SUNDAY, JANUARY 14
Arrival and Registration

MONDAY, JANUARY 15
Welcome and Keynote Address (Q2)
David D. Ginty, HHMI/Harvard Medical School, USA
Touch Sensory Neurons and their Central Circuits

Welcome and Keynote Address (Q1)
E. Dale Abel, David Geffen School of Medicine and UCLA Health, USA
Mitochondria as Signaling Hubs

Somatosensory Molecules and Cells I (Q2)
Theodore Price, University of Texas at Dallas, USA
Molecular Signatures of Human Nociceptors
Theanne N. Griffith, University of California, Davis, USA
Cellular and Molecular Mechanisms of Mammalian Proprioception
Elena O. Gracheva, Yale University School of Medicine, USA
Evolutionary Mechanisms of Thermosensation

Short Talks Chosen from Abstracts
Improving the Health of the Next Generation: Epigenetic Effects of Maternal and Paternal Exercise on Offspring (Q1)
Laurie J. Goodyear, Joslin Diabetes Center, Harvard Medical School, USA
Epigenetic Mechanisms Mediating the Beneficial Effects of Maternal Exercise on Offspring Metabolic Health
Romain Barrès, CBMR & CNRS, Denmark
Epigenetic Rewiring of Skeletal Muscle after Exercise Training
Kristin I. Stanford, Ohio State University, USA
Effects of Paternal Exercise on Offspring

Health Equity Forum (Joint)
Workshop 1: How to Begin Building a Culture of Diversity, Equity, and Inclusion in your Research Group (Q2)

Short Talks Chosen from Abstracts

Somatosensory Molecules and Cells II (Q2)
Ardem Patapoutian, The Scripps Research Institute, USA
Piezo Ion Channels in Touch and Itch
Ishmail John Abdus-Saboor, Columbia University, USA
Skin-Brain Pathway for Rewarding Social Touch
Patrik Ernfors, Karolinska Institutet, Sweden
A Landscape of Sensory Receptor Cells

Short Talks Chosen from Abstracts

The Far-Reaching Effects of Exercise Training - Exercise-Induced Changes in Liver, Microbiome, and White Adipose Tissue (Q1)
Mark A. Febbraio, Monash Institute of Pharmaceutical Sciences, Australia
Why is Exercise Medicine? Role of Exercise Extracellular Vesicles in Prevention of Disease
R. Scott Rector, University of Missouri, USA
Effect of Exercise on Liver Metabolism and Hepatic Steatosis
Sara Campbell, Rutgers University, USA
Exercise and the Gut Microbiome
Jeffrey F. Horowitz, University of Michigan, USA
Direct Effects of Exercise on Adipose Tissue Structure and Function

Poster Session 1

TUESDAY, JANUARY 16
Interception (Q2)
Speaker to be Announced
Yarimar Carrasquillo, National Institutes of Health, USA
Sex Differences in Colonic Pain
Diana Bautista, University of California, Berkeley, USA
Viral-Evoked Pain and Inflammation

Short Talks Chosen from Abstracts
Clocks, Sleep and Exercise: Working Together for Health and Performance (Q1)
Gad Asher, Weizmann Institute of Science, Israel
Clock Proteins and Exercise Capacity
Patrick Schrauwen, Maastricht University, Netherlands
Circadian Rhythms in Human Metabolic Disease
Karyn A. Esser, University of Florida, USA
Scheduled Exercise as a Therapeutic approach for Muscle Health

Career Roundtable (Joint)
Workshop 2: Rising Stars in Neuroscience (Q2)

Short Talks Chosen from Abstracts

Somatosensory Circuits (Q2)
Rebecca P. Seal, University of Pittsburgh, USA
Spinal Circuits as Targets for MA Therapies
Sarah Ross, University of Pittsburgh, USA
Inhibitory Circuits in Itch and Pain
Victoria Abraira, Rutgers University, USA
Molecules and Pathways of the Spinal Cord Affective Touch Circuit
**KEYSTONE SYMPOSIA**
on Molecular and Cellular Biology

