



6th Annual Brain Stimulation and Imaging Meeting

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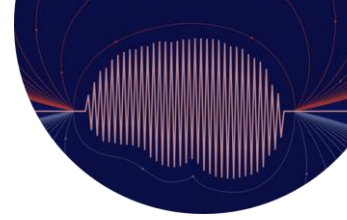
Program at glance

Tuesday May 19, 2020

- 11:00–11:15 **Opening**
- 11:15–12:55 **Oral 1:** Transcranial magnetic stimulation with EEG or fMRI
- 12:55–13:15 *Break*
- 13:15–14:15 **Poster 1:** Transcranial magnetic stimulation 1
- 14:15–14:30 *Break*
- 14:30–16:10 **Oral 2:** TMS and electrophysiological measurements: clinical applications
- 16:10–16:30 *Break*
- 16:30–17:30 **Keynote 1:** Stephanie Jones – Biophysically principled neural modeling of EEG to guide interpretation and design of non-invasive brain stimulation
- 17:30–17:45 *Break*
- 17:45–19:45 **Oral 3:** Modeling and analysis methods
- 19:45–20:00 *Break*
- 20:00–20:50 **Poster 2:** Transcranial magnetic stimulation 2

Wednesday May 20, 2020

- 11:00–11:50 **Poster 3:** Development of brain stimulation technology at Aalto University
- 11:50–12:00 *Break*
- 12:00–13:00 **Keynote 2:** Jari Hyttinen – Stimulation and assessment of emerging in-vitro neuronal models
- 13:00–13:15 *Break*
- 13:15–14:35 **Oral 4:** Transcranial electrical stimulation 1
- 14:35–14:55 *Break*
- 14:55–16:15 **Oral 5:** Transcranial electrical stimulation 2
- 16:15–16:30 *Break*
- 16:30–17:20 **Poster 4:** Electrical and ultrasound stimulation
- 17:20–17:35 *Break*
- 17:35–18:15 **Oral 6:** Transcranial ultrasound stimulation
- 18:15–18:30 *Break*
- 18:30–19:30 **Keynote 3:** Vincent Clark – Alternative methods for neuromodulation: ultrasound and infrared
- 19:30–19:45 **Closing**



Tuesday May 19, 2020

Opening

11:00 Vincent Clark & Risto Ilmoniemi Opening

Oral 1: Transcranial magnetic stimulation with EEG or fMRI

11:15 Melina Engelhardt Functional connectivity of the motor system and the resting motor threshold: a replication study

11:30 Marta Bortoletto TMS-evoked potentials as a measure of transcallosal conduction delay in the motor system

11:45 Ida Granö The role of pre-stimulus cortical oscillations for signal propagation after a TMS pulse

12:00 Timo Roine Connecting to the networks of the human brain with multi-locus transcranial magnetic stimulation

12:15 Federico Chella The impact of data length on real-time connectivity estimates

12:30–12:55 Zoom discussion with the session speakers

Poster 1: Transcranial magnetic stimulation 1

13:15 Justyna Hobot The more excited the better? Occipital cortex TMS and visual perception

13:20 Dmitry Lagoda Transcranial magnetic stimulation of prefrontal cortex for modulation of insight problem solving

13:25 Noora Matilainen No effect of inter-pulse interval for TMS motor evoked potentials in active muscles

13:30 Dao Nguyen Feature variability in motor evoked potential in single-pulse transcranial magnetic stimulation

13:35 Pavel Novikov Fast motor mapping with 2-channel multi-locus TMS

13:40 Ekaterina Ivanina Focality of the excitatory and inhibitory pp TMS phenomena

13:45 Danylo Lucio Ferreira Cabral Effects of 8 weeks of aerobic exercise intervention on fitness and neuroplasticity in aging adults

