

29th. November

Room 31

Symbiosis, interaction, theory

- 9:00 - 9:15 2_31_O-a01 **Estimation of microbial community structure using real data**
Kei Tokita
Grad. Sch. of Info., Nagoya Univ.
- 9:15 - 9:30 2_31_O-a02 **Modeling of antibiotic-induced perturbation in gut microbiome**
*Rie Maskawa(1), Lena Takayasu(2), Hideki Takayasu(1), Wataru Suda(2), Misako Takayasu(1)
(1) School of Computing, Tokyo Institute of Technology,
(2) Center for Integrative Medical Sciences, RIKEN
- 9:30 - 9:45 2_31_O-a03 **Finding syntrophic relationships in microbial communities by statistical correlation of abundance in diverse environments**
Shigeru Kawai (1), Shawn E. McGlynn (2), *Katsumi Matsuura (2,3)
(1) JAMSTEC, (2) ELSI, Tokyo Institute of Technology, (3) Inst. Early Metabolic Evolution
- 9:45 - 10:00 2_31_O-a04 **Advantages of Microbial Complex Systems in Microbial Methanation**
*Kohei Ikeura (1), Makoto Kawano (2), Minako Terao (2), Kota Ichikawa (3),
Hiroyuki Hutamata (3), (4), Hiroyuki Kimura (1), (4)
(1) Graduate School of Integrated Science and Technology, Department of Science, Geosciences
Course, Shizuoka University, (2) Yokogawa Electric Corporation,
(3) Graduate School of Integrated Science and Technology, Department of Engineering, Applied
Chemistry and Biochemical Engineering Course, Shizuoka University,
(4) Research Institute of Green Science and Technology, Shizuoka University
- 10:00 - 10:15 2_31_O-a05 **Construction and analysis of efficient propionate degrading process in microbial fuel cells**
*Kota Ichikawa (1), Hiroyuki Kimura (1,2,3), Yosuke Tashiro (1,2), Hiroyuki Futamata (1,2,3)
(1) Grad. Sch. Integr.Sci.Technol., Univ Shizuoka, (2) Grad. Sch. Sci. Technol., Univ. Shizuoka,
(3) Research Institute of Green Science and Technology, Shizuoka University
- 10:15 - 10:30 **Break time**
- 10:30 - 10:45 2_31_O-a06 **Factors that influence predatory activity in activated sludge microbial community**
*Yuya Sato (1), Tomohiro Inaba (1), Hiroshi Habe (1)
(1) EMRI, AIST
- 10:45 - 11:00 2_31_O-a07 **Indigenous soybean bradyrhizobial flora and novel *nosZ*-possessing *Bradyrhizobium* species in Japan**
*Manabu Itakura (1), Kaori Kakizaki (1), Tomoko Sakai (1),
Fernandes Siqueira Arthur (1), Sawa Hara (2), Kiwamu Minamisawa (1)
(1) Grad. Sch. of Life Sci., Tohoku Univ., (2) NARO

11:00 - 11:15 2_31_O-a08 **Effect of rhizobial inoculation on soil bacterial communities**

*Hiromi Kato(1), Yuichi Aoki(2), Manabu Itakura(1), Masaru Bamba(1), Rota Wagai(3),
Shusei Sato(1), Kiwamu Minamisawa(1)

(1)Graduate School of Life Sciences, Tohoku University,
(2)Tohoku Medical Megabank Organization, Tohoku University, (3)NARO

11:15 - 11:30 2_31_O-a09 **Agricultural management and soil origin rather than plant genetic trait shapes the soybean rhizosphere bacterial and fungal communities**

*Dominic V. A. Agyekum (1), Khondoker. M. G. Dastogeer (2), Shin Okazaki (1,3)

(1) Utd. Grad. Sch. of Agric., Tokyo Univ. of Agric. and Tech.,

(2) Dept. of Plant Path., Bangladesh Agric. Univ.,

(3) Inst. of Glob. Innov. Res., Tokyo Univ. of Agric. and Tech.

11:30 - 11:45

Break time

11:45

Branch meeting

11:45 - 12:45

Career Pathways & Networking Roundtable for Young Scientists

JSME Committee for the Promotion of Diversity and Career Development

12:45

12:45 - 13:00

Break time · Let's move to Exhibition and Event Hall!

13:00

Poster session@Exhibition and Event Hall

13:00 - 14:00 First Half

13:00 - 14:30 High School Student presentation

14:00 - 14:15 Communication Time

15:00 - 15:15 High school student award ceremony

14:15 - 15:15 Second Half

15:15

15:15 - 15:30

Break time · Let's move to oral session!

15:30 - 15:45 2_31_O-p01 **Mechanism of microbiota organization in rhizosphere synthetic community**

*Momoka Yorinaga (1), Mahiro Toda (1), Tomoki Nishioka (2), Takuya Suzaki (1),
Hideyuki Tamaki (2), Norio Takeshita (1)

(1) Univ. Tsukuba, (2) AIST

15:45 - 16:00 2_31_O-p02 **Identification and characterization of *N*-acylhomoserine lactone-degrading bacteria in bark compost**

*Tomohiro Morohoshi (1), Toshiyuki Nikata (1), Naotake Konno (2), Tomohiro Suzuki (3)

(1) Dept. Fundam. Eng., Utsunomiya Univ., (2) Dept. Appl. Biol. Chem., Utsunomiya Univ.,

(3) Cent. Biosci. Res. Edu., Utsunomiya Univ.

