

# KEYSTONE SYMPOSIA

on Molecular and Cellular Biology

## Organ Crosstalk in Obesity and NAFLD (J3)

Scientific Organizers: Gary J. Schwartz, Bei B. Zhang and Christoph Buettner

Sponsored by Novo Nordisk A/S

## Bioenergetics and Metabolic Disease (J4)

Scientific Organizers: Patrick Seale, Kendra K. Bence and P. Darrell Neuffer

January 21-25, 2018 • Keystone Resort • Keystone, Colorado, USA

Sponsored by MedImmune, Moderna Therapeutics and Novo Nordisk A/S

Abstract & Scholarship Deadline: September 28, 2017 / Abstract Deadline: October 26, 2017 / Discounted Registration Deadline: November 29, 2017

### SUNDAY, JANUARY 21

#### Arrival and Registration

### MONDAY, JANUARY 22

#### Welcome and Keynote Address (Joint)

**Jens C. Brüning**, Max Planck Institute for Metabolism Research, Germany  
*Central Neural Programming of Systemic Metabolism in Obesity*

#### Central Modulation of Metabolism (Joint)

**Matthew R. Hayes**, University of Pennsylvania, USA  
*Metabolic Neuropeptides as Modulators of Energy Balance, Motivation and Reward*

**Christoph Buettner**, Mount Sinai School of Medicine, USA  
*Brain Control of Adipose Tissue Functionality as a Determinant of Hypothalamic and Liver Function*

**Daniel L. Marks**, Oregon Health & Science University, USA  
*Central Control of Cachexia*

#### Short Talk(s) Chosen from Abstracts

#### Workshop 1: Emerging Therapeutic Targets for Metabolic Disease (Joint)

##### Short Talks Chosen from Abstracts

#### Sweet Spots in the Brain: Central Glucose Sensing and Peripheral Glucose Homeostasis (J3)

**Sarah Stanley**, Icahn School of Medicine at Mount Sinai, USA  
*Brain Glucose Sensing and New Radiogenetic Tools to Study It*

**Gregory James Morton**, University of Washington, USA  
*CNS Mechanisms Governing Diabetic Hyperglycemia*

**Greg S. B. Suh**, New York University School of Medicine, USA  
*Brain Sugar Sensing Circuits in *Drosophila**

#### Short Talk Chosen from Abstracts

#### Brown and Beige Fat Thermogenesis (J4)

**Patrick Seale**, University of Pennsylvania, USA

*Molecular Regulation of Brown and Beige Adipogenesis*

**Sheila Collins**, Sanford Burnham Prebys Medical Discovery Institute, USA

*Signaling Networks for Activation of Lipolysis and Thermogenesis*

**Evan D. Rosen**, Beth Israel Deaconess Medical Center, Harvard University, USA

*Epigenetic and Epigenomic Control of Adipose Metabolism*

#### Short Talk Chosen from Abstracts

#### Poster Session 1

### TUESDAY, JANUARY 23

#### Keynote Address (Joint)

**Bruce M. Spiegelman**, Harvard Medical School, USA  
*Pathways that Control Cellular and Organismal Energy Metabolism*

#### Adipose Plasticity and Metabolism (Joint)

**Susan K. Fried**, Icahn School of Medicine at Mount Sinai, USA  
*Depot Selective Growth and Metabolic Effects*

**Philipp E. Scherer**, University of Texas Southwestern Medical Center, USA

*Adipose Fibrosis in Metabolic Regulation*

**Barbara B. Kahn**, Beth Israel Deaconess Medical Center, Harvard Medical School, USA

*Control of Systemic Metabolism by de novo Lipogenesis in Adipose*

#### Short Talk(s) Chosen from Abstracts

#### Hepatic Metabolism in Obesity (J3)

**Rosalind A. Coleman**, University of North Carolina at Chapel Hill, USA

*Compartmentalization of Hepatic Lipid Metabolism*

**Morris J. Birnbaum**, Pfizer Inc., USA

*Signaling Pathways Regulating Hepatic and Adipose Tissue Metabolism*

**Baoliang Song**, Wuhan University, China

*Regulation of Intracellular Cholesterol Transport and Metabolism*

#### Short Talk Chosen from Abstracts

#### Mitochondria: Form and Function (J4)

**Jodi Nunnari**, University of California, Davis, USA  
*Mitochondrial Behavior*

**Mary-Ellen Harper**, University of Ottawa, Canada  
*Uncoupling Proteins, Energy Expenditure and ROS*

**Daniel P. Kelly**, University of Pennsylvania, USA

*Transcriptional Control of Mitochondrial Fuel Metabolism*

#### Short Talk Chosen from Abstracts

#### Poster Session 2

### WEDNESDAY, JANUARY 24

#### Hepatic Dysfunction in NASH and NAFLD (J3)

**Gyongyi Szabo**, University of Massachusetts Medical School, USA  
*Inflammasome Activation Pathways in NAFLD and NASH*

