

# 38<sup>th</sup> Annual Meeting of the Society for Actinomycetes Japan

Dates: September 10 (Tue) - 11 (Wed), 2024

Venue: Hitotsubashi Hall, National Center of Sciences Building

## September 10<sup>th</sup> (Tue)

9:00 **Venue Opened**

9:30 **Opening Remark**

9:35 **Oral presentations** (01~06)

O-1 **Classification of “*Streptomyces hyalinum*” and diversity of members in the genus *Embleya***

○Hisayuki Komaki<sup>1</sup>, Akira Hosoyama<sup>1</sup>, Akane Kimura<sup>1</sup>, Natsuko Ichikawa<sup>1</sup>, Yasuhiro Igarashi<sup>2</sup>, Tomohiko Tamura<sup>1</sup>  
(<sup>1</sup>NBRC, <sup>2</sup> Fac. Eng., Toyama Prefectural Univ.)

O-2 **Molecular phylogeny and biosynthetic gene clusters**

○Hideyuki Muramatsu, Masayuki Igarashi  
(Lab. Microbiol., BIKAKEN)

O-3 **Increase in isolation frequency of rare actinomycetes by water-in-oil droplets (WODL) cultivation**

Jo Saito<sup>1</sup>, Akihiro Nakamura<sup>2</sup>, Wataru Ogasawara<sup>2</sup>, ○Natsumi Saito<sup>3</sup>  
(<sup>1</sup>Dept. Adv. Eng., NIT, Tsuruoka College, <sup>2</sup>Nagaoka Univ. of Tech.,  
<sup>3</sup>Dept. Creative Eng., NIT Tsuruoka College)

O-4 **Exploring indicators to distinguish soil particles suitable for the isolation of new actinomycetes**

○Mizuki Abe<sup>1</sup>, Yuka Nakanishi<sup>2</sup>, AN CHIJUN<sup>2</sup>, Takeshi Hosaka<sup>1,2,3</sup>  
(<sup>1</sup>Grad. Sch. of Sci. and Technol., Shinshu Univ. <sup>2</sup>Fac. of Agric., Shinshu Univ.  
<sup>3</sup>IBS-ICCER., Shinshu Univ.)

O-5 ***In situ* secondary metabolites detection from actinomycetes colonies by Raman spectroscopy**

○Shunnosuke Suwa<sup>1,2</sup>, Masahiro Ando<sup>2,3</sup>, Takuji Nakashima<sup>3</sup>, Haruko Takeyama<sup>1,2,3,4</sup>  
(<sup>1</sup>Grad. Sch. Adv. Sci. Eng., Waseda Univ., <sup>2</sup>CBBD-OIL, AIST-Waseda Univ.,  
<sup>3</sup>Res. Org. Nano Life Innov.,  
<sup>4</sup>Inst. Adv. Res. Biosyst. Dyn., Waseda Res. Inst. Sci. Eng., Waseda Univ.)

- O-6 **Search for antimalarial compounds from microbial broths**  
 So-ichiro Kimura<sup>1</sup>, Yoshihiro Watanabe<sup>1,2</sup>, Rei Hokari<sup>1,2</sup>, Aki Isiyama<sup>1,2</sup>,  
 Yuta Kikuchi<sup>1,2</sup>, Hayama Tsutsumi<sup>1,2</sup>, Yuki Inahashi<sup>1,2</sup>, Masato Iwatsuki<sup>1,2</sup>  
 (<sup>1</sup> Grad. Sch. Infection Control Sci., Kitasato Univ.,  
<sup>2</sup> Ōmura Satoshi Memorial Inst., Kitasato Univ.)
- 10:45 **Break** (10 min)
- 10:55 **Oral presentations** (O7~O12)
- O-7 **Exploring natural products from rare actinomycetes targeting Ffh protein**  
 Shotaro Hoshino<sup>1</sup>, Emiko Nagai<sup>2</sup>, Hisayuki Komaki<sup>3</sup>, Shinta Ijichi<sup>1</sup>,  
 Hiroyasu Onaka<sup>1</sup>  
 (<sup>1</sup>Dept. of Life Sci., Gakushuin Univ., <sup>2</sup>AECM, <sup>3</sup>NBRC)
- O-8 **Heterologous production of lanthipeptide using biosynthetic genes from the actinomycete *Streptomyces durhamensis***  
 Marino Tsugimoto, Shinya Kodani  
 (Grad. Sch. Agr. Sci. Shizuoka Univ.)
- O-9 **Alanyl-tRNA Synthetase-like Enzyme-Catalyzed Aminoacylation in Ascamycin Biosynthesis**  
 Yu Zheng<sup>1</sup>, Naoko Morita<sup>1</sup>, Hiroshi Takagi<sup>1</sup>, Yumi Shiozaki-Sato<sup>1</sup>, Jun Ishikawa<sup>2</sup>,  
 Kazuo Shin-ya<sup>3</sup>, Shunji Takahashi<sup>1</sup>  
 (<sup>1</sup>RIKEN CSRS, <sup>2</sup>NIID, <sup>3</sup>AIST)
- O-10 **Characterization of a sulfur insertion enzyme in albomycin biosynthesis**  
 Richiro Ushimaru<sup>1,2</sup>, Ziyang Zhang<sup>2</sup>, Takahiro Mori<sup>1</sup>, Hung-wen Liu<sup>2</sup>, Ikuro Abe<sup>1</sup>  
 (<sup>1</sup>Grad. Sch. Pharm. Sci., Univ. Tokyo, <sup>2</sup> Dept. Chem., Univ. Texas, Austin)
- O-11 **Characterization of Biosynthetic Gene Cluster Containing a Novel GTP Cyclohydrolase**  
 Akari Umezawa<sup>1</sup>, Takeshi Tsunoda<sup>2</sup>, Ippei Shintaku<sup>1</sup>, Yasushi Ogasawara<sup>2</sup>,  
 Tohru Dairi<sup>2</sup>  
 (<sup>1</sup> Grad. Sch. Chem. Sci. Eng., Hokkaido Univ., <sup>2</sup> Grad. Sch. Eng., Hokkaido Univ.)
- O-12 **Biosynthetic study on a compound consisting of maleic anhydride and polyketide skeleton**  
 Reona Suzuki<sup>1</sup>, Hayama Tsutsumi<sup>1,3</sup>, Akihiro Ishii<sup>1</sup>, Ayano Komaki<sup>2</sup>,  
 Yuka Yamakawa<sup>2</sup>, Yoshihiro Watanabe<sup>1,3</sup>, Masato Iwatsuki<sup>1,3</sup>,  
 Tomoyasu Hirose<sup>1,3</sup>, Toshiaki Sunazuka<sup>1,3</sup>, Yuki Inahashi<sup>1,3</sup>  
 (<sup>1</sup>Grad. Sch. Infection Cont. Sci., Kitasato Univ., <sup>2</sup>Sch. Science. Kitasato Univ.,  
<sup>3</sup>Ōmura Inst. Kitasato Univ.)
- 12:05 **Lunch**

