Scientific Programme

7th Annual Meeting of the
British Chapter of the ISMRM

Thursday 13th September 2001

08.45 – 09.15  Coffee

09.15 – 09.30  Opening of the meeting and introduction on behalf of the University of Cambridge  Dr David Lomas

09.30 – 10.30  Bill Moore Lecture: Studying Cancer with MRS & MRI  Prof John Griffiths

10.30 - 12.30  Session 1: Oncology and Spectroscopy
Chair: Dr Kevin Brindle

10.30 – 10.50  Invited Speaker : MR screening in breast cancer  Professor Martin Leach

10.50 – 11.10  Invited Speaker : DNA replication and its exploitation for cancer diagnosis and screening  Professor Ron Laskey

Contributing papers:

11.10 – 11.25  In Vitro MRS investigation of phosphocholine metabolism in ras transformed NIH3T3 fibroblasts  Mounia Beloueche


11.40 – 11.55  In vivo MR studies in a transgenic mouse model of Huntington’s disease  RA Page

11.55 – 12.10  Neurochemical surrogate markers of brain tissue compromise: An in vitro MRS and HPLC study of perfused cortical brain slices  Robert C Tasker

12.10 – 12.25  Comparison of polarization transfer schemes for application to P MRS studies  L Mancini

12.30 – 13.30  LUNCH
13.30 – 15.30  
**Session 2 - Cardiovascular**  
Chair: TBA

13.30 – 13.50  
**Invited Speaker:** Thrombus Imaging  
Dr Alan Moody

13.50 – 14.10  
**Invited Speaker:** MRA  
Mr Martin Graves

**Contributing papers:**

14.10 – 14.25  
High-resolution MR of carotid atheroma: a non-invasive tool for assessing plaque morphology and potential risk?  
Jonathan H Gillard

14.25 – 14.40  
Temporally resolved 3D Phase-Contrast for the study of Wall Shear Stresses in the carotid artery  
I Marshall

14.40 – 14.55  
A Model for Flow Quantification using Echo Planar Imaging (Spin Echo) in Simple and Complex Flow Regimes  
TA Sucharov

14.55 – 15.10  
The assessment of fetal and maternal blood flow to the placenta using FAIR EP1  
B. Jackson

15.10 – 15.25  
Fast T1 Measurement for Quantitative Cardiac Perfusion Applications  
DM Higgins

15.30 – 16.00  
**COFFEE**
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<th>Time</th>
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<td>16.00 – 18.00</td>
<td><strong>Session 3: Image Processing</strong></td>
<td>Chair: TBA</td>
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<td>16.00 – 16.20</td>
<td><strong>Invited Speaker:</strong> Brain connectivity mapping using DTI</td>
<td>Dr Geoff Parker</td>
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<td>16.20 – 16.40</td>
<td><strong>Invited Speaker:</strong> CV Analysis</td>
<td>Dr Guang Yang</td>
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<td><strong>Contributing papers:</strong></td>
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<tr>
<td>16.40 – 16.55</td>
<td>pq diagrams: A new method for tissue characterisation of magnetic resonance diffusion tensor imaging (DTI) data</td>
<td>Alonso Pena</td>
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<td>16.55 – 17.10</td>
<td>Optimal combination of signals from array coils using image based estimation of coil sensitivity</td>
<td>M. Bydder</td>
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<td>17.10 – 17.25</td>
<td>K-Space Motion Artefact Detection and Correction</td>
<td>D. Atkinson</td>
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<td>17.25 – 17.40</td>
<td>Reconstruction after irregular and under sampling due to rotational motion</td>
<td>David Atkinson</td>
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<td>17.40 – 17.55</td>
<td>Is quantification of bolus tracking MRI reliable without deconvolution?</td>
<td>J. Perthen</td>
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<td>19.30</td>
<td><strong>DRINKS RECEPTION</strong></td>
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<td><strong>CONFERENCE DINNER</strong></td>
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Friday 14th September 2001.

Session 4a

09.00 – 11.00 fMRI
Chair: Professor E Bullmore

09.00 – 09.20 Invited Speaker: fMRI of the human visual system
Dr Krish Singh

09.20 - 09.40 Invited Speaker: Towards quantitation in fMRI
Dr Peter Jezzard

Contributing papers:

09.40 – 09.55 Towards the Direct Detection of Neuronal Activity the Brain
D.Konn

09.55 - 10.10 Which aspect of fMRI BOLD signals best reflects the underlying electrophysiology in human somatosensory cortex?
OJ Arthurs

10.10 – 10.25 A Direct Cortical Stimulation Model for rodent fMRI
V. Austin

10.25 – 10.40 Pharmacological fMRI: identifying drug-induced modulation of pain-related brain activity using a pharmacokinetic model
Richard Wise

L.Clarke

11.00 – 11.30 COFFEE
Session 4b

09.00 – 11.00  MSK
   Chair: Professor A K Dixon

09.00 – 09.20  Invited Speaker: New methods in MSK MR
   Prof Graham Bydder

09.20 – 09.40  Invited Speaker: Investigating arthritis with MRI
   Dr John Waterton

Contributing papers:

09.40 – 09.55  A Novel RF Coil configuration for in-vitro imaging of arthritic rabbit knees
   Dr A Tasos

