Medical Sciences Division

University of Oxford
Department of Clinical Neurology

Newsletter

September 2007

INTRODUCTION

This has been a very sad summer with the deaths of two of our most illustrious colleagues. **John Marshall** died on 22 Aug after a long illness at the age of 67. He was one of the most individual and distinguished neuropsychologists of his generation. Many of us remember with great pleasure his contributions to Grand Rounds when with a felt-tip and a couple of acetates he would illustrate graphically his findings in a patient and allow us all some insight into the workings of the brain. Equally impressive and enlightening were his talks at the Oxbridge meetings where his originality never failed to amaze and amuse. We offer our most sincere condolences to his family: Jen Gurd (his wife), Zoe and Alex (his children).

John Newsom-Davis died in a road traffic accident in Romania on August 24th. He and his wife were driving in a rented car to look at churches and monasteries and the fatal collision happened outside a town called Adjud. Rosemary was severely injured, but has been repatriated and is currently in a London Hospital, recovering but still amnesic. This is a terrible blow for all of us who have spent much of the last 20-30 years working with John, in my case collaborating with him since 1973. But it is noteworthy how very many other people are affected: John was a tremendous role model for clinician scientists in the UK and elsewhere; he was a wonderful clinician particularly for patients with myasthenia and related diseases, and essentially created from scratch a scientific department of Clinical Neurology, succeeding the equally eminent but less "bench" orientated Bryan Matthews. Particularly impressive also was the work that John had done since "retirement", editing Brain, continuing to support the Myasthenia Gravis and Congenital Myasthenia clinics, and spear-heading a multinational trial of thymectomy with support from the National Institutes of Health (USA). Further information should be available in the National obituaries this month. We are doing what we can to support their three children during this very difficult time. http://news.independent.co.uk/people/obituaries/article2973568.ece

Fortunately, there are a few things to celebrate too, as detailed in Anne's section below.

We are delighted to welcome **Lars Fugger** as the first incumbent of the newly-created Chair of Neuroimmunology. Lars will ensure that neuroimmunology continues to flourish in Oxford, after Nick and I retire, and will, in particular, bring new and exciting experimental work on multiple sclerosis with his multidisciplinary approach.

Many congratulations to **Irene Tracey** on her appointment as Nuffield Professor of Anaesthetic Science. Irene will continue, of course, to direct the FMRIB Centre as part of this department, and her sidestep to Anaesthetics will help to strengthen ties between the two departments as we, eventually, move together to the academic floors in the West Wing.

Congratulations also to **Kevin Talbot** on his 5-year senior clinical fellowship which is so well-deserved and will enable him to build even further his clinical and research interests in motor neuron diseases (see Profile, below).

And finally, we are delighted to welcome **Richard Armstrong** (Department Clinical Lecturer). Richard (when he gets back from honeymoon and when his duties as SpR allow) will begin to establish his research interests into aspects of neurodegeneration and neurogenesis in the department, and we look forward to his contributions.

And really, finally, congratulations to everyone else whose successes are listed below. What an impressive lot you are!

Angela Vincent
Head of Department

INFORMATION

Successes

Recent appointments and awards in the department: Professor Lars Fugger has been appointed Chair of Neuroimmunology *(see Research Profile below);* Dr Kevin Talbot has been awarded a 5-year HEFCE Senior Clinical Lecturership in Clinical Neurology *(see Research Profile below)*; Dr Richard Armstrong has been appointed as Clinical Lecturer. Professor Irene Tracey has been appointed as Chair in Anaesthetics, Nuffield Professor of Anaesthetic Science in the Department of Anaesthetics.

Professor Angela Vincent (NSG) has been invited to give a Guest Lecture on 'Autoantibodies to Ion Channels in CNS Disease' and the Baldev Singh Oration 'Autoantibodies in Neuromuscular Transmission Disorders', at the joint Autumn ABN/IAN (India Academy of Neurology) meeting, which will be held in Mumbai from 4-7 October 2007 at the National Centre for Performing Arts.

