

**British Chapter of the ISMRM**  
**12th Annual Meeting**  
**University of Surrey, Guildford 23–25<sup>th</sup> August, 2006**

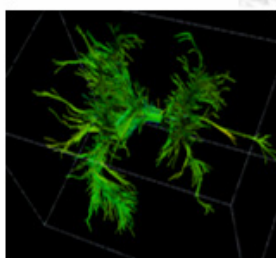
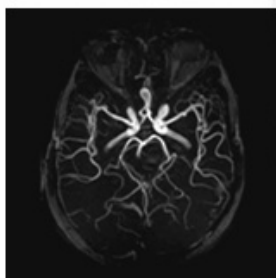
**Scientific programme**

All events except the conference dinner will take place in the Austin Pearce Building of the University of Surrey.

*Wednesday 23 August*

Workshop: "Stem Cell Imaging", organiser Mike Modo

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|----------------|--|
| 1.00 – 1.30 pm | Coffee and registration  |
| 1.30 – 2.00 pm | The diversity of stem cells<br>Saga Johansson, Kings College, London   |
| 2.00 – 2.40 pm | Why do we need stem cell imaging?<br>Mike Modo, Kings College, London  |
| 2.40 – 3.20 pm | Designing contrast agents for stem cell imaging<br>Kishore Bahkoo, Imperial College  |
| 3.20 – 3.40 pm | Tea  |
| 3.40 – 4.20 pm | Issues and problems surrounding the labelling of stem cells and their therapeutic potential<br>Mark Lythgoe, University College London |
| 4.20 – 5.00 pm | Imaging of gene expression<br>Po-Wah So, Imperial College  |
| 5.00 – 5.30 pm | Closing remarks  |
| 6.30 – 9.00 pm | Drinks reception, hot buffet and posters   |



[www.ph.surrey.ac.uk/cnrp/bc06](http://www.ph.surrey.ac.uk/cnrp/bc06)

## Thursday 24 August

- 8.00 – 9.25 am Coffee, pastries and registration
- 9.25 – 9.30 am Welcome
- 9.30 – 10.15 am **I1: Bill Moore Memorial Lecture**  
*Human Brain MRI at 4.7 Tesla*  
Roger Ordidge, University College London
- 10.15 – 11.15 am **Scientific Session I: Technical developments in imaging**  
Chairs: Roger Ordidge and Gareth Barker
- 10.15 O1: *Faster Dixon Fat-Water Imaging With Slice Multiplexed Pulses*  
Kuan J Lee  
Academic Radiology, University of Sheffield, Sheffield
- 10.27 O2: *An Insertable, Shoulder-Slotted Gradient and Shim Set for Dynamic Shimming*  
Michael Poole, Richard Bowtell  
Sir Peter Mansfield Magnetic Resonance Centre, School of Physics and Astronomy, University of Nottingham
- 10.39 O3: *Pitfalls in the development of Ultra Short Echo (UTE) imaging at high field strength*  
Alexandr Khrapichev<sup>1</sup>, Nicola Sibson<sup>1</sup>, Matthew Robson<sup>2</sup>, Andrew M. Blamire<sup>3</sup>  
<sup>1</sup>Department of Physiology, <sup>2</sup>Oxford Centre for Clinical Magnetic Resonance, University of Oxford; <sup>3</sup>Newcastle Magnetic Resonance Centre, University of Newcastle
- 10.51 O4: *An insert system for advanced imaging research on clinical MR imagers*  
Martyn Paley<sup>1</sup>, Eugeny Krjukov<sup>1</sup>, James Wild<sup>1</sup>, Michael Lamperth<sup>2</sup>, Ian Young<sup>2</sup>  
<sup>1</sup>Academic Radiology, University of Sheffield; <sup>2</sup>Mechanical Engineering, Imperial College London
- 11.03 O5: *Optimisation of Steady State Free Precession Sequences for Hyperpolarised <sup>3</sup>He MRI*  
J. M. Wild<sup>1</sup>, K. Teh<sup>1</sup>, N. Woodhouse<sup>1</sup>, M.N.J. Paley<sup>1</sup>, N. de Zanche<sup>2</sup>, L. Kasuboski<sup>3</sup>  
<sup>1</sup>Academic Radiology, University of Sheffield, Sheffield, United Kingdom, <sup>2</sup>Institute of Biomedical Engineering, Zurich, Switzerland, <sup>3</sup>Philips Medical Systems, Cleveland, OH, United States
- 11.15 – 11.45 pm Coffee
- 11.45 – 12.15 pm **Scientific Session II: Brain structure and cognitive function (tractography, fMRI, etc.)**  
Chairs: Stefan Debener and Annette Sterr
- 11.45 Invited lecture I2: *Recent advances in EEG/fMRI integration*  
Stefan Debener<sup>1,2</sup>  
<sup>1</sup>MRC Institute of Hearing Research, Royal South Hants Hospital, Southampton SO14 OYG; <sup>2</sup>Clinical Neurosciences, School of Medicine, University of Southampton, Southampton, UK

