



## **PROGRAM**

**Monday 28 and Tuesday 29 June 2010**  
**Department of Experimental Psychology,**  
**University of Oxford**

**Organisers:**  
**Jacinta O'Shea**  
**Heidi Johansen-Berg**  
**Vincent Walsh**

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## Monday 28<sup>th</sup> June

### Day 1: Stimulation approaches to neural circuit function

8.00-8.45: Registration

8.45 – 9.00: Welcome

#### 9.00-9.40: Keynote lecture

##### **Transcranial magnetic stimulation - the first 25 years**

Professor Anthony Barker

*(Department of Medical Physics and Clinical Engineering, Royal Hallamshire Hospital, Sheffield, U.K.)*

#### Session 1: Neural circuits for vision

(Chair: Professor Alan Cowey, University of Oxford)

9.40-10.20: **Neurometabolic coupling and TMS in the central visual pathway**

Professor Ralph Freeman

*(Visual Neuroscience Laboratory, University of California, Berkeley, USA)*

10.20-11.00: POSTER SESSION + coffee

11.00-11.40: **Combining TMS and fMRI to study top-down control in the human visual system**

Dr. Christian Ruff

*(Laboratory for Social and Neural Systems Research, University of Zurich, Switzerland)*

11.40-12.20: **Using stimulation to reveal the neuronal circuits for cognition**

Professor Marc Sommer

*(Department of Biomedical Engineering, Duke University, USA)*

12.20-1.30: **LUNCH** on your own

#### Session 2: Neural circuits for action

(Chair: Dr. Sven Bestmann, University College London)

1.30-2.10: **Functional interactions of parietal-motor circuits with paired-pulse TMS**

Dr. Giacomo Koch

*(Fondazione Santa Lucia, University of Rome, Italy)*

**2.10-2.50 Neural interactions during action reprogramming and their related white matter pathways**

Dr. Rogier Mars

*(Department of Experimental Psychology, University of Oxford, U.K.)*

2.50-3.30 POSTER SESSION + tea

**Session 3: Neural circuits for cognition**

(Chair: Professor John Rothwell, University College London)

**3.30-4.10 Invasive and non-invasive brain stimulation as tools for understanding brain circuitry**

Professor Alberto Priori

*(Department of Neurological Sciences, University of Milan, Italy)*

**4.10-4.50 Combining rTMS and dopaminergic PET ligands to study cognition and behaviour**

Professor Antonio Strafella

*(Division of Neurology, University of Toronto, Canada)*

**Session 4: Young Investigator Award and prize poster presentations**

(Chairs: Dr Heidi Johansen-Berg, University of Oxford and Professor Vincent Walsh, University College London)

4.50-5.30pm:

Talk 1: Young Investigator Award winner

Talk 2: Poster winner 1

Talk 3: Poster winner 2

**7.30-10.30: Celebratory Dinner, Wadham College** + bar until midnight

*(\*for those who have registered)*

**Tuesday 29<sup>th</sup> June**

**Day 2: Brain stimulation to enhance sensory, motor and cognitive functions**

**Session 1: Can we really improve function? Conceptual challenges**

(Chair: Dr. Jacinta O'Shea, University of Oxford)

9.00-9.40: **Manipulating synaptic plasticity in animals**

Professor Nick Rawlins

*(Department of Experimental Psychology, University of Oxford, U.K.)*

9.40-10.20: **What is skill and can we improve it with brain stimulation?**

Dr. John Krakauer

*(Motor Performance Laboratory, Neurological Institute, Columbia University, New York, USA)*

10.20-11.10 POSTER SESSION + coffee

**Session 2: Can we really improve function? Methodological approaches**

(Chair: Professor Matthew Rushworth, University of Oxford)

11.00-11.40: **Modulating motor performance by transcranial direct current stimulation**

Dr. Michael Nitsche

*(Department of Clinical Neurophysiology, Georg August University, Göttingen, Germany)*

11.40-12.20 **Shaping motor networks with transcranial stimulation: plenty of choice, plenty of challenge**

Professor Hartwig Siebner

*(Danish Research Centre for Magnetic Resonance, Copenhagen University, Denmark)*

12.20-1.30 LUNCH on your own

**Session 3: Functional enhancement in healthy volunteers**

(Chair: Professor Chris Miall, University of Birmingham)

1.30-2.10 **Sleep slow oscillations and memory consolidation**

Professor Lisa Marshall

*(Department of Neuroendocrinology, University of Luebeck, Germany)*

**2.10-2.50 Stimulating the Brain to Acquire a Sense for Numbers**

Dr. Roi Cohen Kadosh

*(Department of Experimental Psychology, University of Oxford, U.K.)*

2.50-3.30 TEA + posters

**Session 4: Therapeutic applications: stroke**

(Chair: Dr. Heidi Johansen-Berg, University of Oxford)

**3.30-4.10: Modulating motor learning with tDCS**

Dr. Charlotte Stagg

*(Oxford Centre for Functional MRI of the Brain, University of Oxford, U.K.)*

**4.10-4.50: Brain stimulation in combination with motor learning protocols for stroke rehabilitation**

Professor Leo Cohen

*(National Institute of Neurological Disorders & Stroke, NIH, Bethesda, USA)*

**Session 5: Young Investigator Award and prize poster presentations**

(Chairs: Dr. Heidi Johansen-Berg, University of Oxford and Professor Vincent Walsh, University College London)

4.50-5.30pm:

Talk 1: Poster winner 3

Talk 2: Poster winner 4

Talk 3: Poster winner 5

**FINISH**