Titles for Posters of the Fourth Annual General Meeting of the British Chapter of I.S.M.R.M.

18th and 19th December, 1998

Last updated 03 Nov 2008.

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There are 6 categories of poster: <u>fMRI</u> | <u>Diffusion</u>, <u>Perfusion</u>, <u>and Angiography</u> | <u>Brain MRI and</u> <u>MRS</u> | <u>Whole Body MRI</u> | <u>Cancer</u> | <u>Techniques and Hardware</u>.

A: fMRI

A1

K K Peck, A Sunderland [1], S Butterworth [2], A Peters, R Bowtell, and P Gowland. Magnetic Resonance Centre, School of Physics & Astronomy, [1] Division of Stroke Medicine and [2] Department of Neurology, University of Nottingham, Nottingham, UK. *Histogram analysis of effects of increasing rate and forces in fMRI*.

A2

K K Peck, S Butterworth, P Gowland, A Peters, and A Sunderland [1]. Magnetic Resonance Centre, School of Physics & Astronomy and [1] Division of Stroke Medicine, University of Nottingham, Nottingham, UK. *A new cross-correlation paradigm for fMRI studies of motor tasks.*

A3

J Pears, and P Gowland. Magnetic Resonance Centre, School of Physics & Astronomy, University of Nottingham, Nottingham, UK. *Optimising the measurement of CBV.*

A4

S Butterworth, M Humberstone, G V Sawle, A Peters [1], P Gowland [1], and P G Morris [1]. Department of Neurology and [1] Magnetic Resonance Centre, School of Physics & Astronomy, University of Nottingham, Nottingham UK. *The pre-supplementary motor area in Dystonia: An fMRI Study.*

A5

M R Elliott, R W Bowtell, and P G Morris. Magnetic Resonance Centre, School of Physics & Astronomy, University of Nottingham, Nottingham, UK. *The effect of scanner sound in visual, motor and auditory fMRI.*

A6

D A Hall [1], B Park [2], M Goncalves [1], J R Foster [1], R W Bowtell [3], and A Q Summerfield [1]. [1] MRC Institute of Hearing Research, University of Nottingham, Nottingham, UK. [2] Department of Psychiatry, University of Nottingham, Nottingham, UK. [3] Magnetic Resonance Centre, Magnetic Resonance Centre, School of Physics & Astronomy, Unversity of Nottingham, Nottingham, UK. *Case studies in fMRI and structural equation modelling (SEM): monaurual, diotic and dichotic listening.*

A7

D A Hall [1], M A Akeroyd [1], A Q Summerfield [1], M R Elliott [2], M P Haggard [1], R W Bowtell [1]. [1] MRC Institute of Hearing Research, University of Nottingham, Nottingham, UK. [2] Magnetic Resonance Centre, School of Physics & Astronomy, University of Nottingham, Nottingham, UK. *A parametric fMRI study of auditory stimulus intensity.*

A8

B R Lennox, S B G Park, P B Jones, and P G Morris [1]. Division of Psychiatry and [1] Magnetic Resonance Centre, School of Physics & Astronomy, University of Nottingham, Nottingham, UK. *Functional MRI study of auditory hallucinations in schizophrenia using echo-planar imaging at 3*

Tesla.

A9

S Grootoonk, A M Howseman, and R Turner. Wellcome Department of Cognitive Neurology, Institute of Neurology, London, UK. *What is the optimal slice thickness for fMRI using multislice echo-planar imaging?*

B: Diffusion, Perfusion, and Angiography

B1

P S Morgan, A R Moody, and R W Bowtell [*]. Academic Radiology, University Hospital, Queen?s Medical Centre, Nottingham, UK. [*] Magnetic Resonance Centre, School of Physics & Astronomy, University of Nottingham, Nottingham, UK. *Correction of distortion in ADC maps.*

B2

O Dietrich [1,2], S Heiland [2], K Sartor [2], and J V Hajnal [1]. [1] Robert Steiner MRI Unit, ICSM, Hammersmith Hospital, Du Cane Road, London, UK. [2] Department of Neuroradiology, University of Heidelberg Medical School, Heidelberg, Germany. *No ADC plauteau in restricted diffiusion.*

B3

M E Bastin. Department of Medical Physics, University of Edinburgh, Western General Hospital, Crewe Road, Edinburgh, UK. *Correction of eddy current induced artefacts in diffusion tensor imaging using iterative cross-correlation.*

B4

I Marshall. Department of Medical Physics, University of Edinburgh, Western General Hospital, Crewe Road, Edinburgh, UK. *Simulation of cine phase-contrast flow imaging.*

B5

U Köhler. Department of Medical Physics, University of Edinburgh, Western General Hospital, Crewe Road, Edinburgh, UK. *Fully automated MRA flow detection.*