Professor Peter Rothwell and colleagues in the Stroke Prevention Research Unit have recently presented the results of the EXPRESS Study at the European Stroke Conference and will publish the results shortly as a fast-track paper in The Lancet. This large-scale landmark study has shown that urgent assessment and treatment of patients with TIA or minor stroke reduces the early risk of major recurrent stroke by about 80%. These results will have a major impact on clinical services for stroke prevention around the world, and should result in the prevention of about 10,000 strokes per year in the UK alone.

Professor Peter Rothwell has recently been awarded the Henry JM Barnett Stroke Lectureship by the Canadian Heart and Stroke Association and the UK Stroke Association Royal Lectureship.

At the 2007 Human Brain Mapping Conference in Chicago, Professor Steve Smith (FMRIB) was awarded the Wiley Young Investigator Award. This is made once a year in recognition of significant contribution to the field of neuroimaging, by a researcher under 40. As a "body-of-work" award this reflects on all members of the Analysis Group.

The 7th International FSL & FreeSurfer course was held in the first week of September in Cardiff, the local organiser being ex-FMRIB-ite Richard Wise. Most of the Analysis Group went to lecture and teach on this intensive week-long course, with people attending from labs all around the world to learn FMRIB's FSL brain image analysis software. As in recent years, all 150 places had been sold out, with many on the waiting list!

Dr Stuart Clare (FMRIB) has been awarded a Teaching Excellence Award by the Medical Sciences Division, in recognition of his development and delivery of the FMRIB Graduate Training Program. The program, which has been running at FMRIB for the past four years, has introduced FMRIB graduate students, who come from a range of clinical, neuroscience, maths and physics backgrounds, to the methods for neuroimaging using MRI. The award will be presented at a Divisional event on 16 October at 4.45-6pm. http://www.medsci.ox.ac.uk/msd/newsitems/2007/teaching_excellence_awards

Dr Jon Brooks, a Postdoc in the Pain Group, has been awarded a 5-year MRC Career Development Award to develop spinal cord FMRI and will move into the Department of Clinical Neurology.

FMRIB's ambitious 7T bid to the MRC/EPSRC is doing well and has been deferred to the November meeting for a final decision regarding funding.

Drs Heidi Johansen-Berg *(FMRIB)* and Tim Behrens *(FMRIB and Experimental Psychology)* together with Professor Des Higham *(University of Strathclyde)* were awarded a grant of £296,000 by the MRC on MRC, 'Complex Brain Networks in Health, Development, and Disease'.

Drs Kate Watkins *(Experimental Psychology and FMRIB)* and Heidi Johansen-Berg *(FMRIB)* were awarded a grant of £36,771 from the John Fell OUP Research Fund on 'TMS studies of speech and action: organization and reorganization of function in development and acquired disorders'.

The combined expertise of Professors David Beeson, Nick Willcox and Angela Vincent (*Neurosciences Group*) came together with colleagues in Paris (Giraud, Garchon) and Heidelberg (Kyewski), to show mechanisms by which a polymorphism in a non-coding region of the acetylcholine receptor (antigen) gene leads to lower expression of this antigen in the thymus and correlates with early onset of myasthenia gravis (*Nature August 2007*).

14 new graduate students will be joining the department *(FMRIB, Neurosciences Group, Neurogenetics Group, Stroke Prevention Research Group)* in October. There will be approximately 40 graduate students in the department who all continue to make an important contribution to research.

