Sunday, September 22nd

3:00 pm Check-in

6:00 pm Reception *(Lobby)*

7:00 pm Dinner

8:00 pm **Session 1: Introduction**
Chair: David Ginty

8:05 pm **Ardem Patapoutian**, HHMI/Scripps Research Institute
Role of Piezo ion channels in mechanotransduction

8:30 pm **Richard Koerber**, University of Pittsburgh
Organization and plasticity of tactile inputs in the spinal dorsal horn

8:55 pm **Manuel Gomez-Ramirez**, Johns Hopkins University
Mechanisms of feature selection in somatosensory cortex

9:20 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, September 23rd

7:30 am Breakfast *(service ends at 8:45am)*

9:00 am **Session 2: Receptors I**
Chair: David Linden

9:00 am **Qiufu Ma**, Harvard Medical School
Specification and functions of VGLUT3-expressing C-mechanoreceptors

9:20 am **Xinzhong Dong**, HHMI/Johns Hopkins School of Medicine
Functional imaging of primary sensory neurons

9:40 am **Frank Rice**, Integrated Tissue Dynamics (INTIDYN)
Vascular sensory innervation: Functional implications related to cutaneous sensation and potential roles in human painful neuropathic afflictions

10:00 am **Victoria Abraira**, Johns Hopkins School of Medicine
Molecular and morphological determinants of direction selectivity in Adelta-LTMRs

10:15 am **Kara Marshall**, Columbia University
How do touch receptors maintain reliable firing during normal target remodeling?

10:30 am Break

11:00 am **Session 3: Transduction I**
Chair: Ellen Lumpkin

11:00 am **Diana Bautista**, University of California, Berkeley
The role of CNGA2 in mammalian mechanotransduction

11:20 am **Gary Lewin**, Max-Delbrück Center for Molecular Medicine
The molecules of touch

11:40 am **Shawn Hochman**, Emory University
Nicotinic acetylcholine receptor-mediated control of primary afferent neurotransmission

12:00 pm **Sheldon Garrison**, Medical College of Wisconsin
Mechanically-evoked hyperexcitability in sensory neurons with a NaV1.8 hypermorphic mutation

12:15 pm **Whasil Lee**, Duke University
Characterizing mechanotransduction by a combined setup of AFM and Ca2+ imaging system

12:30 pm Lunch *(service ends at 1:00pm)*

2:30 pm Session 4: Central Processing
Chair: Karel Svoboda

2:30 pm **Sliman Bensmaia**, University of Chicago
Restoring the sense of touch with a prosthetic hand through a brain interface

2:50 pm **Cornelius Schwarz**, Hertie Institute for Clinical Brain Research
Tapping into decision-related activity in primary somatosensory cortex to control the subject's percept

3:10 pm **Natalie Trzcinski**, Johns Hopkins University
Mechanisms and perceptual consequences of experience-dependent somatosensory plasticity

3:25 pm **Rochelle Ackerley**, University of Gothenburg
Microstimulation of single mechanoafferents in humans: Evoked EEG brain activity

3:40 pm Poster Reception

5:30 pm Break / Free time

6:30 pm Dinner

8:00 pm Session 5: Pain and Pleasure
Chair: Steve Hsiao

8:00 pm **John Wood**, University College London
Labelled lines, mechanotransduction and pain

8:20 pm **Håkan Olausson**, Sahlgrenska University Hospital
Roles for tactile C fibers in pleasure and pain

8:40 pm **Ling Bai**, Johns Hopkins University School of Medicine
Molecular genetic identification of cutaneous Aβ-Nociceptors that may detect pricking pain

8:55 pm Refreshments available at Bob's Pub

Tuesday, September 24th

7:30 am Breakfast *(service ends at 8:45am)*

9:00 am **Session 6: Transduction II**
Chair: David Linden

9:00 am **Cheryl Stucky**, Medical College of Wisconsin
Epithelial cells are central to touch sensation

9:20 am **Mitra Hartmann**, Northwestern University
The mechanics of rat vibrissae

