A special thanks to Dr Suraj Rajan, MSc, MD for his work on the title logo for Neurology 2018

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UCL Institute of Neurology | Queen Square, London
Welcome to Neurology 2018:
Leading-edge Neurology for the Practising Clinician

12 April 2018

Dear Colleagues,

On behalf of the Executive Committee of UCL Institute of Neurology, it is a pleasure to welcome you to Neurology 2018: Leading-edge Neurology for the Practising Clinician

The aim of the course is to provide an update on the practical hospital management of common neurological diseases, with an emphasis on modern techniques and therapies. Its purpose is to be didactic, but also entertaining and informative.

This programme book contains speaker biographies and lined paper to allow you to take notes.

We hope the course will prove instructive, and we are keen to have feedback, so please do not hesitate to contact the organisers with any comments or suggestions. It is an annual event and your comments will be very helpful for planning for the future.

Many people have been involved in assisting with the organization. Particular thanks go to Daniel Cotfas and David Blundred in the Education Team at the UCL Institute of Neurology for their tireless work in bringing this conference together in such a successful manner. Our sincere and grateful thanks also go to all the speakers and presenters. We would also like to gratefully acknowledge the support of our sponsors (listed at the end of the programme book) which has made this conference possible.

The title logo is kindly provided by Dr Suraj Rajan, and the majority of speaker photos were provided by Medical Illustration.

With best wishes,

(On behalf of the Conference Organising Committee: Dr Tabish Saifee & Mr David Blundred)
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FTD
frontotemporal dementia
by Dr Jonathan Rohrer
Honorary Consultant Neurologist
National Hospital for Neurology & Neurosurgery
Dr Jonathan Rohrer completed his initial degree at the University of Cambridge in Natural Sciences (Experimental Psychology) and then went on to study Medicine at the University of Oxford and University College London qualifying in 2001. He trained in Neurology at the Royal Free Hospital and the National Hospital for Neurology and Neurosurgery completing training in 2014. He is now an Honorary Consultant Neurologist at the National Hospital for Neurology and Neurosurgery and MRC Clinician Scientist at the Dementia Research Centre, UCL Institute of Neurology.

His research has focused on the neuroimaging and neuropsychology of frontotemporal dementia (FTD), particularly in relation to their underlying genetic causes. Research in the field of FTD has led to the publication of over 150 Pubmed-referenced papers and he has spoken at a number of international conferences about the work. Since 2011 he has led the Genetic FTD Initiative, GENFI, a multicenter cohort study of presymptomatic genetic FTD (www.genfi.org.uk), which has now recruited over 800 participants and is the largest study of its kind. He has also set up FTD UK (www.ftduk.org), an annual scientific meeting of UK researchers who work in the FTD field (running since 2011), runs a website dedicated to providing research updates to the general public about FTD (www.ftdtalk.org), and leads a support group for families, carers and individuals with FTD (www.raredementiasupport.org).

This talk will focus on recent FTD research relevant to clinical practice. In particular, the increasing recognition of its overlap with motor neurone disease and the atypical parkinsonian disorders, the genetic nature of the disorder, and forthcoming therapeutic trials.

Selected background reading:
Lessons Learnt from Patients: Case Material and Clinical Observations

by Dr Jeremy Gibbs
Consultant Neurologist
Royal Free Hospital and the Lister Hospital
Jeremy Gibbs is a consultant neurologist at the Royal Free Hospital and the Lister Hospital, North Hertfordshire, and honorary senior lecturer at Royal Free/UCL medical school. He trained in Cambridge and London, working at different stages at The Middlesex, Hammersmith Hospital, St Thomas’s, the Whittington, UCLH, Kings College Hospital and the National Hospital for Neurology and Neurosurgery. His research career and MD were in the field of cerebrovascular disease, particularly the clinical and pathophysiological features of occlusive carotid artery disease. He was later a founder member of the specialist vascular clinic for patients with intracranial aneurysms and AVMs, a multidisciplinary service that started at the Royal Free and moved to the National Hospital in 2012.

Dr Gibbs has an enduring interest in acute and outpatient-based general neurology, the business of diagnosing and caring for patients with common neurological conditions. He also does some undergraduate and postgraduate teaching, encouraging a systematic symptom-based approach to outpatient neurological problems and ward referrals.