Long term Individual Fitness Enablement 'LIFE' Collaboration with Oxford Brookes University, Department of Life Sciences. The Life Sciences Department of Oxford Brookes, under the Leadership of Dr Helen Dawes, has been awarded a grant from the Department of Health to investigate the feasibility and outcome of enabling people with a neurological disability to exercise in a gym environment. The groups covered by the grant are Cerebral Palsy, Parkinson's Disease, Muscular

Dystrophy, Multiple Sclerosis and Motor neurone disease. Dr David Hilton-Jones is on the Steering Committee. 100 subjects will be recruited from Consultant clinics over the next year to participate in an individually tailored gym based exercise programme lasting 12 weeks. Drs David Hilton-Jones and Kevin Talbot are the referring clinicians. This will be done in collaboration with the Inclusive Fitness Initiative (IFI) scheme see www.inclusivefitness.org for details of the scheme.

The programme will be looking for people with the specified diagnoses who would like to the opportunity to try out a gym free of charge with extra support. They need to be able to stand and walk 10 metres to join this study. Jane Freebody is one of two specialist physios who will be supporting the participants during the study. For more details email Jane on jane.freebody@clneuro.ox.ac.uk. *Jane Freebody MCSP*

Research Profile: Professor Lars Fugger

Professor Lars Fugger studied medicine at the University of Copenhagen and received his MD degree in 1987 and his PhD degree in 1990. He worked as a post doctoral fellow at Stanford University from 1990-1994. He finished his clinical training in Clinical Immunology in Denmark and became professor in this specialty in 1997 at Aarhus University. He came to Oxford in 2002 as a visiting professor and has since worked in the MRC Human Immunology Unit at the WIMM. Lars Fugger's main research interest focuses on how MHC genes predispose to multiple sclerosis. He has been awarded The European Commission's Prize for Scientific Excellence (The Descartes Prize) in 2002 and The European Society of Clinical Investigation Award for Excellence in Clinical Science in 2005.

Research Profile: Dr Kevin Talbot

Neurodegenerative disorders are emerging as the next great public health challenge as, over the coming decades, the average age of the population rises. Compared with cancer our understanding of the molecular events underlying the pathophysiology of Alzheimer's, Parkinson's and motor neuron disease is rudimentary. Hence, we have very little idea how to treat these diseases. My research is focussed on using genetic models to elucidate the key factors which make motor neurons vulnerable to degeneration. My interest in using molecular genetic approaches to neurodegenerative disease began as a medical student in London in 1989 when I spent 6 months in John Hardy's laboratory at St. Mary's around the time when they identified the amyloid precursor protein as the first gene in which mutations led to familial Alzheimer's disease. With an MRC Clinical Training Fellowship I returned to laboratory research between 1995-1998 to work with Kay Davies in Oxford and completed a DPhil on the molecular basis of the childhood motor neuron disorder spinal muscular atrophy (SMA). Although the causative gene, SMN, was identified in 1995 we still do not know why motor neurons are particularly vulnerable to loss of this protein. After a period as Clinical Lecturer in the department during which time I completed my clinical training in neurology, I successfully obtained an MRC/GSK Clinician Scientist Fellowship which allowed me to develop an independent program in motor neuron disease research, which now takes place within the MRC Functional Genetics Unit adjacent to the department of Physiology. We are analysing the pathophysiology of neuromuscular junction loss and also looking for modifiers of this process. Other forms of SMA are due to mutations in genes such as the small heat shock proteins and the gene for glycyl tRNA synthetase. The basic conundrum connecting all of these genes and also the SMN gene is how we can explain why motor neurons are vulnerable to degeneration when other cells in which these genes are expressed at equally high levels are left unaffected. An emerging theme is that motor neurons seem to have a specific vulnerability to defects in RNA trafficking and that SMN may be involved in delivery of specific subclasses of mRNA to the distal axon.

