

Sunday, November 11th

- 3:00 pm Check-in
- 6:00 pm Reception (*Lobby*)
- 7:00 pm Dinner
- 8:00 pm Session 1: Open Questions for Progress**
Plenary discussion led by the organizers
- 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**

Monday, November 12th

- 7:30 am Breakfast (*service ends at 8:45 am*)
- 9:00 am Session 2: Diversity and Integration**
Chair: Giorgio Ascoli
- 9:00 am **Peter Somogyi**, Medical Research Council (MRC)
Interneuron identity and hippocampal temporal network dynamics
- 9:25 am **Junghyup Suh**, Massachusetts Institute of Technology
Selective transgenic and pharmacogenetic manipulation of the entorhinal cortex inputs to hippocampal CA1 during fear memory formation and retrieval
- 9:50 am **Ivan Soltesz**, University of California, Irvine
Cell-type specific regulation of interneuronal microcircuits
- 10:15 am Break
- 10:45 am Session 3: Synaptic Signals**
Chair: Alex Thomson
- 10:45 am **Norbert Hájos**, Institute of Experimental Medicine, Hungary
Distinct input-output properties of anatomically identified interneurons during sharp wave-ripple oscillations in hippocampal slices
- 11:10 am **Serena M. Dudek**, National Institute of Environmental Health Sciences/NIH
What's new in hippocampal CA2?
- 11:35 am **Marco Capogna**, Medical Research Council (MRC)
Theta network oscillations: Focus on GABAergic cells of amygdala
- 12:00 pm **Istvan Mody**, University of California, Los Angeles
Super-resolution STED imaging of perineuronal nets in hippocampal and neocortical parvalbumin interneurons
- 12:25 pm General Discussion / Q&A
- 12:40 pm Lunch (*service ends at 1:15 pm*)
- 1:40 pm Session 4: Markers and Neuromodulation**
Chair: Rosa Cossart
- 1:40 pm **Afia Ali**, School of Pharmacy, University College London
Regulation of synaptic inhibition via endocannabinoids at local circuit interneurons in the rat hippocampus

Neuron Types in the Hippocampal Formation

- 2:05 pm **Zoltan Nusser**, Institute of Experimental Medicine, Hungary
Mechanisms of regulation of GABA release from CCK positive GABAergic interneurons
- 2:30 pm **Bernardo Rudy**, New York University Langone Medical Center
Cortical interneuron diversity
- 2:55 pm **Karri P. Lamsa**, Medical Research Council (MRC)
Alterations in glutamatergic synapses onto PV+ hippocampal interneuron types caused by type I neuregulin 1 over-expression
- 3:20 pm Break
- 3:50 pm **Session 5: Databases and Computational Models**
Chair: Ivan Soltesz
- 3:50 pm **Ed Lein**, Allen Institute for Brain Science
Transcriptional anatomy of the developing and adult hippocampus
- 4:15 pm **Michael E. Hasselmo**, Boston University
Physiological properties of neurons in entorhinal cortex that may underlie grid cell firing
- 4:40 pm **John Lisman**, Brandeis University
How the hippocampus can perform both map-based navigation and episodic memory
- 5:05 pm **Giorgio A. Ascoli**, George Mason University
A knowledge base of hippocampus neuron types
- 5:30 pm General Discussion / Q&A
- 5:45 pm Poster & Demo Reception
- 7:00 pm Dinner
- 8:00 pm Session 6: Open Questions on Hippocampal Neuron Types**
Five breakout panels, each led by two selected experts
- 9:00 pm Refreshments available at Bob's Pub