Dr Gibbs’s talk at this meeting will cover a selection of clinical scenarios, some of them common conditions and others less so, illustrated by case histories and coloured to some extent by personal perspectives acquired over many years of clinical practice.

Selected background reading:
Migraine: evolution of a common disorder, Oliver Sacks, Blackwells (revised 2009).
Prize Lecture

by Professor Linda Greensmith

Professor of Neuroscience
UCL Institute of Neurology
Linda Greensmith is a Professor of Neuroscience at the UCL Institute of Neurology, Head of the Sobell Department of Movement Neuroscience and Movement Disorders, and Deputy Director of the Institute of Neurology. She is a Fellow of The Academy of Medical Sciences and a Fellow of The Royal Society of Biologists.

Linda is The Graham Watts Senior Research Fellow, and runs the Graham Watts Laboratories, funded by a Bequest for Motor Neuron Disease (MND) research at UCL Institute of Neurology. Her lab undertakes research focused on improving our understanding of the pathophysiology of motor neuron degeneration, and in developing novel therapeutic approaches to MND. Her large multidisciplinary research group uses a wide range of techniques, ranging from whole animal physiology to RNA transcriptomics. In particular, Linda’s group is recognized for their expertise in mouse models of MND and for undertaking preclinical trials, with the long term aim of translating these findings into disease modifying therapies for MND patients. Her laboratory has made an important contribution to the field, identifying a novel co-inducer of protein chaperones as an effective neuroprotective agent for MND. Linda has recently extended this work to show that targeting of protein chaperones may also have beneficial effects in other protein misfolding disorders such as the muscle disorder, inclusion body myositis (IBM). In a study published in Science Translational Medicine, upregulation of the heat shock response was found to ameliorate the pathological signs and symptoms of IBM in both cellular models and mice that model IBM, and was found to be safe and well tolerated in a Phase IIa trial in IBM patients. A larger phase IIb efficacy trial is planned to start in late 2018.

Linda’s talk will focus on a recent study from her group in which they have been developing a unique approach to restore function to paralysed muscles. This approach combines optogenetics and regenerative medicine and uses stem cell-derived grafts of motor neurons that express channelrhodopsin-2, a molecular photo-sensor, to establish neuromuscular junctions with target paralysed muscles. Due to the photosensitivity of the graft, muscle contraction can then be specifically triggered by light flashes, which are generated by an optical pacemaker device and transmitted to the graft via fibre optic cables.

This work, published in Science, may represent a novel therapeutic approach to restore function to key muscle groups in patients suffering from a variety of disorders that result in paralysis, including MND as well as traumatic insults such as spinal cord injury.

For more information visit: www.tiny.cc/lgreensmith
l.greensmith@ucl.ac.uk
Adult white matter disease–experiences from a leukodystrophy clinic

by Dr Jeremy Chataway

Consultant Neurologist
National Hospital for Neurology and Neurosurgery
Reader in Neurology
UCL Institute of Neurology
Dr Jeremy Chataway MA, PhD, FRCP Consultant Neurologist National Hospital for Neurology and Neurosurgery (NHNN), Queen Square, University College Foundation NHS Trust and Reader in Neurology, University College London.

After qualifying in medicine at Cambridge and Oxford Universities, and general medical training in London, he specialised in Neurology over an 8 year period with posts in Edinburgh, Cambridge and London. He was awarded a PhD from Cambridge University in genetic epidemiology of multiple sclerosis and took up his post as a consultant Neurologist in 2001 at The National Hospital for Neurology and Neurosurgery, Queen Square, University College Foundation NHS Trust, London.

He is the clinical lead of the MS group at the National Hospital (about 3000 patients) and was a member of the 2014 MS NICE panel. He has a particular interest in clinical trial design and was the Chief Investigator (CI) of the MS-STAT1 trial in secondary progressive MS, using high dose simvastatin; and is the CI of the MS-SMART and MS-STAT2 trials in secondary progressive MS. He is the Clinical Director of the UCL Comprehensive Clinical Trials Unit. He co-chairs the Adult onset Leukodystrophy Group at the National Hospital.