16:00 - 16:15 2_31_O-p03 **Bacterial Community Analysis of Water Yam (*Dioscorea alata* L.) Under Different Water Condition**

*Shunta Kihara(1), Kosuke Yamamoto(2), Yuh Shiwa(2), Hidehiko Kikuno(3),
Minenosuke Matsutani(4), Hironobu Shiwachi(5)

- (1) Department of International Agricultural Development, Graduate School of International Food and Agricultural Studies, Tokyo University of Agriculture,
(2) Department of Molecular Microbiology, Tokyo University of Agriculture,
(3) Miyako Subtropical Training and Research Farm, Tokyo University of Agriculture,
(4) NODAI Genome Research Center, Tokyo University of Agriculture,
(5) Department of International Agricultural Development, Tokyo university of Agriculture

16:15 - 16:30 2_31_O-p04 **Pseudo-vertical transmission of bacterial symbiont via feces in an ant**

*Akari Nishina(1), Rio Yamashita(1), Yusuke Ishizuka(1), Yu Matsuura(2),
Hideomi Itoh(3), Yoshitomo Kikuchi(3), Hiroyuki Shimoji(4)

- (1) Sch. of Bio. Env. Sci., Kwansei Gakuin Univ, (2) TBRC, Univ. of Ryukyus,
(3) BPRI, AIST, (4) Agri. Univ. Ryukyus

16:30 - 16:45 2_31_O-p05 **Identification of the toxin producing bacterium from the marine sponge genus *Mycale*, and analysis of its transmission mode**

*Masaki Fujita (1), Yuji Ise (2), Masashi Fukuoka (3), Nobutada Kimura (4), Kazutoshi Yoshitake (5),
Akihiro Ninomiya (5), Shigeki Matsunaga (5), Ryuichi Sakai (1), Takada Kentaro(6)

- (1) Grad. Sch.I of Fish. Sci., Hokkaido Univ., (2) The Kuroshio Bio. Res. Inst.,
(3) Grad. Sch. of Sci., Nagoya Univ., (4) Bioprod. Res. Inst., AIST,
(5) Grad. Sch. of Agri. Sci., The Univ. Tokyo, (6) Sch. of Mar. Biosci., Kitasato Univ.

16:45 - 17:00

Break time

Interface and Biofilm

17:00 - 17:15 2_31_O-p06 **Spatiotemporal virulence gene expression on three-dimensionally organized oral biofilms**

*Dongyeop Kim (1), Hyun Koo (2)

- (1) Department of Preventive Dentistry, School of Dentistry and Institute of Oral Bioscience, Jeonbuk National University, (2) Biofilm Research Labs, Center for Innovation & Precision Dentistry, School of Dental Medicine, University of Pennsylvania

17:15 - 17:30 2_31_O-p07 **Screening for biofilm inhibitors from microorganisms isolated from Antarctic snow petrel nesting sites**

Hayato Kinoshita (1), Towa Hamamoto (1), Siddiqa Ayesha (1),
Shohei Hayashi (2), *Hiroyuki Azakami (1, 3)

- (1) Fac. Agri, Yamaguchi Univ., (2) Fac. Life Environ. Sci., Shimane Univ.,
(3) Res. Center Thermotolerant Microb. Resouc., Yamaguchi Univ.

17:30 - 17:45 2_31_O-p08 **Seeking the factors causing an inconstant biodegradation of biodegradable plastics under the experimental system with seawater and marine sediment**

*Tetsuhiro Watano (1)(5), Takafumi Kamitani (1), Miki Takii (1), Takamasa Miura (2),
Kimihito Itoga (3), Shogo Uematsu (4), Kazuhiro Umezawa (5), Yukinori Tani (5)

- (1) Shizuoka Environment and Hygiene Institute, (2) NITE·NBRC, (3) Yahata Bussan Co., Ltd.,
(4) Uematsu Technical Office, (5) University of Shizuoka

17:45 - 18:00

18:00 - 18:30

Let's move to Reception!

18:30

Reception@Mein Schloss

20:15

29th. November

Room 41

Young Scientist Multidisciplinary

9:00 - 9:15 2_41_O-a01 **Tera base hot spring metagenomes illuminate novel and diverse microbiomes in the Japanese subsurface**

*Yu Sato (1), Yu Nakajima (2), Satoshi Ohkubo (3), Miho Hirai (2), Kenji Okano (4), Hiroyuki Kimura (5), Kohsuke Honda (6,7), Masaru K. Nobu (2), Hideyuki Tamaki (8), Ken Takai (2)

(1) ORI, Yamaguchi Univ., (2) X-Star, JAMSTEC (3) Grad. Sch. of Life Sci., Tohoku Univ., (4) Dep. of Life Sci. and Tech., Fac. of Chem., Materials and Bioeng., Kansai Univ., (5) RIGST, Shizuoka Univ., (6) ICBiotech, Osaka Univ., (7) OTIR, Osaka Univ., (8) Bioprod. Res. Inst., AIST

9:15 - 9:30 2_41_O-a02 **Molecular-Level Insights into Arsenic Biotransformation in Extremophilic Microorganisms (*Cyanidiales*)**

Yen-Lin Cho (1)*, Yu-Hsien Chen (1), Nhu Anh Thi Than (1), Yu-Ting Liu (1,2)

(1) Department of Soil and Environmental Sciences, National Chung Hsing University, Taiwan, (2) Innovation and Development Center of Sustainable Agriculture, National Chung Hsing University, Taiwan

9:30 - 9:45 2_41_O-a03 **Cultivation and genomic insights into marine bacteria of the SAR202 clade**

*Yeonjung Lim (1),(2), Ji-Hui Seo (1), Stephen J. Giovannoni (3), Innam Kang (2), and Jang-Cheon Cho (1)

(1) Department of Biological Sciences and Bioengineering, Inha University, Incheon 22212, Republic of Korea, (2) Center for Molecular and Cell Biology, Inha University, Incheon 22212, Republic of Korea, (3) Department of Microbiology, Oregon State University, Corvallis, OR 97331, USA

9:45 - 10:00 2_41_O-a04 **N₂O-dependent anoxic growth of methanotrophs**

*Awala Samuel Imisi (1), Gwak Joo-Han (1), and Sung-Keun Rhee (1)