B6

P Figueiredo, M Alecci, and P Jezzard. Centre for Functional Magnetic Resonance Imaging of the Brain, University of Oxford, John Radcliffe Hospital, Oxford, UK. *An evaluation of the radiofrequency power deposition in MRI perfusion sequences at high magnetic field.*

B7

X P Zhu, D Annesley, A Kassner [*], K L Li, A Jackson, and S Capener. University of Manchester, UK and [*] Philips Medical Systems Ltd, UK. *Abnormalities in the re-circulation phase on dynamic contrast susceptibility imaging in enhancing cerebral tumours.*

B8

A Jasinski, P Kozlowski [1], A K Krzyzak, D Adamek [2], P Sagnowski [3], and J Pindel. [1] Institute for Biodiagnostics, NRC, Winnipeg, Canada, Institute of Nuclear Physics, Krakow, Poland, Departments of [2] Neuropathology and of [3] Radiology, Collegium Medicum, Jagiellonioan University, Krakow, Poland. *Investigation of spinal cord injury on a rat model using water diffusion tensor imaging.*

B9

M E M El Sayed [*], D T Delpy [*], R J Ordidge [*], R M Blumberg, M Clemence, and J S Thornton [*]. Department of Medical Physics & Bioengineering, University College London, UK. Assessment of the myelination of cerebral tissue using DWI at high field strength (7T).

B10

M F Lythgoe [1], G S Pell [2], D L Thomas [1,2], F Calamante [1], M D King [1], D G Gadian [1], R J Ordidge [2]. [1] The RCS Unit of Biophysics, Institute of Child Health, University College London Medical School, UK. [2] Department of Medical Physics & Bioengineering, University College London, UK. *Water diffusion changes during delayed hypoperfusion following only 4 minutes of ischaemia.*

B11

V Kurbatov, A Letyagin, and E Dizendorf. International Tomography Centre of SB of RAS,

Novosibirsk, Russia. *MR*-angiography of the vertebral and basilar arteries in cases of clinical vertebro-basilar insufficiency.

C: Brain MRI and MRS

C1

S T Pendlebury [1], P J Cassidy [2], and C Liess [2]. [1] Oxford Centre for Functional Magnetic Resonance of the Brain (FMRIB), John Radcliffe Hospital, Oxford, UK. [2] Department of Biochemistry, University of Oxford, South Parks Road, Oxford, UK. *Mouse head holder and head coil for in vivo brain magnetic resonance imaging and spectroscopy of a chronic stroke model.*

C2

M A McLean and G J Barker. Department of Clinical Neurology, Institute of Neurology, London, UK. *Normalisation of quantitative metabolite maps.*

C3

M Prior, N Thatcher, P G Morris and H Bachelard. Magnetic Resonance Centre, School of Physics & Astronomy, University of Nottingham, Nottingham, UK. *The effects of cerebral ischaemia are only partly mediated via the NMDA receptor calcium channel - an MRS study.*

C4

N Roberts, S Prima, J-P Thirion, G Subsol, and G H Whitehouse. Magnetic Resonance and Image Analysis Research Centre, University of Liverpool, P O Box 147, Liverpool, UK and INRIA, 2004 route des Lucioles, BP93 06902 Sophia, Antipolois, Cedex, France. *The application of MRI and a new image analysis technique to measure cerebral asymmetry and its sexual dimorphism.*

C5

B Baertlein [2], A Abduljalil [1], A Kangarlu [1], X Zhang [1], T Ibrahim [2], Y Yu [1], R Lee [2], and P-M Robitaille [1]. [1] Department of Radiology and [2]The Electrosciences Laboratory, The Ohio State University, Columbus, Ohia 43210, USA. *On the phenomenon of dielectric resonances in the human head at 8.0 Tesla.*

C6

A Kangarlu [1], A Abduljalil [1], R Lee [2], B Baertlein [2], T Ibrahim [2], and P-M Robitaille [1]. [1] Department of Radiology and [2] The Electrosciences Laboratory, The Ohio State University, Columbus, Ohia 43210, USA. *RF penetration depth in the human head at 8.0 Tesla.*

C7

H J Lewis, N J Davey1, N Saeed, J V Hajnal, and B K Puri. Robert Steiner MR Unit, Hammersmith Hospital, London, UK. *Quantitation of brain and ventricular volume changes seen on serially registered MRI following glucose loading.*

C8

D M Moriarty, A Blackshaw, P Talbot, V Hillier, Y Watson, and A Jackson. University of Manchester, Manchester, UK. A Comparison of CSE and fast FLAIR. The relationship of cognitive deficits and lesion distribution.

