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, University of Pennsylvania, USA
A Skin-to-Brain Circuit for Social Touch
Lisa Stowers, The Scripps Research, 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 Interception
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 School of Medicine, 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 February 5, 2022 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

Elaine Y. Hsiao, University of California, Los Angeles, USA
The Microbiome in Gut-Brain Signaling

Zhikai Liu, Harvard Medical School, USA
Short Talk: The Organization of the Gravity-sensing system in Zebrafish

Lisa Beutler, University of California, San Francisco, USA
Short Talk: Inflammatory Cytokines Rapidly Modulate Gut-brain Axis Activity to Induce Anorexia

Meeting Wrap-Up: Outcomes and Future Directions (Organizers)

Poster Session 3

THURSDAY, FEBRUARY 17

Departure

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