(1) Department of Biological Sciences and Biotechnology, Chungbuk National University, 1 Chungdae-ro, Seowon-Gu, Cheongju 28644, Republic of Korea

10:00 - 10:15 2_41_O-a05 **The tripartite interaction of *Arabidopsis thaliana*, *Pseudomonas aeruginosa*, and *Colletotrichum tofieldiae* is governed by nutrient condition**

*Yuniar Devi Utami (1), Kei Hiruma (1)

(1) Grad. Sch. of Arts Sci., Univ. Tokyo

10:15 - 10:30

Break time

10:30 - 10:45 2_41_O-a06 **Persistence of antibiotic resistance from animal agricultural effluents to surface water revealed by genome-centric metagenomics**

*Jin Ju Kim (1), Hoon Je Seong (1,2), Timothy A. Johnson (3),
Chang-Jun Cha (1), Woo Jun Sul (1), Jong-Chan Chae (4)

(1) Department of Systems Biotechnology, Chung-Ang University, Anseong, Republic of Korea,
(2) Korean Medicine Data Division, Korea Institute of Oriental Medicine, Daejeon, Republic of Korea,
(3) Department of Animal Sciences, Purdue University, West Lafayette, United States,
(4) Division of Biotechnology, Jeonbuk National University, Iksan, Republic of Korea

10:45 - 11:00 2_41_O-a07 **Discerning the dissemination mechanisms of antibiotic resistance genes of ESBL-producing *E. coli* through whole genome sequencing**

Hokyung Song (1), Sunwoo Lee (2), Yujin Jeong (2), Tatsuya Unno (1)

(1) Department of Biological Sciences and Biotechnology, Chungbuk National University,
Seowon-Gu, Cheongju 28644, Republic of Korea, (2) Faculty of Biotechnology,
College of Applied Life Sciences, Jeju National University, Jeju, 63243, Korea

11:00 - 11:15 2_41_O-a08 **Medium chain length Polyhydroxyalkanoate(mcl-PHA) production using organic acid by engineered *Pseudomonas* species**

*Jong-Min Jeon(1), Kyeong-Keun Oh(2), Jeong-Jun Yoon(1)

(1)1Green & Sustainable Materials R&D Department, Korea Institute of Industrial
Technology(KITECH), Cheonan 31056, Republic of Korea, (2)Department of Chemical Engineering,
Dankook University, Yongin 16890, Republic of Korea

11:15 - 11:30 2_41_O-a09 **Urease-producing bacteria immobilization by using 3D bioprinting technology to remove urea and heavy metals from water**

*Pei-Hsun Wu (1), Cheng-Chun Shih (1), Chang-Ping Yu (1)
(1) Grad. Inst. Environ. Eng., NTU, Taiwan

11:30 - 11:45 Break time

11:45

Branch meeting 11:45 - 12:45

Discussion on outreach activity of JSME in diversified society
Educational Outreach Working Group

12:45

12:45 - 13:00 Break time · Let's move to Exhibition and Event Hall!

13:00

Poster session@Exhibition and Event Hall

13:00 - 14:00	First Half	13:00 - 14:30	High School Student presentation
14:00 - 14:15	Communication Time	15:00 - 15:15	High school student award ceremony
14:15 - 15:15	Second Half		

15:15

15:15 - 15:30 Break time · Let's move to oral session!

Young Scientist Multidisciplinary

15:30 - 15:45 2_41_O-p01 **Biofilm dispersion factors induce membrane vesicle production in *Pseudomonas aeruginosa***

*Mizuki Kanno (1), Hiroyuki Futamata (1),(2),(3), Yosuke Tashiro (1),(2)

(1) Grad. Sch. of Sci. Tech., Univ. Shizuoka, (2) Res. Inst. Green Sci. Tech., Univ. Shizuoka,
(3) Grad. Sch. of Intgr. Sci. Tech., Univ. Shizuoka

15:45 - 16:00 2_41_O-p02 **Biphasic Interactions in Coexisting Microorganisms: Contrasting Dynamics in Dormant and Active States**

*Soo Bin Kim (1), Eun Sun Lyou (1), So Hee Park (1), Jinsook Kim (1) and Tae Kwon Lee (1)

(1) Department of Environmental and Energy Engineering, Yonsei University, Wonju, Republic of Korea

16:00 - 16:15 2_41_O-p03 **Species-specific mutualistic metabolites cross-feeding between lactic acid probiotics and *Veillonella dispar***

*Shi-Min Zhang¹, Jia-He Hung², Tran Ngoc Yen³, Shir-Ly Huang³

(1) Program in Molecular Medicine, National Yang Ming Chiao Tung University, Taipei, Taiwan

(2) School of Medicine, National Yang Ming Chiao Tung University, Taipei, Taiwan

(3) Institute of Microbiology and Immunology, National Yang Ming Chiao Tung University, Taipei, Taiwan

16:15 - 16:30 2_41_O-p04 **Symbiotic bacteria break through narrow passage by flagellar wrapping**

*Aoba Yoshioka(1), Tetsuo Kan(2), Kazutaka Takeshita(3), Hirofumi Wada(4), Yoshitomo Kikuchi(5), Daisuke Nakane(1)

(1)Eng. Sci., UEC., (2)Mech. and Int. Sys. Eng., UEC., (3)Fac. Biores. Sci. Akita Pref Univ.,
(4)Phys. Sci. Ritsumeikan Univ., (5)BPRI, AIST.

