Scientific Programme

Monday

~ Welcome and Introduction ~

09:00 *Prof. Martyn Paley*

09:05 *Bill Moore Memorial Lecture:*

Invited Speaker

(1) **Clinical MR Imaging of Short T_2 Components in Tissue using Magic Angle Imaging, Ultrashort TE (UTE) Pulse Sequences and other Techniques**

Graeme M Bydder

09:45  *Coffee and Posters* 

10:15-11:15 Plenary Session: Imaging Flow, Diffusion, and Perfusion

Chair: Prof. Paul Griffiths (Sheffield)

Invited Speaker

(2) **Advances in Cardiovascular MR Imaging**

David N Firmin

Invited Speaker

(3) **Magnetic Resonance Angiography: Established and new applications to Neuroimaging**

James FM Meaney

11:15-12:15 Scientific Session: Imaging Flow, Diffusion, and Perfusion

Chair: Dr Ian Marshall (Edinburgh)

(4) **Hemodynamics in patients with chronic thromboembolic pulmonary hypertension: Assessment pre and post surgery by breath-hold MR**

Sebastian Ley, Hans-Ulrich Kauczor, Eckhard Mayer, Thorsten Kramm, Manfred Thelen, Karl-Friedrich Kreitner

(5) **Measurement of T_2* of cardiac tissue using a novel preparation scheme**

DM Morris, TW Redpath, SIK Semple, GD Waiter, L Frisch, MY Norton, M Egred

(6) **Possible Involvement of Stat-1 Activation in Cell Death after Middle Cerebral Artery Occlusion in Rat Brain**

West DA, Valentim LM, Lythgoe MF, Stephanou A, Proctor E,Van Der Weerd L, Ordidge RJ, Latchman DS, And Gadian DG

(7) **A Peripheral Infection Can Reactivate A CNS lesion; Increased rCBV & T_1 and T_2 Changes Detected By MRI**

KA Broom, DC Anthony, AM Blamire, VH Perry, P Styles, NR Sibson

(8) **Investigating Fibre Crossing using the Diffusion Tensor Model**

TR Barrick and CA Clark

12:15-13:15  *LUNCH and Posters* 

13:15-14:15 *Plenary Session:* ***Functional MR of the Body and Brain***

Chair: Dr Edwin van Beek (Sheffield)

(9) **Functional MRI of Lung Ventilation**

Hans-Ulrich Kauczor

(10) **Mind and Matter**

Robert Turner

14:15-15:15 *Scientific Session:* ***Functional MR of the Body and Brain***

Chair: Prof. Peter Morris (Nottingham)

(11) **CBV and BOLD Responses to Direct Cortical Stimulation in the Rat**

V. Austin, A. Blamire, P. Styles, P. Matthews, N. Sibson

(12) **DTfMRI: simultaneous acquisition of functional and structural data**

CAM Wheeler-Kingshott, A Toosy, GJM Parker, P Boulby, MR Symms, GJ Barker

(13) **fMRI Studies of Sensory Driven Plasticity in Human Swallowing Motor Cortex**

S.Williams, C.Fraser, M.Power, J.Rothwell, D.Hobday, I.Hollander, P.Tyrell, A.Hobson, D.Thompson, S.Hamdy

(14) **Intragastric processing of fat emulsions investigated by EPI**

L. Marciani, M. Wickham, J. Wright, D. Bush, R. Faulks, A. Fillery Travis, R.C. Spiller and P.A. Gowland

(15) **Ultrafast dynamic MRI of inhaled ^{3}He gas using a short echo time radial projection sequence with sliding window reconstruction**

JM Wild, L Kasuboski, MNJ Paley, A Swift, S Fichele, N Woodhouse, EJR van Beek

15:15-15:45  *Coffee and Posters* 

15:45-16:45

Plenary Session: ***Novel MR Technology***

Chair: Prof. Ian Young (London)

Invited Speaker (16) **Development of a 9.4T 650mm Bore Animal Imaging Magnet**

John Bird, Nick Kerley

Invited Speaker (17) **SENSE and Sensitivity**

Peter Boesiger

16:45-17:45

Scientific Session: ***Novel MR Technology***

Chair: Prof. Peter Allen (Edmonton, Canada)

(18) **High resolution event related fMRI using SENSE at 3.0 Tesla**

Frank G.C. Hoogenraad, Yvonne Rijckaert, Paul R.Harvey, Paul Folkers, Alistair M. Howseman

