

**British Chapter International Society for Magnetic Resonance in Medicine  
BCISMRM  
11<sup>th</sup> Annual Meeting 2005, Oxford**

Venue: Main Auditorium, St. John's College, University of Oxford

**Wednesday, 31st August 2005**

12:00 onwards: Registration

13:30-17:30 **Satellite Workshop: Diffusion Tractography**

18:00-19:30 **Wine Reception: Museum of the History of Science, Broad Street**

**Thursday, 1st September 2005**

08:30 onwards: Registration

**09:40 Welcome**

*Peter Jezzard, University of Oxford*

**09:45-10:30 The Annual Bill Moore Memorial Lecture.**

Introduced by Martin Leach, President BC-ISMRM

“Multimodal approaches to measuring brain activity”

*Peter Morris, University of Nottingham*

10:30 **Coffee Break**

**11:00-12:15 Session 1: Experimental Models**

Chaired by Mark Lythgoe and Nicola Sibson

11:00 Invited Lecture 1: “Application of MRI to experimental models of brain disease”

*Mark Lythgoe, Institute of Child Health, London*

11:25 L1: “Longitudinal MRI measurements of T2 and CBF in the lithium-pilocarpine model of status epilepticus”

*M. Choy, R.C. Scott, D.L. Thomas, D.G. Gadian, and M.F. Lythgoe, Institute of Child Health, London*

11:37 L2: “Early MRI, MRS and behavioural changes precede clinical symptoms in a model of prion disease”

*K. Broom, H. Scott, J. Lowe, A. Blamire, H. Perry, P. Styles, and N. Sibson, Universities of Oxford and Southampton*

11:49 L3: “Characterization of Sandhoff Disease mouse model by MRI”

*F. Awan, J. Lowe, M. Jeyakumar, D. Neville, K. Broom, A. Blamire, F. Platt, P. Styles, and N. Sibson, University of Oxford*

12:01 L4: “fMRI in rat brain following cannabinoid receptor agonist THC, or the selective CB1 cannabinoid receptor antagonist, Rimonabant”

*J.A. Stark, S.R. Williams, and S.M. Luckman, University of Manchester*

**12:15-12:45 Special Guest Lecture: MRI Safety at High Field, Frank G. Shellock**

Sponsored by GE Healthcare

Chaired by Jane Francis

12:45 **Lunch, posters, and exhibition**

**14:00-15:40 Session 2: Sequence Design and Image Analysis**

Chaired by Karla Miller and David Atkinson

- 14:00 Invited Lecture 2: "fMRI and diffusion imaging using Steady-State Free Precession (SSFP)"  
*Karla Miller*, University of Oxford
- 14:25 L5: "Generalised parameter relations for the Shinnar-Le Roux pulse design algorithm"  
*K.J. Lee*, University of Sheffield
- 14:37 L6: "Parallel imaging of the lungs with hyperpolarized 3He"  
*B. Waters, J.Y. Wang, and J. Owers-Bradley*, University of Nottingham
- 14:49 L7: "Correction of distortions due to eddy currents and susceptibility effects in diffusion weighted echo-planar imaging"  
*K. Embleton and G.J.M. Parker*, University of Manchester
- 15:01 L8: "How well does Z-shim correction work? An investigation using k-space profile fitting."  
*H. Marshall, D.J. Larkman, and J.V. Hajnal*, Hammersmith Hospital
- 15:13 L9: "Making the invisible visible Diagonal-SPRITE: optimization for duty cycle limitations"  
*A. Protti, A. Herlihy, J. Tessier, and J. Bell*, Hammersmith Hospital and AstraZeneca
- 15:25 L10: "Non-rigid motion correction in multi-shot images"  
*P.G. Batchelor, D. Atkinson, D.J. Larkman, J. Hajnal, D.L.G. Hill, and P. Irrarazaval*, University College London
- 15:40 **Afternoon Tea Break**

**16:00-17:00 Poster Presentations**

Garden Quad

**17:00-17:45 Debate:**

Chaired by Stuart Clare and Alistair Howseman

**Motion** "This House Believes 7T Will Never Transfer to the Clinic"  
Basic Scientists: Roger Ordidge (for), Peter Morris (against).  
Clinician Scientists: James Byrne (for), Paul Matthews (against).