16:30 - 16:45 2_41_O-p05 **The effects of the deficiency of lipopolysaccharides structure for *Pseudomonas nitroreducens* TX1 grown in ethoxylated surfactants**

*Po-Chun Tsai (1), Chen-Yen Wu (2), Tran Ngoc Thang (3), Ting-Huan Shih (4), Shir-Ly Huang (5)

(1) Institute of Microbiology and Immunology, National Yang Ming Chiao Tung University, Taipei, Taiwan

16:45 - 17:00 **Break time**

17:00 - 17:15 2_41_O-p06 **In-vitro, in-vivo, and in-silico assessments of antiviral capabilities and mechanisms of selected embryophyte and macrophyte herbs**

*Diaiti Zure (1), Hsion-Wen David Kuo (1), Aleksandra Drizo (2)

(1) Department of Environmental Science and Engineering,

(2) Sustainability Science and Management Program, Tunghai University, Taiwan

17:15 - 17:30 2_41_O-p07 **Minimal Media Inference by Metabolic Network Expansion**

*Hayate Hirai(1,2), Harrison B. Smith(2,3), Shawn Erin McGlynn(2,3,4)

(1) Dept. of Life Science and Technology, Tokyo Institute of Technology,

(2) Earth-Life Science Institute, Tokyo Institute of Technology,

(3) Blue Marble Space Institute of Science, (4) Center for Sustainable Resource Science, RIKEN

17:30 - 17:45 2_41_O-p08 **Expanding the eco-collection of methane-oxidizing bacterial isolates from rice roots**

*Fumika OE (1), Rina Shinjo (1), Sachiko Masuda (2), Arisa Shibata (2),
Ken Shirasu (2), Shun Hashimoto (3), Hisayuki Mitsui (3),
Shusei Sato (3), Takeshi Watanabe (1), Susumu Asakawa (1)

(1) Graduate School of Bioagricultural Sciences, Nagoya University, (2) Center for Sustainable Resource Science, RIKEN, (3) Graduate School of Life Sciences, Tohoku University

17:45 - 18:00 2_41_O-p09 **Unveiling the potential biological control agents for root-knot nematode management in serpentine soils**

*Kai-wen Cheng (1), Hiran. A. Ariyawansa (1), Jiue-in Yang (2)
Dept of Plant Pathology and Microbiology, National Taiwan Univ (1),
Dept of Nematology, Univ of California, Riverside (2)

18:00 - 18:30

Let's move to Reception!

18:30

Reception@Mein Schloss

20:15

29th. November

Room 43

Rising to the challenge: Young scientists in JSME

9:00 - 9:15 2_43_O-a01 **Combined molecular and stable isotopic analyses reveal the microbial nitrogen cycle in the deep-sea sediments**

*Kanae Kobayashi (1), Akiko Makabe (1), Masahito Shigemitsu (2), Satoshi Hiraoka (3),
Miwako Tsuda (4), Masayuki Miyazaki (1), Tomomi Sumida (3),
Hidetaka Nomaki (1), Takuro Nunoura (3), Shinsuke Kawagucci (2)

(1) X-star, JAMSTEC, (2) RIGC, JAMSTEC, (3) MRU, JAMSTEC, (4) SIP-PT, JAMSTEC

9:15 - 9:30 2_43_O-a02 **Cancel**

9:30 - 9:45 2_43_O-a03 **Characterization of the Global Ecological Traits of Marine *Chloroflexi* Using Metagenomic Big Data**

*Chunqi Jiang (1), Yosuke Nishimura (2), Susumu Yoshizawa (1)

(1) Atmosphere and Ocean Research Institute, The University of Tokyo, (2) Research Centre for Bioscience and Nanoscience, Japan Agency for Marine-Earth Science and Technology

9:45 - 10:00 2_43_O-a04 **Alterations of symbiotic gut microbes by urbanization**

*Hiroaki Masuoka (1), Yuki Mizuno (2), Mihoko Kibe (2), Satoko Kosaka (2),
Sae Sekiya (2), Kazumi Natsuhara (3), Kazuhiro Hirayama (4), Nouhak Inthavong (5),
Sengchanh Kounnavong (5), Shinsuke Tomita (6), Masahiro Umezaki (2), Wataru Suda (1)

(1) IMS, RIKEN, (2) Grad. Sch. of Med., Univ. Tokyo, (3) Fac. of Nurse, Toho Univ,
(4) Grad. Sch. of Agri., Univ. Tokyo, (5) Lao TPHI, (6) Grad. Sch. of Env., Nagoya Univ.

10:00 - 10:15 2_43_O-a05 **Genomic adaptations to temperature extremes: a case study of methanogenesis**

*Paula Prondzinsky (1, 2), Sakae Toyoda (3), Shawn McGlynn (2)

(1) Institute for Extra-cutting-edge Science and Technology Avant-garde Research (X-star), Japan Agency for Marine-Earth Science and Technology, (2) Earth-Life Science Institute, Tokyo Institute of Technology, (3) Department of Chemical Science and Engineering, Tokyo Institute of Technology

10:15 - 10:30 Break time

10:30 - 10:45 2_43_O-a06 **Water flow navigates the long journey of surface-associated bacteria living in hot springs**

*Naoki Uemura (1), Naoya Chiba (2), Masatada Tamakoshi (2), Daisuke Nakane (1)

(1) Dept. Eng. Sci., UEC, (2) Dept. Mol. Biol., TUPLS

10:45 - 11:00 2_43_O-a07 **Analysis of the relationship between soil power generation capacity, bacterial communities, and soil properties in Japan**

*Zihan Yue(1),Kun Yuan (1),Mayuko Seki(1),Michiko Yasuda(1),Shin-ichiro Agake (1),
Keisuke Matsumura(1),Naohisa Okita(1),Wako Naoi (1),Katsuhiko Naoi(1),
Shin Okazaki(1),Haruo Tanaka (1),Soh Sugihara(1),Naoko Ohkama-Ohtsu(1)