In parallel with lab-based research I have established a clinic for motor neuron disorders in Oxford with support from the Motor Neuron Disease Association. The commonest condition we see is Amyotrophic Lateral Sclerosis which is a relentlessly progressive degenerative disorder which is usually fatal within 3 years from onset. A large multidisciplinary team is required to provide care for patients. Most of our patients have sporadic disease in which the genetic contribution is rather uncertain and may indeed be limited. This makes it difficult to model the process of cell death and it is still uncertain whether our genetic models (2% of patients have an autosomal dominant form of ALS due to mutations in the gene for SOD1) are really relevant to the typical form of ALS. Patients who attend the clinic participate in drug trials, imaging studies and contribute DNA samples and ultimately may donate their brain for research. Neuropathology still plays a very important role in helping us understand how to classify neurodegenerative diseases and in providing clues to the molecular events in cell death. An important strand in our laboratory research is now in trying to identify the complex genetic contribution to this most complex of diseases.

If clinician scientists have any value it must be in bringing insights from the 'real world' of patients and disease into the more artificial environment of the laboratory. I firmly believe that immersing myself in one disease (ALS) in all its clinical manifestations has transformed my thinking about the basic disease mechanisms and generated testable hypotheses to focus laboratory work. ALS is one of the most challenging diseases in medicine and the journey to identify the cause and treatments is one that I expect to last several more decades.

Medical Sciences Division: Divisional Research Prize

The Medical Sciences Division are inviting up and coming researchers (up to 10 years from completing their first degree) to compete for a "Divisional Research Prize" of £250 for each of the winners. The top 3 projects will be selected and the individuals invited to make a 10 minute presentation at the annual "Divisional Science Day" followed by a drinks reception on 5 December from 1.30 – 5.00 p.m. at the Medical Sciences Teaching Centre, South Parks Road. To enter please submit a **1 page outline or abstract of your research** together with a **brief c.v. (2 pages), plus 5 best publications** by email to: Mrs Savita Anderson, E: savita.anderson@clinpharm.ox.ac.uk; T: 01865 617021. **Deadline: Monday 5 November 2007.**

Oxbridge: Thursday 28 June 2007

This year the meeting was hosted at the Møller Centre in Cambridge. The modern surroundings lent themselves, on a surprisingly sunny day, to some interesting talks that played to the strengths of the individual departments. Cambridge fielded a strong team, who presented work from cognitive dysfunction in Parkinson's Disease and the neural basis of sarcasm to new insights into the potential sources of adult stem cells in the human. Oxford presented an equally strong group of talks concentrating on Complement in Myasthenia; a potential new rehabilitative technique; carotid plaque imaging and aspects of MS from both Professor Ebers' and Professor Fugger's groups. A novel approach to neurodegeneration from the point of view of a protein-folding specialist completed the sextet.

However, it was for John Hodges' talk that most present will remember the meeting. A wonderful "meander down memory lane" not only summarising his research successes, but also giving a colourful account of how his career was mentored by a number of influential personalities in Oxford and elsewhere. At a time when mentoring in this way is under severe threat in the profession, this was a timely reminder that it is the people as well as the place that make training in neurology such a unique and vibrant experience.

Our thanks go to Professor Compston and his department for a varied and fascinating day, and to the organising team for a wonderful dinner. The tennis shield, like the sunshine, has remained in Cambridge for the time being. Training for the 2008 rematch will undoubtedly start in earnest very soon. *Charlotte Stagg, FMRIB Centre*

Merger of Green and Templeton College

The merger of Green and Templeton College, both specialist graduate colleges, is the first in the modern history of the University. The combined College will be called Green Templeton College and will be one of the largest graduate colleges in Oxford with approximately 80 fellows and 480 students. Over half the students will be accommodated at the College. The location of the new College will be at Green College's Radcliffe Observatory site next to the new University complex on the old Radcliffe Infirmary site. The new College will be effective from 1 October 2008 and will 'house outstanding academics and students from the medical and management sciences in a single college, together with their counterparts in disciplines such as social policy, education and environmental studies ……' (Dr Colin Bundy, Warden of Green College).
Full details: www.green.ox.ac.uk www.templeton.ox.ac.uk

Update on Health Care Libraries

Recently Donald M Mackay, Head of Health Care Libraries, attended a departmental meeting and gave an informative update on the Oxford University Library Services. These are provided to staff and students of both the University Medical Sciences Division and the Oxford Radcliffe Hospitals NHS Trust. There are branches of Health Care Libraries at the John Radcliffe and Churchill Hospital sites and on the University's Old Road Campus (ORC) in Headington. In early 2008 a new Knowledge Centre will open. The Outreach Librarian Contact for our department is: Neal Thurley who can be contacted on (2)22920 or neal.thurley@hcl.ox.ac.uk. Full details of the services offered can be found on www.ouls.ox.ac.uk/hcl.

