Functional Neurosurgery Unit

Department of Clinical & Motor Neurosciences
UCL Queen Square Institute of Neurology
&
National Hospital for Neurology and Neurosurgery
UCLH Foundation Trust

Annual Report:
1st January 2018 to 31st December 2018
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1. Background summary

The Functional Neurosurgery Unit (FuN-Unit) is a multidisciplinary, clinical academic collaboration within the Department of Clinical & Motor Neurosciences at the UCL Queen Square Institute of Neurology (IoN) and the National Hospital for Neurology and Neurosurgery. First established in October 2002, the Unit has grown in scope and activity and is recognised as an international centre of excellence in the field.

The Unit is dedicated to the multidisciplinary neurosurgical and neurological management of patients with Parkinson’s disease, other movement and neuropsychiatric disorders. Deep Brain Stimulation (DBS) and stereotactic ablation are commonly used surgical techniques to modulate abnormal function in brain circuits. The Unit’s mission is to provide and develop the best possible treatments, to provide comprehensive training & education in the field, and to engage in extensive research aimed at understanding, improving and extending the use of DBS, stereotactic ablation and other neurosurgical techniques.

Prof Marwan Hariz, the first Unit Head, appointed in October 2002, retired from UCL in July 2018. Prof Ludvic Zrinzo was subsequently appointed the new Unit Head.

2. Premises

In 2008, the Unit moved to purpose-built facilities in the new Clinical Neuroscience Centre at 33 Queen Square: a £12m building which provides an integrated clinical and academic research facility on the east side of Queen Square, in close proximity to the inpatient and outpatient facilities at the National Hospital for Neurology and Neurosurgery (NHNN), in particular the wards, operating theatres, and Interventional MRI suite. The Unit occupies the entire 2nd floor, housed in the same building as the clinical research teams in the areas of Parkinson’s disease and human movement and balance, and epilepsy, together with outpatient facilities for patients with these neurological conditions, and a Lecture theatre in the basement.

This progress Report summarises the academic and clinical activities of the Unit for the Year 2018 and follows on from previous Annual Reports.
3. Current Staff

Neurosurgery

- Prof Ludvic Zrinzo MD PhD FRCS  
  *Unit Head, Professor in Neurosurgery & Honorary Consultant in Neurosurgery*
- Mr Jonathan Hyam MD PhD  
  *Honorary Senior Lecturer & Consultant Neurosurgeon*
- Mr Harith Akram MBChB PhD FRCS  
  *Honorary Senior Lecturer & Consultant Neurosurgeon*

Neurology

- Prof Patricia Limousin MD PhD  
  *Professor in Clinical Neurology & Honorary Consultant in Neurology*
- Prof Tom Foltynie MRCP PhD  
  *Professor in Clinical Neurology & Honorary Consultant Neurologist*

Specialist Nurses

- Mr Joseph Candelario-Mckeown  
  *Movement Disorder Specialist Nurse*
- Ms Catherine Hartigan, née Milabo  
  *Movement Disorder Specialist Nurse*
- Ms Maricel Salazar  
  *Movement Disorder Specialist Nurse*

Speech and Language Therapy

- Dr Elina Tripoliti PhD  
  *Clinical Specialist Speech Therapist, Hon Sen Lecturer*
- Mr Tim Grover  
  *Clinical Specialist Speech Therapist*

Administrative Support

- Ms Linda Taib  
  *Academic PA to the Unit*
- Ms Debbie Phillips  
  *NHS PA and secretary*
- Ms Sivagini Puvichandran  
  *NHS Secretary*
- Ms Haris Charalambous  
  *NHS Multidisciplinary Team Coordinator*

Recently retired staff

- Prof Emeritus Marwan Hariz MD PhD  
  *(Appointed Oct 2002, Retired from UCL Jul 2018), First Unit Head, appointed to the first established UK Chair of Functional Neurosurgery*
- Prof Emeritus Marjan Jahanshahi PhD  
  *(Appointed Oct 2002, Retired Dec 2017), Professor in Neuropsychology*
PhD Fellows, Post-doc Fellows, Clinical Fellows and Students

