

KEYSTONE SYMPOSIA

on Molecular and Cellular Biology

Interconnection between the Gut, Brain and Microbiome for Metabolic Disease (J2)

Scientific Organizers: Tony K.T. Lam, Nancy A. Thornberry and Fredrik Bäckhed

Supported by the Directors' Fund

Neuroimmunometabolism - Obesity at the Crossroads between Neuroimmunity and Immunometabolism (J1)

Scientific Organizers: Ana Domingos and Alan R. Saltiel

October 7-10, 2022 • Beaver Run Conference Center • Breckenridge, CO, USA

Sponsored by Amgen Inc.

Global Health Travel Award Deadline: September 27, 2022 / Scholarship Deadline: July 19, 2022 / Abstract Deadline: July 19, 2022 / Discounted Registration Deadline: August 9, 2022

FRIDAY, OCTOBER 7

Arrival and Registration

SATURDAY, OCTOBER 8

Welcome and Keynote Session (Joint)

Ronald M. Evans, The Salk Institute for Biological Studies, USA
Metabolic Regulation of Gut FXR

Bruce M. Spiegelman, Harvard Medical School, USA
Gamma delta T Cells Control Sympathetic Nerves in BAT via a S100b Axis

Gut Microbiome and Metabolism (J2)

Eran Elinav, Weizmann Institute of Science, Israel
Host Microbiome Interactions in Health and Disease

Federico E. Rey, University of Wisconsin–Madison, USA
A Systems Genetics Approach to Dissect Interactions Between Gut Microbes, Metabolites and the Host

Short Talks Chosen from Abstracts

Neuroimmunometabolism in Adipose Tissue (J1)

Ana Domingos, University of Oxford, UK
Sympathetic-NeuroImmune Crosstalk Contributing to Obesity

Henrique Veiga-Fernandes, Champalimaud Research, Portugal
ILC2s- Sympathetic Neuroimmune Units in Adipose Tissue Contribute to Obesity

Short Talks Chosen from Abstracts

Gut Microbiota-Nutrient Interaction (J2)

Christopher B. Newgard, Duke University Medical Center, USA
Branched Chain Amino Acids and Cardiometabolic Disease Mechanisms

Fredrik Bäckhed, University of Gothenburg, Sweden
Microbial Production of Amino Acid Derived Metabolites and Impact on Host Metabolism

Kathryn E. Wellen, University of Pennsylvania, USA
Roles of Diet-Dependent Acetyl-CoA Production in Metabolic Health

Short Talks Chosen from Abstracts

Neuropathy within Metabolic Organs (J1)

Jing Yang, Peking University, China
Obesity Leads to Sympathetic Neuropathy in the Liver

Sarah Stanley, Icahn School of Medicine at Mount Sinai, USA
Autonomic Rewiring of the Diabetic Pancreas

Ken L. Loh, Rockefeller University, USA
A Leptin–BDNF Pathway Rewires Sympathetic Innervation of Adipose Tissue

Short Talks Chosen from Abstracts

Poster Session 1

SUNDAY, OCTOBER 9

Small Molecules and Inflammation in the Gut (J2)

Michael A. Fischbach, Stanford University, USA
Small Molecules from the Human Microbiota

Mariana X. Byndloss, Vanderbilt University Medical Center, USA
Disruption of Microbiota and Intestinal Epithelium Interactions as a Key Driver of Non-Communicable Diseases

Fiona M. Gribble, University of Cambridge, UK
GLP1 Secretion and Action

Suzanne Devkota, Cedars-Sinai Medical Center, USA
Role of the Gut Microbiome in the Nutrient Stress FGF21 Axis

Short Talks Chosen from Abstracts

Immune Cells Within Metabolic Organs (J1)

Lydia Lynch, Harvard Medical School, USA
IL-17, Neuropeptide First, Cytokine Second?

Alyssa H. Hasty, Vanderbilt University, USA
Persistence of Adipose Tissue Immune Cell Phenotypes in Weight Loss and Regain

Elise Dalmas, INSERM, France
Pancreatic islet-Resident Macrophages

Cecile Benezech, University of Edinburgh, UK
Fat-Associated Lymphoid Clusters

Short Talks Chosen from Abstracts

Workshop: Neuroimmunity Meets Immunometabolism (J1)

Short Talks Chosen from Abstracts

A Regulatory Role of Bile Acid (J2)

Changtao Jiang, Peking University Health Science Center, China
Metabolic Role of Bile Acid and Bile Acid Receptors in Diabetes and Obesity

Kristina Schoonjans, École Polytechnique Fédérale de Lausanne – EPFL, Switzerland

Emerging Roles of Bile Acid Signaling in Metabolism and Stemness

Daniela Cota, Neurocentre Magendie, France
Hypothalamic Bile Acid TGR5 Axis in Energy Balance

Short Talks Chosen from Abstracts

Neuroimmunity at the Brain-Body Axis (J1)

Hai Qi, Tsinghua University, China
Brain Control of Humoral Immune Responses Amenable to Behavioral Modulation

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Vishwa Deep Dixit, Yale University, USA
Nerve-Associated Macrophages, NLRP3 and the Human Thymic Involution

Short Talks Chosen from Abstracts

TUESDAY, OCTOBER 11

Departure

Poster Session 2

MONDAY, OCTOBER 10

Gut-Brain Metabolic and Immuno Axis (Joint)

Paul Richards, Kallyope, USA
Systems Biology Approach to the Study of the Gut Brain Axis

Ivan E. de Araujo, Icahn School of Medicine at Mount Sinai, USA

Inter-Organ Neural Circuits for Gut Peptide Signaling

Diego V. Bohórquez, Duke University, USA

Sugar: A Gut Choice

J. Nicholas Betley, University of Pennsylvania, USA

A Gut Brain Axis in Regulating Hunger and Pain

Short Talks Chosen from Abstracts

Career Roundtable (Joint)

Metabolic Regulation of the Gut Brain Axis (J2)

Sarkis K. Mazmanian, California Institute of Technology, USA

Selective Modulation of Enteric Neurons Alters the Microbiome and Gut Physiology in Mice

Nathalie Delzenne, Université Catholique de Louvain, Belgium

The Gut-Liver-Brain Axis in Food and Alcohol Addiction

Tony K.T. Lam, Toronto General Research Institute, Canada

Gut Microbiota Nutrient Interaction and Glucose Homeostasis

Short Talks Chosen from Abstracts

Immunometabolism in Translation (J1)

Alan R. Saltiel, University of California, San Diego, USA

TBK1 and IKKepsilon in Metabolic Homeostasis

Marc Y. Donath, University Hospital Basel, Switzerland

The IL1 beta Pathway in Neuroimmunometabolism and in the Treatment of Type 2 Diabetes

Frederic Geissmann, Memorial Sloan Kettering Cancer Center, USA

Diet-Regulated Production of PDGFcc by Macrophages Controls Fat Storage

Celine E. Riera, Cedars Sinai Medical Center, USA

Monoclonal Targeting of Peripheral Neurons Mitigates Obesity and T2D

Short Talks Chosen from Abstracts

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**Meeting Wrap-Up: Outcomes and Future Directions
(Organizers) (J2)**

**Meeting Wrap-Up: Outcomes and Future Directions
(Organizers) (J1)**