C9

S Allder, A Moody, G Lennox, T Jaspan, and J Gladman. Department of Academic Radiology and Clinical Neurology, University of Nottingham Medical School, Queen's Medical Centre, Nottingham, UK. *Using Magnetic Resonance Imaging to characterise symptomatic carotid stenosis.*

C10

S Allder, A Martel, J Gladman, G Lennox, and A Moody. Departments of Clinical Neurology, Medical Physics, HCE, Stroke Medicine, Academic Radiology, University of Nottingham Medical School, Queen's Medical Centre, Nottingham, UK. *Predicting acute clinical outcome of stroke using multi-modal (MM) MRI*.

C11

L Lemieux [1], G Hagemann [1,2], K Krakow [1], and F G Woermann. [1] Epilepsy Research

Group, Department of Clinical Neurology, Institute of Neurology, University College London, 33 Queen Square, London, UK. [2] Department of Neurology, Heinrich-Heine University, Moorenstrasse 5, D-40225, Düsseldorf, Germany. *Fast, accurate and reproducible automatic segmentation of the brain in T1-weighted volume magnetic resonance image data.*

C12

J Chambron, O Yu, I Namer, Y Mauss, and Y Zollner. Institut of Biophysics, Faculty of Medecine, F67085 Strasbourg, Cedex, France. *Distinct patterns of MRI active and non-active MS plaques by using texture analysis.*

D: Whole Body MRI

D1

P Young [1], L Marciani [1], R J Moore [1], P Manoj [2], R C Spiller [3], A Fillery-Travis [2] and P A Gowland [1]. [1] Magnetic Resonance Centre, School of Physics & Astronomy, University of Nottingham, Nottingham, UK. [2] Institute of Food Research, Norwich, UK. [3] Division of Gastroenterology, Queen?s Medical Centre, Nottingham, UK. *Multi-slice echo-planar imaging to determine 3D motility in the gastric antrum.*

D2

J J Rankine, K P Gill [*], C E Hutchinson, E R S Ross [*], and J B Williamson. Department of Diagnostic Radiology, University of Manchester and [*] Department of Orthopaedic Surgery, Hope Hospital, Salford, UK. *Annular tears: the clinical significant of the high-intensity zone on lumbar spine MRI.*

D3

J M Hawnaur, C R M Boggis, C E Hutchinson, and Y Watson. Ian Isherwood MR Imaging Unit, Department of Diagnostic Radiology, Stopford Building, The University of Manchester, Oxford Road, Manchester, UK. *MRI of superficial structures using small surface coils.*

D4

T K Blanchard, P W Bearcroft, A Maibaum, B L Hazleman [*], S Sharma [*], and A K Dixon. Radiology and [*] Rheumatology, Addenbrooke's Hospital, University of Cambridge, UK. *Magnetic Resonance Imaging or arthrography for shoulder problems: A randomised study.* **D5**

R R Sood, M J Graves, and D J Lomas. Radiology, Addenbrooke?s Hospital, University of Cambridge, Cambridge, UK. *Development of phantoms for the evaluation of novel bowel MRI techniques.*

D6

P S Morgan and A R Moody. Academic Radiology, University Hospital, Queen?s Medical Centre, Nottingham, UK. *Optimisation of proton MRI for imaging the lung.*

D7

C C Hanstock [1], R B Thompson [1], M E Trump [2], D Gheroghiu [1], P W Hochachka [2], and P S Allen [1]. [1] Biomedical Engineering, University of Alberta, Edmonton. [2] Zoology, UBC, Vancouver, Canada. *Residual dipolar coupling of the Cr/PCr methyl resonance in skeletal muscle can affect quantification.*

D8

E Dizendorf, A Letyagin, and V Kurbatov. International Tomography Centre of SB of RAS, Novosibirsk, Russia *Quantitative definition of MR-contrast between renal tissues.*

D9

Z Sulek, J Zoladz [*], P Kulinowski, A Jasinski, K Szybinski, J Kibinski, J Majerczak [*], and K Duda. MRI Lab, Institute of Nuclear Physics, Krakow, Poland. [*] Institute of Human Physiology, Academy of Physical Education, Krakow, Poland. *Influence of pre-exercise acidification on power output and PCr utilisation in human m. gastrocnemius determined by 31P MR Spectroscopy in vivo.*

E: Cancer

E1

A R Tate [1], S J Barton [1], F Howe [1], M E Cabanas [2], I Barba [2], A Capdevila [3], J R Griffiths [1], and C Artis [2]. [1] SGHMS, U.London, UK, [2] U. Autònoma de Barcelona, Spain, [3] C. Diagnòstic Pedralbes, Spain. A prototype system to classify 1H in vivo spectra of human brain tumours.