- Harith Akram (Neurosurgeon, PhD awarded Sep 2018)
- Dilan Athauda (Neurologist, PhD awarded Aug 2018)
- Viswas Dayal (Neurologist, PhD student expected completion Feb 2020)
- Jinendra Ekanayake (Neurosurgeon, post-doc fellow)
- Yu Ting Huang (Neuropsychologist, PhD awarded 2018)
- Friederike Leimbach (Neuropsychologist, PhD awarded 2018)
- Antonella Macerollo (Neurologist, PhD awarded 2018)
- Wafiq Rahman (MSc Student - Oct 2018- July 2019)
- Ali Rajabian (Neurosurgeon, Clinical Fellow)
- Alexis Roquemaurel (Neurologist, Clinical Fellow)
- Audrey Schembri (Physiotherapist MSc student)
- Suzette Shahmoon (Neuropsychologist, Part-time PhD Student)
- Himanshu Tyagi (Psychiatrist, PhD fellow)
- Andre Zacharia (Neurologist, Part time PhD student)

4. Clinical Activities

Since the establishment of the Unit of Functional Neurosurgery in October 2002, a total of 927 new patients have undergone stereotactic surgery, with well over 2000 surgical procedures performed. An increasing number of patients who were operated on with DBS during the early years of the Unit have required further surgeries for replacement of their depleted, or almost depleted, batteries, sometimes several times.

The Unit is by far the largest provider of DBS surgery in the UK, as reflected in data collected in the last available national audit (Figure 1). Activity has steadily increased over the last decade with further growth expected in the years ahead (Figure 2). Indications for stereotactic surgery include patients with Parkinson’s disease, dystonia, essential tremor, post-traumatic tremor, orthostatic tremor, tremor of multiple sclerosis, cluster headache and other trigeminal cephalgias, Gilles de la Tourette syndrome, obsessive compulsive disorders, depression, Parkinson’s disease dementia and dementia of Lewy Body. New indications and new brain targets for DBS are investigated within a framework of scientific trials (see below). A number of ablative stereotactic procedures (thalamotomy, pallidotomy, capsulotomy, cingulotomy) have been performed in patients where DBS is not indicated or desirable.
**Figure 1:** DBS procedures performed in Neurosurgical Units across the UK (data from latest available iNeurosurgery / SBNS National audit).

**Figure 2:** Unit activity at NHNN/Queen Square over the last decade. The iMRI suite operating table was not functioning during most of Jan and Feb 2018 constituting a 10-15% reduction in available theatre time. Despite this, there was no decline in surgical activity during 2018.
The Unit is the national neurosurgical referral centre for OCD and depression. This is the result of close collaboration between the Unit, Professor Eileen Joyce, UCL Professor of Neuropsychiatry, and Advanced Interventions Service Team of Dundee University (Prof Keith Matthews, Dr David Christmas), currently the only nationally commissioned team for the psychiatric surgery pathway in the UK. A major MRC-funded project on DBS for OCD has been concluded with very good results for the treated patients, and the manuscript has been accepted for publication in Biological Psychiatry.

In this 16th year of the Unit, the success rate of the Unit remains high. Surgical safety is truly excellent and unique, without surgical fatality, brain haemorrhage or paralysis occurring in any operated patient. The imaging and surgical techniques developed at Queen Square continue to be successfully applied abroad. This technique, pioneered in the Unit and based on MRI-guided and MRI-verified surgery, is being implemented more and more in other large centres worldwide, in particular in major DBS centres in Europe, Asia and the US.

Since August 2011, all stereotactic DBS and ablative surgeries have been performed in the Interventional Surgical MRI (iMRI) suite. This facility has permitted more than the doubling of the number of patients operated compared to before August 2011. Two patients may now undergo primary DBS implantation in one day, instead of one patient as was the case in the past (and is still the case in most other DBS services around the world). In addition to this increase in workflow, clinical demand is such that we now have two full theatre days in the iMRI suite every week to allow additional surgeries.

