

# Biological Chemistry on Membranes - Understanding and Engineering -

Date: 28<sup>th</sup>-29<sup>th</sup> August, 2023

Venue: iCeMS Main Building, 2F Seminar Room, Kyoto University

## 28<sup>th</sup> August

12:55-13:00 Opening Remarks

### Session 1

Chair: Yoshio Hirabayashi RIKEN

13:00-13:30 Importance of the structural flexibility of curvature-sensing peptides that enable highly sensitive detection of extracellular vesicles  
Kenichi Kawano Kyoto University

13:30-14:00 Design and interfacial functions of hybrid supramolecules based on peptide amphiphiles  
Rie Wakabayashi Kyushu University

14:00-14:30 Designed peptide channels and pores: structural stability and dynamics  
Ai Niitsu RIKEN

14:30-15:00 Development of synthetic molecules for material recognition and permeation in membranes  
Kohei Sato Kwansai Gakuin University

15:00-15:30 Artificial cell-membranes: from construction to nanopore applications  
Ryuji Kawano Tokyo University of Agriculture and Technology

15:30-15:50 Break

### Session 2

Chair: Taroh Kinoshita Osaka University

15:50-16:20 Physicochemical conditions to reproduce the crowding environment of membrane proteins in liposome and droplet interface bilayers  
Miho Yanagisawa (on-line) University of Tokyo

16:20-16:50 Innovative platform technologies for cellular engineering: cell-resealing technique and image-based covariation network analysis  
Fumi Kano (on-line) Tokyo Institute for Technology

16:50-17:20 Development of ligands that specifically bind to oligomeric amyloid protein  
Kaori Tsukakoshi (on-line) Tokyo University of Agriculture and Technology

17:20-17:50 Imaging membrane lipids in mouse brain by robotic liquid extraction surface analysis  
Hisako Akiyama Juntendo University

17:50-18:20 Lipid scrambling that alters asymmetrical distribution of lipids  
Jun Suzuki Kyoto University

18:30 Mixer

## 29<sup>th</sup> August

### Session 3

Chair: Michio Murata Osaka University

9:30-10:00 Solid-state NMR on membrane proteins and membrane-bound peptides  
Izuru Kawamura Yokohama National University

10:00-10:30 Structural physiology of P-type ATPases that generate asymmetric distribution of substrates across the membrane  
Kazuhiro Abe Nagoya University

10:30-11:00 Screening of genes involved in lipid metabolism using organelle-selective lipid labeling  
Tomonori Tamura Kyoto University

11:00-11:30 Decoding substrate specificities: Role of lipid flippases in cellular functions  
Hye-Won Shin Kyoto University

11:30-12:00 Chemical synthesis and structural characterization of caveolin-1  
Hironobu Hojo Osaka University

12:00-12:05 Concluding Remarks

Organizers: Jun Suzuki (iCeMS), Ryuji Kawano (TUAT), Hironobu Hojo (IPR)

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