(19) **A Novel Sequence for Sensitivity Encoding with Conventional Hardware: COMMON SENSE**

D. W. Carmichael, R. J.Ordidge, A. N. Priest

(20) **B1AC- MAMBA: Combined B_1 and B_0 Array Coil Parallel Imaging**

Martyn PALEY, Kuan LEE, Jim WILD, Stan FICHELE, Elspeth WHITBY, Iain WILKINSON, Edwin van BEEK, Paul GRIFFITHS

(21) **A novel method to reduce acquisition time based on saturation and slanted slices**

Enrico De Vita, David Thomas, David Carmichael, Bob Turner and Roger Ordidge

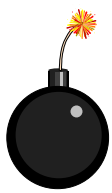
(22) **Optimisation of Diamagnetic Passive Shims for Reduced Susceptibility Artifacts Within the Inferior Frontal Cortex**

James L. Wilson, Mark Jenkinson and Peter Jezzard

5:45-19:00

Reception & Posters

Sound & Vision



19:00

DINNER

Scientific Programme

Tuesday

9:00-9:45 **Plenary Session: *'How I Do It'***

Chair: Prof. Martyn Paley (Sheffield)

Invited Speaker (23) **How I do it: quantitative proton spectroscopy**
Ian Marshall

Invited Speaker (24) **How do I register and analyze images**
Derek Hill

Invited Speaker (25) **fMRI Quality Assurance Procedures**
Peter Jezzard and Stuart Clare

09:45-10:15  *Coffee and Posters* 

10:15-11:15 **Scientific Session: *MR of Human Development***

Chair: Prof. Malcolm Levene (Leeds)

(26) **Investigation of Flow Characteristics of the Placental Basal Plate**
J.Fulford, R.Duckett, R.Moore, P.Baker, I.R.Johnson, P.Gowland

(27) **Mean cerebral T_2 relaxation times in encephalopic infants: relationships to early neurological assessment and neurodevelopmental outcome at one year**
J.S. Thornton, F. O'Brien, S. Shanmugaligam, Y Sakata, A Bainbridge, A.N. Priest, J.S. Wyatt, S. Roth and R. J. Ordidge

(28) **Hippocampal volumetry and T_2 relaxometry provide evidence of acute hippocampal abnormality following prolonged febrile convulsion in young children**
RC Scott, MD King, DG Gadian, BGR Neville, and A Connelly

(29) **Age dependence of MR perfusion measures in normal children less than 30 months old**
JE Perthen, RC Scott, F Calamante, DG Gadian, A Connelly

11:15-12:15 **Plenary Session: *MR of Human Development***

Chair: Prof Graeme Bydder (London)

Invited Speaker (30) **In Utero, Neonatal and post-mortem developmental studies**
Elspeth Whitby

Invited Speaker (31) **Diffusion and perfusion weighted MR imaging in the neonate presenting with seizures**
Dr Mary A Rutherford

12:15-13:15  *LUNCH and Posters* 

13:15-14:15 **Plenary Session: Basic MR Science**

Chair: Prof. Steve Williams (Manchester)

Invited Speaker (32) **Prospective Sequence Design For Observing Brain Biochemistry**

Peter S. Allen

Invited Speaker (33) **Application of MRI in Medicinal Chemistry: Clinical Drug Trials in Osteoarthritis**

Laurie Hall, Tasos Anastasiou, Oscar Brihuega-Moreno, Yiannis Spandonis, Jo Burge, Stephen Evans, Jenny Tyler, Paul Watson and Da Xing

14:15-15:15 **Scientific Session: Basic MR Science**

Chair: Prof. David Gadian (London)

(34) **Proton MR Spectroscopy of Cervical Spinal Cord**

F. Cooke, A.M. Blamire, B. Rajagopalan, D. N. Manners, T.A.D.Cadoux-Hudson, P. Styles

(35) **Metabolic Differences of Two Types of Meningiomas Detected by In Vivo ^{1}H MRS**

KS Opstad, BA Bell, JR Griffiths & FA Howe

(36) **Hyper-resolution Metabolite Concentration Maps from ^{1}H Chemical Shift Imaging Data**

David C. Williamson, Stephen R. Williams and Neil A. Thacker

(37) **Voxelwise Deformation Morphology: A New Method For The Analysis Of Structural MRI Data Of The Brain**

