Wednesday, October 17, 2018
(at Französische Friedrichstadtkirche, Gendarmenmarkt 5, 10117 Berlin, Germany)

Opening remarks

17:00 Registration
18:00 Introduction: Miriam Goodman
18:10 Welcome Lecture: Robert Fettiplace, Kavli Prize Winner 2018
19:10 Reception

Thursday, October 18, 2018
(at Max Delbrück Communications Center – MDC.C – House 83,
Robert-Rössle-Straße 10, 13125 Berlin, Germany)

Axon 1

08:00 Registration

Session 1 | Chair: Gary Lewin

09:00 Martin Göpfert, University of Göttingen
Mechanosensitive channels for gravity sensing and hearing in flies

09:25 Lightning talk: Jan Clemens, European Neuroscience Institute
Mean and Variance adaptation in the Drosophila Ear

09:30 Reza Sharif Naeini, McGill University
TACAN is an Ion Channel Involved in Noxious Mechanosensation

09:55 Lightning talk: Kara Marshall, Scripps Research Institute
Molecular Mechanisms of Stomach Stretch Sensing

10:00 Kristian Franze, University of Cambridge
The role of mechanosensitive ion channels in vertebrate development

10:25 Lightning talk: Nicole Scholz, Rudolf-Schönheimer-Institute of Biochemistry
GPCR-dependent modulation of ion channels

10:30 Coffee Break
11:00  **Slav Bagriantsev**, Yale University
*Mechano-gated ion channels in somatosensory neurons of tactile specialist birds (tent)*

11:25  Lightning talk: Yiquan Tang, MRC Laboratory of Molecular Biology
*The evolutionarily conserved TMC-CIB channel complexes function as mechanosensors in Caenorhabditis elegans and mouse*

11:30  **Laura Bianchi**, University of Miami
*Glial regulators of ionic homeostasis control mechanosensation in C. elegans*

11:55  Lightning talk: Fabian Passini, Department of Health Sciences and Technology - ETH Zurich
*PIEZO1 Senses Mechanical Loading and Induces Nanomolar Calcium Signals in Tendon Cells*

12:00  **Jörg Grandl**, Duke University Medical Center
*Transduction of Mechanical Stimuli by Piezo Ion Channels*

12:30  Lunch and Poster Session

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**Session 2 | Chair: Martin Göpfert**

14:00  **Miriam Goodman**, Stanford University
*C. elegans sensory channels*

14:25  Lightning talk: Anthony Peng, University of Colorado Anschutz
*Is climbing and slipping the true model for myosin motor adaptation in mammalian hair cells?*

14:30  **David Corey**, Harvard University
*The mammalian hair cell channel*

14:55  **Jeffrey Holt**, Harvard University
*The hair cell mechanotransduction channel*

15:20  Lightning talk: Eric Mulhall, Harvard Medical School
*The Dynamic Strength of the Tip-Link Bond in Hair Cells*

15:25  Lightning talk: Philip Hehlert, Schwann-Schleiden Research Center
*Mechano-gating properties of Drosophila NOMPC*
15:30  **Thomas Jentsch**, Leibniz Institute for Molecular Pharmacology  
*Properties and roles of volume-regulated LRRC8/VRAC anion channels*

15:55  **Ulrich Müller**, Johns Hopkins Baltimore  
*New molecular players in hair cell mechanotransduction*

16:20  Lightning talk: Frederick Schwaller, Max Delbrück Center for Molecular Medicine  
*Ush2A is a vibration sensor involved in touch*

16:25  **Elizabeth Haswell**, Washington University  
*Mechanosensitive Ion Channels in Green Organisms*

16:50  Lightning talk: Ivan Radin, Washington University, St. Louis  
*Evolution and adaptation of Piezo proteins in the green lineage*

16:55  Lightning talk: Manuela Schmidt, MPI of Experimental Medicine  
*Regulation of Piezo2 function – novel insights from its interactome*

17:05  Poster session

19:05  Free evening
Friday, October 19, 2018
(at Max Delbrück Communications Center – MDC.C – House 83, Robert-Rössle-Straße 10, 13125 Berlin, Germany)

Axon 1

**Session 3 | Kate Poole**

09:00  
**Paul Heppenstall**, EMBL Monterotondo  
*Manipulating sensory transduction with genetic tools in mice*

09:25  
**Kate Poole**, University of New South Wales  
*Chondrocyte mechanotransduction*