Selected background reading:
Haematology for the neurologist

by Dr Shirley D'Sa
Consultant Haematologist
University College Hospital
Dr D'Sa is a haematologist and clinical lead for the UCLH Centre for Waldenström’s macroglobulinaemia and Associated Disorders, and haematological lead in the Joint POEMS Clinic alongside the neurology lead, Dr Michael Lunn. She works both at ULCH NHS Foundation Trust, and the Mount Vernon Cancer Centre. Together, Drs D'Sa and Lunn have co-authored clinical guidelines on IgM-related peripheral neuropathies (2017) and Bing Neel syndrome (2016) with international colleagues as part of the International Workshops on Waldenström's macroglobulinaemia (IWWM). Dr D'Sa was invited to provide haematological representation at the 230th European Neuromuscular Centre (ENMC) Workshop for future assessment and research in anti-MAG peripheral neuropathy; a consensus collaborative effort exploring diagnosis, pathogenesis and treatment in Naarden, in 2017.

Dr D’Sa is a co-trustee with patients and colleagues in the UK Registered Charity, WMUK (www.wmuk.org.uk), which seeks to bring health professionals and patients closer together to challenge the barriers faced by patients with Waldenström’s Macroglobulinaemia, including the organisation of patient seminars for patients from across the UK and beyond. She is a co-author of the UK WM Treatment Guidelines 2014 under the auspices of the British Committee for Standards in Haematology and has contributed to the inclusion of the BTK inhibitor, Ibrutinib for relapsed WM patients in the NHS Cancer Drugs Fund.

Dr D’Sa is working with Colleagues in the WMUK Doctors’ Forum to develop a blueprint for clinical trials in the UK, with a view to improving the understanding of the biology of WM as well as access to further novel therapeutic agents.

Dr D’Sa has a background in laboratory research into the recovery of immune function following allogeneic stem cell transplantation in myeloma patients. Currently her research is clinically orientated and comprises clinical trials in the field of Waldenström’s macroglobulinaemia and other lymphomas including Phase I, II and II trials of novel therapies such as BTK inhibitors in Waldenstroms and anti-complement antibodies in cold agglutinin disease.

Selected background reading:
Experience of a prion referral service

by Dr Peter Rudge
Consultant Neurologist
UCL Institute of Prion Diseases
Dr Rudge read medicine and physiology at the Royal Veterinary College, St Bartholomew’s Hospital Medical College and AIIMS Delhi, qualifying in 1966. After three years of junior appointments in general medicine including psychiatry at Bart’s, the Royal Postgraduate Medical School, Hammersmith and Runwell Hospital he trained in Neurology at the National Hospital, Queen Square and Maida Vale. In 1974 he was appointed Consultant Neurologist to the National Hospital and Northwick Park Hospitals with additional honorary appointment during this period to the MRC Hearing and Balance Unit, Queen Square, and Royal Marsden Hospital, London.

During this period he was from time to time involved in organising and assessing neurology and general medicine training programmes for the Royal College of Physicians, London and the London Deanery.

Dr Rudge retired from these definitive appointments in 2004. Shortly after this he was appointed sequentially Consultant Neurologist to the Kingston Public Hospital, Jamaica, St Thomas’s Hospital, London and, since 2008, has been a Consultant Neurologist to the National Prion Clinic, Queen Square.

He has published extensively on a wide range of neurological topics including neuro-otology, neuro-physiology, multiple sclerosis and most recently prion disease. Dr Rudge has been a member of Scientific Advisory Committees of the MRC, Department of Health, and Multiple Sclerosis Societies in the USA and UK. He has also been a member of the editorial boards of a number of neurology journals and is currently a Consulting Editor to the Lancet Neurology.
What’s new in Traumatic Brain Injury

by Dr Richard Sylvester
Consultant Neurologist
National Hospital of Neurology and Neurosurgery & NHS Homerton Hospital
Dr Sylvester is a Consultant Neurologist based at the National Hospital of Neurology and Neurosurgery and Homerton University Hospital. His clinical interests include neurorehabilitation after traumatic brain injury and sports related concussion.

He qualified from Oxford University and completed his specialist training in London. He has a doctorate in Cognitive Neuroscience from UCL.

Dr Sylvester has a brain injury rehabilitation clinic at NHNN working closely with neuropsychologists managing cognitive issues after brain injury. He has particular expertise in managing the acute and long term effects of sports related concussion and runs a clinic for professional athletes with complex concussion at the Institute of Sport Exercise and Health, UCL. He is a member of the Association of British Neurologists traumatic brain injury advisory group and a founder and executive member of the UCL Partners Centre for Neurorehabilitation. He is a member of English Football Association’s expert concussion advisory panel and was an independent concussion expert for World Rugby at the 2016 Rugby World Cup.