Simon J. P. Meara, John Suckling and Steven C. R. Williams

(38) **Double Quantum CRAZED (DQC) Experiment in inhomogeneous solutions**

José P. Marques, Richard W. Bowtell

15:15-15:45  *Coffee and Posters* 

15:45:16:45 **Plenary Session: Applying and Monitoring Therapy**

Chair: Dr Margaret Hall-Craggs (London)

Invited Speaker (39) **Endocavitary Coils in Interventional MR**
NM deSouza

Invited Speaker (40) **Magnetic Resonance Imaging for Stereotactic Radiosurgery**
Lee Walton

16:45-17:30 **Scientific Session: Applying and Monitoring Therapy**

Chair: Dr Ian Wilkinson (Sheffield)

(41) **Dynamic CE MRI as a Prospective Indicator for Radiotherapy Treatment Outcome of Cervical Cancer**
A P Jones, J R Sykes, D L Buckley, B M Carrington, J A Loncaster, S M Todd, C M L West

(42) **Creatine Therapy for Huntington's Disease: Magnetic Resonance Spectroscopy of a One Year Pilot Study**
Sarah J Tabrizi, Andrew M. Blamire, Bheeshma Rajagopalan, Peter Styles, Anthony HV Schapira, Thomas T. Warner

(43) **Global and regional changes in tissue organization during brain tumour chemotherapy : a diffusion tensor imaging study**
A Peña, SJ Price, N Burnet, T Donovan, HAL Green, TA Carpenter, JD Pickard & JH Gillard

(44) **A comparison of the incidence of post operative cerebral ischaemic change on magnetic resonance imaging between off pump (OPCAB) and bypass coronary artery surgery (CABG)**
Flynn S, Keston P, El-Shafei H, Buchan K, Cockburn R, Jeffreys R, Robb OJ, Gilbert FJ

(45) **Initial experience of MRI guided cardiac catheterisation in patients with congenital heart disease**
Derek Hill, Reza Razavi, Stephen Keevil, Marc Miquel, Kawal Rhodes, Ron Gaston, Joop van Vaals, Rado Andriantsimiavona, Michael Barnett, Eric Rosenthal, Shakeel Qureshi, David Hawkes, Edward Baker

CLOSE

Scientific Programme

Posters

Posters: *Imaging Flow, Diffusion, and Perfusion*

(46) **An EPI-based model for quantitating simple and complex flow**
TA Sucharov, I.D. Wilkinson, JW Fenner, PG Griffiths

(47) **Perfusion MRI in patients with multiple white matter hyperintensities**
Keston P, Murray AD

(48) **Estimation of bolus dispersion effects in perfusion MRI using image-based computational fluid dynamics**
Fernando Calamante, Peter J. Yim, Juan R. Cebral

(49) **Blood Flow, Blood Volume and Microvascular Permeability in Cerebral Gliomas**
David L. Buckley, Hamied A. Haroon, Alan Jackson

(50) **Reproducibility of a Dynamic Contrast Enhanced Study of Abdominal Tumours**
Caleb Roberts, Tufail Patankar, Alan Jackson, John Waterton, Geoff J.M. Parker

(51) **On the relationship between viscosity and diffusion: comparison of small and large molecule effects in solution.**
Andrew M. Blamire, Bheeshma Rajagopalan, Kishore Bhakoo, Daniel J. Stuckey, Peter Styles

(52) **Changes in Apparent Diffusion Coefficient in Normal Appearing White Matter following Traumatic Brain Injury**
Pablo Goetz, Andrew Blamire, Bheeshma Rajagopalan, Tom Cadoux-Hudson, Peter Styles

(53) **Intravoxel Incoherent Motion Imaging: Evaluation of Diffusion and Pseudo-diffusion Coefficients in Locally Advanced Rectal Tumours**
C Domenig, ASK Dzik-Jurasz, MO Leach, SJ Doran

(54) **Diffusion-Tensor Imaging : Could Fibre-Tracking Benefit from a Higher Magnetic Field?**
R. G. Nunes, S. Clare

(55) **Fibre Tracking by Front Evolution using a Fibre Orientation Probability Density Function**
J-D Tournier, F Calamante, DG Gadian, and A Connelly

Posters: *Functional MR of the Body and Brain*

(56) **The MRI Appearances of the Unprepared Rectosigmoid Colon during Routine Pelvic Examination**