- 13:25 **The SAJ Plenary Meeting**
- 13:55 **Award Ceremony**
- 14:20 **Award Lecture** 〈*SAJ Merit Award*〉  
**Isolation and taxonomic studies of untapped actinomycetes**  
Atsuko Matsumoto (Institute of Microbial Chemistry)
- 15:00 **Award Lectures** 〈*Hamada Award*〉  
**Chemoenzymatic synthesis of cyclic peptides using biosynthetic enzymes derived from actinobacteria**  
Kenichi Matsuda (Faculty of Pharmaceutical Sciences, Hokkaido University)  
**Studies on amino acid biosynthesis to boot-up the secondary metabolism for peptide natural products in *Streptomyces* bacteria**  
Fumihito Hasebe (Faculty of Bioscience and Biotechnology, Fukui Prefectural University)
- 15:30 **Break** (10 min)
- 15:40 **Invited Lecture**  
**Leveraging the Actinobacterial Strain Collection and Genome Database at NPDC for Natural Products and Drug Discovery**  
Ben Shen<sup>1,2,3</sup> (<sup>1</sup>Department of Chemistry, <sup>2</sup>Department of Molecular Medicine, and <sup>3</sup>Natural Products Discovery Center, The Herbert Wertheim UF Scripps Institute for Biomedical Innovation & Technology)
- 16:25 **Break** (10 min)
- 16:35 **Poster Presentations** (Odd number)
- 17:35 **Break, Move to the banquet venue**
- 18:00 **Banquet** (Gakushi Kaikan)

## September 11<sup>th</sup> (Wed)

9:00 **Venue Opened**

9:15 **Oral presentations (O13~O18)**

O-13 **Analysis of unique degradation pathway for black pepper alkaloid in actinomycetes**

○Pu Jian<sup>1</sup>, Takuto Kumano<sup>2</sup>, Mio Kimura<sup>3</sup>, Makoto Kurisaki<sup>3</sup>,  
Yoshiteru Hashimoto<sup>2</sup> and Michihiko Kobayashi<sup>2</sup>

(<sup>1</sup>Degree Program in Life and Agricultural Sciences, University of Tsukuba,

<sup>2</sup>MiCS, University of Tsukuba,

<sup>3</sup>Graduate School of Life and Environmental Sciences, University of Tsukuba)

O-14 **Functional analysis of the sporangium membrane protein SmpB in *Actinoplanes missouriensis***

○Takeaki Tezuka<sup>1,2</sup>, Satoshi Maeda<sup>1</sup>, Kyota Mitsuyama<sup>1</sup>, Yasuo Ohnishi<sup>1,2</sup>

(<sup>1</sup>Grad. Sch. of Agric. and Life Sci., Univ. of Tokyo, <sup>2</sup>CRIIM, Univ. of Tokyo)

O-15 **Analysis of the production mechanism of heat shock metabolites (HSMs) in *Streptomyces* sp. AY2**

○Yanagi Mori<sup>1</sup>, Sosuke Kataoka<sup>1</sup>, Shun Saito<sup>1</sup>, Yohei Katsuyama<sup>2,3</sup>,

Yasuo Ohnishi<sup>2,3</sup>, Midori A. Arai<sup>1</sup>

(<sup>1</sup>Grad. Sch. Sci. Tech., Keio Univ., <sup>2</sup> Grad. Sch. Of Agric. And Life Sci., and

<sup>3</sup> CRIIM, Utokyo)

O-16 **Studies on Cs resistance enhancement of *Streptomyces lividans* TK24**

○Yohei Iizaka<sup>1</sup>, Aoi Ino<sup>1</sup>, Ayana Shimizu<sup>1</sup>, Nagisa Zaizen<sup>1</sup>, Atsushi Fukumoto<sup>1</sup>,  
Yojiro Anzai<sup>1</sup>

(<sup>1</sup>Fac. Pharm. Sci. Toho Univ.)

O-17 **Characterization of chaplins and rodlinins for the rodlet formation and cell surface hydrophobicity of *Streptomyces* spp.**

○Nurul Syahirah Shamsol Anuar<sup>1</sup>, Noraiza Suhaimi<sup>1</sup>, Takeaki Tezuka<sup>1,2</sup>,

Kenshi Suzuki<sup>1</sup>, Naoki Sunagawa<sup>1</sup>, Yasuo Ohnishi<sup>1,2</sup>, Hirofumi Hara<sup>1,2</sup>

(<sup>1</sup>Grad. Sch. of Agric. And Life Sci., The Univ. of Tokyo,

<sup>2</sup>CRIIM, The Univ. of Tokyo)

O-18 **Discovery of virus-like nanoparticles facilitating sporogenic differentiation of *Streptomyces davawensis* JCM 4913 through organisation of multicellular structures**

○Toshiki Nagakubo<sup>1,2</sup>, Tatsuya Nishiyama<sup>3</sup>, Tatsuya Yamamoto<sup>1</sup>,

Nobuhiko Nomura<sup>1,2,4</sup>, Masanori Toyofuku<sup>1,2</sup>

(<sup>1</sup>Facul. Life and Environ. Sci., Univ. Tsukuba, <sup>2</sup>MiCS, Univ. Tsukuba,

<sup>3</sup>Biores. Sci., Nihon University, <sup>4</sup>TARA Center, Univ. Tsukuba)

10:25 **Break** (10 min)

10:35 **Poster Presentations** (Even number)

11:35 **Lunch**

12:55 **Oral presentations** (O19~O24)

O-19 **Copper inactivates DcsB by oxidizing Cys86, one of the metal ligands, to the sulfinic acid**

○Kosuke Oda<sup>1</sup>, Kenji Komaguchi<sup>2</sup>, Yasuyuki Matoba<sup>1</sup>

(<sup>1</sup>Faculty of pharmacy, Yasuda Womens's Univ.

<sup>2</sup>Grad. Sch. Adv. Sci. Eng, Hiroshima Univ.)

O-20 **Probing the potential of biaryllylide P450 as biocatalyst with rational enzyme design and substrate manipulation**

○Yongwei Zhao<sup>1</sup>, Maxine Treisman<sup>1</sup>, Mathias Hansen<sup>1</sup>, Laura Coe<sup>2</sup>,

James De Voss<sup>2</sup>, Julien Tailhades<sup>1</sup>, Max J. Cryle<sup>1</sup>

(<sup>1</sup>The Monash Biomedicine Discovery Institute, Monash University, Australia,

<sup>2</sup> School of Chemistry and Molecular Biosciences, University of Queensland, Australia.)

