

Keystone Symposia in Banff

Obesity and Adipose Tissue Biology

Fairmont Banff Springs | Banff, Alberta, Canada | February 10–14, 2019

Joint with the conference on *Functional Neurocircuitry of Feeding and Feeding Disorders*

Scientific Organizers:

Matthias Blüher, University of Leipzig, Germany

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

Anne Bouloumié, INSERM, France

Obesity is a growing worldwide epidemic, increasing co-morbid conditions, such as diabetes. The joint conferences on “Obesity and Adipose Tissue Biology” and “Functional Neurocircuitry of Feeding and Feeding Disorders” are aimed to foster cross-talk between these research areas. Adipose tissue is an endocrine organ that is both controlled by and sends signals to the brain and other organs. In addition, obesity causes an inflammatory state in the adipose tissue. The recognition that brown/beige adipose tissue is active in adult humans has triggered interest in understanding the physiology and relative importance of these tissues. Exercise and bariatric surgery are known to elicit profound metabolic benefits in type 2 diabetes, although the underlying mechanisms remain unclear. This conference will bring together cell biologists, biochemists, geneticists, physiologists, drug developers and clinical researchers, thereby facilitating knowledge exchange and interactions leading to elucidation of better treatments for obesity and diabetes. Specifically, it will examine recent advances in our understanding of brown/beige adipose tissue function; obesity-induced adipose inflammation; control of adipose tissue, appetite and energy metabolism; endocrine and paracrine signaling via secreted factors; molecular mechanisms of metabolic signaling; emerging topics, including long noncoding RNA and the gut microbiome; and approaches to drug development and the treatment of obesity and diabetes.

Plenary Session Topics:

- Drug Discovery/Development in Obesity
- Brown/Beige/BRITE Fat Activation and Function
- Adipose Tissue and Immune Cells
- Adipose Tissue Heterogeneity
- Environment and Obesity
- How Can We Translate Novel Discoveries into Obesity Treatment?
- Disease Cachexia (Joint)
- Clinical Obesity Management – Round Table Discussion
- Adipose Tissue Microenvironment

Scholarship/Discounted Abstract Deadline: Oct 23, 2018; Abstract Deadline: Nov 8, 2018; Discounted Registration Deadline: Dec 11, 2018

Visit www.keystonesymposia.org/19J7 for more details.



KEYSTONE SYMPOSIA[™]
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on Molecular and Cellular Biology

Obesity and Adipose Tissue Biology (J7)

Scientific Organizers: Matthias Blüher, Philipp E. Scherer and Anne Bouloumié

Sponsored by MedImmune and Novo Nordisk A/S

This activity is also supported by an educational grant from Lilly

Functional Neurocircuitry of Feeding and Feeding Disorders (J8)

Scientific Organizers: Roger D. Cone, Lori M. Zeltser and Matthew R. Hayes

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SUNDAY, FEBRUARY 10

Arrival and Registration

MONDAY, FEBRUARY 11

Welcome and Keynote Address (J7)

Stanley Uljaszek, Institute of Social and Cultural Anthropology,
University of Oxford, UK
Framing Obesity as a Problem

Welcome and Keynote Address (J8)

Richard D. Palmiter, HHMI/University of Washington, USA
Neural Circuitry Underlying Feeding Behavior

Drug Discovery/Development in Obesity (J7)

Matthias H. Tschöp, Helmholtz Zentrum München and Technische
Universität München, Germany
Chemical Biotechnology Applied to Metabolic Diseases

Nana Gletsu-Miller, Purdue University, USA
Treatment or Cure of Obesity by Surgery?

