



Join Keystone Symposia  
for the 2016 conference on :

# Obesity and Adipose Tissue Biology

February 15–19, 2016

Fairmont Banff Springs | Banff, Alberta | Canada

Scientific Organizers:

Yu-Hua Tseng, Philipp E. Scherer and Deborah Clegg

*Obesity is a growing pandemic and a major contributor to metabolic syndrome and disorders such as type 2 diabetes, cardiovascular disease, dyslipidemia, non-alcohol fatty liver and some cancers. Excess fat mass is the main characteristic of obesity, and adipocytes are the critical players in obesity-associated metabolic disorders. This symposium will focus on recent advances in our understanding of adipocyte biology and its related pathogenesis. It aims to unite interdisciplinary researchers, from basic and translational scientists to clinicians and industrial scientists, in order to integrate and synergize the diverse body of knowledge of adipose tissue, discuss cutting-edge technologies and foster collaborative interactions. Attendees will gain an in-depth knowledge of adipocyte biology and new insight into the role of adipose tissue in obesity and its related metabolic disorders.*

*Session Topics:*

- Brain-Adipose Communication
- Environmental Imprinting of Adipose Phenotype
- Developmental Origin and Recruitment of Adipose Tissue
- Cross-Talk between Adipose Tissue and Other Organs
- Regulation of Fuel Utilization in Adipose Tissue
- Non-Adipose Tissue Adipocytes
- Adipose Tissue Remodeling
- Novel CNS Pathways in Metabolic Regulation
- Workshop: New Therapeutic Approaches for Obesity and Related Metabolic Disorders



Submitting an abstract is a great way of participating in the conference through poster presentation and possible selection for a short talk.

**Scholarship & Discounted Abstract Deadline: Oct 15, 2015**

**Abstract Deadline: Nov 17, 2015**

**Discounted Registration Deadline: Dec 15, 2015**

For additional details, visit [www.keystonesymposia.org/16B2](http://www.keystonesymposia.org/16B2).

**KEYSTONE SYMPOSIA™**  
on Molecular and Cellular Biology  
*Accelerating Life Science Discovery*

[www.keystonesymposia.org/meetings](http://www.keystonesymposia.org/meetings) | 1.800.253.0685 | 1.970.262.1230

a 501(c)(3) nonprofit educational organization

# KEYSTONE SYMPOSIA

on Molecular and Cellular Biology

## Obesity and Adipose Tissue Biology (B2)

February 15-19, 2016 • Fairmont Banff Springs • Banff, Alberta, Canada

Scientific Organizers: Yu-Hua Tseng, Philipp E. Scherer and Deborah Clegg

Sponsored by MedImmune and Novo Nordisk A/S

Abstract & Scholarship Deadline: October 15, 2015 / Abstract Deadline: November 17, 2015 / Discounted Registration Deadline: December 15, 2015

### MONDAY, FEBRUARY 15

#### Arrival and Registration

### TUESDAY, FEBRUARY 16

#### Welcome and Keynote Address

**C. Ronald Kahn**, Joslin Diabetes Center and Harvard Medical School, USA  
*New Dimensions in the Biology of Adipose Tissue and its Role in Insulin Resistance*

#### Brain-Adipose Communication

\***Yong Xu**, Baylor College of Medicine, USA

**Matthias H. Tschöp**, Helmholtz Zentrum München and Technische Universität München, Germany  
*Astrocytes, Microglia, and Neurons in Body Weight Regulation*

**Joel K. Elmquist**, University of Texas Southwestern Medical Center, USA  
*Hypothalamic Regulation of Metabolism*

**Gary J. Schwartz**, Albert Einstein College of Medicine, USA  
*CNS and SNS Control of Adipose Function*

**Atul Chopra**, Case Western Reserve University, USA  
*Short Talk: Asprosin, a Fasting-Induced, Glucogenic and Orexigenic, Protein Hormone*

**Ana Domingos**, IRS-Fundação Calouste Gulbenkian, University of Oxford, Portugal  
*Short Talk: Lean on Body Neurons*

#### Environmental Imprinting of Adipose Phenotype

\***Kevin L. Grove**, Novo Nordisk, USA

**Yu-Hua Tseng**, Joslin Diabetes Center/Harvard Medical School, USA  
*Cold-Induced Dynamics in Brown, Beige and White Adipose Tissue*