O-21 **Enhancement of cell membrane permeability of peptides by PIECE method**

○Kohei Kaneda, Kaito Suzuki, Tomoya Ogura, Fumihito Hasebe,

Chitose Maruyama, and Yoshimitsu Hamano

(Grad. Sch. Biosci. Biotec., Fukui Pref. Univ.)

O-22 **Transcriptionally induced nucleoid-associated protein-like *ccr1* in combined-culture serves as a global effector of *Streptomyces* secondary metabolism**

○Shumpei Asamizu<sup>1,2</sup>, Yukun Lei<sup>2</sup>, Hiroyasu Onaka<sup>2,3</sup>

(<sup>1</sup>EGBRC, Kobe Univ., <sup>2</sup>Grad. Sch. Agric., Univ. of Tokyo,

<sup>3</sup>Dept. Life Sci., Gakushuin Univ.)

O-23 **Identification and analysis of an unprecedented thioesterase in aryl polyene biosynthesis**

○Seiji Kawai<sup>1</sup>, Yohei Katsuyama<sup>1,2</sup>, Yasuo Ohnishi<sup>1,2</sup>

(<sup>1</sup>Grad. Sch. of Agric. and Life Sci., The Univ. of Tokyo, <sup>2</sup> CRIIM, The Univ. of Tokyo)

O-24 **Machine learning-guided discovery of novel oxygen and PLP-dependent enzymes**

○Tomohiro Noguchi<sup>1,2</sup>, Takayoshi Awakawa<sup>2</sup>, Yutaka Saito<sup>1</sup>

(<sup>1</sup> Graduate School of Frontier Engineering, Kitasato Univ., <sup>2</sup>CSRS, RIKEN.)

14:05 **Break** (15 min)

- 14:20 **Awarding Ceremony** (Excellent Poster Award)
- 14:40 **SAJ39<sup>th</sup> Annual Meeting Announcement**
- 14:45 **Closing Remarks**
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- 15:20 **The Memorial Symposium for Prof. Teruhiko Beppu**  
(Open to the public, Hitotsubashi Hall)

## Poster Presentations

- P-1 **Taxonomic study of motile actinomycetes isolated from the campus of Chulalongkorn University, Thailand**  
○Gaku Machida<sup>1</sup>, Chompoonik Kanchanabanca<sup>2</sup>, Shinya Kodani<sup>3</sup>, Ryota Moriuchi<sup>4</sup>, Moriyuki Hamada<sup>5</sup>, Susumu Kokubo<sup>1</sup>, Youji Nakagawa<sup>1</sup>, Hideki Yamamura<sup>1</sup>  
(<sup>1</sup>Fac. Life Environ. Sci., Univ. Yamanashi, <sup>2</sup> Dept. Microbiol., Fac. Sci., Chulalongkorn Univ., <sup>3</sup>Fac. Agric., Shizuoka Univ. <sup>4</sup> Shizuoka Inst., Shizuoka Univ., <sup>5</sup>NITE-NBRC)
- P-2 **Search for actinomycetes in soils of Ogimi Village, Okinawa Prefecture**  
○Yukitoshi Iha<sup>1,2,3</sup>, Hidehiro Yokoda<sup>2</sup>, Ryo Higa<sup>2</sup>, Yuko Murayama<sup>1</sup>, Naoko Yasuda<sup>1</sup>, Shinya Ikematsu<sup>1,2</sup>  
(<sup>1</sup> NIT, Okinawa College GEAR5.0., <sup>2</sup> NIT, Okinawa College, Course of B. E., <sup>3</sup> University of the Ryukyus, Faculty of Medicine.)
- P-3 **Proposal of a novel species of the genus *Actinoplanes* isolated from soil**  
○Jiahao Zeng<sup>1</sup>, Yohei Iizaka<sup>1</sup>, Moriyuki Hamada<sup>2</sup>, Aya Iwai<sup>1</sup>, Riku Takeuchi<sup>1</sup>, Atsushi Fukumoto<sup>1</sup>, Tomohiko Tamura<sup>2</sup>, Yojiro Anzai<sup>1</sup>  
(<sup>1</sup> Fac. Pharm. Sci., Toho Univ., <sup>2</sup> NITE, NBRC.)
- P-4 **Proposal of two novel species of the genera *Streptomyces* and *Kitasatospora* isolated from xylose-added soil**  
○Moriyuki Hamada<sup>1</sup>, Narumi Enomoto<sup>1</sup>, Mayuko Abe<sup>2</sup>, Takuto Nishikubo<sup>2</sup>, Shigeto Otsuka<sup>2,3</sup>  
(NITE, NBRC<sup>1</sup>, Grad. Sch. Agric. Life Sci, Univ. Tokyo.<sup>2</sup>, CRIIM, Univ. Tokyo.<sup>3</sup>)
- P-5 **A selective isolation for rare actinomycetes utilizing goadsporin**  
○Shinta Ijichi, Shotaro Hoshino, Hiroyasu Onaka  
(Dept. of Life Sci., Gakushuin Univ.)
- P-6 **Isolation of actinobacteria from seashore environments on Boso Peninsula and proposal of a new species of the genus *Herbiconiux***  
○Tomoyo Takagi, Narumi Enomoto, Hanako Naito, Tomohiko Tamura, Moriyuki Hamada  
(NITE · NBRC)
- P-7 **Isolation of anti-*Bacillus* compound-producing actinomycetes from high-salinity fermented fish gravy and its microbiological characterization**  
○Sakura Nogimura<sup>1</sup>, Saki Takamori<sup>2</sup>, Takahiro Osada<sup>3</sup>, Sachiko Masaki<sup>1</sup>, Kosuke Kita<sup>1</sup>, Ryosuke Unno<sup>1</sup>, Kenji Arakawa<sup>4</sup>, Morio Ishikawa<sup>1</sup>, Toshihiro Suzuki<sup>1</sup>  
(<sup>1</sup>Grad. Sch. Dept. Ferment. Sci., Tokyo Univ. Agric., <sup>2</sup> Dept. Ferment. Sci., Tokyo Univ. Agric., <sup>3</sup>Osada Shouten., <sup>4</sup>Integ. Sci. life., Hiroshima Univ.)

