Sunday, April 28th

All talks are 10 min + 5 min for Q&A

3:00 pm	Check-in
6:00 pm	Reception (Lobby)
7:00 pm	Dinner
8:00 pm	Session 1: Tactile sensitivity, selectivity, and perception Chair: Karel Svoboda
8:00 pm	Ehud Ahissar, Weizmann Institute of Science A closed-loop hypothesis of perception
8:15 pm	Daniel E. Shulz , CNRS Exploring neuronal processing of complex tactile scenes in the somatosensory system of the rat
8:30 pm	Tony J. Prescott , University of Sheffield <i>Active vibrissal sensing as a window into attentional processing</i>
8:45 pm	Mathew E. Diamond , International School for Advanced Studies (SISSA) How humans and rats accumulate information in a tactile working memory task
9:00 pm	Refreshments available at Bob's Pub



Monday, April 29th

7:30 am	Breakfast (service ends at 8:45am)
9:00 am	Session 2: Active Sensing: Vibrissa mechanics, drive, and transduction I Chair: Stephen Smith
9:00 am	Georges Debrégeas , Laboratoire Jean Perrin Sensing through friction: Mechanical transduction of texture information in digital and whisker tactile perception
9:15 am	Michael Bale, Instituto de Neurociencias de Alicante, CSIC-UMH Physical limits of trigeminal primary afferents
9:30 am	David Golomb , Ben Gurion University Whisker shape changes induced by touch
9:45 am	Mitra Hartmann , Northwestern University A model of vibrissal dynamics that predicts response characteristics of trigeminal ganglion neurons during contact and non-contact whisking
10:00 am	Break
10:30 am	Session 3: Active Sensing: Vibrissa mechanics, drive, and transduction II Chair: Mitra Hartmann
10:30 am	Dmitry Rinberg , NYU Medical School Multiple perceptible signals from a single olfactory glomerulus
10:45 am	Martin Deschênes, Centre de Recherche Universite Laval Robert-Giffard The central pattern generator of whisking in rodents
11:00 am	Fan Wang, Duke University Brainstem vibrissa-related sensory and motor circuits
11:15 am	Discussion
12:00 pm	Lunch (service ends at 1pm)
2:00 pm	Session 4: Thalamocortical pathways Chair: Mathew Diamond
2:00 pm	Jeffrey D. Moore, University of California, San Diego The representation of vibrissa re-afferent input in trigeminal and thalamic nuclei



2:15 pm	Gordon Shepherd , Northwestern University Synaptic circuit organization of mouse motor cortex
2:30 pm	László Acsády, Institute of Experimental Medicine, Hungary Simultaneous recording of the somata of thalamocortical cells and the axons of reticular thalamic neurons in the somatosensory thalamus in freely moving animals
2:45 pm	Miguel Maravall , Instituto de Neurociencias de Alicante, CSIC-UMH <i>Tuning to instantaneous stimulation interval in barrel cortex neurons</i>
3:00 pm	Randy M. Bruno , Columbia University Thalamic drive of deep cortical layers
3:15 pm	Break
3:45 pm	Session 5: Anatomy and circuitry of a cortical column Chair: Cornelius Schwarz
3:45 pm	Daniel Simons , University of Pittsburgh School of Medicine Whiskers and barrels: Are mice just small rats?
4:00 pm	Laurent Bourdieu, Ecole Normale Supérieure Spatial organization of neurons coding for complex multi-whisker features in S1bf
4:15 pm	Nicholas C. Weiler , Stanford University Exploring the effects of whisker trimming on the synaptic molecular architecture of functionally defined barrel columns
4:30 pm	Marcel Oberlaender , Max Planck Institute for Biological Cybernetics Beyond barrel columns: Structural organization principles of neural circuits in rat vibrissal cortex
4:45 pm	Discussion
5:15 pm	Poster Reception
6:30 pm	Dinner
8:00 pm	Plenary Talk: Kenneth Catania , Vanderbilt University <i>Mechanosensation in the star-nosed mole</i>
9:00 pm	Refreshments available at Bob's Pub



