British Chapter International Society for Magnetic Resonance in Medicine
BCISMRM
11th 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
Chair: 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
Chair: Jane Francis

12:45 Lunch, posters, and exhibition
<table>
<thead>
<tr>
<th>Time</th>
<th>Session 2: Sequence Design and Image Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>14:00</td>
<td>Invited Lecture 2: “FMRI and diffusion imaging using Steady-State Free Precession (SSFP)” Karla Miller, University of Oxford</td>
</tr>
<tr>
<td>14:25</td>
<td>L5: “Generalised parameter relations for the Shinnar-Le Roux pulse design algorithm” K.J. Lee, University of Sheffield</td>
</tr>
<tr>
<td>14:37</td>
<td>L6: “Parallel imaging of the lungs with hyperpolarized 3He” B. Waters, J.Y. Wang, and J. Owers-Bradley, University of Nottingham</td>
</tr>
<tr>
<td>14:49</td>
<td>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</td>
</tr>
<tr>
<td>15:13</td>
<td>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</td>
</tr>
<tr>
<td>15:40</td>
<td>Afternoon Tea Break</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time</th>
<th>Poster Presentations</th>
</tr>
</thead>
<tbody>
<tr>
<td>16:00</td>
<td>Garden Quad</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time</th>
<th>Debate:</th>
</tr>
</thead>
<tbody>
<tr>
<td>17:00</td>
<td>Chaired by Stuart Clare and Alistair Howseman</td>
</tr>
</tbody>
</table>

**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).

<table>
<thead>
<tr>
<th>Time</th>
<th>Close of Scientific Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>17:45</td>
<td>Annual General Meeting</td>
</tr>
<tr>
<td>17:45-18:15</td>
<td>Reception and Conference Dinner, St John’s Dining Hall</td>
</tr>
</tbody>
</table>

**Friday, 2nd September 2005**

08:30 onwards: Registration

<table>
<thead>
<tr>
<th>Time</th>
<th>Session 3: Cardiovascular and Angiographic MR</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:00</td>
<td>Invited Lecture 3: “XMR guided cardiac catheterisation procedures” Reza Razavi, Guy’s and St Thomas’ Hospital, London</td>
</tr>
<tr>
<td>09:00</td>
<td>Invited Lecture 3: “XMR guided cardiac catheterisation procedures” Reza Razavi, Guy’s and St Thomas’ Hospital, London</td>
</tr>
<tr>
<td>09:25</td>
<td>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</td>
</tr>
<tr>
<td>09:37</td>
<td>L12: “Assessment of MR angiography using in-vitro models &amp; computer simulation” K.L. Lee, D.N. Firmin, and D.J. Doorly, Royal Brompton Hospital</td>
</tr>
</tbody>
</table>
09:49 L13: “Outlier detection in image segmentation application to automated plaque burden assessment”  

10:01 L14: “Altered cerebral vessel topology in preterm infants imaged at term at 3T with an optimised MRA protocol”  

10:15 Coffee Break

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

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”  

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”  

14:22 L22: “EPI assessment of the effect of acid stability on gastric emptying, CCK release, and satiety”  

14:34 L23: “MR assessment of the effect of a low carbohydrate diet on hepatic fat content”
**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**

---

<table>
<thead>
<tr>
<th>Time</th>
<th>Session 6: Molecular MR and Novel Contrast Agents</th>
</tr>
</thead>
</table>
| 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. Fichele, 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”  
| 16:31 | L28: “Selective uptake of iron oxide contrast agents by endothelial progenitor cells”  
| 16:45 | **Close of Conference** |
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.

*K Lee,* University of Sheffield.

*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.

*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.

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

P24. Using the Wild Bootstrap to quantify uncertainty in DTI. 
*B Whitcher, DS Tuch, JJ Wisco, AG Sorensen, L Wang*, GlaxoSmithKline.

*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.

H Hawesa, S Williams, University of Manchester.

P37. GABA editing with MEGA-PRESS at 3T without macromolecular contribution

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 Dadihiwala, 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 pO2 mapping with hyperpolarised 3He MRI.
JM Wild, K The, S Fichele, N Woodhouse, R Ireland, E van Beek, MNJ Paley, University of Sheffield.

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.