SUNDAY, MARCH 20
Arrival and Registration

MONDAY, MARCH 21
Welcome and Keynote Session (Joint)
David J. Anderson, California Institute of Technology, USA
Neural Mechanisms of Aggression and Defense and of Their Associated Internal States
Charles S. Zuker, HHMI, Columbia University, USA
Overview of Gut-Brain Axis and Experimental Techniques
Vagal Circuits (Joint)
Misha Ahrens, Janelia Farms, USA
Imaging of Gut-Brain Circuits in Zebrafish
Jeffrey M. Friedman, Rockefeller University, USA
Molecular Mechanisms Regulating Feeding and Body Weight
Short Talks Chosen from Abstracts

Workshop (X6)
Short Talks Chosen from Abstracts

Enteroendocrine Cells and Gut Hormone Signaling (X6)
Matheus de Castro Fonseca, Brazilian Biosciences National Laboratory, Brazil
Good Bug or Bad Bug: Calcium Overload and α-Synuclein Aggregation Induced by the Gut Bacterium Akkermansia Muciniphila in EECs
Holly A. Ingraham, University of California, San Francisco, USA
Enterochromafﬁn Cells: Detection and Transduction of Environmental, Metabolic and Homeostatic Information from the Gut Directly to the Nervous System
Diego V. Bohórquez, Duke University, USA
Transduction of a Sense from Gut to Brain
Short Talks Chosen from Abstracts

Food Appeal: Neural Circuits Encoding Perception and Value (X5)
Mark L. Andermann, Beth Israel Deaconess Medical Center, USA
Estimation of Current and Future Physiological States in Insular Cortex
Dana M. Small, Yale University School of Medicine, USA
Orosensory Monitors of Food Reward
J. Nicholas Betley, University of Pennsylvania, USA
Converging Pain and Hunger Signals
Short Talks Chosen from Abstracts

Poster Session 1

TUESDAY, MARCH 22
Mucosal Immune System (X6)
Daniel Mucida, Rockefeller University, USA
Neuro-Immune Communication in the Control of Inflammation in the Gut
Jennifer L. Gommerman, University of Toronto, Canada
Influence of Gut Mucosal Immune System on CNS Autoimmune Responses / Role in Multiple Sclerosis
Patrik Brundin, Van Andel Institute, USA
Role of Gut Inflammation in PD
Joanne L. Viney†, Pandion Therapeutics, USA
Talk Title to be Announced
Short Talks Chosen from Abstracts

Food Intake and Decision-Making: Networks Promoting Food Intake in the Face of Competing Needs (X5)
Hilke Plassmann, INSEAD, France
Is the Gut-Microbiome-Brain Axis Involved in How We Make Good or Bad Choices?
Giovanni Marsicano, INSERM U1215, France
Top-down Control of Water Intake by the Endocannabinoid System
Sarah Garfinkel, University College London, UK
How Interoception Influences Affective State
Yuki Oka, California Institute of Technology, USA
Regulation of Thirst and Sodium Appetite
Short Talks Chosen from Abstracts

Signaling and the Brain (X6)
Scott M. Sternson, HHMI/University of California, San Diego, USA
Algorhythms for Appetite
Lotte Bjerre Knudsen, Novo Nordisk A/S, Denmark
GLP-1 Signaling in the Brain
Amber L. Alhadeff, Monell Chemical Senses Center, USA
Gut-Brain Influence on Motivated Behavior
Short Talks Chosen from Abstracts

Diet-Induced Neuroinflammation and Metabolic Circuity (X5)
Stephanie E. Fulton, University of Montreal, Canada
Neuroimmune Correlates of Diet-Induced Mood Deficits
Staci Bilbo, Duke University, USA
Microglial Signaling and Obesity Susceptibility
Cristina García Cáceres, LMU & Helmholtz Zentrum München GmbH, Germany
Disruption of Astrocyte-Neuron Crosstalk in Obesity
Short Talks Chosen from Abstracts

* Session Chair † Invited but not yet accepted
Program current as of December 22, 2021. Meal formats are based on meeting venue.
For the most up-to-date details, visit https://www.keystonesymposia.org.
**POSTER SESSION 2**

**WEDNESDAY, MARCH 23**

**Microbiome (X6)**
- **Elaine Y. Hsiao**, University of California, Los Angeles, USA
  *Microbiome Influence on Brain and Behavior*
- **Rosa Krajmalnik-Brown**, Biodesign Institute at Arizona State University, USA
  *Gut Microbiome in Obesity and Autism*
- **John Cryan**, University College Cork, Ireland
  *Interaction between Brain, Gut and Microbiome in Stress and Immune-Related Disorders*
- **Mauro Costa-Mattioli**, Baylor College of Medicine, USA
  *Gut Microbe Control of CNS Driven-Behavior and Brain Function*

**Short Talks Chosen from Abstracts**

**Neurodevelopmental Programming of Feeding Behavior (X5)**
- **Jens C. Brüning**, Max Planck Institute for Metabolism Research, Germany
  *Maternal Nutrition and Metabolic Outcomes*
- **Marcelo O. Dietrich**, Yale University, USA
  *Ontogeny of Feeding Behavior*
- **Linda Rinaman**, Florida State University, USA
  *Postnatal Plasticity of Vagal Gut-Brain Circuits*
- **Richard B. Simerly**, Vanderbilt University, USA
  *Developmental Neurobiology of Hypothalamic Sensory-Motor Integration*

**Short Talks Chosen from Abstracts**

**Therapeutic Approaches (X6)**
- **Ann Weber**, Kallyope, USA
  *Vagal Nerve Stimulation in Depression*
- **Charles Conway**, Washington University in St. Louis, USA
  *Microbiome-Based Therapeutics for Autism*
- **Sarkis K. Mazmanian**, California Institute of Technology, USA
  *Treatment of Metabolic Disorders*

**Short Talks Chosen from Abstracts**

**Circadian and Environmental Impacts on Metabolism (X5)**
- **Kevin D. Hall**, NIDDK, National Institutes of Health, USA
  *Effects of Diet Composition on Metabolism*
- **John Stuart O’Neill**, MRC Laboratory of Molecular Biology, UK
  *Insulin Signalling Stimulates PERIOD Synthesis to Entrain Circadian Rhythms with Feeding Time*
- **David J. Mangelsdorf**, University of Texas Southwestern Medical Center, USA
  *FGF21 and Alcohol: Eat and Drink, But Don’t Get too Merry*

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