

# 2019 Singapore Symposium on Metabolic Diseases (SSMD)

## Invitation for Participation

29<sup>th</sup> – 30<sup>th</sup> October 2019  
Breakthrough and Discovery Theatrettes  
Level 4, Matrix Building, 30 Biopolis Street

The Singapore Bioimaging Consortium (SBIC) under the Agency for Science, Technology and Research (A\*STAR) invites you to the **2019 Singapore Symposium on Metabolic Diseases**.

Inaugurated in 2007, the symposium has been a forum to bring together world experts in the broad areas of metabolic diseases to share their latest research findings and insights. The event also serves as a platform for the invited speakers and participants to meet and forge collaborations with local scientists. This year, we have 14 speakers from overseas, including Nobel Laureate Prof. Thomas Südhof, and 12 speakers from local research organizations. The topics to be discussed at the symposium will span from basic science to clinical research and cover research topics in neuroscience, metabolism and the interplay between the CNS and peripheral metabolic organs.

### **Overseas speakers:**

Thomas Südhof (Stanford Univ.), Philipp Scherer (UT Southwestern), Yang Xiaoyong (Yale), Liu Feng (Univ. of Texas), Matthew Hirschey (Duke), Michelle Kimple (University of Wisconsin-Madison), Xu Aimin (Hong Kong Univ.), Chen Yan (Institute for Nutritional Sciences, CAS), Zhang Chen (Capital Medical University), Li Jia (Shanghai Institute of Materia Medica, CAS), Li Jingya (Shanghai Institute of Materia Medica, CAS), Iichiro Shimomura (Osaka Univ.), In-Kyu Lee (Kyungpook National Univ.), and Kim Jae Bum (Seoul National Univ.).

### **Local speakers:**

George Augustine (NTU LKC), Bernhard Otto Boehm (NTU LKC), Yusuf Ali (NTU LKC), Norris Ray Dunn (NTU LKC), Soong Tuck Wah (NUS), Sun Lei (Duke-NUS), Lena Ho (Duke-NUS), Vinay Tergaonkar (IMCB), Xu Feng (IMCB), Tam Wai Leong (GIS), Phua Siew Cheng (SBIC), and Subhra Kumar Biswas (SIGN).

The symposium is co-organized by Lee Kong Chian School of Medicine (NTU) and Singapore Immunology Network (A\*STAR).

### **Registration**

Please register via email with [jenny\\_see@sbic.a-star.edu.sg](mailto:jenny_see@sbic.a-star.edu.sg) with the following information:

- 1. Full name (family name first) and title (e.g. Prof/Dr/Mr/Ms)**
- 2. Designation**
- 3. Name of Organization**

Attendance at the symposium is **limited to 200 participants by registration only**

**ADMISSION IS FREE**

**Closing date for registration: 22<sup>nd</sup> October 2019 (Tuesday)**

## 2019 Singapore Symposium on Metabolic Diseases

29<sup>th</sup> - 30<sup>th</sup> October 2019

Breakthrough and Discovery Theatrettes, Level 4, Matrix, 30 Biopolis Street

### Programme

29<sup>th</sup> Oct 2019 (Day One)

8:00 – 9:00 Registration

#### Opening Remarks

9:00-9:10 Barry Halliwell, Chairman, BMRC, A\*STAR

**2019 SSMD Outstanding Young Investigator Award Lecture (Chair: Han Weiping, SBIC, A\*STAR)**  
(Award presentation by Chairman, BMRC, A\*STAR)

9:10-9:50 Zhang Chen, Capital Medical University  
Restoration of FMRP Expression in Adult V1 Neurons Rescues Visual Deficits in a Mouse Model of Fragile X Syndrome

9:50-10:00 Q and A

**Session One: Central Regulation of Metabolism (I) (co-Chairs: Kim Jae Bum, Seoul National University; Chen Yan, Shanghai Institutes for Biological Sciences, CAS)**

10:00-10:30 George Augustine, LKC School of Medicine, Nanyang Technological University  
Optogenetic Mapping of Brain Circuitry

10:30-10:35 Q and A

10:35-10:50 Phua Siew Cheng, Singapore Bioimaging Consortium, A\*STAR  
A Distinct Parabrachial Circuit for Motivational Suppression by Acute Pain

10:50-10:55 Q and A

10:55-11:30 Tea Break (35 mins)

**Session Two: Central Regulation of Metabolism (II) (co-Chairs: Kim Jae Bum, Seoul National University; Chen Yan, Shanghai Institutes for Biological Sciences, CAS)**

11:30-11:45 Lena Ho, Duke-NUS Medical School  
Novel Mitochondrial Proteins in OXPHOS regulation

11:45-11:50 Q and A

11:50-12:05 Xu Feng, Institute of Molecular and Cell Biology, A\*STAR  
Targeting Metabolic Disorders through Promoting Energy Expenditure

12:05-12:10 Q and A

12:10-12:25 Soong Tuck Wah, Yong Loo Lin School of Medicine, National University of Singapore  
Role of RNA Editing of Neuronal Cav1.3 Calcium Channels in Feeding and Energy Metabolism

12:25-12:30 Q and A

**12:30-13:30 Lunch (1 hour)**

**SSMD Special Lecture I (Chair: Han Weiping, SBIC, A\*STAR)**

13:30-14:30 Thomas Südhof, Stanford University  
ApoE and synaptogenesis: Implications for Alzheimer's disease

**Session Three: Diabetes Etiology and Prevention I (Co-Chairs: Xu Aimin, The University of Hong Kong; Vinay Tergaonkar, IMCB, A\*STAR)**

14:30-14:45 Bernhard Boehm, LKC School of Medicine, Nanyang Technological University  
Deciphering the Pathogenesis of Human Insulin-Dependent Diabetes

14:45-14:50 Q and A

14:50-15:05 Prof Yusuf Ali, LKC School of Medicine, Nanyang Technological University  
Understanding Saturated Fatty Acid-mediated  $\beta$ -cell Dysfunction and Implications on Diabetes

15:05-15:10 Q and A

15:10-15:25 Michelle Kimple, University of Wisconsin  
Beta-cell EP3 and G $\alpha$ z Signaling and Susceptibility to Diabetes: A Beneficial Adaptation or a Dysfunctional Consequence?