9:40 am **Gregory Gerling**, University of Virginia
Computational skin mechanics and neural dynamics models of tactile mechanotransduction

10:00 am **John Tuthill**, Harvard Medical School
Synaptic mechanisms of touch processing in Drosophila

10:15 am Break

10:45 am **Session 7: Active Touch**
Chair: Karel Svoboda

10:45 am **Daniel O'Connor**, Johns Hopkins University
Synaptic and network mechanisms shaping tactile signal propagation during a simple detection task

11:05 am **Carl Petersen**, Ecole Polytechnique Fédérale de Lausanne (EPFL)
Differential processing of active and passive whisker touch in mouse barrel cortex

11:25 am **Esther Gardner**, NYU School of Medicine
Self-awareness: How touch informs the brain about skilled actions of the hand

11:45 pm **Rosa Panchuelo**, The University of Nottingham
Using high resolution functional magnetic resonance imaging at 7 Tesla to resolve cortical responses to vibration and stimulation of single afferents

12:00 pm **Jessie Chen**, NYU School of Medicine
Touch serves motor and sensory functions during object manipulation

12:15 pm Lunch *(service ends at 1:00pm)*

1:15 pm Tour *(optional – meet at reception)*

2:30 pm **Session 8: Receptors II**
Chair: Ellen Lumpkin

2:30 pm **Roland Johansson**, Umeå University
Precise timing of spikes in human tactile afferent neurons signal geometric features of tactile stimuli

2:50 pm **Fan Wang**, Duke University
The organization of whisker touch sensory circuit in brainstem

3:10 pm **Hannes Saal**, University of Chicago
Spatial and temporal codes mediate the tactile perception of natural textures

3:25 pm **Jaquette Liljencrantz**, University of Gothenburg
C-tactile afferent firing is tuned to a human caress

3:40 pm **Amanda Zimmerman**, Johns Hopkins University
Elucidating touch sensation in the postsynaptic dorsal column circuit

3:55 pm Poster Reception

6:00 pm Break / Free time

6:30 pm Dinner

8:00 pm **Session 9: Processing**
Chair: Steve Hsiao

8:00 pm **Elaine Chapman**, University of Montreal
Tactile speed: Psychophysics and central neuronal correlates

8:20 pm **Johan Wessberg**, University of Gothenburg
Pleasant touch: The human unmyelinated C-tactile (CT) afferent system

8:35 pm **Daniel Gardner**, Weill Cornell Medical College
Neuroanalysis.org: Information-theoretic open-source methods to analyze somatosensory coding

8:50 pm Refreshments available at Bob's Pub

Wednesday, September 25th

7:30 am	Breakfast *(service ends at 8:45am)*
9:00 am	**Session 10: Receptors III** **Chair: David Ginty**
9:00 am	**Rebecca Seal**, University of Pittsburgh *Delineating mechanical pain circuits*
9:20 am	**Wenqin Luo**, University of Pennsylvania *Functional organization and development of the direct dorsal column pathway*
9:40 am	**Andy Weyer**, Medical College of Wisconsin *Inflammation amplifies mechanical currents in cutaneous, CGRP-expressing sensory neurons*
9:55 am	**Michael Minett**, University College London *The molecular mechanisms of mechanical allodynia associated with neuropathic pain*
10:10 am	Break
10:40 am	**Session 11: Central Integration** **Chair: Karel Svoboda and/or Steve Hsiao**
10:40 am	**Daniel Goldreich**, McMaster University *Modeling tactile perception as Bayesian probabilistic inference*
11:00 am	**Francis McGlone**, Liverpool John Moores University *Touching & feeling – Two states/two systems*
11:20 am	**Diego Gutnisky**, Janelia Farm Research Campus/HHMI *Coding of touch and whisker movements in thalamocortical circuits during active behavior*
11:35 pm	**Fei Wang**, Chinese Academy of Sciences *Functional identification of a social dominance center in the medial prefrontal cortex*
11:50 pm	Lunch and Departure
12:15 pm	First shuttle to Dulles
1:15 pm	Second shuttle to Dulles
2:15 pm	Last shuttle to Dulles