Lectures and Seminars: Michaelmas Term 2007

Neuroscience Grand Round Guest Lectures: Lecture Theatre I, Academic Block, John Radcliffe Hospital – Fridays 11.30am

12 October	Dr Gordon Plant, Institute of Neurology - *The Pituitary and the Eye*
19 October	Dr John Schott – *Dementia and Movement Disorders*
23 November	Dr Alex Leff – *Acquired alexia. What is it and how is it treated?*
21 December	Dr Anish Bahra, National Hospital for Neurology and Neurosurgery – *Update on Headache*

FMRIB Centre: Seminar Room, FMRIB Centre

24 October	Oliver Lyttleton, Montreal Neurological Institute, Canada *Group registration and variance-based clustering for surface analysis of cortical measurements*
8 October	Joeran Lepsien, Max Planck Institute, Leipzig, Germany – *TBA*
15 October	Ysbrand van der Werf, VUMC, Amsterdam, Holland – *TBA*
22 October	Denis Schluppeck, Nottingham Visual Neuroscience, Nottingham – *TBA*
29 October	Paul Fletcher, Brain Mapping Unit, Cambridge – *TBA*
5 November	Claire Sergent, ICN/FIL, London - *Conscious/non-conscious visual processing*
12 November	Virginia Newcombe, Division of Anaesthesia, Cambridge – *TBA*
3 December	Jill O'Reilly, FMRIB Centre – *TBA*
10 December	Klaus Scheffler, University of Basel - *TBA*

For updates see: www.fmrib.ox.ac.uk/seminars

Weatherall Institute of Molecular Medicine: New Seminar Room, WIMM – Mondays 1pm

8 October	Dr Manuel Grez, Georg-Speyer-Haus, Frankfurt *Gene modified haematopoietic stem cells for the treatment of Chronic Granulomatous Disease*
15 October	Professor Mark McCarthy, Oxford Centre for Diabetes, Endocrinology and Metabolism (OCDEM) *Sweet dreams? Finding variants influencing individual risk of type 2 diabetes….*
22 October	Dr Fumiko Esashi, Medical Oncology Department, Cancer Research UK, WIMM *Role of CDKs in DNA Repair: Insights from the Breast Cancer Susceptibility Protein BRCA2*
29 October	Professor Tim Elliot, Cancer Research UK Clinical Centre, Southampton General Hospital *Mechanisms in immunodominance – from molecule to …….*
5 November	*TBA*
12 November	*TBA*
19 November	Professor Wolf-George Forssmann, Medical University Hanover (MHH) Hanover, Germany *Novel human peptides that block HIV and other viral infections – from bench to bedside*
26 November	Professor Comelis Melief, Leiden University Medical Center *Immunotherapy of established lesions induced by high risk Human Papilloma Virus*
3 December	Dr Simon Fisher, Wellcome Trust Centre for Human Genetics - *Molecular windows into speech and language disorders*
10 December	Professor Xin Lu, Ludwig Institute for Cancer Research - *P53: a heavily dictated 'dictator' of life and death*

