

October 27, 2021

Time	No.	Title	Author (Affiliation)
			○=Indicates the presenter

Award Ceremony, Award Lectures (Meritorious Service Award, Society Award, Achievement Award, Technical Award)

Room H1 (9:00~11:30)

Award Ceremony

9:00		Opening Remarks by the SBJ President	
9:05		KSBB President's speech	
9:10		Distinguished members presentation	
9:20		Award presentation	
9:55	A1H1-0001	〈Meritorious Service Award〉 On receiving the Achievement Award of the Society for Biotechnology, Japan○Masahito Suiko (Miyazaki Univ.)	
10:05	A1H1-0002	〈Society Award〉 Molecular biotechnology on brewing microbes and its application to fermentation industries ○Katsuya Gomi (Grad. Sch. Agric. Sci., Tohoku Univ.)	Chair: Masahiro Takagi
10:40	A1H1-0003	〈Achievement Award〉 Development of single-cell analysis technology for effective utilization of environmental microbial resources○Haruko Takeyama ^{1,2,3,4} (¹ Sch. Adv. Sci. Eng., Waseda Univ., ² Res. Org. Nano Life Innov. Waseda Univ., ³ CBBB-OIL, ⁴ Inst. Adv. Res. Biosys. Dynamics)	Chair: Eiichiro Fukusaki
11:10	A1H1-0004	〈Technical Award〉 Production of Low antigenic bioactive peptides based on "Peptide array"○Masaki Kurimoto ¹ , Chisato Kubo ¹ , Hiroshi Ochi ¹ , Hiroyuki Honda ² , Mina Okochi ³ (¹ Morinaga Milk Industry Co., Ltd., ² Grad. Sch. Eng., Nagoya Univ., ³ Sch. Mater. Chem. Technol., Tokyo Tech)	Chair: Yoji Hata

Lunchtime Seminar

L1H5-0001 YMC CO., LTD.

Room H5 (12:00~13:00)

L1H7-0001 Beckman Coulter K.K

Room H7 (12:00~13:00)

Symposium

Room H1 (13:00~16:00)

Efforts toward Bio-economy society through Bio-Strategy 2020

13:00		Opening Remarks Yasuhiko Imai Chair: Yasuhiko Imai
13:02	S1H1-0101	New development of bioeconomy strategy to realise bioeconomy society○Shinichi Ui (Secretariat of Science, Technology and Innovation Policy, Cabinet Office)
13:42	S1H1-0102	Overview of METI's Policies for the Bio-Based Economy○Tomoaki Yasuda (Ministry of Economy, Trade and Industry) Chair: Shinobu Takagi
14:12	S1H1-0103	Development of Mitsubishi Chemical's Bio Plastics○Satoshi Kato (Mitsubishi Chemical Corp.) Chair: Kaneo Oka
14:47	S1H1-0104	Turn waste into bioplastics ~ Contribution to the circular economy through biotechnology ~○Satoshi Koma (Sekisui Chem. New Biz. Dev. Dept. BR Biz. Gr.) Chair: Takaomi Yasuhara
15:22	S1H1-0105	Effective utilization of resources using methane fermentation technology○Yoshikazu Higashimori (Kirishima Shuzo)
15:57		Closing Remarks Takaomi Yasuhara

Room H2 (13:00~15:00)

Hidden potential for "Genome Architecture"

13:00		Opening Remarks Yasunori Aizawa Chair: Yasunori Aizawa
13:05	S1H2-0201	CRAGE enable rapid development in synthetic biology○Yasuo Yoshikuni (Lawrence Berkeley National Laboratory)
13:35	S1H2-0202	Synthesis and implantation technology of the <i>Eschericia coli</i> genome○Masayuki Su'etsugu (Coll. Sci. Rikkyo Univ.) Chair: Hiroshi Takagi
14:00	S1H2-0203	Generation of designer cells and animals using mammalian artificial chromosomes and the application○Yasuhiro Kazuki (Chr. Eng. Res. Cen. Tottori Univ.)
14:25	S1H2-0204	Development and application of large-scale engineering of the human cellular genomes○Yasunori Aizawa (Sch. Life Sci. Technol, Tokyo Tech)
14:55		Closing Remarks Hiroshi Takagi

Room H2 (15:30~17:30)

The techniques of next-generation gene transfer and genome manipulation to support the drug modality

15:30		Opening Remarks Yoshinori Kawabe Chair: Yoshinori Kawabe
15:35	S1H2-0301	Development of Stealth RNA Vector ○Mahito Nakanishi (TOKIWA-Bio, Inc.)
16:00	S1H2-0302	Development of novel CRISPR-Cas delivery system using virus-like particles ○Yuya Okuzaki (Grad. Sch. Bioagric., Sci., Nagoya Univ.)
16:25		Break Chair: Hidenori Kaneoka
16:35	S1H2-0303	Development of the novel genome-integrating vector system ○Takuma Kumamoto (TMiMS)
17:00	S1H2-0304	The Development of CAR-T cell product with low-cost technology. ○Takahiro Ogasawara, Takuya Okada, Yui Suzuki, Akira Izuka, Masukazu Inoie (Japan Tissue Engineering Co., Ltd.)
17:25		Closing Remarks Hidenori Kaneoka

Room H3 (13:00~15:00)

New Development of Brewing Technology—Current approach to brewing ingredients

13:00		Opening Remarks Takahiro Akashi Chair: Takahiro Akashi
13:05	S1H3-0401	Recent development of studies on rice used for sake making ○Masaki Okuda (NRIB)
13:25	S1H3-0402	Utilization of low altitude remote sensing to establishment of production stabilization technology in a rice cultivar "yamadanishiki" for sake brewing ○Machiko Ariyoshi ¹ , Motoharu Murata ¹ , Kazuhiko Kaneko ¹ , Tetsuo Tokunaga ¹ , Hideki Araki ² (¹ Yamaguchi Pref. Agric. and Forestry General Technol. Center, ² Fac. Agric., Yamaguchi Univ.) Chair: Takeshi Akao
13:45	S1H3-0403	Efforts to secure raw materials of sweet potato <i>shochu</i> in Kirishima Shuzo ○Takashi Fujita (Kirishima Shuzo)
14:10	S1H3-0404	Climatic conditions in the growing sites affect the accumulation of the quality-related compounds in the berries of wine grapes in Japan ○Kazuya Koyama, Tomoko Ohhama, Sharon-Marie Garrido, Goto-Yamamoto Nami (NRIB) Chair: Yoji Hata
14:35	S1H3-0405	Breeding of lipoxygenase-1 null (LOX-less) malting barley varieties and improvement of beer quality ○Takehiro Hoki (Sapporo Breweries Ltd.)
15:00		Closing Remarks Yoji Hata

Room H3 (15:30~17:30)

Basic research of Awamori and its industrial application

15:30	Opening Remarks	<p>..... Toki Taira</p> <p style="text-align: right;">Chair: Toki Taira</p>
15:35	S1H3-0501 Attempt of cooperation between Awamori industry and research institutes	<p>..... ○Hirohide Toyama (Fac. Agric., Univ. Ryukyus)</p>
15:45	S1H3-0502 Phylogenetic analysis of <i>Aspergillus luchuensis</i> and its utilization	<p>..... ○Tsukahara Masatoshi (Biojet)</p>
16:05	S1H3-0503 Vanillin precursor production by <i>Aspergillus luchuensis</i> during <i>awamori</i> brewing	<p>..... ○Mayumi Maeda (Fac. Appl. Biosci., Tokyo Univ. Agric.)</p> <p style="text-align: right;">Chair: Masatoshi Tsukahara</p>
16:25	S1H3-0504 Breeding of yeast strains focused on amino acid and their application to <i>awamori</i> brewing	<p>..... ○Hiroshi Takagi (Grad. Sch. Biol. Sci., NAIST)</p>
16:45	S1H3-0505 Awamori Flavor Wheel	<p>..... ○Munehiro Miyamoto (Consulate-General of Japan in Shanghai)</p>
17:05	S1H3-0506 Development of a new lactic acid bacteria beverage made from Awamori distilled lees	<p>..... ○Choryo Uema (ISHIKAWA DISTILLERY INC.)</p>
17:25	Closing Remarks	<p>..... Masatoshi Tsukahara</p>

October 28, 2021

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Award Lecture (Encouragement Award (Eda Award, Saito Award))

Room H1 (9:00~9:20)

9:00	A2H1-0001	〈Encouragement Award (Eda Award)〉 Analysis of functional ingredient accumulation mechanism and application in sake yeast○Muneyoshi Kanai (NRIB)	Chair: Satoshi Yoshida
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Room H2 (9:30~9:50)

9:30	A2H2-0001	〈Encouragement Award (Saito Award)〉 Analysis and application of bacterial cell-cell communication system○Tomohiro Morohoshi (Fac. Eng., Utsunomiya Univ.)	Chair: Hiroshi Takagi
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General Presentation

Room H1 (10:00~10:30)

【Taxonomy, Phylogenetics】

10:00	G2H1-0201	Relationship between odor and the bacterial flora that make up navel stains○Takehisa Yano, Takao Okajima, Shigeki Tsuchiya, Hisashi Tsujimura, Yutaka Takagi (Kao Corp.)	
10:00	G2H1-0202	Isolation of wild yeasts from <i>Drosophila</i> and future expansion of industrial applications○Taisuke Seike ¹ , Hiroki Takekata ² , Natsue Sakata ³ , Chikara Furusawa ³ , Fumio Matsuda ¹ (¹ Grad. Sch. IST, Osaka Univ., ² Fac. Sci., Univ. Ryukyus, ³ BDR, RIKEN)	
10:00	G2H1-0203	Single-cell innate fluorescence signature reflects the process of cell death○Yiyun Zhang ¹ , Kyosuke Takabe ³ , Chihiro Shimodan ² , Nobuhiko Nomura ^{3,4} , Yutaka Yawata ^{3,4} (¹ Grad. Sch. Life Environ. Sci., Univ. Tsukuba, ² Univ. Tsukuba, ³ Fac. of Life and Environ. Sci., Univ. Tsukuba, ⁴ MiCS, Univ. Tsukuba)	
10:00	G2H1-0204	Purification and characterization of biofilm-inhibiting protein contained in extract of <i>Hericium erinaceus</i>○Momoko Hamaji ¹ , Takayuki Ishimaru ² , Ryohei Iida ² , Hiroyuki Azakami ^{1,3} (¹ Grad. Sch. Sci. Tech. Innov., Yamaguchi Univ., ² Dept. Food Nutr., Ube Frontier Univ., ³ YU-RCTMR, Yamaguchi Univ.)	
10:00	G2H1-0205	Chromosomal Mobilization by Transfer-Related Genes of Conjugative Plasmid of <i>Streptomyces</i> sp.○Akane Mizowaki, Yuta Fukada, Masakazu Kataoka (Dept. Biol. Eng. Gra. Sch. Shinshu Univ.)	
10:00	G2H1-0206	Identification of the minimum <i>oriT</i> region required for RP4 conjugative transfer between <i>E. coli</i> and <i>Streptomyces</i>○Shunsuke Inomata, Yuta Fukada, Masakazu Kataoka (Dept. Biol. Eng. Gra. Sch. Shinshu Univ.)	

- 10:00** G2H1-0207 Whole genome sequence analysis and development of a multiplex PCR for fish pathogen *Lactococcus garvieae* and related species
○Satomi Kanagawa¹, Tomoya Kouketsu¹, Rika Koike², Yuma Furuhashi¹,
 Walissara Jirapongpairaj¹, Takashi Kuda², Bon Kimura², Hajime Takahashi², Keishi Iohara¹,
 Jun Shimodaira¹
 (¹ Maruha Nichiro Corporation, ² Tokyo University of Marine Science and Technology)

【Genetic Engineering】

- 10:00** G2H1-0208 Acquisition of new antibody genes using goldfish
○Koshiro Obata¹, Sarina Yamada¹, Yutaka Tamaru^{1,2,3}
 (¹ Grad. Sch. Bioresour., Mie Univ., ² Mie Univ. ASRSC, ³ Mie Univ. SCIRC)
- 10:00** G2H1-0209 Development of ultra-sensitive detection techniques of the new coronavirus RNA using nanoporous reaction field
○Shun-ichi Matsuura¹, Tomoya Baba², Takuji Ikeda¹, Liangjing Jin¹, Nozomi Natsui¹, Shiori Abe¹,
 Aritomo Yamaguchi¹
 (¹ Res. Inst. Chem. Proc. Technol., AIST, ² Adv. Genom. Ctr., NIG)
- 10:00** G2H1-0210 Sequence optimization for recombinant protein with higher foldability
 Moe Miyamoto¹, ○Yasuaki Kawarasaki¹, Mizuki Tanaka^{1,2} (¹ Sch. Food Nutr. Sci., Univ. Shizuoka.,
² Grad. Sch. Agric., Tokyo Univ. Agric. Technol.)
- 10:00** G2H1-0211 Development of a new method for gene synthesis using oligo DNA
○Saruwatari Yuuya, Takahashi Hirokazu, Okamura Yoshiko (Grad. Sch. Integr. Sci. Life, Hiroshima Univ.)
- 10:00** G2H1-0212 Analysis of the effect of CDS sequence on mRNA stability
○Takumi Teruyama, Ko Kato, Shotoro Yamasaki, Harunori Kawabe, Yumi Nishimura (Grad. Sch. Biol. Sci., NAIST)

Room H1 (11:00~11:30)

【Genetic Engineering】

- 11:00** G2H1-0301 Effect of modification of the CaMV 35S promoter to the core promoter region on the transcription start site
○Kohei Saito, Shotaro Yamasaki, Harunori Kawabe, Yumi Nishimura, Ko Kato (Grad. Sch. Sci. Technol., NAIST)
- 11:00** G2H1-0302 Construction of Prediction Model for Transcriptional Binding Mechanism of the *Aspergillus oryzae* Transcription Factor AoXlnR Based on DNA Structural Parameters around the Binding Region
○Hiroya Oka¹, Takaaki Kojima¹, Ryuji Kato², Kunio Ihara³, Hideo Nakano¹
 (¹ Grad. Sch. Bioagric., Sci., Nagoya Univ., ² Grad. Sch. Pharm. Sci., Nagoya Univ., ³ Center for Gene Research., Nagoya Univ.)
- 11:00** G2H1-0303 Novel molecular mechanism mediated by Zn(II)₂Cys₆ transcription factors regulating sclerotia formation in the industrial filamentous fungus *Aspergillus oryzae*
○Xueyan Sun¹, Haruka Minagawa¹, Takuya Katayama^{1,2}, Hiroya Oka³, Masahiro Ogawa⁴,
 Takaaki Kojima³, Hideo Nakano³, Katsuhiko Kitamoto⁵, Jun-ichi Maruyama^{1,2}
 (¹ Dept. of Biotechnol., The Univ. of Tokyo, ² CRIIM, UTokyo, ³ Grad. Sch. Bioagric., Sci., Nagoya Univ.,
⁴ Noda Inst. Sci. Res., ⁵ Nihon Pharmaceutical Univ.)

- 11:00** G2H1-0304 Integrated analysis of spatial genomics and transcriptomics in pathological tissue
○Miki Yamazaki^{1,2}, Hiroko Matsunaga³, Masahito Hosokawa⁴, Koji Arikawa³, Naoko Suzuki³,
 Takuo Hayashi⁵, Haruko Takeyama^{1,2,3,6}
 (¹ Grad. Sch. Adv. Sci. Eng., Waseda Univ., ² CBBB-OIL, AIST-Waseda Univ., ³ Res. Org. Nano Life
 Innov., Waseda Univ., ⁴ Res. Inst. Sci. Eng., Waseda Univ., ⁵ Dept. Human Pathol., Grad. Sch. Med.,
 Juntendo Univ., ⁶ Inst. Adv. Res. Biosyst. Dyn., Waseda Res. Inst. Sci. Eng., Waseda Univ.)
- 11:00** G2H1-0305 Analysis of the regulation mechanism in mouse cardiac function by tissue spatial transcriptomics
○Hiroko Matsunaga¹, Yuki Makino², Kaori Sugiyama^{4,5}, Ryota Wagatsuma^{2,3}, Miki Yamazaki^{2,3},
 Naoko Suzuki¹, Yu Hamaguchi², Michiaki Hamada^{2,3}, Haruko Takeyama^{1,2,3,5}
 (¹ Res. Org. Nano Life Innov., Waseda Univ., ² Grad. Sch. Adv. Sci. Eng., Waseda Univ., ³ CBBB-OIL,
 AIST-Waseda Univ., ⁴ Res. Inst. Sci. Eng., Waseda Univ., ⁵ Inst. Adv. Res. Biosyst. Dyn., Waseda Res. Inst.
 Sci. Eng., Waseda Univ.)
- 11:00** G2H1-0306 Elucidation of regulation mechanism for expression of chitin-assimilation genes in *Thermococcus kodakarensis*
○Mai Yoetani¹, Yamin Chen¹, Izumi Orita¹, Tadayuki Imanaka², Toshiaki Fukui¹
 (¹ Sch. Life Sci. Technol, Tokyo Tech, ² Coll. Life Sci., Ritsumeikan Univ.)
- 11:00** G2H1-0307 Functional analysis of binding proteins of the fungal master regulator of iron homeostasis, HapX
○Yoshio Kobayashi, Ayaka Miura, Seiya Sakakibara, Masaya Tsujikami, Motoyuki Shimizu,
 Masashi Kato
 (Grad. Sch. Agric., Meijo Univ.)
- 11:00** G2H1-0308 Development of gene disruption method in the xylose-fermenting yeast *Spathaspora passalidarum*
○Airi Toyodome¹, Hirotaka Yamashiro², Yu Sasano^{1,2}, Hisataka Taguchi^{1,2}
 (¹ Grad. Sch. Eng., Sojo Univ., ² Fac. Biotechnol. Life Sci., Sojo Univ.)
- 11:00** G2H1-0309 Genome editing using a novel genome editing tool, TiD, in human cells
○Naoki Wada¹, Emi Murakami¹, Kazuya Marui¹, Naoyuki Miyashita², Yuriko Osakabe³,
 Keishi Osakabe¹
 (¹ Grad. Sch. Biosci. Bioind, Tokushima Univ., ² Grad. Sch. BOST, Kinki Univ., ³ Sch. Life Sci. Technol,
 Tokyo Tech)
- 11:00** G2H1-0310 Development of gene replacement method based on CRISPR/Cas9 system for breeding a citric acid-
 hyperproducing filamentous fungus *Aspergillus tubingensis* (*A. niger*) WU-2223L
○Isato Yoshioka^{1,2}, Kohtarō Kirimura^{1,2} (¹ Grad. Sch. Adv. Sci. Eng., Waseda Univ., ² Res. Inst. Sci.
 Eng, Waseda Univ.)
- 11:00** G2H1-0311 Genome analysis of a strain NBRC14279 belonging to genus *Actinoplanes*
Towa Kondoh¹, Daichi Morita², Teruo Kuroda², ○Takanori Kumagai²
 (¹ Sch. Pharm. Sci., Hiroshima Univ., ² Grad. Sch. Biomed. Health Sci., Hiroshima Univ.)
- 11:00** G2H1-0312 Analysis of *Arabidopsis* 3'UTR using a nanopore sequencer
○Atsushi Fujimaki, Shotaro Yamasaki, Harunori Kawabe, Ko Kato (Grad. Sch. Biol. Sci., NAIST)

Room H2 (10:30~11:00)

【Genetic Engineering】

- 10:30** G2H2-0201 Construction of a new broad host range plasmid vector belonging to PromA group
○Tatsuya Kamijo¹, Kazuhide Kimbara¹, Masaki Shintani^{1,2} (¹ Grad. Sch. Integr. Sci. Technol.,
 Shizuoka Univ., ² Res. Inst. Green Sci. Technol., Shizuoka Univ.)

- 10:30** G2H2-0202 Characterization of PromA - a long time unnoticed group plasmids - having broad host range
○Yukie Yamamoto¹, Tetsushi Suyama², Taeko Takagi², Yuri Ota², Naohiro Noda²,
 Kazuhide Kimbara¹, Masaki Shintani¹
 (1 Grad. Sch. Integr. Sci. Technol., Shizuoka Univ., 2 Biomed. Res. Inst., AIST)
- 10:30** G2H2-0203 High-frequency transposon insertion into *E. coli* plasmid
○Mikiko Nakamura¹, Junya Aihara³, Ayako Suzuki², Hisashi Hoshida³, Rinji Akada³
 (1 RCAST., Shinshu Univ, 2 Fac. Eng., Oita Univ., 3 Fac. Eng., Yamaguchi Univ.)
- 10:30** G2H2-0204 Analysis of the homologous recombination frequency of a long repetitive gene
○Masahito Ishikawa^{1,2}, Katsutoshi Hori¹ (1 Grad. Sch. Eng., Nagoya Univ., 2 PRESTO, JST)
- 10:30** G2H2-0205 The effects of the different oxygen concentration on the conjugative transfer frequency of plasmids and the transconjugants
○Kosuke Kuno¹, Kentaro Ochi¹, Maho Tokuda¹, Kosuke Yanagiya¹, Chiho Minakuchi²,
 Hideaki Nojiri², Masahiro Yuki³, Moriya Ohkuma³, Kazuhide Kimbara¹, Masaki Shintani¹
 (1 Grad. Sch. Integr. Sci. Technol., Shizuoka Univ., 2 Grad. Sch. Agric. Life Sci., Univ. Tokyo, 3 BRC,
 RIKEN)
- 10:30** G2H2-0206 Biotechnological applications facilitated by efficient transformation of the thermophile *Geobacillus thermodenitrificans* K1041
○Kosuke Koyama¹, Ryota Kurashiki¹, Takashi Ohshiro², Hirokazu Suzuki²
 (1 Dept. Eng., Grad. Sch. Sust. Sci., Tottori Univ., 2 Fac. Eng., Tottori Univ.)
- 10:30** G2H2-0207 Establishment of a method for gene recombination of *Cobettia* sp. with an ability to synthesize bioplastics
○Yuki Umabayashi¹, Shiori Abe¹, Sung-Jin Kawai², Hiroaki Suzuki², Miwa Yamada¹
 (1 Dept. Biolog. Chem. Food Sci., Iwate Univ., 2 New Field Pioneering Div. Toyota Boshoku Corp.)
- 10:30** G2H2-0208 Establishment of a transformation method for the oleaginous diatom *Fistulifera solaris* using episomal vectors
○Taiga Fujii¹, Kahori Watanabe¹, Yoshiaki Maeda¹, Tomoko Yoshino¹, Mitsufumi Matsumoto²,
 Tsuyoshi Tanaka¹
 (1 Grad. Sch. Eng., Tokyo Univ. Agric. Technol., 2 J-POWER)
- 10:30** G2H2-0209 Development of a novel yeast diauxic-shift expression system using *Ygr067C* promoter for efficient production of difficult-to-express proteins
○Ryoko Kurita¹, Minori Nagashima², Mizuki Tanaka^{1,2,3}, Yasuaki Kawarasaki^{1,2}
 (1 Grad. Sch. Integr. Pharm. Nutr. Sci., Univ. Shizuoka, 2 Sch. Food Nutr. Sci., Univ. Shizuoka., 3 Grad. Sch. Agric., Tokyo Univ. Agric. Technol.)
- 10:30** G2H2-0210 High and stable expression of exogenous genes in *Chlamydomonas*
○Tatsuki Akiyama¹, Yoshinori Kawabe¹, Huang Guan², Kazuki Shirakawa¹, Masamichi Kamihira^{1,2}
 (1 Fac. Eng., Kyushu Univ., 2 Grad. Sch. Syst. Life Sci., Kyushu Univ.)
- 10:30** G2H2-0211 Establishment of an intracellular pH measurement method for *Streptomyces* spp.
○Yuki Hasuike¹, Ryusuke Usuda², Masaki Suto¹, Masakazu Kataoka¹
 (1 Dept. Biol. Eng. Gra. Sch. Shinshu Univ., 2 Tech. Div. Eng. Fac. Eng., Shinshu Univ.)
- 10:30** G2H2-0212 Real-term intracellular pH measurement in *Escherichia coli* during long-term stationary phase using pH-sensitive fluorescent proteins
○Ryusuke Usuda¹, Masaki Suto², Yuki Hasuike², Masakazu Kataoka²
 (1 Tech. Div., Eng. Fac. Eng., Shinshu Univ., 2 Dept. Biomed. Eng. Gra. Sch., Shinshu Univ.)

Room H2 (11:30~12:00)

【Genetic Engineering】

- 11:30 G2H2-0301 Polyhydroxyalkanoic acid production by *Lipomyces starkeyi*, an oleaginous yeast strain
○Yuri Nakamura¹, Akihiko Kondo², Chiaki Ogino¹, Kahar Prihardi¹, Hikari Tsuboi¹
 (1 Grad. Sch. Eng, Kobe Univ., 2 Grad. Sch. Sci. Technol. Innov., Kobe Univ.)
- 11:30 G2H2-0302 Development of secretory protein production system for difficult-to-secrete proteins by fusing with the polygalacturonase from the yeast *Kluyveromyces marxianus*
○Natsuki Tabata¹, Hisashi Hoshida^{1,2,3}, Rinji Akada^{1,2,3}
 (1 Graduate School of Sciences and Technology for Innovation, Yamaguchi University, 2 Yamaguchi University Research Center for Thermotolerant Microbial Resources, 3 Yamaguchi University Biomedical Engineering Center)
- 11:30 G2H2-0303 Efficient Extraction of Biopolymer by *Escherichia coli* with Incomplete Peptidoglycan Synthesis
○Ryosuke Kadoya¹, Sangho Koh², Seiichi Taguchi² (1 Sch. of Life Studies, Sugiyama Jogakuen Univ., 2 Sch. Life Sci., Tokyo Univ. Agric.)
- 11:30 G2H2-0304 Changes in fatty acid composition of GPD gene-disrupted strain by sorbitol stress
○Takeo Miki¹, Ayako Sano¹, Shingo Izawa² (1 Grad. Sch. Med. Eng., Univ. Yamanashi, 2 Grad. Sch. Sci. Technol., Kyoto Inst. Technol.)
- 11:30 G2H2-0305 Search for new strand-replacement DNA polymerase producing bacteria and comparison of enzyme activities
○Eisuke Inoue¹, Wakao Fukuda^{1,2}, Kiyosi Yasukawa³, Itaru Yanagihara⁴, Shinsuke Fujiwara^{1,2}
 (1 Grad. Sch. Sci. Technol., Kwansei Gakuin Univ., 2 Sch. Sci. Technol., Kwansei Gakuin Univ., 3 Grad. Sch. Agric., Kyoto Univ., 4 Osaka Women's and Children's Hosp. Lab., Dept. Development Med.)
- 11:30 G2H2-0306 Metabolic engineering of *Ralstonia eutropha* for expansion of the substrate utilization range to starch
○Chisa Sakai¹, Izumi Orita¹, Hisashi Arikawa², Shunsuke Sato², Toshiaki Fukui¹
 (1 Sch. Life Sci. Technol, Tokyo Tech, 2 Kaneka Corp.)
- 11:30 G2H2-0307 Analysis of expression and boundary sequences of fused proteins
○Koji Araki¹, Rinji Akada^{1,2,3}, Hisashi Hoshida^{1,2,3}
 (1 Grad. Sch. Sci. Tech. Innov., Yamaguchi Univ, 2 YURC-TMR, 3 YUBEC)
- 11:30 G2H2-0308 Study on esterases with distinct enzymatic properties of *Acinetobacter tjernbergiae*
○Daichi Tsuchihashi¹, Shun-ichiro Oohata², Saki Takasugi², Kentaro Maeda¹, Takashi Ano^{1,2}, Masahiro Okanami^{1,2}
 (1 Grad. Sch. Biol. Ortd. Sci. Technol., Kindai Univ., 2 Fac. Biol. Ortd. Sci. Technol., Kindai Univ.)
- 11:30 G2H2-0309 Study on enzymatic characterization and functional improvement of a *Stenotrophomonas maltophilia* esterase
○Kentaro Maeda¹, Kentaro Fukui², Daichi Tsuchihashi¹, Takashi Ano^{1,2}, Masahiro Okanami^{1,2}
 (1 Grad. Sch. Biol. Ortd. Sci. Technol., Kindai Univ., 2 Fac. Biol. Ortd. Sci. Technol., Kindai Univ.)
- 11:30 G2H2-0310 Sodium nitrate transporter analysis in *Aspergillus oryzae* and related species
○Tomohiro Tanaka (Grad. Sch. Eng., Kanazawa Inst. Technol.)
- 11:30 G2H2-0311 Characterization of Genetically Engineered Human Hepatoma Cell Lines with Heat-Inducible High Liver Functions
○Hiroyuki Kitano¹, Manuel Souvervielle², Yoshinori Kawabe¹, Masamichi Kamihira^{1,2}
 (1 Fac. Eng., Kyushu Univ., 2 Grad. Sch. Syst. Life Sci., Kyushu Univ.)
- 11:30 G2H2-0312 Dipeptidyl peptidase IV is involved in oxidative stress response in *Aspergillus aculeates*
○Kosuke Mori, Jun-ichi Sumitani, Shuji Tani, Takashi Kawaguchi (Grad. Sch. Life Environ. Sci., Osaka Pref. Univ.)