17:45 **Close of Scientific Session**17:45-18:15 **Annual General Meeting**19:00 **Reception and Conference Dinner, St John's Dining Hall****Friday, 2<sup>nd</sup> September 2005**

08:30 onwards: Registration

**09:00-10:15 Session 3: Cardiovascular and Angiographic MR**

Chaired by Reza Razavi and Stefan Neubauer

- 09:00 Invited Lecture 3: "XMR guided cardiac catheterisation procedures"  
*Reza Razavi*, Guy's and St Thomas' Hospital, London
- 09:25 L11: "Cardiac imaging at 3 Tesla: Optimisation and validation of cardiac mass and function"  
*D.J. Tyler, L.E. Hudsmith, S.E. Petersen, J.M. Francis, P. Weale, K. Clarke, S. Neubauer, and M.D. Robson*, University of Oxford
- 09:37 L12: "Assessment of MR angiography using in-vitro models & computer simulation"  
*K.L. Lee, D.N. Firmin, and D.J. Doorly*, Royal Brompton Hospital

- 09:49 L13: “Outlier detection in image segmentation application to automated plaque burden assessment”  
*K. Lekadir, R. Merrifield, A.P. Brown, A. Varghese, D. Pennell, and G.Z. Yang*, Imperial College London
- 10:01 L14: “Altered cerebral vessel topology in preterm infants imaged at term at 3T with an optimised MRA protocol”  
*C. Malamateniou, S.J. Counsell, J.M. Allsop, J.A. Fitzpatrick, L. Leijser, F.M. Cowan, J.V. Hajnal, and M.A. Rutherford*, Hammersmith Hospital
- 10:15 **Coffee Break**

**10:45-12:45 Session 4: Advanced Neuro MR**  
Chaired by Richard B. Buxton and Derek Jones

- 10:45 Invited Lecture 4: “Measuring brain function with fMRI”  
*Richard B. Buxton*, University of California San Diego
- 11:25 L15: “Pharmacological fMRI: Opioid-induced focal reduction in the BOLD response to hypercapnia”  
*R.G. Wise, K. Pattinson, S. Mayhew, R. Rogers, and I. Tracey*, University of Oxford
- 11:37 L16: “A fMRI and 3H MRS study of the human visual cortex at varying levels of arterial oxygen saturation”  
*R. Vidyasagar, D.C. Williamson, P.I. Tuunanen, and R.A. Kauppinen*, Universities of Manchester, Kuopio and Birmingham
- 11:49 L17: “Definition of connection significance for probabilistic tractography”  
*D.M. Morris and G.J.M. Parker*, University of Manchester
- 12:01 L18: “Inference of fibre orientation in heterogeneous white matter from diffusion weighted EPI”  
*T. Hosey, S. Harding, A Carpenter, R. Ansorge, and G. Williams*, University of Cambridge
- 12:13 L19: “Investigating neuronal currents in the human corpus callosum at 3.0T”  
*L.S. Chow, G. Cook, E. Whitby, and M. Paley*, University of Sheffield
- 12:25 L20: “Failure to replicate the direct detection of magnetic field changes associated with neuronal activity”  
*L.M. Parkes, F. de Lange, D.G. Norris, P. Fries, and I. Toni*, University of Liverpool
- 12:45 **Lunch, Posters, and Exhibition**  
**(BC-ISMRM Committee working lunch)**

**13:45-15:00 Session 5: Body MR**  
Chaired by Margaret Hall-Craggs and Colin Ferrett

- 13:45 Invited Lecture 5: “Advances in breast MRI”  
*Margaret Hall-Craggs*, Middlesex Hospital
- 14:10 L21: “Bayesian adaptive smoothing for DCE-MR imaging”  
*V. Schmid, B.J. Whitcher, G.Z. Yang, N.J. Taylor, and A.R. Padhani*, Hammersmith & GlaxoSmithKline
- 14:22 L22: “EPI assessment of the effect of acid stability on gastric emptying, CCK release, and satiety”  
*L. Marciani, M. Wickham, G. Singh, D. Bush, B. Pick, A. Fillery-Travis, R. Faulks, G. Marsden, R.C. Spiller, and P.A. Gowland*, University of Nottingham
- 14:34 L23; “MR assessment of the effect of a low carbohydrate diet on hepatic fat content”

*K.G. Hollingsworth, Z. Abubacker, I. Joubert, M. Allison, and D.J. Lomas,*  
University of Cambridge

14:46 L24: “Quantitative evaluation of DCE-MRI: A novel method of analysis that does not require gadolinium calibration or input function”  
*S. Walker-Samuel, B.R. Knowles, C. Parker, D.M. Koh, M.O. Leach, and D.J. Collins,* Royal Marsden Hospital

15:00 **Afternoon Tea Break**

**15:30-16:45 Session 6: Molecular MR and Novel Contrast Agents**

Chaired by Jim Wild and Jimmy Bell

15:30 Invited Lecture 6: “Novel contrast agents and molecular MR”  
*Jim Wild,* University of Sheffield

15:55 L25: “Hyperpolarised He MRI in the management of patients with non-small cell lung cancer”  
*R. H. Ireland, M. McJury, M.Q. Hatton, E.J.R. Van Beek, S. Fischele, N. Woodhouse, and J.M. Wild,* University of Sheffield