- 12.15 O6: *Improved Artifact Correction for Combined EEG/fMRI*  
Karen J. Mullinger<sup>1</sup>, Paul S. Morgan<sup>2</sup>, Richard W. Bowtell<sup>1</sup>,  
<sup>1</sup>Sir Peter Mansfield Magnetic Resonance Centre, School of Physics and  
Astronomy, University of Nottingham; <sup>2</sup>Academic Radiology, University of  
Nottingham
- 12.27 O7: *Voxel-Based Investigation Of White Matter Changes In Normal Ageing Using  
Diffusion Tensor Imaging And Tractography*  
Thomas R. Barrick, Rebecca A. Charlton, Michael O’Sullivan, Hugh S. Markus,  
Chris A. Clark  
Centre for Clinical Neuroscience, St. George’s, University of London
- 12.45 – 2.00 pm Lunch, posters and exhibition
- 2.00 – 3.30 pm Scientific Session III: Neurological diseases and disorders  
Session Chairs: Ginny Ng and Claudia Wheeler-Kingshott**
- 2.00 Invited lecture I3: *Challenges and needs — MR techniques in the neurosciences*  
Ginny Ng  
<sup>1</sup>Centre for Neuroimaging Sciences, Maudsley Hospital, Denmark Hill, London  
SE5 8AZ; <sup>2</sup>Institute of Psychiatry, De Crespigny Park, London SE5 8AF
- 2.30 O8: *Incorporating Domain Knowledge into Fuzzy Connectedness Image  
Segmentation: Application to Brain Lesion Volume Estimation in Multiple Sclerosis*  
Mark A. Horsfield<sup>1</sup>, R. Bakshi<sup>2</sup> Marco Rovaris<sup>3</sup>, Mara A. Rocca<sup>3</sup>, Venkata S.R.  
Dandamudi<sup>2</sup>, Paola Valsasina<sup>3</sup>, Elda Judica<sup>3</sup>, Fulvio Lucchini<sup>3</sup>, Charles  
Guttmann<sup>2</sup>, Maria Pia Sormani<sup>4</sup> and Massimo Filippi<sup>3</sup>  
<sup>1</sup>University of Leicester, Leicester LE1 5WW; <sup>2</sup>Harvard Medical School, Boston  
MA; <sup>3</sup>University of Milan, Italy; <sup>4</sup>University of Genova, Italy
- 2.42 O9: *Temporal changes in diffusion in moderate to severe traumatic brain injury*  
Newcombe VFJ, Nortje J, Bradley PG, Harding SG, Chatfield DA, Outtrim JG,  
Coles JP, Hutchinson PJ, Pickard JD, Carpenter TA, Menon DK, Williams GB  
Wolfson Brain Imaging Center, Addenbrooke’s Hospital, University of Cambridge
- 2.54 O10: *Abnormal thalamic metabolism on H-MRS in ‘peripheral’ diabetic  
neuropathy*  
ID Wilkinson<sup>1</sup>, D Selvarajah<sup>2</sup>, R Gandhi, N Woodhouse, C Emery, PD Griffiths,  
Tefaye S  
<sup>1</sup>Academic Radiology, University of Sheffield ; <sup>2</sup>Diabetes Unit, Royal Hallamshire  
Hospital, Glossop Road, Sheffield S10 2JF
- 3.10 – 3.50 pm Tea
- 3.50 – 5.15 pm Debate  
“This house believes that MRI should give up trying to be PET”  
Chairman: Simon Doran**
- Invited speakers:  
For Adrian Carpenter, Wolfson Brain Imaging Centre, University of Cambridge  
Against Andy Jurasz, Point Therapeutics Inc., Boston  
For David Brooks, MRC Cyclotron Unit  
Against Mark Lythgoe, Institute of Child Health