- P-8 **Identification of soybean root endophytic core bacteria grown in different environments**  
 ○Onishi Yuki<sup>1,2</sup>, Nishikawa Yohei<sup>2,3</sup>, Kifushi Masako<sup>1,2</sup>, Hosokawa Masato<sup>1,2,3,4</sup>,  
 Matsumoto Atsuko<sup>3</sup>, Nakashima Takuji<sup>3</sup>, Anai Toyoaki<sup>5</sup>, Takeyama Haruko<sup>1,2,3,4</sup>  
 (<sup>1</sup>Grad. Sch. Adv. Sci. Eng., Waseda Univ., <sup>2</sup>CBBB-OIL, AIST-Waseda Univ.,  
<sup>3</sup>Res.Org. Nano Life Innov., Waseda Univ., <sup>4</sup>Inst. Adv. Res. Biosyst. Dyn.,  
 Waseda Res. Inst. Sci. Eng., Waseda Univ., <sup>5</sup>Fac. Agric., Kyushu Univ.)
- P-9 **Development of a method to detect actinomycetes producing secondary metabolites**  
 ○Akira Také<sup>1</sup>, Yoshihiko Sakaguchi<sup>2</sup>, Yuki Inahashi<sup>3,4</sup>, Kazuyoshi Gotoh<sup>5</sup>,  
 Shunji Hayashi<sup>1</sup>  
 (<sup>1</sup>Sch. Med., Kitasato Univ., <sup>2</sup>Pharm. Sci., Tokushima Bunri Univ.,  
<sup>3</sup>Grad. Sch. Infection Control Sci., Kitasato Univ., <sup>4</sup>Ōmura Satoshi Mem. Inst.,  
 Kitasato Univ., <sup>5</sup> Grad. Sch. Health Sci., Okayama Univ.)
- P-10 **Complete genome sequence of *Lentzea jejuensis* JNUCC 0626, a promising bacterium for natural product discovery**  
 ○Kyung A Hyun<sup>1</sup>, Seung-Young Kim<sup>3</sup>, Kyung-Hwan Boo<sup>1</sup>, Won-Jae Chi<sup>4</sup>,  
 and Chang-Gu Hyun<sup>2</sup>  
 (<sup>1</sup>Dept. Biotech. Coll. Appl. Life Sci. Jeju Univ., <sup>2</sup>Dept. Beaut. Cosmetol.  
 Jeju Inside Agy. Cosmetic Science Ctr. Jeju Univ., <sup>3</sup>Dept. Pharm. Eng. Biotech,  
 Sunmoon Univ., <sup>4</sup>Gen. Res. Ass. Div. Nat. Inst. Bio. Res.)
- P-11 **Structural biology of the mutant ribosome from a secondary metabolism-Activated strain of *Streptomyces coelicolor* A3(2)**  
 ○Taiyo Kuramoto<sup>1</sup>, Atsushi Minami, Takehito Tanzawa<sup>2</sup>, Takeshi Hosaka<sup>3</sup>,  
 Tomohisa Kuzuyama<sup>1,4</sup>, Tetsuhiro Ogawa<sup>1,4</sup>  
 (<sup>1</sup>GSALS, UTokyo, <sup>2</sup>IPR, Osaka Univ.,  
<sup>3</sup>Grad. Sch. of Sci. and Technol., Shinshu Univ., <sup>4</sup>CRIIM, UTokyo.)
- P-12 **Functional analysis of cell wall-localized proteins involved in mycelial growth and sporangium formation in *Actinoplanes missouriensis***  
 ○Zhuwen Tan<sup>1</sup>, Takeaki Tezuka<sup>1,2</sup>, Yasuo Ohnishi<sup>1,2</sup>  
 (<sup>1</sup>Grad. Sch. of Agric. and Life Sci., The Univ. of Tokyo,  
<sup>2</sup>CRIIM, The Univ. of Tokyo)
- P-13 **A master regulator for the concentration-dependent effects of the antibiotic lincomycin on *Streptomyces coelicolor* A3(2)**  
 ○Tomoko Shibayama<sup>1</sup>, Keiichiro Mukai<sup>1</sup>, Takeshi Hosaka<sup>1,2</sup>  
 (<sup>1</sup>Grad. Sch. of Sci. and Technol., Shinshu Univ. <sup>2</sup>IBS-ICCR, Shinshu Univ.)



- P-14 **Analysis of high-copy plasmids from *Streptomyces* sp. and their application to the light-inducible production system**  
 ○Atsushi Takamatsu, Hideaki Takano  
 (Grad. Sch. Bioresour. Sci., Nihon Univ.)
- P-15 **Properties of granaticin as an organocatalyst and granaticin binding protein**  
 ○Tatsuya Nishiyama, Natsuki Ota, Yujin Hiraga, Kenji Ueda  
 (College of Bioresource Sciences, Nihon University)
- P-16 **Analysis of light induction mechanism through SigK-RskA regulatory system**  
 ○Ryuya Kageyama, Hideaki Takano  
 (Grad. Sch. Bioresour. Sci., Nihon Univ.)
- P-17 **Expression analysis of selenium-containing formate dehydrogenase from the actinomycete *Streptomyces incarnatus***  
 ○Zhao Xiaohui, Mao Kubo, Tadayoshi Kanao, Michiko Nemoto, Takashi Tamura  
 (Grad. Sch. Env. Life Nau. Sci., Okayama Univ.)
- P-18 **Analysis of DNA methyltransferases involved in genome methylation modifications in *Streptomyces***  
 ○Ryuta Noya, Hideaki Takano  
 (Grad. Sch. Bioresour. Sci., Nihon Univ.)
- P-19 **A highly precise and fast Actinobacterial genome editing system using the rare-cutting restriction endonuclease PacI**  
 ○Syunsuke Kabaya<sup>1</sup>, Nobuki Sakurai<sup>2</sup>, Tadao Oikawa<sup>1</sup>, Kazuya Yamanaka<sup>1</sup>  
 (<sup>1</sup>Grad. Sch. Sci. Eng. Kansai Univ., <sup>2</sup>JNC Corp. Yokohama RC)
- P-20 **A study on the development of bioformulation using actinomycete isolates antagonistic to white spot disease fungus.**  
 ○Shun Kusakabe<sup>1</sup>, Susumu Kokubo<sup>1</sup>, Hiroshi Nakagawa<sup>1</sup>, Mitsuyoshi Soya<sup>2</sup>,  
 Tomoya Izumi<sup>2</sup>, Masayuki Hayakawa<sup>3</sup>, Hideki Yamamura<sup>1</sup>  
 (<sup>1</sup>Fac. Life Environ Sci., Univ. Yamanashi, <sup>2</sup>Suzuken Kogyo Co., Ltd.,  
<sup>3</sup>Yamanashi Pref. Univ.)
- P-21 **Effects of acid or heat stress on nucleic acid antibiotic production and expression of quality control genes in *Streptomyces incarnatus***  
 ○Mao Kubo, Haruka Yamagata, Yuriko Nakashima, Tadayoshi Kanao,  
 Michiko Nemoto, and Takashi Tamura  
 (Grad. Sch. Env. Life Nat. Sci., Okayama Univ.)
- P-22 **Drug repurposing: The story of rifampicin**  
 ○Ye-Jin Lee, Yang Xu, Xu-hui Liang, Hyeon-Mi Kim, Sung-Min Bae,  
 Chang-Gu Hyun  
 (Jeju Inside Agency and Cosmetic Science Center, Department of Chemistry and  
 Cosmetics, Jeju National University)