16:07 L26: “Radiation damping experiments with hyperpolarized helium-3 gas using a volume birdcage coil”  
*K. Teh, N. de Zanche, and J. Wild,* University of Sheffield

16:19 L27: “Preliminary investigation of the relationship between hypoxic marker detected by MR Spectroscopy and DCE-MRI in human tumours”  
*A. Oregioni, G.S. Payne, S. Walker-Samuel, J.A. d’Arcy, D.J. Collins, C.P. Lee, P. Workman, M.J. Campbell, M. Tracy, and M.O. Leach,* Royal Marsden Hospital

16:31 L28: “Selective uptake of iron oxide contrast agents by endothelial progenitor cells”  
*R. Dobson, P. Lehtolainen, J. Halcox, A. Taylor, M. Ramirez, Q. Pankhurst, D. Gadian, J. Deanfield, and M. Lythgoe,* University College London

16:45 **Close of Conference**

## Posters

- P1. A B1 AC-MAMBA whole body screening system design.  
*M Paley, S FICHELE, K Lee, E Whitby, P Griffiths, J Wild*, University of Sheffield.
- P2. Design of a low field magnet for hyper-polarised gas imaging.  
*S FICHELE, N Woodhouse, JM Wild, MNJ Paley*, University of Sheffield.
- P3. Short, low inductance insert shim coils designed using the slack method.  
*M Poole, R Bowtell*, University of Nottingham.
- P4. Radio frequency induced temperature rises in intracavitary coils.  
*SF Riches, C Cummings, GS Payne, MO Leach, E Charles-Edwards*, Institute of Cancer Research.
- P5. Characterisation of lipopolysaccharide induced pulmonary oedema by MRI.  
*S Hotee, KK Changani, A White, K Bhakoo, JD Bell*, Hammersmith Hospital.
- P6. Saturation correction using continuous “dual-angle” T1 measurements.  
*DJ Tyler, MA Cole, CA Carr, D Stuckey, K Clarke*, University of Oxford.
- P7. Generalised parameter relations for the Shinner-Le Roux pulse design algorithm.  
*K Lee*, University of Sheffield.
- P8. Comparison of root reflection methods in Shinnar-Le Roux pulse design.  
*K Lee*, University of Sheffield.
- P9. *In vivo* measurement of the longitudinal relaxation time of arterial blood (T1a) in the mouse using a pulsed arterial spin labelling approach.  
*DL Thomas, MF Lythgoe, RJ Ordidge, DG Gadian*, University College London.
- P10. Sensitivity encoded echo-planar spectroscopic imaging (SENSE-EPsi).  
*A Mon, KJ Lee, MN Paley, PD Griffiths, JM Wild*, University of Sheffield.
- P11. A combined gradient echo spin EPI sequence with optimised TE for fMRI.  
*W van der Zwaag, S Frances, R Bowtell*, University of Nottingham.
- P12. Investigation of appropriate inversion times to use for a double inversion-recovery sequence with an echo-planar imaging readout.  
*SJP Meara, PA Boulby, GJ Barker*, Institute of Psychology.
- P13. A comparative study between two and multi point gradient echo T1 calculations for DCE-MRI studies.  
*BR Knowles, JA d’Arcy, S Walker-Samuel, MO Leach, DJ Collins*, Institute of Cancer Research.
- P14. Optimisation of quantitative MT (qMT) sequence acquisition parameters.  
*RS Samson, MR Symms, PS Tofts*, University College London.
- P15. T1 measurement using a 3D spoiled gradient echo sequence with flip angle calculation.  
*DJ Wilson, SE Bacon*, Leeds Teaching Hospitals.

P16. Post processing correction for eddy current distortion and subject motion in diffusion weighted EPI data.

*S Harding, G Williams, A Carpenter, University of Cambridge.*

P17. Metric for multi-centre sMRI scanner harmonization.

*T William, J Moorhead, DE Job, VE Gountouna.*

P18. Testing for correlation between spontaneous S0 and R2\* fluctuations in fMRI.

*S Leach, L Jiang, J Leggett, PA Gowland, R Bowtell, University of Nottingham.*

P19. Brain activity due to visual stimulus: adult responses to a paradigm for infants.

*MA Dresner, R Raafat, L Srinivasan, AD Edwards, J Hajnal, Imperial College London.*

P20. Is the fMRI haemodynamic response function stable over a single scanning session?

*H Devlin, JT Devlin, M Woolrich, P Jezzard, University of Oxford.*

P21. Does hypoxia modulate the stimulus-evoked BOLD response?

*SD Mayhew, R Rogers, P Dunckley, I Tracey, RG Wise, University of Oxford.*

P22. Model of vascular reactivity to investigate the basis of Grubb's relationship between cerebral blood flow and volume.

