

Symposium

S1 Understanding microbial community structures and dynamics

Tuesday, March 29 9:15–11:45
CH1

Conveners: Masato Suzuki (National Institute of Infectious Diseases)
Masaki Shintani (Shizuoka University)

Co-host: The Japan Society for Bioscience, Biochemistry, and Agrochemistry

Supported by: Ohsumi Frontier Science Foundation, Grant-in-Aid for Scientific Research on Innovative Area Post-Koch Ecology

S1-1

Comprehensive analysis of plasmid-host interaction in natural environments

○Masato Suzuki (AMR Res. Ctr., Nat. Inst. Infect. Dis.)

S1-2

A distribution survey of environmental microbiome by single-cell genomics

○Yoshihiko Hoshino¹, Mitsunori Yoshida¹, Yohei Nishikawa³, Masato Suzuki², Hanako Fukano¹, Haruko Takeyama³, Toshihiko Suzuki⁴ (¹Dept. Mycobact., Nat. Inst. Infect. Dis., ²Antimicro. Resist. Ctr., Nat. Inst. Infect. Dis., ³BioMol. Engineer. Waseda Univ., ⁴Dept. Bact. Patho., Tokyo. Med. Dent. Univ.)

S1-3

Identification of novel microbes using cocultivation with *Acanthamoeba*

○Hiroki Nagai (Dept. Microbiol., Sch. Med., Gifu Univ.)

S1-4

Understanding behaviors of plasmids in natural environments using single-cell-level analyses

○Masaki Shintani^{1,2} (¹Dept. Int. Sci. Tech., Grad. Sch., Shizuoka Univ., ²RIGST, Shizuoka Univ.)

S1-5

Diversity of secondary metabolism using nitrogen oxides in actinobacteria

○Yohei Katsuyama^{1,2} (¹Dept. Biotechnol., Grad. Sch. Agri. Cult. Life Sci., Univ. Tokyo, ²CRIM)

S1-6

Applying single cell imaging to understand bacterial membrane vesicle transport

○Masanori Toyofuku^{1,2,3} (¹Fac. of Life and Environ. Sci., Univ. Tsukuba, ²MiCS, ³SunRise)

S2 Bacterial survival strategies for surface stress

Tuesday, March 29 9:15–11:45
CH3

Conveners: Daisuke Shiomi (Rikkyo University)
Azuma Taoka (Kanazawa University)

S2-1

Role of intramembrane protease RseP in bacterial persistence: Physiological/structural approaches

○Yohei Hizukuri¹, Tatsuhiko Yokoyama¹, Takuya Miyake¹, Tatsuya Kobayashi¹, Yuki Imaizumi², Kazunori Takanuki², Rika Oi², Terukazu Nogi², Yoshinori Akiyama¹ (¹Inst. Front. Life Med. Sci., Kyoto Univ., ²Grad. Sch. Med. Lif. Sci., Yokohama City Univ.)

S2-2

Cell surface alteration and increased membrane vesicle release in *Pseudomonas aeruginosa* biofilm

○Yosuke Tashiro^{1,2} (¹Dept. Eng., Grad. Sch. Intgr. Sci. Technol., Shizuoka Univ., ²JST PRESTO)

S2-3

Direct observation of proliferation of cell wall-deficient *Escherichia coli* cells

○Daisuke Shiomi¹, Masafumi Hayashi¹, Yui Namikawa¹, Chigusa Takaoka¹, Taku Oshima² (¹Dept. Life Science, Col. Science, Rikkyo Univ., ²Dept. Biotech., Appl. Bioinfo., Toyama Pref. Univ.)

S2-4

Molecular mechanisms of surface protein translocation for sustainable bacterial growing

○Takuya Shiota¹, Edward Germany¹, Hsin-Hui Shen³, Trevor Lithgow² (¹Org. TT., Univ. of Miyazaki, ²Dept. Microbiol., Monash Univ., ³Dept. Materials Sci. Engin., Monash Univ.)