- P-23 **Feedback inhibition insensitive aspartate kinase PddD in the biosynthesis of  $\gamma$ -poly-D-diaminobutyric acid: characterization and its application for the DAP pathway reinforcement**  
 ○Yoshiya Miyake<sup>1</sup>, Tadao Oikawa<sup>1</sup>, Kazuya Yamanaka<sup>1</sup>  
 (1Grad. Sch. Sci. Eng., Kansai Univ.)
- P-24 **The effects of low concentrations of rifampicin on the development of *rpoB* mutations in *Streptomyces lividans***  
 ○Miran Hasegawa<sup>1</sup>, Kosuke Tanioka<sup>1</sup>, Takeshi Hosaka<sup>1,2</sup>  
 (1Grad. Sch. Sci. Technol., Shinshu Univ., 2IBS-ICCER, Shinshu Univ.)
- P-25 **Functional analysis of genes involved in the pigment production induced by combined-culture**  
 ○Ayari Kuboki<sup>1</sup>, Yukun LEI<sup>2</sup>, Shumpei Asaimizu<sup>2,3</sup>, Shotaro Hoshino<sup>1</sup>, Hiroyasu Onaka<sup>1,2</sup>  
 (1Dept. of Life Sci., Gakushuin Univ. 2 The Univ. of Tokyo, 3Kobe Univ. EGBRC)
- P-26 **In *Streptomyces*, pyrogallol-induced hyphal branching mechanism involving Oxidative Stress**  
 ○Saho Fukuhara<sup>1</sup>, Manami Kato<sup>2</sup>, Shumpei Asamizu<sup>3</sup>, Shotaro Hoshino<sup>1</sup>, Hiroyasu Onaka<sup>1</sup>  
 (1Dept. Of Life Sci., Gakushuin Univ., 2The Univ. of Tokyo, 3Kobe Univ. EGBRC)
- P-27 **Thiazoplanomicin, a new thiazolyl peptide antibiotic from the leaf-litter actinomycete *Actinoplanes* sp. MM794L-181F6.**  
 ○Yasuhiro Takehana<sup>1</sup>, Hideyuki Muramatsu<sup>1</sup>, Masaki Hatano<sup>1</sup>, Maya Umekita<sup>1</sup>, Yuko Shibuya<sup>1</sup>, Chigusa Hayashi<sup>1</sup>, Tomoyuki Kimura<sup>3</sup>, Toshifumi Takeuchi<sup>2</sup>, Ryuichi Sawa<sup>3</sup>, Masayuki Igarashi<sup>1</sup>  
 (1Lab. Microbiol., BIKAKEN, 2Lab. Chem., BIKAKEN, 3Lab. Mol. Struct. Anal., BIKAKEN)
- P-28 **Relationship between salt-induced compatible solute accumulation and secondary metabolite biosynthesis in *Nocardiosis alba* TUA-HK2GM isolated from Japanese traditional fermented fish product**  
 ○Ryota Taira<sup>1</sup>, Yu Komiyama<sup>1</sup>, Motoki Takahashi<sup>2</sup>, Takahiro Osada<sup>3</sup>, Ryosuke Unno<sup>1</sup>, Morio Ishikawa<sup>1</sup>, Toshihiro Suzuki<sup>1</sup>  
 (1 Grad. Sch. Dept. Ferment. Sci., Tokyo Univ. Agric., 2 Dept. Ferment. Sci., Tokyo Univ. Agric., 3 Osada Shouten)
- P-29 **Searching for Specific Inhibitor of Novel Peptide Epimerase (MurL) Participating in Peptidoglycan Biosynthesis**  
 ○Aika Ono<sup>1</sup>, Takeshi Tsunoda<sup>2</sup>, Nonaka Kenichi<sup>3,4</sup>, Inahashi Yuki<sup>3,4</sup>, Yasushi Ogasawara<sup>2</sup>, Tohru Dairi<sup>2</sup>  
 (1Grad. Sch. Chem. Sci. Eng., Hokkaido Univ., 2Grad. Sch. Eng., Hokkaido Univ., 3Grad. Sch. Infection Cont. Sci., Kitasato Univ., 4Ōmura Inst., Kitasato Univ.)

- P-30 **Analysis of kinanthraquinone biosynthesis**  
 ○Katsuyuki Sakai, Yuzhu Zhao, Shunji Takahashi  
 (RIKEN CSRS)
- P-31 **Biosynthetic investigation of azoxyalkene compounds using comparative genome analysis**  
 ○Kaito Fukumori<sup>1</sup>, Haruka Nagano<sup>1</sup>, Yu Tanaka<sup>1</sup>, Takuya Kishimoto<sup>2</sup>, Hirofumi Kunitake<sup>2</sup>, Kenji Arakawa<sup>1,2</sup>  
 (<sup>1</sup>Grad. Sch. Integr. Sci. Life, Hiroshima Univ.,  
<sup>2</sup> Grad. Sch. Adv. Sci. Matt., Hiroshima Univ.)
- P-32 **Functional analysis of an unprecedented NRPS-like machinery that assembles amino acid building blocks into two dimensions**  
 ○Kosei Fukue<sup>1</sup>, Haruhiko Kamada<sup>2</sup>, Tadao Oikawa<sup>1</sup>, Kazuya Yamanaka<sup>1</sup>  
 (<sup>1</sup>Grad. Sch. Sci. Eng., Kansai Univ.,<sup>2</sup> National Institute of Biomedical Innovation)
- P-33 **Genome mining of natural products with a five-membered carbon ring produced by actinomycetes**  
 ○Genki Hibi<sup>1</sup>, Taro Shiraishi<sup>1,2</sup>, Tomohisa Kuzuyama<sup>1,2</sup>  
 (<sup>1</sup>GSALS, UTokyo, <sup>2</sup>CRIIM, UTokyo)
- P-34 **Biosynthesis of Antitumor Antibiotic Mitomycin**  
 ○Yudai Takahashi<sup>1</sup>, Takeshi Tsunoda<sup>2</sup>, Tohru Dairi<sup>2</sup>, Yasushi Ogasawara<sup>2</sup>  
 (<sup>1</sup>Grad. Sch. Chem. Sci. Eng., Hokkaido Univ., <sup>2</sup> Grad. Sch. Eng., Hokkaido Univ.)
- P-35 **Construction of a highly caprazamycin-producing strain using the genome amplification mechanism from the kanamycin-producing *Streptomyces* strain**  
 ○Yoshimasa Ishizaki, Sayaka takahashi, Masaki Hatano, Maya Umekita, Masayuki Igarashi  
 (Lab. Microbiol., BIKAKEN)
- P-36 **New elasnin and neoantimycin derivatives from *Streptomyces* sp. RK18-A0406 expressing Syo\_1.56 SARP regulator**  
 ○Islam A. Abdelhakim<sup>1</sup>, Yushi Futamura<sup>2</sup>, Yukihiro Asami<sup>3</sup>, Hideaki Hanaki<sup>3</sup>, Naoko Kito<sup>1</sup>, Arisa Shibata<sup>4</sup>, Sachiko Masuda<sup>4</sup>, Atsuya Muranaka<sup>5</sup>, Hiroyuki Koshino<sup>5</sup>, Ken Shirasu<sup>4</sup>, Hiroyuki Osada<sup>2</sup>, Jun Ishikawa<sup>6</sup>, and Shunji Takahashi<sup>1</sup>  
 (<sup>1</sup> Nat. Prod. Biosynth., RIKEN CSRS; <sup>2</sup> Chem. Res. Dev., RIKEN CSRS;  
<sup>3</sup> Ōmura Satoshi Memorial Institute, Kitasato Univ;  
<sup>4</sup> Plant Immunity, RIKEN CSRS; <sup>5</sup> Mol. Struct. Charact., RIKEN CSRS; <sup>6</sup> NIID)
- P-37 **Secondary metabolite analysis with an unstudied genus *Cryptosporangium***  
 ○Md. Julkar Nime<sup>1</sup>, Desy W. Triningsih<sup>1</sup>, Noa Yoshizaki<sup>1</sup>, Hideki Yamamura<sup>2</sup>, Masayuki Hayakawa<sup>3</sup>, Nobuyasu Matsuura<sup>4</sup>, Naoya Oku<sup>1</sup>, and Yasuhiro Igarashi<sup>1</sup>  
 (<sup>1</sup>Toyama Pref. Univ., <sup>2</sup>Yamanashi Univ., <sup>3</sup>Yamanashi Pref. Univ.,  
<sup>4</sup>Okayama Univ. Sci)

