

International Symposium

“Systems Glycobiology and Beyond”

-Toward a bridge between fundamental research and applied science-

Dates: November 16 (Thu)-17 (Fri), 2017 **Venue:** Suzuki Umetaro Hall, RIKEN

Organizers: Kohei Tamao, Naoyuki Taniguchi, Tadashi Suzuki, Yoshiki Yamaguchi
Systems Glycobiology Research Group, RIKEN Global Research Cluster

November 16 (Thu)

13:30-13:40 Opening remarks **Kohei Tamao** (RIKEN)

Session 1: Glycoscience and Metabolic Significance

Chairs, Tamao Endo (TMGH-IG) and Michael Pierce (Univ Georgia)

13:40-14:10 **Michael Pierce** (Univ Georgia)

“Glycoscience impacts cancer research and treatment on multiple levels“

14:10-14:25 **Yoichiro Harada** (Kagoshima Univ)

“N-Glycosylation meets exosome biology”

14:25-14:50 **Yoshio Hirabayashi** (RIKEN)

“Lipid glucosylation in the ER as essential system for cellular homeostasis”

14:50-15:20 **François Foulquier** (Univ Lille 1)

“Insights into the regulation of the N-glycosylation process “

15:20-15:40 Coffee break

Session 2: Recent Advances in Systems Glycobiology (Group Research Summary)

Chairs, Yukishige Ito (RIKEN) and Nicolle Packer (Macquarie Univ)

15:40-16:10 **Naoyuki Taniguchi** (RIKEN)

“Systems glycobiology in disease and N-glycan branching “

16:10-16:25 **Shinobu Kitazume** (RIKEN)

“Vascular endothelial APP: beyond amyloid beta deposition “

16:25-16:40 **Yasuhiko Kizuka** (RIKEN)

“Detection and disease involvement of bisecting GlcNAc and fucosylated glycans”

16:40-17:10 **Tadashi Suzuki** (RIKEN)

“NGLY1 and non-lysosomal catabolism of glycans - Summary of Glycometabolome Team”

17:10-17:40 **Yoshiki Yamaguchi** (RIKEN)

“Structural Glycobiology: Glycan Structure, Dynamics and Interaction”

18:30-20:30 **Get together discussion**

November 17 (Fri)

Session 3: Glycoscience in Disease

Chairs, Shoko Nishihara (Soka Univ) and Hamed Jafar-Nejad (Baylor Coll Med)

- 9:00- 9:30 **Rita Gerardy-Schahn** (MH-Hannover)
“Mechanisms Causing Embryonic Lethality of CMP-Sialic Acid Knockout Mivery “
- 9:30- 9:55 **Eiji Miyoshi** (Osaka Univ)
“Application of glyco-science to the early detection and preemptive management of pancreatic cancer”
- 9:55-10:20 **Jianguo Gu** (Tohoku Med Pharm Univ)
“Functional expression of N-glycans in cell adhesion and EMT”
- 10:20-10:50 **Hamed Jafar-Nejad** (Baylor Coll Med)
“Regulation of Drosophila development by N-glycanase 1”
- 10:50-11:10 Coffee break

Session 4: Protein and Glycan Interaction

Chairs, Akemi Suzuki (Tohoku Med Pharm Univ) and James Paulson (Scripps Res Inst)

- 11:10-11:40 **Nicolle Packer** (Macquarie Univ)
“Multipurpose sugars: exploiting glycan structural diversity”
- 11:40-12:05 **Takashi Angata** (Academia Sinica)
“Identification of Siglec ligands by proximity labeling method”
- 12:05-12:30 **Koichi Honke** (Kochi Univ)
“Identification of the sialyl Lewis X antigen carrying glycoprotein that is involved in human lung adenocarcinoma cells “
- 12:30-14:00 **Luncheon Poster**
- 14:00-14:25 **Kazuaki Ohtsubo** (Kumamoto Univ)
“Glycosylation regulates nutrition sensor functions in pancreatic beta cells”
- 14:25-14:40 **Miyako Nakano** (Hiroshima Univ)
“Glycomic Approach for Biomarker Discovery”
- 14:40-15:10 **James Paulson** (Scripps Res Inst)
“Siglec targeted nanoparticles for desensitization of mast cells “
- 15:10-15:30 Coffee break

Session5: Expectations for Glycoscience and Road Ahead

Chairs, Ken Kitajima (Nagoya Univ) and Gerald Hart (Johns Hopkins Med)

- 15:30-15:55 **Kenji Kadomatsu** (Nagoya Univ)
“Proteoglycans and neural plasticity “
- 15:55-16:20 **Katsunori Tanaka** (RIKEN)
“Therapeutic In vivo Synthetic Chemistry: Glycoconjugates as new drug delivery system”
- 16:20-16:35 **Shinya Hanashima** (Osaka Univ)
“Lipid-protein interaction study using heavy atom labeled glycosphingolipid derivatives “
- 16:35-17:00 **Hiroyuki Osada** (RIKEN)
“Chemical array screening, a powerful approach for exploring small molecule inhibitors against proteins”
- 17:00-17:30 **Gerald Hart** (Johns Hopkins Med)
“Fundamental Roles of O-GlcNAc in Signaling, Transcription and in Neuronal Functions: Vast Opportunities for Future Discovery”
- 17:30-17:40 Closing remarks **Naoyuki Taniguchi** (RIKEN)
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