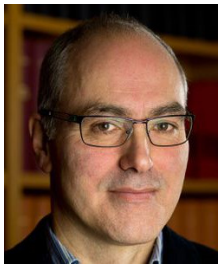
OX/BER Motorneuroscience: Interfacing neural systems

Summer Symposium: August 22nd-23rd in Berlin

On the occasion of the currently developing dedicated research partnership between Oxford and Berlin, we would like to cordially invite you to the first Berlin based OX/BER Neuroscience meeting with the title "OX/BER Motorneuroscience: Interfacing neural systems." The goal of this collaborative effort is to advance the development, application and therapeutic success of technology at the interface of the human nervous system. The scope is broad including sensor-based symptom detection, computational modeling of neural circuits and signals, brain computer interfaces for robotics, behavioural classification of neural activity and development of closed loop therapeutic neuromodulation based on invasive recordings. The collaboration will rely on large scale multidisciplinary collaborations between Oxford and Berlin. We will host 5 Neuroscience research groups from Oxford who will join us in Berlin for this two-day Symposium. Keynote lectures will be held by:



Prof. Dr.
Peter Brown

Prof. Dr.
Andrea Kühn

Prof. Dr.
John-Dylan Haynes

Prof. Dr.
Rafal Bogacz

Interested researchers are welcome to join us on August 22nd at Wannsee (Kronprinzessinenweg 21) and on August 23rd at Alexanderplatz (Alexanderplatz 2). We especially welcome PhD and Master Thesis students looking for exciting research opportunities within the collaboration. Participation is free but needs registration via email (julian.neumann@charite.de).

Movement Disorder and Neuromodulation Unit, Department of Neurology,
Charité – Universitätsmedizin Berlin, Charitéplatz 1, 10117 Berlin

22.08.2018 – Wannsee Venue (Kronprinzessinnenweg 21)

Adaptation in the motor system

09:30	*Coffee*	
10:00	Welcome and introduction to the OX/BER initiative	Neumann + Kühn BER
10:15	Advances and pitfalls in the development of adaptive stimulation for Parkinson's disease	Brown OX
11:00	Paving the way for adaptive stimulation for hyperkinetic movement disorders	Kühn BER
11:30	Physiological mechanisms of beta signalling for motor performance and adaptation	Torrecillos OX
12:00	Pathophysiological hallmarks of movement related oscillations in Parkinson's disease	Lofredi BER
12:30	*Lunch*	
13:30	Synaptic mechanisms of subthalamic deep brain stimulation	Geiger BER
14:00	Insights from rodent models into the generation and propagation of neuronal oscillations	Sharott OX
14:45	Evolution and pharmacologic modulation of beta activity in the OHDA treated rat	Van Riesen BER
15:15	Development of closed-loop stimulation in the 6-OHDA model of Parkinson's Disease	McNamara OX
15:45	*Coffee*	
16:15	Neuroscience of free choices: Prediction, inhibition and causation	Haynes BER
17:00	Multimodal approaches to advanced stimulation paradigms	Neumann BER
17:30	STN and cortical correlates of flexible motor control	Fischer OX
18:00	*Drinks and discussion*	

23.08.2018 – Alexanderplatz Venue (Alexanderplatz 2)

Advances towards real-time adaptive stimulation

09:30	*Coffee*	
10:00	Temporal and spatial characteristics of beta activity in Parkinson's disease	Tinkhauser OX
10:30	Fine-tuned temporal dynamics to improve real-time stimulation in Tremor and Parkinson's disease	Cagnan OX
11:15	Predicting the effects of closed-loop DBS using a coupled oscillator model	Bogacz OX
12:00	*Lunch*	
13:00	Brain imaging advances the understanding of DBS mechanisms and clinical outcome	Horn BER
13:45	Oscillatory coupling between cortex and subcortex in the motor system	Oswal OX
14:15	Advances and pitfalls in real world BCI performance	Soekadar BER
15:00	*Coffee*	
14:45	Subthalamic BCI for motor control	Tan OX
15:30	Phase-dependent suppression of beta oscillations in Parkinson's disease patients	Holt OX

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