13:50–14:15 Zoom discussion with the session speakers

Oral 2: TMS and electrophysiological measurements: clinical applications

14:30 Mikko Luostarinen Double facilitating triple pulse in clinical MEP exams

14:45 Elizaveta Nikiforova SMA as a target for repetitive TMS: a systematic review of the clinical and fundamental approaches

15:00 Manon Desforges TMS–EEG as a measure of the intermittent theta-burst stimulation's mechanism in prefrontal cortex

15:15 Silvia Casarotto TMS–EEG is sensitive to the brain's capacity for consciousness: a reproducibility study

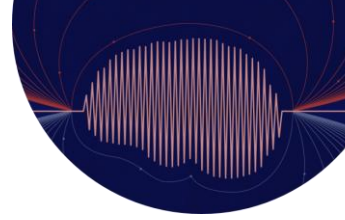
15:30 Katri Silvennoinen TMS-evoked potentials in Dravet syndrome – a reduction of components

15:45–16:10 Zoom discussion with the session speakers

Keynote 1

16:30 Stephanie Jones Biophysically principled neural modeling of EEG to guide interpretation and design of non-invasive brain stimulation

17:15–17:30 Zoom discussion with Stephanie Jones



Oral 3: Modeling and analysis methods

- 17:45 Matti Stenroos A common framework for modelling electroencephalography and transcranial magnetic stimulation
- 18:00 Nick Davis Variance in cortical depth across the brain surface
- 18:15 Daniel Keeser Gender effects in a subsample of the S1200 HCP cohort – a simulation study
- 18:30 Giacomo Bertazzoli The impact of artifact removal methods on TMS–EEG signal: a comparative study
- 18:45 Tuomas Mutanen New open-source tools for cleaning artifactual TMS–EEG data
- 19:00 Juuso Korhonen Peersourced TMS–EMG MEP annotation tool for algorithm development and open research
- 19:15–19:45 Zoom discussion with the session speakers

Poster 2: Transcranial magnetic stimulation 2

- 20:00 Hanna Pankka Deep learning -based forecasting of EEG time series for brain-state-dependent TMS
- 20:05 Danielle Sliva Biophysical neural modeling of EEG to interpret the impact of TMS on brain dynamics
- 20:10 Johanna Metsomaa Defining brain excitability states from EEG by data-driven spatio-temporal filtering
- 20:15 Pauliina Kärkkäinen Modelling of brain states using a coarse-grained Kuramoto model in TMS–EEG
- 20:20 Joelle Schroen New insights into sentence comprehension from a condition-and-perturb TMS–EEG study
- 20:25 Mar Martín Signes Exploring the role of prefrontal regions in executive control and conscious perception
- 20:30–20:50 Zoom discussion with the session speakers

Keynote speakers



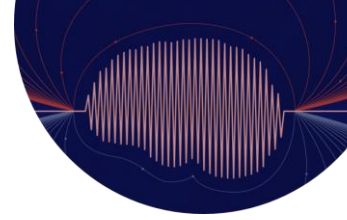
Stephanie Jones
Brown University
USA



Jari Hyttinen
Tampere University
Finland



Vincent Clark
University of New Mexico
USA



Wednesday May 20, 2020

Poster 3: Development of brain stimulation technology at Aalto University

- 11:00 Dogu Baran Aydogan Processing of structural and diffusion MRI for real-time tractography-based nTMS
- 11:05 Mikko Nyrhinen The impulse noise of TMS inside a 3T MRI scanner
- 11:10 Mikko Malmi Design and production of a 5-coil multi-locus TMS transducer
- 11:15 Victor Hugo Souza Towards concurrent multi-locus TMS and functional MRI for rats
- 11:20 Heikki Sinisalo Controlled pulse waveforms for TMS
- 11:25 Veikko Jousmäki Intermittent photic stimulation in healthy controls in MEG
- 11:30–11:50 Zoom discussion with the session speakers

Keynote 2

- 12:00 Jari Hyttinen Stimulation and assessment of emerging in-vitro neuronal models
- 12:45–13:00 Zoom discussion with Jari Hyttinen