Room H3 (9:00~9:30)

【Enzymology, Enzyme】

- 9:00 G2H3-0101 Bioconversion of resveratrol and piceatannol by endophytic bacteria isolated from *Passiflora edulis* seeds
.....○Toshiki Furuya, Aoi Ishida (Fac. Sci. Tec., Tokyo Univ. Sci.)
- 9:00 G2H3-0102 Cytochrome P450-catalyzed oxidation reactions using coffee grounds as an electron donor
.....○Hideaki Kawana¹, Yuki Honda², Toshiki Furuya¹ (¹ Fac. Sci. Tec., Tokyo Univ. Sci., ²Nara Women's Univ.)
- 9:00 G2H3-0103 Improvement of glutamate decarboxylase by introducing deletion
.....○Hiroshi Takagi^{1,2}, Kohei Kozuka¹, Ibuki Unno¹, Shogo Nakano¹, Sohei Ito¹
(¹ Grad. Sch. Integr. Pharm. Nutr. Sci., Univ. Shizuoka, ² Numazu Technical Support Center Industrial Research Institute of Shizuoka Prefecture)
- 9:00 G2H3-0104 Heterologous expression and functional analysis of two serine hydroxymethyl transferases from *Thermoplasma acidophilum*
.....○Yu Sato¹, Ilma Fauziah Maruf^{2,3}, Yuka Sasaki^{1,3}, Anastasia Krebs^{3,4}, Jochen Nieber^{3,5}, Hironori Taniguchi³, Kenji Okano^{1,6}, Shigeru Kitani^{1,6}, Elvi Restiawaty⁷, Akhmaloka^{2,8}, Kohsuke Honda^{1,6}
(¹ ICBiotech, Osaka Univ., ² Dep. Chem., ITB, ³ Grad. Sch. Eng., Osaka Univ., ⁴ CeBiTec, Bielefeld Univ., ⁵ Forschungszentrum Julich GmbH, ⁶ OTRI, Osaka Univ., ⁷ Fac. Ind. Technol., ITB, ⁸ Fac. Sci. Comp., Univ. Pertamina)
- 9:00 G2H3-0105 Screening and characterization of microorganisms catalyzing regioselective hydroxylation of *N*-succinylaminoadamantane
.....○Shunsuke Hayashi, Koichi Mitsukura, Toyokazu Yoshida (Grad. Sch. Eng., Gifu Univ.)
- 9:00 G2H3-0106 Identification of an archaeal ATP-dependent serine kinase from the hyperthermophilic archaeon *Staphylothermus marinus*
.....○Takaaki Sato¹, Yasunobu Mori¹, Hiroki Kawamura¹, Takayuki Fujita¹, Ryuhei Nagata², Masahiro Fujihashi³, Kunio Miki², Haruyuki Atomi¹
(¹ Grad. Sch. Eng., Kyoto Univ., ² Grad. Sch. Sci., Kyoto Univ., ³ Sch. Med., Osaka Med. Pharm. Univ.)
- 9:00 G2H3-0107 Identification and characterization of amino acid residues forming the active site of an aryl-carboxylesterase EstAC
.....○Satoshi Goto, Shigeki Inoue, Takuya Honda, Honami Kato, Mei Horiguchi, Munenori Takehara
(Dept. Mater. Sci., Grad. Sch. Eng., The Univ. Shiga Pref.)
- 9:00 G2H3-0108 Purification and characterization of phosphatidate phosphatase from *Amycolatopsis* sp. NT-119
.....○Megumi Matsui¹, Taisei Fujita¹, Yuka Sato², Daisuke Sugimori^{1,2}
(¹ Grad. Sch. Symbio. Syst. Sci., Fukushima Univ., ² Fac. Symbio. Syst. Sci., Fukushima Univ.)
- 9:00 G2H3-0109 Identification and functional analysis of an enzyme from *Paenibacillus* sp. which produces high amount of galactooligosaccharides
.....○Rei Odaka, Yasuhiro Baba, Masahiro Baba, Hirohumi Horiguchi (GODO SHUSEI CO., LTD.)
- 9:00 G2H3-0110 Identification and Characterization of an Unsaturated rhamnogalacturonyl hydrolase from *Aspergillus nidulans*
.....○Ayane Kameyama, Sakiko Otori, Hiromitsu Suzuki, Masashi Kato, Motoyuki Shimizu (Fac. Agric., Meijo Univ.)
- 9:00 G2H3-0111 Isolation and characterization of salt tolerant cellulases from xerophilic molds
.....○Daisuke Saito¹, Yukihiro Kimura¹, Satoko Yokota², Mikiharu Doi², Shinji Takenaka¹
(¹ Grad. Sch. Agric., Kobe Univ., ² Marutomo Co., Ltd.)
- 9:00 G2H3-0112 Characterization of salt tolerant gamma-glutamyltranspeptidase from *Aspergillus sydowii*
.....○Arisa Nishikawa¹, Hironori Senba¹, Yukihiro Kimura¹, Satoko Yokota², Mikiharu Doi², Shinji Takenaka¹
(¹ Grad. Sch. Agric., Kobe Univ., ² Marutomo Co., Ltd.)

- 9:00** G2H3-0113 Characterization of lipolytic enzymes from *Aspergillus chevalieri*
○Tomoya Umeki¹, Mariko Uemura¹, Yukihiro Kimura¹, Satoko Yokota², Mikiharu Doi²,
 Shinji Takenaka¹
 (¹ Grad. Sch. Agric. Kobe. Univ., ²Marutomo Co., Ltd.)

Room H3 (10:00~10:30)

【Enzymology, Enzyme】

- 10:00** G2H3-0201 Visualization of glutamate decarboxylase activity in Poaceae germinated seeds using mass microscope
○Soichiro Ikuta¹, Eiichiro Fukusaki^{1,2,3}, Shuichi Shimma^{1,2,3}
 (¹ Grad. Sch. Eng., Osaka Univ., ² Ind. Biotechnol. Initiative Div., Inst. for Open and Transdisciplinary Res. Initiatives, Osaka Univ., ³ Osaka Univ. Shimadzu Omics Innov. Res. Laboratories)
- 10:00** G2H3-0202 Model construction of the proteolytic specificity using fluorescent labeling peptide arrays
○Ryota Mizutani¹, Yoko Mori¹, Kaho Tazoe¹, Shota Ogawa², Kazunori Shimizu¹, Hiroyuki Honda¹
 (¹ Grad. Sch. Eng., Nagoya Univ., ² Grad. Sch. Pharm. Sci., Nagoya Univ.)
- 10:00** G2H3-0203 Biochemical elucidation of citrate accumulation in cyanobacteria via kinetic analysis of aconitase
○Maki Nishii, Shoki Ito, Noriaki Katayama, Takashi Osanai (Grad. Sch. Agric., Meiji Univ.)
- 10:00** G2H3-0204 One-pot production of cyclic dipeptides by combination of chemoenzymatic amide bond formation and intramolecular cyclization: Diketopiperazine synthesis
○Shota Karakama¹, Shin Suzuki², Kuniki Kino^{1,2} (¹ Sch. Adv. Sci. Eng., Waseda Univ., ² Res. Inst. Sci. Eng., Waseda Univ.)
- 10:00** G2H3-0205 One-pot production of cyclic dipeptides by combination of chemoenzymatic amide bond formation and intramolecular cyclization: Diketomorpholine synthesis
 Shota Karakama¹, ○Shin Suzuki², Kuniki Kino^{1,2} (¹ Sch. Adv. Sci. Eng., Waseda Univ., ² Res. Inst. Sci. Eng., Waseda Univ.)
- 10:00** G2H3-0206 Functional analysis of MazEF system conserved in *Bacillus pumilus*
○Takuma Okabe^{1,2}, Rie Aoi^{1,2}, Hiroko Ishitsuka², Yunong Jiang^{2,3}, Akiko Yokota²,
 Satoshi Tsuneda¹, Naohiro Noda^{1,2,4}
 (¹ Grad. Sch. Adv. Sci. Eng., Waseda Univ., ² Biomed. Res. Inst., AIST, ³ Grad. Sch. Comp. Hum. Sci., Univ. Tsukuba, ⁴ SIGMA, Univ. Tsukuba)
- 10:00** G2H3-0207 Characteristics of a D-lactic acid-utilizing bacterium, *Megasphaera indica*, isolated from pig feces
○Hoshina Ryo¹, Itaya Kaede¹, Miyamoto Hirokuni^{1,2,3}, Kodama Hiroaki¹
 (¹ Grad. Horticult., Chiba Univ., ² Sermas, ³ IMS,RIKEN)
- 10:00** G2H3-0208 Mass spectrometric enzyme histochemistry for choline acetyltransferase reveals *de novo* acetylcholine synthesis in rodent brain and heart
○Hayashi Hiroki¹, Takeo Emi¹, Sugiura Yuki², Fukusaki Eiichiro^{1,3,4}, Shimma Shuichi^{1,3,4}
 (¹ Grad. Sch. Eng., Osaka Univ., ² Keio University School of Medicine, ³ Industrial Biotechnology Initiative Division, Institute for Open and Transdisciplinary Research Initiatives, Osaka Univ., ⁴ Osaka University Shimadzu Omics Innovation Research Laboratories)
- 10:00** G2H3-0209 Unique enzymatic properties of PL6 alginate lyase Aly85NT
○Kino Horikoshi, Takaomi Nomura (Dept. Appl. Biol., Fac. Tex. Sci. Tech., Shinshu Univ.)
- 10:00** G2H3-0210 Characterization of lysophospholipase from *Thermococcus kodakarensis* KOD1
○Kumano Yuka, Yamano-Adachi Noriko, Koga Yuichi, Omasa Takeshi (Grad. Sch. Eng., Osaka Univ.)
- 10:00** G2H3-0211 Production of hydroxypropylglycine that is a collagen-derived dipeptide by whole cell reaction
○Kakeru Kowatari, Kuniki Kino (Sch. Adv. Sci. Eng., Waseda Univ.)

- 10:00** G2H3-0212 Identification of a novel thermostable cysteine protease from *Thermococcus kodakarensis* KOD1
 ○Kan Mabuchi¹, Moe Taguchi², Noriko Yamano¹, Yuichi Koga¹, Takeshi Omasa¹
 (1 Grad. Sch. Eng., Osaka Univ.,² Ajinomoto AGF, Inc.)
- 10:00** G2H3-0213 An extracellular enzyme complex, which degrades hyaluronan into monosaccharides, originated from *Haliscomenobacter hydrossis*
 ○Tomomi Mori, Nozomi Masuzawa, Minoru Takeda (Grad. Sch. Eng., Yokohama Natl. Univ.)

Room H3 (11:00~11:30)

【Bioinformatics】

- 11:00** G2H3-0301 Obtaining of complete genomes by single-cell long-read sequencing of uncultured gut microbes
 ○Masahito Hosokawa^{1,2}, Masato Kogawa¹, Yohei Nishikawa¹, Tatsuya Sacki², Takuya Yoda²,
 Koji Arikawa², Haruko Takeyama¹
 (1 Grad. Sch. Adv. Sci. Eng., Waseda Univ.,² bitBiome, Inc.)
- 11:00** G2H3-0302 Comprehensive analysis of regulatory genes of KojR, a transcription factor related to kojic acid metabolism in *Aspergillus oryzae*
 ○Tomoka Mizutani, Hiroya Oka, Takaaki Kojima, Hideo Nakano (Grad. Sch. Bioagric., Sci., Nagoya Univ.)
- 11:00** G2H3-0303 Development of PCR primer design algorithm for subspecies level identification, and differentiation of *Lactobacillus delbrueckii* six subspecies by using the algorithm.
 ○Takahashi Masayuki, Morikawa Kana, Akao Takeshi (NRIB)
- 11:00** G2H3-0304 Analysis of photosynthetic electron flow in cyanobacteria by FBA simulation
 ○Masakazu Toyoshima^{1,2}, Chiaki Yamamoto¹, Yoshifumi Ueno³, Yoshihiro Toya², Seiji Akimoto³,
 Hiroshi Shimizu²
 (1 Grad. Sch. Eng, Kobe Univ.,² Grad. Sch. IST, Osaka Univ.,³ Grad. Sch. Sci, Kobe Univ.)
- 11:00** G2H3-0305 Elimination method for image-derived bias for robust cell quality prediction
 ○Kenjiro Tanaka, Yuto Takemoto, Kei Kanie, Ryuji Kato (Grad. Sch. Pharm. Sci., Nagoya Univ.)

【Systems Biology】

- 11:00** G2H3-0306 Investigating the regulatory mechanisms of the Calvin cycle in cyanobacteria using kinetic model
 ○Tajima Ryotaro¹, Ikehara Mayu², Toya Yoshihiro¹, Shimizu Hiroshi¹
 (1 Grad. Sch. IST, Osaka Univ.,² Fac. Eng., Osaka Univ.)
- 11:00** G2H3-0307 Search for intracellular pH-regulated genes in *E. coli* using a high-precision quantitative bacterial growth measurement system
 ○Masaki Sutou¹, Ryuusuke Usuda², Yuuta Fukada¹, Kazuya Sumida¹, Hirotada Mori^{3,4},
 Masakazu Kataoka¹
 (1 Dept. Biol. Eng. Gra. Sch., Shinshu Univ.,² Tec. Div. Eng. Fac. Eng., Shinshu Univ.,³ Shinshu Univ.,
⁴ Inst. Anim. Sci. Guangdong Acad. Agric. Sci.)
- 11:00** G2H3-0308 Application of high-throughput measurement system to multiple bacterial species
 ○Kazuya Sumida¹, Yuta Fukada¹, Hirotada Mori^{2,3}, Masakazu Kataoka¹
 (1 Grad. Sch. Dept. Biomed. Eng., Shinshu Univ.,² Shinshu Univ.,³ Inst. Anim. Sci., Guangdong Acad. Agric. Sci.)

- 11:00** G2H3-0309 ster analysis of SARS-CoV-2 gene using autoencoder
○Jun Miyake^{1,2}, Takaaki Sato¹, Shunsuke Baba¹, Hayato Nakamura¹, Hirohiko Niioka³,
 Yoshihisa Nakazawa²
 (¹ Grad. Sch. Eng., Osaka Univ., ² Hitz Alliance lab, Grad. Sch. Eng., Osaka Univ., ³ IDS, Osaka Univ.)
- 11:00** G2H3-0310 Development of isotopically non-stationally ¹⁵N-metabolic flux analysis and application for colorectal cancer cell lines in nitrogen metabolic pathway
○Keita Murakami, Yuya Kondo, Nobuyuki Okahashi, Fumio Matsuda (Grad. Sch. IST, Osaka Univ.)
- 11:00** G2H3-0311 Analysis of central carbon metabolism in neutrophils using ¹³C-metabolic flux analysis and its application to functional regulation
○Takeo Taniguchi, Nobuyuki Okahashi, Fumio Matsuda (Grad. Sch. IST, Osaka Univ.)

Room H4 (9:30~10:00)

【Enzymology, Enzyme】

- 9:30** G2H4-0101 The role of aromatic amino acid residues constituting the active site of gamma-glutamyltranspeptidase from *Pseudomonas nitroreducens*
○Akihiro Ozasa¹, Hiroki Ikezoe¹, Daisuke Matsui¹, Yosuke Toyotake¹, Takao Hibi², Takafumi Itoh²,
 Mamoru Wakayama¹
 (¹ Grad. Sch. Life Sci., Ritsumeikan Univ., ² Fac. Biotechnol., Fukui Pref. Univ.)
- 9:30** G2H4-0102 Search for algae repellents in coral mucus
○Hiroataka Kakita^{1,2}, Ran Takahashi², Akira Iguchi³, Atsushi Suzuki³
 (¹ Grad. Sch. Integrated Basic Sci., Nihon Univ., ² Coll. Humanities Sci., Nihon Univ., ³ GSJ, AIST)
- 9:30** G2H4-0103 Site-directed mutagenesis to second coordination sphere of TICu in multicopper oxidase for high-voltage biofuel cell
○Yuma Hiranaka¹, Syunsuke Taki¹, Eiichiro Takamura¹, Hiroaki Sakamoto¹, Takenori Satomura¹,
 Haruhiko Sakuraba², Toshihisa Ohshima³, Shin-ichiro Suye¹
 (¹ Grad. Sch. Eng. Fukui Univ., ² Fac. Agric., Kagawa Univ., ³ Fac. Eng., Osaka Inst. Technol.)
- 9:30** G2H4-0104 Functional analysis of glycine oxidase for improving enzymatic properties
○Higashiura Yuki¹, Kawasaki Taishi², Oda Ryusuke², Nisiya Yoshiaki^{1,2}
 (¹ Grad. Sch. Sci. Eng., Setsunan Univ., ² Sch. Sci. Eng., Setsunan Univ.)
- 9:30** G2H4-0105 Design of experimental evaluation of coenzyme specificity engineering of malate enzyme using machine learning
○Sou Sugiki, Teppei Niide, Yoshihiro Toya, Hiroshi Shimizu (Grad. Sch. IST, Osaka Univ.)
- 9:30** G2H4-0106 Biochemical characterization of two novel acetyl xylan esterases from *Aspergillus oryzae*
○Tomoe Kato, Yoshihito Shiono, Takuya Koseki (Fac. Agric., Yamagata Univ.)
- 9:30** G2H4-0107 Functional and structural analysis of novel rhamnogalacturonan lyase derived from *Aspergillus nidulans*
○Hiromitsu Suzuki¹, Koki Ito¹, Kiyota Sakai¹, Chiaki Hori², Taichi Takasuka³, Masashi Kato¹,
 Motoyuki Shimizu¹
 (¹ Grad. Sch. Agric., Meijo Univ., ² Grad. Sch. Eng., Hokkaido Univ., ³ Grad. Sch. Agric., Hokkaido Univ.)
- 9:30** G2H4-0108 The enzymes derived from *Rhizoctonia solani* D138 control the growth of pathogenic filamentous fungi causing *Panax ginseng* disease
○Yamagishi Jun-ichi, Takatsuka Yumiko, Kawabata Chika, Hara Tomijiro (IAE, Kyoto Univ.)
- 9:30** G2H4-0109 Modification of *Thermus thermophilus*-derived DNA polymerase for RNA detection
○Yuri Ando¹, Wakao Fukuda^{1,2}, Kiyoshi Yasukawa³, Itaru Yanagihara⁴, Shinsuke Fujiwara^{1,2}
 (¹ Grad. Sch. Sci. Technol., Kwansei Gakuin Univ., ² Sch. Sci. Technol., Kwansei Gakuin Univ., ³ Grad. Sch. Agric., Kyoto Univ., ⁴ Osaka Women's Children's Hosp.)

- 9:30** G2H4-0110 Crystallization of cobalt-containing nitrile hydratase from *Pseudonocardia thermophila* for neutron crystallography
○Ryotaro Wada¹, Kazuyoshi Nakamoto¹, Hirotohi Matsumura¹, Keiichi Noguchi², Masafumi Yohda², Masafumi Odaka¹
 (1 Grad. Sch. Eng., Sci., Akita Univ., 2 Grad. Sch. Eng., Tokyo Univ. Agric. Technol.)
- 9:30** G2H4-0111 Mycofactocin biosynthetic pathway involved in the oligotrophic growth of *Rhodococcus erythropolis* N9T-4
○Mana Kishimoto, Masaki Shintani, Nobuyuki Yoshida (Grad. Sch. Integr. Sci. Technol., Shizuoka Univ.)
- 9:30** G2H4-0112 Recombinant expression, purification and characterization of L-methionine gamma-lyase from *Glycine max*
○Atsushi Okawa¹, Takuya Teshima², Kenji Matsui², Takashi Tamura¹, Kenji Inagaki¹
 (1 Grad. Sch. Environ. Life Sci., Okayama Univ., 2 Grad. Sch. Sci. Technol. Innov., Yamaguchi Univ.)
- 9:30** G2H4-0113 Selective Synthesis of Ethyl alpha-D-glucopyranoside by Immobilized XgtA, a Glucose-transfer Enzyme Derived from *Xanthomonas campestris* WU-9701
○Wei Cao¹, Tomomi Kanbe¹, Yoshitaka Ishii², Kohtaro Kirimura^{1,2}
 (1 Sch. Adv. Sci. Eng., Waseda Univ., 2 Res. Inst. Sci. Eng. Waseda. Univ)

Room H4 (10:30~11:00)

【Enzymology, Enzyme】

- 10:30** G2H4-0201 Functional analysis of active site residues of L-lysine alpha-oxidase with high substrate specificity
○Masaya Saito¹, Genki Akai¹, Yuya Matsumoto¹, Yuka Ueda², Ryota Matsuda², Katsumi Imada², Michiko Nemoto¹, Takashi Tamura¹, Kenji Inagaki¹
 (1 Grad. Sch. Environ. Life Sci., Okayama Univ., 2 Grad. Sch. Sci., Osaka Univ.)
- 10:30** G2H4-0202 Functional and Structural Analysis of a Novel Flavin Monooxygenase from *Phanerochaete chrysosporium*
○Reini Mori, Hiromitsu Suzuki, Masashi Kato, Motoyuki Shimizu (Grad. Sch. Agric., Meiji Univ.)
- 10:30** G2H4-0203 Analysis of dehydrogenase constructed by chemical modification of oxidase
○Fuka Toyama¹, Hironori Kimura², Yoshiaki Nishiya^{1,2} (1 Grad. Sch. Sci. Eng., Setsunan Univ., 2 Sci. Eng., Setsunan Univ.)
- 10:30** G2H4-0204 Production of long-chain polyamines in recombinant *Escherichia coli* cells and evaluation of their silica polymerization activity
○Yukihide Nakasugi, Hisakage Funabashi, Ryuichi Hirota, Akio Kuroda, Takeshi Ikeda (Grad. Sch. Integr. Sci. Life, Hiroshima Univ.)
- 10:30** G2H4-0205 Characterization of *Mucor lusitanicus* lipase expressed under low temperature.
○Yokobayashi Masao¹, Tanaka Akiko¹, Murakami Shuichiro² (1 Grad. Sch. Agric., Meiji Univ., 2 Sch. Agric., Meiji Univ.)
- 10:30** G2H4-0206 Efficiency of electron transfer using cholic acid-type surfactant for improving the performance of the carbon-binding peptide modified multicopper oxidase immobilized biocathode
○Eiichiro Takamura¹, Satoshi Goto¹, Hiroaki Sakamoto¹, Takenori Satomura¹, Haruhiko Sakuraba², Masato Tominaga³, Toshihisa Ohshima⁴, Shin-ichiro Suye¹
 (1 Grad. Sch. Eng. Fukui Univ., 2 Fac. Agric., Kagawa Univ., 3 Fac. Sci. Eng., Saga Univ., 4 Fac. Eng., Osaka Inst. Technol.)
- 10:30** G2H4-0207 (Withdrawn)

- 10:30** G2H4-0208 Purification and crystallization of Fe-type nitrile hydratase for neutron structural analysis
○Yoshito Fujii¹, Hiromu Tsujii¹, Hidenao Iwato¹, Kazuyoshi Nakamoto¹, Hirotochi Matsumura¹,
 Katsuhiro Kusaka², Taro Tamada³, Masafumi Odaka¹
 (¹Grad. Sch. Eng., Sci., Akita Univ., ²Frontier Res. Center for Appl. Atomic Sci, Ibaraki University, ³Inst.
 for Quantum Life Sci, Natl. Inst. for Quantum and Radiological Sci. and Technol.)
- 10:30** G2H4-0209 Characterization of beta-amylase from the eukaryotic red alga *Cyanidioschyzon merolae* and immobilization
 of the beta-amylase for industrial use.
○Miyabi Murakami¹, Takashi Osanai² (¹Grad. Sch. Agric., Meiji Univ., ²Sch. Agric., Meiji Univ.)
- 10:30** G2H4-0210 Stabilization of proteins by branched-chain polyamines from hyperthermophilic Archaea
○Moeko Fukuda¹, Wakao Fukuda^{1,2}, Shinsuke Fujiwara^{1,2} (¹Grad. Sch. Sci. Technol., Kwansei
 Gakuin Univ., ²Sch., Life Environ., Kwansei Gakuin Univ.)
- 10:30** G2H4-0211 Functional analysis of mycodextranase mutants from *Paenibacillus* sp. A13 and identification of catalytic
 residues.
○Fuko Hirata, Yumeno Yamauchi, Takayuki Inafuku, Keiko Uechi, Toki Taira (Fac. Agric., Univ.
 Ryukyus)
- 10:30** G2H4-0212 Agmatine productivity of various *Aspergillus* strains
○Misa Yoshioka¹, Wakao Fukuda^{1,2}, Takuro Nakagawa³, Naoki Akasaka¹, Shinsuke Fujiwara^{1,2}
 (¹Grad. Sch. Sci. Technol., Kwansei Gakuin Univ., ²Sch. Life Environ., Kwansei Gakuin Univ., ³Higuchi
 Matsunosuke Shoten Co. Ltd.)
- 10:30** G2H4-0213 Isolation of Arginine Decarboxylase from *Aspergillus oryzae*
○Yui Murakami¹, Misa Yoshioka², Hiroki Yoneda², Naoki Akasaka², Wakao Fukuda^{1,2,3},
 Shinsuke Fujiwara^{1,2,3}
 (¹Sch. Sci. Technol., Kwansei Gakuin Univ., ²Grad. Sch. Sci. Technol., Kwansei Gakuin Univ., ³Sch. Life
 Environ., Kwansei Gakuin Univ.)

Room H4 (11:30~12:00)

【Biosensing and Analytical Chemistry】

- 11:30** G2H4-0301 Development of Fluorescence-Based Bioprobe Detecting Heme-Heme Oxygenase 2 Complex Forming
Misaki Takemoto, Hiroshi Sakamoto, ○Junichi Taira (Kyushu Inst. Technol.)
- 11:30** G2H4-0302 Identification of malodor-responsive human odorant receptors and discovery of practical inhibitors using
 vapor stimulation assay
○Yosuke Fukutani¹, Masashi Abe¹, Haruka Saito¹, Ryo Eguchi², Toshiaki Tazawa²,
 Hiroaki Matsunami³, Masafumi Yohda¹
 (¹Grad. Sch. Eng., Tokyo Univ. Agric. Technol., ²Research Section, R & D Division, S.T. Corporation,
³Dept of Mol. Genet. and Microbiol., Duke Univ.)
- 11:30** G2H4-0303 Quantum dots-encapsulated hybrid nanoarchitecture for anti-HEV antibody detection
Akhilesh Babu Ganganboina¹, Kenshin Takemura², Wenjing Zhang³, Tian-Cheng Li³,
 ○Enoch Y. Park^{1,2}
 (¹Res. Inst. Green Sci. Technol., Shizuoka Univ., ²Grad. Sch. Sci. Technol. Shizuoka Univ., ³Natl. Inst.
 Infect. Dis.)
- 11:30** G2H4-0304 Highly-accurate quantification of NADP(H) in cyanobacteria
○Kenya Tanaka^{1,2}, Ginga Shimakawa^{2,3}, Shoko Kusama², Mami Matsuda⁴, Tomohisa Hasunuma^{1,4},
 Shuji Nakanishi²
 (¹EGBRC, Kobe Univ., ²Grad. Sch. Eng. Sci. RCSEC, Osaka Univ., ³Sch. Biol. Environ. Sci., Kwansei-
 Gakuin Univ., ⁴Grad. Sch. Sci. Technol. Innov., Kobe Univ.)