6.00 pm – Conference dinner at Denbies Winery, Dorking, England’s largest vineyard

An approximate timetable is as follows:

5.30 prompt Coaches leave from Austin Pearce Building

6.30 – 7.15 On arrival, the party will split into three. Of those who booked to go on a tour, one group will take an external tour of the winery and a second group will tour the internal part of the winery.

We apologise that due to limitations in numbers that can be accommodated on the tours, not everybody who chose to do this will have the opportunity. We will operate this on a first-come first-served basis, dependent on the date of registration and a full refund of any fees paid will be given.

The remaining group will be offered a wine-tasting.

7.45 – 11.00 Dinner and entertainment

11.00 – 11.30 Coaches leave for the University



## *Friday 25 August*

- 8.00 – 8.30 am      Coffee, pastries and registration
- 9.00 – 9.30 am      **Special invited lecture I8: The EU Physical Agents (EMF) Directive and its Impact on MRI - Prudent Precaution or Straight Bananas?**  
Stephen Keevil  
King's College London
- 9.30 – 10.35 am    **Scientific Session IV: The future of clinical MRI and its ultimate limits**  
**Session Chairs: Matthew Clemence and David Collins**
- 9.30                    Invited lecture I4: *The MRI system of the future: innovation, development and directions – a personal industrial perspective*  
Matthew Clemence  
Clinical Science Support MR, Philips Medical Systems UK
- 10.00                  O11: *T2\* weighted and phase imaging at 7 Tesla*  
Lei Jiang, Andreas Schaeffer, Penny Gowland and Richard Bowtell  
Sir Peter Mansfield Magnetic Resonance Centre, University of Nottingham, Nottingham, NG7 2RD
- 10.12                  O12: *Magnetic Field Induced Vertigo*  
Ian Cavin, WenLong Qian, Richard Bowtell, Penny Gowland, Paul Glover  
Sir Peter Mansfield Magnetic Resonance Centre, University of Nottingham, NG7 2RD
- 10.24                  O13: *The study of magnetic nanoparticles as a contrast enhancer for MRI to track cancer metastasis*  
Laura M Parkes<sup>1</sup> Richard Hodgson<sup>1</sup>, Ian Robinson<sup>2</sup>, David Fernig<sup>3</sup>, Nguyen TK Thanh<sup>2,3</sup>  
<sup>1</sup>Magnetic Resonance and Image Analysis Research Centre (MARIARC);  
<sup>2</sup>Department of Chemistry; <sup>3</sup>Centre for Nanoscale Science, School of Biological Sciences, The University of Liverpool
- 10.36                  O14: *Characterization of Solid State Dynamic Nuclear Polarization for Metabolic Imaging*  
M. Schroeder, L. Cochlin, D. Tyler, G. Radda, K. Clarke  
Department of Physiology Anatomy and Genetics, Sherrington Building, University of Oxford, Parks Rd, OX1 3PT
- 10.50 – 11.15 am    Coffee
- 11.15 – 12.30 pm    **Scientific Session V: Extracranial MRI**  
**Session Chairs: David Lomas and Stephen Keevil**
- 11.15                  Invited lecture I5: Interactive & Real-time Body MRI  
David Lomas  
Department of Radiology, School of Clinical Medicine, University of Cambridge