Dr Richard Sylvester
For more information visit: www.tiny.cc/rsylvester
richard.sulvester@homerton.nhs.uk
Satellite: Advanced therapies in Parkinson’s Disease

by Professor Thomas Warner

Chair of Clinical Neurology & Director of the Rita Lila Weston Institute
Professor of Clinical Neurology
UCL Institute of Neurology
Professor Thomas Warner is Professor of Clinical Neurology at UCL Institute of Neurology and Director of the Reta Lila Weston Institute of Neurological Studies and Queen Square Brain bank. He received his undergraduate training at the University of Oxford in 1984 in physiological sciences. He qualified as a Medical Practitioner in 1987 and his clinical education was at the University of Oxford School of Medicine. His higher neurological training was at the Royal Free Hospital, National Hospital for Neurology and Neurosurgery, Queen Square, London and King’s College Hospital, London.

Professor Warner is a member of the Executive Committee and Council of Association of British Neurologists (ABN) and is Chair of the ABN Education Committee.

His major research interests are into the cellular pathogenesis of hereditary movement disorders including dystonia, tauopathies and parkinsonism and clinical studies in Huntington’s disease and Parkinson’s disease. He is member of steering committee of Dementia Platform UK Stem Cell network and runs a lab developing induced pluripotent stem cell models of neurodegenerative disorders. He is UCL chair for the Eisai/UCL therapeutic innovations group which developing novel therapeutic strategies in neurological disease.

His clinical work focuses on Parkinson’s disease (PD) and other movement disorders. This lecture will focus on the treatment of advanced PD and the management strategies available for this complex neurodegenerative disorder.

Selected Background Reading:
Acute Infectious Encephalitis: Diagnosis & Management

by Dr Nicholas Davies
Consultant Neurologist
Chelsea and Westminster Hospital
Dr Davies is a consultant neurologist at Chelsea and Westminster Hospital and Imperial College Healthcare NHS Trust (Charing Cross Hospital). His subspecialty and research interest is neurological infection.

He trained in neurology at the National Hospital for Neurology and Neurosurgery, St George’s Hospital (Atkinson Morley’s) and St Mary’s Hospital in London. Post-CCT he was awarded a 12-month Personal Travel Fellowship, which he spent studying HIV neurology at St Vincent’s Hospital, Sydney, Australia.

Currently half of his clinical practice relates to neurological infection. Since 2016 he has been neurologist to the National Retrovirology (HTLV) Clinic at St Mary’s Hospital. He is also one of two neurologists who participates in the weekly national imported fever service conference.

Selected Background Reading:
Cardiovascular Autonomic Disorders for the general neurologist

by Dr Ellen Merete Hagen
Consultant Neurologist
National Hospital for Neurology
Neurosurgery Honorary Senior Lecturer
UCL Institute of Neurology
Ellen Merete Hagen is a Consultant Neurologist at the National Hospital for Neurology and Neurosurgery, and Honorary Senior Lecturer at the UCL Institute of Neurology. She trained in Oslo and Bergen, Norway. She specializes in autonomic neurorehabilitation and spinal cord injuries.

She was visiting research fellow at University College London and Imperial College London in 2011-2012. In 2013-2014 she worked as Associated Professor at Aarhus University, Consultant Neurologist in Spinal Cord Medicine and Head of Research at the Spinal Cord Injury Centre of Western Denmark, Department of Neurology, Regional Hospital of Viborg where she build an Autonomic Lab and developed a Research Unit at Spinal Cord Injury Centre of Western Denmark.

She is Module Editor for eBrain: Diseases of the Autonomic Nervous System, Associate Editor the Editorial Board of Neuroepidemiology Frontiers in Neurology and member of the Editorial Board of Spinal Cord.

She is coordinating the implementation of Electronic Health Record System at Queen Square Division of UCLH and leading the development of a REDCap data collection tool for use by the Autonomic Unit at Queen Square, London for clinical reporting and research.

Selected background reading:


Clinical Spectrum & management of NMOSD

by Dr Anu Jacob
Consultant Neurologist
The Walton Centre
Honorary Senior Lecturer
University of Liverpool
Anu Jacob is a consultant neurologist at the Walton Centre NHS Hospital, a tertiary neurosciences hospital in Liverpool and an Honorary Senior Lecturer at the University of Liverpool.