- 11:30** G2H4-0305 Investigation of metabolites contributing to the pathogenicity of dental biofilm by addition of periodontal pathogen *Porphyromonas gingivalis*
○Senda Takahiro¹, Kuboniwa Masae², Sakanaka Akito², Fukusaki Eiichiro^{1,3,4}, Shimma Shuichi^{1,3,4}
 (¹Grad. Sch. Eng., Osaka Univ., ²Grad. Sch. Dent., Osaka Univ., ³Industrial Biotechnology Initiative Division, Institute for Open and Transdisciplinary Research Initiatives, Osaka University, ⁴Osaka University Shimadzu Omics Innovation Research Laboratories)
- 11:30** G2H4-0306 Enhanced sensitivity of gold polyaniline based electrochemical virus sensor assisted by magnetic nanoparticles
○Kenta Tsuruga¹, Enoch Y. Park^{1,2}, Dutta Chowdhury Ankan² (¹Grad. Sch. Integr. Sci. Technol., Shizuoka Univ., ²Res. Inst. Green Sci. Technol., Shizuoka Univ.)
- 11:30** G2H4-0307 Development of a marking system to prevent food fraud by means of applying elements to fruit vegetables
○Yuma Kuroki¹, Kana Kusunoki¹, Eiichiro Fukusaki^{1,2,3}
 (¹Grad. Sch. Eng., Osaka Univ., ²Industrial Biotechnol. Initiative Div., Inst. for Open Transdisciplinary Res. Initiatives, Osaka Univ., ³Osaka Univ. Shimadzu Omics Innov. Res. Laboratories)
- 11:30** G2H4-0308 Glucagon binding peptides for specific and sensitive detection of glucagon
○Hajime Shigeto, Yoshio Suzuki, Shohei Yamamura (Health and Medical Res. Inst., AIST)
- 11:30** G2H4-0309 A simple detection of specific nucleic acids on a solid surface without sampling procedures
○Hisakage Funabashi, Hiroya Hatano, Akio Kuroda (Grad. Sch. Integr. Sci. Life, Hiroshima Univ.)
- 11:30** G2H4-0310 Development of the simple and rapid method to detect the microbial genes with the signaling probe-based DNA microarray
○Hiyori Takeuchi¹, Haruka Uno¹, Tomoyuki Taguchi², Takashi Tadenuma², Yuko Hirakawa², Tomoko Yoshino¹, Yoshiaki Maeda¹, Tadashi Matsunaga¹, Tsuyoshi Tanaka¹
 (¹Grad. Sch. Eng., Tokyo Univ. Agric. Technol., ²Yokogawa Electric Co.)
- 11:30** G2H4-0311 Development of binary responsive virus biosensor using chromogen-encapsulated polymeric nanocarrier
○Indra M. Khoris¹, Akhilesh B. Gangganboina², Enoch Y. Park^{1,2}
 (¹Grad. Sch. Sci. Technol. Shizuoka Univ., ²Res. Inst. Green Sci. Technol., Shizuoka Univ.)
- 11:30** G2H4-0312 Development of ligand detection system of mammalian olfactory receptor using mini-G protein and graphene sensor.
○Ikumi Takayama, Yosuke Fukutani, Tomoya Yoshii, Takashi Ikuta, Kenzo Maehashi, Masafumi Yohda
 (Grad. Sch. Eng., Tokyo Univ. Agric. Technol.)

【Sensors and Monitoring Devices】

- 11:30** G2H4-0313 Screening of novel germination inducers of spores by selective function disruption assay system
○Jin Sakamoto^{1,2}, Ryoko Asada^{1,3}, Masakazu Furuta^{1,3}, Tetsuaki Tsuchido¹
 (¹Res. Ctr. Microorg. Control, Osaka Pref. Univ., ²Fac. Chem. Mater. Bioeng., Kansai Univ., ³Grad. Sch. Eng., Osaka Pref. Univ.)

Room H5 (9:00~9:30)

【Fermentation Physiology, Fermentation Technology】

- 9:00** G2H5-0101 Sirtuins control the riboflavin production in *Ashbya gossypii*.
 Junya Azegami¹, Mai Kano¹, Enoch Y. Park^{1,2,3}, ○Tatsuya Kato^{1,2,3}
 (¹Grad. Sch. Integr. Sci. Technol., Shizuoka Univ., ²Res. Inst. Green Sci. Technol., Shizuoka Univ., ³Fac. Agric., Shizuoka Univ.)

- 9:00** G2H5-0102 Construction of recombinant double-stranded RNA production system in *Corynebacterium glutamicum* and growth inhibition of target crop pest by feeding on the dsRNA-producing microbes
○Hashiro Shuhei¹, Mitsuhashi Mayu¹, Chikami Yasuhiko², Kawaguchi Haruka², Niimi Teruyuki², Yasueda Hisashi¹
 (1 Res. Inst. Biosci. Prod. Fine Chem., Ajinomoto Co., Inc., 2Evol. Dev. Biology, NIBB)
- 9:00** G2H5-0103 Study on quality improvement of cosmetics containing skin-bacterium culture solution
○Naohiko Taga, Takuya Morita (Sch. Agric., Tokai Univ.)
- 9:00** G2H5-0104 Physiological analysis of AoCdc48 in the protein quality control system of *Aspergillus oryzae*
○Morita Yuki, Takegawa Kaoru, Higuchi Yujiro (Grad. Sch. Bioresour. Bioenviron. Sci., Kyushu Univ.)
- 9:00** G2H5-0105 Characterization of novel omega3 fatty acid desaturases and their application toward eicosapentaenoic acid production in *Mortierella alpina*
○Miku Itokawa¹, Akinori Ando^{1,2}, Tomoyo Okuda¹, Brian King Himm Mo¹, Ryouhei Nakatsuji¹, Yuki Takemoto³, Hiroyuki Ikemoto³, Hiroshi Kikukawa⁴, Takaiku Sakamoto⁵, Eiji Sakuradani⁵, Jun Ogawa^{1,2}
 (1 Grad. Sch. Agric., Kyoto Univ., 2 Res. Unit Physiol. Chem., Kyoto Univ., 3 Nisshin Pharma, 4 Sch. Food Nutr. Sci., Univ. Shizuoka., 5 Grad. Sch. Technol, Industrial Social Sci., Tokushima Univ.)
- 9:00** G2H5-0106 Cell factory for Gamma Amino Butyric acid biosynthesis using *Bifidobacterium adolescentis*
○Hend Altaib¹, Tomoya Kozakai¹, Hazuki Nakao¹, Mahmoud A. M. El-Nouby^{3,4}, Yassien Badr^{1,2}, Emiko Yanase¹, Izumi Nomura¹, Tohru Suzuki¹
 (1 Gifu University, Faculty of Applied Biological Sciences, Gifu, Japan, 2 Damanhour University, Faculty of Veterinary Medicine, El-Beheira, Egypt, 3 Gifu University, Graduate School of Engineering, Gifu, Japan, 4 Faculty of Agriculture, Alexandria University, Alexandria, Egypt)
- 9:00** G2H5-0107 Effect of deleting genes encoding glutamate dehydrogenase or glutamate synthase on unusual glutamate production in *Escherichia coli* mutant defective in respiratory chain enzymes NDH-I and Cytb₃
○Sota Kon¹, Tomoya Maeda¹, Satoru Fukiya¹, Masaru Wada², Atsushi Yokota¹
 (1 Grad. Sch. Agric., Hokkaido Univ., 2 Faculty of Agriculture, Setsunan Univ.)
- 9:00** G2H5-0108 Physiological state of *Escherichia coli* cells in stationary phase
○Setsu Kato, Ryuji Kawabata, Yoshiteru Aoi, Yutaka Nakashimada (Grad. Sch. Integr. Sci. Life, Hiroshima Univ.)
- 9:00** G2H5-0109 Analysis of cell wall structure of *Aureobasidium pullulans* with high beta-glucan productivity
○Satoru Tanimoto, Yoshihiro Ojima, Toshio Suzuki, Masayuki Azuma (Grad. Sch. Eng., Osaka City Univ.)
- 9:00** G2H5-0110 Structure and function of yeast Gas1 protein capable of emulsifying and activating macrophages
○Mao Takata, Minori Nizuka, Yoshihiro Ojima, Masayuki Azuma (Grad. Sch. Eng., Osaka City Univ.)
- 9:00** G2H5-0111 Metabolic change of *Corynebacterium glutamicum* and *Escherichia coli* at non-proliferating high temperature
○Takahiro Iguchi¹, Shunsuke Kobayashi¹, Nobuyoshi Ishii², Yots Tsuge^{1,3}
 (1 Grad. Sch. Nat. Sci. Technol., Kanazawa Univ., 2 Nagase & Co., Ltd, 3 InFiniti, Kanazawa Univ.)
- 9:00** G2H5-0112 Production of useful chemicals by growth-arrested fermentation with aldolase-mediated incorporation of formaldehyde to the metabolic pathway
○Keisuke Yamamoto, Shuhei Nakane, Atsunari Tsuchisaka, Akiyo Enomoto, Mayu Hasegawa, Chiharu Takita, Akiko Takeda (Green Earth Institute Co., Ltd.)

Room H5 (10:00~10:30)

【Metabolic Engineering】

- 10:00** G2H5-0201 Metabolic engineering of *Schizosaccharomyces pombe* for vanillin production
○Wakana Kawamura¹, Naofumi Fujie¹, Tsutomu Tanaka¹, Akihiko Kondo²
 (1 Grad. Sch. Eng, Kobe Univ., 2 Grad. Sch. Sci. Technol. Innov., Kobe Univ.)
- 10:00** G2H5-0202 Metabolic engineering of *Corynebacterium glutamicum* for 4-hydroxybenzoic acid production
○Misa Doke¹, Miwa Morio¹, Tsutomu Tanaka¹, Akihiko Kondo²
 (1 Grad. Sch. Eng, Kobe Univ., 2 Grad. Sch. Sci. Technol. Innov., Kobe Univ.)
- 10:00** G2H5-0203 Improvement of lipid productivity of *Aurantiochytrium* sp. by genome editing
○Kenshi Watanabe¹, Charose Perez¹, Tomoki Kitahori¹, Kousuke Hata¹, Hirokazu Takahashi¹,
 Tetsushi Sakuma¹, Yoshiko Okamura¹, Yutaka Nakashimada¹, Takashi Yamamoto¹, Keisuke Matsuyama²,
 Tsunehiro Aki¹
 (1 Grad. Sch. Integr. Sci. Life, Hiroshima Univ., 2 Nagase & Co., Ltd)
- 10:00** G2H5-0204 Thermophilic bioconversion of gaseous substrates to acetone by a metabolically-engineered acetogen
Moorella thermoacetica
○Junya Kato¹, Kaisei Takemura¹, Setsu Kato¹, Tatsuya Fujii², Keisuke Wada², Yuki Iwasaki²,
 Yoshiteru Aoi¹, Tomotake Morita², Akinori Matsushika^{1,2}, Katsuji Murakami², Yutaka Nakashimada¹
 (1 Grad. Sch. Integr. Sci. Life, Hiroshima Univ., 2 AIST)
- 10:00** G2H5-0205 Light-driven metabolic conversion from mevalonate to isoprenol in *Escherichia coli*
○Mikoto Sano¹, Ryo Tanaka¹, Kentaro Kamata¹, Fumio Matsuda¹, Jun Ishii², Youko Hirono³,
 Kiyotaka Hara³, Yoshihiro Toya¹, Hiroshi Shimizu¹
 (1 Grad. Sch. IST, Osaka Univ., 2 Grad. Sch. Sci. Technol. Innov., Kobe Univ., 3 Sch. Food Nutr. Sci., Univ.
 Shizuoka.)
- 10:00** G2H5-0206 Engineering of *Corynebacterium glutamicum* for the production of phenylalanine
○Naoya Kataoka^{1,2,3}, Ruka Kato¹, Kazuya Taniguchi², Minenosuke Matsutani⁴,
 Kazunobu Matsushita², Toshiharu Yakushi^{1,2,3}
 (1 Grad. Sch. Sci. Technol. Innov., Yamaguchi Univ., 2 Fac. Agric., Yamaguchi Univ., 3 RCTMR,
 Yamaguchi Univ., 4 NODAI GRC, Tokyo Univ. Agric.)
- 10:00** G2H5-0207 Glycolic acid production by using an ethylene glycol assimilating bacterium *Rhodococcus jostii* RHA1
○Kai Suzuki^{1,2}, Tetsu Shimizu², Masayuki Inui^{1,2} (1 Grad. Sch. Biol. Sci., NAIIST, 2 RITE)
- 10:00** G2H5-0208 Modulation of central metabolic flux by modification of ribosome-binding sequences on *E. coli*
 chromosomes
○Shogo Sawada, Fumio Matsuda, Yoshohiro Toya, Hiroshi Shimizu (Grad. Sch. IST, Osaka Univ.)
- 10:00** G2H5-0209 Improving energy metabolism in *Saccharomyces cerevisiae*
○Kaoru Daichou, Yoko Hirono, Hiroshi Kikukawa, Kentaro Tamura, Kiyotaka Hara (Sch. Food
 Nutr. Sci., Univ. Shizuoka.)
- 10:00** G2H5-0210 Metabolic flux evaluation of non-oxidative-glycolysis in *E. coli*
○Kenta Miyoshi, Ryutaro Kawai, Teppei Niide, Yoshihiro Toya, Hiroshi Shimizu (Grad. Sch. IST,
 Osaka Univ.)
- 10:00** G2H5-0211 Genomic mutation analysis of an evolved strain with enhanced mevalonate consumption
○Manami Murakami¹, Ryutaro Kawai¹, Tomoya Maeda², Takaaki Horinouchi²,
 Chikara Furusawa^{2,3}, Yoshihiro Toya¹, Hiroshi Shimizu¹
 (1 Osaka university, 2 RIKEN, 3 Tokyo university)
- 10:00** G2H5-0212 Growth associated metabolic design for enhancing flux to target production based on in silico simulation
○Yoshihiro Toya, Kinuka Isshiki, Xinchu Shi, Hiroshi Shimizu (Grad. Sch. IST, Osaka Univ.)

Room H5 (11:00~11:30)

【Biosynthesis, Natural Organic Chemistry】

- 11:00** G2H5-0301 Construction of an artificial system for ambrein biosynthesis and investigation of some biological activities of ambrein
 Yota Yamabe¹, Yukina Kawagoe¹, Kotone Okuno¹, Mao Inoue¹, Kanako Chikaoka¹,
 ○Daijiro Ueda¹, Yuko Tajima², Tadasu Yamada², Yoshito Kakihara³, Takashi Hara¹, Tsutomu Sato¹
 (¹ Grad. Sch. Sci. Technol., Niigata Univ., ² Dept. Zoology, Natl. Museum Nat. Sci., ³ Fac. Dent., Niigata Univ.)
- 11:00** G2H5-0302 Effect of the proteasomal gene deletion in an epsilon-poly-L-lysine producer, *Streptomyces albulus*
 ○Misaki Mima, Tadao Oikawa, Kazuya Yamanaka (Fac. Chem. Mater. Bioeng., Kansai Univ.)
- 11:00** G2H5-0303 Inhibitory effects of *Calophyllum inophyllum* seed oil on matrix metalloproteinase 9.
 ○Ami Matsui¹, Tetsuya Matsukawa¹, Toru Usami², Shin'ichiro Kajiyama¹
 (¹ Grad. Sch. BOST, Kinki Univ., ² Sumaeco Co.Ltd, Okinawa, Japan)
- 11:00** G2H5-0304 Characterization of *Marchantia polymorpha* L. chalcone synthase knockout mutant on sperm-attraction
 ○Hiroki Suwa, Natsumi Takebe, Yumiko Yamasaki, Tetsuya Matsukawa, Katsuyuki Yamto,
 Shin'ichiro Kajiyama
 (Grad. Sch. BOST, Kinki Univ.)
- 11:00** G2H5-0305 Elucidation of pyrazine biosynthetic mechanism originating from L-threonine and its application
 ○Tomoharu Motoyama¹, Shogo Nakano¹, Fumihito Hasebe², Ryo Miyata¹, Shigenori Kumazawa¹,
 Noriyuki Miyoshi¹, Sohei Ito¹
 (¹ Grad. Sch. Integr. Pharm. Nutr. Sci., Univ. Shizuoka, ² Fac. Biotechnol., Fukui Pref. Univ.)
- 11:00** G2H5-0306 Action mechanism of nucleoside antibiotic toyocamycin in *Candida albicans*
 ○Yokota Naoki, Tanibata Tomoki, Ojima Yoshihiro, Azuma Masayuki (Grad. Sch. Eng., Osaka City Univ.)
- 11:00** G2H5-0307 An antimicrobial activity of Spiculisporic acid produced by *Penicillium spiculisporum*, and its derivatives
 ○Ayumi Soga¹, Toshiaki Taira², Ayumi Ikeda², Yoshiyuki Mochiduki¹, Yoshinori Sekiguchi¹
 (¹ Res. Inst., IWATA CHEMICAL CO., LTD, ² RICPT, AIST)
- 11:00** G2H5-0308 Engineering of pathway for asymmetric carotenoids
 ○Takumi Ojima¹, Shigeko Kawai-Noma¹, Daisuke Umeno^{1,2} (¹ Grad. Sch. Adv. Integr. Sci., Chiba Univ., ² Sch. Adv. Sci. Eng., Waseda Univ.)
- 11:00** G2H5-0309 Directed evolution of isoprenoid pathway using depletion and cytotoxicity of DMAPP
 ○Yumi Onozato¹, Naomasa Araki¹, Noriko Kinoshita², Shigeko Kawai-Noma¹, Daisuke Umeno^{1,3}
 (¹ Grad. Sch. Adv. Integr. Sci., Chiba Univ., ² Grad. Sch. Eng., Chiba Univ., ³ Grad. Sch. Adv. Sci. Eng., Waseda Univ.)
- 11:00** G2H5-0310 Functional analysis of Phenylalanine hydroxylase involved in the resormycin biosynthesis.
 ○Chihiro Kishi¹, Chitose Maruyama¹, Kazuya Yamanaka², Yoshimitsu Hamano¹
 (¹ Fac. Biotechnol., Fukui Pref. Univ., ² Fac. Chem. Mater. Bioeng., Kansai Univ.)
- 11:00** G2H5-0311 Mutation analysis of an animoacyl-tRNA dependent amide bond synthase involved in the biosynthesis of a streptothricin-related compound
 ○Shun Uchiyama¹, Chitose Maruyama¹, Sherif Ahmed Muhammed Ahmed Hamdy², Yu Nakajima²,
 Hiroyuki Morita², Yoshimitsu Hamano¹
 (¹ Fac. Biotechnol., Fukui Pref. Univ., ² Inst. Nad. Med., Univ. Toyama)

【Organic Chemistry, Polymer Chemistry】

- 11:00 G2H5-0312 Development of a handy screening method of histone deacetylase 1 inhibitor using a one-pot chemoenzymatic synthesis of aromatic amide compounds
○Hirata Yoshiyuki¹, Uesato Shinichi¹, Matsui Daisuke² (¹Osaka Med. Pharm. Univ., ²Coll. Life Sci., Ritsumeikan Univ.)

Room H6 (9:30~10:00)

【Fermentation Physiology, Fermentation Technology】

- 9:30 G2H6-0101 Relationship between nitrogen starvation and erythritol production in *Moniliella megachiliensis*
○Shogo Yoshitake¹, Taisuke Watanabe^{1,2}, Takafumi Kasumi^{1,2}, Jun Ogihara^{1,2}
 (¹Dept. Grad. Sch. Bioresour. Sci., Nihon Univ., ²Coll. Bioresour. Sci., Nihon Univ.)
- 9:30 G2H6-0102 Evaluation of the usefulness of a novel mutant gene that confers high-concentration sugar tolerance on *Saccharomyces cerevisiae*
○Tomona Umakura¹, Soma Shioiri², Susumu Kokubo³, Masayuki Hayakawa⁴, Hideki Yamamura³,
 Youji Nakagawa³
 (¹Grad. Sch. Med. Eng. Agric., Univ. Yamanashi, ²Grad. Sch. Med. Eng., Univ. Yamanashi, ³Grad. Fac. Interdisc. Res., Univ. Yamanashi, ⁴Yamanashi Prefectur. Univ.)
- 9:30 G2H6-0103 Characterization and genomic mutation analysis of hydrogen peroxide-tolerant mutant strains of baker's yeast
○Nanako Tsuyuki¹, Susumu Kokubo², Masayuki Hayakawa³, Hideki Yamanura², Youji Nakagawa²
 (¹Grad. Sch. Med. Eng. Agric., Univ. Yamanashi, ²Grad. Fac. Interdisc. Res., Univ. Yamanashi, ³Yamanashi Prefectur. Univ.)
- 9:30 G2H6-0104 Oxygen limitation enhanced 3-amino-4-hydroxybenzoic acid production by recombinant *Corynebacterium glutamicum*
○Hideo Kawaguchi¹, Tomohisa Hasunuma², Yasuo Ohnishi³, Takashi Sazuka⁴, Chiaki Ogino⁵,
 Akihiko Kondo^{1,2,5}
 (¹Grad. Sch. Sci. Technol. Innov., Kobe Univ., ²EGBRC, Kobe Univ., ³Grad. Sch. Agric. Life Sci., Univ. Tokyo, ⁴Biosci. Biotech. Cent., Nagoya Univ., ⁵Fac. Eng., Kobe Univ.)
- 9:30 G2H6-0105 Metabolic regulation adapting to high methanol environment in the methylotrophic yeast *Ogataea methanolica*
○Hao-Liang Cai¹, Ryohei Doi², Masaya Shimada^{1,2}, Takashi Hayakawa^{1,2}, Tomoyuki Nakagawa^{1,2}
 (¹United Grad. Sch. Agric. Sci., Gifu Univ., ²Grad. Sch. Nat. Sci. Technol., Gifu Univ.)
- 9:30 G2H6-0106 Study on growth stimulation of *Methylorubrum* strain by lanthanides in oligotrophic condition
○Yuchi Nemoto¹, Kosuke Mizuno¹, Yuto Harada¹, Satoshi Iwamoto¹, Akio Tani², Ryoji Mitsui³,
 Masaya Shimada¹, Takashi Hayakawa¹, Tomoyuki Nakagawa¹
 (¹Grad. Sch. Nat. Sci. Technol., Gifu Univ., ²IPSR., Okayama Univ., ³Fac. Sci., Okayama Univ. Sci.)
- 9:30 G2H6-0107 Study on new antibiotics produced by *Streptomyces* sp. No. 3
○Kana Kakoi¹, Yuina Abe¹, Shuichiro Murakami² (¹Grad. Sch. Agric., Meiji Univ., ²Sch. Agric., Meiji Univ.)
- 9:30 G2H6-0108 Physiological function analysis of plasma membrane phospholipids in *Acetobacter pasteurianus* SKU1108
○Akane Tsuji, Yosuke Toyotake, Yusuke Kawamata, Shota Yamamoto, Daisuke Matsui,
 Mamoru Wakayama
 (Grad. Sch. Life Sci., Ritsumeikan Univ.)

- 9:30** G2H6-0109 Effect of temperature on metabolic activity, cell morphology and viability in *Streptomyces*
○Jun Sakurai¹, Hiroto Uchikura¹, Shogo Yamamoto², Yuuki Yamada², Masahiro Sota²,
 Yota Tsuge^{1,3}
 (¹ Grad. Sch. Nat. Sci. Technol., Kanazawa Univ., ²Nagase & Co., Ltd, ³InFiniti, Kanazawa Univ.)
- 9:30** G2H6-0110 Investigation of medium composition for low cost production of acetate from H₂/CO₂
○Naoki Watanabe¹, Setsu Kato¹, Yoshiteru Aoi¹, Junya Kato¹, Tsunehiro Aki¹, Masashi Matsuura²,
 Takeshi Sawada², Yutaka Nakashimada¹
 (¹ Grad. Sch. Integr. Sci. Life, Hiroshima Univ., ²The Chugoku Electric Power Company, Incorporated)
- 9:30** G2H6-0111 Concentration-dependent toxicity of 1-butanol to *Escherichia coli* cells
○Misaki Shinzato¹, Ryuji Kawabata¹, Yuto Araki², Yoshiteru Aoi¹, Yutaka Nakashimada¹,
 Setsu Kato¹
 (¹ Grad. Sch. Integr. Sci. Life, Hiroshima Univ., ²Sch. Eng., Hiroshima Univ.)
- 9:30** G2H6-0112 Development of organic acid production from *Cyanidioschyzon merolae*
○Chihiro Yoshida¹, Takashi Osanai² (¹ Grad. Sch. Agric., Meiji Univ., ²Sch. Agric., Meiji Univ.)

Room H6 (10:30~11:00)

【Metabolic Engineering】

- 10:30** G2H6-0201 Bioproduction of carotenoids by organic solvent tolerant microorganism *Kocuria rhizophila* DC2201
○Hiroshi Toda^{1,2}, Nana Onogi², Tamotsu Kanai^{1,2} (¹ Biotechnol. Res. Center, Toyama Pref. Univ.,
² Fac. Eng., Toyama Pref. Univ.)
- 10:30** G2H6-0202 Metabolic engineering of *Escherichia coli* for introducing and evaluation of a reverse glyoxyl shunt
○Kosaku Tanaka, Yoshihiro Toya, Hiroshi Shimizu (Grad. Sch. IST, Osaka Univ.)
- 10:30** G2H6-0203 Co-metabolism of glucose and xylose by a *Pseudomonas putida* KT2440 recombinant available for value-added chemicals production from lignin-related aromatic compounds.
○Makoto Tanaka¹, Kyoka Goto¹, Yudai Higuchi², Tomonori Sonoki²
 (¹ Grad. Sch. Agric. Life Sci., Hirosaki Univ., ² Fac. Agric. Life Sci., Hirosaki Univ.)
- 10:30** G2H6-0204 Retinal production by engineered *Xanthophyllomyces dendrorhous*
 Sayo Fujino¹, Yuya Kageyama¹, Yoko Hirono², Hiroshi Kikukawa^{1,2}, Fumio Matsuda³,
 Yoshihiro Toya³, Jun Ishii⁴, ○Kiyotaka Hara^{1,2}
 (¹ Grad. Sch. Integr. Pharm. Nutr. Sci., Univ. Shizuoka, ² Sch. Food Nutr. Sci., Univ. Shizuoka., ³ Grad. Sch. IST, Osaka Univ., ⁴ Grad. Sch. Sci. Technol. Innov., Kobe Univ.)
- 10:30** G2H6-0205 Influence of growth and lipid productivity of ATP-citrate lyase in oleaginous yeast
○Rikako Sato¹, Satoshi Ara¹, Harutake Yamazaki¹, Yosuke Shida², Wataru Ogasawara²,
 Katsuro Yaoi³, Hideo Araki⁴, Koji Ishiya³, Sachiyo Aburatani⁵, Hiroaki Takaku¹
 (¹ Fac. Appl. Life Sci., Niigata Univ. Pharm. Appl. Life Sci., ² Nagaoka Univ. Technol., ³ BPRI, AIST, ⁴ Fuji Oil Co., Ltd., ⁵ CBBB-OIL, AIST)
- 10:30** G2H6-0206 *In vitro* metabolic engineering towards high yield coenzyme A production
○Gladwin Suryatin Alim¹, Tomoka Iwatani¹, Kenji Okano^{1,2}, Shigeru Kitani^{1,2}, Kohsuke Honda^{1,2}
 (¹ ICBiotech, Osaka Univ., ² OTRI, Osaka Univ.)
- 10:30** G2H6-0207 ¹³C metabolic flux analysis of the oleaginous yeast in growth phase and lipid production phase
○Arisa Matsuo, Nobuyuki Okahashi, Taisuke Seike, Fumio Matsuda (Grad. Sch. IST, Osaka Univ.)
- 10:30** G2H6-0208 Perturbation analysis of intracellular NADPH level in starved *Escherichia coli* using mBFP sensor
○Koichiro Ueno, Yoshihiro Toya, Hiroshi Shimizu (Grad. Sch. IST, Osaka Univ.)

- 10:30** G2H6-0209 Development of a metabolic switch induced by directional protein degradation in *Corynebacterium glutamicum*
 Hiroki Matsuzawa¹, Norihiko Takemoto², Jun Sakurai¹, ○Yota Tsuge^{1,3}
 (¹ Grad. Sch. Nat. Sci. Technol., Kanazawa Univ., ² NCGM, ³ InFiniti, Kanazawa Univ.)
- 10:30** G2H6-0210 Construction and validation of a metabolic model for the thermophilic actinomycete *Streptomyces thermoviolaceus*
 ○Tomoya Kobayashi¹, Katsumi Ota¹, Minami Yara³, Naoki Watanabe¹, Masakazu Toyoshima¹,
 Musashi Takenaka², Akihiko Kondo², Chiaki Ogino¹
 (¹ Grad. Sch. Eng, Kobe Univ., ² Grad. Sch. Sci. Technol. Innov., Kobe Univ., ³ Fac. Eng., Kobe Univ.)
- 10:30** G2H6-0211 Metabolic analysis of *Saccharomyces cerevisiae* using Gibbs free energy change
 ○Sugimura Masahiko, Taisuke Seike, Okahasi Nobuyuki, Matsuda Fumio (Grad. Sch. IST, Osaka Univ.)