**Matthias Blüher**, University of Leipzig, Germany  
*Molecular Determinants of Adipose Tissue Health*

**Xin L. Ma**, Thomas Jefferson University, USA  
*Novel Insight into Adiponectin Receptor Function*

**Kristen E. Boyle**, University of Colorado School of Medicine, USA  
*Short Talk: DNA Hypermethylation of Metabolic Genes Corresponds to Lower Fatty Acid Oxidation in Mesenchymal Stem Cells from Infants of Obese Mothers: The Healthy Start BabyBUMP Project*

#### Poster Session 1

### WEDNESDAY, FEBRUARY 17

#### Developmental Origin and Recruitment of Adipose Tissue

\***Stephen R. Farmer**, Boston University School of Medicine, USA

**Edward T. Chouchani**, Dana-Farber Cancer Institute, USA  
*White, Brown and Beige Fat: Basic Biology and Novel Thermogenic Pathways*

**Sheila Collins**, Vanderbilt University Medical Center, USA  
*Integrating Signaling Mechanisms for Adipocyte 'Browning'*

**Aaron M. Cypess**, NIDDK, National Institutes of Health, USA

*Short Talk: Mild Intermittent Cooling of Mice is Sufficient to Increase the Thermogenic Capacity of the Adipose Tissue Depots*

**Rana K. Gupta**, University of Texas Southwestern Medical Center, USA  
*Establishment and Maintenance of the White Adipose Lineage by Zfp423*

**Ajay Chawla**, University of California, San Francisco, USA  
*Innate Immunity and Beige Fat Thermogenesis*

**Dwight J. Klemm**, University of Colorado Denver Anschutz Medical Center, USA  
*Short Talk: Integrin Beta1 Regulates Production of Adipocytes and Other Mesenchymal Lineages from Adipose Tissue Stromal Myeloid Cells*

#### Cross-Talk between Adipose Tissue and Other Organs

\***Jacqueline M. Stephens**, Louisiana State University, USA

**Domenico Accili**, Columbia University, USA  
*Cross-Talk between Adipose Tissue and Pancreatic Beta Cells*

**Michael P. Czech**, University of Massachusetts Medical School, USA  
*Adipose Tissue and Hepatic Glucose Metabolism*

**Anthony M. Heagerty**, University of Manchester, UK  
*The Role of Adipose Tissue in Cardiovascular Function*

**Ichiro Shimomura**, Osaka University Graduate School of Medicine, Japan  
*Short Talk: Adiponectin, Fat-Derived Abundant Secretory Factor, Accumulates in Vasculature and Exhibits Vascular Protective Action, via T-Cadherin*

#### Poster Session 2

### THURSDAY, FEBRUARY 18

#### Regulation of Fuel Utilization in Adipose Tissue

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

**Barbara B. Kahn**, Beth Israel Deaconess Medical Center, Harvard Medical School, USA  
*Lipogenesis in Adipose Tissue*

**Stephan Herzig**, Helmholtz Zentrum München, Germany  
*Molecular Control of Lipid Handling in Adipocytes*

**Denis P. Blondin**, University of Sherbrooke, Canada  
*Short Talk: Inhibition of Intracellular Triglyceride Lipolysis Significantly Impairs BAT Oxidative Metabolism in Humans*

**Chih-Hao Lee**, Harvard University School of Public Health, USA  
*Mitochondrial Remodeling and Metabolic Flexibility*

**Barbara Cannon**, Stockholm University, Sweden  
*Mitochondrial Uncoupling and Fuel Utilization*

**Violeta I. Gallardo Montejano**, University of Texas Southwestern Medical Center, USA  
*Short Talk: Perilipin 5 Expression in Mouse Brown Adipose Tissue Regulates Systemic Glucose and Lipid Metabolism*

# KEYSTONE SYMPOSIA

on Molecular and Cellular Biology

## Obesity and Adipose Tissue Biology (B2)

February 15-19, 2016 • Fairmont Banff Springs • Banff, Alberta, Canada

Scientific Organizers: Yu-Hua Tseng, Philipp E. Scherer and Deborah Clegg

Sponsored by MedImmune and Novo Nordisk A/S

Abstract & Scholarship Deadline: October 15, 2015 / Abstract Deadline: November 17, 2015 / Discounted Registration Deadline: December 15, 2015

### Workshop: New Therapeutic Approaches for Obesity and Related Metabolic Disorders

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

\***Christopher D. Church**, MedImmune, UK

**Andres Andres Contreras**, Michigan State University, USA  
*Perivascular Adipose Tissue Adipocyte Progenitor Distribution Is Influenced by Gender and Anatomical Site*

