New Jersey, USA.

2536. Magnetic Resonance Microimaging of the Spinal Cord in Mice with Experimental Allergic Encephalomyelitis *In Vivo* and *Ex Vivo*

Stasia Ann Anderson[1], Jacquie Shukaliak[1], Elaine Kay Jordan[1], Andrew Scott Chesnick[1], H. Douglas Morris[1], Roland Martin[1], Henry McFarland[1], Joseph A Frank[1]
[1]National Institutes of Health, Bethesda, Maryland, USA.

2537. Magnetic Resonance Microscopy at 1.5T

Paula J Gareau[1], Yuteng Chen[1], Andrew Alejski[1], Brian K Rutt[1]
[1]The John P. Robarts Research Institute, London, Ontario, Canada.

2538. Magnetic Resonance Microscopic Imaging of Mouse Brain by Phase Encoding Intermolecular Double Quantum Coherences

S. Sendhil Velan[1], P. T. Narasimhan[1], Robia G. Pautler[1], Russell E. Jacobs[1]
[1]California Institute of Technology, Pasadena, California, USA.

2539. Multislice Perfusion Chamber for Simultaneous MR Microscopy on Multiple Perfused Tissue Slices

Timothy M. Shepherd[1], Stephen J. Blackband[1], Edward D. Wirth[1]
[1]University of Florida, Gainesville, Florida, USA.

2540. NMR-Microscopy with TrueFISP at 11.75 T

Sascha Köhler[1], Karl-Heinz Hiller[1], Mark Griswold[1], Wolfgang Bauer[2], Axel Haase[1], Peter Michael Jakob[1]
[1]Universität Würzburg, Würzburg, Germany; [2]Medizinische Universitätsklinik Würzburg, Wurzburg, Germany.

2541. Proton Electron Double Resonance Imaging of the Isolated Beating Rat Heart

Haihong Li[1], Thibaut Liebgott[1], Yuanmu Deng[1], D. Lurie[1,2], Jay L. Zweier[1]
[1]Johns Hopkins University School of Medicine, Baltimore, Maryland, USA; [2]University of Aberdeen, Aberdeen, Scotland, UK.

2542. The Spatial Resolution in MR Based Polymer Gel Dosimetry Investigated by the Dose Modulation Transfer Function

Andreas Berg[1], Michael Pernkopf[1], Claudia Fellner[2], Werner Schmidt[3], Ewald Moser[1,2]
[1]University of Vienna, Vienna, Austria; [2]General Hospital Vienna, Vienna, Austria; [3]SMZ Ost, Vienna, Austria.

2543. EPR and MRI Detection of Nitric Oxide (NO) in Model Disease States

Hirotada Fujii[1], Amir Abduljalil[2], Kohki Yoshikawa[3], Lawrence J Berliner[4]
[1]Sapporo Medical University, Sapporo, Japan; [2]The Ohio State University, Columbus, Ohio, USA; [3]The University of Tokyo, Tokyo, Japan; [4]University of Denver, Denver, Colorado, USA.

2544. EPR Determination of Nitric Oxide and Cerulopasmin in Cerebrospinal Fluid of Patients with Brain Diseases

Anna Bratasz[1], Bozena Polok[1], Iwona Kuter[1], Przemyslaw Galka[1], Mariusz Krupa[1], Marek Moskala[1], Ryszard Konior[2], Igor Goscinski[1], Stanislaw Jan Lukiewicz[1]
[1]Jagiellonian University, Krakow, Poland; [2]Cracow City Hospital, Krakow, Poland.

2545. B_1 Mapping of a Surface Coil Resonator using EPR Imaging

Gaunglong He[1], Sathesh Porur Evalappan[1], Hiroshi Hirata[2], Sergey Petryakov[1], Periannan Kuppusamy[1], Jay L. Zweier[1]
[1]Johns Hopkins University School of Medicine, Baltimore, Maryland, USA; [2]Yamagata University, Yonezawa, Yamagata, Japan.