Room H6 (11:30~12:00)

【Nucleic Acid Engineering】

- 11:30** G2H6-0301 Discovery of orthogonal RNA-RBP pairs by using PD-SELEX
 ○Keisuke Fukunaga, Yohei Yokobayashi (OIST)

【Peptide Engineering】

- 11:30** G2H6-0302 Discovery of novel salty peptides using cell evaluation and animal behavior test
 ○Yuri Takeuchi, Aya Ikeda, Kazunori Shimizu, Hiroyuki Honda (Grad. Sch. Eng., Nagoya Univ.)
- 11:30** G2H6-0303 Improved bioluminescence-based endotoxin measurement method using a salt-resistant luciferase mutant
 ○Satoshi Yawata^{1,2}, Kenichi Noda¹, Ai Shimomura¹, Akio Kuroda²
 (¹ DKK-TOA Corp., ² Grad. Sch. Integr. Sci. Life, Hiroshima Univ.)
- 11:30** G2H6-0304 Functional analysis of amino acid substitutes of oxytocin by cyclic peptide library
 ○Remi Kinoshita¹, Keitaro Yoshioka¹, Ikko Kozaki¹, Takahiro Shibata², Kazunori Shimizu¹,
 Hiroyuki Honda¹
 (¹ Grad. Sch. Eng., Nagoya Univ., ² Grad. Sch. Bioagric., Sci., Nagoya Univ.)
- 11:30** G2H6-0305 Characterization of the biosynthetic mechanism of a circular bacteriocin, enterocin NKR-5-3B
 Kazutoshi Noridomi¹, Rina Masunaga¹, Shota Sado¹, Rodney Honrada Perez^{1,2}, Kenji Sonomoto¹,
 Jiro Nakayama¹, ○Takeshi Zendo¹
 (¹ Fac. Agric., Kyushu Univ., ² Univ. Philippines, Los Banos)
- 11:30** G2H6-0306 Rapid tuning of peptide binding by PURE ribosome display and NGS
 ○Beixi Jia, Takaaki Kojima, Hideo Nakano (Grad. Sch. Bioagric., Sci., Nagoya Univ.)

【Lipid Engineering】

- 11:30** G2H6-0307 Aberrant membrane structures in hypervesiculating *Escherichia coli* strain visualized by electron microscopy
 ○Yoshihiro Ojima¹, Tomomi Sawabe¹, Mao Nakagawa¹, Yuhei Tahara O.², Makoto Miyata²,
 Masayuki Azuma¹
 (¹ Grad. Sch. Eng., Osaka City Univ., ² Grad. Sch. Sci., Osaka City Univ.)

- 11:30** G2H6-0308 Characterization of the hyper-vesiculation strains of *Escherichia coli* Nissle 1917
○Mao Nakagawa¹, Yoshihiro Ojima¹, Tomomi Sawabe¹, Yuhei Tahara O.², Makoto Miyata²,
 Masayuki Azuma¹
 (¹ Grad. Sch. Eng., Osaka City Univ., ² Grad. Sch. Sci., Osaka City Univ.)
- 11:30** G2H6-0309 Whole genome analysis for the elucidation of lipid production mechanism in oleaginous yeast
○Sayaka Maeda¹, Hiroyuki Kajiura², Daisuke Motooka³, Chih Chan Wu², Ryo Misaki²,
 Kazuhito Fujiyama²
 (¹ Grad. Sch. Eng., Osaka Univ., ² ICBiotech, Osaka Univ., ³ Grad. Sch. Med., Osaka Univ.)
- 11:30** G2H6-0310 Membrane vesicles-mediated iron acquisition in *Corynebacterium glutamicum*.
○Kayuki Kawashima¹, Toshiki Nagakubo², Nobuhiko Nomura^{3,4}, Masanori Toyofuku^{3,4}
 (¹ Grad. Sch. Life Environ. Sci., Univ. Tsukuba, ² Grad. Sch. Agric. Life Sci., Univ. Tokyo, ³ Faculty of Life
 Environ. Sci., Univ. Tsukuba, ⁴ Microbiology Research Center for Sustainability: MiCS Univ. Tsukuba)
- 11:30** G2H6-0311 Understanding how bacterial membrane vesicles deliver their cargo to cells
○Yuki Usukura¹, Nobuhiko Nomura^{2,3}, Masanori Toyofuku^{2,3}
 (¹ Grad. Sch. Life Environ. Sci., Univ. Tsukuba, ² Faculty of Life Environ. Sci., Univ. Tsukuba,
³ Microbiology Research Center for Sustainability: MiCS Univ. Tsukuba)

【Glycoengineering】

- 11:30** G2H6-0312 Analysis of *N*-glycan in middle silk grand from transgenic silkworm
○Hikaru Asano¹, Hiroyuki Kajiura², Kenichiro Tatematsu³, Yuhei Iwagawa¹, Ryo Misaki²,
 Hideki Sedutsu³, Kazuhito Fujiyama²
 (¹ Grad. Sch. Eng., Osaka Univ., ² ICBiotech, Osaka Univ., ³ NIAS)
- 11:30** G2H6-0313 Analysis of the relationship between defucosylation of *N*-glycan and HBV life-cycle
○Miki Nagamine¹, Ryo Misaki¹, Tomoyuki Honda², Hiroyuki Kajiura¹, Keiji Ueda³,
 Kazuhito Fujiyama¹
 (¹ ICBiotech, Osaka Univ., ² Grad. Sch. Med. Dent. Pharm, Sci., Okayama Univ., ³ Grad. Sch. Med., Osaka
 Univ.)
- 11:30** G2H6-0314 Glycan-modification of a glycoside which inhibits HBV-infection and its characterization
○Akira Wakamatsu¹, Ryo Misaki¹, Yu Fujisawa¹, Tomoyuki Honda², Hiroyuki Kajiura¹,
 Keiji Ueda³, Kazuhito Fujiyama¹
 (¹ ICBiotech, Osaka Univ., ² Grad. Sch. Med. Dent. Pharm, Sci., Okayama Univ., ³ Grad. Sch. Med., Osaka
 Univ.)
- 11:30** G2H6-0315 Production of beta1,4-galactosylated antibody in *Nicotiana benthamiana*
○Dua Nguyen¹, Hiroyuki Kajiura², Ryo Misaki², Kazuhito Fujiyama²
 (¹ Grad. Sch. Eng., Osaka Univ., ² ICBiotech, Osaka Univ.)

Room H7 (9:00~9:30)

【Biomedical Engineering】

- 9:00** G2H7-0101 Design of genetically engineered Link module and development of ECM mimetic hydrogel
○Masashi Okawa¹, Aki Tanabe¹, Ohta Seiichi¹, Satoru Nagatoishi², Kouhei Tsumoto^{2,3}, Taichi Ito^{1,3}
 (¹ Grad. Sch. Eng., Univ. Tokyo, ² Inst. Med. Sci., Univ. Tokyo, ³ Grad. Sch. Med., Univ. Tokyo)
- 9:00** G2H7-0102 Engineering of extracellular vesicles for protein sorting and drug delivery application
○Masaharu Somiya, Shun'ichi Kuroda (SANKEN, Osaka Univ.)

- 9:00** G2H7-0103 Functional analysis of Tppp3 in mammalian ciliary cells
○Takafumi Sakai¹, Katsuyoshi Takaoka², Hiroshi Hamada³, Kyosuke Shinohara¹
 (¹ Grad. Sch. Eng., Tokyo Univ. Agric. Technol., ² Grad. Sch. Adv. Technol. Sci., Tokushima Univ., ³ BDR, RIKEN)
- 9:00** G2H7-0104 Stress history monitoring based on mass spectrometry imaging of hair strand
○Ryo Ueki¹, Hirotaka Nagai², Tomoyuki Furuyashiki², Eiichiro Fukusaki^{1,3,4}, Shuichi Shimma^{1,3,4}
 (¹ Grad. Sch. Eng., Osaka Univ., ² Grad. Sch. Med., Kobe Univ., ³ Industrial Biotechnol. Div., Inst. for Open and Transdisciplinary Res. Initiatives, Osaka Univ., ⁴ Osaka Univ. Shimadzu Omics Innov. Res. Laboratories)
- 9:00** G2H7-0105 Targeted and ultrasound-triggered cancer cell injury using perfluorocarbon-loaded nano emulsion
○Mizutani Ryo¹, Ninomiya Kazuaki² (¹ Grad. Sch. Nat. Sci. Technol., Kanazawa Univ., ² Ints. Frontier Sci. Initiative, Kanazawa Univ.)
- 9:00** G2H7-0106 Rapid construction of hyperphosphatemia rat model using adenine
○Ajeeta Anand¹, Muthukumar Serva Peddha², Hideki Aoyagi¹
 (¹ Fac. Life Env. Sci., Univ. Tsukuba, ² Dept. Biochem., CSIR Central Food Technol. Res. Inst. India)
- 9:00** G2H7-0107 A new technology of bFGF contained Gel-in-Oil emulsion delivery for inducing angiogenesis
○Yi Zhang¹, Yuta Inoue¹, Jannatul Fardous¹, Yusuke Sakai¹, Fumiyasu Ono², Hiroyuki Ijima¹
 (¹ Fac. Eng., Kyushu Univ., ² Kyushu GIC)
- 9:00** G2H7-0108 Label-free quality control and identification of human keratinocyte stem cells by deep learning-based automated cell tracking
○Takuya Hirose¹, Jun'ichi Kotoku¹, Fujio Toki², Emi Nishimura³, Daisuke Nanba²
 (¹ Grad. Sch. Med. Care Technol., Teikyo Univ., ² Dept. Stem Cell Biol, Med. Res. Inst., TDC, ³ Inst. Med. Sci., Univ. Tokyo)
- 9:00** G2H7-0109 Electrophysiological insights into the relationship between chronic hemodialysis treatment and cardiomyocyte beating
○Hiroyuki Hamada (Fac. Agric., Kyushu Univ.)
- 9:00** G2H7-0110 Analysis of chondrogenic differentiation using small compounds
○Nobuyuki Shimohata (Res. Org. Sci. Technol., Ritsumeikan Univ.)
- 9:00** G2H7-0111 Examination of cell damage effect by glucuronic acid-modified titanium peroxide nanoparticles
○Takuma Morishita¹, Koki Kawamoto¹, Amane Washio³, Kenta Morita¹, Yuya Nishimura², Tooru Ooya¹, Akihiko Kondo², Chiaki Ogino¹
 (¹ Grad. Sch. Eng, Kobe Univ., ² Grad. Sch. Sci. Technol. Innov., Kobe Univ., ³ Fac. Eng., Kobe Univ.)
- 9:00** G2H7-0112 Development of polyphenol glycoside-modified titanium peroxide nanoparticles and examination of cell damage effect
○Koki Kawamoto¹, Takuma Morishita¹, Amane Washio⁴, Kenta Morita¹, Yuya Nishimura², Ryohei Sasaki³, Akihiko Kondo², Chiaki Ogino¹
 (¹ Grad. Sch. Eng, Kobe Univ., ² Grad. Sch. Sci. Technol. Innov., Kobe Univ., ³ Grad. Sch. Med., Kobe Univ., ⁴ Fac. Eng., Kobe Univ.)
- 9:00** G2H7-0113 Development of injectable anti-adhesion biomaterial using hyaluronan derivative with controlled enzymatic degradability
○Iku Moriya, Naoki Hasunuma, Kazuaki Muramatsu (Grad. Sch. Sci. Eng. Tokyo Denki Univ.)

Room H7 (10:00~10:30)

【Plant Cell / Tissue Engineering】

- 10:00 G2H7-0201 Large-grain and short-stem new variety "Koshihikari Suruga d60Gg" and late-maturing and short-stem new variety "Koshihikari Suruga d60Hd16" developed via Next-generation DNA sequencing
○Motonori Tomita (Res. Inst. Green Sci. Technol., Shizuoka Univ.)
- 10:00 G2H7-0202 Development of chemical compounds that induce stomatal opening and closing
○Taishin Kakei¹, Kyota Suzuki¹, Kanane Sato¹, Mieko Arisawa², Kanako Kumada³, Saori Tanii³, Miyu Yoshida³, Taro Mizuno³, Daisuke Motoki³, Masaru Kono⁴, Yasuhiro Isimaru¹, Nobuyuki Uozumi¹
 (¹Grad. Sch. Eng., Tohoku Univ., ²Fac. Agric., Kyushu Univ., ³Grad. Sch. Pha., Tohoku Univ., ⁴Grad. Sch. Sci., Univ. Tokyo)

【Cell and Tissue Engineering】

- 10:00 G2H7-0203 Artificial transcriptional activation system for RNA detection
○Feiyang Zheng¹, Yoshinori Kawabe², Masamichi Kamihira^{1,2} (¹Grad. Sch. Syst. Life Sci., Kyushu Univ., ²Fac. Eng., Kyushu Univ.)
- 10:00 G2H7-0204 Construction of minimal receptors capable of readily designing signaling properties
○Masahiro Kawahara, Kyoko Nakajima (NIBIO)
- 10:00 G2H7-0205 Mechanism of cold stimulus resistance and differentiation to beige adipocytes in white adipocytes
○Shiomi Naofumi, Fujiwara Yuki (Dept. Hum. Sci., Kobe Coll.)
- 10:00 G2H7-0206 Spheroid-based bio 3D printing using hydrogel slurry as support.
○Ono Riho¹, Ninomiya Kazuaki^{1,2} (¹Grad. Sch. Nat. Sci. Technol., Kanazawa Univ., ²Ints. Frontier Sci. Initiative, Kanazawa Univ.)
- 10:00 G2H7-0207 Compartmentalized three-dimensional human neuromuscular tissue models fabricated on a microdevice
○Yuhei Kamei, Kazuki Yamamoto, Hirokazu Akiyama, Hiroyuki Honda, Kazunori Shimizu (Grad. Sch. Eng., Nagoya Univ.)
- 10:00 G2H7-0208 Morphology-based cell evaluation for mesenchymal stem cell immunosuppressive quality
○Yuta Imai¹, Kei Kanie¹, Ryuji Kato^{1,2} (¹Grad. Sch. Pharm. Sci., Nagoya Univ., ²Inst. Nano-Life-Sci., Nagoya Univ.)
- 10:00 G2H7-0209 Data integration of morphological big data for cell quality control
○Yuto Takemoto¹, Kei Kanie¹, Ryuji Kato^{1,2} (¹Grad. Sch. Pharm. Sci., Nagoya Univ., ²Nano-Life-Systems Instit., Nagoya Univ.)
- 10:00 G2H7-0210 Data augmentation technology for morphology-based prediction model in limited data
○Kazue Kimura¹, Kei Kanie¹, Ryuji Katou^{1,2} (¹Grad. Sch. Pharm. Sci., Nagoya Univ., ²Inst. Nano-Life-Systems.,Nagoya Univ.)
- 10:00 G2H7-0211 Low adhesive scaffold collagen, LASColl
○Yoshitsugu Ohnuki¹, Yuki Yonezawa¹, Saori Kunii², Koichi Morimoto², Hiroshi Kurosawa¹
 (¹Grad. Sch. Med. Eng., Univ. Yamanashi, ²Grad. Sch. BOST, Kinki Univ.)
- 10:00 G2H7-0212 Analysis of neural stem/progenitor cell behaviors on a poly(vinyl alcohol) hydrogel crosslinked by gamma irradiation.
○Koyama Yutaka, Mori Hideki, Hara Masayuki (Grad. Sch. Sci., Osaka Pref. Univ.)
- 10:00 G2H7-0213 Construction of neuromuscular organoids (NMOs) on microdevices for measuring contractile force.
○Kazuki Yamamoto, Masaya Higuchi, Hirokazu Akiyama, Hiroyuki Honda, Kazunori Shimizu (Grad. Sch. Eng., Nagoya Univ.)

Room H7 (11:00~11:30)

【Cell and Tissue Engineering】

- 11:00** G2H7-0301 Analysis of adhesive properties of vascular endothelial cells cultured on UV-crosslinked collagen gel
○Hideki Mori, Saki Suzuki, Masayuki Hara (Grad. Sch. Sci., Osaka Pref. Univ.)
- 11:00** G2H7-0302 A study on the effect of overexpression of ERGIC-53/MCFD2 on antibody productivity in recombinant CHO cells
○Yutaka Kirimoto, Andrew Samy, Noriko Yamano-Adachi, Yuichi Koga, Takeshi Omasa (Grad. Sch. Eng., Osaka Univ.)
- 11:00** G2H7-0303 Analysis of effects on antibody productivity by overexpression of Sar1A in CHO cells
○Yu Tsunoda, Yutaka Kirimoto, Andrew Samy, Noriko Yamano-Adachi, Yuichi Koga, Takeshi Omasa (Grad. Sch. Eng., Osaka Univ.)
- 11:00** G2H7-0304 Screening of peptides with anti-atrophic activity using 96-well plate-formatted engineered human skeletal muscle tissues.
Kazuki Yamamoto, Saki Ohsumi, Takunori Nagashima, Hirokazu Akiyama, Horoyuki Honda, ○Kazunori Shimizu (Grad. Sch. Eng., Nagoya Univ.)
- 11:00** G2H7-0305 Transplantation of three-dimensional cardiac tissue by cell sheet rapid stacking
○Kodai Tahara¹, Katsuhisa Sakaguchi¹, Jun Homma³, Katsuhisa Matsuura³, Kiyotaka Iwasaki², Tatsuya Shimizu³
 (¹ Grad. Sch. Adv. Sci. Eng., Waseda Univ., ² Sch. Creative Sci. Eng., Waseda Univ., ³ Inst. Adv. Biomedical. Eng. Sci., Tokyo Women's Medical Univ.)
- 11:00** G2H7-0306 Inhibition of cell growth by sialyltransferase
Yoshitaka Makita², Yuya Okuzaki¹, Mitsuki Sano², Hidenori Kaneoka², Shinji Iijima³, ○Ken-ichi Nishijima¹
 (¹ Grad. Sch. Bioagric., Sci., Nagoya Univ., ² Grad. Sch. Eng., Nagoya Univ., ³ Fac. Eng., Aichi Inst. Technol.)
- 11:00** G2H7-0307 Reoscillation of clock gene *Per2* expression by addition of various sugars during cell cultivation
Ryoma Tarumi¹, Mutailipu Kayier¹, Eri Fukaura¹, ○Masashi Fujiwara^{1,2}, Mutsumi Takagi^{1,2}
 (¹ Grad. Sch. Chem. Sci. Eng., Hokkaido Univ., ² Grad. Sch. Eng., Hokkaido Univ.)
- 11:00** G2H7-0308 Thrombocyte lysate derived from fish blood enhances proliferation of CHO cells
○Ryosuke Inomata¹, Masashi Fujiwara^{1,2}, Kagayaki Morishima³, Itaru Shioya³, Kenichi Yamahara⁴, Mutsumi Takagi^{1,2}
 (¹ Grad. Sch. Chem. Sci. Eng., Hokkaido Univ., ² Grad. Sch. Eng., Hokkaido Univ., ³ Nippon Suisan Kaisha, Ltd., ⁴ Hyogo Coll. Med.)
- 11:00** G2H7-0309 Production of scFv-Fc antibody using CHK cells with an inducible transgene expression system
○Koyo Sakai, Yoshinori Kawabe, Ryusei Iwao, Masamichi Kamihira (Fac. Eng., Kyushu Univ.)
- 11:00** G2H7-0310 Single cell transcriptome analysis of CTCs recovered from gastric cancer patients with the MCA/GCM method
○Takeru Kobayashi¹, Ryo Negishi¹, Hitomi Yamakawa¹, Mayuko Horikawa¹, Tatsu Shimoyama², Humiaki Koizumi², Takeshi Sawada², Tsuyoshi Tanaka¹, Tomoko Yoshino¹
 (¹ Grad. Sch. Eng., Tokyo Univ. Agric. Technol., ² Tokyo Metropolitan Cancer Ctr. Infect. Dis. Ctr. Komagome Hosp.)

- 11:00** G2H7-0311 Mechanical analysis of interaction between actin filament and tail domain of intermediate filament nestin involving cancer cell softening
○Ayana Yamagishi¹, Koki Uchida², Taro Uyeda³, Shogo Yoshimoto⁴, Katsutoshi Hori⁴, Chikashi Nakamura^{1,2}
 (1 Cell. Mol. Biotech. Res. Inst., AIST, 2 Grad. Sch. Eng., Tokyo Univ. Agric. Technol., 3 Grad. Sch. Adv. Sci. Eng., Waseda Univ., 4 Grad. Sch. Eng., Nagoya Univ.)
- 11:00** G2H7-0312 Identification of actin-vimentin binding site assisted with AI analysis of primary sequence
○Uchida Koki¹, Yamagishi Ayana², Yuta Nitada³, Miyake Jun³, Nakamura Chikashi^{1,2}
 (1 Grad. Sch. Eng., Tokyo Univ. Agric. Technol., 2 Cell. Mol. Biotech. Res. Inst., AIST, 3 Grad. Sch. Eng., Osaka Univ.)
- 11:00** G2H7-0313 Functional analysis of Clic1, a cancer invasion-related channel involving chloride ion efflux induced by application of external force
○Akane Nagata¹, Ayana Yamagishi², Chikashi Nakamura^{1,2} (1 Grad. Sch. Eng., Tokyo Univ. Agric. Technol., 2 Cell. Mol. Biotech. Res. Inst., AIST)

Lunchtime Seminar

L2H5-0001 Amano Enzyme Inc./ Higuchi Matsunosuke Shoten Co., Ltd.

Room H5 (12:00~13:00)

L2H7-0001 Japan Science and Technology Agency

Room H7 (12:00~13:00)

Symposium

Room H1 (13:00~15:00)

Development and application of ‘Complex Microbial Engineering’ for bioresource-recycling and sustainability

- 13:00** Opening Remarks
Yukihiro Tashiro
 Chair: **Yukihiro Tashiro**
- 13:10** S2H1-0601 Forming mechanisms of engineered complex microbial systems for appropriate management
○Hiroyuki Futamata^{1,2,3} (1 Res. Inst. Green Sci. Technol., Shizuoka Univ., 2 Fac. Eng. Shizuoka Univ., 3 Grad. Sch. Sci. Technol. Shizuoka Univ.)
- 13:35** S2H1-0602 Investigation of microbial interactions to promote anaerobic digestion of sewage sludge
○Toshinari Maeda (Grad. Sch. Life Sci. Syst. Eng., Kyushu Inst. Technol.)
- 14:00** Break
 Chair: **Toshinari Maeda**
- 14:05** S2H1-0603 Complex Microbial Community + Electrochemistry = Organic Waste Treatment + Electricity
○Kengo Inoue (Fac. Agric., Univ. Miyazaki)

- 14:25** S2H1-0604 Complex microbial engineering of autothermal thermophilic aerobic digestion process useful for producing liquid fertilizer from human waste
○Kenji Sakai, Yukihiro Tashiro (Fac. Agric., Kyushu Univ.)
- 14:55** Closing Remarks
Kengo Inoue

Room H1 (15:30~17:30)

Microorganisms that contribute to carbon recycling

- 15:30** Opening Remarks
Toshiaki Kimura
 Chair: **Masaaki Morikawa**
- 15:40** S2H1-0701 Current Status of MicroAlgal Industries and Research Activities at Microalgae Research Station
○Junpei Nomura, Hiroyuki Aoyagi, Shinichi Aoki, Ryoko Tamura (Institute of Microalgal Technology, Japan)
- 16:00** S2H1-0702 Cascade utilization of microalgal biomass for realizing sustainable aviation fuels business
○Hideyuki Suzuki (Euglena Co., Ltd.)
 Chair: **Satoshi Tsuneda**
- 16:20** S2H1-0703 MicroAlgae Towards Sustainable & Resilient Industry
○Takanori Hoshino (Chitose Laboratory Corp.)
- 16:40** Break
 Chair: **Junichi Kato**
- 16:45** S2H1-0704 Development of carbon recycled fermentation process
○Yutaka Nakashimada (Grad. Sch. Integr. Sci. Life, Hiroshima Univ.)
 Chair: **Yutaka Nakashimada**
- 17:05** S2H1-0705 Aerobic hydrogen-oxidizing bacteria and utilization for carbon recycling
○Hirofumi Nishihara (Dept. Food and Life Sci., Coll. Agric., Ibaraki Univ.)
- 17:25** Closing Remarks
Junichi Kato

Room H2 (13:00~15:00)

Toward the realization of a world-leading bio-economic society based on Bio x Digital fusion —Data platform to support data-driven biotechnology—

- Chair: **Hiroko Kawasaki**
- 13:00** S2H2-0801 Current status and prospects of utilization of bioresource data
○Tsubasa Nakajima (Mitsubishi UFJ Research and Consulting Co.,Ltd.)
- 13:26** S2H2-0802 Advance in metabolomics for data-driven biotechnology
○Hiroshi Tsugawa ^{1,2,3} (¹ Grad. Sch. Eng., Tokyo Univ. Agric. Technol., ² IMS,RIKEN, ³ CSRS, RIKENS)
- 13:51** S2H2-0803 Realization of stratified medicine and healthcare based on gut environment
○Shinji Fukuda ^{1,2,3,4}
 (¹ IAB, Keio Univ., ² KISTEC-KAST, ³ Univ. Tsukuba Sch. Med., ⁴ Metabologenomics)

- 14:16** S2H2-0804 NITE's data utilization strategy based on microorganisms
○Natsuko Ichikawa (NBRC, NITE)
 Chair: **Eiichiro Fukusaki**
- 14:41** Panel Discussion

Room H2 (15:30~17:30)

Bio-Economy and Glocal Biotechnology

- 15:30** Opening Remarks
 Yuichi Koga
 Chair: **Yuichi Koga**
- 15:40** S2H2-0901 Importance of enzymology in circular bioeconomy
○Kiyohiko Igarashi (Grad. Sch. Agric. Life Sci., Univ. Tokyo)
 Chair: **Tsubasa Nakajima**
- 16:05** S2H2-0902 Creation of a Bioeconomy Industry from Okinawa to the World
○Shimizu Masashi^{1,2} (¹Micro Bio Factory Co., Ltd., ²Curelabo Co., Ltd.)
- 16:30** S2H2-0903 New perspectives and developments of biotechnology born in the creative community
○Chiaki Ishizuka (Former Director of BioClub, Loftwork Inc.)
 Chair: **Yasuaki Kawarasaki**
- 16:55** S2H2-0904 The establishment of the method for the industrial mass production of Halophilic *Tetragenococcus* culture and development Brand of Shinshu Miso
○Satoshi Ishikawa (THE SHINSHU-MISO Res. Inst.)
- 17:20** Closing Remarks
 Yasuaki Kawarasaki

Room H3 (13:00~15:00)

Reconstitution of biological systems for their understanding and bioengineering

- 13:00** Opening Remarks
 Kazuhito Tabata
 Chair: **Kazuhito Tabata**
- 13:15** S2H3-1001 in vitro reconstituted biosynthesis systems for pseudo-natural peptide ligands
○Yuki Goto (Grad. Sch. Sci., Univ. Tokyo)
- 13:35** S2H3-1002 Conceptually new mechanisms of morphogenesis; cells carry, cement, and connect fine spicules to build up the skeleton of sponges
○Noriko Funayama (Grad. Sch. Sci., Kyoto Univ.)
- 13:55** S2H3-1003 Unraveling the differences in the contraction mechanisms between the heart and muscles
○Motoshi Kaya (Grad. Sch. Sci., Univ. Tokyo)
 Chair: **Yuki Goto**
- 14:15** S2H3-1004 Heat transfer in living cell revealed by intracellular temperature imaging
○Kohki Okabe^{1,2}, Masaharu Takarada¹, Takashi Funatsu¹ (¹Grad. Sch. Pharm., Univ. Tokyo, ²PRESTO, JST)
- 14:35** S2H3-1005 Optimization of single-cell gene expression system for spatiotemporal understanding of plant immunity
○Shigeyuki Betsuyaku (Fac. Agr., Ryukoku Univ.)

- 14:55** S2H3-1006 Heterogeneity of viral populations by single influenza virus particle measurements
 ○Kazuhito Tabata (Grad. Sch. Eng., Univ. Tokyo)
- 15:15** Closing Remarks
 Yuki Goto

Room H3 (15:30~17:30)

What can we learn through University Original Branded SAKE?