Tuesday, April 30th

7:30 am	Breakfast (service ends at 8:45am)
9:00 am	Session 6: Coding of vibrissa somatosensation I Chair: David Kleinfeld
9:00 am	Carl CH Petersen , Ecole Polytechnique Fédérale de Lausanne (EPFL) Synaptic mechanisms of sensory perception
9:15 am	Alison Barth, Carnegie Mellon University A discrete network of wide-receptive field neurons in mouse somatosensory cortex
9:30 am	Bernardo Rudy, NYU Langone Medical Center Novel GABAergic interneuron-mediated microcircuits in barrel cortex
9:45 am	Rony Azouz , Ben Gurion University Distributed coding in the somatosensory system
10:00 am	Kevin D. Alloway, Pennsylvania State University Peripheral whisker stimulation activates thalamostriatal interactions
10:15 am	Break
10:45 am	Session 7: Coding of vibrissa somatosensation II Chair: Adrienne Fairhall
10:45 am	Michael Brecht , Humboldt-Universitat zu Berlin Barrel cortex responses to social facial touch
11:00 am	Manuel Castro-Alamancos, Drexel University College of Medicine Dynamics of ascending and descending vibrissal pathways in superior colliculus
11:15 am	Christiaan de Kock , VU University Amsterdam Cell-type specific spiking in S1 during active object touch
11:30 am	Christopher Moore , Brown University Entrained gamma oscillations in SI barrel neocortex can enhance detection of periodic and naturalistic vibrissal stimulation
11:45 am	SooHyun Lee , NYU Langone Medical Center The role of 5HT3aR GABAergic interneurons in sensory-motor integration in cortex
12:00 pm	Discussion



12:30 pm	Lunch (service ends at 1pm)
1:15 pm	Tour (optional – meet at reception)
2:15 pm	Session 8: Coding decisions and motor output I Chair: Kenneth Catania
2:15 pm	Jason Ritt, Boston University Somatosensory cortex activity and whisk sequences
2:30 pm	Daniel Feldman , University of California, Berkeley Sparse coding and temporal integration in rodent somatosensory cortex
2:45 pm	Cornelius Schwarz , Werner Reichhardt Center for Integrative Neuroscience <i>Vibrotactile perception and coding in the whisker system</i>
3:00 pm	Adina M. Drumea, International School for Advanced Studies (SISSA) How do rats use sensory information from their whiskers to time their decisions?
3:15 pm	Varun Sreenivasan , Ecole Polytechnique Fédérale de Lausanne (EPFL) <i>Two parallel motor pathways drive distinct motor programs of the mouse whisker</i> <i>system</i>
3:30 pm	Break
4:00 pm	Session 9: Coding decisions and motor output II Chair: Jackie Schiller
4:00 pm	David J. Margolis , Rutgers University Large-scale cortical dynamics underlying texture discrimination in head-fixed mice
4:15 pm	Jerry Chen , University of Zurich Imaging activity in long-range projection neurons in mouse barrel cortex during texture discrimination
4:30 pm	Nuo Li , Janelia Farm Research Campus/HHMI Serial flow of cortical activity underlying a tactile decision in mice
4:45 pm	Jun Takatoh , Duke University Mapping pre-motor circuitry changes accompanying the emergence of exploratory whisking behavior
5:00 pm	Discussion
5:30 pm	Poster Reception



7:00 pm	Dinner
8:00 pm	Session 10: Processing within the upper layers Chair: Michael Brecht
8:00 pm	Hillel Adesnik, University of California, Berkeley Horizontal circuits for spatial processing in the sensory cortex
8:15 pm	Jackie Schiller, Technion - Israel Institute of Technology Texture coarseness mapping in layer 2-3 of the rat barrel cortex in-vivo
8:30 pm	Jochen Staiger , Georg-August-Universität Göttingen A structured continuum of circuit features of pyramidal cells in the supragranular compartment of rat somatosensory cortex
8:45 pm	Julius Zhu, University of Virginia Attentional neurons and circuits
9:00 pm	Refreshments available at Bob's Pub



Wednesday, May 1st

7:30 am	Breakfast (service ends at 8:45am)
9:00 am	Session 11: Plasticity Chair: Alison Barth
9:00 am	Garrett Stanley , Georgia Institute of Technology The adaptive trade-off between discriminability and detectability
9:15 am	Arthur R. Houweling , Erasmus University Medical Center Single-cell stimulation in barrel cortex influences psychophysical detection performance
9:30 am	Zhong-Wei Zhang , The Jackson Laboratory Developmental refinement of vibrissal relay synapses in the thalamus
9:45 am	Ilan Lampl , Weizmann Institute of Science Short-term synaptic plasticity shapes the balance between excitation and inhibition during ongoing cortical activity
10:00 am	Jose Carmena, University of California, Berkeley Investigating neuroprosthetic learning and control in the vibrissa sensorimotor system
10:15 am	Break
10:45 am	Closing Discussion / "Open Mic"
11:30 pm	Lunch and Departure
12:00 pm 1:00 pm 2:00 pm	First shuttle to Dulles Second shuttle to Dulles Last shuttle to Dulles