- P-38 **Effect of *Nocardia* spp. growth at the liquid interface on the production of secondary metabolites**  
 ○Ryosuke Ito<sup>1</sup>, Susumu Kokubo<sup>1</sup>, Youji Nakagawa<sup>1</sup>, Masayuki Hayakawa<sup>2</sup>, Hideki Yamamura<sup>1</sup>  
 (<sup>1</sup>Fac. Life Environ. Sci., Univ. Yamanashi, <sup>2</sup>Yamanashi Pref. Univ.)
- P-39 **Biosynthetic Study of Cyclopropylglycine Containing Peptide**  
 ○Yu Suto<sup>1</sup>, Takeshi Tsunoda<sup>2</sup>, Yasushi Ogasawara<sup>2</sup>  
 (<sup>1</sup>Grad. Sch. Chem. Sci. Eng., Hokkaido Univ., <sup>2</sup>Grad. Sch. Eng., Hokkaido Univ.)
- P-40 **Functional elucidation of polyketide synthase KS domain**  
 ○Hiromitsu Yamamoto<sup>1</sup>, Misaki Aso<sup>2</sup>, Takuma Konno<sup>2,3</sup>, Konoa Suda<sup>2,3</sup>, Satoshi Yuzawa<sup>1,2</sup>  
 (<sup>1</sup>Syst. Biol. Prog. Grad. Sch. Media & Governance, Keio Univ., <sup>2</sup>Inst. Adv. Biosci., Keio Univ., <sup>3</sup>Tsuruoka Chuo H.S.)
- P-41 **Analysis of secondary metabolites produced by *Streptomyces* sp. TUA-HK1GM isolated from Japanese traditional fermented fish product, in the presence of salt**  
 ○Sachiko Masaki<sup>1</sup>, Sho Ogaki<sup>2</sup>, Asahi Hirata<sup>2</sup>, Takahiro Osada<sup>3</sup>, Ryosuke Unno<sup>1</sup>, Morio Ishikawa<sup>1</sup>, Kenji Arakawa<sup>2</sup>, Toshihiro Suzuki<sup>1</sup>  
 (<sup>1</sup> Grad. Sch. Dept. Ferment. Sci., Tokyo Univ. Agric., <sup>2</sup> Integ. Sci. life., Hiroshima Univ., <sup>3</sup> Osada Shouten)
- P-42 **Studies in the lysine biosynthesis during  $\epsilon$ -poly-L-lysine production in *Streptomyces albulus***  
 ○Daisuke Shimada, Chitose Maruyama, Yoshimitsu Hamano, Fumihito Hasebe  
 (Grad. Sch. Biosci. Biotec., Fukui Pref. Univ.)
- P-43 **Genome mining of a biosynthetic gene cluster with ANS pathway genes from *Streptomyces yatensis* NBRC 101000**  
 ○Yoshiyuki Kawano<sup>1</sup>, Yohei Katsuyama<sup>1,2</sup>, Yasuo Ohnishi<sup>1,2</sup>  
 (<sup>1</sup> Grad. Sch. of Agric. and Life Sci., The Univ. of Tokyo, <sup>2</sup> CRIIM, The Univ. of Tokyo)
- P-44 **Functional analysis of  $\alpha$ -ketoglutarate-dependent oxygenase catalyzing L-methionine demethylation**  
 ○Taku Mizutani<sup>1</sup>, Lyu Zhou<sup>1,2</sup>, Takayoshi Awakawa<sup>2</sup>, Ikuro Abe<sup>1</sup>  
 (<sup>1</sup> The Univ. of Tokyo, <sup>2</sup>RIKEN, CSRS)
- P-45 **The Effect of mutagenesis of the *rpoB* gene on H457 to increase sinefungin production.**  
 ○Takashi Tamura<sup>1</sup>, Hiromu Hasegawa<sup>1</sup>, Tadayoshi Kanao<sup>1</sup>, Michiko Nemoto<sup>1</sup>, Michio Yamamoto<sup>2</sup>  
 (<sup>1</sup>Grad. Sch. Env. Life Sci., Okayama Univ., <sup>2</sup>Osaka University)