- 15:30** Opening Remarks
 Yoichi Sakakibara
 Chair: **Kei Hayashi**
- 15:35** S2H3-1101 The endeavor for developing original shochu of University of Miyazaki "Kunto".
 ○Keiji Kiyoshi, Yoichi Sakakibara, Masahito Suiko (Fac. Agric., Univ. Miyazaki)
 Chair: **Wataru Aoki**
- 15:50** S2H3-1102 Development of microorganisms involved with Saga University's original sake "Yuyuchishui"
 ○Baba Shuichiro¹, Sawada Kazutaka², Nagano Yukio^{1,3}, Orita Ryo⁴, Kimura Kei^{1,4},
 Goto Masatoshi^{1,4}, Kobayashi Genta^{1,4}
 (¹United Grad. Sch. Agric. Sci., Kagoshima Univ., ²Ind. Technol., Cen. Saga., ³Cen. Ana., Saga Univ.,
⁴Fac. Agric., Saga Univ.)
 Chair: **Kazunori Nakashima**
- 16:10** S2H3-1103 Efforts in wine science and education at University of Yamanashi
 ○Misa Otoguro (Inst. Enol. Vitic., Univ. Yamanashi)
 Chair: **Yoichi Sakakibara**
- 16:35** S2H3-1104 Vertical, horizontal, and oblique connections "10" ~Attempt of Kagoshima University
 ○Yumiko Yoshizaki^{1,2} (¹Fac. Agric., Kagoshima Univ., ²United Grad. Sch. Agric. Sci., Kagoshima
 Univ.)
 Chair: **Genta Kobayashi**
- 17:00** S2H3-1105 Tohoku University original sake "Hagimaru": Product concept and current situation
 ○Katsuya Gomi (Grad. Sch. Agric. Sci., Tohoku Univ.)
- 17:25** Closing Remarks
 Genta Kobayashi

Room H6 (13:00~16:00)

KSBB-BEST-SBJ Joint Symposium for Biotechnology for SDGs [International Symposium]

- 13:00** Opening Remarks
 Kazuhito Fujiyama
 Chair: **Kazuhito Fujiyama**
- 13:10** S2H6-1201 Nanobiodevice based on Biohybrid Material toward Organ-on-a-Chip and Biohybrid Robot
 ○Jeong-Woo Choi
 (Dept. of Chem. and Biomol. Sogang Univ. Korea)

- Chair: **Jeong-Woo Choi**
- 13:30** S2H6-1202 Application of single-chamber electro-fermentation system for enhancing synthesis of polyhydroxyalkanoate
 ○John Chi-Wei Lan
 (Yuan Ze University, Taiwan)
 Chair: **John Chi-Wai Lan**
- 13:50** S2H6-1203 Membrane dynamics and cell signaling
 ○Masahiro Takagi (Sch. Mater. Sci., JAIST)
- 14:10** S2H6-1204 The Korean Bioindustry and Policy
 ○Youn Hee Choi
 (Center for Growth Engine Industries, Korea Institute for Industrial Economics & Trades (KIET), Korea)
- 14:30** Break
 Chair: **Youn Hee Choi**
- 14:35** S2H6-1205 Viral gene delivery for gene and cell therapy applications
 ○Jae-Hyung Jang
 (Dept. Chem. Biomol. Eng., Yonsei Univ.)
 Chair: **Jae-Hyung Jang**
- 14:55** S2H6-1206 Using electrorotation for characterizing microorganisms at single-cell level
 ○Hsiang-Yu Wang¹, Yu-Sheng Lin¹, Bruno Le Pioufle²
 (¹Dept. Eng. Syst. Sci., National Tsing Hua University, Taiwan, ²ENS Paris Saclay, CNRS Institut d'Alembert, LUMIN, France)
 Chair: **Hsiang-Yu Wang**
- 15:15** S2H6-1207 Biosensing of pancreatic cancer cell-derived exosomes using a glycan-lectin affinity
 Yonghyun Choi, ○Jonghoon Choi
 (Chung-Ang University)
 Chair: **Jonghoon Choi**
- 15:35** S2H6-1208 Peptide functionalized biodevices for biomedical applications
 ○Mina Okochi (Sch. Mater. Chem. Technol., Tokyo Tech)
- 15:55** Closing Remarks
 Masahiro Takagi

October 29, 2021

Time	No.	Title	Author (Affiliation)
			○=Indicates the presenter

Award Lecture

(Encouragement Award (Terui Award), Young Asian Biotechnologist Prize)

Room H1 (9:00~9:20)

9:00	A3H1-0001	<Encouragement Award (Terui Award)> Analysis of microbial culture media by component profiling and machine learning○Masaaki Konishi (Kitami Inst. Technol.)	Chair: Masamichi Kamihira
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Room H7 (9:00~9:20)

9:00	A3H7-0001	<Young Asian Biotechnologist Prize> Multiple bacteriocin production and the novel circular bacteriocin of newly isolated lactic acid bacteria○Rodney Perez (Nat. Inst. Mol. Biol. Biotechnol., Univ. Phil. Los Banos)	Chair: Kazuhito Fujiyama
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General Presentation

Room H1 (10:00~10:30)

【Bioremediation】

10:00	G3H1-0201	Characterization of <i>Acremonium</i> sp. TUS-MM1 capable of degrading patulin○Rina Sato ¹ , Megumi Mita ¹ , Hiroyuki Nakagawa ² , Toshiki Furuya ¹ (¹ Fas. Sci. Tec., Tokyo Univ. Sci., ² Research Center for Advanced Analysis, Core Technology Research Headquarters, NARO)	
10:00	G3H1-0202	Degradation of diphenyl ethers by <i>Streptomyces</i> sp. TUS-ST3○Kanakano Ishii ¹ , Satoshi Tonegawa ¹ , Hiroshi Habe ² , Toshiki Furuya ¹ (¹ Fac. Sci. Tec., Tokyo Univ. Sci., ² EMRI, AIST)	
10:00	G3H1-0203	Database analysis of hydrosphere environment○Ryo Takeuchi, Naoyuki Kajiwara, Quoc Thinh Tran, Kiwako S. Araki, Motoki Kubo (Grad. Sch. Life Sci., Ritsumeikan Univ.)	
10:00	G3H1-0204	The effect of soil environments including microorganisms on the infectivity of pathogen to plant root○Yugo Kumokawa ¹ , Takumi Sasaki ² , Quoc Thinh Tran ¹ , Kiwako S. Araki ¹ , Motoki Kubo ¹ (¹ Grad. Sch. Life Sci., Ritsumeikan Univ., ² Coll. Life Sci., Ritsumeikan Univ.)	
10:00	G3H1-0205	Development of a new rainwater purification system using environmental microorganisms○Takahito Tokura, Quoc Thinh Tran, Kiwako S. Araki, Motoki Kubo (Grad. Sch. Life Sci., Ritsumeikan Univ.)	

- 10:00** G3H1-0206 Preparation of fusion protein that binds calcium carbonate and polysaccharide and the effect on biocementation
○Jin Sakai, Kazunori Nakashima, Tetsuya Kawabe, Nawarathna Hiranya, Satoru Kawasaki (Grad. Sch. Eng., Hokkaido Univ.)
- 10:00** G3H1-0207 Control of magnetite aggregation by mussel adhesive protein
○Takahiro Sato, Kazunori Nakashima, Hiroki Miyagawa, Veedu Anju Pilakka, Satoru Kawasaki (Grad. Sch. Eng., Hokkaido Univ.)
- 10:00** G3H1-0208 Application of data science on phytoremediation towards identifying indicators for environmental diagnosis
○Hiroshi Kudo¹, Ning Han¹, Daiki Yokoyama², Mei-Fang Chen¹, Jun Kikuchi², Chihiro Inoue¹
 (¹Grad. Sch. Environ. Stud. Tohoku Univ., ²CSRS, RIKENS)
- 10:00** G3H1-0209 Empirical evidences reveal the role of non-degraders in the biodegradation of 1,4-dioxane under complex environment
○Mei-Fang Chien¹, Tanmoy Roy Tusher^{1,2}, Chihiro Inoue¹ (¹Grad. Sch. Environ. Stud. Tohoku Univ., ²Dept. Environ. Sci. Resour. Manage., Mawlana Bhashani Sci. Tech. Univ.)
- 10:00** G3H1-0210 Influence of light-responsive bionylon to marine microbial communities
○Satoshi Wakai¹, Misato Tsukatani¹, Noriyuki Isobe², Hodetaka Nomaki¹, Tatsuo Kaneko³
 (¹X-star, JAMSTEC, ²MRU, JAMSTEC, ³Grad. Sch. Adv. Sci. Technol., JAIST)
- 10:00** G3H1-0211 Isolation of ammonia gas-tolerant bacteria and their application to elimination of malodorous gas
 Saika Tada, Ryuto Yamazaki, Yugo Ito, Keiji Kiyoshi, ○Naoto Yoshida (Fac. Agric., Univ. Miyazaki)
- 10:00** G3H1-0212 Degradation of bacterial bisphenol S metabolites by phenolsulfonate- and hydroquinonesulfonate-degrading bacteria
○Masahiro Takeo, Ryota Ino, Seiwa Otaki (Grad. Sch. Eng., Univ. Hyogo)
- 10:00** G3H1-0213 Effective use of Ca(OH)₂ powder for disinfectant in farm and flooded area
○Na Zhu, Shinji Matsuzaki, Kento Azuma, Xuguang Lin, Masahiro Kuragano, Koji Uwai, Shinya Yamanaka, Kiyotaka Tokuraku (Muroran Inst. Technol.)
- 10:00** G3H1-0214 Aerobic degradation of chloroethenes by 1,4-dioxane degrading enzymes of *Pseudonocardia* sp. D17
○Ryugo Nishimine, Kousuke Minamizono, Masatoshi Nakazawa, Daisuke Inoue, Michihiko Ike (Grad. Sch. Eng., Osaka Univ.)
- 10:00** G3H1-0215 Attempt to synthesize antimony compounds by bioprocess
○Tomoya Murakami¹, Yoriko Tominaga², Yoshiko Okamura¹ (¹Grad. Sch. Integr. Sci. Life, Hiroshima Univ., ²Grad. Sch. Sci., Hiroshima Univ.)

Room H1 (11:00~11:30)

【Environmental Technology, Wastewater Treatment】

- 11:00** G3H1-0301 Examination of water regeneration by microalgae for long-term space stay
○Erina Yoshida¹, Kiryu Ito¹, Yuichi Kato², Chiaki Yamazaki³, Tomohisa Hasunuma^{1,2}
 (¹Grad. Sch. Sci. Technol. Innov., Kobe Univ., ²Eng. Bio. Res. Ctr., Kobe Univ., ³JAXA)
- 11:00** G3H1-0302 Oxygen supply capacity influences autothermal thermophilic aerobic digestion process
○Takahiro Idemoto, Min Zhang, Yukihiro Tashiro, Akiko Maruyama, Kenji Sakai (Grad. Sch. Bioresour. Bioenviron. Sci., Kyushu Univ.)
- 11:00** G3H1-0303 (Withdrawn)

- 11:00** G3H1-0304 Enrichment of thermophilic methanogenic microflora from mesophilic waste activated sludge and evaluation of microbial community dynamics
○Sumire Nakakoji¹, Melly Mellyanawaty^{2,4}, Masahiro Tatara¹, Lisendra Marbelia², Sarto², Irfan D.Prijambada³, Wiratni Budhijanto², Yoshiyuki Ueno⁵
 (1 Kajima Technol. Res. Inst., 2 Chemical Engineering Department, Faculty of Engineering, Universitas Gadjah Mada, 3 Faculty of Agriculture, Universitas Gadjah Mada, 4 Environmental Engineering Department, Faculty of Engineering, Universitas Muhammadiyah Tasikmalaya, 5 Alchemic Lab, Inc.)
- 11:00** G3H1-0305 Improvement of ammonium-rich waste to bioenergy conversion from illuminated anaerobic bioreactor: optimization and practical feasibility
○Yunxin Zhu, Zhiyuan Liu, Cheng Zhang, Jie Ming, Yingnan Yang
 (Grad. Sch. Life Environ. Sci., Univ. Tsukuba)
- 11:00** G3H1-0306 Study of terephthalic acid-degrading bacteria in activated sludge
○Aya Udono¹, Kiyoshi Sato¹, Takahiro Uchibori², Toshiaki Nakajima-Kambe¹
 (1 Grad. Sch. Life Environ. Sci., Univ. Tsukuba, 2 Panac ind, inc)
- 11:00** G3H1-0307 Mass balance analysis of material circulation using the convection type water treatment device in a water stagnation area.
○Sou Nakahira, Ryou Takeuchi, Quoc Thinh Tran, Kiwako S. Araki, Motoki Kubo (Grad. Sch. Life Sci., Ritsumeikan Univ.)
- 11:00** G3H1-0308 Development of enzyme preparation suitable for evaluation of marine biodegradable plastics
○Yutaka Tokiwa (Green Technol. Plus)
- 11:00** G3H1-0309 Characterization of Microbial Consortium Capable of Reducing Selenite to Produce Crystalline Selenium under High Salt Conditions
○Kanta Uchida¹, Yuya Ueda¹, Daisuke Inoue¹, Hiroshi Nishikawa², Michihiko Ike¹
 (1 Grad. Sch. Eng., Osaka Univ., 2 Joining and Welding. Res. Inst., Osaka Univ.)
- 11:00** G3H1-0310 Creation of functional silk for selective recovery of rare-earth ions
○Ishida Nobuhiro¹, Hatanaka Takaaki¹, Hosokawa Yoichi¹, Kojima Katsura², Iizuka Tetsuya³, Teramoto Hidetoshi², Sezutsu Hideki³, Kameda Tsunenori²
 (1 Toyota Cent. R&D Labs. Inc., 2 NARO, Silk Materials Res., 3 NARO, Silkworm Res.)
- 11:00** G3H1-0311 Removal of copper ions from aqueous phase by wood leaf-derived biochar
○Kyung Bin Oh, Yong-Keun Choi, Hak Jin Song, Jeong Wook Jo, Ju Yeon Lee, Hyung Joo Kim
 (Dept. of Biological Engineering, Konkuk Univ.)
- 11:00** G3H1-0312 Potential of oligotrophic bacteria as a biological control
○Tatsuya Ohike^{1,3}, Ayano Fujisawa², Shohei Ebe¹, Masahiro Okanami^{1,2}, Takashi Ano^{1,2}
 (1 Grad. Sch. BOST, Kindai Univ., 2 Fac. BOST, Kindai Univ., 3 Towada Green tuff Agro-science Co., Ltd.)
- 11:00** G3H1-0313 Development of the atmospheric bioaerosol observation method for dispersion predicting of apple scab
○Fumihisa Kobayashi¹, Kazuaki Tanaka², Teruo Sano² (1 Grad. Sch. Sci. Tech., Hirosaki Univ., 2 Grad. Sch. Agric. Life Sci., Hirosaki Univ.)
- 11:00** G3H1-0314 Single-cell genomics of the Tama River for revealing the dynamics of antibiotic resistant bacteria
○Yuko Tsukada¹, Yohei Nishikawa^{2,3}, Ryota Wagatsuma¹, Masato Kogawa^{2,3}, Keigo Ide^{1,3}, Masahito Hosokawa¹, Haruko Takeyama^{1,2,3,4}
 (1 Grad. Sch. Adv. Sci. Eng., Waseda Univ., 2 Res. Org. Nano Life Innov., Waseda Univ., 3 CBBD-OIL, AIST-Waseda Univ., 4 Inst. Adv. Res. Biosyst. Dyn., Waseda Res. Inst. Sci. Eng., Waseda Univ.)
- 11:00** G3H1-0315 Studies on the Antibacterial Effectiveness of Disinfectant Coatings
○Kanta Machi¹, Tomokazu Arijii², Hitoshi Iwahashi¹ (1 Fac. Appl. Biol. Sci., Gifu Univ., 2 koshikien)

Room H2 (9:30~10:00)

【Bioremediation】

- 9:30** G3H2-0101 Identification and remediation of destabilising factors in the degradation of aromatic compounds by *Sphingomonas bisphenolicum* AO1
○Liu Lu¹, Murakami Masakazu¹, Matsumura Yoshinobu^{1,2} (¹Grad. Sch. Sci. Eng., Kansai Univ.,
²ORDIST.Kansai Univ.)
- 9:30** G3H2-0102 Isolation and characterization of inhibitors and enhancers for biofilm development of *Pseudomonas aeruginosa* PA01 from metabolites of laboratory stock cultures.
○Ayumi Mataka¹, Yoshinobu Matsumura² (¹Grad. Sch. Sci. Eng., Kansai Univ., ²ORDIST. Kansai Univ.)
- 9:30** G3H2-0103 Exploration of factors relevant to the functional stability of complex microbial systems
○Koki Amano¹, Masahiro Honjo², Rei Ikeda³, Hidehiro Ishizawa⁴, Motohiko Kimura³,
 Yosuke Tashiro³, Hiroyuki Futamata⁴
 (¹Grad. Sch. Integr. Sci. Technol., Shizuoka Univ., ²Grad. Sch. Sci. Technol. Shizuoka Univ., ³Fac. Eng. Shizuoka Univ., ⁴Res. Inst. Green Sci. Technol., Shizuoka Univ.)
- 9:30** G3H2-0104 The coexistence of three-strains based on the fluctuation of microbial interactions in chemostat cultures
○Honjo Masahiro¹, Suzuki Kenshi², Amano Koki³, Saito Yasuhisa⁴, Takeda Kazuhiro³,
 Kimura Motohiko³, Ishizawa Hidehiro⁵, Tashiro Yosuke³, Futamata Hiroyuki^{1,3,5}
 (¹Grad. Sch. Sci. Technol. Shizuoka Univ., ²Grad. Sch. Agric. Life Sci., Univ. Tokyo, ³Grad. Sch. Integr. Sci. Technol., Shizuoka Univ., ⁴Dept. Math. Shimane Univ., ⁵Res. Inst. Green Sci. Technol., Shizuoka Univ.)
- 9:30** G3H2-0105 Enhancing anaerobic bioprocesses based on microbial electrosymbiosis via rechargeable biogenic minerals
○Ryoya Hayasi², Kazuki Yasuike², Miki Katagiri¹, Takahiro Omae², Ichio Kubono²,
 Yosuke Tashiro¹, Hiroyuki Futamata^{2,3}
 (¹Fac. Eng. Shizuoka Univ., ²Grad. Sch. Integr. Sci. Technol., Shizuoka Univ., ³Res. Inst. Green Sci. Technol., Shizuoka Univ.)
- 9:30** G3H2-0106 Evolution of a metabolic network enables multispecies coexistence under substrate limiting conditions
○Kenshi Suzuki^{1,5}, Yutaro Uehara², Futoshi Kurisu^{3,5}, Hideaki Nojiri^{4,5}
 (¹Grad. Sch. Agric. Life Sci., Univ. Tokyo, ²Grad. Sch. Eng. Dept. Urban Eng., Univ. Tokyo, ³Grad. Sch. Eng. Res. Ctr. WET., Univ. Tokyo, ⁴Grad. Sch. Agric. Life Sci. AgTech., Univ. Tokyo, ⁵CRIIM, Univ. Tokyo)
- 9:30** G3H2-0107 Microbial degradation of synthetic musk ester compounds
○Chikamoto Kojima¹, Toru Matsui^{1,2}, Asami Kubota², Nako Tanimura², Taro Urase^{1,2}
 (¹Grad. Sch. Bionics., Tokyo Univ. Technol., ²Sch. Biosci. Biotechnol., Tokyo Univ. Technol.)
- 9:30** G3H2-0108 Operation of a plant-based air purification filter system under various conditions
○Jeong Wook Jo, Hak Jin Song, Yong Keun Choi, Ju Yeon Lee, Kyung Bin Oh, Hyung Joo Kim
 (Dept. of Biological Engineering, Konkuk Univ.)
- 9:30** G3H2-0109 Regulation of *Leptothrix* filamentous growth by nutrient limitation
○Tatsuki Kunoh¹, Tatsuya Yamamoto¹, Erika Ono², Shinya Sugimoto³, Andrew Utada¹,
 Nobuhiko Nomura¹
 (¹Fac. Life. Environ. Sci., Univ. Tsukuba, ²Grad. Sch. Life Environ. Sci., Univ. Tsukuba, ³Sch. Med., Univ. Jikei)

【Biomass, Bioresource and Energy Engineering】

- 9:30 G3H2-0110 Analysis of the distribution patterns of plant root cultivated in organic and inorganic soils
○Misa Tsubokura, Quoc Thinh Tran, Kiwako S. Araki, Motoki Kubo (Grad. Sch. Life Sci., Ritsumeikan Univ.)
- 9:30 G3H2-0111 Analysis of the relation between soil environment and soil temperature
○Yuji Hirai, Quoc Thin Tran, Kiwako S. Araki, Motoki Kubo (Grad. Sch. Life Sci., Ritsumeikan Univ.)
- 9:30 G3H2-0112 Development of a novel soil by the effective utilization of woody biomass in agricultural lands
○Taichi Nishihara, Quoc Thinh Tran, Kiwako S. Araki, Motoki Kubo (Grad. Sch. Life Sci., Ritsumeikan Univ.)
- 9:30 G3H2-0113 Development of organic soil condition for tomato cultivation
○Zakirul Islam, Tran Quoc Thinh, Kiwako S. Araki, Motoki Kubo (Coll. Life Sci., Ritsumeikan Univ.)
- 9:30 G3H2-0114 Expression analysis of CDHs from the rice blast fungus *Magnaporthe oryzae* in cellulose induction
○Hinako Nakao, Yuto Honda, Masafumi Odaka, Hirotohi Matsumura (Grad. Sch. Eng., Sci., Akita Univ.)
- 9:30 G3H2-0115 Agricultural use of phosphorus released into the environment
○Noboru Takiguchi, Kaoru Hanahara, Mikio Kumita (Coll. Sci. Eng., Kanazawa Univ.)

Room H2 (10:30~11:00)

【Biomass, Bioresource and Energy Engineering】

- 10:30 G3H2-0201 Development of the culture method for aerial microalgae living on the wall and screening of fast-growth strains
○Yudai Ishikura, Nobuhiro Aburai, Katsuhiko Fujii (Fac. Eng., Kogakuin Univ.)
- 10:30 G3H2-0202 Carotenoid accumulation in aerial microalga BRCH-R-002 under stress conditions
○Shota Nozaki, Nobuhiro Aburai, Katsuhiko Fujii (Fac. Eng., Kogakuin Univ.)
- 10:30 G3H2-0203 Mechanisms of water-stress acclimation of *Coccomyxa subellipsoidea* KGU-D001, an aerial microalgal strain
○Rei Morita, Nobuhiro Aburai, Katsuhiko Fujii (Fac. Eng., Kogakuin Univ.)
- 10:30 G3H2-0204 Biofuel cell using hydrogen generation of photochemical system II
○Aoi Sugiyama, Akinari Iwahashi, Takeru Tsutsumi, Hinako Kawakami, Yasumitsu Matsuo (Grad. Sch. Sci. Eng., Setsunan Univ.)
- 10:30 G3H2-0205 Hydration and proton conduction of glycyserine peptide
○Hitoki Semizo, Haruka Kai, Hitoshi Nishimura, Yasumitsu Matsuo (Grad. Sch. Sci. Eng., Setsunan Univ.)
- 10:30 G3H2-0206 New nonhumidified proton conductor using hydroxyapatite-collagen complex
○Tomoki Furuseki, Yasumitsu Matsuo (Grad. Sch. Sci. Eng., Setsunan Univ.)
- 10:30 G3H2-0207 Photon number based light stimulation strategy for enhancing bio-hydrogen conversion in a hybrid bioreactor
○Zhiyuan Liu, Yunxin Zhu, Yujia Chen, Yingnan Yang (Grad. Sch. Life Environ. Sci., Univ. Tsukuba)
- 10:30 G3H2-0208 Analysis and evaluation of cell-plastics produced of cells as a sole raw-material
○Akane Tsuruta¹, Akihito Nakanishi^{1,2} (¹Sch. Biosci. Biotechnol., Tokyo Univ. Technol., ²Grad. Sch. Bionics., Tokyo Univ. Technol.)

- 10:30** G3H2-0209 Production and evaluation of cell-plastics produced of photosynthetic microorganisms in a pond
○Marina Watanabe¹, Akihito Nakanishi^{1,2} (¹Grad. Sch. Bionics., Tokyo Univ. Technol., ²Sch. Biosci. Biotechnol., Tokyo Univ. Technol.)
- 10:30** G3H2-0210 Production of 1,3-propanediol from waste glycerol by *Citrobacter braakii* strain TB-96
○Takahiro Yamaguchi, Takuma Narita, Aseel Alawi, Toshiaki Nakajima (Univ. Tsukuba)
- 10:30** G3H2-0211 Metabolic Engineering of *Citrobacter braakii* strain TB-96 for the Production of 1,3-propanediol and 3-hydroxypropionic Acid from Glycerol
○Aseel Alawi, Takuma Narita, Mizuki Matsumoto, Toshiaki Nakajima-Kambe (Grad. Sch. Life Environ. Sci., Univ. Tsukuba)
- 10:30** G3H2-0212 Production of carotenoid Rich-Single Cell Protein (SCP) by flower yeast cultivated in waste milk
○Airi Okubo, Thandar Khin, Mitsuo Otuka, Toshiaki Nakajima-Kambe (Grad. Sch. Life Environ. Sci., Univ. Tsukuba)
- 10:30** G3H2-0213 Probiotic feed development in fish farming
○Sarina Yamada¹, Humiyoshi Okazaki¹, Midori Umekawa¹, Hajime Nakatani², Katutoshi Hori², Yutaka Tamaru¹ (¹Grad. Sch. Bioresour., Mie Univ., ²Grad. Sch. Eng., Nagoya Univ.)
- 10:30** G3H2-0214 Cometabolic biodegradation of chlorinated volatile organic compounds and their conversion into biodegradable plastics by bacteria
○Young-Cheol Chang (Grad. Sch. Eng., Muroran Inst. Technol.)
- 10:30** G3H2-0215 Determination of optimal conditions for acetic acid production using C1 strain isolated from food waste
○Kazuma Imura, Young-Cheol Chang (Grad. Sch. Eng., Muroran Inst. Technol.)

Room H2 (11:30~12:00)

【Biomass, Bioresource and Energy Engineering】

- 11:30** G3H2-0301 Evaluation of electrode potential for metabolic control of *Desulfovibrio* sp. strain HK-II
○Ohmae Takahiro¹, Ando Shouta¹, Kubono Itio¹, Kudo Yuki¹, Tashiro Yosuke², Futamata Hiroyuki³ (¹Grad. Sch. Integr. Sci. Technol., Shizuoka Univ., ²Fac. Eng. Shizuoka Univ., ³Res. Inst. Green Sci. Technol., Shizuoka Univ.)
- 11:30** G3H2-0302 Metabolic transformations associated with the change of electron acceptor in the sulfate reducing bacterium *Desulfovibrio* sp. strain HK-II
○Ichio Kubono¹, Takahiro Omae¹, Yuki Kudo¹, Ryoya Hayashi¹, Yosuke Tashiro², Hiroyuki Futamata³ (¹Grad. Sch. Integr. Sci. Technol., Shizuoka Univ., ²Fac. Eng. Shizuoka Univ., ³Res. Inst. Green Sci. Technol., Shizuoka Univ.)
- 11:30** G3H2-0303 Ectoine production from putrefactive non-volatile amines as sole carbon and nitrogen sources in the moderate halophile *Halomonas elongata*
○Hideki Nakayama^{1,2,3}, Ryo Kawamoto², Katsuyuki Miyoshi² (¹Inst. Sci. Technol., Nagasaki Univ., ²Grad. Sch. Fish. Environ. Sci., Nagasaki Univ., ³Org. Marine Sci. Technol., Nagasaki Univ.)
- 11:30** G3H2-0304 Development of *Halomonas elongata* cell factory, which produces GABA in the cell and displays phytase on the cell surface
○Ziyan Zou¹, Hideki Nakayama^{1,2,3} (¹Grad. Sch. Fish. Environ. Sci., Nagasaki Univ., ²Inst. Sci. Technol., Nagasaki Univ., ³Org. Marine Sci. Technol., Nagasaki Univ.)