VL Jardine, DJ Lomas

(57) **Bridging The Gap: high resolution TSE T2W imaging to determine the cause of ureteric obstruction shown by HASTE**

Kathryn J. Taylor, John A. Spencer

(58) **Measurement of a reduction in the effective lung volume of a smoker as measured by combined proton Single Shot Fast Spin Echo / Hyperpolarized Helium-3 MRI.**

N Woodhouse, J M Wild, S Fichele, J Schmiedeskamp, M N Paley, S Fleming, A Swift, E J R van Beek

(59) **Validation of a lung model using hyperpolarized 3-Helium MRI in humans**

EJR van Beek, B Brook, S Ley, S Fichele, N Woodhouse, JM Wild, J Schmiedeskamp, R Lawson, GH Mills, F Knitz, D Mayer, K Gast, DR Hose, MNJ Paley, W Heil, HU Kauczor, E Otten and N Weiler

(60) **Diffusion and Tagging of Hyperpolarised ^{3}He in the Lungs**

JR Owers-Bradley, A Benattayallah, S Fichele, CJ McGloin, RW Bowtell, PS Morgan and AR Moody

(61) **Functional Evaluation of Emphysema Using Diffusion-weighted ^{3}Helium-MRI, HRCT, and Lung Function Tests**

Sebastian Ley, Julia Zaporozhan, Carsten Bletz, Klaus Gast, Claus Peter Heussel, Wolfgang Schreiber, Hans-Ulrich Kauczor

(62) **Simulating MR of ^{3}He Diffusion in the Lungs using the Finite Difference Method**

S. Fichele, J.M. Wild, M.N. Paley, N. Woodhouse, A. Swift, P.D. Griffiths, E.J.R van Beek

(63) **Chronic obstructive pulmonary disease (COPD): Analysis with magnetic resonance imaging**

AJ Swift, JM Wild, S Fichele, N Woodhouse, S fleming, S Nixon, R Lawson, MNJ Paley, EJR van Beek

(64) **A cerebral ^{31}P magnetic resonance spectroscopy study of patients with schizophrenia who have seriously and dangerously violently offended**

Basant K. Puri, Serena J. Counsell, Gavin Hamilton, Marcelo G. Bustos, David F Horrobin, Ian H. Treasaden

(65) **Investigating Blood Oxygenation using Multi-Echo T_2 Measurements**

Alex Gardener, Penny Gowland and Sue Francis

Posters: Novel MR Technology

(66) **Performance assessment of MR systems: advancing from conventional to dynamic imaging**

Ioannis Delakis, Shirley Khan, Janet De Wilde, Jane Curran, David Price, James Williams

(67) **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.**

D. Konn, P. Gowland, R.Bowtell

(68) **Ghost Reconstructed Alternating Current Estimation**

Hua Yang, Martyn NJ Paley, Kuan J Lee, Greg G Cook

(69) **Numerical calculations of the electric field and current density induced in the human body by temporally varying magnetic field gradients**

Martin Bencsik, Richard W. Bowtell, Roger M. Bowley

(70) **Determining the Coupling Coefficient, Mutual Inductance and Inductive Impedance Matching Requirements of RF Coils using Electromagnetic Simulation**

P.J. Cassidy, K. Clarke and D.J. Edwards

(71) **Capacitive Impedance Matching Prediction using Electromagnetic Simulation**

P.J. Cassidy, K. Clarke and D.J. Edwards

(72) **Hyperbolic Secant RF Pulses for Spin-Echo Formation**

Karin Shmueli, David Thomas, Roger Ordidge

(73) **Strip-MAMBA: Combining MAMBA with gradient encoding**

Lee KJ, Paley MNJ, Wilkinson ID and Griffiths PD

(74) **Target field methods in 2D MAMBA**

Lee KJ, Paley MNJ, Wilkinson ID and Griffiths PD

(75) **TRAIL: a new imaging technique and its use with EPI**

Andrew N. Priest, Roger J. Ordidge and David W. Carmichael

(76) **Multi-Excitation Single Slice (MESS) sequence for contrast optimisation and T_1 relaxometry.**

Donald McRobbie, Louise Teo, Rebecca Quest

Posters: *MR of Human Development*

(77) **T_2 Express for Inutero Scanning**

Morris JE, Whitby EH, Paley MN, Davies NP, Griffiths PD

(78) **Do Clinically Silent Subdural Haemorrhages Occur in the Neonate ?**

E H Whitby, MN Paley, S Rutter, P Ohadike, MF Smith, NP Davies, PD Griffiths

(79) **Ultrafast MR Imaging in Pediatric Neuroradiology**

Paul D Griffiths, Rajeev K Singh, Jonathan T Smith, Iain D Wilkinson

(80) **Assessment of isolated fetal ventriculomegaly as a marker of abnormal brain development using fetal MRI**

Mary A Rutherford, Sailesh Kumar, Serena J Counsell, Joanna M Allsop, David J Larkman, Nick Fisk.