In addition to stereotactic surgery, Unit members have collaborated with other clinicians to provide additional functional neurosurgery services. These include a service for facial pain (together with Dr Matharu, Dr Sarah Miller & Prof Joanna Zakrzewska) with provision of sphenopalatine ganglion stimulation (SPGS) in cluster headache and migraine, procedures on the Gasserian ganglion for trigeminal neuralgia and microvascular decompression for facial pain syndromes (trigeminal neuralgia and SUNA) as well as for hemifacial spasm (with Dr Tabish Saifee and Dr Pras Korlipara). These services have been developed using a similar framework with multidisciplinary approach to patient and procedure selection involving both neurology and neurosurgery to optimise outcomes.
The Unit has also been active in multicentre trials of stem cell therapy for stroke as well as gene therapy for Parkinson’s disease.


5. Financial Viability

Financial viability is essential for services within the modern NHS and the Unit is a major source of income for NHNN/UCL. The streamlined surgical approach adopted by the Unit allows more procedures to be performed per surgical session, improving on cost efficacy for the NHS and generating significant income for the Trust. Moreover, ancillary services provided to DBS patients generate additional income.

For example, the Unit employs 1-whole-time-equivalent speech and language (S&L) therapist to provide speech evaluation, advice and therapy to patients with Movement Disorders pre and post-operatively as well as perform multidisciplinary research within the field. The S&L clinical work alone generated an income of £216 952 during the financial year of 2017/2018, with a 28% increase year-on-year by Q3 of 2018/2019. Plans are in place to expand this service given the increasing demand.

6. Research Strategy

The Unit’s research strategy is clinical and patient-centred, with the primary objective being to further improve the outcome and the quality of life of patients, and to develop new therapies for functional brain disorders. Additionally, translational research projects with external collaborators are aimed at testing new strategies to treat Parkinson’s disease and other functional brain disorders. The approach is multidisciplinary, multicentre, national and multinational. Disciplines involved include neurology, neurosurgery, neuroradiology, physics, neuropsychology, neurophysiology, neuropsychiatry, neurogenetics, neurorehabilitation, and neuro-engineering.

The principal research aims are to:

- Evaluate novel surgical and non-surgical therapies that do not involve electrical brain stimulation
- Expand DBS to the treatment of other disorders of the brain, in particular through national and international multicentre studies
• Improve the visualisation on imaging and targeting accuracy of existing brain targets by use of high field MRI
• Better understand how DBS works and what it affects, through the use of diffusion MRU, functional MRI, recording of local field potentials, Magnetoencephalography (MEG) and Transcranial Magnetic Stimulation (TMS)
• Improve the delivery of DBS in patients with Parkinson´s disease by investigating closed loop stimulation based on physiological feedback from brain targets, and by evaluating new models of electrodes delivering directional electric current
• Document the impact of DBS and understand the mechanisms of its effects on cognition, mood and behaviour
• Develop and validate alternative methods for management of mobility and cognitive problems in PD
• Perform in-depth evaluation of the effects of DBS on quality of life
• Exploration and studies of gender-related aspects in patients with movement disorders
• Explore novel applications of DBS and stereotactic lesional surgery in psychiatry, in particular in depression, obsessive compulsive disorders and anorexia
• Explore MRI-based biofeedback training of patients with Parkinson´s disease