Oral 4: Transcranial electrical stimulation 1

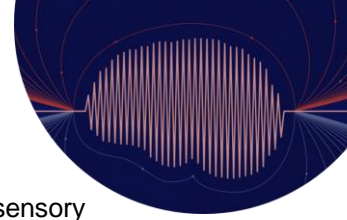
- 13:15 Patrik Simko Enhancement of visual cognition in healthy seniors using anodal prefrontal tDCS
- 13:30 Massimo Bertoli Brain changes due to a personalized neuromodulation against multiple sclerosis fatigue
- 13:45 Tiam Hosseinian Phase-synchronized 6-Hz rTMS with tACS induces sustained increase in 6-Hz oscillations
- 14:00 Erica Varoli TMS–EEG: a promising tool to study the tDCS effects on cortical excitability
- 14:15–14:35 Zoom discussion with the session speakers

Oral 5: Transcranial electrical stimulation 2

- 14:55 Miles Wischnewski The effects of frontal tACS on reversal learning
- 15:10 Desmond Agboada Induction of late-phase LTP-like plasticity in the primary motor cortex with repeated anodal tDCS
- 15:25 Alessia Gallucci Stimulating the VLPFC modulates frustration-induced aggression: a tDCS experiment
- 15:40 Tobias Reichenbach Enhancement of speech-in-noise comprehension through transcranial alternating current stimulation
- 15:55–16:15 Zoom discussion with the session speakers

Poster 4: Electrical and ultrasound stimulation

- 16:30 Uma Mohan The effects of direct brain stimulation in humans depend on frequency, amplitude, and white-matter proximity
- 16:35 Carole Chantal Wagnon Anodal tDCS over the left or right DLPFC differentially influences memory performance
- 16:40 Monika Pupíková Modulation of working memory and resting-state fMRI by tDCS of the right fronto-parietal network
- 16:45 Eugenia Gianni FaReMuS modifies the control of everyday movements
- 16:50 Olga Buivolova Verb network strengthening treatment combined with tDCS in non-fluent chronic aphasia



- 16:55 Gösta Ehnholm Activation of cortical neurons using FUS in the primary somatosensory cortex of the rat in vivo
17:00–17:20 Zoom discussion with the session speakers

Oral 6: Transcranial ultrasound stimulation

- 17:35 Pavel Novak TPS (Transcranial Pulse Stimulation) reduces significantly Alzheimer's disease symptoms
17:50 Koos Zevenhoven Open hybrid MEG–MRI scanner and combining it with transcranial ultrasound stimulation
18:05–18:15 Zoom discussion with the session speakers

Keynote 3

- 18:30 Vincent Clark Alternative methods for neuromodulation: ultrasound and infrared
19:15–19:30 Zoom discussion with Vincent Clark

Closing

- 19:30 Risto Ilmoniemi & Vincent Clark Closing

Meeting committees

Chairs

- Vincent Clark University of New Mexico, USA
Risto Ilmoniemi Aalto University, Finland

Organizing committee

- Erika Haaksiluoto Helsinki University Hospital, Finland
Satu Jääskeläinen University of Turku, Finland
Michael Nitsche IfADo, Germany
Gian Luca Romani University of Chieti, Italy
Ulf Ziemann University of Tübingen, Germany

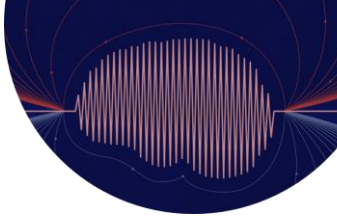
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- Mary-Ann Alfthan Aalto University, Finland
Jaakko Nieminen Aalto University, Finland
Timo Roine Aalto University, Finland
Aino Tervo Aalto University, Finland

Abstract review committee

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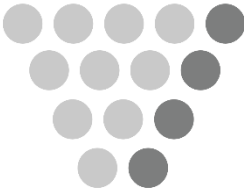


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