- 11:30** G3H2-0305 Investigation of sole carbon sources for poly(3-hydroxybutyrate) production in marine bacteria, *Cobetia* sp. IU180733JP01(5-11-6-3)
○Shiori Abe¹, Akira Mathumoto¹, Hiroki Moriya¹, Sung-Jin Kawai², Hiroaki Suzuki²,
 Miwa Yamada¹
 (¹Dept. Biolog. Chem. Food Sci., Iwate Univ., ²New Field Pioneering Div. Toyota Boshoku Corp.)
- 11:30** G3H2-0306 Exploration of orange peel degrading bacterial consortium from marine sediment
○Saya Hirata¹, Tuyoshi Ogasawara¹, Yoshiko Okamura², Yutaka Nakasimada², Kyouhei Horio²,
 Nobuki Hayase¹, Akihisa Kita¹
 (¹Niihama Natl. Coll. Technol., ²Grad. Sch. Integr. Sci. Life, Hiroshima Univ.)
- 11:30** G3H2-0307 Molecular mechanism of alginate degradation in alginate-degrading bacterial flora
○Kyohei Horio¹, Akihisa Kita², Hirokazu Takahashi¹, Kenshi Watanabe¹, Tsunehiro Aki¹,
 Yutaka Nakashimada¹, Yoshiko Okamura¹
 (¹Grad. Sch. Integr. Sci. Life, Hiroshima Univ., ²Niihama Natl. Coll. Technol.)
- 11:30** G3H2-0308 *De novo* transcriptome assembly of the midgut glands of herbivorous land crabs, *Chromantes haematocheir*, and identification of laccase genes involved in lignin degradation
○Katsuhide Miyake, Yuma Nagakura (Fac. Sci. Eng., Meijo Univ.)
- 11:30** G3H2-0309 Breeding of cellulase-producing *Saccharomyces cerevisiae*
○Hiroaki Matsuzaki, Shosuke Watanabe, Yusuke Shiwa, Tomonori Imakubo, Yudai Fujita,
 Takushi Hatano
 (Fac. Life Sci. Biotechnol., Fukuyama Univ.)
- 11:30** G3H2-0310 Isolation of *Trichoderma reesei* mutant deficient in beta-glucosidase and beta-xylosidase
○Takuya Noguchi, Yusuke Kagawa, Haruka Saito, Shingo Hiramatsu, Katsushige Yamada (New
 Frontiers Research Laboratories, Toray Industries, Inc.)
- 11:30** G3H2-0311 Isolation and characterization of Basidiomycete yeasts
○Ayumi Tanimura¹, Hikaru Adachi², Koichi Tanabe^{1,2}, Jun Shima^{1,2}
 (¹Microb. Resour. Cent. Ferment. Brew., Ryukoku Univ., ²Grad. Sch. Agric., Ryukoku Univ.)
- 11:30** G3H2-0312 Development of a microbial inoculant using rice husk biochar with *Bacillus* sp. IA 2
○Shohei Ebe¹, Ippei Matsuse², Tatsuya Ohike¹, Masahiro Okanami^{1,2}, Takashi Ano^{1,2}
 (¹Grad. Sch. BOST, Kindai Univ., ²Fac. BOST, Kindai Univ.)
- 11:30** G3H2-0313 Removal, recovery, and recycle of tungsten from the aqueous tungstate solution using immobilized microorganism
○Takehiko Tsuruta¹, Itsuki Satoh¹, Hiroto Takei¹, Shohta Taguchi¹, Masato Yasu¹, Sho Miyasato²
 (¹Faculty of Engineering, Hachinohe Institute of Technology, ²Faculty of Engineering, Graduate School of
 Hachinohe Institute of Technology)
- 11:30** G3H2-0314 The development of a novel functional material using alpha-1,3-Glucan
○Taichi Kogura¹, Makoto Ogaito², Yosuke Toyotake¹, Daisuke Matsui¹, Mamoru Wakayama¹
 (¹Grad. Sch. Life Sci., Ritsumeikan Univ., ²Shimadzu Corp.)
- 11:30** G3H2-0315 Study for noncontact sterilization by photoelectric conversion of novel optical
○Kenji Tanaka¹, Mako Iwashita¹, Mai Yonemoto¹, Kengo Ito²
 (¹Fac. Humanity-Oriented. Sci. Eng., Kinki Univ., ²Ito Research Institute Co., Ltd)

Room H3 (9:00~9:30)

【Biochemical Engineering】

- 9:00 G3H3-0101 Breeding of organic acid assimilation yeast for bio-refinery
○Hikari Tsuboi¹, Kahar Prihardi¹, Akihiko Kondo², Chiaki Ogino¹
 (1 Fac. Eng., Kobe Univ., 2 Grad. Sch. Sci. Technol. Innov., Kobe Univ.)
- 9:00 G3H3-0102 Analysis of the flame sterilization effects included in sampling operation on the microbial shake-flask culture
○Masato Takahashi, Hideki Aoyagi (Fac. Life Environ. Sci., Univ. Tsukuba)
- 9:00 G3H3-0103 Study of a simple observation method for microorganisms by field emission-type scanning electron microscope (FE-SEM)
○Harumi Matsui¹, Mizuki Kondo², Miyuki Takahashi², Nobuo Saito², Katsumasa Abe¹
 (1 NIT Hakodate College, 2 Nagaoka Univ. Technol.)
- 9:00 G3H3-0104 (Withdrawn)
- 9:00 G3H3-0105 Effect of growth rate on pellet size of *Mucor lusitanicus* during liquid cultivation.
○Ryo Osawa¹, Shuichiro Murakami² (1 Grad. Sch. Agric., Meiji Univ., 2 Sch. Agric., Meiji Univ.)
- 9:00 G3H3-0106 Screening of gene expression associated with awakening from *Escherichia coli* persisters utilizing water-in-oil droplets
○Remi Kameshima^{1,2}, Yuri Ota², Kotaro Chihara³, Masamune Morita², Naohiro Noda^{1,2}
 (1 Grad. Sch. Frontier Sci., Univ of Tokyo, 2 Biomed. Res. Inst., AIST, 3 Helmholtz Inst. for RNA-based Infection Res.(HIRI))
- 9:00 G3H3-0107 Effect of food additives on the intestinal bacteria and model microbiota system
○Tsumugi Ashizawa, Hideki Aoyagi (Grad. Sch. Deg. P. Agro-Bioresour. Sci. Technol., Univ. Tsukuba)
- 9:00 G3H3-0108 Development of co-culture method of intestinal epithelial cells and intestinal bacteria (part 2)
○Yoshihiro Umehara¹, Rin Endo², Hideki Aoyagi² (1 Grad. Sch. Deg. P. Agro-Bioresour. Sci. Technol., Univ. Tsukuba, 2 Fac. Life Environ. Sci., Univ. Tsukuba)
- 9:00 G3H3-0109 Analysis of various characteristics of microbial plate cultures
○Mao Okabe¹, Reina Harada², Jin Sakamoto³, Tetsuaki Tsuchido⁴, Hideki Aoyagi^{1,2}
 (1 Grad.Sch. Deg. P. Agro-Bioresour. Sci. Technol., Univ. Tsukuba, 2 Fac. Life Environ. Sci., Univ. Tsukuba, 3 Fac. Chem. Mater. Bioeng., Kansai Univ., 4 Res. Ctr. Microorg. Control, Osaka Pref. Univ.)
- 9:00 G3H3-0110 Aerobic production of 1,2-propanediol in engineered *Escherichia coli* by dividing metabolic pathway
○Daisuke Nonaka¹, Ryosuke Fujiwara², Tsutomu Tanaka¹, Akihiko Kondo³
 (1 Grad. Sch. Eng, Kobe Univ., 2 CSRS, RIKENS, 3 Grad. Sch. Sci. Technol. Innov., Kobe Univ.)
- 9:00 G3H3-0111 Development of a novel screening method for progesterone by nonaqueous spore bioconversion
○Rina Shiramatsu, Kana Yamamoto, Shinobu Oda (Genome Biotechnol. Lab., Kanazawa Inst. Technol.)
- 9:00 G3H3-0112 Development of biological use of carbon black
○Naotaka Yamamoto¹, Tomoya Okino³, Naoki Matoba³, Akihito Nakanishi^{1,2}
 (1 Sch. Biosci. Biotechnol., Tokyo Univ. Technol., 2 Grad. Sch. Bionics., Tokyo Univ. Technol., 3 Kansai Coke and Chemicals Co., Ltd.)
- 9:00 G3H3-0113 Biosynthesis of glycolic acid-containing polyhydroxyalkanoates using sequence-controlled enzymes
○Hozumi Yuka¹, Tomita Hiroya², Arai Syuzo³, Sakakibara Sayaka³, Mareschal Robin⁴, Ooi Toshihiko², Zinn Manfred⁴, Matsumoto Ken'ichiro²
 (1 Eng., Hokkaido Univ., 2 Grad. Sch. Eng., Hokkaido Univ., 3 Grad. Sch. Chem. Sci. Eng., Hokkaido Univ., 4 HES-SO Valais-Wallis)

- 9:00** G3H3-0114 Identification of a structurally novel lipoyl synthase in the hyperthermophilic archaeon *Thermococcus kodakarensis*
○Jian-Qiang Jin, Shin-ichi Hachisuka, Takaaki Sato, Tsuyoshi Fujiwara, Haruyuki Atomi
 (Grad. Sch. Eng., Kyoto Univ.)

Room H3 (10:00~10:30)

【Biochemical Engineering】

- 10:00** G3H3-0201 Establishment of a percutaneous infection model using zebrafish and *Yersinia ruckeri*, a salmonid pathogen causing enteric redmouth
○Nakatani Hajime, Hori Katsutoshi (Grad. Sch. Eng., Nagoya Univ.)
- 10:00** G3H3-0202 Influence of antibacterial substances on the physiological activities of indigenous skin bacteria (part 3)
○Aki Fujino¹, Mika Kikuta², Hideki Aoyagi^{1,2} (¹ Grad. Deg. P. Agro-Bioresour. Sci. Technol., Univ. Tsukuba, ² Grad. Sch. Life Environ. Sci., Univ. Tsukuba)
- 10:00** G3H3-0203 Effect of low shear and modeled-microgravity condition on the physiological activities of enteric useful bacteria and its application (part 2)
 Arisa Masuda¹, ○Ayumi Kozu², Hideki Aoyagi^{1,2} (¹ Fac. Life Environ. Sci., Univ. Tsukuba, ² Coll. Agro-Bio. Resour. Sci., Univ. Tsukuba)
- 10:00** G3H3-0204 Analysis of characteristics and bacterial flora of *Horornis diphone* feces and its utilization (Part 2)
○Yako Ishimoto, Hideki Aoyagi (Grad. Sch. Deg. P. Agro-Bioresour. Sci. Technol., Univ. Tsukuba)
- 10:00** G3H3-0205 A new screening method for isolating novel formate-utilizing bacteria
○Kazuhiro Shibata¹, Masaki Ihara^{1,2} (¹ Grad. Sch. Sci. Eng., Shinshu Univ., ² Inst. Biomed. Sci.)
- 10:00** G3H3-0206 CO₂ conversion to acetate and ethanol by microbial electrosynthesis using *Clostridium ragsdalei*
○Huan Ren^{1,2}, Kazuaki Ninomiya^{1,2} (¹ Grad. Sch. Frontier Sci. Initiative, Kanazawa Univ., ² Ints. Frontier Sci. Initiative, Kanazawa Univ.)
- 10:00** G3H3-0207 Analysis of soil microbiome variation in soybean (*Glycine max*) rhizosphere during soybean growth
○Masako Kifushi¹, Yohei Nishikawa^{2,3}, Masahito Hosokawa¹, Keigo Ide^{1,3}, Masato Kogawa^{2,3},
 Toyoaki Anai⁵, Haruko Takeyama^{1,2,3,4}
 (¹ Grad. Sch. Adv. Sci. Eng., Waseda Univ., ² Res. Org. Nano Life Innov., Waseda Univ., ³ CBBB-OIL, AIST-Waseda Univ., ⁴ Inst. Adv. Res. Biosyst. Dyn., Waseda Res. Inst. Sci. Eng., Waseda Univ., ⁵ Fac. Agric., Kyushu Univ.)
- 10:00** G3H3-0208 Isolation and characterization of plant growth promoting bacteria using cellulose membrane plate
○Yuto Fujiwara¹, Chiharu Akimoto-Tomiyama², Hideki Aoyagi¹ (¹ Grad. Sch. Deg. P. Agro-Bioresour. Sci. Technol., Univ. Tsukuba, ² Inst. Agrobiological. Sci., NARO)
- 10:00** G3H3-0209 Effect of light conditions on fungal pigment mediated silver nanoparticle biosynthesis and its characterization
○Nobchulee Nuanaon¹, Sharad Bhatnagar², Hideki Aoyagi^{1,2}
 (¹ Grad. Sch. Life Environ. Sci., Univ. Tsukuba, ² Fac. Life Environ. Sci., Univ. Tsukuba)
- 10:00** G3H3-0210 Development of culture method for uncultured microbes using ITO electrode system and sample pretreatment (part 2)
○Kenta Odaka¹, Akira Natori¹, Sumihiro Koyama², Hideki Aoyagi¹
 (¹ Grad. Sch. Deg. P. Agro-Bioresour. Sci. Technol., Univ. Tsukuba, ² ABLE Co., Ltd.)
- 10:00** G3H3-0211 Development of cassette-type "mud battery" utilizing microorganisms
○Shigeru Narise¹, Yuji Muta², Takaki Oyabu², Masato Tominaga¹
 (¹ Saga Grad. Sch. Sci. Eng., ² Nishimu Electronics Ind. Co., Ltd.)

- 10:00** G3H3-0212 Monitoring the pH changes on the plate medium during microbial culture and its application (part 2)
 Reina Harada¹, ○Takuma Kozawa², Hideki Aoyagi^{1,2} (¹ Fac. Life Environ. Sci., Univ. Tsukuba,
² Coll. Agro-Bio. Resour. Sci., Univ. Tsukuba)
- 10:00** G3H3-0213 Secretory production of exogenous proteins by thermophilic actinomycete *Streptomyces thermoviolaceus*
○Chiaki Ogino¹, Akane Saito¹, Katsumi Oota¹, Minami Yara¹, Tomoya Kobayashi¹,
 Akihiko Kondo²
 (¹ Grad. Sch. Eng, Kobe Univ., ² Grad. Sch. Sci. Technol. Innov., Kobe Univ.)

Room H3 (11:00~11:30)

【Biochemical Engineering】

- 11:00** G3H3-0301 Characterization of Lactic Acid Bacteria Powder by Spray Freeze Granulation Drying
○Shinya Kawaguchi, Yuichi Misumi, Masato Takahashi, Yusuke Kobayashi (PRECI Co., Ltd.)
- 11:00** G3H3-0302 Development of a valuable metal recycling system using acid-tolerant bacteria
○Chikara Takano¹, Kouichi Murayama², Hideki Aoyagi¹ (¹ Grad. Sch. Life Environ. Sci., Univ.
 Tsukuba, ² Futamura Chemical Co., Ltd.)
- 11:00** G3H3-0303 Effect of co-cultivation of microalgae and *Bacillus subtilis* on growth
○Haruyuki Oyama, Ryosuke Yamada, Takuya Matsumoto, Hiroyasu Ogino (Dept. Chem. Eng. Grad.
 Sch. Eng. Osaka Pref. Univ.)
- 11:00** G3H3-0304 Estimation of responses on metabolic flow in green alga *C. reinhardtii* for UV-irradiation
○Nanami Ozawa¹, Masahiko Watanabe², Akihito Nakanishi^{1,2} (¹ Grad. Sch. Bionics., Tokyo Univ.
 Technol., ² Sch. Biosci. Biotechnol., Tokyo Univ. Technol.)
- 11:00** G3H3-0305 Evaluation of shift of lipid-composition in UV-irradiated strain of *Chlamydomonas reinhardtii*
○Masahiko Watanabe¹, Nanami Ozawa², Akihito Nakanishi^{1,2} (¹ Sch. Biosci. Biotechnol., Tokyo
 Univ. Technol., ² Grad. Sch. Bionics., Tokyo Univ. Technol.)
- 11:00** G3H3-0306 Thermodynamic evaluation of hydrophobically-modified agarose hydrogel as hydrophobic drug release
 carriers
○Yuto Morimitsu, Masahiro Yoshida, Takayuki Takei (Grad. Sch. Sci. Eng., Kagoshima Univ.)
- 11:00** G3H3-0307 Effect of low-concentration ozone aeration on the maintenance of aquarium environment and on fish
○Suzune Okumura (Grad. Sch. Nat. Sci. Technol., Kanazawa Univ.)
- 11:00** G3H3-0308 Serum-free monolayer culture of myoblast cells by co-culture with 3D hepatic tissue
○Masato Inoshima¹, Kazuaki Ninomiya² (¹ Grad. Sch. Nat. Sci. Technol., Kanazawa Univ., ² Ints.
 Frontier Sci. Initiative, Kanazawa Univ.)
- 11:00** G3H3-0309 Growth control in the CHL-YN cell perfusion culture
○Hiromu Kunita, Puriwat Sukwattanapaat, Yuichi Koga, Noriko Yamano-Adachi, Takeshi Omasa
 (Grad. Sch. Eng., Osaka Univ.)
- 11:00** G3H3-0310 Shake culture of CHO cells using cell-sized gelatin microparticles as a carrier
○Yuken Hasebe, Masumi Yamada, Rie Utoh, Minoru Seki (Grad. Sch. Adv. Integr. Sci., Chiba
 Univ.)
- 11:00** G3H3-0311 Investigation of a method for measuring k_{La} using a phosphorescence vanishing oxygen sensor
○Takashi Sato, Eiji Nagamori (Grad. Sch. Eng., Osaka Inst. Technol.)

- 11:00** G3H3-0312 Development of antimicrobial agents using branched-chain polyamine with high positive charge number
○Yusuke Hirota¹, Wakao Fukuda^{1,2}, Mituaki Yamauchi², Sadahiro Masuo², Yuya Okamoto³,
 Itaru Yanagihara⁴, Hanjia Lin⁵, Shinsuke Fujiwara^{1,2}
 (¹Grad. Sch. Sci. Technol., Kwansai Gakuin Univ., ²Sch. Life Environ., Kwansai Gakuin Univ., ³Osaka
 Women's Children's Hosp. Lab., Clinical Lab., ⁴Osaka Women's Children's Hosp. Lab., Dept. Development
 Med., ⁵Sch. Life Eng., Taiwan Ocean Univ.)
- 11:00** G3H3-0313 Mechanism of antimicrobial peptide double cooperativity towards antibiotics development
○Kaori Sugihara¹, Ewa Drab² (¹IIS, Univ. Tokyo, ²Univ. Geneva)

Room H4 (9:30~10:00)

【Cell Culture Engineering】

- 9:30** G3H4-0101 Analysis of hyphal chemotropism using microfluidic devices
○Riho Yamamoto, Sayumi Fukuda, Andrew Shinichi Utada, Norio Takeshita (Grad. Sch. Life
 Environ. Sci., Univ. Tsukuba)
- 9:30** G3H4-0102 Trade-off between Plasticity and Velocity in Mycelial Growth shown by microfluidic device
○Norio Takeshita¹, Riho Yamamoto¹, Naoki Yanagisawa², Yoshikatsu Sato², Naoki Takaya¹,
 Sayumi Fukuda¹
 (¹Univ. Tsukuba, ²Univ. Nagoya)
- 9:30** G3H4-0103 Effects of environmental factors on sporulation of psychrophilic zygomycetes
○Sota Akiba¹, Yui Takahashi², Shuichiro Murakami^{2,3}
 (¹Grad. Sch. Agric., Meiji Univ., ²Meat epoch Co., Ltd., ³Sch. Agric., Meiji Univ.)
- 9:30** G3H4-0104 Correlation analysis of stirring blade shape and protein production secretory production in filamentous fungi
○Taiki Ono¹, Tomohiro Suzuki³, Chiaki Ogino¹, Akihiko Kondo¹, Takayuki Bogaki²,
 Hirokazu Tsuboi², Haruka Kado², Akio Koda², Yoshio Tsujino¹
 (¹Grad. Sch. Eng, Kobe Univ., ²Gen. Res. Lab., Ozeki Corp., ³Fac. Eng., Kobe Univ.)
- 9:30** G3H4-0105 Effects of low culture viscosity on productivity by the hyphal dispersed *Aspergillus oryzae* mutant in a lab-scale bioreactor
○Shunnya Susukida¹, Kiyooki Muto², Hikaru Ichikawa², Ken Miyazawa², Keisuke Komeiji²,
 Akira Yoshimi^{3,4}, Yoshikazu Kato⁵, Keietsu Abe^{2,4}
 (¹Dept. Agric., Tohoku Univ., ²Grad. Sch. Agric. Sci., Tohoku Univ., ³Grad. Sch. Agric., Kyoto Univ.,
⁴NICHE, Tohoku Univ., ⁵Satake Ltd.)
- 9:30** G3H4-0106 Effect of ethanol added to the culture medium on *Euglena gracilis*
○Yu Takahashi, Kosuke Shimamoto, Takashi Osanai (Grad. Sch. Agric., Meiji Univ.)
- 9:30** G3H4-0107 The effect of iron on the molecular weight of hyaluronic acid produced by *Streptococcus zooepidemicus*
○Akiho Yamamoto¹, Kaho Maruyama¹, Daigo Yamashita², Kotomi Narita³, Akira Takeuchi³,
 Shino Yamasaki², Yoshio Katakura²
 (¹Grad. Sch. Sci. Eng., Kansai Univ., ²Fac. Chem. Mater. Bioeng., Kansai Univ., ³Kewpie Co.)
- 9:30** G3H4-0108 Development of a microbial aggregation method using poly-gamma-glutamic acid and chitosan and its application
○Takeru Doi, Gabriel Parra, Yoshihiro Ojima, Masayuki Azuma (Grad. Sch. Eng., Osaka City Univ.)
- 9:30** G3H4-0109 Self-aggregation of *Bacillus licheniformis* RK14 strain isolated from soil
○Satsuki Matano, Yoshihiso Ojima, Masayuki Azuma (Grad. Sch. Eng., Osaka City Univ.)
- 9:30** G3H4-0110 Metabolite analysis of reconstructed human epidermis
○Sae Tanaka, Motohide Aoki, Hidetoshi Kumata, Tomonari Umemura, Tatsuya Uchida (Grad. Sch.
 Life Sci., Tokyo Univ. Pharm. Life Sci)

- 9:30** G3H4-0111 Cyst formation from chinese hamster kidney-derived stem cells using organ specific ECM gel
○Yusuke Sakai, Yoshihiro Kubo, Yoshinori Kawabe, Masamichi Kamihira, Hiroyuki Ijima (Fac. Eng., Kyushu Univ.)
- 9:30** G3H4-0112 Effect of surface charge on proliferation and protein production of dental pulp stem cells in microcarrier culture
○Yuichiro Oki¹, Kodai Harano², Yuichi Hara², Yoshiyuki Sasajima², Ryo Sasaki², Takanori Ito³, Mitsuhiro Fujishiro³, Taichi Ito^{1,4}
 (¹ Grad. Sch. Eng., Univ. Tokyo, ² Asahi Kasei Corp., ³ Grad. Sch. Med., Nagoya Univ., ⁴ Grad. Sch. Med., Univ. Tokyo)
- 9:30** G3H4-0113 Medium-cell separation using a fine "zaru" produced by semiconductor processing technology
○Manae Kuki¹, Eiji Nagamori¹, Fumiya Yotsuji², Kazuma Tanaka², Miwako Nishikawa³, Takashi Kondo³
 (¹ Grad. Sch. Eng., Osaka Inst. Technol., ² Fac. Eng., Osaka Inst. Technol., ³ Murata Manufacturing Co., Ltd.)

Room H4 (10:30~11:00)

【Bioprocess Engineering】

- 10:30** G3H4-0201 Optimization of natural medium composition in lactic acid fermentation by machine learning
○Miyu Sato, Takuto Nakajima, Tai-Ying Chiou, Masaaki Konishi (Kitami Inst. Technol.)
- 10:30** G3H4-0202 Optimization of reaction conditions for microbial production of glycolic acid from ethanolamine by experimental design
○Munenori Hayashida¹, Tsubasa Omi¹, Wataru Muranushi¹, Makoto Miura¹, Daisuke Sugimori², Miwa Yamada¹
 (¹ Dept. Biolog. Chem. Food Sci., Iwate Univ., ² Fac. Symbio. Syst. Sci., Fukushima Univ.)
- 10:30** G3H4-0203 Effect of processing conditions on *Talaromyces purpurogenus* extracellular pigment: Thermal and UV stability kinetics
○Sharad Bhatnagar, Hideki Aoyagi (Fac. Life Environ. Sci., Univ. Tsukuba)
- 10:30** G3H4-0204 Development of Gas-to-Lipids bioprocess to recycle CO₂
○Genki Okuda¹, Kenshi Watanabe¹, Gentoku Nakase¹, Ran Hirotani¹, Motomu Ishigaki¹, Yutaka Nakashimada¹, Masashi Matsuura², Keisuke Matsuyama³, Tunchiro Aki¹
 (¹ Grad. Sch. Integr. Sci. Life, Hiroshima Univ., ² Chugoku Electric Power Co., Inc., ³ Nagase & Co., Ltd)
- 10:30** G3H4-0205 Direct fermentative conversion of poly(ethylene terephthalate) into poly(hydroxyalkanoate) by *Ideonella sakaiensis*
○Ryoga Fujiwara¹, Rikako Sanuki², Hiroharu Ajiro³, Toshiaki Fukui⁴, Shosuke Yoshida¹
 (¹ Grad. Sch. Biol. Sci., NAIST, ² Sch. Appl. Sci., Kyoto Inst. Technol., ³ Grad. Sch. Mate. Sci., NAIST, ⁴ Sch. Life Sci. Technol, Tokyo Tech)
- 10:30** G3H4-0206 Isolation of *Zalaria obscura* Him3 as a novel fructooligosaccharides-producing yeast and its production
○Jun Yoshikawa¹, Yoshikatsu Honda¹, Yui Saito¹, Daito Sato¹, Kan Iwata², Mayumi Maeda¹, Yutaka Kashiwagi^{1,2}, Kenji Maehashi^{1,2}
 (¹ Fac. Appl. Biosci., Tokyo Univ. Agric., ² Grad. Sch. Appl. Biosci., Tokyo Univ. Agric.)
- 10:30** G3H4-0207 Reducing predation impact of golden algae *Poterioochromonas* on cyanobacterial culture using phosphite
○Narumi Toda, Hiroki Murakami, Takenori Ishida, Takeshi Ikeda, Hisakage Funabashi, Akio Kuroda, Ryuichi Hirota (Grad. Sch. Integr. Sci. Life, Hiroshima Univ.)

- 10:30** G3H4-0208 The involvement of a (p)ppGpp synthesis activator YtfK in the long-term survival phenotype of a phosphite-dependent *Eshcherichia coli* strain
○Naoki Momokawa¹, Takenori Ishida¹, Takeshi Ikeda¹, Hisakage Funabashi¹, Satoru Watanabe², Akio Kuroda¹, Ryuichi Hirota¹
 (1 Grad. Sch. Integr. Sci. Life, Hiroshima Univ., 2 Fac. Life Sci., Tokyo Univ. Agric.)
- 10:30** G3H4-0209 Characterization of the pH-dependent growth mechanism of a biologically contained cyanobacterial strain strictly dependent on phosphite
○Tomohito Hino¹, Takenori Ishida¹, Takeshi Ikeda¹, Hisakage Funabashi¹, Satoru Watanabe², Akio Kuroda¹, Ryuichi Hirota¹
 (1 Grad. Sch. Integr. Sci. Life, Hiroshima Univ., 2 Fac. Life Sci., Tokyo Univ. Agric.)
- 10:30** G3H4-0210 Separation and characterization of non-native antibody in CHO cells culture process
○Yuka Itoh¹, Masayoshi Onitsuka², Hiroe Amo², Shinya Honda³
 (1 Grad. Sch. Sci. Technol. Innov., Tokushima Univ., 2 Grad. Sch. Biosci. Bioind, Tokushima Univ., 3 AIST)
- 10:30** G3H4-0211 Attempt to create a new constant region of antibody by fusing shark-derived IgNAR
○Yuma Yoshioka¹, Hiroe Amo², Masayoshi Onitsuka² (1 Grad. Sch. Sci. Technol. Innov., Tokushima Univ., 2 Grad. Sch. Biosci. Bioind, Tokushima Univ.)
- 10:30** G3H4-0212 Structural properties of aggregated antibody produced in recombinant CHO cell culture process
○Onitsuka Masayoshi, Amou Hiroe (Grad. Sch. Biosci. Bioind, Tokushima Univ.)
- 10:30** G3H4-0213 A Simple and Effective Method for Purification of Biological products by a Novel Impurity Adsorbent
○Masakatsu Nishihachijo^{1,2}, Fuminori Konoike^{1,2}, Shota Hirayama^{1,2}, Takuma Sueoka^{1,2}, Hisako Yaura^{1,2}, Kazunobu Minakuchi^{1,2}
 (1 Kaneka Corp., 2 MAB)

Room H4 (11:30~12:00)

【Proteins】

- 11:30** G3H4-0301 An Encouragement of Sequence Analysis
○Sohei Ito, Kohei Kozuka, Mayu Kawasaki, Tomoharu Motoyama, Shogo Nakano (Grad. Sch. Integr. Pharm. Nutr. Sci., Univ. Shizuoka)

【Antibody Engineering】

- 11:30** G3H4-0302 Production of native structure-recognizing monoclonal antibodies against intact proteins
○Yushi Isozaki, Kanta Tsumoto, Masahiro Tomita (Grad. Sch. Eng., Mie Univ.)
- 11:30** G3H4-0303 Purification technology of antibody therapeutics employing high-affinity small peptide stabilized by novel crosslinking form
○Yuji Ito, Nana Ohsako, Ryosuke Shimamoto, Kosuke Teranishi, Koki Hayata, Rafique Abdur (Grad. Sch. Sci. Eng., Kagoshima Univ.)
- 11:30** G3H4-0304 High functionality of antibody therapeutics for drug-delivery system using site-specific covalent modification with affinity peptide
○Md Abdur Rafique, Nana Osako, Ryosuke Shimamoto, Kosuke Teranishi, Koki Hayata, Yuji Ito (Dept. Chem. & Biosci., Kagoshima Univ.)
- 11:30** G3H4-0305 Generation of stereospecific monoclonal antibodies against a tumor - suppressing protein
○Motohiro Tanaka, Kota Mori, Yushi Isozaki, Kanta Tsumoto, Masahiro Tomita (Grad. Sch. Eng., Mie Univ.)

