Sunday, March 22

3:00 pm Check-in

6:00 pm Reception *(Lobby)*

7:00 pm Dinner

8:00 pm **Welcome and Opening Remarks (Organizers)**

8:05 pm **Keynote Lecture:**
Yuh-Nung Jan, HHMI/University of California, San Francisco
Using Drosophila larvae to identify and study mechano-transduction channels

9:05 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, March 23

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

Session 1: Auditory Transduction and Mechanics I
Chair: Elizabeth Haswell

9:00 am **Martin C. Göpfert**, University of Göttingen
Drosophila sound transduction

9:25 am **Ulrich Mueller**, Scripps Research Institute
Molecular complexity in the mechanotransduction machinery of cochlear hair cells

9:50 am **Marcos Sotomayor**, The Ohio State University
Mechanisms and mechanosensitivity: Exceptional cadherins for hearing and balance

10:15 am **David P. Corey**, HHMI/Harvard Medical School
Single Molecule Force Spectroscopy of Hair-Cell Tip-Link Proteins

10:40 am Break

Session 2: Auditory Transduction and Mechanics II
Chair: Miriam Goodman

11:15 am **A. James Hudspeth**, The Rockefeller University
The role of mechanoelectrical-transduction channels in the ear's active process

11:40 am **Anthony J. Ricci**, Stanford University School of Medicine
Multiple modes of modulating mechanotransduction channel open probability

12:05 pm **Jeffrey R. Holt**, Boston Children's Hospital / Harvard Medical School
The functional contributions of TMC proteins to mechanotransduction in auditory and vestibular hair cells

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

Session 3: Mechanisms of Mechanotransduction I
Chair: Viola Vogel

2:15 pm **Alexander Dunn**, Stanford University
Tools to visualize molecular-scale forces in living cell

2:40 pm **Martin Chalfie**, Columbia University
Mechanosensory transduction and it modification in C. elegan

3:05 pm **Miriam B. Goodman**, Stanford University
Illuminating the mechanics of touch sensation

3:30 pm Break

4:00 pm **Flash Poster Session!** *(3 mins / 3 slides max)*
Chair: Miriam Goodman

Raul Araya-Secchi, Ohio State University
Julien Azimzadeh, Rockefeller University
Guy Bewick, University of Aberdeen
Bechara Kachar, NIDCD / NIH
Michael Krieg, Stanford University
Yoshie Narui, Ohio State University
Jinfeng Teng, University of Wisconsin, Madison
Bo Zhao, Scripps Research Institute

5:00 pm Reception

6:30 pm Dinner

Session 4: Vertebrate Mechanotransduction I
Chair: Jeffrey Holt

8:00 pm **Slav Bagriantsev**, Yale University
Sensing force in trigeminal neurons of acutely mechanosensitive birds

8:25 pm **Gary R. Lewin**, Max-Delbrück Center for Molecular Medicine
Small molecule modulation of fast sensory mechanotransduction

8:50 pm **David Ginty**, HHMI/Harvard Medical School
Mechanosensory neuron endings in mouse skin

9:15 pm Refreshments available at Bob's Pub

Tuesday, March 24

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

Session 5: Vertebrate Mechanotransduction II
Chair: Alexander Dunn

9:00 am **Ardem Patapoutian**, HHMI/Scripps Research Institute
Mechanically activated ion channels in touch and beyond

9:25 am **Masashi Nakatani**, Columbia University
The inactivation kinetics of mechanically activated channels shows voltage-dependence in Merkel cells

9:50 am **Whasil Lee**, Duke University
Mechanotransduction in articular chondrocytes: High-strain activates Piezo1 and Piezo2 channel

10:15 am **Medha M. Pathak**, University of California, Irvine
Piezo1 transduces extracellular matrix physical properties to direct neural stem cell lineage choice

10:40 am Break

Session 6: Ionotropic Mechanoreceptor Channels
Chair: David Ginty

11:10 am **Dan Tracey**, Indiana University Bloomington
Balboa binds to Pickpocket in vivo and is required for mechanical nociception in Drosophila larvae

11:35 am **Wei Zhang**, University of California, San Francisco
A human deafness gene (TMC1) homolog regulates locomotion via body wall sensory neurons in Drosophila larvae

12:00 am **Kate Poole**, Max Delbruck Center
Fast mechanically-gated currents in chondrocytes, a role for TRPV4

12:25 pm Lunch *(service ends at 1pm)*

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

Session 7: Force-dependent Gating I
Chair: Marcos Sotomayor

2:15 pm **Viola Vogel**, ETH Zurich
Structural motifs by which protein stretching switches their functions

2:40 pm **Paul Heppenstall**, EMBL Monterotondo
The role of α-tubulin acetyltransferase αTAT1 in sensory mechanotransduction

3:05 pm **Elizabeth S. Haswell**, Washington University in St. Louis
Smarty plants: How molecules, cells, and green organisms sense and respond to mechanical force

3:30 pm Break

Session 8: Force-Dependent Gating II
Chair: Valeria Vasquez

4:00 pm **Sergei Sukharev**, University of Maryland
Mechanosensitive channels as sensors of cytoplasmic crowding

4:25 pm **Boris Martinac**, Victor Chang Cardiac Research Institute
Monitoring mechanosensitive channels using liposomes and fluorescence methods

4:50 pm **Jorg Grandl**, Duke University
Activation of mechanically-activated Piezo ion channels by magnetic force

5:15 pm Poster Reception

6:45 pm Dinner

8:00 pm Refreshments available at Bob's Pub

Wednesday, March 25

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

Session 9: Lipid Modulation of Force Sensing I
Chair: Gary Lewin

9:00 am **Ching Kung**, University of Wisconsin - Madison
A natural history of force sensing

9:25 am **Valeria Vasquez**, University of Tennessee Health Science Center
Phospholipids that contain polyunsaturated fatty acids and cholesterol modulate touch sensation

9:50 am Break

Session 10: Lipid Modulation of Force Sensing II
Chair: David Corey

10:15 am **Jing Hu**, Center for Integrative Neuroscience
A stomatin-domain protein regulates touch sensation in mouse through cholesterol enriched lipid rafts

10:40 am **Rod MacKinnon**, HHMI/The Rockefeller University
Mechanistic studies of mechanosensitive gating in Kv and K2P K+ channels

11:05 am Closing Discussion and Final Remarks

11:30 am Lunch and Departure

12:00 pm First shuttle to Dulles
1:00 pm Second shuttle to Dulles
2:00 pm Last shuttle to Dulles