- 11.45 O15: *MRI tracking to establish the relationship between myocardial injury and stem cell homing*  
 Carolyn Carr<sup>1</sup>, Daniel Stuckey<sup>1</sup>, Louise Tatton<sup>2</sup>, Damian Tyler<sup>1</sup>, Juergen Schneider<sup>1</sup>, Sian Harding<sup>3</sup>, Kieran Clarke<sup>1</sup>  
<sup>1</sup>Department of Physiology, Anatomy and Genetics, University of Oxford; <sup>2</sup>National Blood Service, John Radcliffe Hospital, Oxford; <sup>3</sup>National Heart and Lung Institute, Imperial College, London
- 11.57 O16: *Gastric and small bowel response to alginate beads*  
 E. F. Cox<sup>1</sup>, C. L. Hoad<sup>1</sup>, P. Rayment<sup>2</sup>, R. C. Spiller<sup>3</sup>, P. J. Wright<sup>1</sup>, M. Butler<sup>2</sup>, L. Marciani<sup>1,3</sup>, P. A. Gowland<sup>1</sup>  
<sup>1</sup>Sir Peter Mansfield Magnetic Resonance Centre, School of Physics and Astronomy, University of Nottingham; <sup>2</sup>Corporate Research, Unilever R & D, Colworth, Beds.; <sup>3</sup>Wolfson Digestive Diseases Centre, University Hospital, Nottingham
- 12.09 O17: *Accurate Automated Measurement of Dynamic Arterial Lumen Area by CMR*  
 Clare E. Jackson<sup>1</sup>, Cheerag C. Shirodaria<sup>1</sup>, Justin M. S. Lee<sup>1</sup>, Robin P. Choudhury<sup>1</sup>, Keith M. Channon<sup>1</sup>, Stefan Neubauer<sup>1</sup>, Matthew D. Robson<sup>1</sup>  
<sup>1</sup>University of Oxford Centre for Clinical Magnetic Resonance Research, Oxford
- 12.25 – 1.30 pm Lunch, posters and exhibition
- 1.30 – 3.15 pm **Scientific Session VI: Biomedical imaging and spectroscopy**  
**Chairs: Niki Sibson, Franklyn Howe**
- 1.30 Invited lecture I6: *Imaging CNS inflammation: what MR can and can't tell us*  
 Niki Sibson  
 Experimental Neuroimaging Group, University Laboratory of Physiology, Oxford
- 2.00 O18: *MR measurements of diffusion, perfusion and T2 in the hippocampus following status epilepticus in the rat lithium-pilocarpine model*  
 M Choy<sup>1</sup>, R.C. Scott<sup>1</sup>, D.L. Thomas<sup>2</sup>, D.G. Gadian<sup>1</sup>, M.F. Lythgoe<sup>1</sup>  
<sup>1</sup>UCL Institute of Child Health, London; <sup>2</sup>Department of Medical Physics and Bioengineering, University College London, London
- 2.12 O19: *<sup>31</sup>P MRS study on intracellular pH and energetics in human brain during visual stimulation under euoxia and mild hypoxia*  
 Risto A. Kaupinnen<sup>1</sup>, Rishma Vidyasagar<sup>1,2</sup>, Alimul Chowdhury<sup>2</sup>  
 Schools of <sup>1</sup>Sport and Exercise Sciences and <sup>2</sup>Psychology, University of Birmingham, Edgbaston, Birmingham B15 2TT
- 2.24 O20: *Long and short echo time proton magnetic resonance spectroscopy of the healthy ageing brain*  
 Dominick J.O. McIntyre<sup>1</sup>, Rebecca A. Charlton<sup>2</sup>, Hugh S. Markus<sup>2</sup>, Franklyn A. Howe<sup>1</sup>  
<sup>1</sup>Basic Medical Sciences, St George's, University of London; <sup>2</sup>Clinical Neurosciences, St George's, University of London
- 2.36 O21: *MRI indicates that bone marrow stem cells remain grafted in the infarcted rat heart for sixteen weeks, but do not improve cardiac function*  
 Stuckey DJ<sup>1</sup>, Carr CA<sup>1</sup>, Martin-Rendon E<sup>2</sup>, Tyler DJ<sup>1</sup>, Willmott C<sup>2</sup>, Cassidy PJ<sup>1</sup>, Hale SJM<sup>2</sup>, Schneider JE<sup>1</sup>, Tatton L<sup>2</sup>, Harding SE<sup>3</sup>, Radda GK<sup>1</sup>, Watt S<sup>2</sup>, Clarke K<sup>1</sup>  
<sup>1</sup>Cardiac Metabolism Research Group, Laboratory of Physiology, Anatomy and Genetics, University of Oxford; <sup>2</sup>Stem Cell Research Laboratory, National Blood Service, John Radcliffe Hospital, Oxford; <sup>3</sup>National Heart and Lung Institute, Imperial College School of Science, Technology and Medicine, London