**Lei Sun**, Duke-NUS Graduate Medical School Singapore, Singapore  
*De novo Reconstruction of Adipose Tissue Transcriptomes Reveals Novel Long Noncoding RNAs that Regulate Brown Adipocyte Development*

**Eric S. Muise**, Merck & Co., Inc., USA

*Acute Treatment of Mice with Potent AMPK Activators Mimics Acute Exercise-Induced Transcriptional Effects in White and Brown Adipose Tissues*

**Cecile Vernochet**, Pfizer, USA

*Lysophospholipase-like 1 (LYPLAL1) Inhibition Impacts Adipocyte Biology and Impairs Insulin Mediated Glucose Uptake*

**Christina Camell**, Yale University, USA

*NLRP3 Inflammasome Controls Adipose Tissue Leukocytosis and Inflammation During Aging*

**Mathieu Laplante**, Laval University, Canada

*The Pre-Adipokine EMPRD Promotes the Commitment and the Development of White Adipocytes*

**Hedi Soussi**, University Pierre and Marie Curie, France

*DAPK2 Down-Regulation Associates with Attenuated Adipocyte Autophagic Clearance in Human Obesity*

**Jin Shang**, USA

*Dysmetabolic Obese Rhesus Monkeys Exhibit Insulin Resistance that is Similar But Not Identical to Obese Humans*

### Non-Adipose Tissue Adipocytes

\***Victor Leonard Schuster**, Albert Einstein College of Medicine, USA

**Clifford J. Rosen**, Maine Medical Center, USA  
*Adipocytes in Bone*

**Maksim Plikus**, University of California, Irvine, USA

*The Role of Adipocytes in Skin Biology and Regeneration*

**Saswata Talukdar**, Merck Research Laboratories, USA

*Short Talk: FGF21 Regulates Sweet and Alcohol Preference*

**Silvia Corvera**, University of Massachusetts Medical School, USA

*Short Talk: Human Brite/Beige Adipocytes Derived from Human Capillary Networks Improve Glucose Disposal in Humanized Mice*

**Alexander Bartelt**, Ludwig-Maximilians-University, Germany

*Short Talk: A Central Role for Nfe2l1 in ER Adaptation and Mitochondrial Health in Brown Fat*

### Poster Session 3

#### FRIDAY, FEBRUARY 19

##### Adipose Tissue Remodeling

\***Jan Nedergaard**, Stockholm University, Sweden

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

*Adipose Tissue Fibrosis and Metabolic Dysfunction*

**Andreas Stahl**, University of California, Berkeley, USA  
*Engineering Brown Adipose Tissue*

**Tim Julius Schulz**, German Institute of Human Nutrition, Germany  
*Short Talk: Age-Related Changes in Bioactive Lipids Regulate Brown Adipocyte Formation and Function*

**Karine Clément**, INSERM/Sorbonne Université, France  
*Adipose Tissue Stiffness, Cell Size and Metabolic Function*

**Ruth E. Gimeno**, Eli Lilly and Company, USA  
*Pharmacological Approaches to Diabetes and Metabolic Disorders*

**Peter K. Jackson**, Stanford University, USA  
*Short Talk: The Asymmetric Cell Division Regulator Ags3/Pins Couples Primary Cilia to Insulin/IGF1 Signaling and Reprogramming of CD34+ Preadipocytes to Differentiate*

### Novel CNS Pathways in Metabolic Regulation

\***Deborah Clegg**, Cedars-Sinai Medical Center, USA

*Hypothalamic Autophagy, Mitophagy and Lipophagy: Estrogens Regulate Them ALL!*

**Xiaoyong Yang**, Yale University School of Medicine, USA  
*Dialog Between Brain and Fat via O-GlcNAc Signaling*

\***Hans Rudolf Berthoud**, Pennington Biomedical Research Center, USA

*Searching for Mechanisms of Weight Loss and Diabetes Resolution after Bariatric Surgery: Are We Ready to Ditch the Knife?*

**John Garretson**, Albert Einstein College of Medicine, USA  
*Short Talk: Lipolysis Activates Sensory Nerves in White Fat*

**Candice B. Herber**, University of California, San Francisco, USA  
*Short Talk: In Vivo Imaging of a New Highly Sensitive ThermoMouse (Ucp1-Luc) Line Reveals Marked Sex-Differences in BAT Thermogenesis*

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

#### SATURDAY, FEBRUARY 20

##### Departure