Grant Application Deadlines 2007

21 September	MRC – Senior Non-Clinical Fellowship
21 September	Wellcome Trust – Senior Research Fellowships in Clinical Science
26 September	MRC – Open Link, Collaboration, Research, New Investigator Grants.
30 September	Council of the European Union – Cost Action Grants.
30 September	Daiwa Anglo-Japanese Foundation – Small Grants
30 September	Great Britain Sasakawa Foundation – Butterfield Awards
30 September	Heart Research UK – Clinical Grants
1 October	Brain – Visiting Lecturer Bursary Scheme
1 October	Pathological Society of GB – Open Scheme Grants
1 October	Sir Halley Stewart Trust - Grants
2 October	EPSRC – Overseas Postdoc Fellowships
3 October	BUPA Foundation – Research Grants
4 October	Royal Society – International Grants for postdoc fellowships from China and India to UK
5 October	Alzheimer's Research Trust – Scientific Conference Grant Scheme
8 October	Epilepsy Action – PhD Studentship, Postgrad Research Bursaries, Research Grants/Prizes
11 October	BBSRC – Industrial CASE Studentship
12 October	German Academic Exchange Service UK – Research Grants for PhD students/junior scholars
15 October	British Academy – British Conference Grants, Research Development Awards
15 October	International Association for the Study of Pain, US – Early Career Research Grants
15 October	Leverhulme Trust – Visiting Professorships
15 October	Roche Foundation – Fellowships, Grants
15 October	Wellcome Trust – Research Career Re-Entry Fellowship, Career Development Fellowships
16 October	Remedi – Project Grants
17 October	European Commission Framework Programme 7 – Marie Curie Action European Integration Grants
17 October	**MRC – Experimental Medicine II Calls for Proposals**
19 October	BBSRC – Industry Interchange Programme
22 October	Wellcome Trust – Intermediate Clinical Fellowships
26 October	Alzheimer's Society – Fellowships
26 October	Fulbright Commission – Postgrad Awards
30 October	European Science Foundation – Research Networking Programmes
31 October	BBSRC – Follow On Fund
31 October	Newman Foundation UK – Medical Research Grants
1 November	BBSRC – Fellowships
1 November	British Society for Immunology – Travel Awards
1 November	Pathological Society of GB – Travel Awards and Conference Bursaries
2 November	Alzheimer's Research Trust – Graduate Student Programme
2 November	Motor Neurone Disease Association – Research Project Grants

SELECTION OF DEPARTMENTAL PUBLICATIONS

June, July, August 2007 *(listed alphabetically by Journal)*

Giles MF, Rothwell PM. Substantial underestimation of the need for outpatient services for TIA and minor stroke. **Age and Ageing** 2007 Jul 26 [Epub ahead of print].

Leite MI, Jones M, Ströbel P, Marx A, Gold R, Niks E, Verschuuren JJ, Berrih-Aknin S, Scaravilli F, Canelhas A, Morgan PB, Vincent A, Willcox N. Myasthenia Gravis Thymus. Complement vulnerability of epithelial and myoid cells, complement attack on them, and correlations with autoantibody status. **American Journal of Pathology** 2007 Aug 3 [Epub ahead of print].

Campbell-Meiklejohn DK, Woolrich MW, Passingham RE, Rogers RD. Knowing when to stop: the brain mechanisms of chasing losses. **Biological Psychiatry** 2007 July 25 [Epub ahead of print].

Douaud G, Smith S, Jenkinson M, Behrens T, Johansen-Berg H, Vickers J, James S, Voets N, Watkins K, Matthews P, James A. Anatomically related grey and white matter abnormalities in adolescent-onset schizophrenia. **Brain** 2007 130(9):2375-86.

Koton S, Rothwell PM. Performance of the ABCD and ABCD2 scores in TIA patients with carotid stenosis and atrial fibrillation. **Cerebrovascular Diseases** 2007 Jun 28;24(2-3):231-35 [Epub ahead of print].

Mazzucco S, Redgrave JN, Schulz UG, Flossmann E, Rothwell PM. Asymptomatic recurrent cerebral ischaemic lesions on diffusion-weighted imaging in the subacute and chronic phase after transient ischaemic attack or minor ischaemic stroke. **Cerebrovascular Diseases** Jun 11;24(1):133-35 [Epub ahead of print].

