



Programme

Monday 23rd Sept 2019

Day 1

09:00 - 09:25 **Registration and coffee - Harris Seminar Room**

09:25 - 09:30 **Welcome - Harris Lecture Theatre**

Session 1 09.30-10.40 – Harris Lecture Theatre

09:30 - 10:05 Seung-Schik Yoo, Harvard Medical School - Localized disruption of plasma-protein-binding of pharmacological agents using transcranial focused ultrasound: Road to another mode of neuromodulation

10:05 - 10:40 Kim Butts Pauly, Stanford University – Transcranial MR-guided focused ultrasound neuromodulation of the thalamic visual pathway

10:40 - 11:10 Coffee & Posters - Harris Seminar Room

Session 2 11:10 – 12:55 – Harris Lecture Theatre

11:10 - 11:45 Bradley Treeby, University College London – Computational methods of dosimetry

11:45 - 12:20 Sonia Antoranz Contera, University of Oxford – Tools from biological physics to investigate the mechanisms underlying ultrasound neuromodulation across the scales

12:20 - 12:55 Lennart Verhagen, University of Oxford – Non-invasive long-lasting modulation of deep brain circuits with ultrasound

12:55 - 14:15 Buffet Lunch in the Oriel College Dining Hall & Posters

Session 3 14:15 – 16:00 - Harris Lecture Theatre

14:15 - 14:50 Mikhail Shapiro, Caltech, San Diego – Biomolecular engineering for focused ultrasound control of cellular function

14:50 - 15:25 Charles Caskey, Vanderbilt University, Tennessee – Ultrasound neuromodulation: combining with fMRI, localizing the focus, and understanding mechanisms

15:25 - 16:00 Robin Cleveland, University of Oxford – Focused ultrasound neuromodulation of visual pathways in humans

16:00 - 16:30 Coffee & Posters - Harris Seminar Room

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Session 4 16:30 - 17.40 – Harris Lecture Theatre

16:30 - 17:05 Pierre Pouget, ICM, Paris – From neuro-modulation to imaging: using ultrasound to disentangle oculomotor control across cortical areas in non-human primates

17:05 - 17:40 Elisa Konofagou, Columbia University, New York – Central and peripheral modulation in mice and humans using focused ultrasound

Evening:

17:40 - 19:00 Reception drinks – Second Quad or Champneys if wet

19:00 - 21:00 Conference Dinner – Main Dining Hall, Oriel College

Tuesday 24th September

Day 2

09:00 - 09:30 **Coffee & Tea - Harris Seminar Room**

Session 5 9:30 – 10:40 – Harris Lecture Theatre

09:30 - 10:05 Martin Monti, University of California, Los Angeles – Subcortical low intensity ultrasound disorders of consciousness

10:05 - 10:40 Gail ter Haar, ICR, London – HIFU, and what we can learn from its route to clinic

10:40 - 11:10 Coffee & Posters - Harris Seminar Room

Session 6 11:10 – 12:55 Harris Lecture Theatre

11:10 - 11:45 Eleanor Martin, UCL, London – Experimental validation of modelled acoustic pressure fields for Neuromodulation in the deep brain

11:45 - 12:20 Jean-Francois Aubry, INSERM, Paris – Transducer design for deep brain Transcranial Ultrasound Stimulation: challenges and recent breakthroughs

12:20 - 12:55 Davide Folloni, University of Oxford – Manipulation of subcortical and deep cortical activity in the primate brain using transcranial focused ultrasound and its effects on learning and decision-making

12:55 - 14:15 Buffet Lunch in the College Dining Hall & Posters

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Session 7 14:15 – 16:00 Harris Lecture Theatre

14:15 - 14:50 Antoine Jerusalem, University of Oxford – Computational modelling of electromechanical coupling in the brain; implications for ultrasound

14:50 - 15:25 Suzanne LeBlang, FUS Foundation – HIFU ablation in the brain: diseases and targets

15:25 - 16:00 Thomas Heimburg, University of Copenhagen – The soliton theory for nerve excitation and the time-scales of excitation

16:00 - 16:30 Coffee & Posters - Harris Seminar Room

Session 8 16:30 – 18:10 – Harris Lecture Theatre

16:30 - 17:05 Wynn Legon, University of Virginia – Single element low intensity transcranial focused ultrasound for human neuromodulation applications

17:05 - 17:40 Kullervo Hymynen, Sunnybrook, Toronto – Focused Ultrasound induced BBB permeability enhancement and its potential for neuromodulation

17:40 – 18:10 Award ceremony and closing

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