15:25-15:30 Q and A

**15:30-16:00 Tea Break (30 mins)**

**Session Four: Diabetes Etiology and Prevention II (Co-Chairs: Xu Aimin, The University of Hong Kong; Vinay Tergaonkar, IMCB, A\*STAR)**

16:00-16:15 Li Jingya, Shanghai Institute of Materia Medica, Chinese Academy of Sciences  
STK17B Facilitates Islets  $\beta$  Cells Apoptosis and Dysfunction by Autophagy Repression

16:15-16:20 Q and A

16:20-16:35 Chen Yan, Shanghai Institute of Nutrition and Health, Chinese Academy of Sciences  
Intermittent Fasting Improves the Progression of Diabetes and Restores Disrupted Pancreatic  $\beta$  Cells Independent of Body Weight Reduction

16:35-16:40 Q and A

16:40-16:55 Ray Dunn, Institute of Medical Biology, A\*STAR / LKC School of Medicine, NTU  
Investigating the Human Teashirt Gene TSHZ3 in Pancreatic and Endocrine Lineage Commitment

16:55-17:00 Q and A

**17:15 Transport to Welcome Dinner (speakers and invited guests)**

**18:30-21:00 Welcome Reception and Dinner (speakers and invited guests)**



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### Programme

30<sup>th</sup> Oct 2019 (Day Two)

#### **SSMD Special Lecture II (Chair: Han Weiping, SBIC, A\*STAR)**

09:00-10:00 Philipp Scherer, University of Texas Southwestern Medical Center  
Adipose Tissue as an Endocrine Organ - Adipokines Acting in Harmony and Dissonance

#### **Session Five: Lipid Metabolism and Adipose Tissue Biology I (co-Chairs: Philipp Scherer, UTSW Medical Center; Matthew Hirschey, Duke University)**

10:00-10:15 Sun Lei, Duke-NUS Medical School  
Adipose Circular RNAs Exhibit Dynamic Regulation in Obesity and Functional Role in Adipogenesis

10:15-10:20 Q and A

10:20-10:35 Yang Xiaoyong, Yale University  
O-GlcNAc Transferase is a Risk Factor for Obesity by Inhibiting Visceral Fat Lipolysis

10:35-10:40 Q and A

**10:40-11:10 Tea Break (30 mins)**

#### **Session Six: Lipid Metabolism and Adipose Tissue Biology II (co-Chairs: Philipp Scherer, UTSW Medical Center; Matthew Hirschey, Duke University)**

11:10-11:25 Matthew Hirschey, Duke University  
Epigenetic Control of Gene Expression and Proliferation by Lipid Metabolism

11:25-11:30 Q and A

11:30-11:45 Ichihiro Shimomura, Osaka University  
Adiponectin/T-cadherin System and Cardiovascular Protection through Exosome Biogenesis and Mesenchymal Stem Cells

11:45-11:50 Q and A

11:50-12:05 Xu Aimin, The University of Hong Kong  
Coloring Perivascular Adipose Tissues to Fight against Obesity-Induced Vascular Disease

12:05-12:10 Q and A

12:10-12:25 Kim Jae Bum, Seoul National University  
Adipose Tissue Dynamics and Insulin Resistance in Obesity

12:25-12:30 Q and A

**12:30-13:30 Lunch (1 hour)**

**Session Seven: Inflammation and Immunometabolism (co-Chairs: Yusuf Ali, LKC School of Medicine, NTU; Iichiro Shimomura, Osaka University)**

- 13:30-13:45 In-Kyu Lee, Kyungpook National University School of Medicine  
Mitochondrial Pyruvate Dehydrogenase is Important for Polarization of Macrophages in Chronic Inflammation
- 13:45-13:50 Q and A
- 13:50-14:05 Liu Feng, University of Texas Health Science Center  
The cGAS-cGAMP-STING Pathway in Metabolism
- 14:05-14:10 Q and A
- 14:10-14:25 Subhra Biswas, Singapore Immunology Network, A\*STAR  
Monocyte/Macrophage Phenotypes: An Immunometabolic Connection
- 14:25-14:30 Q and A
- 14:30-14:45 Tam Wai Leong, Genome Institute of Singapore, A\*STAR  
Metabolic Reprogramming in Cancer
- 14:45-14:50 Q and A
- 14:50-15:05 Li Jia, Shanghai Institute of Materia Medica, Chinese Academy of Sciences  
Role of AMPK in DNA Double-strands Breaks Repair
- 15:05-15:10 Q and A
- 15:10-15:25 Vinay Tergaonkar, Institute of Molecular and Cell Biology, A\*STAR  
RNAs on Fire
- 15:25-15:30 Q and A

**Closing Remarks**

15:30-15:40 Han Weiping, Deputy Director SBIC, A\*STAR

**15:40 Transport to social events and dinner (overseas speakers)**

***END OF SYMPOSIUM***