- 2.48                      *O22: Longitudinal Short TE Proton Magnetic Resonance Spectroscopy and Disease Progression in Inherited Prion Disease*  
 Hyare H<sup>1,2</sup>, Siddique D<sup>2, 3</sup>, Webb T<sup>2, 3</sup>, Wroe S<sup>2, 3</sup>, Collinge J<sup>2, 3</sup>, Thornton JS<sup>1</sup>, Yousry T<sup>1</sup>  
<sup>1</sup>Lysholm Department of Neuroradiology, National Hospital for Neurology and Neurosurgery, <sup>2</sup>MRC Prion Unit, Department of Neurodegenerative Diseases, Institute of Neurology, UCL, <sup>3</sup>National Prion Clinic, National Hospital for Neurology and Neurosurgery, Queen Square, London
- 3.00 – 3.30 pm            Tea
- 3.30 – 4.40 pm            Scientific Session VII: *Quantitative MRI, cancer and contrast agents***  
**Session chairs: Geoff Parker and Martin Leach**
- 3.30                      Invited lecture I7: *Quantitative MRI of Tumours using Contrast Agents*  
 Geoff Parker  
 Imaging Science and Biomedical Engineering, Stopford Building, University of Manchester, Oxford Road, Manchester M13 9PT
- 4.00                      *O23: A New Functional Form for Arterial Input Function Modelling*  
 Matthew ORTON<sup>1</sup>, James D’Arcy<sup>1</sup>, Simon Walker-Samuel<sup>1</sup>, Martin Leach<sup>1</sup>, David Hawkes<sup>2</sup>, David Collins<sup>1</sup>  
<sup>1</sup>Institute of Cancer Research, Sutton, Surrey SM2 5NG; <sup>2</sup>Centre for Medical Image Computing, University College London
- 4.12                      *O24: Partial volume correction for magnetic resonance renography studies*  
 Rodriguez Gutierrez, D<sup>1</sup>, Diaz Montesdeoca, O<sup>2</sup>, Wells, K<sup>1</sup>, Mendichovszky, I<sup>3</sup>, and Gordon I<sup>3</sup>  
<sup>1</sup>Centre for Vision, Speech and Signal Processing, School of Electronics & Physical Sciences, University of Surrey; <sup>2</sup>EUITT, Universidad de Las Palmas de Gran Canaria, Spain; <sup>3</sup>RCS Unit of Biophysics, Institute of Child Health, University College London
- 4.24                      *O25: Imaging in drug development: lessons from therapeutics and targeted molecular imaging agents*  
 Andy Dzik-Jurasz  
 Point Therapeutics, Inc., Boston, MA
- 4.40 pm                    Close of meeting**

