

Monday, May 2

- 3:00 pm Check-in
- 6:00 pm Reception (*Lobby*)
- 7:00 pm Dinner
- 8:00 pm Session 1**
Chair: Mary Kennedy
- 8:00 pm **Welcome and opening remarks**
- 8:10 pm **Tom Reese**, National Institute of Neurological Disorders and Stroke, NIH
Draft MAP of the post synaptic density
- 8:35 pm **Terry J. Sejnowski**, HHMI/Salk Institute for Biological Studies
Nanoconnectomic upper bound on the variability of synaptic plasticity
- 9:00 pm Refreshments available at Bob's Pub

NOTE:

Meals are in the **Dining Room**
Talks are in the **Seminar Room**
Posters are in the **Lobby**

Tuesday, May 3

Talks are 20 minutes +
5 minutes for Q&A

- 7:30 am Breakfast (*service ends at 8:45am*)
- 9:00 am Session 2**
Chair: Avrama Blackwell
- 9:00 am **Susumu Tomita**, Yale University
Molecular rules governing synaptic transmission
- 9:25 am **Neal Waxham**, University of Texas Health Science Center at Houston
Design principles for building synapses
- 9:50 am **Tom Bartol**, Salk Institute for Biological Studies
Role of calcium pumps in a computational reconstitution of dendritic spines
- 10:15 am **Nicolas Le Novère**, Babraham Institute
Allosteric calcium sensors in synaptic plasticity
- 10:40 am Break
- 11:05 am Session 3**
Chair: Tom Reese
- 11:05 am **Daniel Choquet**, University of Bordeaux
Nanoscale synapse organization and function
- 11:30 am **Mary B. Kennedy**, California Institute of Technology
SynGAP in the system, anchoring of AMPA receptors
- 11:55 am **Robert Malenka**, Stanford University School of Medicine
Molecular mechanisms of AMPA receptor delivery and stabilization during LTP
- 12:20 pm **Todd Sacktor**, SUNY Downstate Medical Center
PKMzeta, LTP, and memory
- 12:45 pm Lunch (*service ends at 1:15 pm*)
- 2:00 pm Session 4**
Chair: Erwin Neher
- 2:00 pm **Chair's Introduction:** Modeling of short-term plasticity at the Calyx of Held
- 2:05 pm **Nils Brose**, Max Planck Institute of Experimental Medicine
The molecular mechanisms and functional role of synaptic vesicle priming

Molecular Mechanisms in the Synapse: Experiments and Modeling

- 2:30 pm **Christian Rosenmund**, Charité Universitätsmedizin Berlin
Molecular control of synaptic vesicle docking and fusion at central mammalian synapses
- 2:55 pm **Suhita Nadkarni**, Indian Institute of Science Education and Research
Biophysical basis of changes in synaptic transmission and plasticity in Alzheimer's disease
- 3:20 pm Break
- 3:50 pm** **Session 5**
Breakout Sessions in Synapse / Axon / Dendrite
- 5:30 pm Poster reception
- 7:00 pm Dinner
- 8:00 pm** **Session 6**
Chair: Reinhard Jahn
- 8:00 pm **Erik M. Jørgensen**, HHMI/University of Utah
Ultrafast endocytosis
- 8:25 pm **David DiGregorio**, Institut Pasteur
Nanoscale mechanisms influencing presynaptic release efficacy and precision
- 8:50 pm Refreshments available at Bob's Pub

Wednesday, May 4

- 7:30 am Breakfast (*service ends at 8:45am*)
- 9:00 am Session 7**
Chair: Martha Constantine-Paton
- 9:00 am **Kang Shen**, HHMI/Stanford University
Two clathrin adaptor protein complexes instruct axon-dendrite polarity
- 9:25 am **Bernardo L. Sabatini**, HHMI/Harvard University
Neurotransmitter co-release and co-transmission in the mammalian brain
- 9:50 am **Thomas A. Blanpied**, University of Maryland School of Medicine
Subsynaptic alignment of single-vesicle release sites with neurotransmitter receptors
- 10:15 am Break
- 10:45 am Session 8**
Chair: Nils Brose
- 10:45 am **Johannes Hell**, University of California, Davis
The highly localized stimulation of L-type Ca channels by β 2 adrenergic receptors requires their interaction and is important for PTT-LTP
- 11:10 am **Avrama Blackwell**, George Mason University
Combined activity of several signaling molecules predicts LTP for diverse stimulation protocols
- 11:35 am **Lu Chen**, Stanford University
Synaptic signaling of retinoic acid
- 12:00 pm Lunch (*service ends at 1pm*)
- 1:00 pm Tour (*optional - meet at reception*)
- 2:00 pm Session 9**
Chair: Todd Sacktor
- 2:00 pm **Kristen M. Harris**, University of Texas at Austin
Smooth endoplasmic reticulum coordination of structural synaptic plasticity
- 2:25 pm **Patricia Bassereau**, Institut Curie
Spontaneous curvature of BAR-domain proteins and endocytosis

Molecular Mechanisms in the Synapse: Experiments and Modeling

- 2:50 pm **Pietro V. De Camilli**, HHMI/Yale University
Membrane contact sites within neurons: an inter-organelle “connectome”
- 3:15 pm Break
- 3:45 pm** **Session 10: Reports from Breakout Sessions**
Chair: Terry Sejnowski
- 5:15 pm Poster Reception
- 6:45 pm Dinner
- 8:00 pm** **Session 11**
Chair: Pietro De Camilli
- 8:00 pm **Axel Brunger**, HHMI/Stanford University
New insights into the molecular mechanisms of calcium triggered synaptic vesicle fusion
- 8:25 pm **Reinhard Jahn**, Max Planck Institute for Biophysical Chemistry
New insights into the SNARE-mediated fusion mechanism
- 8:50 pm Refreshments available at Bob’s Pub

Thursday, May 5

- 7:30 am Breakfast (*service ends at 8:45am*)
- 9:00 am Session 12**
Chair: Kristen Harris
- 9:00 am **Martha Constantine-Paton**, Massachusetts Institute of Technology
A mouse MyoVa mutation that disrupts glutamate synapses causing hyperactivity that is rescued with double-nicking CRISPRs
- 9:25 am **Upinder S. Bhalla**, National Centre for Biological Sciences
Sequence recognition through multiscale signaling in morphologically detailed models of pyramidal neurons
- 9:50 am **Peter Jonas**, Institute of Science and Technology, Austria
Synaptic mechanisms of pattern completion in hippocampal CA3 networks
- 10:15 am Break
- 10:45 am Final Discussion**
Chairs: Reinhard Jahn, Mary Kennedy, Terry J. Sejnowski
- 12:15 pm Lunch and Departure (*Servery open 11:30 am - 1:00 pm*)
- 12:30 pm First shuttle to Dulles
1:30 pm Second shuttle to Dulles
2:30 pm Last shuttle to Dulles