7. Ongoing and Planned Projects
• Safety, accuracy and precision of image guided & image-verified stereotactic targeting
• Investigation of the effects of medical and surgical treatments on speech for patients with PD and dystonia
• Investigation of changes in facial expression of patients with PD undergoing surgical and medical treatments” (Tim Grover)
• Long term effects of pharmacological and surgical treatments on speech for patients with Parkinson´s Disease
• Gamma knife thalamotomy for Tremor
• Gamma knife radiosurgery for Trigeminal Neuralgia
• Robot-assisted neurosurgery
• Long term effects of Ephedrone abuse on speech- a collaboration with Professor Lees and Dr M. Selikhova
• Speech defects and the potential for their pharmacological treatment in patients with PD, with clues from the songbirds. Collaboration with the Blizzard Institute, Queen Mary University of London (Professor Priestley) and Professor David Clayton
• Longitudinal changes in Structural & functional MR connectivity in patients undergoing stereotactic functional neurosurgery
• Electric field simulation in deep brain stimulation; impact on effects and side effects of DBS
• Local Field Potentials and Magnetoencephalography studies on DBS patients
• The use of real-time fMRI and biofeedback in patients with Parkinson’s disease undergoing STN DBS
• Generation of predictive models utilising multimodal imaging techniques for the assessment of response to deep brain stimulation surgery in corresponding surgical cohorts
• PROBAND study “Parkinson’s Repository of Biosamples and Networked Datasets”
• Safety and efficacy of microvascular decompression for SUNA
• Stereotactic Vo-thalamotomy for focal task specific dystonia
• Stereotactic ablation for depression and OCD
• Audit of sphenopalatine ganglion stimulation for cluster headache
• Imaging neurovascular conflict in patients with cluster and SUNCT headache
• Diffusion MRI studies to inform planning of thalamotomy for tremor
• Multicentre trial of surgery for anorexia nervosa
• Patient expectations and surgical outcome after functional neurosurgery
• Further trials of Exenatide in PD
• Tracking Parkinson’s: The long-term development and analysis of the Parkinson’s repository of biomarkers and networked datasets
• The role of DBS in Tourette syndrome
• Closed-loop stimulation and short pulse width STN DBS: effects on speech and motor outcome
• The nature, incidence and predictors of falls in people with Parkinson’s disease after deep brain stimulation - An observational study (Audrey Schembri).
8. Clinical Trials – Current

- A double-blind, randomized crossover comparison of short pulse width versus conventional pulse width deep brain stimulation (DBS) in Parkinson’s disease patients with previously implanted DBS systems
- A Phase I/II Safety and Dose Evaluation Study of OXB-102 in Patients with Bilateral Idiopathic Parkinson’s Disease
- A randomized, double blind, parallel group, placebo-controlled phase 3 trial of Exenatide once weekly over 2 years as a potential disease modifying treatment for moderate severity Parkinson's disease.
- A Multicentre, Randomized, Double-Blind, Placebo-Controlled Study, with an Active-Treatment Dose-Blinded Period, to Evaluate the Safety, Pharmacokinetics, and Pharmacodynamics of BIIB054 in Subjects with Parkinson’s Disease
- A phase II, placebo controlled, double blind, randomised clinical trial to assess the safety and tolerability of 30 mg/kg daily Ursodeoxycholic Acid (UDCA) in patients with Parkinson’s disease (PD)
- An open label study to assess the safety and efficacy of neural allo-transplantation with foetal ventral mesencephalic tissue in patients with Parkinson’s disease
- Modified target for ventral tegmental area DBS for trigeminal autonomic cephalalgia
- Microvascular decompression in SUNCT

9. Clinical Trials – Completed

- GPi DBS for Tourette Syndrome - trial completed and results published
- NBM DBS for PDD - trial completed and results published
- NBM DBS for DLB - trial completed, manuscript in preparation
- Ventral tegmental area DBS for trigeminal autonomic cephalalgia - trial completed and results published
- Efficacy of DBS in patients with severe OCD - trial completed, manuscript accepted in Biological Psychiatry
- SPGS in cluster headache and chronic migraine - manuscript in preparation
10. New Grant Awards