S2-5

Nanoscale physical properties of living bacteria cell surface by scanning ion conductance microscopy

○Shinji Watanabe¹, Linhao Sun¹, Yousuke Kikuchi^{1,2}, Azuma Taoka^{1,2} (¹WPI-NanoLSI, Kanazawa Univ., ²Inst. Sci. & Eng., Kanazawa Univ.)

S3 Genome analysis opens up new frontiers in phage research

Tuesday, March 29 9:15–11:45
CH4

Conveners: Satoshi Tsuneda (Waseda University)
Hidetomo Iwano (Rakuno Gakuen University)

Co-host: Japan Society for Phage Therapy

S3-1

Relationship between Outer Membrane Protein of *Escherichia coli* and the Ligand of its Specific Phage

○Kazuhiko Miyanaga (Sch. of Life Sci. Technol., Tokyo Tech.)

S3-2

Genome and infection of broad-host-range jumbo phage Infecting *Bacillus cereus* group

○Katsumi Doi (Dept. Biosci. Biotechnol., Fac. Agr., Kyushu Univ.)

S3-3

Analysis of pseudolysogenic lifecycle of *Clostridium botulinum* types C and D phages

○Yoshihiko Sakaguchi¹, Akira Take¹, Kazuyoshi Gotoh², Yumiko Yamamoto², Tomoko Kohda³, Masafumi Mukamoto³, Shunji Kozaki³, Shunji Hayashi¹, Tetsuya Hayashi⁴, Keiji Oguma² (¹Dept. Microbiol., Kitasato Univ. Sch. Med., ²Dept. Bacteriol., Okayama Univ. Grad. Sch. Med. Dent. Pharm. Sci., ³Dept. Vet., Sci., Grad. Sch. Lif. Environ. Sci., Osaka Prefect. Univ., ⁴Dept. Bacteriol., Facul. Med. Sci., Kyushu Univ.)

S3-4

Towards a future phage medicine based on metagenome analysis

○Satoshi Uematsu^{1,2} (¹Dept. Immunol. and Genomics, Osaka City Univ., Grad. Sch. Med., ²Div. Metagenome Medicine, Human Genome Center, Inst. Med. Sci., U. Tokyo.)

S3-5

Rapid profiling of drug-resistant bacteria by genome sequencing

○Tadashi Imanishi (Mol. Life Sci., Tokai Univ. Sch. Med.)

S3-6

BigD Region is Involved in Trade-off between the Phage and Antibiotics Sensitivity in *P. aeruginosa*

○Junpei Fujiki¹, Keisuke Nakamura¹, Tomohiro Nakamura¹, Takaaki Furusawa¹, Satoshi Gondaira², Masaru Usui³, Hidetoshi Higuchi², Yutaka Tamura³, Hidetomo Iwano¹ (¹Lab. Vet. Biochem., Sch. Vet. Med., Rakuno Gakuen Univ., ²Lab. Vet. Hygiene., Sch. Vet. Med., Rakuno Gakuen Univ., ³Lab. Food Microbiol., Sch. Vet. Med., Rakuno Gakuen Univ.)

S4 Current status and prospects of biological defense research

Wednesday, March 30 9:15–11:45
CH1

Conveners: Ichiro Nakagawa (Kyoto University)
Yuki Kinjyo (Jikei Medical University)

Co-host: Japanese Society for Host Defense Research

S4-1

Neutralizing and enhancing antibodies against SARS-CoV-2

○Hisashi Arase^{1,2} (¹Dept. Immunochem., Res. Inst. Microbial Dis., Osaka Univ., ²Lab. Immunochem., IFReC, Osaka Univ.)

S4-2

Studies on coronaviruses utilizing purified protein

○Takao Hashiguchi (Institute for Frontier Life and Medical Sciences, Kyoto Univ.)

S4-3

A nutritional view of host-parasite coevolution in malaria

○Hiroataka Kanuka (Dept. Trop. Med., Jikei Univ., Sch. Med.)

