

Core2Core Synapse Symposium 2024

Local Organizers: Nils Brose, Tobias Moser, Erwin Neher, Silvio Rizzoli, Stephan Sigrist, Alexander Walter

Venue of the symposium:

Manfred Eigen lecture hall, MPI-NAT Fassberg Campus (Am Faßberg 11)

Thursday, March 14th, 2024

9:00 **Welcome: Tobias Moser**

Session 1 (Chair: Tobias Moser)

9:05-9:35 Yuki Goda (*Probing synapse-astrocyte interactions: new roles for familiar molecules*)

9:35-10:05 Christian Rosenmund (*Mechanistic insights in spontaneous and Calcium triggered release*)

10:05-10:45 Ryuichi Shigemoto (*GABA_B receptors induce phasic release from medial habenula terminals through activity-dependent recruitment of release-ready vesicles*)

10:45-11:00 **Coffee break**

Session 2 (Chair: Erwin Neher)

11:00-11:30 Alain Marty (*Changes in quantal size following repetitive vesicular release*)

11:30-12:00 Takeshi Sakaba (*Presynaptic plasticity at hippocampal mossy fiber synapses*)

12:00-12:30 Stefan Hallermann (*Munc13 nanoclusters increase during homeostatic plasticity*)

12:30-13:30 **Lunch break**

Session 3 (Chair: Nils Brose)

13:30-14:00 Stephan Sigrist (*tba*)

14:00-14:30 Zoltan Nusser (*Molecular mechanisms underlying functional synaptic diversity in the hippocampus*)

14:30-15:00 Alexander Walter (*Molecular mechanisms of release site adaptation for presynaptic potentiation*)

15:00-15:30 **Coffee break**

Session 4 (Chair: Alexander Walter)

15:30-16:00 Reinhard Jahn (*Synaptic vesicles*)

16:30-17:00 Silvio Rizzoli (*Ultra-resolution imaging of synapses*)

17:00-17:30 Nils Brose (*tba*)

19:00 Scientific get-together @ MPI-NAT Cafeteria

Friday, March 15th, 2024

Session 5 (Chair: Silvio Rizzoli)

9:00-9:30 Kenzo Hirose (*Nanoscale mapping of presynaptic proteins: unveiling mechanisms for synaptic function*)

9:30-10:00 Sam Young (*Presynaptic Calcium current facilitation is essential for ultrafast computations in the auditory brainstem*)

10:00-10:40 Erwin Neher (*tba*)

10:40-11:00 Coffee break

Session 6 (Chair: Sam Young)

11:00-11:30 Lu-Yang Wang (*Modular ensembles of unitary quanta at the calyx of Held synapse*)

11:30-12:00 Nare Karagulyan (*Heterogeneity of presynaptic Cav1.3 channel gating in inner hair cells as a mechanism for neural sound intensity coding*)

12:00-12:30 Holger Taschenberger (*Dissecting short-term plasticity at the calyx of Held synapse*)

12:30-12:45 Group picture

12:45-13:30 Lunch break

Session 7 (Chair: Stephan Sigrist)

13:30-14:00 Volker Haucke (*How the presynapse forms*)

14:00-14:30 Jürgen Klingauf (*The readily retrievable pool*)

14:30-15:00 Noa Lipstein (*Towards a molecular code for presynaptic diversity*)

15:00-16:30 Coffee break & Poster session

Session 8 (Chair: Lu-Yang Wang)

16:30-17:00 Yunfeng Hua (*Volume electron microscopy-based neuro-morphomics*)

17:00-17:30 Peter Jonas (*Developmental transformation of Ca²⁺ channel - vesicle "nanotopography" at a central GABAergic synapse*)

17:30-18:00 Suk-Ho Lee (*Modeling short-term plasticity at layer2/3 prefrontal recurrent synapses*)

19:00 Scientific get-together @ Bullerjahn (Speakers Dinner)

Saturday, March 16th, 2024

Session 9 (Chair: Noa Lipstein)

9:00-9:30 Shigeo Takamori (*Biophysical chemistry of neurotransmitter uptake into synaptic vesicles*)

9:30-10:00 Carolin Wichmann (*Morphological vesicle pools of auditory synapses*)

10:00-10:40 Cordelia Imig (*Dissecting molecular mechanisms underlying serotonin release from sensory cells in the gut epithelium in health and disease*)

10:40-11:00 Coffee break

Session 10 (Chair: Carolin Wichmann)

11:00-11:30 Jakob Sørensen (*SNAP25 disease mutations*)

11:30-12:00 Uri Ashery (*cAMP and Rapgef2-dependent synaptic plasticity at hippocampal synapses*)

12:00-12:30 Henrike von Gersdorff (*Multivesicular release at an inhibitory synapse in mouse retina*)

12:30-13:00 Tobias Moser (*Molecular nanophysiology of hair cell synaptic transmission*)

13:00 Concluding remarks: Erwin Neher