He did his initial training in India: MBBS and MD (from Jipmer, Pondicherry) and DM (neurology) from (Srichitra Thirunal Institute, Kerala). Moving to the University of Liverpool in 2003 he completed his research MD on neuromyelitis optica (NMO). He obtained his CCT in neurology at the Walton Centre in 2006 and then did a fellowship in neuroimmunology, multiple sclerosis and NMO at the Mayo Clinic in Rochester, Minnesota, USA. He envisaged, developed and is the lead for the first ever comprehensive NMO Service in the world from 2010. He has special interest in complex rare CNS autoimmune neurological diseases. He also leads the North Wales Multiple Sclerosis Service. He has published more than 70 research papers on NMO. He is the winner of the Royal College of Physicians Excellence in Patient care award 2016 for improving the lives of patients with NMO.

Selected background reading:
Dr Indran Davagnanam is a consultant neuroradiologist based at two of the country's premier specialist centres: the National Hospital for Neurology and Neurosurgery (Queen Square) and Moorfields Eye Hospital. He is proficient in the interpretation of diagnostic imaging of a wide variety of orbital, neurological and neurosurgical conditions, as well as minimally invasive diagnostic procedures such as dacryocystography (DCG), digitally subtracted cerebral catheter angiography and cisterno-myelography. His subspecialty interests include specialist imaging of spinal and spinal cord pathology, stroke, central and peripheral nerves, as well as orbital and neuro-ophthalmological pathologies. He has been invited to give lectures in his areas of interest as well as being published in medical textbooks and scientific journals.

Dr Davagnanam is an Honorary Senior Lecturer at the Institute of Neurology, and has received grants from the Clinical Biomedical Research Centre (CBRC) and Parkinson's Disease UK with several local and international research collaborations. He is the current lead of the Clinical Audit and Quality Improvement Committee (CAQIC) for the Queen Square division as well as a member of the UCH Trust CAQIC central committee and the Clinical Governance committee, Queen Square division.

He established and leads the neuro-ophthalmology multi-disciplinary meeting as well as serving as member of the Radiation Protection Committee at Moorfields Eye Hospital. He also serves as a committee member, tutor and research supervisor for the advanced neuroimaging MSc programme at the Institute of Neurology, and a deanery recognised clinical supervisor for the fellows on the Pan-London Neuroradiology rotation.

He leads on research projects with an emphasis on the development and application of quantitative advanced and novel imaging techniques to develop neuro-ophthalmological and neurovascular biomarkers. He has published over 70 articles in scientific peer-reviewed journals including high impact clinical neurosciences research journals and has been invited to lecture on specialised areas of neuroimaging.
Dr. Simon Farmer qualified from Bristol University MB BSc in 1986. He trained in neurology and general medicine at the Royal London Hospital, The National Hospital, Queen Square and at St Mary’s Hospital, London. He took a PhD as a Welcome Trust Clinical Research Training Fellow at University College London. He has since supervised a number of PhD students in clinical and basic neuroscience. He was appointed consultant neurologist between St Mary’s Hospital and the National Hospital, Queen Square in 1996.

He is on the staff of King Edward VII Hospital in London and since 2010 has been full time at Queen Square. His dominant neurological practice is general neurology with interests in movement disorders and neuro-ophthalmology. He researches systems neurophysiology and motor physiology in health, neural development and in disease states. He is a principal investigator at the Institute of Neurology and Associate Clinical Director for Neurology at Queen Square. He has published over 150 articles in clinical and basic neuroscience and has contributed to several neurology text books. He enjoys dangerous sports like CPCs.
Clinical Pathological Conference overview
Clinicopathological conference (CPC)

A 78-year-old right hand dominant man, who is a retired chemist, was referred to the National Hospital for Neurology and Neurosurgery in 2016.

The patient had a spinal tumour (histology unknown) removed approximately 30 years ago. Although he regained mobility post-operatively, he never returned to baseline and required the aid of a stick to mobilise. However, 15 years ago, he suffered a fall resulting in a hip fracture and thereafter relied on a frame and more recently, a wheelchair to get around. Other than that, he suffered from ulcerative colitis, and was prescribed mesalazine and azathioprine.

In November of 2015, the patient developed painful paraesthesia in his legs. Curiously he remarked to his brother that he could feel the end of his bed frame which was unusual as he had lost all feeling in his legs after the spinal tumour.