## Posters

- P1 *Classification of Automated-Gyrification Index Descriptors using Supervised Learning Methods: A Feature Based Morphometry Study*  
Heidi M Bonnici, Jonathan M Harris, Andrew C Stanfield, Dominic Job, G Katherine S Lymer, Stephen M Lawrie, T William J Moorhead  
Division of Psychiatry, The University of Edinburgh
- P2 *Characterisation of a Carotid Injury Model in Rat in vivo Using MRI*  
K.K. Cheung<sup>1,2</sup>, M.J. Ramirez<sup>3</sup>, P. Lehtolainen<sup>3</sup>, D.G. Gadian<sup>2</sup>, A.M. Taylor<sup>4</sup>, R.J. Ordidge<sup>1</sup>, M.F. Lythgoe<sup>2</sup>  
<sup>1</sup>Department of Medical Physics and Bioengineering, University College London, London; <sup>2</sup>RCS Unit of Biophysics, UCL Institute of Child Health, London; <sup>3</sup>Centre for Cardiovascular Biology and Medicine, Division of Medicine, University College London; <sup>4</sup>Cardiothoracic Unit, Great Ormond Street Hospital for Children, London
- P3 *A Locally Adaptive Gradient Controlled Spatial Regularisation Partial Volume Classifier*  
John P. Chiverton, Kevin Wells  
Centre for Vision, Speech and Signal Processing, School of Electronics and Physical Sciences, University of Surrey, GU2 7XH
- P4 *Shielded biplanar gradient coil design for an open permanent low field MRI*  
Li Sze CHOW, Kuan J.Lee, Jim M Wild, Martyn N.J.Paley  
Section of Academic Radiology, University of Sheffield, Royal Hallamshire Hospital, Glossop Road, S10 2JF
- P5 *Measuring  $T_2$  using  $T_2$  Prepared Balanced Turbo Field Echo Imaging at 3.0T and 7.0T*  
E. F. Cox, C. L. Hoad, P. A. Gowland  
Sir Peter Mansfield Magnetic Resonance Centre, School of Physics and Astronomy, University of Nottingham, Nottingham
- P6 *Negative BOLD accompanies sharpening of whisker representations in rat barrel cortex visualized with functional magnetic resonance imaging*  
Benito de Celis Alonso<sup>1</sup>, Andrew S. Lowe<sup>1</sup>, Aisling L. Dixon<sup>1</sup>, John P. Dear<sup>2</sup>, Kalok C. Lee<sup>3</sup>, Steven C. R. Williams<sup>1</sup> and Gerald T. Finnerty<sup>1</sup>  
<sup>1</sup>MRC Centre for Neurodegeneration, King's College London, De Crespigny Park, London SE5 8AF; <sup>2</sup>Department of Mechanical Engineering, Imperial College London, London SW7 2AZ; <sup>3</sup> Division of Engineering, King's College London, Strand, London WC2R 2LS
- P7 *An asymmetric quadrature birdcage body T-R coil for hyperpolarised  $^3\text{He}$  lung MRI*  
N de Zanche<sup>3</sup>, N Chinna<sup>2</sup>, K Teh<sup>1</sup>, C Randell<sup>2</sup>, JM Wild<sup>1</sup>  
<sup>1</sup>Academic Radiology, University of Sheffield, UK, <sup>2</sup>Pulseteq Ltd, UK, Biomedical Engineering, <sup>3</sup>University and ETH, Zurich, Switzerland
- P8 *Fast and Accurate Mapping of the Flip Angle Using the 180° Null*  
Nicholas G Dowell and Paul S Tofts  
Institute of Neurology, UCL, Queen Square, London WC1N 3BG
- P9 *Investigate the dependent of P300 on Target to Target Interval*  
Sally Eldeghaidy, Kay E. Head, Penny Gowland, Sue Francis  
Sir Peter Mansfield Magnetic Resonance Centre, School of Physics and Astronomy, University of Nottingham, University Park, Nottingham NG7 2RD