Posters: *Basic MR Science*

(81) **^{1}H Magnetic Resonance Spectroscopy of Mouse Spinal Cord Extract in Chronic Relapsing Experimental Autoimmune Encephalomyelitis (CREAE)**

Page RA, Parkes HG, Baker D, Giovannoni G, Davie CA

(82) ***In Vitro* 1D and 2D MRS Studies of Sandhoff Mouse Brain**

J.P. Lowe, D.J. Stuckey, F.R. Awan, F.M. Platt, M. Jeyakumar, P. Styles, A.M. Blamire and N.R. Sibson

(83) **Absolute Quantification of Metabolites Using a Surface Coil and an External Reference in Mouse Brain**

Bainbridge A, Page RA, West DA, Cady EB, Thornton JS, Bates GP, Woodman B, Ordidge RJ, Davie CA

(84) **Prior Knowledge for Time Domain Analysis of *In Vivo* Brain or Liver Phosphorus-31 MR Spectra**

G Hamilton, N Patel, AKP Lim, JM Allsop, DM Forton, JV Hajnal, SD Taylor-Robinson

(85) **A novel use of rational functions to fit MRS spectra**

G. Gilabert-Garcia, D.E. Roberts , J. Higinbotham and I. Marshall

(86) **Quantification of MRS data in the frequency domain using a wavelet filter, Voigt lineshape model and prior knowledge**

P. Gillies, I. Marshall, M. Asplund, P. Winkler and J. Higinbotham

(87) **Double Darts: An Approach to Extract Cell Dimensions and Exchange Characteristics from Multi-Compartment Systems**

L. van der Weerd, P.A. de Jager, T. Sibgatullin, S. Melnikov, D. Filippov, F.J. Vergeldt, H. Van As

(88) **A novel approach to quantitative differentiation of myositis and atrophied muscle using MR imaging**

J. E. Kilgallon, C. E. Hutchinson, J. Fairfoul, A. P. Jones

(89) **Magnetic Resonance Imaging of Brain Iron Deposition in Patients with Amyotrophic Lateral Sclerosis Using the PRIME Sequence: A Pilot Study**

JM Graham, J Evans, CA Romanowski, MNJ Paley, PJ Shaw, PD Griffiths

Posters: Applying and Monitoring Therapy

(90) **3D volumetric assessment of primary breast tumour in response to neo-adjuvant chemotherapy using MRI**

F. J. Gilbert, S. I. K. Semple, G. Iyengar, T. W. Redpath, T. S. Ahearn

(91) **Coenzyme Q10 and vitamin E administration to patients with Friedreich Ataxia. A three year clinical and phosphorus MR spectroscopy follow up study**

Lodi R., Schapira A. H. V., Rajagopalan B., Taylor D.J., Hart P., Crilley J.C., Bradley J.L., Blamire A. M., Manners D., Styles P., Cooper J.M.

(92) **MRS Measurements of Phenylalanine in Phenylketonuria - The Effect of Dietary Supplements on Brain Levels**

H. Hawesa, A. Chakrapani, M. Cleary, S. Williams

(93) **Dietary Creatine Supplementation in a Mouse Model of Huntington's Disease**

Page RA, Bainbridge A, West DA, Cady EB, Thornton JS, Priest AN, Bates GP, Woodman B, Ordidge RJ, Davie CA.

(94) **Serial evaluation of low-grade gliomas using registered volumetric MRI: initial findings**

J. H. Rees, E. A. Moore, N. Fox, C. Benton, A. D. Waldman, H. R. Jäger, J. Stevens

(95) **Serial Short Echo Time Single Voxel Proton MRS for Early Detection of Malignant Transformation in Low Grade Gliomas**

A.D. Waldman, D.G. MacManus, E.A. Moore, J. Stevens, J. H. Rees