In mid-December 2015, he had trouble writing a cheque, became uncharacteristically irascible at the local chippy, forgot a few appointments and struggled to transfer between his wheelchair and adapted car. With time, these transfers became more precarious resulting in a number of falls; he also started to sit awkwardly in his wheelchair.

During Christmas of 2015 and the subsequent New Year, the patient’s personality changed, becoming disinhibited (tucking into Christmas meal before everyone and buying odd presents), less conversant, increasingly short-fused and subdued at the same time; he also developed a profound sweet craving. By January 2016, he had become incontinent and was unable to do up his buttons and zips.

In February 2018, he was admitted to hospital and subsequently became paranoid (family lying and nurses trying to poison him), engaged in repetitive fidgety upper limb movements, complained of non-specific visual blurring, had further memory impairment, and became increasing child-like in his personality. His range of facial expression became muted, and he developed a pill-rolling tremor in his left upper limb, superimposed by fine jerks. His speech first became hypophonic, then slurred, and finally punctuated by long word pauses. On admission, he exhibited hyperphagia but then he had swallowing apraxia and eventually dysphagia. While on the ward, staff noticed new onset left facial droop and dysarthria; paroxysmal atrial fibrillation was discovered on admission ECG.
Clinicopathological conference (CPC)

Clinical examination revealed profound bradyphrenia, hypomimia, and he exhibited utilisation behaviour and mimicry. Cranial nerve examination revealed left UMN facial weakness, supranuclear gaze palsy, broken smooth visual pursuit and abnormal convergence eye movements; his jaw jerk was exaggerated. He had a pout reflex and bilateral grasp reflexes.

Upper limb examination revealed gegenhalten and cogwheel rigidity on the right UL but the left was hypotonic; he had a left pronator drift. There was evidence of polyminimyoclonus. Lower limb examination revealed normal tone; power was 4-/5 at hips and knees but 3/5 at ankle dorsiflexion. He had extensor plantars. Fasciculations were seen in the gastrocnemii and right vastus medialis. Pin prick sensation was reduced below the knees; vibration sense was reduced up to the costal margins; temperature sensation was reduced up to the mid-abdomen.

Cognitively, he scored 16/20 on the MMSE. He could not complete letter-cancelling, verbal and visual recognition memory testing, spelling, calculation, counting backwards (30-1), Luria and verbal fluency tasks. Object naming was 11/12 (rhino for hippo), fragmented letter recognition was intact, as were non-word reading and repetition. He was able to mimic tool use and orofacial gestures but unable to copy novel hand postures. He ignored the capsizing dinghy on the beach scene.

An MRI Brain was performed (see next page).

An EEG performed showed generalised theta activity with some delta in the temporal regions (left greater than right). There is a posteriorly dominant rhythm of 7-8Hz that is reactive. There were no periodic complexes seen.

A CSF examination was advised but the patient deteriorated rapidly and died within a few days. A post mortem examination was carried out.
Acute Vertigo: stroke or peripheral vestibular disorder

by Professor Adolfo Bronstein
Consultant Neurologist
National Hospital for Neurology and Neurosurgery
Professor Clinical Neuro-otology
Imperial College London
Adolfo Bronstein is Professor of Clinical Neuro-otology at Imperial College London and a Consultant Neurologist at Charing Cross Hospital and at the National Hospital for Neurology and Neurosurgery, Queen Square, London. He heads the Neuro-otology Unit in the Division of Brain Sciences at Imperial College.

He has written over 250 papers on clinical and basic aspects of eye movements, balance and spatial orientation. His book, ‘Dizziness’ received a ‘High Commendation’ at the 2008 BMA Medical Book prize Competition. Prof Bronstein is an enthusiastic teacher of neuro-otology and balance disorders in European and world neurological societies. In 2008 he obtained the Nylen-Hallpike Prize of the Barany Society for outstanding contribution to clinical neuro-otology. His current research interests are the high order mechanisms involved in central compensation of peripheral vestibular disorders as well as the role of small vessel white matter disease in balance dysfunction in the elderly. He was the founder and first chairman of the British Society of Neuro-otology, chairman of the neuro-otology panel for the European Federation of Neurological Sciences and president of the clinical neuroscience section of the Royal Society of Medicine.

Selected background reading:
http://www.londonscn.nhs.uk/networks/mental-health-dementia-neuroscience/neuroscience/ (tiny.cc/abronstein2)
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