(1) Tokyo University of Agriculture and Technology

11:00 - 11:15 2_43_O-a08 **Evaluation of Purified Bacterial Exopolysaccharide as Biostimulant Agent Improving Plant Growth Under Abiotic Stress**

*Aoudi Yosra (1), Shin-ichiro Agake (2), Safiullah Habibi (3),
Michiko Yasuda (4), Naoko Ohkama-Ohtsu (5)

(1) United Graduate School of Agriculture, Tokyo University of Agriculture and Technology,
(2) Institute of Global Innovation Research,
(3) Institute of Agriculture, Tokyo University of Agriculture and Technology

11:15 - 11:30 2_43_O-a09 **Exploring a novel glycine biosynthesis pathway in *Thermodesulfatator indicus*, a thermophilic sulfate-reducing bacterium using isotopomer analysis.**

*Tomoyuki Wakashima(1), (2), Yuto Fukuyama(3), Shigeru Shimamura(4),
Nao Tsunematsu(1), Takuro Nunoura(3), Yoko Chiba(1), (5)

(1)CSRS, RIKEN, (2)Grad. Sch. of Sci. Tech., Univ. Tsukuba, (3)CeBN, JAMSTEC,
(4)SUGAR, JAMSTEC, (5)Inst. of Life. Environ. Sci., Univ. Tsukuba

11:30 - 11:45

Break time

11:45

Break room

12:45

12:45 - 13:00

Break time · Let's move to Exhibition and Event Hall!

13:00

Poster session@Exhibition and Event Hall

13:00 - 14:00 First Half

13:00 - 14:30 High School Student presentation

14:00 - 14:15 Communication Time

15:00 - 15:15 High school student award ceremony

14:15 - 15:15 Second Half

15:15

15:15 - 15:30

Break time · Let's move to oral session!

Rising to the challenge: Young scientists in JSME

15:30 - 15:45 2_43_O-p01 **Analysis of a two-component system of *Ideonella sakaiensis* expressed during PET degradation**

*Arora Nandakumar(1), Akiyo Takayama(1), Min Fey Chek (1), Shosuke Yoshida(1)

(1)Graduate School of Biological Sciences, Nara Institute of Science and Technology (NAIST)

15:45 - 16:00 2_43_O-p02 **Accumulation of nitrogen oxide intermediates during aerobic denitrification modulates the evolutionary potential of microbial populations**

Kohei Takahashi(1,2), Mamoru Oshiki(3), Chujin Ruan(2), Kana Morinaga(4), Masanori Toyofuku(5,6), Nobuhiko Nomura(5,6), and David R. Johnson(2,7)

(1)Graduate School of Sciences and Technologies, University of Tsukuba, (2)Department of Environmental Microbiology, Swiss Federal Institute of Aquatic Science and Technology (Eawag), (3)Division of Environmental Engineering, Faculty of Engineering, Hokkaido University, (4)Bioproduction Research Institute, National Institute of Advanced and Industrial Science and Technology (AIST), (5)Faculty of Life and Environmental Sciences, University of Tsukuba, Tsukuba, (6)Microbiology Research Center for Sustainability, University of Tsukuba, Tsukuba, (7)Institute of Ecology and Evolution, University of Bern

16:00 - 16:15 2_43_O-p03 **Ecology and physiology of endonuclear alphaproteobacterial symbionts (order *Holosporales*) infecting termite gut protists.**

*Kong Suet Kei (1), Katsura Igai (1), Kazuki Takahashi (1), Satoshi Murooka (1), Hirokazu Kuwahara (1), Tomoyuki Sato (2), Moriya Ohkuma (2), Yuichi Hongoh (1,2)

(1) School of Life Science and Technology, Tokyo Institute of Technology,
(2) Japan Collection of Microorganisms, RIKEN BioResource Center

16:15 - 16:30 2_43_O-p04 **Discovery and evolution of obligately-intracellular parasites belonging to the class Clostridia**

*Kazuki Takahashi (1), Hirokazu Kuwahara (1), Yutaro Horikawa (1), Kazuki Izawa (1), Daiki Kato (1), Tatsuya Inagaki (1), Masahiro Yuki (2), Moriya Ohkuma (2), Yuichi Hongoh (1), (2)

(1) Graduate School of Life Science and Technology, Tokyo Institute of Technology,
(2) Japan Collection of Microorganisms, RIKEN BioResource Research Center

16:30 - 16:45 2_43_O-p05 **Bacterial Community Structures and Antibiotic-Resistant Genes of Chlorinated Reclaimed Water Discharged from Municipal Wastewater Treatment Plants (WWTPs) to the Urban Rivers**

*Mohomed Shayan(1), Yuki Nakaya(1), Hisashi Satoh(1)

(1)Department of Environmental Engineering, Graduate School of Engineering, Hokkaido University, Japan

16:45 - 17:00

Break time

Others

17:00 - 17:15 2_43_O-p06 **Post-treatment of microbial fuel cell (MFC)-treated effluent by zeolite adsorption and microbial photosynthesis**

*Que Nguyen Ho (1), Toshiyuki Yagi (1), Ikeyu Kyo (1), Naoko Yoshida (1)

(1) Department of Civil Engineering, Nagoya Institute of Technology, Nagoya, Japan

17:15 - 17:45 2_43_O-p07 **Biotechnology of *Dehalococcoides* species**

*Lorenz Adrian (1,2)

(1) Helmholtz Centre for Environmental Research – UFZ, Leipzig, Germany,
(2) Technische Universität Berlin, Institute for Biotechnology, Berlin, Germany

17:45 - 18:00 2_43_O-p08 **Unveiling electric syntrophy in methanogenic systems: Anaerobic sulfide oxidation to S⁰ coupled with CO₂-reducing methanogenesis**

Heejung Jung (1), Hyeonjung Yu (2), *Changsoo Lee (3, 4)

(1) Department of Chemical Engineering, Columbia University, USA, (2) Geologic Environment Research Division, Korea Institute of Geoscience and Mineral Resources, Republic of Korea, (3) Department of Civil, Urban, Earth, and Environmental Engineering, Ulsan National Institute of Science and Technology, Republic of Korea, (4) Graduate School of Carbon Neutrality, Ulsan National Institute of Science and Technology, Republic of Korea

18:00 - 18:30

Let's move to Reception!