*SK Piechnik, P Jezzard, University of Oxford.*

P23. Choosing a presaturation method in Arterial Spin Labelling: A simulation-based approach.

*D Gallichan, P Jezzard, University of Oxford.*

P24. Using the Wild Bootstrap to quantify uncertainty in DTI.

*B Whitcher, DS Tuch, JJ Wisco, AG Sorenson, L Wang. GlaxoSmithKline.*

P25. "PASTA without tears": Confidence mapping in DT-MRI tractography using the Wild Bootstrap.

*DK Jones, Institute of Psychiatry.*

P26. Voxel-based classification of white matter fibre complexity in diffusion MRI.

*S Nedjati-Gilani, PA Cook, GJM Parker, DC Alexander, University College London.*

P27. An evaluation of linear persistent angular structure MRI and spherical deconvolution.

*KK Seunarine, DC Alexander, University College London.*

P28. Methodology for correlating structure and function in subjects at high risk of developing schizophrenia.

*K Lymer, D Job, W Moorhead, A McIntosh, E Johnstone, S Lawrie, University of Edinburgh.*

P29. A 3T MRI study of brain iron deposition in Parkinson's Disease using PRIME.

*L Wallis, R Grunewald, PD Griffiths, MNJ Paley, University of Sheffield.*

P30. Analysis of T1-weighting effects of MTR.

*M Cercignani, M Symms, P Boulby, G Barker, University College London.*

P31. Comparison of MRI sequences for surface area quantification in post mortem brains.

*C Furlong, LM Parkes, B Pakkenberg, J Jelsing, N Roberts, University of Liverpool.*

- P32. Method to compare ROI and VBM investigation of the corpus callosum.  
*R Philip, K Lymer, A Stanfield, M Spencer, W Moorhead, S Lawrie*, University of Edinburgh.
- P33. Modelling optic nerve axonal fields for direct MR detection studies.  
*M Paley, LS Chow, J Wild, K Lee, E Whitby, P Griffiths, G Cook*, University of Sheffield.
- P34. Quantitative magnetic resonance indices in *post mortem* multiple sclerosis brain before and after fixation.  
*K Schmierer, DJ Tozer, PA Boulby, CAM Wheeler-Kingshott, HG Parkes, TA Yousry, PS Tofts, DH Miller*, University College London.
- P35. Measuring glutamate in the human brain by MRS: Reproducibility using time domain fitting at 3T.  
*KE Davies, E Leitao, S Singh, S Mistry, S Jefferson, S Hamdy, SR Williams*, University of Manchester.
- P36. Amino acid measurements in vivo using 2D J-resolved MR spectroscopy.  
*H Hawesa, S Williams*, University of Manchester.
- P37. GABA editing with MEGA-PRESS at 3T without macromolecular contribution  
*M. Wylezinska, C.J. Evans and P. Jezzard*, University of Oxford
- P38. Liver texture analysis: Robustness of measurement in cirrhotic patients and healthy volunteers.  
*KG Hollingsworth, DJ Lomas*, University of Cambridge.
- P39. Computer Aided Differentiation (CAD) of focal liver lesions in MRI.  
*A Gharbali, RA Lerski, S Gandy, R Bhat, P Clinch*, University of Dundee.
- P40. Optimising a protocol for dynamic contrast enhanced magnetic resonance imaging of the cervix.  
*SB Donaldson, DL Buckley, CML West, BM Carrington, RD Hunter, SE Davidson, AP Jones*, University of Manchester.
- P41. Behavior of gelled alginate beads in simulated gastrointestinal conditions.  
*P Wright, R Rayment, C Hoad, I Dadhiwala, L Marciani, R Spiller, M Butler, P Gowland*, University of Nottingham.
- P42. Measuring the MRI response to exercise at the common extensor tendon in normal subjects in relation to tennis elbow.  
*JF Utting, W Adair, H Banister, D Finlay, MA Horsfield, B Morgan*, Leicester University.
- P43. MRI bronchography with Dynamic Radial 3He MRI.  
*JM Wild, K The, N Woodhouse, S FICHELE, R Ireland, E van Beek, MNJ Paley, L Kasuboski, S Morcos, PD Griffiths.*, University of Sheffield.
- P44. Single span 3D pO<sub>2</sub> mapping with hyperpolarised 3He MRI.  
*JM Wild, K The, S FICHELE, N Woodhouse, R Ireland, E van Beek, MNJ Paley*, University of Sheffield.
- P45. Post-ischemic gene therapy for stroke: an MRI study.  
*RA Badin, MF Lythgoe, DS Latchman, DG Gadian*, University College London.
- P46. Sensory experiences of healthy volunteers exposed to ultra high MRI static magnetic fields.  
*I Cavin, P Gowland, P Glover, RW Bowtell*, University of Nottingham.