



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 28th 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

Anthony Barker

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

Session 1: Neural circuits for vision

(Chair: Alan Cowey, University of Oxford)

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

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**

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**

Marc Sommer

(Department of Biomedical Engineering, Duke University, USA)

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

Session 2: Neural circuits for action

(Chair: Sven Bestmann, University College London)

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

Giacomo Koch

(Fondazione Santa Lucia, University of Rome, Italy)

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

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: Kate Watkins, University of Oxford)

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

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

Antonio Strafella

(Division of Neurology, University of Toronto, Canada)

Session 4: Young Investigator Award and prize poster presentations

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

4.50-5.40pm:

Talk 1: Young Investigator Award winner

Talk 2: Poster winner 1

Talk 3: Poster winner 2

Talk 4: Poster winner 3

7.30-10.30: Celebratory Dinner, Wadham College + bar until midnight
*(*for those who have registered)*

Tuesday 29th June

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

Session 1: Can we really improve function? Conceptual challenges

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

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

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?**

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: Matthew Rushworth, University of Oxford)

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

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**

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: TBC)

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

Lisa Marshall

(Department of Neuroendocrinology, University of Luebeck, Germany)

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

Roi Cohen Kadosh

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

2.50-3.30 TEA + posters

Session 4: Therapeutic applications: stroke

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

3.30-4.10: Modulating motor learning with tDCS

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

Leo Cohen

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

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