

# 第2回 日本台湾国際生合成シンポジウム

2024年11月14日(木)―15日(金)

東京大学山上会館本館

協賛 学術変革領域研究(A) 「予知生合成科学」



学術変革領域研究(A)

生体反応の集積・予知・創出を基盤とした  
システム生物合成科学

# Program

11/14 (Thr)

9:30-9:35 **Opening Remarks**

9:35-10:00 **Wei-Chen Chang** (Goodnight Early Career Innovator, Associate Professor of Chemistry, NC State University, College of Sciences)

“Decipher How Non-heme Iron Enzymes Enable Diverse Reactions in Natural Products”

10:00-10:20 **Richiro Ushimaru** (Graduate School of Pharmaceutical Sciences, The University of Tokyo, Japan)

“Assembly of the Thionucleoside Core of Albomycins”

10:20-10:45 **Chih-Chuang Liaw** (Department of Marine Biotechnology and Resources, National Sun Yat-sen University, Kaohsiung, Taiwan)

“Biofunctional Ingredients from Marine Microbial Resources”

10:45-11:05 **Fumihito Hasebe** (Department of Bioscience, Fukui Prefectural University, Japan)

“Discovery of a novel methionine biosynthetic route via *O*-phospho-l-homoserine”

11:05-11:30 **Ching-Ching Yu** (Department of Chemistry, National Tsing Hua University, Hsinchu, Taiwan, Institute of Biological Chemistry, Academia Sinica, Taipei, Taiwan)

“Substrate-controlled Enzymatic Glycosylation for Complex Oligosaccharide Synthesis”

11:30-11:55 **Chun-Hua Hsu** (<sup>1</sup>Department of Agricultural Chemistry, <sup>2</sup>Institute of Biochemical Sciences, <sup>3</sup>Genome and Systems Biology Degree Program, <sup>4</sup>Center for Computational and Systems Biology, National Taiwan University, Taiwan)

“Structural insights into the role of N-terminal integrity in PhoSL for core-fucosylated N-glycan recognition”

11:50-13:00 Lunch

13:00-13:25 **Chin-Yuan Chang** (Department of Biological Science and Technology, National Yang Ming Chiao Tung University, Taiwan)

“Characterization of enzymes catalyzing the formation of the nonproteinogenic amino acids in capreomycin biosynthesis”

13:25-13:45 **Yohei Katsuyama** (Department of Biotechnology, Graduate School of Agricultural and Life Sciences, The University of Tokyo, Japan)

“Diversity of diazo group biosynthesis in actinobacteria”

13:45-14:10 **Hsiao-Ching Lin** (Institute of Biological Chemistry, Academia Sinica, Taipei 115, Taiwan R.O.C.)

“Biosynthesis and Genome Mining of Fungal Alkaloid Natural Products”

14:10-14:30 **Taro Shiraishi** (Department of Biotechnology, Graduate School of Agricultural and Life Sciences, The University of Tokyo, Japan)

“Unusual C-C bond-forming reactions in the biosynthesis of the nucleoside Antibiotic A-94964”

14:30-14:55 **John Chu** (Department of Chemistry, National Taiwan University, Taipei City 10617, Taiwan) “Structure prediction and protein engineering yield new insights into microcin J25 precursor recognition”

14:55-15:05 Photo session & Coffee break

15:05-15:25 **Takahiro Mori** (Graduate School of Pharmaceutical Sciences, The University of Tokyo, Japan) “Molecular basis for the diversification of lincosamide biosynthesis by pyridoxal phosphate-dependent enzymes”

15:25-15:50 **Nei-Li Chan** (Institute of Biochemistry and Molecular Biology, National Taiwan University, Taiwan)

“Targeting  $\alpha$ -helix main-chain carbonyl group and zinc-coordinating cysteine in drug development”

15:50-16:10 **Hiroyuki Morita** (Institute of Natural Medicine, University of Toyama, Japan)

“Engineering of biosynthetic enzymes to synthesize bioactive compounds”

16:10-16:35 **Shih-Hsiung Wu** (Institute of Biological Chemistry, Academia Sinica, Taipei, Taiwan)

“Functional Polysaccharides from Edible Mushrooms and Pathogenic Bacteria Possess Immunoactivities”

16:35-16:55 **Yasushi Ogasawara** (Graduate School of Engineering, Hokkaido University, Tokyo)

“Novel Peptide Epimerases Involved in the Biosynthesis of Ribosomally Synthesized and Posttranslationally Modified Peptides”

16:55-17:20 **Tun-Cheng Chien** (Department of Chemistry, National Taiwan Normal University, Taipei, Taiwan)

“Studying Deoxypodophyllotoxin Biosynthesis from Organic Synthesis Aspect”

17:20-17:40 **Teigo Asai** (Graduate School of Pharmaceutical Sciences, Tohoku University, Japan)

“Genome Mining-based Discovery of Fungal Natural Products”

17:40-18:05 **Tsung-Lin Li** (Genomics Research Center, Academia Sinica, Taiwan)

“Diversity-oriented biosynthesis by structure-/mechanism-based biocatalysis”

18:30 Dinner

**11/15 (Fri)**

9:30-9:50 **Shotaro Hoshino** (Department of Life Science, Faculty of Science, Gakushuin University, Japan)

“Unexplored organoarsenic-related secondary metabolism in actinomycetes”

9:50-10:15 **Wei-Chieh Cheng** (Genomics Research Center (GRC), Academia Sinica, Taiwan)

“Bacterial peptidoglycan chemistry”

10:15-10:35 **Kenichi Matsuda** (Faculty of Pharmaceutical Sciences, Hokkaido University)

“Bacterial "Hydrazine Biosynthetic Pathways Featured by Cupin/methionyl-tRNA synthetase-like Enzymes”

10:35-11:00 **Yuan-Bin Cheng** (Department of Marine Biotechnology and Resources, National Sun Yat-sen University, Taiwan)

“Bioactive Natural Products from Marine Fungus”

11:00-11:20 **Takayoshi Awakawa** (RIKEN Center for Sustainable Resource Science, Japan)

“Function and structure analysis of pyridoxal 5'-phosphate dependent  $\beta$ -NAD alkylating enzyme.”

11:20-11:40 **Hiroyasu Onaka** (Department of Life Science, Faculty of Science, Gakushuin University, Japan)

“Unnatural thiopeptide production using RIPP biosynthetic machinery”

11:40-13:00 Lunch