- P-46 **Biosynthesis of streptazone polyketides from *Streptomyces***  
 ○Kento Yamada<sup>1</sup>, Taichi Hiramatsu<sup>1</sup>, Yohei Katsuyama<sup>1,2</sup>, Yasuo Ohnishi<sup>1,2</sup>  
 (1 Grad. Sch. of Agric. and Life Sci., The Univ. of Tokyo,  
 2CRIIM, The Univ. of Tokyo)
- P-47 **Engineering of unprecedented dehydratase Agm6 to expand the substrate specificity**  
 ○Hitoki Takizawa<sup>1</sup>, Taro Shiraishi<sup>1,2</sup>, Tomohisa Kuzuyama<sup>1,2</sup>  
 (1GSALS, UTokyo, 2CRIIM, UTokyo)
- P-48 **Biosynthetic Studies on Lasso Peptide RES701-2 Containing 7-Hydroxytryptophan**  
 Yuka Yamaya<sup>1</sup>, ○Takeshi Tsunoda<sup>2</sup>, Yu Nakashima<sup>3</sup>, Chitose Maruyama<sup>4</sup>,  
 Yoshimitsu Hamano<sup>4</sup>, Hiroyuki Morita<sup>3</sup>, Yasushi Ogasawara<sup>2</sup>, Tohru Dairi<sup>2</sup>  
 (1Grad. Sch. Chem. Sci. Eng., Hokkaido Univ., 2Grad. Sch. Eng., Hokkaido Univ.,  
 3Inst. of Nat. Med., Univ. of Toyama, 4Grad. Sch. Biosci. Biotec., Fukui Pref. Univ.)
- P-49 **Functional enhancement of antitumor polyketides based on computational prediction**  
 ○Mei Okano<sup>1</sup>, Natsumi Nishiura<sup>2</sup>, Rukman Muslimin<sup>2</sup>, Kiep Min Do<sup>3</sup>,  
 Hiroyuki Morita<sup>3</sup>, Ahmed T. Ayoub<sup>4</sup>, Kenji Arakawa<sup>1,2</sup>  
 (1Grad. Sch. Integr. Sci. Life, Hiroshima Univ.,  
 2Grad. Sch. AdSM, Hiroshima Univ., 3Toyama Univ., 4HToO Bioscience)
- P-50 **Isolation, structure determination, and analysis for thermotolerance-promoting mechanism of the heat shock metabolite (HSM) produced by *Streptomyces* sp. HR41**  
 ○Sosuke Kataoka, Shun Saito, Midori A. Arai  
 (Grad. Sch. Sci. Tech., Keio Univ.)
- P-51 **Development of a high-precision DNA assembly method for long biosynthetic gene clusters**  
 ○Tomoki Takeda<sup>1,2</sup>, Misaki Aso<sup>1</sup>, Hiroko Ueda<sup>1</sup>, Shotaro Kato<sup>1,2</sup>, Satoshi Yuzawa<sup>1,2</sup>  
 (1Inst. Adv. Biosci., Keio Univ.,  
 2Syst. Biol. Prog. Grad. Sch. Media & Governance, Keio Univ.)
- P-52 **Extensive screening of secondary metabolites in Indonesian *Actinomycetes***  
 ○Sho Ogaki<sup>1</sup>, Rukman Muslimin<sup>1</sup>, Alimuddin Ali<sup>2</sup>, Kenji Arakawa<sup>1</sup>  
 (1 Grad. Sch. Integr. Sci. Life, Hiroshima Univ., 2 Makassar State Univ.)
- P-53 **Study on the activation of secondary metabolite production in actinomycetes by nisin**  
 ○Yuta Awano<sup>1</sup>, Kaho Anegawa<sup>1</sup>, Miho Nagayoshi<sup>2</sup>, Hayama Tsutsumi<sup>1,2</sup>,  
 Yuta Kikuchi<sup>1,2</sup>, Yuki Inahashi<sup>1,2</sup>  
 (1Grad. Sch. Infection Cont. Sci., Kitasato Univ., 2 Ōmura Inst., Kitasato Univ.)

- P-54 **Analysis of salt-dependent co-production mechanism of surugamide and anti-*Saccharomyces* compound in *Streptomyces diastaticus* strain TUA-NKU25 isolated from Niijima Kusaya**  
 ○Takuma Ikegami<sup>1</sup>, Miu Ueki<sup>1</sup>, Mio Taguchi<sup>1</sup>, Shigeru Kitani<sup>2</sup>, Kenichi Matsuda<sup>3</sup>, Toshiyuki Wakimoto<sup>3</sup>, Ryosuke Unno<sup>1</sup>, Morio Ishikawa<sup>1</sup>, Kenji Arakawa<sup>4</sup>, and Toshihiro Suzuki<sup>1</sup>  
 (1Grad. Sch. Dept. Ferment. Sci., Tokyo Univ. Agric.,  
 2Dept. Chem. Biol. Sci., Aoyama. Gakuin Univ.,  
 3Grad. Sch. Pharm., Hokkaido Univ., 4Integ. Sci. life, Hiroshima Univ.)
- P-55 **Development of a chemical structure-based method for discovering secondary metabolites of actinomycetes using LC-Raman**  
 ○Takuma Kyotani<sup>1</sup>, Takuji Nakashima<sup>2</sup>, Masahiro Ando<sup>2,3</sup>, Haruko Takeyama<sup>1,2,3,4</sup>  
 (1Grad. Sch. Adv. Sci. Eng., Waseda Univ., 2Res. Org. Nano Life Innov., Waseda Univ.,  
 3CBBD-OIL, AIST-Waseda Univ.,  
 4 Inst. Adv. Res. Biosyst. Dyn., Waseda Res. Inst. Sci. Eng., Waseda Univ.)
- P-56 **Study on a Novel Organocatalyst Produced by Actinomycetes Analysis**  
 ○Runa Akiba, Tatsuya Kanbayashi, Kenji Ueda, Tatsuya Nishiyama  
 (College of Bioresource Sci., Nihon Univ.)
- P-57 **Structural diversity of 2,3-disubstituted butenolide-type signaling molecule SRB and its application for genome mining**  
 ○Momoko Akimoto<sup>1</sup>, Asahi Hirata<sup>1</sup>, Hazuki Fujita<sup>2</sup>, Miho Sumiyoshi<sup>3</sup>, Miyuki Otsuka<sup>4</sup>, Maki Matsuura<sup>4</sup>, Aiko Teshima<sup>1</sup>, Kenji Arakawa<sup>1</sup>  
 (1Grad. Sch. Integr. Sci. Life, Hiroshima Univ., 2Facul. Engineer., Hiroshima Univ.,  
 3Grad. Sch. AdSM, Hiroshima Univ., 4Coll. Agric., Tamagawa Univ.)
- P-58 **Phylogeny-guided Characterization of Bacterial Hydrazine Biosynthesis Mediated by Cupin/methionyl tRNA Synthetase-like Enzymes**  
 ○Yuto Nakahara, Kuga Arima, Atina Rizkiya Choirunnisa, Kenichi Matsuda, Toshiyuki Wakimoto  
 (Grad. Sch. Pharm. Sci., Hokkaido Univ.)
- P-59 **Biosynthetic study of ST analogue possessing *O*-acylpeptide side chain**  
 ○Kanki Matsuda<sup>1</sup>, Shun Uchiyama<sup>1</sup>, Yasushi Ogasawara<sup>2</sup>, Junko Hashimoto<sup>3</sup>, Fumihito Hasebe<sup>1</sup>, Kazuo Shin-ya<sup>4</sup>, Tohru Dairi<sup>2</sup>, Yoshimitsu Hamano<sup>1</sup>, Chitose Maruyama<sup>1</sup>  
 (1 Grad. Sch. Biosci. Biotec., Fukui Pref. Univ., 2Grad. Sch. Eng., Hokkaido Univ.,  
 3JBIC, 4AIST)
- P-60 **Chemical investigation on unstudied actinomycete of the genus *Gandjariella***  
 ○Desy Wulan Triningsih<sup>1</sup>, Satsuki Kimachi<sup>1</sup>, Fitria Ningsih<sup>2</sup>, Wellyzar Sjamsuridzal<sup>2</sup>, Yasuhiro Igarashi<sup>1</sup>  
 (1 Toyama Pref. Univ., 2 Univ. of Indonesia)

