SUNDAY, JANUARY 14
Arrival and Registration

MONDAY, JANUARY 15
Welcome and Keynote Address (Q2)
* Diana Bautista, University of California, Berkeley, USA
* Rebecca P. Seal, University of Pittsburgh, USA
* Ishmail John Abdus-Saboor, Columbia University, USA
David D. Ginty, HHMI/Harvard Medical School, USA
Touch Sensory Neurons and their Central Circuits

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

Somatosensory Molecules and Cells I (Q2)
* Yalda Moayed, NYU, USA
Theanne N. Griffith, University of California, Davis, 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
Ellen A. Lumpkin, University of California, Berkeley, USA
Short Talk: Epithelial-Neural Crosstalk in Touch Reception
Alexander Chesler, NCCIH, National Institutes of Health, USA
Short Talk: The Role of PIEZO2 in Health and Disease

Improving the Health of the Next Generation: Epigenetic Effects of Maternal and Paternal Exercise on Offspring (Q1)
* E. Dale Abel, David Geffen School of Medicine and UCLA Health, USA
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
William Todd Cade, Duke University, USA
Short Talk: Acute Effects of Aerobic and Resistance Exercise on Glucose Metabolism, Vascular Function and Plasma Metabolomics/Extracellular Vesicles During Pregnancy in Women with Obesity

SUNDAY, JANUARY 14
Arrival and Registration
Ruiqi Yang, University of Pittsburgh, USA
*Exercise Training Prevents Exosome-mediated Pre-metastatic Niche Formation in the Liver*

Cheehoon Ahn, University of Michigan, USA
Years of Endurance Exercise Training Favorably Remodels Abdominal Subcutaneous Adipose Tissue in Adults with Overweight/obesity

Pasquale Nigro, Joslin Diabetes Center, USA
*Exercise Training Regulates Long Noncoding RNAs Expression in Subcutaneous WAT of Obese Subjects*

Somatosensory Molecules and Cells II (Q2)
*Katelyn Sadler*, University of Texas at Dallas, USA
A Role of Mechanosensation in Sensory Neurons Innervating Adipose Tissue

Ishmail John Abdus-Saboor, Columbia University, USA
Social Touch from Mice to Mole Rats

Patrik Ernfors, Karolinska Institutet, Sweden
A Landscape of Sensory Receptor Cells

Yalda Moayedi, NYU, USA
Short Talk: Piezo2 Independent Mechanisms of Mechanotransduction in Tongue-innervating Neurons

Slav Bagriantsev, Yale University, USA
Short Talk: 3D Architecture and Mechanism of Touch Detection by Mechanosensory Corpuscles

Lauren Orefice, Massachusetts General Hospital / Harvard Medical School, USA
Short Talk: The Role of Dorsal Root Ganglia Neurons in Autism-associated Gastrointestinal Dysfunction

Laurence D. Bradbury, University of Oxford, UK
Understanding the Gapminder: A Journey from Mouse to Man

The Far-Reaching Effects of Exercise Training - Exercise-Induced Changes in Liver, Microbiome, and White Adipose Tissue (Q1)
*Kristin I. Stanford*, Ohio State University, USA
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**
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

David I. Hughes, University of Glasgow, UK
Short Talk: Calretinin-expressing Islet Cells are a Source of Pre- and Post-synaptic Inhibition of Non-peptidergic Nociceptor Input to the Mouse Spinal Cord

Allan-Hermann Pool, University of Texas Southwestern Medical Center, USA
Short Talk: Cell-type Map of Pain and Non-pain Somatosensory States in the Spinal Cord

Andreas R. Pfenning, Carnegie Mellon University, USA
Short Talk: Genomics and Machine Learning Implicate Spinal Cord Neuronal Subtypes in Chronic Pain Disorders

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

Troy Hornberger, University of Wisconsin, USA
Identifying the Signaling Events Through Which Resistance Exercise Induces Skeletal 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

Poster Session 2

WEDNESDAY, JANUARY 17

Pain Mechanisms I: Neuroimmune (Q2)

*Peng Li, University of Michigan, USA
Pro-Resolution or Pro-Inflammatory? Microglia in Chronic Pain

