SUNDAY, FEBRUARY 13
Arrival and Registration

MONDAY, FEBRUARY 14
Welcome and Keynote Address

David Julius, University of California, San Francisco, USA
Natural Products as Probes of the Pain Pathway: From Physiology to Atomic Structure

Sensory Signals Driving Social Interactions

Ishmail John Abdus-Saboor, Columbia University, USA
A Skin-to-Brain Circuit for Social Touch

Lisa Stowers, The Scripps Research Institute, USA
How Olfaction Drives Behavior

Susana Lima, Champalimaud Research, Portugal
Central Circuits that Promote Sexual Behavior

Deborah D. Rupert, Stony Brook University and Cold Spring Harbor Laboratory, USA
Short Talk: Methyl CpG Binding Protein 2 Mutation in Parvalbumin-Positive Interneurons, But Not Other Subpopulations, Alters Auditory Cortical Plasticity in Responses to Ultrasonic Vocalizations

NIH Brain Initiative Outreach

James Gnadt, NINDS, National Institutes of Health, USA
Karen K. David, NINDS, National Institutes of Health, USA

Workshop 1

Farin B. Bouroujeni, McGill University / IRCM, Canada
Genetic Identification of a Spinothalamic Pathway for Somatosensory Integration during Locomotion

Rahul Garg, Stowers Institute for Medical Research, USA
Cholinergic Input Modulates Early Sensory Processing to Enhance Goal Directed Behavior

Predrag Jovanovic, Cedars-Sinai Medical Center, USA
Acute Activation of Olfactory Neurons Results in Sex-specific Modulation of Energy Homeostasis

Richard Kramer, University of California, USA
Inhibiting Retinoic Acid Mitigates Vision Loss in Mice Undergoing Photoreceptor Degeneration

Kara Marshall, Baylor College of Medicine, USA
Lighting Up Mechanosensation

Slav Bagriantsev, Yale University, USA
Lamellar Cells in Mechanosensory Corpuscles are Touch Sensors

Kenichi Toma, University of California, San Francisco, USA
Genetic Assembly of Direction-selective Circuits

Yujuan Su, University of California, San Diego, USA
A Neural Circuit for Allergen-Induced Airway Constriction in Lung

Sensational Sensation

Cynthia F. Moss, Johns Hopkins University, USA
3D Auditory Scene Analysis is Modulated by Spatial Attention

Gary R. Lewin, Max Delbrück Center for Molecular Medicine, Germany
Sensory Perception in the Naked Mole Rats

Sophie Scott, University College London, UK
Human Sensory Processing of Vocalization

Gregory Charles Nordmann, LMU Munich, Germany
Short Talk: From Central Representation to Sensory Reception: A Global Screen for Magnetic Field-driven Neuronal Activity in the Pigeon Brain

Kelly Jameson, University of California, Los Angeles, USA
Short Talk: Dissecting Influences of the Gut Microbiome on Vagal Neuronal Activity

Poster Session 1

TUESDAY, FEBRUARY 15
Sensing Force: Molecules to Circuits

Ulrich Mueller, Johns Hopkins University/The Solomon H. Snyder, USA
Mechanotransduction in Hearing and Auditory Circuit Development

Ardem Patapoutian, The Scripps Research Institute, USA
Mechanical Sensing in Somatosensation and Interoception

David D. Ginty, HHMI/Harvard Medical School, USA
Mechanosensory Neurons and Central Circuits of Touch

Rachel Clary, University of California - Berkeley, USA
Short Talk: The Spatiotemporal Dynamics of Sensory Neuron and Merkel-cell Remodeling are Decoupled During Epidermal Homeostasis

Charles Dhong, University of Delaware, USA
Short Talk: Materials Chemistry Approaches to Controlling Tactile Cues Reveals Fundamental Percepts

Xiangyu Ren, The Salk Institute, USA
Short Talk: A Dedicated Spinoparabrachial Pathway for Mechanical Itch