Pediatric MR Spectroscopy

2546. *In Vivo* ^{1}H MRS Observation of Brain Pyruvate in a Neonate with Pyruvate Dehydrogenase Deficiency

Dah-Jyuu Wang[1], Erin M Simon[1], Zhiyue Wang[1], Steven B Pulitzer[1], Dina Zand[1], Lucy B Rorke[1], Gerard Berry[1], Robert A Zimmerman[1]
[1]Children's Hospital of Philadelphia, Philadelphia, Pennsylvania, USA.

2547. Effect of Verapamil Administration on Human Brain Fetuses in High Risk Pregnancy after Lactate Detection by ^{1}H Magnetic Resonance Spectroscopy (^{1}HMRS)

Arturo Alvarado[1,3], Ronald Ortega[2], Finita Mayobre[1], Normabella Hernández[4], Miguel Martín[1,3], Freddy Guevara[3], Sahyly Siurana[1], Francisco Paseta[1], Jose Guitan[1]
[1]Institutos de Resonancia Magnética La Florida-San Román, Caracas, Venezuela; [2]Policlinica Metropolitana, Caracas, Venezuela; [3]Universidad Central de Venezuela, Caracas, Venezuela; [4]HDL-IVSS, Caracas, Venezuela.

2548. Delayed Neuro-Developmental Outcome for Infants with Transposition of the Great Arteries (TGA) after Arterial Switch Operation Were Observed by Localized ^{1}H MR Spectroscopy and Bayley Scales of Infant Development II (BSID II)

Young Hwue Kim[1], In-Sook Park[1], So Young Yoon[1], Jee-Yeon Min[1], Jae Kon Ko[1], Dong Man Seo[1], Ki-Soo Kim[1], In Kyung Sung[2], Sang-Tae Kim[2], Jung Hee Lee[2]
[1]Asan Medical Center, University of Ulsan, Seoul, South Korea; [2]Catholic University Medical School, Seoul, South Korea.

2549. Abnormalities of Brain Metabolites in Children with Mental Retardation and Autism by Proton Magnetic Resonance Spectroscopy

In Young Sung[1], Jung Hwan Lee[1], Kyung Hyo Choi[1], Jung Hee Lee[2]
[1]Asan Medical Center, University of Ulsan, Seoul, South Korea; [2]Asan Institutes for Life Sciences, Seoul, South Korea.

2550. Proton MR Spectroscopy of Reversible Posterior Leukoencephalopathy in Children

Kim Maria Cecil[1], Richard Scott Dunn[1], Blaise V. Jones[1]
[1]Children's Hospital Medical Center, Cincinnati, Ohio, USA.

2551. *In Vivo* Differential Diagnosis between Medulloblastoma and Cerebellar Astrocytic Glioma by ^{1}H-MRS

Angel Moreno Torres[1], Miguel Baquero[1], Irene Martinez Perez[2], Carles Arús[3], Jesus Pujol[1]
[1]Centre Diagnòstic Pedralbes, Barcelona, Spain; [2]Universitat Autònoma de Barcelona., Barcelona, Spain.

2552. Choline Signal Changes after Choline-Inositol plus Fish Oils Oral Administration in Attention Deficit Disorder (ADD). ^{1}H Magnetic Resonance Spectroscopy (^{1}HMRS) Follow Up Study

Arturo Alvarado[1,3], Larry Díaz[2], Zhilma Sucre[2], Germán Zapata[1], Finita Mayobre[1], Miguel Martín[1,3], Ana María Guitan[1], Alfonzo Robaina[1], Nelson Isava[1], Raiza Pérez[3], Gladys Veraecoechea[3], Maritza Hernández[3]
[1]Institutos de Resonancia Magnética La Florida-San Román, Caracas, Venezuela; [2]Clinica El Avila, Caracas, Venezuela; [3]Universidad Central de Venezuela, Caracas, Venezuela.

