



International workshop

Stimulation precision medicine of brain disorders: Potentials and challenges

26th September 2018, 9.00 AM – 5.30 PM

Hotel Scandic Copenhagen
Vester Søgade 6, 1601 Copenhagen, Denmark

Brain diseases are the core health challenge of the 21st century. Most, if not all, brain diseases are “circuit” or “network” disorders in which a failure of specific brain circuits determines the expression and evolution of functional impairments in individual patients. Even though patients may share the same diagnosis, the underlying causal circuit alterations may differ substantially from patient to patient. This calls for brain-circuit based precision medicine of brain diseases.

Brain stimulation technologies are rapidly advancing and can specifically target dysfunctional brain circuits in individual patients. This workshop brings together a distinguished panel of international experts to discuss the potential of stimulation-based precision therapies of brain disorders.

The workshop marks the appointment of Hartwig Siebner as Full Professor with special focus on Precision Medicine at the Faculty of Health and Medical Sciences, University of Copenhagen. The five-year professorship is sponsored by Lundbeckfonden.

Program

8.30-9.00 AM Registration

9.00-9.05 AM - Welcome address. Else Smith, Deputy Director, Hvidovre and Amager Hospital

9.05-9.15 AM - Background of professorship in Precision Medicine. Anne Marie Engel, Head of Talent & Career Programmes, The Lundbeck Foundation

Morning session – *Advances in Precision Technology and Methodology*

Chairs: C. Kruuse, University of Copenhagen; C.J. Boraxbekk, Umeå University, Umeå, Sweden

9.15-10.00 AM - Keynote lecture: *Advancing brain stimulation precision medicine in space, time, and context through innovation in technology.* Speaker: S.H. Lisanby, National Institute of Mental Health, Bethesda (MD), USA

10.00-10.30 AM - Magnetic resonance spectroscopy and functional MRI to advance the precision of transcranial brain stimulation. Speaker: C. Stagg, University of Oxford, Oxford, UK

Coffee break (25 minutes)

10.55-11.25 AM - Novel multi-coil approach to advance the precision of NTBS. Speaker: R. Ilmoniemi, Aalto University School of Science, Espoo, Finland

11.25-11.55 AM - Modelling electrical and ultrasonic fields caused by transcranial brain stimulation. Speaker: A. Thielscher, Technical University of Denmark, Kgs. Lyngby, Denmark

11.55 AM -12.25PM - Transcranial delivery of temporally interfering electrical fields - a novel precision stimulation approach. Speaker: N. Grossmann, Imperial College, London, UK

12.25-12.55 PM - Panel discussion – Precision stimulation technologies (Chairs: Lisanby / Siebner)

Lunch break (55min)

Afternoon session – Clinical perspectives of precision stimulation therapies

Chairs: A.N. Karabanov, Copenhagen University Hospital Hvidovre; S.H. Lisanby, NIMH, Bethesda, USA

1.50-2.20 PM - Keynote lecture: Precision medicine of brain diseases through tailored targeting of individual network dysfunction. Speaker: H.R. Siebner, University of Copenhagen, Copenhagen, Denmark

2.20-2.50 PM - Non-invasive transcranial brain stimulation – a precision stimulation perspective for stroke recovery. Speaker: G. Schlaug, Beth Israel Deaconess Medical Center and Harvard Medical School, Boston (MA), USA

2.50-3.20 PM - Non-invasive transcranial brain stimulation – a precision stimulation perspective for the depressed brain. Speaker: F. Padberg, Ludwig Maximilian University, Munich, Germany

Coffee break (25 minutes)

3.45-4.15 PM - Non-invasive transcranial brain stimulation – a precision stimulation perspective for the aging brain. Speaker: D. Antonenko, Greifswald University, Greifswald, Germany

4.15-4.45 PM - Precision medicine approaches for deep brain stimulation in Parkinson's disease. Speaker: D.M. Herz, Copenhagen University Hospital Bispebjerg, Copenhagen, Denmark

4.45-5.25 PM - Panel discussion – Precision stimulation therapies (Chair: Lisanby, Siebner)

5.25-5.30 PM - Concluding remarks and farewell

List of faculty

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Registration

Registration is required. Participation is free but we will charge a no-show fee of 400 DKK.

Please send an e-mail to Susanne Steffensen (Susanne.Steffensen@regionh.dk).

Venue

Hotel Scandic Copenhagen, Vester Søgade 6, 1601 Copenhagen, Denmark.

The venue is located at the center of Copenhagen, 5 minutes from Copenhagen Central Station