Career Roundtable

Making Sense of Sense

Markus Meister, California Institute of Technology, USA
The Standard Model of the Retina

Sandeep Robert Datta, Harvard Medical School, USA
A Transcriptional Rheostat Couples Past Activity to Future Sensory Responses

Jennifer M. Li, Max Planck Institute for Biological Cybernetics, Germany
Internal State Dynamics Shape Brainwide Activity and Foraging Behavior

Lisa Giocomo, Stanford University, USA
Encoding Spatial Information

Elizabeth L. Hanson Moss, Baylor College of Medicine, USA
Short Talk: A Distributed Odor Code in the Olfactory Bulb of Awake, Behaving mice

Min Jung, Genentech Inc, USA
Short Talk: Distinct Transcriptional Programs are Revealed in Cross-species Single-nucleus atlas of Dorsal Root Ganglia (DRG) Sensory Neurons

* Session Chair † Invited but not yet accepted Program current as of October 29, 2023. Meal formats are based on meeting venue. For the most up-to-date details, visit https://www.keystonesymposia.org.
**Poster Session 2**

**WEDNESDAY, FEBRUARY 16**

**Pain, Anesthesia, and the Internal State**

- **Gregory Scherrer**, University of North Carolina at Chapel Hill, USA
  - *The Neural Basis of Pain Unpleasantness and Its Modulation*

- **Fan Wang**, Massachusetts Institute of Technology, USA
  - *Circuits in Affective Pain*

- **Alexander Chesler**, NCCIH, National Institutes of Health, USA
  - *Decoding Cellular and Molecular Mechanisms for Somatosensory Discrimination*

- **Sebastian Poliak**, Kallyope, USA
  - *Towards Therapeutic Targeting of the Gut-Brain Axis*

- **Matthew R. Banghart**, UC San Diego, USA
  - *Short Talk: Descending Neural Pathways Drive Placebo Analgesia*

- **Rahul P. Patel**, UNC-Chapel Hill, USA
  - *Short Talk: Automated Evaluation of Spontaneous Pain*

- **Sung Han**, The Salk Institute for Biological Studies, USA
  - *Short Talk: From the Spinal Cord to the Amygdala: Dissecting Affective Pain Pathways*

**Workshop 2**

- **Li Ye**, The Scripps Research Institute, USA
  - *Clearing Mammalian Bodies to Visualize the Intact Sensory Systems*

- **Josef Turecek**, Harvard Medical School, USA
  - *A Convergent Spinal Cord-brainstem Circuit for Shaping the Central Representation of Touch*

- **Jacob P. Brandt**, University of Notre Dame, USA
  - *Deciphering Neural Progenitor Fate in Developing Sensory Ganglia via in vivo Synchronized Calcium Activity*

- **Xin Duan**, University of California, San Francisco, USA
  - *Trans-Seq: Translating Transcriptomics to Connectomics at Retinotectal Synapses*

- **Satoru Miura**, University of California, San Francisco, USA
  - *Differential Processing of Self-generated and External Motion by Mouse Visual Cortex*

- **Chen Ran**, Harvard Medical School, USA
  - *The Coding of Internal Senses in the Brainstem*

- **Wei Li**, National Institutes of Health, USA
  - *Cellular Adaptation for Optimal Sensory Reception - Mitochondria in Photoreceptors Act as Microlenses to Enhance Photon Delivery and Confer Directional Sensitivity*

- **Sampurna Chakrabarti**, Max Delbrueck Center for Molecular Medicine, Germany
  - *Elkin1 is a Novel Mechanosensory Protein for Detecting Light Touch*

**Homeostatic Sensation Controls Behavior**

- **Stephen Liberles**, Harvard Medical School, USA
  - *Internal Sensory Systems*

- **Scott M. Sternson**, HHMI/University of California, San Diego, USA
  - *Talk Title to be Announced*