18:30

Reception@Mein Schloss

20:15

29th. November

Room 44

Environmental health and epidemiology

- 9:00 - 9:15 2_44_O-a01 **Prevalence of antibiotic resistance genes in East Antarctic seabirds**
*Takahiro Segawa(1), Akinori Takahashi(2), Nobuo Kokubun(2), Satoshi Ishii(3)
(1)Univ. Yamanashi, (2)Nat.I Inst. Polar Res., (3)Univ. Minnesota
- 9:15 - 9:30 2_44_O-a02 **Wastewater-based epidemiology using monitoring SARS-CoV2 virus in municipal wastewater treatment plants to explore the determinants, occurrence and distribution of COVID-19 in wastewater collection areas**
Subin Kim*(1), Jayun Kim(1), Myeonho Park(1), Sangkyun Kim(1), Seongsoo Park(2), Keugtae Kim(2), Eung-Roh Park(3), Joonhong Park(1)
(1)Department of Civil and Environmental Engineering, Yonsei University,
(2)Department of Biological and Environmental Science, Dongguk University,
(3)Water Supply and Sewerage Research Division, Environmental Infrastructure Research Department, National Institute of Environmental Research, South Korea

Genomics, molecular biology

- 9:30 - 9:45 2_44_O-a03 **Analysis of bacterial and fungal community structures attached to human scalp skin and hair**
*Kyoka Matsuo(1), Kenji Sakai(1), Yukihiro Tashiro(1)
(1)Grad. Sch. Bioresour. Bioenviron. Sci., Kyushu Univ.
- 9:45 - 10:00 2_44_O-a04 **Unprecedented phylogenetic diversity of the carbon monoxide-utilizing prokaryotes and their divergent carbon monoxide metabolisms in the human gut microbiome**
*Yuka A Katayama(1), Ryoma Kamikawa(1), Takashi Yoshida(1)
(1)Grad. Sch. Agri., Kyoto Univ.
- 10:00 - 10:15 2_44_O-a05 **Transposition route and host range of a new mobile DNA element group SE**
*Hirokazu Yano(1,2), Desmila Idola(1), Hiroshi Mori(3), Yuji Nagata(1), Lisa Nonaka(4)
(1)Tohoku Univ., (2)Nat. Inst. Infectious Diseases, (3)Nat. Insti. Genetics, (4)Shokei Univ.

Other

- 10:30 - 10:45 2_44_O-a06 **Extracellular electron mediating function observed in proteinaceous materials and their common structure**
*Arata Katayama(1,2), Tingting Hu(1,2), Shigeki Hara(1,2), Yoshiko Yamada(1,2), Takuya Kasai(2,3), Akimura Asanuma(4), Masanao Watanabe(4), Tsunenori Kameda(5)
(1)InFuS, Nagoya Univ., (2)IMaSS, Nagoya Univ., (3)Present address: AIST,
(4)Kowa Research Laboratories for Advanced Science, (5)Silk Materials Res. G., NARO

10:45 - 11:00 2_44_O-a07 **Microorganisms involved in increasing power generation in plant microbial fuel cells (PMFC)**

Takamichi Nakamura(1), Jun-ichi Ohtsuka(2), Katsuya Tasaki(3), Midori Onozato(4), Hiroyuki Akita(1)

(1)Tech. Res. Insti., Hazama Ando Corp., (2)Green Display Co., Ltd.,
(3)Nisoul Co., Ltd., (4)Innov. Dept., Hazama Ando Corp.

11:00 - 11:15 2_44_O-a08 **Microbial community analysis of organic waste treatment environments and artificially controlled culture systems**

*Hajime Morimoto(1), Suno Nishiyama(1)

(1)Komham Inc.

11:15 - 11:30 2_44_O-a09 **Study on sterilization of the skin resident bacteria using microplasma**

*Taoto Kato(1), Jaroslav Kristof(2)(3), Kazuo Shimizu(1)(2)(3)

(1)Grad. Sch. of Integ. Sci. Tech., Shizuoka Univ., (2)Organization for Innovation and Social Collaboration, Shizuoka Univ.,(3)Hamamatsu University School of Medicine Preeminent Medical Photonics Education & Research Center

11:30 - 11:45

Break time

11:45

Break room

12:45

12:45 - 13:00

Break time · Let's move to Exhibition and Event Hall!

13:00

Poster session@Exhibition and Event Hall

13:00 - 14:00 First Half

13:00 - 14:30 High School Student presentation

14:00 - 14:15 Communication Time

15:00 - 15:15 High school student award ceremony

14:15 - 15:15 Second Half

15:15

15:15 - 15:30

Break time · Let's move to oral session!

Others

15:30 - 15:45 2_44_O-p01

Integrated Effects of Single and Co-inoculation of Plant Growth-Promoting Rhizobacteria isolates from Afghanistan on Their Physiological Characteristics in vitro and Their Influence on Rice Growth

*Safiullah Habibi (1), Tadashi Yokoyama (2), Mohammad Daud Haidari (3),
Akihiro Torii (4), Michiko Yasuda (5), Naoko Ohkama-Ohtsu (6)

(1) Fac. of Agri., Tokyo Univ. Agri. Tech., (2) Inst. of Glob. Innov. Res., Tokyo Univ. Agri. Tech.,
(3) Fac. Of Agri., Kabul Univ., (4) Fac. of Agri., Tokyo Univ. Agri. Tech.,
(5) Fac. of Agri., Tokyo Univ. Agri. Tech., (6) Inst. of Agri., Tokyo Univ. Agri. Tech.