- P-61 **Heterologous production of lanthipeptide using biosynthetic genes of actinomycete *Microbispora rosea***  
 ○Ryo Kobayashi, Shinya Kodani  
 (Grad. Sch. Agr. Sci., Shizuoka Univ.)
- P-62 **First microbial production of the ornithine homopolymer *via* forced expression of a genetically dormant synthetase gene**  
 ○Haruto Shimizu<sup>1</sup>, Munenori Takehara<sup>2</sup>, Tadao Oikawa<sup>1</sup>, Kazuya Yamanaka<sup>1</sup>  
 (<sup>1</sup>Grad. Sch. Sci. Eng., Kansai Univ.,<sup>2</sup> Univ. of Shiga Prefecture)
- P-63 **Genome mining of novel natural products focusing on rare actinomycetes**  
 ○Yuka Matsuura<sup>1</sup>, Hayama Tsutsumi<sup>2</sup>, Yuki Inahashi<sup>2</sup>, Yohei Katsuyama<sup>1,3</sup>,  
 Yasuo Ohnishi<sup>1,3</sup>  
 (<sup>1</sup> Grad. Sch. of Agric. and Life Sci., The Univ. of Tokyo,  
<sup>2</sup> Ōmura Memorial Ins. and Grad. Sch. of Infection Control Sci., Kitasato Univ.,  
<sup>3</sup> CRIIM, The Univ. of Tokyo)
- P-64 **Reaction Mechanism of Novel Peptide Epimerase (MurL) Participating in Peptidoglycan Biosynthesis**  
 ○Masaki Horiuchi<sup>1</sup>, Yu Nakashima<sup>2</sup>, Takeshi Tsunoda<sup>3</sup>, Hiroyuki Morita<sup>2</sup>,  
 Yasushi Ogasawara<sup>3</sup>, Tohru Dairi<sup>3</sup>  
 (<sup>1</sup>Grad. Sch. Chem. Sci. Eng., Hokkaido Univ., <sup>2</sup>Inst. of Nat. Med., Univ. of Toyama,  
<sup>3</sup>Grad. Sch. Eng., Hokkaido Univ.)
- P-65 **Structure-function analysis of a novel sulfonamide synthase SbzM in the biosynthesis of altemicidin**  
 ○Yuhao Zhu<sup>1</sup>, Takahiro Mori<sup>1,2</sup>, Takayoshi Awakawa<sup>1,3</sup>, Ikuro Abe<sup>1,2</sup>  
 (<sup>1</sup> Grad. Sch. Pharm. Sci., The University of Tokyo, <sup>2</sup> CRIIM, The University of Tokyo,  
<sup>3</sup> RIKEN CSRS)
- P-66 **Isolation and cultivation of microorganisms responsive to light irradiation**  
 Linon Kubo<sup>1</sup>, Sakurako Moroga<sup>1</sup>, Kunio Yanatori<sup>1</sup>, ○Rei Miyano<sup>2,3</sup>  
 (<sup>1</sup>Mita International High school, <sup>2</sup>Science Communicator,  
<sup>3</sup>Kitasato Inst. Life Sci.)
- P-67 **Screening method for actinomycetes based on imaging techniques**  
 ○Maho Hajime<sup>1</sup>, Rei Miyano<sup>2,3</sup>  
 (<sup>1</sup>MITA International high school, <sup>2</sup> Science communicator,  
<sup>3</sup>Kitasato Inst. Life Sci.)

- P-68 **Engineering of Cytochrome P450 for Synthesis of Novel Reveromycin Derivatives**  
 ○Ya Fen Yong<sup>1,2</sup>, Song Liu<sup>3</sup>, Katsuyuki Sakai<sup>1</sup>, Keisuke Fujiyama<sup>1</sup>, Hiroshi Takagi<sup>1</sup>, Yushi Futamura<sup>4</sup>, Takeshi Shimizu<sup>4</sup>, Hiroyuki Osada<sup>4</sup>, Takeo Usui<sup>5</sup>, Eugene Boon Beng Ong<sup>2</sup>, Shunji Takahashi<sup>1</sup>  
 (<sup>1</sup>Nat. Prod. Biosynth., RIKEN CSRS, <sup>2</sup>INFORMM, Univ. Sains Malaysia, <sup>3</sup>Sci. Cent. Future Foods, Jiangnan Univ., <sup>4</sup>Chem. Res. Dev., RIKEN CSRS, <sup>5</sup>Grad. Sch. Life and Environ. Sci., Univ. Tsukuba)
- P-69 **Construction of genome editing system of cellulosic thermophilic *S. thermodiastaticus* K5 strain.**  
 ○Kenji Yamagishi, Masakazu Ike, Ken Tokuyasu  
 (National Agricultural and Food Research Organization (NARO), Institute of Food Research)
- P-70 **The Distinct Protein Secretome of Two *Streptomyces lavendulae* Strains**  
 ○Yoko Fujita-Yamaguchi<sup>1,2</sup>, Rose Sheila Atukunda<sup>3</sup>, Hideyuki Muramatsu<sup>4</sup>, Masayuki Igarashi<sup>4</sup>, Daniel Roeth<sup>1</sup>, Markus Kalkum<sup>1</sup>  
 (<sup>1</sup>Beckman Research Inst. of City of Hope, <sup>2</sup>Juntendo University Grad. Sch. Med., <sup>3</sup>Irell & Manella Grad. Sch. Biol. Sci., City of Hope, <sup>4</sup>Inst. of Microbial Chemistry)
- P-71 **Construction of genome analyzing tools for natural products discovery**  
 ○Hayama Tsutsumi<sup>1,2</sup>, Yuta Kikuchi<sup>1,2</sup>, Yuki Inahashi<sup>1,2</sup>  
 (<sup>1</sup>Grad. Sch. Infection Cont. Sci., Kitasato Univ., <sup>2</sup>Omura Inst., Kitasato Univ.)
- P-72 **Cultivation of actinomycetes on solid media with sterilized humus**  
 ○Kota Kobayashi<sup>1</sup>, Mizuki Abe<sup>1</sup>, Takeshi Hosaka<sup>1,2</sup>  
 (<sup>1</sup>Grad. Sch. Sci. Technol., Shinshu Univ., <sup>2</sup>IBS-ICCER, Shinshu Univ.)
- P-73 **Structure-activity relationship of goadsporin aiming for novel antibiotic**  
 ○Chihiro Hoshino, Shotaro Hoshino, Hiroyasu Onaka  
 (Dept. of Life Sci., Gakushuin Univ.)