- 11:30** G3H4-0306 Screening of Anti-HTLV-1 Human Monoclonal Antibodies from the Blood of HTLV-1 Infected Patients
 ○Ayumu Okazawa¹, Monami Kihara¹, Yuetsu Tanaka², Takuya Hukushima², Takaaki Kojima¹,
 Hideo Nakano¹
 (¹ Grad. Sch. Bioagric., Sci., Nagoya Univ., ² Sch. Med. Ryukyu Univ.)
- 11:30** G3H4-0307 Development of antibody affinity maturation technology using ribosome display coupled with E. coli reconstituted cell-free protein synthesis
 ○Rio Okuda, Reina Ito, Takaaki Kojima, Hideohideo Nakano (Grad. Sch. Bioagric., Sci., Nagoya Univ.)
- 11:30** G3H4-0308 Effect of trehalose addition on antibody production system in Chinese hamster ovary cells
 ○Mikiko Nakano, Ryo Misaki, Yusuke Atarashi, Hiroyuki Kajiuura, Kazuhito Fujiyama (ICBiotech, Osaka Univ.)
- 11:30** G3H4-0309 Development of selection method for a nanobody-based fluorescent immunosensor "mini Q-body" by yeast surface display
 ○Inoue Akihito¹, Yasuda Takanobu¹, Kitaguchi Tetsuya², Murakami Akikazu³, Ueda Hiroshi²
 (¹ Sch. Life Sci. Technol, Tokyo Tech, ² CLS, Tokyo Tech, ³ Grad. Sch. Oral Microbio., Biomed. Sci., Tokushima Univ.)
- 11:30** G3H4-0310 Enzymatic ligation of antibody and cell-penetrating peptide for efficient and cell-specific siRNA delivery
 Yu Ando, ○Hikaru Nakazawa, Daisuke Miura, Mitsuo Umetsu (Grad. Sch. Eng., Tohoku Univ.)
- 11:30** G3H4-0311 Intracellular detection of tumor suppressor protein p53 by Q-body technology
 ○Yancen Dai¹, Atsushi Izutani¹, Takanobu Yasuda¹, Tetsuya Kitaguchi², Hiroshi Ueda²
 (¹ Sch. Life Sci. Technol, Tokyo Tech, ² CLS, Tokyo Tech)
- 11:30** G3H4-0312 Yeast Surface Display of Nanobody Libraries Using the SpyTag/SpyCatcher system
 ○Yuki Takaichi¹, Kaho Kajiwara¹, Wataru Aoki^{1,2,3,4}, Mitsuyoshi Ueda^{1,2,3,4}
 (¹ Grad. Sch. Agric., Kyoto Univ., ² JST, CREST, ³ JST, COI-NEXT, ⁴ Kyoto Integr. Sci. & Technol. Bio Analysis Center)
- 11:30** G3H4-0313 Peptide barcoding for high-throughput evaluation of free nanobody affinities
 ○Takumi Miyazaki¹, Yuusei Matsuzaki¹, Wataru Aoki^{1,2,3,4}, Mitsuyoshi Ueda^{1,2,3,4}
 (¹ Division of Applied Life Sciences, Graduate School of Agriculture, Kyoto University, ² CREST, JST, ³ JST, COI-NEXT, ⁴ Kyoto Integrated Science & Technology Bio-Analysis Center)

Room H5 (9:00~9:30)

【Enzymology, Enzyme】

- 9:00** G3H5-0101 Assimilation system of seaweed polysaccharide beta-1,3-xylan in the human gut bacterium *Bacteroides cellulosilyticus* - Functional characterization of extracellular beta-1,3-xylanases
 ○Sanae Hori¹, Fumiyoshi Okazaki^{1,2} (¹ Grad. Sch. Bioresour., Mie Univ., ² Adv. Sci. Res. Support Center, Mie Univ.)
- 9:00** G3H5-0102 Functional and structural analysis of novel dioxygenase from *Phanerochatae chrysosporium*
 ○Yasushi Takahashi, Hiroyuki Kato, Hiromitsu Suzuki, Masashi Kato, Motoyuki Shimizu (Grad. Sch. Agric., Meijo Univ.)
- 9:00** G3H5-0103 Development of a hybrid bio-production system by integrating in vivo fermentation and in vitro enzymatic conversion
 ○Naoki Uesugi¹, Yu Sato², Kenji Okano^{2,3}, Shigeru Kitani^{2,3}, Anastasia Kerb⁴, Volker Wendisch⁴, Kohsuke Honda^{2,3}
 (¹ Grad. Sch. Eng., Osaka Univ., ² ICBiotech, Osaka Univ., ³ OTRI, Osaka Univ., ⁴ CeBiTec, Bielefeld Univ.)

- 9:00** G3H5-0104 Cloning, expression, and characterization of Baeyer-Villiger monooxygenases from eukaryotic *Exophiala jeanselmei* strain KUF1-6N
 Taisei Yamamoto, ○Kento Kobayashi, Yoshie Hasegawa, Hiroaki Iwaki (Dept. Life Sci. & Biotechnol. Kansai Univ.)
- 9:00** G3H5-0105 Mutation of cobalt-containing nitrile hydratase from *Pseudonocardia thermophila* for time-resolved cryystallography
○Takuto Fukuda¹, Kazuyoshi Nakamoto¹, Hirotohi Matsumura¹, Keiichi Noguchi², Masafumi Yohda², Masafumi Odaka¹
 (1 Grad. Sch. Eng., Sci., Akita Univ., 2 Grad. Sch. Eng., Tokyo Univ. Agric. Technol.)
- 9:00** G3H5-0106 Evaluation of the properties of DNA methyltransferase M.ApeKI from *Aeropyrum pernix* K1 and the application of the enzyme
○Mao Hayashi, Keisuke Sugahara, Yasuhiro Iida (Grad. Sch. Eng., Kanagawa Inst. Technol.)
- 9:00** G3H5-0107 Elucidation of protein sulfation in the zebrafish embryogenesis and organogenesis
○Katsuhisa Kurogi¹, Natsuki Okuda¹, Tamayo Uechi², Naoya Kenmochi³, Liu Ming-Cheh⁴, Yoichi Sakakibara¹, Masahito Suiko¹
 (1 Fac. Agric., Univ. Miyazaki, 2 Fac. Med., Univ. Miyazaki, 3 Front. Sci. Res. Center, Univ. Miyazaki, 4 Univ. Toledo, Dept. Pharmacol.)

【Proteins】

- 9:00** G3H5-0108 Structure-function relationships of proteins at near atomic resolution using cryo-electron microscopy to apply biological engineering
○Kazutoshi Tani (Fac. Med., Mie Univ.)
- 9:00** G3H5-0109 Crystal structural analysis of aldoxime dehydratase from *Bacillus* sp. OxB-1: Importance of surface residues in the optimization for crystallization
○Daisuke Matsui^{1,2}, Norifumi Muraki^{3,4}, Ke Chen^{1,5}, Tomoya Mori¹, Aaron Ingram⁶, Keiko Oike⁶, Harald Groeger⁶, Shigetoshi Aono^{3,4}, Yasuhisa Asano¹
 (1 Biotechnol. Res. Center, Toyama Pref. Univ., 2 Coll. Life Sci., Ritsumeikan Univ., 3 ExCELLS, 4 Inst. Mol. Sci., 5 Zunyi Med. Univ., 6 Bielefeld Univ.)
- 9:00** G3H5-0110 Estimation of adhesion orientation of a highly adhesive protein in water by molecular dynamics simulation
○Jun Sasahara¹, Atsuo Suzuki¹, Kazushi Fujimoto¹, Susumu Okazaki², Katsutoshi Hori¹
 (1 Grad. Sch. Eng., Nagoya Univ., 2 Grad. Sch. Frontier Sci., Univ. Tokyo)
- 9:00** G3H5-0111 Protein display on *Escherichia coli* cells by an inverse autotransporter
○Yoshihide Makino, Tamotsu Kanai, Nobuya Itoh (Biotechnol. Res. Center, Toyama Pref. Univ.)
- 9:00** G3H5-0112 Purification and characterization of norovirus-like particle and its SpyTag-variants from silkworm (*Bombyx mori*)
○Jirayu Boonyakida¹, Doddy Irawan Setyo Utomo¹, Jian Xu², Enoch Y. Park³
 (1 Grad. Sch. Sci. Technol. Shizuoka Univ., 2 Inst. Biol. Info. Sci., East China Normal Univ., 3 Res. Inst. Green Sci. Technol., Shizuoka Univ.)
- 9:00** G3H5-0113 Identification of a novel L-Lysine-alpha-oxidase and elucidation of its reaction mechanism
○Sayaka Sugiura¹, Shogo Nakano^{1,2}, Masazumi Niwa¹, Fumihito Hasebe¹, Daisuke Matsui³, Sohei Ito¹
 (1 Grad. Sch. Integr. Pharm. Nutr. Sci., Univ. Shizuoka, 2 PRESTO, JST, 3 Coll. Life Sci., Ritsumeikan Univ.)

Room H5 (10:00~10:30)

【Proteins】

- 10:00** G3H5-0201 Development of highly thermostable L-amino acid oxidase for deracemization and stereoinversion of amino acids
○Ishida Chiharu, Nakano Shogo, Minamino Yuki, Ito Sohei (Grad. Sch. Integr. Pharm. Nutr. Sci., Univ. Shizuoka)
- 10:00** G3H5-0202 Virus-like particle production using Chinese hamster ovary cells for Hand, foot and mouth disease
○Hina Matsuzaki, Thao Nguyen Bich, Guirong Kanai, Noriko Yamano-Adachi, Yuichi Koga, Takeshi Omasa (Grad. Sch. Eng., Osaka Univ.)
- 10:00** G3H5-0203 Construction of CHO-K1 cell line expressing SARS-CoV-2-VLP
○Tatsuya Hokimoto, Hina Matsuzaki, Thao Nguyen Bich, Guirong Kanai, Noriko Yamano-Adachi, Yuichi Koga, Takeshi Omasa (Grad. Sch. Eng., Osaka Univ.)
- 10:00** G3H5-0204 Kinetics analysis in silica adsorption of silica particle formation promoting protein "glassin"
○Sakate Yuto¹, Monden Keigo², Bito Tomohiro¹, Shimizu Katsuhiko³, Arima Jiro¹
 (¹Tottori graduate school Agriculture, ²Tottori university Agriculture, ³Tottori university CoRE)
- 10:00** G3H5-0205 Cultivation conditions to enhance amyloid beta aggregation inhibitory activity of *Perilla frutescens* var. *crispa* 'Viridi-crispa'
○Keiya Shimamori, Tomohiko Nanbu, Daiki Kawamata, Masahiro Kuragano, Toshifumi Iimori, Shinya Yamanaka, Koji Uwai, Kiyotaka Tokuraku (Grad. Sch. Eng., Muroran Inst. Technol.)
- 10:00** G3H5-0206 Developing a platform for novel binding scaffolds based on a beta-sandwich domain
○Chukwuebuka Maxwell Ononugbo, Masahide Nagao, Hidekazu Kishi, Noriko Yamano-Adachi, Yuichi Koga, Takeshi Omasa (Grad. Sch. Eng., Osaka Univ.)
- 10:00** G3H5-0207 Development of a protein-based fluorescent probe for micro- and nanoplastics detection
○Kuroda Soara, Ishida Takenori, Funabashi Hisakage, Hirota Ryuichi, Kuroda Akio, Ikeda Takeshi (Grad. Sch. Integr. Sci. Life, Hiroshima Univ.)
- 10:00** G3H5-0208 Protein engineering study for improvement of PET degradation activity of metagenome-derived cutinase
○Keita Shimizu, Sintawee Sulaiman, Noriko Yamano-Adachi, Yuichi Koga, Takeshi Omasa (Grad. Sch. Eng., Osaka Univ.)
- 10:00** G3H5-0209 Interaction analysis of human CutA and hydroxychloroquine
○Masahiro Konno, Masahumi Odaka, Hideki Wakui, Hirotoshi Matsumura (Grad. Sch. Eng., Sci., Akita Univ.)
- 10:00** G3H5-0210 Development of visualization technology for polyesterase CutL1-specific adsorption to Langmuir membrane of the surfactant hydrophobin RolA produced by *Aspergillus oryzae*
○Yumi Saito¹, Yuki Terauchi², Akira Yoshimi³, Takumi Tanaka^{4,5}, Yuya Ishizaki⁶, Masaya Mitsuishi⁶, Hiroshi Yabu⁷, Keietsu Abe¹
 (¹Grad. Sch. Agric. Sci., Tohoku Univ., ²Grad. Sch. Glob. Env. Stud., Kyoto Univ., ³Grad. Sch. Agric., Kyoto Univ., ⁴NARO, ⁵NIAES, ⁶Grad. Sch. Eng., Tohoku Univ., ⁷WPI-AIMR, Tohoku Univ.)
- 10:00** G3H5-0211 Development of a method for repairing carbonylated aging hair protein
○Isobe Masato, Fuse Naoya, Matue Yukako (Kracie Home Products Ltd.)

- 10:00** G3H5-0212 Revealing the self-assembly mechanism and interface science properties of the fungal hydrophobin RoIA.
○Daiki Ida¹, Yumi Saito¹, Yuki Terauchi², Takumi Tanaka³, Akira Yoshimi⁴, Yuya Ishizaki⁷,
 Masaya Mitsuishi⁷, Hiroshi Yabu^{5,6}, Keietsu Abe¹
 (¹Grad. Sch. Agric. Sci., Tohoku Univ., ²Grad. Sch. Glob. Environ. Stud., Kyoto Univ., ³NARO, ⁴Grad.
 Sch. Agric., Kyoto Univ., ⁵IMRAM, Tohoku Univ., ⁶WPI-AIMR, Tohoku Univ., ⁷Grad. Sch. Eng., Tohoku
 Univ.)
- 10:00** G3H5-0213 Expression and purification of the extracellular domain of HLA class II histocompatibility antigen gamma
 chain
○Nana Tajima, Toshinori Ewaza, Masafumi Odaka, Hideki Wakui, Hirotohi Matsumura (Grad. Sch.
 Eng., Sci., Akita Univ.)

Room H5 (11:00~11:30)

【Proteins】

- 11:00** G3H5-0301 Partial Consensus Design, Enhancement of Protein Function by Secondary Structure-Guided Consensus
 Mutations
○Kozuka Kohei, Ito Sohei, Nakano Syogo (Grad. Sch. Integr. Pharm. Nutr. Sci., Univ. Shizuoka)
- 11:00** G3H5-0302 Bacterial Rhodopsin reconstruction for improving proton pump activity
○Yoshiki Sato¹, Mayu Kawasaki¹, Hirono Yoko², Hiroshi Kikukawa², Syogo Nakano², Jun Ishii³,
 Fumio Matsuda⁴, Yoshihiro Toya⁴, Souhei Ito², Kiyotaka Hara²
 (¹Grad. Sch. Integr. Pharm. Nutr. Sci., Univ. Shizuoka, ²Sch. Food Nutr. Sci., Univ. Shizuoka., ³Grad. Sch.
 Sci. Technol. Innov., Kobe Univ., ⁴Grad. Sch. IST, Osaka Univ.)
- 11:00** G3H5-0303 Effects of mutations of amino acid residues located at the CcmO trimer interface on its self-assembly
○Yuka Sugiyama¹, Eiichiro Okubo¹, Masaya Ohata¹, Hirotohi Matsumura¹, Keiichi Noguchi²,
 Masafumi Yohda², Masafumi Odaka¹
 (¹Grad. Sch. Eng., Sci., Akita Univ., ²Grad. Sch. Eng., Tokyo Univ. Agric. Technol.)
- 11:00** G3H5-0304 The eliciting capability a humoral immune response in a mouse model induced with dengue virus-like
 particles serotypes 1 and 4 produced in silkworm larvae
○Doddy Irawan Setyo Utomo¹, Sabar Pambudi², Enoch Y. Park^{1,3}
 (¹Laboratory of Biotechnology, Department of Bioscience, Graduate School of Science and Technology,
 Shizuoka University, ²Center of Pharmaceutical and Medical Technology, Agency for the Assessment and
 Application of Technology, ³Laboratory of Biotechnology, Research Institute of Green Science and
 Technology, Shizuoka University)
- 11:00** G3H5-0305 cDNA display coupled with next-generation sequencing for rapid activity-based screening: Comprehensive
 analysis of transglutaminase substrate preference
○Nana Odake¹, Jasmina Damjanovic¹, Takaaki Kojima¹, Naoto Nemoto², Kiyotaka Hitomi³,
 Hideo Nakano¹
 (¹Grad. Sch. Bioagric., Sci., Nagoya Univ., ²Grad. Sch. Sci. Eng., Saitama Univ., ³Grad. Sch. Pharm. Sci.,
 Nagoya Univ.)
- 11:00** G3H5-0306 A novel two-dimensional electrophoresis technique for the screening of autoantibody
○Mirei Masui¹, Tsugumi Shiokawa², Hiroko Tada², Junichiro Futami¹
 (¹Grad. Sch. ISEHS., Okayama Univ., ²Dept. Inst. Anal., Okayama Univ.)
- 11:00** G3H5-0307 Amino acid mutation of vanillin-responsive olfactory receptors for vanilla flavor analysis to increase
 sensitivity
○Shunta Miyanaga (Grad. Sch. Eng., Tokyo Univ. Agric. Technol.)

- 11:00** G3H5-0308 Functional analysis of the olfactory receptor OR7C1 in colorectal cancer stem cells
○Suzuna Koza¹, Yosuke Fukutani¹, Tomoyo Koshizawa¹, Yoshihiko Hirohashi²,
 Toshihiko Torigoe², Masafumi Yohda¹
 (¹ Grad. Sch. Eng., Tokyo Univ. Agric. Technol., ² Sch. Med., Sapporo Medical Univ.)
- 11:00** G3H5-0309 Promotion of protein assembly formation in polymer solution and the functional evaluation
○Ryo Sato¹, Kosuke Minamihata¹, Rie Wakabayashi¹, Masahiro Goto^{1,2}, Noriho Kamiya^{1,2}
 (¹ Fac. Eng., Kyushu Univ., ² CFC, Kyushu Univ.)
- 11:00** G3H5-0310 Effect of the Receptor transporting protein 1S in the expression of mammalian olfactory receptors using the wheat germ protein expression system.
○Masatomo Sano, Yosuke Fukutani, Masafumi Yohda (Grad. Sch. Eng., Tokyo Univ. Agric. Technol.)
- 11:00** G3H5-0311 Selective localization of artificial lipid-modified proteins to membrane domain and its application
○Kazuki Uchida¹, Hiroki Obayashi¹, Kosuke Minamihata¹, Rie Wakabayashi¹, Masahiro Goto^{1,2},
 Naofumi Shimokawa³, Masahiro Takagi³, Noriho Kamiya^{1,2}
 (¹ Fac. Eng., Kyushu Univ., ² CFC, Kyushu Univ., ³ Sch. Mater. Sci., JAIST)
- 11:00** G3H5-0312 Modulation of enzyme mutability via small molecule binding.
○Miyu Tsukada¹, Shigecko Kawai-Noma¹, Daisuke Umeno^{1,2} (¹ Grad. Sch. Adv. Integr. Sci., Chiba Univ., ² Sch. Adv. Sci. Eng., Waseda Univ.)
- 11:00** G3H5-0313 Preparation and functional analysis of terminal complex from *Gluconacetobacter* using recombinant *Escherichia coli*
○Mutsuki Oka¹, Hiroko Ninoyu¹, Tomoya Imai², Takuya Isono³, Takuya Yamamoto³,
 Toshifumi Satoh³, Min Yao⁴, Kenji Tajima³
 (¹ Grad. Sch. Chem. Sci. Eng., Hokkaido Univ., ² RISH, Kyoto Univ., ³ Grad. Sch. Eng., Hokkaido Univ.,
⁴ Faculty of Advanced Life Science, Hokkaido Univ.)

Room H6 (9:30~10:00)

【Fermentation Physiology, Fermentation Technology】

- 9:30** G3H6-0101 Basic research on *Escherichia coli* introducing a synthetic metabolic pathway for lycopene production
○Erika Shimizu¹, Tomoya Noma¹, Hiroyuki Hamada¹, Hisashi Harada², Taizo Hanai¹
 (¹ Fac. Agric., Kyushu Univ., ² Fac. Eng., Tottori Univ.)
- 9:30** G3H6-0102 (Withdrawn)
- 9:30** G3H6-0103 Specific biofilm formation by *Saccharomyces cerevisiae* and *Lactobacillus sakei*
Kazuki Morimura, Shimizu Yuhei, Ryoga Inoue, Masaki Monguchi, Seiya Fujii, Koichi Tanabe,
 ○Jun Shima
 (Faculty of Agriculture, Ryukoku University)
- 9:30** G3H6-0104 Resveratrol production from several types of saccharide sources by a recombinant *Scheffersomyces stipitis* strain
○Yuma Kobayashi¹, Kentaro Inokuma¹, Tomohisa Hasunuma^{1,2} (¹ Grad. Sch. Sci. Technol. Innov., Kobe Univ., ² Eng. Bio. Res. Center, Kobe Univ.)

【Metabolic Engineering】

- 9:30** G3H6-0105 Elucidation of a mechanism of high level of ornithine in the sake yeast *Saccharomyces cerevisiae*
○Ohashi Masataka¹, Nasuno Ryo², Isogai Shota², Takagi Hiroshi²
 (¹ Nara Pref. Inst. Ind. Dev., ² Grad. Sch. Biol. Sci., NAIST)

- 9:30** G3H6-0106 Metabolic engineering of *Schizosaccharomyces pombe* for itaconic acid production
○Naofumi Fujie¹, Miki Ito¹, Tutomu Tanaka¹, Akihiko Kondo²
 (1 Grad. Sch. Eng, Kobe Univ., 2 Grad. Sch. Sci. Technol. Innov., Kobe Univ.)
- 9:30** G3H6-0107 Production of vanillic acid from softwood lignosulfonate via alkaline oxidation using copper hydroxide and biological funneling.
○Yudai Higuchi¹, Hiroya Ishimaru², Chiho Sakamoto¹, Takuya Yoshikawa², Naofumi Kamimura³,
 Eiji Masai³, Takao Masuda², Tomonori Sonoki¹
 (1 Fac. Agric. Life Sci., Hirosaki Univ., 2 Fac. Eng., Hokkaido Univ., 3 Grad. Sch. Eng., Nagaoka Univ. Technol.)
- 9:30** G3H6-0108 Fermentation of hydroxytyrosol from glucose by *Escherichia coli*
○Makoto Fujisawa¹, Daisuke Koma², Hiroyuki Ohashi², Hayato Yamanaka², Kunihiro Moriyoshi²,
 Eiji Nagamori¹, Takashi Ohmoto²
 (1 Grad. Sch. Eng., Osaka Inst. Technol., 2 ORIST)
- 9:30** G3H6-0109 Enhanced production of the bioflocculant of *Citrobacter* strains by the addition of the *wspR* gene
○Mana Morishige, Priyanka Baranwal, Yuriko Matsuo, Masahiro Takeo (Grad. Sch. Eng., Univ. Hyogo)
- 9:30** G3H6-0110 Biosynthesis of high-performance bioplastics by recombinant *Cupriavidus necator* strains
○Saki Okamoto¹, Mahiro Itakura², Rio Hisanaga², Aimi Nishi², Haruka Nishigami², Ai Kawahara¹,
 Kenji Tanaka³, Seiichi Taguchi⁴, Hiromi Matsusaki^{1,2}
 (1 Grad. Sch. Environ. Sym. Sci., Pref. Univ. Kumamoto, 2 Fac. Environ. Sym. Sci., Pref. Univ. Kumamoto,
 3 Fac. Humanity-Oriented Sci. Eng., Kindai Univ., 4 Fac. Life Sci., Tokyo Univ. Agric.)
- 9:30** G3H6-0111 Analysis of the metabolic regulation mediated by polyhydroxybutyrate in *Rhodobacter sphaeroides*
○Tetsu Shimizu¹, Haruhiko Teramoto¹, Masayuki Inui^{1,2} (1 RITE, 2 Grad. Sch. Biol. Sci., NAIST)
- 9:30** G3H6-0112 A novel bioengineering approach through stress-induced mutagenesis
○Hiroshi Yoneyama¹, Harutaka Mishima¹, Hirokazu Watanabe¹, Kei Uchigasaki¹, So Shimoda¹,
 Shota Seki¹, Toshitaka Kumagai², Tomonori Nochi¹, Tasuke Ando¹
 (1 Grad. Sch. Agric. Sci., Tohoku Univ., 2 Farmlab Inc.)

Room H6 (10:30~11:00)

【Metabolic Engineering】

- 10:30** G3H6-0201 Modification of magnetosome membrane by controlling lipid metabolism in magnetic bacteria and evaluation of its effect on magnetite formation
○Ryoto Tomoe, Kazushi Fujimoto, Atsushi Arakaki, Tsuyoshi Tanaka, Tomoko Yoshino (Grad. Sch. Eng., Tokyo Univ. Agric. Technol.)
- 10:30** G3H6-0202 Improvement of target proteomics and metabolic evaluation of cell lines based on enzyme expression levels
○Ryo Takahashi, Kazuki Nishimoto, Nobuyuki Okahashi, Fumio Matsuda (Grad. Sch. IST, Osaka Univ.)
- 10:30** G3H6-0203 Analysis of metabolic changes during macrophage differentiation using ¹³C metabolic flux analysis
○Mana Hontani, Takeo Taniguchi, Nobuyuki Okahashi, Fumio Matsuda (Grad. Sch. IST, Osaka Univ.)

- 10:30** G3H6-0204 Short branched-chain fatty acid production through Ehrlich pathway engineering in the oleaginous yeast *Yarrowia lipolytica*
○Shinnosuke Okuhama¹, Takahiro Bamba¹, Takahiro Yukawa¹, Ryota Kumokita¹, Christopher Johnavricka Jr.¹, Matthew Wook Chang^{2,3}, Ling Hua³, Gazi Sakir Hossain³, Tomohisa Hasunuma^{1,4}, Akihiko Kondo^{1,4,5}
 (¹ Grad. Sch. Sci. Technol. Innov., Kobe Univ., ² Department of Biochemistry, Yong Loo Lin School of Medicine, National University of Singapore, 8 Medical Drive, 117597 Singapore, ³ NUS Synthetic Biology for Clinical and Technological Innovation (SynCTI), Life Sciences Institute, National University of Singapore, 28 Medical Drive, 117456 Singapore, ⁴ Engineering Biology Research Center, Kobe University, Kobe, Japan, ⁵ Biomass Engineering Program, RIKEN, Yokohama, Kanagawa, Japan)
- 10:30** G3H6-0205 Metabolic analysis of mevalonic acid-producing *Escherichia coli* expressing a light-driven proton pump
○Matsuyama Chinatsu¹, Seike Taisuke¹, Okahashi Nobuyuki¹, Toya Yoshihiro¹, Hirono Yoko², Hirayama Hidenobu³, Ishii Jun³, Shimizu Hiroshi¹, Hara Kiyotaka², Matsuda Fumio¹
 (¹ Grad. Sch. IST, Osaka Univ., ² Sch. Food Nutr. Sci., Univ. Shizuoka., ³ Grad. Sch. Sci. Technol. Innov., Kobe Univ.)
- 10:30** G3H6-0206 Construction of artificial microbiota by using antisense peptide nucleic acids
○Tatsuya Hizume¹, Kenji Okano^{2,3}, Yu Sato², Kohsuke Honda^{2,3}
 (¹ Grad. Sch. Eng., Osaka Univ., ² ICBiotech, Osaka Univ., ³ OTRI, Osaka Univ.)
- 10:30** G3H6-0207 Isopropanol production with CO₂ reutilization by engineered *Ralstonia eutropha*
○Dyah Candra Hapsari Subagy, Rie Shimizu, Izumi Orita, Toshiaki Fukui
 (Tokyo Tech)

【Omics Technology】

- 10:30** G3H6-0208 Narrowband 280 and 310 nm UV-B induce distinctive responses in Arabidopsis
○Tomohiro Tsurumoto^{1,2}, Yasuo Fujikawa¹, Daisaku Ohta², Atsushi Okazawa²
 (¹ Nichia Co., Ltd., ² Grad. Sch. Life Environ. Sci., Osaka Pref. Univ.)
- 10:30** G3H6-0209 Metabolite profiling of single origin chocolate during bean-to-bar production process
○Yuka Kitani¹, Sastia Prama Putri^{1,2}, Eiichiro Fukusaki^{1,2,3}
 (¹ Grad. Sch. Eng., Osaka Univ., ² Ind. Biotechnol. Initiative Div., Inst. for Open and Transdisciplinary Res. Initiatives, Osaka Univ., ³ Osaka Univ. Shimadzu Omics Innov. Res. Laboratories)
- 10:30** G3H6-0210 Neuronal subclass-selective proteomic analysis in *Caenorhabditis elegans*
○Aburaya Shunsuke^{1,2,3}, Yamauchi Yuji^{3,4}, Bamba Takeshi¹, Ueda Mitsuyoshi^{3,5,6,7,8}, Aoki Wataru^{3,5,6,9}
 (¹ Med. Inst. Bioreg., Kyushu Univ., ² JSPS, Research Fellowship for Young Scientists (PD), ³ Grad. Sch. Agric., Kyoto Univ., ⁴ JSPS, Research Fellowship for Young Scientists (DC1), ⁵ Kyoto Integrated Science & Technology Bio-Analysis Center, ⁶ CREST, JST, ⁷ COI-NEXT, JST, ⁸ Office of Society Academia Collaboration for Innovation, ⁹ PRESTO, JST)
- 10:30** G3H6-0211 Transforming growth factor-beta1-induced metabolic profile during epithelial-to-mesenchymal transition in HEC1B
○Toki Yayoi¹, Ohshima Kenji⁴, Morii Eiichi⁴, Fukusaki Eiichiro^{1,2,3}
 (¹ Grad. Sch. Eng., Osaka Univ., ² Ind. Biotechnol. Initiative Div., Inst. for Open and Transdisciplinary Res. Initiatives, Osaka Univ., ³ Osaka Univ. Shimadzu Omics Innov. Res. Laboratories., ⁴ Grad. Sch. Med., Osaka Univ.)