S4-4

A new frontier in Xenophagy Research by Bacterial Glycan Recognition

○Ichiro Nakagawa (Dept. Microbiol., Sch. Med., Kyoto Univ.)

S4-5

Oxygen and supersulfide co-evolution for host defense and redox signaling

○Takaaki Akaike (Dept. Environ. Med. Mol. Toxicol., Tohoku Univ. Grad. Sch. Med.)

S5 New era of Streptococcus research

Wednesday, March 30 9:15–11:45
CH3

Conveners: Michinaga Ogawa (National Institute of Infectious Diseases)
Takashi Nozawa (Kyoto University)

S5-1

Development of NanoLuc-based quantification for pneumococcal adherence/invasion and its application

○Michinaga Ogawa¹, Sayaka Shizukuishi^{1,2,3}, Akihide Ryo², Yukihiro Akeda¹, Makoto Ohnishi⁴ (¹Dept. Bac-1, Natl. Inst. Infect. Dis., ²Dept. Microbiol., Yokohama City Univ., Grad. Sch. Med., ³JSPS, ⁴Natl. Inst. Infect. Dis.)

S5-2

Specific view of *Streptococcus* from clinical settings

○Ken Kikuchi (Dept. Infectious Diseases, Tokyo Women's Medical Univ.)

S5-3

Mechanism underlying exacerbation of bacterial pneumonia following viral infection

○Tomoko Sumitomo, Shigetada Kawabata (Dept. Oral and Mol. Microbiol., Osaka Univ. Grad. Sch. Dent.)

S5-4

Mechanism of hypervirulent mutation in group A streptococcus

○Norihiko Takemoto, Tohru Miyoshi-Akiyama (Dep. Infect. Dis., NCGM)

S5-5

Diversity of β -hemolysins produced by opportunistic streptococci and their pathogenic contribution

○Atsushi Tabata (Div. Biosci. & Bioindust., Grad. Sch. Tech., Indust. & Soc. Sci., Tokushima Univ.)

S5-6

Autophagosomal membrane damage by Group A Streptococcus and its repair system

○Takashi Nozawa, Ichiro Nakagawa (Dept. Microbiol., Grad. Sch. Med., Kyoto Univ.)

S6 Bacterial reversible mutations and adaptive strategies

Wednesday, March 30 9:15–11:45
CH4

Convener: Hitomi Mimuro (Osaka University • Oita University)

S6-1

Re-activation of lactose hydrolysis in *E. coli* O121:H19 by excision of insertion sequence

○Keiji Nakamura¹, Kazuko Seto², Junko Isobe³, Tetsuya Hayashi¹ (¹Dept. Bacteriol., Fac. Med. Sci., Kyushu Univ., ²Osaka Inst. Pub. Health., ³Toyama Pref. Inst. Pub. Health.)

S6-2

Spontaneous phase shift during the establishment of pneumococcal colonization

○Masamitsu Kono (Dept. Otolaryngol., Sch. Med., Wakayama Medical Univ.)

S6-3

Phenotypic engineering of *Campylobacter jejuni* by multiplex genome editing

○Shouji Yamamoto, Sunao Iyoda, Makoto Ohnishi (Dept. Bac. I., Natl. Inst. Infect. Dis.)

S6-4

Codependence between transposable elements and moderate thermophiles distributed in environments

○Hirokazu Suzuki (Dept. Chem. Biotechnol., Fac. Eng., Tottori Univ.)

S6-5

Agr Phase Variants in *Staphylococcus aureus*

○Kazuya Morikawa¹, Vishal Gor¹, Masato Higashide², Veronica Medrano Romero¹, Ryosuke Ohniwa¹ (¹Fac. Med., Univ. Tsukuba, ²Kotobiken Med. Lab. Inc.)

S6-6

Site-specific recombination systems used by both host and phage

○Tsutomu Sato (Dept. Front. Biosci., Fac. Biosci. Appl. Chem., Hosei Univ.)