2553. MRS of Pediatric Bipolar and Disruptive Behavior Disorders

Pablo A. Davanzo[1], Sarah Barnett[1], TN Venkatraman[1], Kenneth Yue[1], Mark Frye[1], Nader Binesh[1], Amir Huda[1], Albert Michael Thomas[1]
[1]University of California Los Angeles, Los Angeles, California, USA.

2554. The Utility of Proton Magnetic Resonance Spectroscopy in Children with Post-Traumatic Diffuse Axonal Injury

Judy S. Choe[1], Stephen Ashwal[1], Karen Angela Tong[1], Barbara A. Holshouser[1]
[1]Loma Linda University Medical Center, Loma Linda, California, USA.

2555. Different Patterns of Abnormal Cerebral Metabolism in Neonates with Various Congenital Heart Diseases Detected by *In Vivo* Localized ^{1}H MR Spectroscopy

In-Sook Park[1], So Young Yoon[1], Jee-Yeon Min[1], Young Hwue Kim[1], Jae Kon Ko[1], Ki-Soo Kim[1], Sang-Tae Kim[2], Keun-Ho Lim[2], Jung Hee Lee[2]
[1]Asan Medical Center, University of Ulsan, Seoul, South Korea; [2]Asian Institutes for Life Sciences, Seoul, South Korea.

2556. Application of *In Vivo* MR Spectroscopy for Drug Development

Ki-Soo Kim[1], Jung Hee Lee[2], Keun-Ho Lim[2], Seung-Eun Yoo[3], Sun-Ok Kim[4], Hee-Jin Cho[1], Soo-Young Pi[1]
[1]Asan Medical Center, University of Ulsan, Seoul, South Korea; [2]Asan Institute for Life Sciences, Seoul, South Korea; [3]Korea Research Institute of Chemical Technology, Daejeon, South Korea; [4]Dongbu Research Council, Daejeon, South Korea.

2557. Metabolic Mapping of Cerebral Maturation in Childhood using MR Spectroscopic Imaging (MRSI)

Jamie Dermon[1], Patrick D Barnes[2], E. Adalsteinsson[1], Daniel Spielman[1]
[1]Stanford University, Stanford, California, USA; [2]Lucile Salter Packard Children's Hospital, Palo Alto, California, USA.

Pediatric MR Imaging

2558. A Self-Contained Neonate Incubator for Use in MR Scanners

Charles Dumoulin[1], Kenneth Rohling[1], Joseph Piel[1], Charles Rossi[1], Randy Giaquinto[1], Ronald Dean Watkins[1], Daniel B. Vigneron[2], Anthony James Barkovich[2], Nancy Newton[2]
[1]G. E. Corporate R & D Center, Niskayuna, New York, USA; [2]University of California San Francisco, San Francisco, California, USA.

2559. Prolonged T_2* Values in Newborn versus Adult Brain: Implications for fMRI Studies of Newborns

Michael J. Rivkin[1], Heidelise Als[1], Gloria McAnulty[1], Samantha Butler[1], Nikk Conneman[1], Christine B. Fischer[1], Sridhar Vajapeyam[1], David Wolraich[1], Robert V. Mulkern[1]
[1]Children's Hospital, Harvard Medical School, Boston, Massachusetts, USA.

2560. DTI Study of the Premature Infant Brain Shows that Change in Diffusion Properties of White Matter May Precede Myelination

Sridhar Vajapeyam[1], Michael J Rivkin[1], Gloria McAnulty[1], Christine Fischer[1], Samantha Butler[1], Nikk Conneman[1], David Wolraich[1], Richard L Robertson[1], Robert V Mulkern[1], Stephan Maier[2], Heidelise Als[1]
[1]Children's Hospital of Boston, Harvard Medical School, Boston, Massachusetts, USA; [2]Brigham and Women's Hospital, Harvard Medical School, Boston, Massachusetts, USA.