- Project ID- 509517: A randomized, double blind, parallel group, placebo-controlled trial of Exenatide once weekly over years as a potential disease modifying treatment for moderate severity Parkinson's disease. NIHR £1,998,776.24. This is a 5-year award to perform a multicentre phase 3 trial to confirm whether exenatide has disease modifying properties in PD.
- Project ID- 1674906: Cure Parkinson’s Trust Differential Risk of Parkinson’s disease in Diabetes patients according to diabetes treatments £31860. The goal of this study is to use large existing epidemiological cohorts to explore the risk of PD among patients with and without type 2 diabetes and whether this risk is modified according to which diabetes medication is prescribed.
- Project ID- 1382294: Advancing the GLP-1 receptor as a target in Parkinson’s disease. Michael J Fox Foundation. 2018- 2020. £68,190. This project is to collect further laboratory data to explore the efficacy and mechanisms of action of exenatide in PD models/ bio-specimens.
- Janet Owens Clinical Research Fellowship- This donation will support 2 consecutive PhD fellowships to be supervised by Prof T Foltynie & Prof H Morris. £540 000.
- NIHR Biomedical Research Centre: Developing Precision Medicine for Movement Disorders, £400 000. 2017-2020. This grant supports the creation and staffing of a Movement Disorders Centre at UCL ION.
- Safra Foundation: Enhancing Precision Medicine in Movement Disorders, £290K, 2017-2020. This grant supports the creation and staffing of a Movement Disorders Centre at UCL ION.
- Small Acorns Fund: £4,392 to cover the “Impact of Expiratory Muscle Strength Training on swallowing in patients with Movement Disorders”.
- NBA/CNMR grant will fund Tim Grover for two-days-a-week for one year to examine reduced facial movement, expression, drooling and speech in PD and the effects of medication, DBS and therapy. Pilot data will assist in preparation of a subsequent NIHR grant application.

11. Open grants

- Brain Research Trust: “Application of MRI Connectivity in Stereotactic Functional Neurosurgery” £250 000 (Zrinzo)
• Royal College of Surgeons, England: Neurofeedback in Parkinson’s disease £150 000 (Zrinzo)
• Project ID- 530384: Neural Transplantation in the treatment of patients with Parkinson’s disease. £160 000. John Black Charitable Foundation 2016-2019. This project supports the ongoing follow up of patients who have undergone foetal cell transplantation for PD (Foltynie)
• Project ID- 210076: Decoding the effects of neural transplantation in patients with Parkinson's disease: a multimodal imaging study. £30,436.22. Medical Research Council. This project is to evaluate the long-term PET imaging changes associated with foetal cell transplantation in PD (Foltynie)
• Rosetrees: Investigating the mechanism of action of DBS using functional MRI £15 000 (Foltynie)
• Cure Parkinson’s Trust: Exenatide Post hoc analyses £45 000 (Foltynie)
• Tracking Parkinson’s: The long-term development and analysis of the Parkinson’s repository of biomarkers and networked datasets. PD Prof Donald Grosset £1,517,866.25 2016-2020 (Foltynie, co-applicant)
• Medical Research Council: 3 years project supported on Gait and Parkinson´s disease. £868 000 (PI Day; Limousin Co-applicant)

12. Collaboration

The Unit collaborates with other research groups on research projects across the IoN, including neuroradiology, neurophysiology, headache and pain, neuropathology, neuropsychiatry, dementia, and the Functional Imaging Laboratory. External UK collaborations include: University of Cambridge (OCD trial and gene therapy for Parkinson´s), Universities of Barts and Queen Mary (speech), University of Dundee (Psychiatry), University of York (speech).

International collaboration includes Swedish Universities of Umea, Lund (cell therapy for PD), and Linköping (studies of electrical fields of DBS), University of Malta (DBS studies), Universities of Köln, Maastricht and Aix-en-Provence (speech). University of Créteil, Paris (gene therapy)

Specific collaborations by individual members of the unit:

Foltynie:
• OXB102 Gene therapy trial - PI Prof Stephane Palfi (Paris)
• Tracking Parkinson’s study- Core Steering Committee, PI Prof Grosset
• Transeuro Transplantation study- Core Steering Committee, PI Prof Barker
• Neural transplantation & PET imaging in patients with PD, PI Prof Piccini
• The UDCA- PD (UP Study)- Trial Steering Committee, PI Prof Bandmann
• Mechanisms of action of Exenatide, PI Dr S Gandhi

Limousin:
• A Phase IIA Prospective, Single-Centre, Open Label Clinical Trial to Evaluate the Safety, Tolerability and Pharmacodynamic Effects of Ambroxol in Patients with Parkinson’s Disease: Ambroxol in Disease Modification for Parkinson’s Disease, PI Tony Shapira
• Fondation Paralysie Cerebrale Board member and advisor
• Patric Blomstedt, Umeå, Sweden