E2

D J O McIntyre, C L McCoy, S P Robinson, and J R Griffiths. CRC Biomedical MR Group, Department of Biochemistry, St George's Hospital Medical School, Cranmer Terrace, Tooting, London, UK. *Intravenous administration of perfluorocarbons overestimates tumour oxygen tension.*

E3

N M Al-Saffar [1], P A Clarke [2], F DiStefano [2], M O Leach [1], and S M Ronen [1]. [1] Clinical Magnetic Resonance Research Group and [2] CRC Centre for Cancer Therapeutics, Institute of Cancer Research, Royal Marsden Hospital, Downs Road, Sutton, Surrey, UK. *Detection of metabolic changes associated with Fas-induced Apoptosis by MRS.*

E4

D J Manton [1], C Rowland-Hill [1], D Crooks [2], M Lowry, B Matthew [3], K Morris [3], and L W Turnbull. Yorkshire Cancer Research Centre for MR Investigations, [1] Radiology Department, [2] Neuropathology Department, [3] Neurosurgery Department, Hull Royal Infirmary, Anlaby Road, Hull, UK. *The role of dynamic contract-enhanced Magnetic Resonance Imaging in the clinical management of patients with meningiomas.*

E5

S Hepworth and S Doran. Department of Physics, University of Surrey, Guildford, UK. *Quantitative measurements of the effect of dissolved oxygen on gel samples, as used in MRI radiation dosimetry.*

E6

X Zhu [1], K Li [1], J M Hawnaur [1], J Stringfellow [2], Y Watson [1], C R M Boggis [2], and A Jackson [1]. Departments of [1] Diagnostic Radiology, University of Manchester and [2] South Manchester University Hospitals' Trust, Manchester, UK. *GdDTPA enhanced 3D MRI for assessment of endothelial permeability of breast tumours.*

E7

F A Howe, S J Barton, S A Cudlip [*], A R Tate, B A Bell [*], and J R Griffiths. CRC Biomedical Magnetic Resonance Research Group, St George's Hospital Medical School and [*] Department of Neurosurgery, Atkinson Morley's Hospital, London. *Classification of human brain tumours with quantitative short echo 1H MRS.*

F: Techniques and Hardware

F1

G S Pell, M Landeryou, A Cottenden, and R J Ordidge. Department of Medical Physics and Bioengineering, University College London, UK. *Investigation of the nature of water in hydrogels and in fluff-pulp with NMR.*

F2

G J Barker, G J M Parker, and P S Tofts. NMR Research Unit, Institute of Neurology, University College London, Queens, Square, London, UK. *Calibration of relaxation time measurement: a cautionary tale.*

F3

G J M Parker, G J Barker, and P S Tofts. NMR Research Unit, Institute of Neurology, University College London, Queens, Square, London, UK. *Accurate multislice T1 measurement in the presence of non-ideal RF pulse profiles and RF field inhomogeneity.*

F4

N Chhina, R Mann, R Bowtell, and P G Morris. Magnetic Resonance Centre, School of Physics & Astronomy, University of Nottingham, Nottingham, UK. *B1 field simulations of a dual 13C/1H*

half-volume probe.

F5

A Hudson, R Bowtell. Magnetic Resonance Centre, School of Physics & Astronomy, University of Nottingham, Nottingham, UK. *The development of birdcage resonators for 13C micro imaging at 11.7T.*

F6

A Hudson [1], W Köckenberger [1], M Heidenreich [2], N Chandrakumar [3], R Kimmich [2], and R Bowtell [1]. [1] Magnetic Resonance Centre, School of Physics & Astronomy, University of Nottingham, Nottingham, UK. [2] Sektion Kernresonanzspektroskopie, Universität Ulm, 89069 Ulm, Germany. *PRAWN EPI: proton detected 13C Imaging.*

F7

M Heidenreich [2], W Köckenberger [1], N Chandrakumar [3], R Kimmich [2], and R Bowtell [1]. [1] Magnetic Resonance Centre, School of Physics & Astronomy, University of Nottingham, Nottingham, UK. [2] Sektion Kernresonanzspektroskopie, Universität Ulm, 89069 Ulm, Germany. [3] Central Leather Research Institute, CSIR, Adayaru, Chennai 600 020, Tamil Nadu, India. *Indirect 13C imaging by cyclic J cross polarisation.*

F8

R S Nicholas and W Vennart. School of Physics, University of Exeter, Exeter. *The use of sinc-modulated cosine pulses in the suppression of phase aliasing for high-resolution magnetic resonance imaging.*

F9

A J Knowles, D J Manton, and L W Turnbull. Centre for MR Investigations, Hull Royal Infirmary, Anlaby Road, Hull, UK. *Application of neural networks to fMRI: increased sensitivity at low CNR compared to statistical methods.*

F10

A Stepney, G J Barker, and M R Symms. NMR Research Group, Institute of Neurology, Queen Square, London, UK. *A comparative study of ultra fast low angle RARE and EPI at 1.5T.*