**Mammalian Somatosensation: Mechanisms of Itch, Touch, Pain and Interoception in Health and Disease (Q2)**
Scientific Organizers: Diana Bautista, Rebecca P. Seal and Ishmail John Abdus-Saboor

Supported by the Directors’ Fund

**Exercise Biology: Signaling, Mechanisms and Benefits (Q1)**
Scientific Organizers: Jeffrey F. Horowitz, Laurie J. Goodyear and Karyn A. Esser

January 14-17, 2024 • Eldorado Hotel & Spa • Santa Fe, NM, USA

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Scholarship Deadline: October 10, 2023 / Abstract Deadline: October 10, 2023 / Discounted Registration Deadline: November 14, 2023

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Fan Wang, Massachusetts Institute of Technology, USA
*Brain Circuits Underlying Somatosensation*

**Short Talks Chosen from Abstracts**

**Health Benefits of Resistance Exercise: Hypertrophy and Beyond (Q1)**

Troy Hornberger, University of Wisconsin, USA
*Mechanisms of Muscle Growth*

Abigail L. Mackey, Bispebjerg Hospital, Denmark
*Muscle and Muscle Tendon Health with Exercise*

Matthew P. Herring, University of Limerick, Ireland
*Impact of Resistance Exercise Training in the Treatment of Anxiety and Depression*

David J. Glass, Regeneron Pharmaceuticals, Inc., USA
*Mechanisms that Effect Skeletal Muscle Function During Aging*

**Short Talks Chosen from Abstracts**

**Poster Session 2**

**WEDNESDAY, JANUARY 17**

**Pain Mechanisms I: Neuroimmune (Q2)**

Vivianne Tawfik, Stanford University, USA
*Pro-Resolution or Pro-Inflammatory? Microglia in Chronic Pain*

Ewan St. John Smith, University of Cambridge, UK
*Mechanisms Underpinning Joint Pain*

Veena Viswanath, Escient Pharmaceuticals, USA
*Mrgprs in Immune Cells and Neurons Mediate Itch and Pain*

Speaker to be Announced

**Short Talks Chosen from Abstracts**

**Exercise and Modulation of Inflammatory Response (Q1)**

Jason L. Hellmann, University of Louisville, USA
*Regulation of the Anti-Inflammatory Effects of Exercise and its Impact on Cardio-Metabolic Disease Prevention*

Kim Huffman, Duke University, USA
*Beneficial Effects of Exercise in Rheumatoid Arthritis*

Audrey J. Stone, University of Texas at Austin, USA
*Effects of Inflammatory Cytokines on Blood Flow Regulation during Exercise*

**Short Talks Chosen from Abstracts**

**Workshop 3: Panel Discussion on Cutting Edge Approaches in Somatosensory Research (Q2)**

**Workshop 2 (Q1)**

**Short Talks Chosen from Abstracts**

**Pain Mechanisms II (Q2)**

Allan I. Basbaum, University of California, San Francisco, USA
*Spinal and Trigeminal Projection Neurons that Mediate Itch and Pain*

India Morrison, Linköping University, Sweden
*Brain-Hormone Comodulation during Human Social Touch*

Wolfgang Liedtke, Regeneron Pharmaceuticals, USA
*Role of TRPV4 in Pain and Itch – Is There a Connection to Th2-Immunopathies?*

**Short Talks Chosen from Abstracts**

**Mind Games: The Powerful impact of Exercise on the Brain (Q1)**

J. Carson Smith, University of Maryland, USA
*Neuroimaging Evidence for Exercise-Induced Neuroplasticity in Humans*

Constanza J. Cortes Rodriguez, University of Southern California, USA
*Can Exercise Turn Back the Clock on the Aging Brain*

Cindy Barha, University of Calgary, Canada
*Sex Differences in the Beneficial Effects of Exercise on Brain Function*

**Short Talks Chosen from Abstracts**

**Meeting Wrap-Up: Outcomes and Future Directions (Organizers) (Q2)**

**Meeting Wrap-Up: Outcomes and Future Directions (Organizers) (Q1)**

**THURSDAY, JANUARY 18**

Delegation