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

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

Francis McGlone, Neuro, UK
Short Talk: A Healthy Brain Needs ‘Vitamin-T’

Dan Levy, Beth Israel Deaconess Medical Center, Harvard Medical School, USA
Short Talk: Sensitization of Meningeal Afferents to Locomotion-related Meningeal Deformations in a Migraine Model

Venetia Zachariou, Boston University School of Medicine, USA
Short Talk: A Female-specific Signal Transduction Pathway in the Mouse Periaqueductal Gray Modulates Sensory Hypersensitivity in Models of Chronic Pain

Sakeen Kashem, University of California - San Francisco, USA
Short Talk: Regulatory T Cell Derived Enkaphalin Impacts Pregnancy Induced Analgesia

Daniel McGehee, University of Chicago, USA
Short Talk: Acetylcholine: An Important Modulator of Descending Pain Control Pathways

Miaomiao Jin, MIT, USA
Short Talk: Identifying Neural Circuit Correlates of Pain Anticipation and Nocebo Hyperalgesia Using a Novel Behavioral Paradigm in Mouse

Exercise and Modulation of Inflammatory Response (Q1)

*Mark A. Febbraio, Monash Institute of Pharmaceutical Sciences, Australia

Jason L. Hellmann, University of Louisville, USA
Adrenergic Regulation of the Pro-resolving Effects of Exercise and its Impact on Cardiometabolic 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 in Type 2 Diabetes

Jennifer L. Darby, University of Pittsburgh, USA
Short Talk: Exercise as Protective Training Against Trauma and Hemorrhagic Shock

Jiannan Hu, Northwell Health, USA
Short Talk: Exercise Drives an Anti-inflammatory Response in Intestinal Macrophages to Protect the Lung from Acute Inflammatory Injury

Paul Kent Langston, Harvard Medical School, USA
Short Talk: Regulatory T Cells Shield Muscle Mitochondria from Interferon-mediated Damage to Promote the Beneficial Effects of Exercise

Panel Discussion on NIH Resources for Somatosensory Research (Q2)

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

James Gnadt, NINDS, National Institutes of Health, USA

Alexander H. Tuttle, National Center for Complementary and Integrative Health, USA

Ellen A. Lumpkin, University of California, Berkeley, USA

Workshop 2 (Q1)

*Karyn A. Esser, University of Florida, USA
THURSDAY, JANUARY 18

Departure

Zhenxin Hou, Emory University School of Medicine, USA
Exercise Training Alters Lipidomic Profiles of Plasma and Eight Tissues in Rats

Jimmy Zhen, Stanford University, USA
The MoTrPAC Data Hub: An Interactive Data Portal for Dissemination of MoTrPAC Data

Malene E. Lindholm, Stanford University, USA
The Mitochondrial Multi-omic Response to Exercise Training Across Rat Tissues

Gina M. Many, Pacific Northwest National Laboratory, USA
Sexual Dimorphism in the Multiomic Response to Endurance Exercise Training in Rat Subcutaneous White Adipose Tissue

Lara Bideyan, UT Southwestern, USA
Dissecting the Transcriptional Diversity of the Ventromedial Hypothalamus in Response to Exercise Training

Theresia M. Schnurr, Stanford University, USA
Harnessing Skeletal Muscle-specific Genetic Variation to Dissect Putative Causal Pathways Between Handgrip Strength and Cardiometabolic Phenotypes

Pain Mechanisms II (Q2)

*Aaron Mickle, University of Florida, USA
Brain-Hormone Comodulation during Human Social Touch

India Morrison, Linköping University, Sweden
Neuropathic Pain from the Skin, How and Why?

Margarita Calvo, Universidad Católica de Chile, Chile
Long-term Imaging of Cortical and Spinal Cord Neuronal Activity in the Awake, Behaving Animal

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

*Rebecca EK MacPherson, Brock University, Canada
Neuroimaging Evidence for Exercise-Induced Neuroplasticity in Humans

J. Carson Smith, University of Maryland, USA
Short Talk: Neural Epigenetic Mechanisms of Early Life Adversity and Exercise Intervention

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

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