

# KEYSTONE SYMPOSIA

on Molecular and Cellular Biology

## Diabetes Mellitus - Drivers of Type 2 Diabetes: From Genes to Environment (S1)

October 7-11, 2018 • Grand Hilton Seoul • Seoul, South Korea

Scientific Organizers: Kyong Soo Park, Young-Bum Kim and Zoltan P. Arany

Supported by the Directors' Fund

Abstract & Scholarship Deadline: / Abstract Deadline: / Discounted Registration Deadline:

### SUNDAY, OCTOBER 7

#### Arrival and Registration

### MONDAY, OCTOBER 8

#### Epigenetics and Metabolic Control in Diabetes

**Mark I. McCarthy**, University of Oxford, UK  
*The Genetic and Epigenetic Architecture of Type 2 Diabetes*

**Juleen R. Zierath**, Karolinska Institutet, Sweden  
*Altered DNA Methylation of Glycolytic and Lipogenic Genes in Liver from Obese and Type 2 Diabetic Patients*

**Yoshihiro Ogawa**, Kyushu University, Japan  
*Role of DNA Methylation in Early Life and its Impact in Later Life*

**Charlotte A. Ling**, Lund University, Sweden  
*Epigenetic Mechanisms Linking Environmental Factors and Type 2 Diabetes*

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

#### Environmental Triggers in Diabetes and Metabolic Diseases

**Chirag J. Patel**, Harvard Medical School, USA  
*Integrating the Exposome and Genome for Metabolic Diseases*

**Kristin L. Eckel-Mahan**, McGovern Medical School at the University of Texas Health Science Center, USA  
*Interdependence of Nutrient Metabolism and the Circadian Clock System*

**Andrew D. Patterson**, Pennsylvania State University, USA  
*Persistent Organic Pollutants Modify Gut Microbiota-Host Metabolic Homeostasis*

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

#### Poster Session 1

### TUESDAY, OCTOBER 9

#### Physiological Drivers in Hunger and Energy Homeostasis

**Jens C. Brüning**, Max Planck Institute for Metabolism Research, Germany  
*Hypothalamic Control of Fuel Metabolism in Obesity*

**Min-Seon Kim**, University of Ulsan College of Medicine, South Korea  
*Hypothalamic Inflammation in Diet Induced Obesity*

**Allison W. Xu**, University of California, San Francisco, USA  
*Coordinated Regulation of Dietary Preference and Energy Balance*

**Vincent Prevot**, INSERM, University of Lille, France  
*Role of Hypothalamic Tanycytes in Metabolic Homeostasis*

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

#### Workshop 1

#### Short Talks Chosen from Abstracts

#### Microvesicles, Noncoding RNA, and Intercellular Communications

**Chen-Yu Zhang**, Nanjing University, China  
*Pancreatic Islet-Released miR-29 Family Members Travel to Liver and Contribute to Hepatic Insulin Resistance*

**Markus Stoffel**, ETH Zürich, Switzerland  
*MicroRNA Networks in Metabolic Tissues*

**Soazig Le Lay**, INSERM, University of Angers, France  
*Extracellular Vesicles Derived from Adipocytes and Obesity-Associated Metabolic Dysfunctions*

#### Short Talk Chosen from Abstracts

#### Poster Session 2

### WEDNESDAY, OCTOBER 10

#### Novel Signaling Players Linking to Insulin Resistance

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

*Novel Class of Signaling Lipids with Beneficial Metabolic Effects*

**Kohjiro Ueki**, University of Tokyo, Graduate School of Medicine, Japan  
*Aging-Induced Sarcopenia and Insulin Resistance*

**Andrew C. Adams**, Eli Lilly and Company, USA  
*FGF21 Signaling in Insulin Action*

**Young-Bum Kim**, Beth Israel Deaconess Medical Center, USA  
*ApolipoproteinJ (ApoJ) Is a Novel Regulator of Insulin Resistance*

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

#### Adaptation of beta Cell to Chronic Metabolic Stress

**Susumu Seino**, Kobe University Graduate School of Medicine, Japan  
*Beta Cell Glutamate Metabolism in Insulin Secretion*

**Lori Sussel**, University of Colorado, USA  
*Pancreatic Beta-Cell Identity and Function in Diabetes*

**Yuval Dor**, Hebrew University-Hadassah Medical School, Israel  
*The effect of Glucose on beta Cell Regeneration*

#### Short Talk Chosen from Abstracts

#### Poster Session 3

### THURSDAY, OCTOBER 11

#### Molecular Targets for Nutrient Sensing and Signaling

**E. Dale Abel**, University of Iowa, Carver College of Medicine, USA  
*Autophagy and Nutrient Sensing*

**Zoltan P. Arany**, University of Pennsylvania, USA  
*Diabetes and Branched Amino Acid Metabolism*

**Kyong Soo Park**, Seoul National University College of Medicine, South Korea

*Novel Target for Lipid Sensing and Signaling*

**Feifan Guo**, Institute for Nutritional Sciences, China  
*Amino Acids and Metabolic Diseases*

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

#### Workshop 2: Novel Therapeutic Targets for Diabetes Mellitus

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### Short Talks Chosen from Abstracts

#### Systemic Regulation of Adipocytes in Diabetes

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

*The Adipocyte in Systemic Energy Regulation*

**Aimin Xu**, University of Hong Kong, China

*Crosstalk between Brown and White Adipose Tissue for Adaptive Thermogenesis*

**David E. James**, University of Sydney, Australia

*Molecular Mapping of Insulin Action in Adipocytes*

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

### FRIDAY, OCTOBER 12

#### Departure