- P10 *Resolving conformational exchange in pimonidazole – a hypoxia marker*  
Cristina Gabellieri, Thomas R. Eykyn, Geoffrey S. Payne, Martin O. Leach  
Cancer Research UK Clinical Magnetic Resonance, The Institute of Cancer  
Research, Royal Marsden Foundation NHS, Sutton, Surrey
- P11 *Texture analysis for differentiation between benign and malignant liver tumours in MRI*  
A. Gharbali, Dr. R.A. Lerski  
Department of Medical Physics, Ninewells Hospital & Medical School, University of  
Dundee
- P12 *Characterization of scanner stability; measuring subtle changes in apparent transmitter output and receive gain*  
J S Jackson, D J Tozer, P S Tofts  
Institute of Neurology, UCL, Queen Square, London, WC1N 3BG
- P13 *Low field, low cost multi-nuclear imaging research systems*  
Eugeny Krjukov, James Wild, Martyn Paley  
Academic Radiology, University of Sheffield, Royal Hallamshire Hospital, Sheffield
- P14 *Ferumoxide labelling of CD133+ cells for targeted re-endothelialization: potential and pitfalls*  
Panagiotis Kyrtatos<sup>1</sup>, P Lehtolainen<sup>2</sup>, MJ Ramirez<sup>2</sup>, DG Gadian<sup>1</sup>, Q Pankhurst<sup>3</sup>, MF Lythgoe<sup>1</sup>  
<sup>1</sup>UCL Institute of Child Health, London; <sup>2</sup>UCL Department of Medicine, London;  
<sup>3</sup>London Centre for Nanotechnology, London
- P15 *Using the blood oxygen level dependant magnetic resonance signal to observe the neuronal effects of acute and chronic fluoxetine administration in the mammalian brain*  
Tamsin Langley<sup>1</sup>, Steven C.R. Williams<sup>1</sup>, Michael O'Neill<sup>2</sup> and Nicholas Jones<sup>1</sup>  
<sup>1</sup>Institute of Psychiatry, London, U.K. <sup>2</sup>Eli Lilly & Co. Surrey
- P16 *Development of a combined microPET@-MR system*  
A.J.Lucas<sup>1,2</sup>, R.C.Hawkes<sup>1</sup>, R.E.Ansorge<sup>2</sup>, G.B.Williams<sup>1</sup>, R.E.Nutt<sup>3</sup>, J.C.Clark<sup>1</sup>, T.D.Fryer<sup>1</sup>, T.A.Carpenter<sup>1</sup>  
<sup>1</sup>Wolfson Brain Imaging Centre, University of Cambridge, Box 65, Addenbrooke's Hospital, Cambridge CB2 2QQ; <sup>2</sup>Cavendish Laboratory, University of Cambridge, J.J. Thomson Avenue, Cambridge CB3 0HE; <sup>3</sup>Siemens Molecular Imaging Preclinical Solutions, 810 Innovation Drive, Knoxville, TN 37932, USA
- P17 *The relationship between brain structure and schizotypal measures in subjects at high risk of developing schizophrenia*  
G .Katherine S. Lymer, Dominic E. Job, T. William J. Moorhead, Andrew M. McIntosh, David G. Owens, Eve C. Johnstone and Stephen M. Lawrie  
Division of Psychiatry, Royal Edinburgh Hospital, Morningside Park, Edinburgh EH10 5HF
- P18 *MRI Based Attenuation Correction for Combined PET/MR*  
Ian B Malone<sup>2</sup>, Richard E Ansorge<sup>1,2</sup>, Tim D Fryer<sup>1</sup>, Guy B Williams<sup>1</sup>, T Adrian Carpenter<sup>1</sup>  
<sup>1</sup>Wolfson Brain Imaging Centre, University of Cambridge, Box 65, Addenbrooke's Hospital, Cambridge CB2 2QQ; <sup>2</sup>Cavendish Laboratory, University of Cambridge, J.J.Thomson Avenue, Cambridge CB3 0HE

