

The 6th A3 foresight online symposium on
**Chemical & Synthetic Biology
of Natural Products**

Date: December 4th, 2021



JAPAN SOCIETY FOR THE PROMOTION OF SCIENCE
日本学術振興会



NSFC
National Natural Science
Foundation of China



NRF
National Research
Foundation of Korea



東京大学
THE UNIVERSITY OF TOKYO



上海交通大学
SHANGHAI JIAO TONG UNIVERSITY



인하대학교
INHA UNIVERSITY

SCHEDULE

December 4th Sat.

13:00 – 13:10 **Opening Remarks**

13:10 – 14:30 **Session 1: Presentation from Japan**

Break

14:40 – 16:00 **Session 2: Presentation from Korea**

Break

16:10 – 17:30 **Session 3: Presentation from China**

17:30 **Closing Remarks**

PROGRAM

Opening Remarks

13:00 – 13:10 Opening remarks

Yasuo Ohnishi (The University of Tokyo, Japan)

Eung-Soo Kim (Inha University, Korea)

Zixin Deng or Linquan Bai (Shanghai Jiao Tong University, China)

Session 1: Presentation from Japan

13:10 – 13:26

Analysis of the catalytic mechanism of geranyl pyrophosphate C-6 methyltransferase, BezA

Yohei Katsuyama^{1,2}

¹Graduate School of Agricultural and Life Sciences, The University of Tokyo, Japan

²Collaborative Research Institute for Innovative Microbiology, The University of Tokyo, Japan

13:26 – 13:42

RiPPs biosynthesis, and intergenus bacterial communication involved in antibiotic production

Hiroyasu Onaka^{1,2}

¹Graduate School of Agricultural and Life Sciences, The University of Tokyo, Japan

²Collaborative Research Institute for Innovative Microbiology, The University of Tokyo, Japan

13:42 – 13:58

An unprecedented cyclization mechanism in the biosynthesis of carbazole alkaloids in *Streptomyces*

Tomohisa Kuzuyama^{1,2}

¹Graduate School of Agricultural and Life Sciences, The University of Tokyo, Japan

²Collaborative Research Institute for Innovative Microbiology, The University of Tokyo, Japan

13:58 – 14:14

Characterization of radical SAM enzymes in natural product biosynthesis

Fumitaka Kudo

Department of Chemistry, Tokyo Institute of Technology, Japan

14:14 – 14:30

Our recent overview of biosynthetic machinery, structural redesign, regulation, and genome mining in *Streptomyces*

Aiko Teshima and Kenji Arakawa^{1,2}

¹Graduate School of Integrated Sciences for Life, Hiroshima University, Japan

²Hiroshima Research Center for Healthy Aging, Hiroshima University, Japan

Break

Session 2: Presentation from Korea

14:40 – 14:45

Opening and introduction of Korea A3 members presentation

Eung-Soo KIM

Inha University, Korea

14:45 – 14:50

Biosynthesis of polyphenol glycoside derivatives

Jae Kyung SOHNG

Sun Moon University, Korea

14:50 – 14:55

The noncanonical nonlinear nonribosomal peptide synthetase assembly line for WS9326A biosynthesis

Yeo Joon YOON

Seoul National University, Korea

14:55 – 15:00

Re-classification of *Streptomyces venezuelae* strains and mining secondary metabolite biosynthetic gene clusters

Byung-Kwan CHO

Korea Advanced Institute of Science and Technology, Korea

15:00 – 15:05

Discovery of new bioactive natural products from riverine bacteria

Dong-Chan OH

Seoul National University, Korea

15:05 – 15:10

Neuroprotective compounds from endophytic fungi

Sang Hee SHIM

Duksung Women's University, Korea

15:10 – 15:15

Synthetic biology approaches for natural product drug discovery

Hahk-Soo KANG

Konkuk University, Korea

15:15 – 15:20

Advanced nano-bioengineering research from microfluidic system to healthcare monitoring system

Yun Suk Huh

Inha University, Korea

15:20 – 15:25

Biotechnological potential of actinobacteria including *Streptomyces*, *Corynebacteria*, and *Bifidobacteria*

Eung-Soo KIM

Inha University, Korea

15:30 – 15:45

Rapacrycins, new polyene natural products discovered through heterologous expression of a reducing type II PKS biosynthetic gene cluster with a new hybrid genotype

Hiyoung KIM

Konkuk University, Korea

15:45 – 16:00

Discovery of novel bioactive natural products based on microbial chemical biology

Kyuhoo MOON

Chonnam National University, Korea

Break

Session 3: Presentation from China

16:10 – 16:15

Introduction of Chinese speakers

Linquan BAI

Shanghai Jiao Tong University, Shanghai, China

16:15 – 16:30

Engineered production of natural products in heterologous *Streptomyces* hosts

Guoqing NIU

Southwest University, Chongqing, China

16:30 – 16:45

Polyketide starter and extender units serve as regulatory ligands to coordinate the biosynthesis of antibiotics

Hang WU

Anhui University, Hefei, China

16:45 – 17:00

Deubiquitinase-like sulfurtransferase mediated sulfur incorporation involved in the biosynthesis of chuanguxinmycin

Wei ZHANG

Shandong University, Qingdao, China

17:00 – 17:15

New semi-pinacolases from epoxide hydrolase family for efficient assembly of a fungal polyketide

Xuming MAO

Zhejiang University, Hangzhou, China

17:15 – 17:30

A novel [3Fe-4S] cluster and tRNA dependent aminoacyltransferase BlsK in the biosynthesis of Blasticidin S

Ming JIANG

Shanghai Jiao Tong University, Shanghai, China

17:30 Closing Remarks

A3 FORESIGHT PROGRAM