09:50  
Lightning talk: Michael Dudek, University of Manchester  
*The Trpv4 channel is involved in setting the pace of the circadian clock in cartilage and intervertebral discs*

09:55  
**Anthony Ricci**, Stanford University  
The emerging role of the lipid bilayer in regulating hair cell mechanotransduction

10:20  
Lightning talk: Chonglin Guan, University of Göttingen  
*Myosin–dependent mechanosensory adaptation in Drosophila*

10:25  
Coffee Break

11:00  
**Eric Honore**, CNRS Nice  
*Piezos roles in regulating vascular tone*

11:25  
Lightning talk: Zhongjie Ye, Scuola Internazionale Superiore di Studi Avanzati  
*Unfolding of mechanosensitive channels Piezo1 and Piezo2*

11:30  
**Valeria Vásquez**, University of Tennessee  
*Fine-tuning ion channel gating with dietary fatty acids*

11:55  
Lightning talk: Sylvia Fechner, Stanford University, School of Medicine  
*Composition of native met channels responsible for gentle touch sensation*
12:00  **Medha Pathak**, University of California, Irvine
*Piezo1 activation gains traction*

12:25  Lightning talk: Angela Schlegel, Washington University, Saint Louis
*Channel Behavior of the Mechanosensitive Ion Channel MscS-Like 1 is Modulated by Charged Pore-Lining and Soluble Domain Cys Residues*

12:30  Lunch and Poster Session

**Session 4 | Chair: Lily Jan**

14:30  **Gary Lewin**, MDC Berlin
*Tethers in sensory transduction: man and mouse*

14:55  Lightning talk: Johannes Elferich, Oregon Health and Science University
*Structure of the PCDH15/LHFPL5 complex at the lower insertion point of the mammalian hair cell tip link*

15:00  **Steve Brohawn**, University of California, Berkeley
*Mechanosensitive Potassium Channel Structure and Function*

15:25  Lightning talk: Jerome Lacroix, Western University of Health Sciences
*Identification of the Binding Site of a Piezo1-Selective Small Molecule Agonist*

15:30  Coffee Break

16:00  **Merritt Maduke**, Stanford University
*Mechanosensitive channels in ultrasonic neuromodulation*

16:25  Lightning talk: Christopher Cunningham, Johns Hopkins University
*Transmembrane-O-methyltransferase (TOMT) regulates localization of TMC proteins to stereocilia in cochlear hair cells*

16:30  **Ardem Patapoutian**, HHMI Scripps Research Institute
*Piezo ion channel structure and function*

16:55  Lightning talk: Daniel Tracey; Indiana University
*Proprioceptive neurons in larvae of Drosophila melanogaster show direction selective responses that require the mechanosensory channel TMC*
Saturday, October 20, 2018  
(at Max Delbrück Communications Center – MDC.C – House 83,  
Robert-Rössle-Straße 10, 13125 Berlin, Germany)

Axon 1

**Session 5 | Chair: Miriam Goodman**

09:30  
**Boris Martinac**, University of New South Wales  
*Bacterial mechanotransduction channels*

09:55  
Lightning talk: Allen Liu, University of Michigan  
*Mechanogenetics: Repurposing bacterial mechanosensitive channel MscL in mammalian cells*

10:00  
**Carsten Grashoff**, MPI for Biochemistry  
*Piconewton-sensitive biosensors to investigate molecular forces in cells*

10:25  
Lightning talk: Sarah Clark, Oregon Health and Science University  
*Strategies for structural and compositional analysis of the hair cell mechanotransduction complex*

10:30  
Coffee Break

11:00  
**Yuh Nung Jan**, University of California, San Francisco  
*Structure of drosophila mechanotransduction TRP channels*

11:25  
Lightning talk: Oscar Sanchez Carranza, Max Delbrück Center for Molecular Medicine  
*Voltage-gating of mechanosensitive Piezo channels*

11:30  
**Bailong Xiao**, School of Pharmaceutical Sciences, Tsinghua University  
*Structure and function of PIEZO proteins*

11:55  
Lightning talk: Anders Enjin, Lund University  
*Humidity sensing in insects*

12:00  
Lunch and Poster Session

14:00  
**Stefan Lechner**, University of Heidelberg  
*Sensory transduction regulation*

14:25  
Closing remarks, Farewell

15:00  
End of Conference
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