2561. Multi-Component Diffusion Imaging of Hypoxic Ischemic Encephalopathy in Newborns

Sridhar Vajapeyam[1], Robert V Mulkern[1], Paul A Caruso[2], Stephan Maier[3], Richard L Robertson[1]
[1]Harvard University, Children's Hospital, Boston, Massachusetts, USA; [2]Massachusetts Eye and Ear Infirmary, Harvard University, Boston, Massachusetts, USA; [3]Harvard University, Brigham and Women's Hospital, Boston, Massachusetts, USA.

2562. Study of Brain Development by Diffusion Tensor Imaging: Evidence of Altered Brain Development in Newborn Babies with Intrauterine Growth Restriction

Slava Zimine[1], François Lazeyras[1], Frank Henry[1], Cristina Borradori-Tolsa[2], Petra Hüppi[2,3]
[1]University Hospital of Geneva, Geneva, Switzerland; [2]University of Geneva, Children's Hospital, Geneva, Switzerland; [3]Children's Hospital of Boston, Harvard Medical School, Boston, Massachusetts, USA.

2563. Diffusion-Weighted MRI in Cerebral Hemorrhagic-Ischemic Infarcts of the Neonate

J. Buijs[1], O.S. Derksen[1], C. van Pul[1], F.G. Roos[1]
[1]St Joseph Hospital, Veldhoven, Netherlands.

2564. Quantitative Analysis of Pulsatile CSF Flow in Aqueduct throughout Childhood by Means of Cine Phase Contrast MRI

Hideaki Yoshimura[1], Norio Hirabuki[1], Hisashi Tanaka[1], Norihiko Fujita[1], Hironobu Nakamura[1]
[1]Osaka University, Suita, Osaka, Japan.

2565. Construction of Gender-Specific Pediatric Templates for Spatial Normalization within SPM99

Marko Wilke[1], Vincent J. Schmithorst[1], Scott K. Holland[1]
[1]Children's Hospital Medical Center of Cincinnati, Cincinnati, Ohio, USA.

2566. Regional Variability of *In Vivo* Relaxation Rates in Neonatal Brain at 3.0 Tesla

Lori-Anne Williams[1], Neil Gelman[1], Paul Picot[1], David Lee[1], James Ewing[2], Victor Han[1], R. Terry Thompson[1]
[1]University of Western Ontario, London, Ontario, Canada; [2]Henry Ford Hospital, Detroit, Michigan, USA.

2567. Quantitative Analysis of the Cerebral White Matter in Preterm Infants using Diffusion Weighted Imaging

Serena J Counsell[1], Joanna M Allsop[1], Michael C Harrison[1], David J Larkman[1], Nigel L Kennea[1], David Edwards[1], Mary A Rutherford[1]
[1]Imperial College, Hammersmith Campus, London, England, UK.

2568. Functional MRI of Human Preterm Infants: Preliminary Study using Independent Component Analysis

Seung-Schik Yoo[1], Janet S Soul[2], Petra S Hüppi[3], Haim Bassan[2], Steven A Ringer[1], Ferenc A Jolesz[1], Joseph J Volpe[2], Gary P Zientara[1]
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New Contrast Agents

2569. A Nanoparticle MRI Contrast Agent Platform Technology for Molecular Imaging

Ram Reddy[1], Thomas Chenevert[1], Dan Edward Hall[1], Alnawaz Rehemtulla[1], Bradford A. Moffat[1], Eric Monson[1], Raoul Kopelman[1], Brian D. Ross[1]
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2570. Receptor-Mediated Uptake of an Enzyme-Activated MRI Contrast Agent

M Alauddin[1], A Y Louie[2], A Shahinian[1], P Conti[1], T J Meade[2]
[1]University of Southern California, Los Angeles, California, USA; [2]California Institute of Technology, Pasadena, California, USA.

2571. MR Microscopy of Magnetodendrimer Uptake in Single Cells

Paul D Majors[1], Eric J Ackerman[1], Robert A Wind[1], Trevor Douglas[2], Jeff W Bulte[3]
[1]Pacific Northwest National Laboratory, Richland, Washington, USA; [2]Montana State University, Bozeman, Montana, USA; [3]Johns Hopkins University School of Medicine, Baltimore, Maryland, USA.