Zrinzo:
• University of Dundee, Psychiatric surgery
• Anorexia Research group (with Edinburgh, Aberdeen, Maudsley)
• University of Malta

Hariz:
• Laura Cif, Montpellier, France
• Patric Blomstedt, Umeå, Sweden
• Prof Karin Wårdell, Linköping Sweden

Tripoliti:
• Co-chair of the Study group on “Speech impairment in Movement Disorders” of the International Movement Disorders Society.
• Chair of the Focus group on stimulation and speech supported by Boston Scientific

13. Teaching and Training

All members of the Unit contribute to teaching and training activity on site, including clinical and surgical training, supervising MSc and PhD students, examining PhDs as well as acting as invited faculty to national and international meetings, conferences and workshops. In the past year, numerous invitations were extended to the PIs in the Unit to meetings in the UK and abroad. Additionally, the Unit has continued to have a record number of visitors from abroad: neurologists, neurosurgeons,
neuropsychologists, occupational therapists, physicists, specialist nurses, medical students, and industry representatives for observing and learning. Ludvic Zrinzo was promoted to Professor of Neurosurgery in October 2018. PIs of the Unit have contributed in teaching on speech therapy, neuropsychology, training in surgery and in DBS inclusion and programming, directing regular ECMT international courses as well as teaching and instructing overseas. Members of the Unit are regular chairs of Gowers Round and Critchley Round (Foltynie) as well as teach MRES in Translational Neurology and MSc in Clinical Neurology and act as personal tutor for MB BS undergraduates. Unit PIs are co-organisers of the regular meetings of the Queen Square Basal Ganglia Club, as well as acting as examiners of numerous MD and PhD theses in the UK and internationally.

**Events hosted by the Unit during 2018:**

- Fifth Annual Deep Brain Stimulation Nurse Association (DBSNA) Conference, 23 Mar (Course Director: JCM)
  
  [http://events.ucl.ac.uk/event/event:j64-jdogiphy-qbpf6r/the-5th-annual-deep-brain-stimulation-nurse-specialist-dbsna-conference](http://events.ucl.ac.uk/event/event:j64-jdogiphy-qbpf6r/the-5th-annual-deep-brain-stimulation-nurse-specialist-dbsna-conference)

- 2nd Speech and Swallowing in Parkinson's Disease School, on behalf of the Movement Disorder Society (Course Director: ET), Jul 6-7, attended by over 80 international participants
  
  [https://www.movementdisorders.org/MDS/Education/Past-Courses/2nd-Speech-and-Swallowing-in-Parkinsons-Disease-School.htm](https://www.movementdisorders.org/MDS/Education/Past-Courses/2nd-Speech-and-Swallowing-in-Parkinsons-Disease-School.htm)

- International DBS Academy - A Roundtable Discussion with International DBS Experts about Advancements in DBS therapy, Sep 17-8 (Course Director PL)

- XXIII congress of the ESSFN (European Society for Stereotactic and Functional Neurosurgery) held in Edinburgh, September 26-9 (Marwan Hariz, Ludvic Zrinzo were local organisers). One of the main topics for the meeting was neurosurgical approaches to the treatment of psychiatric disorder and for the first time, this meeting was jointly organised with a psychiatrist (Keith Matthews). Held over 4 days, this meeting, was attended by over 850 delegates from Europe, North and South America, Africa, Asia and Australia, making it the largest such congress to date. [http://www.essfncongress.org/medias/files/essfn2018.pdf](http://www.essfncongress.org/medias/files/essfn2018.pdf)
• MRI-Guided and MRI-Verified DBS Course on behalf of the ECMT, Oct 15-6 (European Continuing Medical Training, Course Director: LZ)

• Advanced Deep Brain Stimulation for Movement Disorders Course on behalf of the International Parkinson & Movement Disorder Society, Nov 29-30 (Course Director: PL)
  https://www.movementdisorders.org/MDS/Education/Past-Courses/Advanced-Deep-Brain-Stimulation-for-Movement-Disorders.htm