Tuesday, November 13th

- 7:30 am Breakfast (*service ends at 8:45 am*)
- 9:00 am Session 7: Development and Aging**
Chair: Massimo Scanziani
- 9:00 am **Shozo Jinno**, Kyushu University
Decline in adult neurogenesis during aging follows a topographic pattern in the mouse hippocampus
- 9:25 am **Rosa Cossart**, Université de la Méditerranée
Embryonic origin determines the integration of hippocampal neurons into functional networks
- 9:50 am **Gianmaria Maccaferri**, Northwestern University
Cajal-Retzius cells of the postnatal hippocampus
- 10:15 am Break
- 10:45 am Session 8: CA1**
Chair: Thomas Klausberger
- 10:45 am **Lisa Topolnik**, Laval University
Functional organisation of VIPergic inhibitory microcircuits in the CA1 hippocampus
- 11:10 am **Nelson Spruston**, Janelia Farm Research Campus/HHMI
Mechanisms of persistent firing in hippocampal inhibitory interneurons
- 11:35 am **Alex M. Thomson**, UCL School of Pharmacy, University of London
Connections made and received by interneurons in CA1 and CA2
- 12:00 pm Lunch
- 1:00 pm Tour (*optional – meet at reception*)

- 2:00 pm** **Session 9: Entorhinal Cortex**
Chair: Michael Hasselmo
- 2:00 pm **Menno P. Witter**, Norwegian University of Science and Technology
The use of neuron types to navigate the maze of entorhinal neuronal networks
- 2:25 pm **John A. White**, University of Utah
Correlated excitation and inhibition allows high-fidelity transmission of activity within the theta frequency band
- 2:50 pm **Christophe Bernard**, INSERM UMR 1106
Brain state-dependent dynamics of GABA neuron connections in the entorhinal cortex
- 3:15 pm **Sonia Gasparini**, Louisiana State University Health Science Center
Features of excitatory inputs to proximal and distal dendrites of layer V neurons in the entorhinal cortex
- 3:40 pm Break
- 4:10 pm** **Session 10: Dentate Gyrus**
Chair: John Lisman
- 4:10 pm **Helen Scharfman**, New York University and The Nathan Kline Institute
Hilar mossy cells: Why does the dentate gyrus need them?
- 4:35 pm **Peter Jonas**, Institute of Science and Technology Austria
Nanophysiology of fast-spiking GABAergic hippocampal interneurons
- 5:00 pm **Jerome Epsztein**, INMED/INSERM U901
UP-DOWN state modulation of dentate granule cell activity in an animal model of temporal lobe epilepsy
- 5:25 pm **János Szabadics**, Institute of Experimental Medicine, Hungary
Activation of an mGluR2-mediated potassium conductance at strategic dendritic location selectively silences individual dendritic units of dentate gyrus granule cells
- 5:50 pm Poster & Demo Reception
- 7:00 pm Dinner
- 8:00 pm** **Session 11: Open Questions on Hippocampal Neuron Types**
Plenary report from breakout panel leaders
- 9:00 pm Refreshments available at Bob's Pub

Wednesday, November 14th

- 7:30 am Breakfast (*service ends at 8:45 am*)
- 9:00 am Session 12: Oscillation and *in vivo***
Chair: Peter Somogyi
- 9:00 am **Dimitri M. Kullmann**, University College London
Syncopated rhythms in the hippocampal formation
- 9:25 am **Attila Losonczy**, Columbia University
Hippocampal microcircuits supporting contextual memory
- 9:50 am **Thomas Klausberger**, Medical University of Vienna
GABAergic interneurons in the network of freely-moving rats
- 10:15 am Break
- 10:45 am Session 13: From Neurons to Behavior**
Chair: Michael Frotscher
- 10:45 am **Albert Lee**, Janelia Farm Research Campus/HHMI
Whole-cell recording of hippocampal place cells in freely moving rats
- 11:10 am **James Knierim**, Johns Hopkins University
Spatial firing properties of physiological defined subtypes of neurons in the perirhinal, entorhinal, and dentate gyrus regions of the hippocampal formation
- 11:35 am Closing remarks and next steps
- 12:00 pm Lunch (*To-go boxes available in the servery for those on first shuttle*)
- 12:30 pm First shuttle to Dulles
- 1:30 pm Second shuttle to Dulles
- 2:30 pm Third shuttle to Dulles