Boorman ED, O'Shea J, Sebastian C, Rushworth MF, Johansen-Berg H. Individual differences in white-matter microstructure reflect variation in functional connectivity during choice. **Current Biology** 2007 Aug 8 [Epub ahead of print].

Giuovannoni G, Ebers G. Multiple sclerosis: the environment and causation. **Current Opinion in Neurology** 2007 Jun;20(3):261-8.

Irani SR, Fukushima K, Yazaki M, Vincent A. Limbic encephalitis: under-recognition of voltage-gated potassium channel antibodies. **European Neurology** 2007 Jul 2;58(3):184 [Epub ahead of print].

Cader MZ, Ren J, James PA, Bird LE, Talbot K, Stammers DK. Crystal structure of human wildtype and S581L-mutant glycyl-tRNA synthetase, an enzyme underlying distal spinal muscular atrophy. **FEBS Letters** 2007 Jun 26;581(16):2959-64.

Rothwell PM. Transient ischaemic attacks: time to wake up. **Heart** 2007 Aug;93(8):893-4.

Chao MJ, Barnardo MC, Bu GZ, Lincoln MR, Ramagopalan SV, Herrera B, Dyment DA, Sadovnick AD, Ebers GC. Transmission of class I/II multi-locus MHC haplotypes and multiple sclerosis susceptibility: accounting for linkage disequilibrium. **Human Molecular Genetics** 2007 Jun 20 [Epub ahead of print].

Zöllei L, Jenkinson M, Timoner S, Wells W. A marginalized MAP approach and EM optimization for pair-wise registration. **Information Processing in Medical Imaging** 2007 20:662-74.

Bhagwagar Z, Wylezinska M, Jezzard P, Evans J, Boorman E, Matthews P, Cowen P. Low GABA concentrations in occipital cortex and anterior cingulated cortex in medication-free, recovered depressed patients. **International Journal of Neuropsychopharmacology** 2007 Jul 11;1-6 [Epub ahead of print].

Crow TJ, Paez P, Chance SA. Callosal misconnectivity and the sex difference in psychosis. **International Review of Psychiatry** 2007 Aug;19(4):449-57.

Hubbard PS, Esiri MM, Reading M, McShane R, Nagy Z. Alpha-synuclein pathology in the olfactory pathways of dementia patients. **Journal of Anatomy** 2007 Jun 6 [Epub ahead of print].

Owen SL, Green AL, Davies P, Stein JF, Aziz TZ, Behrens T, Voets NL, Johansen-Berg H. Connectivity of an effective hypothalamic surgical target for cluster headache. **Journal of Clinical Neuroscience** 2007 Aug 2 [Epub ahead of print].

Abdelgany A, Wood M, Beeson D. Hairpin DNAzymes: a new tool for efficient cellular gene silencing. **Journal of Gene Medicine** 2007 Aug 9(8):727-38.

Dyment DA, Cader MZ, Herrera MB, Ramagopalan SV, Orton SM, Chao M, Willer CJ, Sadovnick AD, Risch N, Ebers GC. A genome-scan in a single pedigree with a high prevalence of multiple sclerosis. **Journal of Neurology, Neurosurgery and Psychiatry** 2007 July 23 [Epub ahead of print].

Valentini M, Kischka U, Halligan PW. Residual haptic sensation following stroke using ipsilateral stimulation. **Journal of Neurology, Neurosurgery and Psychiatry** 2007 Jun 27 [Epub ahead of print].

Palace J. Inflammation versus neurodegeneration: consequences for treatment. **Journal of the Neurological Sciences** 2007 Aug 15;259(1-2):46-9.

Lovelock CE, Molyneux AJ, Rothwell PM; Oxford Vascular Study. Change in incidence and aetiology of intracerebral haemorrhage in Oxfordshire, UK, between 1981 and 2006: a population-based study. **Lancet Neurology** 2007 June 6(6):487-93.