2572. Janus Dendrimers: A Framework Technology for Targeted Delivery

Erik Wiener[1], Venkatraj Narayanan[1]
[1]University of Illinois at Urbana-Champaign, Urbana, Illinois, USA.

2573. *In Vivo* MR Imaging of Muco-adhesive Biodegradable Polymeric Microparticles Delivered Intravesically

Hunter H. Chen[1], Catherine Le Visage[1], Bensheng Qiu[1], Xiangying Du[1], Kam W. Leong[1], Xiaoming Yang[1]
[1]Johns Hopkins University School of Medicine, Baltimore, Maryland, USA.

2574. MR Characteristics of Novel Biodegradable Polymeric Microparticles for Targeted Drug/Gene Delivery

Hunter H. Chen[1], Bensheng Qiu[1], Catherine Le Visage[1], Ronald Ouwerkerk[1], Xiangying Du[1], Kam W. Leong[1], Xiaoming Yang[1]
[1]Johns Hopkins University School of Medicine, Baltimore, Maryland, USA.

2575. Sustained Release of VEGF from Gadolinium Doped Biodegradable Microspheres

Anthony Z. Faranesh[1,2], Monet T. Nastley[2], Elliot McVeigh[2,1]
[1]Johns Hopkins University, Baltimore, Maryland, USA; [2]National Institutes of Health, Bethesda, Maryland, USA.

2576. Criteria to Assess Properties of New MR Contrast Agents: A Systematic Approach using Gd-BOPTA as an Example

Michael V Knopp[1,2], Hendrik Von Tengg-Kobligk[1], Frank Floemer[3], Frederik L Giesel[3], Stefan O Schoenberg[4], Marco Essig[3], Jannis Radeleff[3], Nick Costouros[2]
[1]Ohio State University, Columbus, Ohio, USA; [2]National Institutes of Health, Bethesda, Maryland, USA; [3]German Cancer Research Center, Heidelberg, Germany; [4]Ludwig-Maximilian University, Munich, Germany;.

2577. Hepatic Kinetics of MRI Contrast Media in Biliary Cirrhosis with the Isolated Perfused Rat Liver Model

Jean-Paul Vallée[1], Jean-Louis Frossard[1], Corinne Planchamp[2], Xavier Montet[1], Joachim Mayer[2], François Terrier[1], Catherine Pastor[1]
[1]Geneva University Hospital, Geneva, Switzerland; [2]University of Lausanne, Lausanne, Switzerland.

2578. Intracellular Labeling and Relaxivity with Dendrimer-Bound GdDOTA

Luis F. Gutiérrez[1,2], L. Henry Bryant[2], Jeff W. M. Bulte[2,1], Elliot R. McVeigh[2,1], Joseph A. Frank[2]
[1]Johns Hopkins University School of Medicine, Baltimore, Maryland, USA; [2]National Institutes of Health, Bethesda, Maryland, USA.

2579. Evaluation of Superparamagnetic Particles as MRI Marker for Tablet Formulations

Andreas Steingoetter[1], Dominik Weishaupt[2], Patrik Kunz[3], Karsten Mäder[3], Hans Lengsfeld[3], Miriam Thumshirn[2], Michael Fried[2], Werner Schwizer[2], Peter Boesiger[1]
[1]University of Zurich and ETH Zurich, Zurich, Switzerland; [2]University Hospital Zurich, Zurich, Switzerland; [3]F. Hoffmann-LaRoche, Basel, Switzerland.

2580. Use of Transfection Agents to Shield MR Contrast Agents

Heather Kalish[1], L. Henry Bryant[1], Holly Zywicke[1], Jeff W. Bulte[2], Joseph A Frank[1]
[1]National Institutes of Health, Bethesda, Maryland, USA; [2]Johns Hopkins University School of Medicine, Baltimore, Maryland, USA.