- P19 *T1 mapping in childhood abdominal tumours – preliminary experience*  
Iosif Mendichovszky<sup>1</sup>, Øystein E. Olsen<sup>2</sup>  
<sup>1</sup>RCS Unit of Biophysics, UCL Institute of Child Health, London; <sup>2</sup>Radiology Department, Great Ormond Street Hospital for Children NHS Trust, London
- P20 *An increased matrix single echo acquisition MAMBA 2D array*  
Martyn Paley, James Wild, Kuan Lee  
Academic Radiology, University of Sheffield
- P21 *Impact of inconsistent resolution on VBM studies: an example using Semantic Dementia*  
João M. S. Pereira<sup>1</sup>, Peter J. Nestor<sup>2</sup>, Guy B. Williams  
<sup>1</sup>Wolfson Brain Imaging Centre, Dept. of Clinical Neurosciences, University of Cambridge; <sup>2</sup>Neurology Unit, Dept. of Clinical Neurosciences, University of Cambridge
- P22 *Ultra-Efficient Shielded Dome Gradient Coils*  
Michael Poole and Richard Bowtell  
Sir Peter Mansfield Magnetic Resonance Centre, School of Physics and Astronomy, University of Nottingham, University Park, Nottingham NG7 2RD
- P23 *Application of Higher-Order Boundary Element Method to Gradient Coil Design*  
C. Cobos Sanchez<sup>1</sup>, L. Marin<sup>2</sup>, R.W. Bowtell<sup>1</sup>, H. Power<sup>2</sup>, P.M. Glover<sup>1</sup>, A.A. Becker<sup>2</sup> and I.A. Jones<sup>2</sup>  
<sup>1</sup>Sir Peter Mansfield Magnetic Resonance Centre, School of Physics and Astronomy, The University of Nottingham, Nottingham Park, Nottingham NG7 2RD; <sup>2</sup>School of Mechanical, Materials and Manufacturing Engineering, The University of Nottingham, Nottingham Park, Nottingham NG7 2RD
- P24 *Detection of the Stria of Gennari using Turbo Spin Echo Imaging at 3T*  
Rosa Sanchez, Susan Francis, Richard Bowtell  
Sir Peter Mansfield Magnetic Resonance Centre, School of Physics and Astronomy, University of Nottingham, University Park, Nottingham, NG7 2RD
- P25 *Automated Techniques for Murine Phenotyping in Huntington's Disease*  
S. J. Sawiak<sup>1</sup>, G. B. Williams<sup>1</sup>, N. I. Wood<sup>2,3</sup>, A. J. Morton<sup>3</sup>, T. A. Carpenter<sup>1</sup>  
<sup>1</sup>Wolfson Brain Imaging Centre, Box 65, Addenbrooke's Hospital, Hills Road, Cambridge CB2 2QQ; <sup>2</sup>Cambridge Centre for Brain Repair, E. D. Adrian Building, Forvie Site, Robinson Way, Cambridge CB2 2PY; <sup>3</sup>Department of Pharmacology, Tennis Court Road, Cambridge CB2 1PD
- P26 *Generalised Index Formulae for Prolate, Oblate and Spherical Shape Diffusion Tensors*  
Yuji Shen<sup>1</sup>, Risto Kauppinen<sup>1</sup>, Ida Pu<sup>2</sup>, Chris Clark<sup>3</sup>  
<sup>1</sup>School of Sport and Exercise Sciences, University of Birmingham; <sup>2</sup>Department of Computing, Goldsmiths College, University of London; <sup>3</sup>Institute of Child Health, University College London
- P27 *The influence of task demand on the BOLD response in a complex power-grip task*  
Annette Sterr<sup>1</sup>, Shan Shen<sup>1</sup>, Gang Gao<sup>1</sup>, Wengshen Hou<sup>2</sup>, Andre Szameitat<sup>1</sup>  
<sup>1</sup>Department of Psychology, University of Surrey, Guildford, UK; <sup>2</sup>Department of Biomedical Sciences, University of Chongqing, Chongqing, China
- P28 *A comparison of modified k-t BLAST and a k-t variable-density under-sampling technique for retrospectively gated MR flow measurement*  
Yuehui Tao, Ian Marshall  
Medical Physics and SHEFC Brain Imaging Research Centre for Scotland, University of Edinburgh, Edinburgh

- P29                    Slice profile effects in variable flip angle HP <sup>3</sup>He MRI  
K. Teh, K.J. Lee, J.M. Wild  
Academic Radiology, University Of Sheffield, Sheffield
- P30                    Quantitative Magnetisation Transfer of Low Grade Glioma  
Daniel J. Tozer, Christopher E. Benton, Paul S. Tofts and Jeremy R. Rees  
Institute of Neurology, University College London, Queen Square, London, WC1N  
3BG
- P31                    EPISTAR Pulsed Arterial Spin Labelling Perfusion Imaging at 7 Tesla  
Alex Gardener, Roman Wesolowski, Penny Gowland and Susan Francis  
Sir Peter Mansfield Magnetic Resonance Centre, University of Nottingham,  
Nottingham, NG7 2RD
- P32                    Preliminary Data for Quantitative Two-Dimensional HRMAS Spectroscopy of  
Human Brain Tumours  
Alan Wright<sup>1</sup>, Kirstie Opstad<sup>1</sup>, John Griffiths<sup>1</sup>, B. Anthony Bell<sup>2</sup> and Franklyn Howe<sup>1</sup>  
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Medical Sciences and <sup>2</sup>Department of Neurosurgery, St George's (University of  
London), SW17 0RE
- P33                    T<sub>1</sub> Measurements for Cortical Grey Matter, White Matter and Sub-Cortical Grey  
Matter at 7T  
P. J. Wright, A. Peters, M. Brookes, R. Coxon, P. Morris, S. Francis, R. Bowtell, P.  
Gowland  
Sir Peter Mansfield Magnetic Resonance Centre, School of Physics and  
Astronomy, University of Nottingham, Nottingham NG7 2RD