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

Food Appeal: Neural Circuits Encoding Perception and Value (X5)
Mark L. Andersen, 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

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

Poster Session 1

TUESDAY, MARCH 22
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 Université Bordeaux Segalen, France
Metabolic Control of Brain Functions by Cannabinoid Receptors
Sarah Garfinkel, University College London, UK
How Interception Influences Affective State
Yuki Oka, California Institute of Technology, USA
Regulation of Thirst and Sodium Appetite

Short Talks Chosen from Abstracts

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
Aviv Regev, Genentech, USA
Single Cell Sequencing of Intestinal Epithelial Cells Including Tuft Cells and their Response to Infection / ENS

Short Talks Chosen from Abstracts

Diet-Induced Neuroinflammation and Metabolic Circuitry (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 Garcia Cáceres, Helmholtz Zentrum München GmbH, Germany
Disruption of Astrocyte-Neuron Crosstalk in Obesity

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

* Session Chair † Invited but not yet accepted  Program current as of September 19, 2021. Meal formats are based on meeting venue. For the most up-to-date details, visit https://www.keystonesymposia.org.
**KEYSTONE SYMPOSIA**

**on Molecular and Cellular Biology**

**Neuronal Control of Appetite (X5)**

Scientific Organizers: Richard B. Simerly, J. Nicholas Betley and Stephanie E. Fulton

Supported by the Directors’ Fund

**Gut-Brain Axis (X6)**

Scientific Organizers: Ann Weber, Sarkis Mazmanian and Scott M. Sternson

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**Poster Session 2**

**WEDNESDAY, MARCH 23**

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

Functional Development of Ingestive Control Circuits

Richard B. Simerly, Vanderbilt University, USA

Developmental Neurobiology of Hypothalamic Sensory-Motor Integration

Short Talks Chosen from Abstracts

Microbiome (X6)

Elaine Y. Hsiao, University of California, Los Angeles, USA

Microbiome Influence on Brain and Behavior

Rosa Krajmalnik-Brown, Bodesign 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

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

Short Talks Chosen from Abstracts

Therapeutic Approaches (X6)

Charles Conway, Washington University in St. Louis, USA

Vagal Nerve Stimulation in Depression

Sarkis K. Mazmanian, California Institute of Technology, USA

Microbiome-Based Therapeutics for Autism

Ann Weber, Kallyope, USA

Treatment of Metabolic Disorders

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