Alan R. Saltiel, University of California, San Diego, USA
Inflammation at the Crossroads of Obesity and Energy Homeostasis

Short Talk(s) Chosen from Abstracts

Neural Circuitry Underlying Feeding Behavior (J8)

Linda Rinaman, Florida State University, USA
Neural Circuits Linking Stress and Feeding

J. Nicholas Betley, University of Pennsylvania, USA
Circuits Regulating Nutritive Control of Feeding

Matthew R. Hayes, University of Pennsylvania, USA
Role of GLP-1 Signaling

Short Talk(s) Chosen from Abstracts

Workshop 1: Targeting Brown Adipose Tissue for Obesity Treatment (J7)

Workshop 1: Research Opportunities in Eating Disorders (J8)

Brown/Beige/BRITE Fat Activation and Function (J7)

C. Ronald Kahn, Joslin Diabetes Center and Harvard Medical
School, USA
*Adipose Tissue MicroRNAs as Novel Adipokines in Regulation of
Metabolism*

Camilla Charlotte Schéele, University of Copenhagen, Denmark
The plasticity of human brown adipose tissue

Kirsi A. Virtanen, Turku University Hospital and University of Turku,
Finland

BAT - A Target of Future Weight Loss Strategies

Short Talk(s) Chosen from Abstracts

Genetic Disorders of Feeding and Energy Storage (J8)

I. Sadaf Farooqi, University of Cambridge, UK
Genetics of Leanness

Herbert Herzog, Garvan Institute, Australia
Prader-Willi Syndrome

Atul Chopra, Case Western Reserve University, USA
Human Genetics Aided Discovery of a New Metabolic Hormone

Short Talk(s) Chosen from Abstracts

Poster Session 1

TUESDAY, FEBRUARY 12

Adipose Tissue and Immune Cells (J7)

Anne Bouloumié, INSERM, France
The Adipose Tissue Immune Cells, Beyond Inflammation

Ruth E. Gimeno, Eli Lilly & Company, USA
New Therapeutic Approaches to Weight Loss and Glucose Control

Tim Julius Schulz, German Institute of Human Nutrition, Germany
*Deciphering the Adipocytic Lineage: Stem Cell Biology and
Regeneration*

Short Talk(s) Chosen from Abstracts

Anorexia Nervosa (J8)

Janet Treasure, King's College London, UK
Understanding and treating Anorexia Nervosa

Walter Kaye, UC San Diego Health, USA
Are Eating Disorders Really Disorders of Eating?

Patrick Sullivan†, University of North Carolina, USA
Genetics of Anorexia Nervosa

Lori M. Zeltser, Columbia University, USA
Identifying Novel Therapeutic Targets For Anorexia Nervosa

Short Talk(s) Chosen from Abstracts

Adipose Tissue Heterogeneity (J7)

Philipp E. Scherer, University of Texas Southwestern Medical
Center, USA
Mechanisms of Adipose Tissue Dysfunction in Obesity

David B. Savage, University of Cambridge, UK
A Lipodystrophic Perspective on Insulin Resistance

Ellen E. Blaak, Maastricht University, Netherlands
*Sex differences in adipose tissue metabolism and tissue-specific
insulin resistance*

Mikael Rydén, Karolinska Institutet, Sweden
*Adipocyte Function and Development in Subcutaneous and Visceral
Fat Depots*

Short Talk(s) Chosen from Abstracts

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Neural Circuits Underlying Nausea, Emesis, and Aversive Responses (J8)

Bart C. De Jonghe, University of Pennsylvania, USA
Neurocircuitry of Nausea in Chemotherapy

Samuel N. Breit, St. Vincents Hospital, Australia
The Role of the GDF15 in Pathway in Control of Appetite and Energy Homeostasis

Zachary Knight, University of California, San Francisco, USA
The Neurobiology of Hunger

Short Talk(s) Chosen from Abstracts

Poster Session 2

WEDNESDAY, FEBRUARY 13

Environment and Obesity (J7)

J. Andrew Pospisilik, Van Andel Institute, USA
Epigenetic and Obesity

Nathalie Delzenne, Université Catholique de Louvain, Belgium
Dealing with the Gut Microbiota in Obesity

Bruce A. Bunnell, Tulane University School of Medicine, USA
Endocrine Disruptors as a Cause of Obesity?