2581. Imaging Bioartificial Pancreatic Tissue Construct with Magnetically Labeled Insulin Secreting Cells

Hui Mao[1], Charie Stabler[2], Encai Hao[1], Ionnis Constantinidis[1]
[1]Emory University, Atlanta, Georgia, USA; [2]Georgia Institute of Technology, Atlanta, Georgia, USA.

2582. Assessment of Phagocytic and Nonphagocytic Phenotypes of Activated Mesangial Cells with Experimental Iron Oxide-Enhanced Renal MR Imaging

, O. Hauger[1], Y. Delmas[1], C. Deminière[1], B. Fouqueray[2], C. Ohayon[1], C. Combe[1], N. Grenier[1]
[1]Université Victor Ségalen-Bordeaux 2, Bordeaux, France; [1]INSERM U489, Paris, France.

2583. Characterization of Novel Oligomerizing Paramagnetic Substrates for MR Signal Amplification using NMR Relaxometry

John W. Chen[1], Ralph Weissleder[1], Alexei Bogdanov[1]
[1]Massachusetts General Hospital, Harvard Medical School, Boston, Massachusetts, USA.

2584. Toxicity of Intracellular MRI Contrast Agents Containing Gd(III)-DTPA

Erik Wiener[1], Sheela Konda[1], Karen Padua[1], Jia Zhau[1]
[1]University of Illinois at Urbana-Champaign, Urbana, Illinois, USA.

2585. First Pass and Blood Pool Effect of a New Gd-Containing Blood Pool MR Contrast Agent: Phase I Clinical Trial of Gadomer-17

Bernd Tombach[1], Joachim Schneider[1], Peter Reimer[2], Marianne Mahler[3], Wolfgang Ebert[3], Kohkan Shamsi[4], Walter Heindel[1]
[1]University of Muenster, Muenster, Germany; [2]Karlsruhe, Germany; [3]Schering AG, Berlin, Germany; [4]Berlex, USA.

2586. Magnetic Resonance (MR) Assessment of Systemic Lupus Erythematosus in a Murine Model: Preliminary Results with MS-325

Christoph U. Herborn[1], Ralph Waldschuetz[1], Randall Lauffer[2], Jörg Debatin[1], Stefan Ruehm[1]
[1]University Hospital Essen, Essen, Germany; [2]EPIX Medical, Inc., Cambridge, Massachusetts, USA.

2587. T_1 Efficacy of EVP-ABD: A Potential Contrast Agent that Provides both Vascular and Tissue Enhancement for Hepatic Imaging

C. S. Zuo[1], P. Seoane[2], T. Lanigan[1], P. Harnish[1], P. V. Prasad[3], P. Storey[3], W. Li[3], N. M. Rofsky[1]
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2588. A Novel Microbubble Construct for MR Manometry

Rohan Dharmakumar[1], Donald Plewes[1], Graham Wright[1,2]
[1]University of Toronto, Toronto, Ontario, Canada; [2]ASL-West, GE Medical Systems, Menlo Park, California, USA.

2589. *In Vivo* Magnetic Resonance Imaging of Renal pH using GdDOTA-4AmP

Natarajan Raghunand[1], Christine Howison[1], A. Dean Sherry[2], Shanrong Zhang[2], Robert J. Gillies[1]
[1]University of Arizona, Tucson, Arizona, USA; [2]University of Texas at Dallas, Richardson, Texas, USA.

2590. Paramagnetic CEST Agents: A Comparison of NH *versus* OH Exchange

Shanrong Zhang[1], A. Dean Sherry[1]
[1]University of Texas at Dallas, Richardson, Texas, USA.

2591. Relaxivity of Gd(ABE-DTTA) Increases with Magnetic Field Strength Up to 5T. A Contrast Agent for High Field Imaging

Pal Kiss[1], T. Simor[1], L. Lenard[1], L. Hejjel[1], P. Suranyi[1], N.H. Saab-Ismail[1], Gabriel A. Elgavish[1]
[1]University of Alabama at Birmingham, Birmingham, Alabama, USA.