Ramagopalan SV, Dyment DA, Valdar W, Herrera BM, Criscuoli M, Yee IM, Sadovnick AD, Ebers GC; Canadian Collaborative Study Group. Autoimmune disease in families with multiple sclerosis: a population-based study. **Lancet Neurology** 2007 Jul;6(7):604-10.

Giraud M, Taubert R, Vandiedonck C, Ke X, Lévi-Strauss M, Pagani F, Baralle FE, Eymard B, Tranchant C, Gajdos P, Vincent A, Willcox N, Beeson D, Kyewski B, Garchon HJ. An IRF8-binding promoter variant and AIRE control CHRNA1 promiscuous expression in thymus. **Nature** 2007 Aug 8 [Epub ahead of print].

Behrens TE, Woolrich MW, Walton ME, Rushworth MF. Learning the value of information in an uncertain world. **Nature Neuroscience** 2007 Aug 5 [Epub ahead of print].

Dunckley P, Aziz Q, Wise RG, Brooks J, Tracey I, Chang L. Attentional modulation of visceral and somatic pain. **Neurogastroenterology and Motility** 2007 Jul;19(7):569-77.

Aravamuthan BR, Muthusamy KA, Stein JF, Aziz TZ, Johansen-Berg H. Topography of cortical and subcortical connections of the human pedunculopontine and subthalamic nuclei. **Neuroimage** 2007 Jun 7 [Epub ahead of print].

Chiarelli PA, Bulte DP, Wise R, Gallichan D, Jezzard P. A calibration method for quantitative BOLD fMRI based on hyperoxia. **Neuroimage** 1007 Sep 1;37(3):808-20.

Jbabdi S, Woolrich MW, Andersson JL, Behrens TE. A Bayesian framework for global tractography. **Neuroimage** 2007 Aug 1;37(1):116-29.

Johansen-Berg H, Della-Maggiore V, Behrens TE, Smith SM, Paus T. Integrity of white matter in the corpus callosum correlates with bimanual co-ordination skills. **Neuroimage** 2007 36 Suppl 2:T16-21.

Miller KL, Smith SM, Jezzard P, Wiggins GC, Wiggins CJ. Signal and noise characteristics of SSFP FMRI: A comparison with GRE at multiple field strengths. **Neuroimage** 200 7 July 10 [Epub ahead of print].

Smith SM, Rao A, De Stefano N, Jenkinson M, Schott JM, Matthews PM, Fox NC. Longitudinal and cross-sectional analysis of atrophy in Alzheimer's disease: cross-validation of BSI, SIENA and SIENAX. **Neuroimage** 2007 Jul 15;36(4):1200-6.

Herrera BM, Ramagopalan SV, Orton S, Chao MJ, Yee IM, Sadovnick AD, Ebers GC. Parental transmission of MS in a population-based Canadian cohort. **Neurology** 2007 Jun 27 [Epub ahead of print].

Sadovnick AD, Duquette P, Herrera B, Yee IM, Ebers GC. A timing-of-birth effect on multiple sclerosis clinical phenotype. **Neurology** 2007 Jul 3;69(1):60-2.

Tracey I, Mantyh PW. The cerebral signature for pain perception and its modulation. **Neuron** 2007 Aug 2;55(3):377-91.

Hilton-Jones D, Ironside JW, Simpson DJ. A young man with rapidly progressive multifocal disease affecting the white matter. **Practical Neurology** 2007 Jun 7(3):172-81.

Talbot K. The study of rare diseases: butterfly collecting or an entrée to understanding common conditions? **Practical Neurology** 2007 Aug 7(4):210-11.

Williams RH, Jensen LT, Verkhratsky A, Fugger L, Burdakov D. Control of hypothalamic orexin neurons by acid and CO2. **Proceedings of the National Academy of Sciences of the USA** 2007 Jun 19;104(25):10685-90.

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