Neural population coding and emergent properties of cell assemblies

organized by
young Swiss Society for Neuroscience

and sponsored by
Swiss Society for Neuroscience
08:00–08:50  Registration; Coffee and croissants
08:50–08:55  Welcome and opening remarks

Keynote lectures
08:55–09:15  Prof. Valerio Mante  
Institute of Neuroinformatics, Zurich
09:20–10:20  Dr. Johannes Letzkus  
Max Planck Institute for Brain Research, Frankfurt

10:20–10:35  Coffee break

Morning session
10:35–10:50  Dr. Leena Williams  
University of Geneva  
“Higher-order thalamocortical inputs gate synaptic long-term potentiation via disinhibition”

10:50–11:05  Dr. Gregorio Galiñanes  
University of Geneva  
“Two-photon imaging of cortical neurons during a multi-directional reaching task in mice”

11:05–11:20  Ms. Ece Boran  
University Hospital Zurich / Zurich Neuroscience Center  
“Persistent hippocampal neural firing and hippocampal-cortical coupling predict working memory load”

11:20–11:35  Mr. Benjamin Ehret  
ETH Zurich  
“Stimulus–response mappings in mouse prefrontal cortex population activity”
Morning session (continued)

11:35–11:50  Mr. Max Nolte  
Blue Brain Project / EPFL, Lausanne  
“Cortical reliability amid noise and chaos”

11:50–12:05  Dr. Marios Abatis  
Centre de Neurosciences Psychiatriques 1er, Hopital de Cery, Prilly  
“Local excitatory networks in the lateral amygdala support emotional memory learning”

12:05–13:05  Lunch break

Flash talks

13:05–13:12  Dr. Andreas Keller  
UCSF, USA  
“Feedback receptive fields in neurons of visual cortex”

13:13–13:20  Mr. Antoine Philippides  
University of Geneva  
“The role of afferent input in neuroprosthetic learning”

13:21–13:28  Mr. Rodrigo Triana-Del Río  
University of Lausanne / CHUV, Lausanne  
“Oxytocin mediates the switch from passive to active defensive reactions in the central amygdala”

13:29–13:36  Mr. Timothée Proix  
University of Geneva  
“Decoding of attempted motor movements for locked-in patients using source reconstructed cortical potentials”
Flash talks (continued)

13:36–13:43  Ms. Maria Chernysheva  
Brain Research Institute, Zurich  
“The prefrontal-striatal pathway supports working memory maintenance”

13:44–13:51  Ms. Cristina Colangelo  
Blue Brain Project / EPFL, Lausanne  
“A framework for multi-scale cholinergic neuromodulation of the neocortex: bridging synapses, dendrites, neurons, and network states”

13:52–13:59  Ms. Raphaela Seeger  
University of Bern  
“Time-resolved synaptic cytomatrix and exocytosis architecture”

14:00–14:07  Dr. Baptiste Jaeger  
Brain Research Institute, Zurich  
“Understanding the transcriptional changes at the basis of memory formation in the hippocampus”

14:07–14:25  Coffee break

Afternoon session

14:25–14:40  Mr. Lukas Oesch  
University of Bern  
“Activation of hypothalamic inhibitory neurons during REM sleep stabilizes appetite”

14:40–14:55  Ms. Daniela Zöller  
EPFL, Lausanne / University of Geneva  
“Brain network dynamics provide functional signatures of anxiety in 22q11.2 deletion syndrome”
Afternoon session (continued)

14:55–15:10  Dr. Maria Sol Fustiñana Gueler  
*Friedrich Miescher Institute, Basel*  
“Neuronal correlates of social interactions in amygdala circuits”

15:10–15:25  Dr. Christoph Pokorny  
*University of Geneva*  
“Reconstructed activity of cortical sources during attempted movements in patients with amyotrophic lateral sclerosis”

15:25–15:40  Ms. Andréa Galvez  
*University of Geneva*  
“Infering walking movements from EEG for clinical applications”

15:40–15:55  Dr. Yaroslav Sych  
*University of Zurich*  
“Emerging functional connectivity in a mesoscale brain network during sensorimotor task learning”

15:55–16:10  Coffee break

16:10–16:40  Panel discussion  
(moderated by Prof. Valerio Mante)

16:40–16:50  Best presentation award and concluding remarks

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