14. Global Impact
The clinical research of the Functional Neurosurgery Unit has led to improvements in the operative technique of Deep Brain Stimulation with clear and demonstrable impact on patient outcomes with respect to efficacy, safety, and adverse event profiles. Since our published data was described by an independent editorial as a new “Benchmark for Functional Neurosurgery”, more and more centres worldwide are now using the surgical technique developed in the Unit, and that has resulted in an unmatched safety record while allowing an exponential increase in the number of operations and patient referrals. Demands on training and education are also increasing from national and international colleagues who wish to come and learn in order to disseminate our practice in their centres. Members of the Unit are invited overseas to train and supervise colleagues using the unique method for DBS developed in the unit.

15. Knowledge Transfer, Public Engagement & Media
All PIs of the Unit serve regularly as referees for international Scientific Journals, grant bodies and universities, and have been examiners of MD and PhD theses, nationally and internationally. Members of the Unit have been invited speakers at numerous events, meetings and conferences worldwide.

Hariz
• Board director of the World Society for Stereotactic and Functional Neurosurgery
• Member of the subcommittee on psychiatric surgery of the WSSFN
• Life-long member of the Swedish Movement Disorders Society
• Life-long honorary member of the Japan Neurosurgical Society
• Acted as referee for 3 Professorships in various countries and universities
• Participated in a TV program from Danish TV about DBS and its ethics

**Zrinzo:**

• Member of the educational subcommittee of the ESSFN
• Member of the ESSFN subcommittee on pedunculopontine nucleus DBS surgery
• Head of UK research group on ablative neurosurgery for Anorexia Nervosa
• Member of the subcommittee on psychiatric surgery of the World Society

**Limousin:**

• Member of Clinical Neuroscience MSc Course Committee and tutor
• Scientific Board France Parkinson and Fondation Motrice
• Invited speaker Movement Disorder Society International Conference (Hong Kong, Oct 2018) and ESSFN (Edinburgh Sep 2018)
• Faculty and local training centre for young neurologist DBS training program

**Foltynie:**

• Movement Disorders Society Education Committee, Member 2015-18
• ABN Advisory Group on Movement Disorders, Member 2015 to date
• Founder member of the UK DBS Network, 2015 to date
• TRANSEURO Steering Committee member, 2010 to date
• PROBaND Core Steering Committee, 2012 to date
• Queen Square Clinical Trials Committee, 2011 to date
• Movement Disorders short course Committee, NHNN, 2009 to date
• Cure Parkinson’s Trust research committee, Academic member 2009-18
• Member Grant Review Board - Weston Brain Institute, 2017 to date
• Oral evidence to All-Party Parliamentary Group on Parkinson’s report ‘Mental health matters too – Improving mental health services for people with Parkinson’s who experience anxiety and depression’, May 2018
• A post hoc analysis of the non-motor symptom response to Exenatide was the subject of an hour-long Webinar, and News Item for IOS Press:
Hyam:

- Specialist adviser to NICE
- London Deanery/UCL Partners Higher Specialist Training Committee for London Neurosurgery
- The Royal Society of Medicine Committee for Clinical Neurosciences since 2016
- PhD Examiner at UCL
- Editor of “Surgery of the Autonomic Nervous System”, Eds: Hyam et al. Oxford University Press; BMA Book Awards, Highly Commended in the Surgical Specialities category of the British Medical Association Book Awards 2017; Surgical Book of the Year, runner-up 2018

Akram:

- The London Deanery: SITE (Surgical In Training Evaluation) assessment for Core Surgical trainees (faculty)
- PhD supervisor (UCL) Machine learning approaches to building predictive models in functional neurosurgery (2018)
- Invited speaker and faculty at: Linkoping University, Sweden Feb 2018; Portuguese Congress of Neurosurgery, Key note speaker, May 2018; International Congress of the Royal College of Psychiatrists June 2018; Birmingham, DBS Academy (Boston Scientific), Paris June 2018; ASSFN Biennial Meeting, Denver, June 2018; ESSFN, Edinburgh Sep 2018; DBS Academy (Boston Scientific), London Sep 2018; DBS Academy (Boston Scientific), London Sep 2018; SBNS, Sep 2018

Tripoliti:

- Sing for Joy choir: Founding member and Trustee. The Choir has been entertaining and improving patients’ lives for the last 16 years
- “Which Way up?” Collaboration with Proudfoot Productions for the creation of a documentary on the working life of the abstract painter
John McLean-diagnosed with MSA- highlighting the impact of communication problems on daily life.