2592. Visualization of Lymphatics and Lymph Nodes from Pulmonary Parenchyma with a Conventional Extracellular Gadlinium-based Agent: Assessment in Dog Lungs

Kazuyoshi Suga[1], Nobuhiko Ogasawara[1], Noafumi Matsunaga[1]
[1]Yamaguchi University School of Medicine, Ube, Japan.

2593. Intravenous MR Lymphography Initial Experiences with a New Gadolinium Agent

Bernd Misselwitz[1], Johannes Platzek[1], Hanns-Joachim Weinmann[1]
[1]Schering AG, Berlin, Germany.

2594. Evaluation of Normal and Tumor-Invaded Lymph Nodes with MR Lymphography (MS-325) in Rabbits

Christoph U. Herborn[1], Thomas C. Lauenstein[1], Florian Mathias Vogt[1], Randall Lauffer[2], Jörg Debatin[1], Stefan Ruehm[1]
[1]University Hospital Essen, Essen, Germany; [2]EPIX Medical, Inc., Cambridge, Massachusetts, USA.

MR Elastography

2595. A Piezoelectric Actuator for MR Elastography

Kai Uffmann[1], Wolfgang Grote[2], Claus Abicht[2], Harald Quick[1], Mark Ladd[1]
[1]University Hospital Essen, Essen, Germany; [2]University of Essen, Essen, Germany.

2596. Minimizing Signal Loss from Electromechanical Drivers in MR Elastography

Roger Grimm[1], Richard Ehman[1]
[1]Mayo Clinic, Rochester, Minnesota, USA.

2597. *In Vivo* Magnetic Resonance Elastography of the Human Brain using Ultrafast Acquisition Techniques

Juergen Braun[1], Johannes Bernarding[1], Thomas Tolxdorff[1], Ingolf Sack[1]
[1]Benjamin Franklin University Hospital, Free University of Berlin, Berlin, Germany.

2598. Directional Wave Filtering for Improved Inversion of MR Elastography Images

David S. Lake[1], Armando Manduca[1], Scott A. Kruse[1], Richard L. Ehman[1]
[1]Mayo Clinic, Rochester, Minnesota, USA.

2599. 2-D Shear Stiffness Estimations using Intravoxel Phase Dispersion in Magnetic Resonance Elastography

Kevin Glaser[1], Joel Felmlee[1], Richard Ehman[1]
[1]Mayo Clinic, Rochester, Minnesota, USA.

2600. Contrast Resolution in MR Elastography

Alex Dresner[1], Armando Manduca[1], Richard Ehman[1]
[1]Mayo Clinic, Rochester, Minnesota, USA.

2601. *In-Vivo* Measurements of Human Calf Muscle Fiber Orientation under Rest and Stress Conditions

John William Grinstead[1], Usha Sinha[1], James Mattiello[1], Shantanu Sinha[1]
[1]University of California Los Angeles, Los Angeles, California, USA.

2602. Calculating the Steady-State Dynamics of Wave Images in MR Elastography

Ingolf Sack[1], Jürgen Braun[1]
[1]University Hospital Benjamin Franklin, Free University of Berlin, Berlin, Germany.

2603. Recent Developments in the Determination of Elastic Moduli from MRE Displacement Measurements

Anthony J Romano[1], Joseph A. Bucaro[1], Richard Ehman[2]
[1]Naval Research Laboratory, Washington, DC, USA; [2]Mayo Clinic, Rochester, Minnesota, USA.

2604. Strain Imaging of Anisotropic Materials using Stimulated Echo MRI

Derek D. Steele[1], Stanislav Y. Emelianov[1,2], Robert C Welsh[1], Thomas L. Chenevert[1]
[1]University of Michigan, Ann Arbor, Michigan, USA; [2]Institute of Mathematical Problems of Biology, Pushchino, Russia.

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