Virus

15:45 - 16:00 2_44_O-p02 **Transcriptome of virophage reflects its infection to APMV**

Jingjie Chen (1), Hiroyuki Hikida (1), Hiroyuki Ogata (1)
(1)Bioinformatics Center, Institute for Chemical Research, Univ. Kyoto

16:00 - 16:15 2_44_O-p03 **Exploring the diversity and dynamics of giant viruses in a deep lake through long-read metagenomics**

*Liwen Zhang(1), Lingjie Meng(2), Yue Fang(1), Hiroyuki Ogata(2), Yusuke Okazaki(2)
1)Graduate School of Science, Kyoto University; 2) Institute for Chemical Research, Kyoto University

16:15 - 16:30 2_44_O-p04 **Discovery of Endogenous Giant Virus in Arbuscular Mycorrhizal Fungi: Implications of a dsDNA Virus Infection in Fungi**

Hongda Zhao, Ruixuan Zhang, Junyi Wu, Lingjie Meng,
Yusuke Okazaki, Hiroyuki Hikida, Hiroyuki Ogata
Bioinformatics Center, Institute for Chemical Research, Kyoto University

16:30 - 16:45 2_44_O-p05 **Effects of expression of medusavirus histone H1 on host cell nucleus and infection cycle**

*Kana Yamamoto(1), Masaharu Takemura(1)
(1)Grad. Sch. Sci., Tokyo Univ. of Sci.

16:45 - 17:00 **Break time**

17:00 - 17:15 2_44_O-p06 **Effect of DNA methyltransferase encoded by *Helicobacter pylori* on the infection efficiency of bacteriophage KHP30**

*Michiko Takahashi(1), Satoshi Hiraoka(2), Rikako Shibagaki(1),
Hiromichi Maeda(1), Satoru Seo(2), Shigenobu Matsuzaki(3)
(1)Kochi Med. Sch., Kochi Univ., (2)CeBN, JAMSTEC, (3)Fac. Health Sci., Kochi Gakuen Univ.

17:15 - 17:30 2_44_O-p07 **Exploring Giant Virus Isolation and Seasonal Patterns in Brackish River Coastal Regions**

*Motohiro Akashi(1), Masaharu Takemura(2), Seiichi Suzuki(1)
(1)Fac. Sci. Tech., Seikei Univ, (2)Lab. Bio., Inst. Arts Sci., Tokyo Univ. of Sci.

17:30 - 17:45 2_44_O-p08 **Virus resistance of a bloom-forming raphidophyte *Heterosigma akashi***

*Haruna Hiromoto(1), Daichi Morimoto(1), Yusaku Funaoka(1),
Michiko Takahashi(1), Keizo Nagasaki(1)
(1)Kochi Univ.

17:45 - 18:00 2_44_O-p09 **Interaction between mimiviruses highlights a barrier for genetic exchanges between viruses**

*Hiroyuki Hikida(1), Hiroyuki Ogata(1)
(1)Inst. Chem. Res., Kyoto Univ.

18:00 - 18:30 **Let's move to Reception!**

18:30

Reception@Mein Schloss

20:15

29th. November

Room 525354

Physiology, metabolism

9:00 - 9:15 2_5_O-a01 **Iodate reduction by marine aerobic bacteria**

*Ken Kine (1), Seigo Amachi (1)
(1) Grad. Sch. of Hort., Univ. Chiba

9:15 - 9:30 2_5_O-a02 **Identification of bromate-reducing enzyme in *Shewanella* sp. M-Br**

*Natsuki Takahashi (1), Seigo Amachi (1)
(1) Grad. Sch. of Hort., Univ. Chiba

9:30 - 9:45 2_5_O-a03 **Isolation of a novel dissimilatory vanadate [V(V)]-reducing bacterium**

*Riyu Sakakura (1), Shigeki Yamamura (2), Seigo Amachi (1)
(1) Grad. Sch. of Hort., Univ. Chiba, (2) Natl. Inst. for Environ. Stud.

9:45 - 10:00 2_5_O-a04 **Comprehensive analysis of proteins expressed by the fermentative bacterium *Pelosinus* sp. strain IPA-1 in the presence of arsenate**

*Haruka Matsuo (1), Shigeki Yamamura (2), Masashi Kuroda (3), Seigo Amachi (4)
(1) Fac. of Hort., Univ. Chiba, (2) Natl. Inst. for Environ. Stud.,
(3) Fac. of Soc. and Environ. Stud., Univ. Tokoha, (4) Grad. Sch. of Hort., Univ. Chiba

10:00 - 10:15 2_5_O-a05 **Different gene expression between high and low temperatures of a nitrite-oxidizing bacterium *Nitrobacter* sp. strain CN101**

*Yuki Shiraishi (1), Yuichi Suwa (1), Hirotsugu Fujitani (1)
(1) Department of Biological Sciences, Chuo University

10:15 - 10:30 Break time

10:30 - 10:45 2_5_O-a06 **Light-driven iron oxidation by an enriched *Chloroflexota* phototroph**

*Jackson M. Tsuji (1,2), Teruhiko Kashiwabara (3), Masaru K. Nobu (1), Hiroyuki Imachi (1),
Tomohiro Watanabe (2), Manabu Fukui (2)
(1) X-star, JAMSTEC, (2) Inst. of Low Temp. Sci., Hokkaido Univ.,
(3) Res. Inst. for Marine Resources Utilization, JAMSTEC

10:45 - 11:00 2_5_O-a07 **Plant growth regulation by bacterial volatile organic compounds**

Jun Murata, Tsukiho Osawa, Hiromi Toyonaga, Mika Nobuhara, Shoko Mori, and Takehiro Watanabe
Suntory Foundation for Life Sciences