- Formation of a Quartet with Anna Sadnicka to play (violin) on the 25th January at Queen Square

16. Publications

Books / Book chapters


Peer reviewed publications during 2018

Unit PIs have contributed to 43 publications (below in alphabetical order):


Appendix:

Past PhD Fellows, Post-doc Fellows, Clinical Fellows, and Students:

- Ladan Akbarian-Tefaghi (MSc student)
- Harith Akram (Neurosurgeon, PhD fellow, awarded Sep 2018)
- Salhin Alatrash (MSc student)
- Ala’a Al-Moussa (Neurosurgeon, Clinical Fellow)
- Saryah Alhejazi (Neuropsychology MSc student)
- Iciar Aviles Olmos (Neurologist, PhD fellow, Spain)
- Jeffrey Bergman (MSc student)
- Artem Bunchuk (Neuropsychology MSc student)
- Davide Cappon (visiting PhD student)
- Paul Chang (MSc student; MRes Translational Neurology (Distinction) Sep 2017)
- Tsinsue Chen (Neurosurgeon, Clinical Fellow from Barrow, USA)
- Cecil Atkinson-Clement (visiting fellow, University of Aix-en-Provence)
- Mohamed Draz (Neurosurgeon, Clinical Fellow)
- Christopher Hatton (MSc student)
- Nik Haliasos (Neurosurgeon, Clinical Fellow)
- Jonathan Hyam (Neurosurgeon, Clinical Fellow)
- Dejan Georgiev (Neurologist, Post Doc fellow)
- Alison Gordon (MSc student)
- James Gratwicke (Neurologist, PhD awarded February 2017)
- Gilbert Gravino (MSc student)
- Samih Hassan (Neurosurgeon, Clinical Fellow)
- Etienne Holl (Neurosurgeon, Clinical Fellow, Austria)
- Yu-Ting Huang (Neuropsychologist, PhD student)
- Joshua Kahan (PhD student)
- Rania Kalliolia (Neurologist, fellow)
- Zinovia Kefalopolou (Neurologist, post-doc clinical research fellow, Greece)
- Zuzana Kosutzka (Neurologist, clinical research fellow)
- Michel LeFranc (Neurosurgeon, Clinical Fellow, France)
- Friederike Leimbach (Neuropsychologist, PhD student)
Vanessa Lythe (MSc student)
Philipp Mahlknecht (Neurologist, PhD student)
Miguel Malo, (visiting fellow, University of Zaragosa, Spain)
Rayna Mateva (visiting neuropsychologist, Malta)
Jennifer Meeres (MSc student)
Nerys Morton (MSc student)
Tena Nevidal (MSc student)
Tito Petralia (MSc student)
Erika Petersen (Neurosurgeon, Clinical Fellow, USA)
Johanna Philipsson (Neuropsychologist, PhD student, Sweden)
Vishal Rawji (Neuropsychologist, PhD student)
Sanja Roksar (Erasmus funded visiting MSc Student)
Pedro Roldan (Neurosurgeon, Clinical Fellow, Spain)
Nadia Sari-Sarraf (Neuropsychology, MSc student)
Emma Scelzo (Neurologist, fellow, Italy)
Suzette Shahmoon (Neuropsychologist, PhD student)
Rasmus Stenmark (Neurologist, PhD student, Sweden)
Erika Tirr (MSc student)
Jonathan Vanhoecke (MSc student)
Jeevagan Vijayabala (Neurologist, fellow)
Saman Vinke (Neurosurgeon, Clinical Fellow from Nijmegen, Holland)
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January 2019