Room H6 (11:30~12:00)

【Omics Technology】

- 11:30** G3H6-0301 Comparative metabolomics and sensory evaluation of pineapple from different cultivar and ripening stage
○Muhammad Maulana Malikul Ikram¹, Reo Mizuno¹, Sastia Prama Putri^{1,2}, Eiichiro Fukusaki^{1,2,3}
 (1 Dept. Biotechnol., Grad. Sch. Eng. Osaka University, Suita, Japan, 2 Industrial Biotechnology Division, Institute for Open and Transdisciplinary Research Initiatives, Osaka University, Suita, Japan, 3 Osaka University-Shimadzu Omics Innovation Research Laboratories, Osaka University, Suita, Japan)
- 11:30** G3H6-0302 Metabolomics study of different mixing process of mixed tempe powder (Indonesian fermented food) from soybean and red kidney bean
○Della Rahmawati^{1,2}, Made Astawan³, Sastia Prama Putri^{1,4}, Eiichiro Fukusaki^{1,4,5}
 (1 Dept. Biotechnol., Grad. Sch. Eng., Osaka Univ, 2 Dept. Food. Tech., Fac. Life. Sci. Eng., Swiss German Univ, 3 Dept. Food. Sci. Tech., IPB Univ, 4 Ind. Biotech. Div., Inst. Open. Transdiscip. Res. Init., Osaka Univ, 5 Osaka. Univ-Shimadzu. Omics. Innov. Res. Lab., Osaka Univ)
- 11:30** G3H6-0303 The metabolic profiling of coffee obtained from various altitude, geographical origin, and postharvest processes in Indonesia
○Fitri Amalia¹, Pingkan Aditiawati², Yusianto³, Sastia Prama Putri^{1,2,4}, Eiichiro Fukusaki^{1,4,5}
 (1 Dept. Biotechnol., Grad. Sch. Eng., Osaka Univ., 2 Sch. Life Sci. Tech., Institut Teknologi Bandung, 3 Indonesian Coffee and Cocoa Research Institute, 4 Industrial Biotechnology Division, Institute for Open and Transdisciplinary Research Initiatives, Osaka Univ., 5 Osaka University Shimadzu Omics Innovation Research Laboratories, Osaka Univ.)
- 11:30** G3H6-0304 Investigation of interaction between *Prevotella intermedia* and *Porphyromonas gingivalis*
○Yuta Aoki¹, Masae Kuboniwa², Akito Sakanaka², Shota Mayumi², Atsuo Amano², Eiichiro Fukusaki^{1,3,4}
 (1 Grad. Sch. Eng., Osaka Univ., 2 Grad. Sch. Dent., Osaka Univ., 3 Ind. Biotechnol. Initiative Div., Inst. for Open and Transdisciplinary Res. Initiatives, Osaka Univ., 4 Osaka Univ. Shimadzu Omics Innov. Res. Laboratories)
- 11:30** G3H6-0305 Elucidation of the metabolic mechanism of 1-Kestose in *Bifidobacterium longum* subsp. *longum*
○Yuki Namba¹, Kako Yoshida¹, Hayato Yamaguchi¹, Yasuhiro Gotoh², Yoshihiro Kadota³, Takumi Tochio³, Yoshitoshi Ogura⁴, Tetsuya Hayashi², Atsushi Yokota¹, Satoru Fukuya¹
 (1 Grad. Sch. Agric., Hokkaido Univ., 2 Fac. Med. Sci., Kyushu Univ., 3 B Food Sci. Co., Ltd., 4 Sch. Med., Kurume Univ.)
- 11:30** G3H6-0306 Metabolomics-based approach to predict the quality of commercial sized tropical farmed-shrimps
○Safira Latifa Erlangga Putri¹, Gede Suantika², Magdalena Lenny Situmorang², Sastia Prama Putri¹, Eiichiro Fukusaki^{1,3,4}
 (1 Dept. Biotechnol., Grad. Sch. Eng., Osaka Univ., 2 Schl. of Life Sci. and Tech, Inst. Teknologi Bandung, 3 Industrial Biotechnol. Div., Inst. for Open and Transdisciplinary Research Initiatives, Osaka Univ., 4 Osaka University Shimadzu Omics Innovation Research Laboratories, Osaka Univ.)
- 11:30** G3H6-0307 Correlation between metabolite profile and sensory profile of single-origin chocolates
○Abu Hanifah¹, Tissa Aunilla², Sastia Prama Putri^{1,3}, Eiichiro Fukusaki^{1,3,4}
 (1 Dept. of Biotechnol., Grad. Sch. Eng., Osaka Univ., 2 Pipiltin Cocoa, 3 Industrial Biotechnol. Div., Inst. for Open and Transdiscip. Res. Initiatives, Osaka Univ., 4 Osaka Univ.-Shimadzu Omics Innov. Res. Laboratories, Osaka Univ.)
- 11:30** G3H6-0308 Measurements and identification of gut microbial lipids using untargeted lipidomics
○Nobuyuki Okahashi^{1,2}, Shu Yasuda², Tsugawa Hiroshi^{2,3,4}, Ikeda Kazutaka^{2,5}, Arita Makoto^{2,6,7}
 (1 Grad. Sch. IST, Osaka Univ., 2 IMS,RIKEN, 3 CSRS, RIKENS, 4 Grad. Sch. Eng., Tokyo Univ. Agric. Technol., 5 Kazusa DNA Res. Inst., 6 Grad. Sch. Pharm., Keio Univ., 7 Grad. Sch. Med. Life Sci., Yokohama City Univ.)

- 11:30** G3H6-0309 Exploration of genes involved in ultrahard teeth formation in chitons by transcriptome comparison
○Koki Okada¹, Kosuke Ito¹, Takashi Tamura¹, Kenji Inagaki¹, Hisao Moriya¹, David Kisailus²,
 Kenji Okoshi³, Kiori Obuse¹, Michiko Nemoto¹
 (¹Grad. Sch. Environ. Life Sci., Okayama Univ., ²Univ. California-Irvine, ³Fac. Sci., Toho Univ.)
- 11:30** G3H6-0310 Possible existence of a non-mevalonate-like pathway in the yeast *Yarrowia lipolytica*
○Sastia Putri^{1,4}, Sivamoke Dissook¹, Tomohisa Kuzuyama², Shigeru Kitani³, Eiichiro Fukusaki^{1,4,5}
 (¹Grad. Sch. Eng., Osaka Univ., ²Grad. Sch. Agric. Life Sci., Univ. Tokyo, ³ICBiotech, Osaka Univ.,
⁴OTRI, Osaka Univ., ⁵Osaka Univ. Shimadzu Omics Innov. Res. Lab.)
- 11:30** G3H6-0311 Elucidation of nitrogen-sensitive oil synthesis pathway by comparative transcriptome analysis
○Yuto Hirata, Sena Yamashita, Hirokazu Takahashi, Kenshi Watanabe, Tsunehiro Aki,
 Yoshiko Okamura
 (Grad. Sch. Integr. Sci. Life, Hiroshima Univ.)

Room H7 (10:00~10:30)

【Brewing, Brewing Technology】

- 10:00** G3H7-0201 The effect of flavors on dynamic transformation of cell-sized liposomes: potential quality evaluation of Sake containing flavors
○Tsuyoshi Yoda (AITC, Hachinohe Industrial Research Institute)
- 10:00** G3H7-0202 Study on behavior and function of yeast peptidylprolyl cis-trans isomerase (PPIase) in sake brewing
Hiroki Yamada¹, Sarina Nieda¹, Hikari Kishi¹, Hisashi Fujiwara², Yoshinori Wakai², Shingo Izawa³,
 ○Kunihiko Watanabe¹
 (¹Grad. Sch., Life Environ. Sci., Kyoto Pref. Univ., ²Kizakura Co. Ltd, ³Grad. Sch. Sci. Technol., Kyoto
 Inst. Technol.)
- 10:00** G3H7-0203 Suppressive effect of fermented botanical product (FBP) on Japanese cedar pollinosis and its mechanism of action
○Seiji Kawamoto¹, Takashi Fujimura¹, Yuuki Nishioka¹, Ayane Hori¹, Hideto Torii²,
 Kotaro Fujioka², Shinsuke Kishida²
 (¹Grad. Sch. Integr. Sci. Life, Hiroshima Univ., ²Manda Fermentation Co., Ltd.)
- 10:00** G3H7-0204 Classification of *amazake* with taste and aroma ingredient profile
○Kazuya Kodaira, Yoshika Murayama, Atsushi Kurahashi (Hakkaisan Brewery Co.,Ltd.)
- 10:00** G3H7-0205 Effect of glycosylceramide on the intestinal bacteria *in vitro*
○Akira Ootsuka¹, Mayu Nagatome¹, Moemi Mansho¹, Haunghaung Dai¹, Nairui Zhaug¹,
 Jiro Nakayama², Hiroshi Kitagaki¹
 (¹Grad. Sch. Adv. Health Sci., Saga Univ., ²Fac. Agric., Kyushu Univ.)
- 10:00** G3H7-0206 Intake of *koji amazake* improves defecation frequency in healthy adult
Atsushi Kurahashi¹, Yoshifumi Oguro¹, Ayana Kojima¹, Kazuya Kodaira¹, ○Toshihiko Enomoto¹,
 Kenichi Watanabe², Nobuhiro Ozaki³, Hiroshi Goto⁴, Masao Hirayama⁴
 (¹R&D Dep. Hakkaisan Brewery Co. LTD., ²Grand. Sch. Med. Dent. Sci. Niigata Univ., ³Niigata Assoc.
 of Occ. Health, Inc., ⁴Niigata Bio-Res. Park Inc.)
- 10:00** G3H7-0207 Studies on production of outer membrane vesicles derived from acetic acid bacteria
○Kuwahara Naoyuki, Matsumoto Taichi, Hashiguchi Shuhei, Hashimoto Masahito (Grad. Sch. Sci
 Eng., Kagoshima Univ.)
- 10:00** G3H7-0208 *Aspergillus oryzae* administration represses DSS-induced colitis
○Ryo Nomura¹, Sho Tsuzuki¹, Takaaki Kojima², Motoyuki Shimizu¹, Masashi Kato¹
 (¹Grad. Sch. Agric., Meijo Univ., ²Grad. Sch. Bioagric., Sci., Nagoya Univ.)

- 10:00** G3H7-0209 Breeding of yeasts for increasing production of beta-phenethyl alcohol.
○Tetsuya Hasegawa¹, Rina Otani¹, Mizuki Shiotani¹, Yoshifumi Matsuo¹, Toru Onishi¹,
 Miki Furuie¹, Hironobu Takagi¹, Masataka Ohashi², Atsushi Kurata¹, Koichi Uegaki¹
 (¹ Grad. Sch. Agric. Kinki Univ., ² Nara Pref. Inst. Ind. Dev.)
- 10:00** G3H7-0210 Isolation of high aroma sake yeast mutants that produce high concentration tyrosol
○Hiroshi Kawasaki, Tasuku Yamada (Kiku-Masamune Sake Brewing Co.,Ltd.)
- 10:00** G3H7-0211 Development of an itraconazole resistance marker gene for transformation in *Aspergillus oryzae* and
Aspergillus luchuensis
○Jikian Tokashiki, Hirohide Toyama, Osamu Mizutani (Fac. Agric., Univ. Ryukyus)
- 10:00** G3H7-0212 Brewing characteristics of flat polished rice and the production of the deterioration flavor during the storage.
○Risa Yamasaki¹, Kenji Oba¹, Yuya Arase¹, Yutatsu Hirata², Kazunobu Kajihara², Koji Kawakami²,
 Ritsushi Ohdoi¹
 (¹ Food Technol. Res. Center, Hiroshima Prefectural Technol. Res. Institute, ² Satake Corporation)
- 10:00** G3H7-0213 Analysis of the production process of FA and 4VG during Awamori brewing using brown rice
○Yuki Sugie¹, Mayumi Maeda², Keiko Uechi¹, Tatsunori Tokashiki³, Toki Taira¹
 (¹ Fac. Agric., Univ. Ryukyus, ² Fac. Appl. Biosci., Tokyo Univ. Agric., ³ Ishikawa Tanekouji)
- 10:00** G3H7-0214 Analysis of MAP kinases in the white koji fungus
○Hayashi Nanami¹, Ikeda Moe¹, Kadooka Chihiro², Okutsu Kayu¹, Yoshizaki Yumiko¹,
 Takamine Kazunori¹, Goto Masatoshi³, Tamaki Hisanori¹, Futagami Taiki¹
 (¹ Grad. Sch. Agric., Kagoshima Univ., ² Fac. Biotechnol. Life Sci., Sojo Univ., ³ Fac. Agric., Saga Univ.)
- 10:00** G3H7-0215 Analysis of lipid molecules contributing to industrial yeast phenotypes by untargeted lipidomics
○Komori Shuka¹, Okahashi Nobuyuki^{1,2,3}, Ogura Tairo⁴, Iida Junko^{3,4}, Matsuda Fumio^{1,2,3}
 (¹ Grad. Sch. IST, Osaka Univ., ² Omics. Innov. Res. Lab, Osaka Univ. Shimadzu Corp., ³ OTRI, Osaka
 Univ., ⁴ Shimadzu Corp.)

Room H7 (11:00~11:30)

【Brewing, Brewing Technology】

- 11:00** G3H7-0301 Estimating the flora of black aspergilli contained in prewar Awamori koji by phylogenetic analysis using
 whole genome data
○Masatoshi Tsukahara¹, Haruna Azuma¹, Tatsumoto Kugai¹, Hirohide Toyama²
 (¹ Biojet, ² Fac. Agric., Univ. Ryukyus)
- 11:00** G3H7-0302 Research for genes involved in isoamyl alcohol production by *Saccharomyces cerevisiae*
○Yuki Kobashi¹, Yumiko Yoshizaki^{1,2}, Kayu Okutsu², Taiki Futagami^{1,2}, Hisanori Tamaki^{1,2},
 Kazunori Takamine^{1,2}
 (¹ United Grad. Sch. Agric. Sci., Kagoshima Univ., ² Fac. Agric., Kagoshima Univ.)
- 11:00** G3H7-0303 Observation of rice *koji* structure and influence of *koji* drying on *koji* making test
○Kazunari Ito¹, Yuka Tanino¹, Katsuya Gomi², Masahiro Kariyama³, Tsuyoshi Miyake¹
 (¹ Ind. Technol. Center, Okayama Pref., ² Grad. Sch. Agric. Sci., Tohoku Univ., ³ Fujiwara Techno-Art Co.,
 Ltd.)
- 11:00** G3H7-0304 Study on the transfer of ethyl alpha-D-glucoside (alpha-EG) to foodstuffs by *Kasudoko*
○Tatsuya Yamakawa, Kazuki Kubota, Mako Yanagida, Kenji Ozeki (Genome Biotechnol. Lab.,
 Kanazawa Inst. Technol.)

【Food Science, Food Technology】

- 11:00** G3H7-0305 Characterization of *Lactobacillus plantarum* PUK6 and analysis of the biosynthesis genes of the multiple bacteriocins produced.
○Ai Kawahara¹, Riho Hayashi², Risa Shiga², Akari Matsuda², Takeshi Zendo³, Hiromi Matsusaki^{1,2}
 (1 Grad. Sch. Environ. Sym. Sci., Pref. Univ. Kumamoto, 2 Fac. Environ. Sym. Sci., Pref. Univ. Kumamoto, 3 Fac. Agric., Kyushu Univ.)
- 11:00** G3H7-0306 Anti-hepatic steatosis effect of D-amino acid composition in the fermented food.
○Tomonori Sato, Yui Umekawa, Sho Shindo (Akita Research Institute of Food & Brewing)
- 11:00** G3H7-0307 Total phenolic content and antioxidant activity of edible basidiomycete fermented soybean
○Yuta Sawada, Ryosuke Fukushi, Hirohumi Arai, Toshitsugu Sato (Kitami Inst. Technol.)
- 11:00** G3H7-0308 Effects of Koji Amazake on suppressing elevation of blood glucose levels
○Yamada Minami¹, Tada Takakiyo², Tagawa Shinya², Kitagawa Manabu¹, Kuraishi Tooru¹,
 Itou Seiki¹
 (1 Marukome Co., Ltd., 2 KRI Inc.)
- 11:00** G3H7-0309 Investigation of factors affecting the shrimp metabolite profile and texture attributes
○Naoki Shimamoto¹, Sastia Prama Putri^{1,2}, Eiichiro Fukusaki^{1,2,3}
 (1 Grad. Sch. Eng., Osaka Univ., 2 Industrial Biotechnology Initiative Division, Institute for Open and Transdisciplinary Research Initiatives, Osaka Univ., 3 Osaka University Shimadzu Omics Innovation Research Laboratories)
- 11:00** G3H7-0310 Investigation of key compounds for specialty coffee quality using roasted beans and brewed coffee by metabolomics approach
○Tetsuji Takegami¹, Putri Sastia Prama^{1,2}, Eiichiro Fukusaki^{1,2,3}
 (1 Grad. Sch. Eng., Osaka Univ., 2 Industrial Biotechnology Initiative Division, Institute for Open and Transdisciplinary Research Initiatives, Osaka Univ., 3 Osaka University Shimadzu Omics Innovation Research Laboratories)
- 11:00** G3H7-0311 Metabolic visualization reveals the distinct distribution of sugars and amino acids in rice *koji*
○Adinda Putri Wisman¹, Yoshihiro Tamada², Shuji Hirohata², Eiichiro Fukusaki^{1,3,4},
 Shuichi Shimma^{1,3,4}
 (1 Dept. Biotechnol., Grad. Sch. Eng., Osaka Univ., 2 Hakutsuru Sake Brewing Co., Ltd., 3 Industrial Biotechnology Division, Institute for Open and Transdisciplinary Research Initiatives, Osaka Univ., 4 Osaka University Shimadzu Omics Innovation Research Laboratories, Osaka Univ.)
- 11:00** G3H7-0312 Evaluating tempe storage condition through untargeted metabolomics
○Kotaro Tamaki¹, Putri Sastia Prama^{1,2}, Eiichiro Fukusaki^{1,2,3}
 (1 Grad. Sch. Eng., Osaka Univ., 2 Industrial Biotechnology Initiative Division, Institute for Open and Transdisciplinary Research Initiatives, Osaka Univ., 3 Osaka University Shimadzu Omics Innovation Research Laboratories)
- 11:00** G3H7-0313 Proteome analysis of farmed fish *Oncorhynchus masou* by feeding thermophile fermented products
○Usui Mai¹, Sano Hiroaki², Nishiuchi Takumi³, Miyamoto Hirokuni^{1,4,5}, Kodama Hiroaki¹
 (1 Grad. Horticult., Chiba Univ., 2 Maruhanichiro, 3 Inst., Kanzawa Univ., 4 Sermas, 5 IMS,RIKEN)
- 11:00** G3H7-0314 Verification between the flavor forming capability of non-starter bacterial isolates and the correlations between bacteria and metabolites using omics-approach in surface mold-ripened soft cheese
○Ryosuke Unno¹, Yumika Osaki¹, Minenosuke Matsutani², Toshihiro Suzuki¹, Morio Ishikawa¹
 (1 Grad. Sch. Appl. Biosci., Tokyo Univ. Agric., 2 NODAI Genome Res. Center, Tokyo Univ. Agric.)
- 11:00** G3H7-0315 Investigating the effect of adding Soy Hull to Tempe, an Indonesian fermented food
○Hadi Akbar Dahlan¹, Sastia Prama Putri^{1,2}, Eiichiro Fukusaki^{1,2,3}
 (1 Grad. Sch. Eng., Osaka Univ., 2 Industrial Biotechnology Division, Institute for Open and Transdisciplinary Research Initiatives, Osaka Univ., Japan, 3 Osaka University-Shimadzu Omics Innovation Research Laboratories, Osaka Univ., Japan)

Lunchtime Seminar

L3H5-0001 On-chip Biotechnologies Co., Ltd.

Room H5 (12:00~13:00)

Symposium

Room H1 (13:00~15:00)

Current status and issues of the science of palatability

13:00		Opening Remarks Kei Hayashi Chair: Kei Hayashi
13:05	S3H1-1301	Inserting a time axis into food deliciousness research○Hiroataka Kaneda (Fac. Life Sci., Kyushu Sangyo Univ.) Chair: Yasuhiko Imai
13:35	S3H1-1302	Flavor evaluation of a milk coffee drink developed using a new manufacturing method○Masayuki Akiyama (Beverage Res. Section, Food Res. & Development Inst., R&D Div., Morinaga Milk Ind.) Chair: Takaomi Yasuhara
14:05	S3H1-1303	Deliciousness design using new sensory evaluation technique○Kawasaki Hiroya (Inst. Food Sci. Tech. Ajinomoto Co.,Inc.)
14:35		Q&A
14:55		Closing Remarks Hiroyuki Kojima

Room H1 (15:30~17:30)

Toward medical application of Bioanalysis—Genesis of NEOHOST biotechnology

15:30		Opening Remarks Hiroshi Ueda Chair: Noriho Kamiya
15:35	S3H1-1401	Development of optical imaging technology and application of Neohost in medical research○Takeshi Imamura (Grad. Sch. Med., Ehime Univ.)
16:00	S3H1-1402	Construction of data analysis platform for neohost application of animal cells○Kei Kanie (Grad. Sch. Pharm. Sci., Nagoya Univ.)
16:20		Break Chair: Tamotsu Zako
16:25	S3H1-1403	Construction and biotechnological application of artificial compartments○Noriho Kamiya ^{1,2} (¹ Fac. Eng., Kyushu Univ., ² CFC, Kyushu Univ.)

- 16:45** S3H1-1404 Establishment of neo-host with regulated membrane curvature structure
○Masayoshi Tanaka (Sch. Mater. Chem. Technol., Tokyo Tech)
- 17:05** S3H1-1405 Construction of non-biological neo-hosts for medical applications
○Yoshihiko Murakami (Grad. Sch. Eng., Tokyo Univ. Agric. Technol.)
- 17:25** Closing Remarks
 Taizo Hanai

Room H2 (13:00~15:00)

Future insight in the applications of extremophiles and bioresources

- 13:00** Opening Remarks
 Satoshi Wakai
 Chair: **Satoshi Wakai**
- 13:05** S3H2-1501 Extremophiles in NBRC, and the efforts for their industrial usage
○Koji Mori (NBRC, NITE)
- 13:33** S3H2-1502 Introduction of the deep-sea bioresource repository project and the search for useful enzymes using the deep-sea bioresources.
○Tomomi Sumida (JAMSTEC)
- 14:01** S3H2-1503 Commercial application of an extremophilic red alga *Galdieria sulphuraria* for a circular economy
○Eri Adams (Galdieria, Co., Ltd.)
- 14:29** S3H2-1504 Development of functions of autotrophic hydrogen-oxidizing microorganism with significant growth ability, which was isolated from domestic hot spring, for the industrial application
○Masaharu Ishii¹, Masafumi Kameya¹, Tohru Kodama², Hiroyuki Arai¹, Hideaki Yukawa²
 (¹Grad. Sch. Agric. Life Sci., Univ. Tokyo, ²Utilization of Carbon Dioxide Institute Co. Ltd)
- 14:57** Closing Remarks
 Satoshi Wakai

Room H2 (15:30~17:30)

New developments of the isolation, cultivation and exploitation of microbial dark matter

- 15:30** Opening Remarks
 Hideki Aoyagi
 Chair: **Yoichi Nakao**
- 15:32** S3H2-1601 Exploration of new bioactive compounds from microorganisms
○Hiroyuki Osada (CSRS, RIKENS)
- 15:54** S3H2-1602 Study for exploring the High Arctic and Antarctic fungi that no one has cultured before and challenging them for industrial use
○Masaharu Tsuji (NIT, Asahikawa Coll.)
 Chair: **Nobutada Kimura**
- 16:16** S3H2-1603 What are uncultivables and how can we grow them?
○Yoshiteru Aoi¹, Dawoon Jung¹, Koshi Machida², Yoichi Nakao²
 (¹Grad. Sch. Integr. Sci. Life, Hiroshima Univ., ²Grad. Sch. Adv. Sci. Eng., Waseda Univ.)
- 16:38** S3H2-1604 The road to commercialization of new biopolymer PHBH discovered from soil bacterium.
○Shunsuke Sato (Kaneka Corp.)

Chair: **Hideki Aoyagi**

- 16:59** S3H2-1605 The ecology and function of human intestinal bacteria revealed by cultivation
○Yohei Watanabe (Yakult Cent. Inst.)
- 17:20** Discussion
 Closing Remarks
Hideki Aoyagi

Room H3 (13:00~15:00)

Frontiers of nano-cellulose from acetic acid bacteria: Molecular mechanism of synthesis and its applications

- 13:00** Opening Remarks
 Hirohide Toyama
 Chair: **Hirohide Toyama**
- 13:02** S3H3-1701 Production and Utilization of Nanocellulose in the World
○Satoshi Hirata (Empaccede)
- 13:26** S3H3-1702 Deletion and reversion of genes involved in cellulose production in acetic acid bacteria
○Minenosuke Matsutani¹, Gunjana Theeragool², Toshiharu Yakushi^{3,4}, Kazunobu Matsushita^{4,5},
 Morio Ishikawa⁶
 (¹NODAI Genome Res. Center, Tokyo Univ. Agric., ²Fac. Sci., Kasetsart Univ., ³Grad. Sch. Sci. Tech.
 Innov., Yamaguchi Univ., ⁴Res. Center Thermo. Micro. Res., Yamaguchi Univ., ⁵Fac. Agric., Yamaguchi
 Univ., ⁶Fac. Appl. Biosci., Tokyo Univ. Agric.)
- 13:50** S3H3-1703 Structures and functions of cellulose synthase complex from *Gluconacetobacter*
○Tajima Kenji (Grad. Sch. Eng., Hokkaido Univ.)
 Chair: **Kenji Tajima**
- 14:14** S3H3-1704 Reconstruction of cellulose synthase with its "native" activity
○Tomoya Imai (RISH, Kyoto Univ.)
- 14:38** S3H3-1705 In vivo fabrication of hyaluronan/cellulose composite nanofibrils by synchronized biospinning of
 engineered *Gluconacetobacter*
○Tetsuo Kondo (Fac. Agric., Kyushu Univ.)
- 15:02** Closing Remarks
Kenji Tajima

Room H3 (15:30~17:30)

Cutting edge of marine biodegradable plastic development in Japan

- 15:30** Opening Remarks
 Masayuki Inui
 Chair: **Masayuki Inui**
- 15:34** S3H3-1801 R&D of Biodegradable Plastics
○Yoshiharu Doi^{1,2} (¹Tokyo Tech, ²RIKEN)
- 16:02** S3H3-1802 Development of ocean degradable and durable biopolymers from non-food biomasses
○Kohzo Ito (Grad. Sch. Front. Sci., Univ. Tokyo)