Kristen E. Boyle, University of Colorado School of Medicine, USA
Maternal Obesity and Offspring Adiposity: Clues from Umbilical Cord Mesenchymal Stem Cells

Short Talk(s) Chosen from Abstracts

Telencephalic Control of Feeding Behavior (J8)

Benjamin R. Arenkiel, Baylor College of Medicine, USA
Forebrain Circuits Regulating Appetite Suppression

Scott E. Kanoski, University of Southern California, USA
Hippocampal control of feeding behavior

Mark L. Andermann, Beth Israel Deaconess Medical Center, USA
State-Specific Gating of Motivationally Salient Cues by Midbrain Dopaminergic Inputs to Basal Amygdala

Ivan E. de Araujo, Icahn School of Medicine at Mount Sinai, USA
Vagal Control of Brain Reward Systems

Short Talk(s) Chosen from Abstracts

Workshop 2: Brown Adipocyte Glucose Metabolism: A Heated Subject (J7)

Feeding Across the Lifespan (J8)

Sebastien G. Bouret, University of Southern California, USA
Regulatory Programs that Direct Development of Hypothalamic Circuits Regulating Food Intake

Kelly L. Klump, Michigan State University, USA
Developmental Differences in Neurobiological Risk Factors for Binge Eating across Adolescence: Evidence from Animal and Human Models

Susan Carnell, Johns Hopkins University, USA
Childhood Eating Behaviors

Short Talk(s) Chosen from Abstracts

How Can We Translate Novel Discoveries into Obesity Treatment? (J7)

Kevin L. Grove, Novo Nordisk, USA

Anti-Obesity Drug Development: The Potential and the Challenges

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

Adipose Tissue Derived Lipokines

Max Nieuwdorp, Academic Medical Center, University of Amsterdam, Netherlands

The Gut Microbiome – Tool or Target for Obesity Treatment?

Short Talk(s) Chosen from Abstracts

Poster Session 3

THURSDAY, FEBRUARY 14

Disease Cachexia (Joint)

Stefan D. Anker, Universitätsmedizin Berlin, Germany
Cardiac Cachexia

Bruce M. Spiegelman, Harvard Medical School, USA
Cachexia and Brown Fat

Daniel L. Marks, Oregon Health & Science University, USA
Neural Circuitry Mediating Cachexia

Roger D. Cone, University of Michigan, USA
Mechanism of the Melanocortin-3 Receptor in the Suppression of Cachexia

Short Talk(s) Chosen from Abstracts

Clinical Obesity Management – Round Table Discussion (J7)

Matthias H. Tschöp, Helmholtz Zentrum München and Technische Universität München, Germany
Anti Obesity Drug Development

Matthias Blüher, University of Leipzig, Germany
New Emerging Treatment Tools

Short Talks Chosen from Abstracts

Workshop 2: Late Breaking Topics from Abstracts (J8)

Short Talks Chosen from Abstracts

Adipose Tissue Microenvironment (J7)

Christoph Buettner, Mount Sinai School of Medicine, USA
Adipose Tissue Adaptive Thermogenesis

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Catherine C. Muller, Institut de Pharmacologie et de Biologie
Structurale, France

Adipose Tissue and Cancer: A Dangerous Dynamic Duo

Steven E. Shoelson, Harvard Medical School, Joslin Diabetes
Center, USA

*Adipose Tissue Microenvironment as Target of New Emerging
Therapies*

Short Talk Chosen from Abstracts

Drug Discovery for Eating Disorders (J8)

Peter Kuehnen, Charité - Universitätsmedizin Berlin, Germany
Treatment of Monogenic Eating Disorders

Shamina M. Rangwala, Janssen, Johnson & Johnson, USA
GFRAL/GDF-15

Xinle Wu, Eli Lilly and Company, China
GFRAL/GDF-15

Short Talk Chosen from Abstracts

Meeting Wrap-Up: Outcomes and Future Directions (Organizers) (J7)

Meeting Wrap-Up: Outcomes and Future Directions (Organizers) (J8)

FRIDAY, FEBRUARY 15

Departure