



## Oxford Autumn School in Neuroscience 2019

Thursday 26<sup>th</sup> September

**09.25 Welcome: Professor Masud Husain, Chair Autumn School in Neuroscience**

**Language: Talking Brains: from bats to bilinguals**

**Chair: Professor Kate Watkins, Department of Experimental Psychology, University of Oxford**

**09.30 - 10.10** Dr Sonja Vernes, Max Planck Institute for Psycholinguistics, Nijmegen, The Netherlands

**Studying bats to shed light on speech and language**

**10.10 - 10.50** Professor Anne-Lise Giraud, University of Geneva, Switzerland

**Speech processing with (and without) cortical oscillations**

**10.50 - 11.20** Break

**11.20 - 12.00** Dr Gesa Hartwigsen, Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany

**Adaptive plasticity in the language network**

**12.00 - 12.40** Dr Denise Klein, Centre for Mind, Brain, Language & Music, McGill University, Canada

**How language experience shapes the brain**

**12.40 - 13.30** Lunch and poster session, Sherrington Library

**Neurophysiology: To go or not to go: diversity in dopamine neuron biology**

**Chairs: Professor Stephanie Cragg, Dept. of Physiology Anatomy and Genetics, University of Oxford**

**Dr Mark Walton, Department of Experimental Psychology, University of Oxford**

**13.30 – 14.10** Dr Paul Dodson, School of Physiology, Pharmacology and Neuroscience, University of Bristol

**Heterogeneity in the encoding of behaviour by dopamine neurons**

**14.10 - 14.50** Professor Stephanie Cragg, Dept. of Physiology Anatomy and Genetics, University of Oxford

**Diverse axonal gating of dopamine transmission in the striatum**

**14.50 - 15.20** Break

**15.20 - 16.00** Dr Lauren Burgeno, University of Washington/Dept. of Physiology Anatomy and Genetics, University of Oxford

**Diametric changes in ventral striatal dopamine mediate drug taking and drug seeking behaviour**

**16.00 - 16.40** Dr Mark Howe, Dept. of Psychological and Brain Sciences, Boston University

**Functional diversity of striatum neuromodulator signalling on multiple spatial scales during behaviour**

**16.40** Autumn School in Neuroscience Social - in collaboration with Cortex Club, Sherrington Library

*Drinks reception and nibbles*





## Friday 27<sup>th</sup> September

### Computational Neuroscience:

**Chairs: Professor Andrew King and Tim Vogels, Dept. of Physiology Anatomy and Genetics, University of Oxford**

**09.00 - 09.40** Prof. Dr. Klaus Obermayer, Technical University, Berlin

**Computational models of electric field effects on neurons and neural populations**

**09.40 - 10.20** Prof. Dr. Benjamin Lindner, Institute for Physics, Humbolt University, Berlin

**Sources and effects of fluctuations in models of spiking neurons**

**10.20 - 10.50** Break

**10.50 - 11.30** Dr Andrew Saxe, Department of Experimental Psychology, University of Oxford

**A deep learning theory of perceptual learning**

**11.30 - 12.10** Prof. Dr. Henning Sprekeler, Institute for Theoretical Biology, Humbolt University, Berlin

**Sparse bursts optimize information transmission in a multiplexed neural code**

**12.10 -13.10** Lunch and poster session, Sherrington Library

### Neurodegenerative disease: molecules, movement and memory

**Chair: Professor Richard Wade-Martins, Dept. of Physiol. Anatomy and Genetics, University of Oxford**

**13.10 - 13.50** Assoc. Professor Michele Hu, Nuffield Department of Clinical Neurosciences, University of Oxford

**Unravelling the heterogeneity of Parkinson's: the Discovery Cohort**

**13.50 – 14.30** Professor Richard Wade-Martins, Dept. of Physiol. Anatomy and Genetics, University of Oxford

**Parkinson's: from disease mechanisms to target discovery**

**14.30 - 15.00** Break

**15.00 - 15.40** Dr Selina Wray, Institute of Neurology, University College London, London

**Human stem cell models of Alzheimer's disease and frontotemporal dementia**

**15.40 - 16.20** Dr Simon Cox, Centre for Cognitive Ageing and Cognitive Epidemiology, University of Edinburgh

**Brain and cognitive ageing**

**16.20 - 16.35** Closing remarks