09.55 – 10.10  MR imaging of the wrist: effect on clinical diagnosis and patient
   Prof A Dixon

10.10 – 10.25  Three dimensional MRI of osteoarthritic equine carpal joints
   Dr A Tasos

10.25 – 10.40  Muscle oxygenation and ATP turnover studied by P MRS and NIRS
   GJ Kemp

10.40 – 10.55  Non invasive punch biopsy of human knee articular cartilage
   Dr Jo Burge

11.00 – 11.30  COFFEE
Session 5

11.30 – 12.30  How I do it  
Chair: Dr D J Lomas

11.30 – 11.50  Invited Speaker: Design and test new pulse sequences  
Dr Gareth Baker

11.50 – 12.10  Invited Speaker: Build your own MRI system  
Prof. Martyn Paley

12.10 – 12.30  Invited Speaker: Build an MR coil  
Dr Paul Glover

12.30 – 13.30  LUNCH

Session 6a

13.30 – 15.30  Body MRI  
Chair: TBA

13.30 – 13.50  Invited Speaker: MR of GI tract function  
Dr Penny Gowland

13.50 – 14.10  Invited Speaker: Rectal MRI staging  
Dr Gina Brown

Contributing papers:

L. Marciani

14.25 – 14.40  High Definition Imaging at 3 Tesla using a Body RF Coil  
Steve Roberts

Lomas DJ

14.55 – 15.10  Interactive blood suppressed single shot Fast Spin Echo/cardiac imaging  
Dr M Makki
15.10 – 15.25

15.30 – 16.00  COFFEE

Session 6 b

13.30 – 15.30  Hardware and Pulse Sequences
   Chair:

13.30 – 13.50  Invited Speaker: Challenges in the construction of wide bore high field imaging magnets
   Dr John Bird

Contributing papers:

13.50 – 14.05  Optimising the signal to noise ratio in Double Quantum CRAZED imaging
   Jose Pedro Marques

14.05 – 14.20  Spin Echo Entrapped Perfusion Image (SEEPAGE): Validation of Theory
   Lowri Cochlin

14.20 – 14.35  Rapid Simultaneous Mapping of T2 and T2* by Multiple Acquisition of Spin AntiGradient Echoes using Interleaved Echo Planar Imaging (MASAGE-IEPI)
   David L. Thomas

14.35 – 14.50  Magnetic Array Coil Simultaneous Imaging (MACSI)
   K J Lee

14.50 – 15.05  Preliminary Experiments with a Novel Technique for Visualising Sub-pixel Structures
   D. Carmichael

15.05 – 15.20  k-Space Filtering Effects in 2D Gradient Echo Hyperpolarised 3He MRI
   Jim M Wild

15.30 – 16.00  COFFEE
Session 7 (option 1)

**Perfusion/Diffusion**
Chair: Dr J Gillard

16.00 – 16.20 Invited Speaker: Principles of Perfusion and Diffusion
Prof Mike Peters

16.20 – 16.40 Invited Speaker: Perfusion and Diffusion applications in the brain
Dr Fernando Calamante

**Contributory papers:**

16.40 – 16.55 Diffusion Tensor Imaging of Brain Tumours at 3 Tesla: A Potential Tool for Differentiating High Grade Gliomas from Low Grade Tumours and Metastases?
Stephen J Price

16.55 – 17.10 Abnormal cerebral blood volume in regions of contused and normal appearing brain following traumatic brain injury using perfusion magnetic resonance imaging
Matthew R Garnett

17.10 – 17.25 MRI Correlates of Injury After Cortical Contusion
M F Lythgoe

17.25 – 17.40 Characterisation of a Delayed Type Hypersensitivity Lesion in the Rat Brain Using MRI
Kerry Anne Broom

17.40 – 17.55 A novel reversible, remote-controlled three vessel occlusion in the Sprague Dawley rat – for NMR studies
DA West

CLOSE
POSTERS

MR Perfusion imaging in moyamoya syndrome Potential implications for clinical evaluation of occlusive cerebrovascular disease
F.Calamante

MRI measurement of the pharmacokinetics-pharmacodynamics of remifentanil
Richard Wise

Stereotactic MR Imaging for planning neural transplantation. A reliable Localising technique at 3T?
Tim Donovan

Mohr circles: a new visualisation method for magnetic resonance diffusionTensor imaging data
Alonso Pena

A functional magnetic resonance imaging battery for preoperative mapping of Motor, motor planning and language function in the cortex
S. Gustard

Fast Two-dimensional MR Imaging by Multiple Acquisition with Micro B0Array (MAMBA)
K J Lee

Signal to Noise Ratio and Echo Spacing in Echo Planar Imaging
Ioannis Delakis

Enhanced sensitivity of diffusion tensor imaging in acute stroke using pq diagrams: a new methodology to improve tissue characterisation
Hadrian AL Green

Contrast Based Perfusion Imaging in Pathological Tissue: A Monte Carlo Simulation Study
Andrew M Blamire

Long Term QA of proton chemical shift imaging (CSI)
Ian Marshall

Reproducibility of short echo MR spectroscopy in vitro
E A Moore

Harmonic Phase (HARP) Analysis of Geometric Distortions
R S Nicholas