Material cycling Part 1

11:00 - 11:15 2_5_O-a08 **Characterization of chemoautotrophic bacteria that grow by dissimilatory phosphite oxidation**

*Takafumi Yamanaka (1), Cao Thi Thuy Linh (1), Akio Kuroda (1), Ryuichi Hirota (1)
(1) Grad. Sch. of Int. Sci for Life, Univ. Hiroshima

11:15 - 11:30 2_5_O-a09 **High pressure cultivation of a methanogenic archaeon reveals its ecophysiological trait in deep subsurface environments**

*Taiki Katayama (1), Hideyoshi Yoshioka (1)
(1) AIST

11:30 - 11:45 Break time

11:45

Branch meeting

11:45 - 12:45

**Viruses always go beyond our imagination!
Let's enjoy this together**

Environmen Environmental Virus Research Community

12:45

Supported by Post-Koch Ecology

12:45 - 13:00 Break time · Let's move to Exhibition and Event Hall!

13:00

Poster session@Exhibition and Event Hall

13:00 - 14:00 First Half

13:00 - 14:30 High School Student presentation

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14:15 - 15:15 Second Half

15:15

15:15 - 15:30 Break time · Let's move to oral session!

Methodology, informatics and theory

15:30 - 15:45 2_5_O-p01 **The development of a high-throughput CAS assay**

*Chiho Murakami (1), Arowu Tanaka (1), Yuichiro Sato (1), Kinjiro Morimoto (1)
(1) Fac. Phar. Yasuda-Woman's Univ.

Aquatic ecosystems

15:45 - 16:00 2_5_O-p02 **Seasonal abundance variation of groundwater microbiome dominated by phylum *Patescibacteria***

*Yuki Nishimura (1), Kimiho Omae (1), Kento Tominaga (1), Sachiko Masuda (2), Arisa Shibata (1),
Sachiko Masuda (2), Ken Shirasu (2), Wataru Iwasaki (1, 3, 4)

(1) Grad. Sch. of Front. Sci., Univ. Tokyo, (2) CSRS, RIKEN,
(3) AORI, Univ. Tokyo, (4) CRIIM, Univ. Tokyo

16:00 - 16:15 2_5_O-p03 **Methane metabolism and methanotrophic bacterial community in the hypolimnion of the north basin of Lake Biwa**

*Tohru Ikeya (1), Masayuki Itoh (2), Ken'ichi Osaka (3)
(1) CER, Kyoto Univ., (2) Sch. Hum. Sci. & Env., Univ. Hyogo, (3) Sch. Env. Sci. Univ. Shiga Pref.

16:15 - 16:30 2_5_O-p04 **Diversity and physiological functions of sub-cuticular bacteria in intertidal brittle stars**

*Keisuke Kawano (1), Hiroyuki Morimura (2), Yoshitomo Kikuchi (2), Shigeki Sawayama (1), Satoshi Nakagawa (1,3,4)

(1) Grad. Sch. of Agri., Kyoto University, (2) AIST, (3) JAMSTEC, (4) ExCELLS

16:30 - 16:45 2_5_O-p05 **Characterization of the marine bacterial isolate that passes through 0.1- μ m pore-sized filters**

*Haruo Yamaguchi (1), Kazumasa Yamada (2)

(1) Kochi Univ., (2) Fukui Pref. Univ.

16:45 - 17:00 **Break time**

17:00 - 17:15 2_5_O-p06 **Investigation of the ecological impact of diatom-predatory protists, *Aplanochytrium* spp. (Labyrinthulea), in the marine environment**

*Tomi Morimoto (1), Yoko Hamamoto (1), Takanori Shono (2), Mayumi Ueda (3), Akira Kuwata (4), Yukiko Taniuchi (4), Hiroshi Kuroda (4), Kazuaki Tadokoro (4), Yuki Tsujimura (3), Toshiki Miyaoka (1), Taichi Mogi (2), Ryosuke Nakai (5), Satoshi Nagai (6), Tomoko Matsumoto (7), Jun Kikuchi (7), Daiske Honda (2,8)

(1) Graduate School of Natural Science, Konan University, (2) Faculty of Science and Engineering, Konan University, (3) Research Institute Environment, Agriculture and Fisheries Osaka Prefecture, (4) Fisheries Resources Institute, (5) National Institute of Advanced Industrial Science and Technology, (6) Fisheries Technology Institute, (7) Institute of Physical and Chemical Research, (8) Konan University Institute for Integrative Neurobiology

17:15 - 17:30 2_5_O-p07 **Bacteria from skin mucus of fish can be used for biocontrol to suppress bacterial cold water disease of Ayu, *Plecoglossus altivelis***

*Mio Takeuchi (1), Takumi Tsujio (2), Taiki Katayama (3), Hiroaki Suetake (4), Erina Nagata (2)

(1) Biomedical Research Institute, AIST, (2) Faculty of Agriculture, Kindai University, (3) Institute for Geo-resources and Environments, AIST, (4) Faculty of Marine Science and Technology, Fukui Prefectural University

17:30 - 17:45 2_5_O-p08 **Towards an understanding of the ecology and evolution of giant viruses in mesopelagic layer**

*Wenwen Liu (1), Yusuke Okazaki (1), Hisashi Endo (1), Hiroyuki Ogata (1)

(1) Institute for Chemical Research, Kyoto University

Material cycling Part 2

17:45 - 18:00 2_5_O-p09 **Development of biological treatment process to convert nitrogen components in industrial wastewater into NH_4^+**

*Tomo Aoyagi(1), Akihiko Terada(2), Tomoyuki Hori(1)

(1) Environ Manag Res Inst, AIST, (2) Dep of Chem Eng, TUAT

18:00 - 18:30 **Let's move to Reception!**

18:30

Reception@Mein Schloss

20:15