**Samuel Klein**, Washington University School of Medicine, USA  
*Biochemical, Metabolic and Clinical Implications in Obesity and NASH*

**Hongliang Li**, Wuhan University, China

*Molecular Pathways Linking Infection, Inflammation, Obesity and NAFLD*

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**Elizabeth J. Parks**, University of Missouri, USA  
*Drug Development in NAFLD: From Lipogenesis to Fibrosis*

### Short Talk(s) Chosen from Abstracts

### Energy Expenditure and Body Weight Regulation in Humans (J4)

**Herman Pontzer**, Hunter College, USA  
*Evolutionary Origins of Obesity*

**Michael Rosenbaum**, Columbia University Medical College, USA  
*Regulation of Energy Balance Following Weight Reduction*

**Wouter D. van Marken Lichtenbelt**, Maastricht University, Netherlands  
*Cold Exposure and Metabolic Health: Role Brown Adipose Tissue and Skeletal Muscle*

**Steven R. Smith**, Florida Hospital, USA  
*Metabolic Flexibility and Energy Utilization*

### Short Talk(s) Chosen from Abstracts

### The Many Scars of Obesity: Systemic Fibrosis and Hypothalamic Gliosis (J3)

**Bart Staels**, Institut Pasteur de Lille, Université Lille, France  
*Pathophysiology and Mechanisms of Nonalcoholic Fatty Liver Disease*

**Joshua Thaler**, University of Washington, USA  
*Hypothalamic Gliosis*

### Speaker to be Announced

### Short Talk Chosen from Abstracts

### Cellular Regulators of Bioenergetics (J4)

**P. Darrell Neufer**, East Carolina University, USA  
*Redox Circuit Flux and Energy Expenditure*

**Muthu Periasamy**, Sanford Burnham Prebys Medical Discovery Institute at Lake Nona, USA  
*Skeletal Muscle-Based Thermogenic Mechanisms*

**Reuben J. Shaw**, The Salk Institute for Biological Studies, USA  
*AMPK Control of Cellular Energetics*

### Short Talk Chosen from Abstracts

### Poster Session 3

### THURSDAY, JANUARY 25

#### Feel Your Gut: The Gut-Brain-Food Connection (J3)

### Speaker to be Announced

**Kendra K. Bence**, Pfizer Inc., USA  
*Fructose Metabolism and Fatty Liver Disease*

**Daniel J. Drucker**, Lunenfeld-Tanenbaum Research Institute, Canada  
*Gut Peptides Drive Metabolic Organs: Direct vs. Indirect Mechanisms*

### Speaker to be Announced

### Short Talk(s) Chosen from Abstracts

#### Skeletal Muscle: Use and Disuse (J4)

**Deborah M. Muoio**, Duke University Medical Center, USA  
*Adaptive Responses to Exercise Controlling Metabolism*

**Juleen R. Zierath**, Karolinska Institutet, Sweden  
*Epigenetic Regulation by Exercise*

**David E. James**, University of Sydney, Australia  
*Probing the Exercise Regulated Phosphoproteome in Skeletal Muscle*

**David J. Glass**, Novartis Institutes for Biomedical Research, USA  
*Muscle Wasting*

### Short Talk(s) Chosen from Abstracts

#### Workshop 2: Hot Topics in Obesity and Metabolism (Joint)

### Short Talks Chosen from Abstracts

#### Fat on the Brain: Adipose-Brain Crosstalk (J3)

**Gary J. Schwartz**, Albert Einstein College of Medicine, USA  
*Metabolic Sensing in Adipose Tissue*

**Pierre Léopold**, University Cote d'Azur, France  
*Humoral Communication between Fat and Brain Insulin Producing Cells*

**Suneil K. Koliwad**, University of California, San Francisco, USA  
*Hypothalamic Microglia as Fat Sensors: Physiology vs. Pathology*

#### Novel Effectors of Energy Metabolism (J4)

**Shingo Kajimura**, University of California, San Francisco, USA  
*BAT-Secreted Adipokines Regulate Energy Expenditure*

**Jiandie Lin**, University of Michigan Medical School, USA  
*Metabolic Tissue Cross-Talk*

**Ajay Chawla**, University of California, San Francisco, USA  
*Innate Immune Control of Thermogenesis*

#### Meeting Wrap-Up: Outcomes and Future Directions (Organizers) (J3)

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### FRIDAY, JANUARY 26

### Departure