S7 Frontiers in supersulfide science pioneering energy metabolisms and stress responses

Thursday, March 31 9:15–11:45
CH1

Conveners: Tomohiro Sawa (Kumamoto University)
Takaaki Akaike (Tohoku University)

Co-host: Grant-in Aid for Transformative Research Areas
Sulfur Biology

S7-1

Mechanism elucidation and targeting drug resistance governed by bacterial supersulfide

○Tomohiro Sawa (Dept. Microbiol., Grad. Sch. Med., Kumamoto Univ.)

S7-2

Energy metabolism and stress response by NRF2-dependent sulfur metabolism

○Hozumi Motohashi (Dept. Gene Expression Regulation, IDAC, Tohoku University)

S7-3

Mitochondrial energy metabolism and host defense mechanism regulated by supersulfide

○Tetsuro Matsunaga¹, Tomohiro Sawa², Hozumi Motohashi³, Takaaki Akaike¹ (¹Dept. Environ. Med. Mol. Toxicol., Tohoku Univ. Grad. Sch. Med., ²Dept. Microbiol., Grad. Sch. Med. Sci., Kumamoto Univ., ³Dept. Gene Exp. Regulation, IDAC, Tohoku Univ.)

S7-4

The sulfide-responsive transcription factor YgaV controls antibiotic tolerance in *Escherichia coli*

Rajalakshmi Balasubramanian, ○Shinji Masuda (Dept. Life Sci. Tech., Tokyo Inst. Tech.)

S7-5

Longevity regulation by reactive persulfides in yeast

○Akira Nishimura¹, Hiroshi Takagi¹, Takaaki Akaike² (¹Grad. Sch. Biol. Sci., Nara Inst. Sci. Tech., ²Dept. Enviro. Med. and Mol. Toxi., Tohoku Univ., Grad. Sch. Med.)

S8 Infection control strategies with antibody formulation

Thursday, March 31 9:15–11:45
CH3

Conveners: Takuhiro Matsumura (Kanazawa University)
Masataka Oda (Kyoto Pharmaceutical University)

S8-1

Development of antibodies for the treatment of bacterial infectious diseases: present and future

○Manabu Ato¹, Takayuki Matsumura² (¹Dept. Mycobacterial., Lepr. Res. Ctr., Natl. Inst. Infect. Dis., ²Res. Ctr. Drug Vac. Dev., Natl. Inst. Infect. Dis.)

S8-2

Clinical case in serum therapy

○Toru Hifumi¹, Norio Otani¹, Yasuhiro Kuroda², Tomoya Okazaki² (¹Dept. Emergency and Critical Care Medicine., St. Luke's International Hospital, ²Emergency Medical Center., Kagawa University)

S8-3

Therapeutic strategy for Tetanus by the neutralizing human antibody

○Teruhito Yasui^{1,2,3} (¹Lab. Infect. Dis. Imm., NIBIOHN, ²Lab. Pharm. Integ. Omics, Dept. Pharm. Engin. Fac. Engin., Toyama Pre. Univ., ³Lab. Immunobiol. Eva., CVAR, NIBIOHN)

S8-4

Delivery of single-domain antibodies into neurons using a detoxified-chimeric toxin

○Shin-Ichiro Miyashita¹, Jie Zhang², Sicai Zhang^{2,3}, Yoshimasa Sagane¹, Charles Shoemaker⁴, Min Dong^{2,3} (¹Dept. of Food Aroma Cosme. Chem., Fac. of Bio-ind., Tokyo NODAI, ²Dept. Urol, Boston Child. Hosp., ³Dept. Surg., Dept. Microbiol., Harvard Med. Sch., ⁴Dept. Infect. Dis. Glo. Health, Cummings Sch. Vet. Med. Tufts Univ.)

S9 The fascination of mycobacteriology colored by diversity

Thursday, March 31 9:15–11:45
CH4

Conveners: Shintaro Seto (Research Institute of Tuberculosis)
Akihito Nishiyama (Niigata University)

Co-host: The Society of Researchers for Mycobacteriology in Japan

S9-1

MAIT cell-directed therapy of Mycobacterium tuberculosis infection

○Shunsuke Sakai, Daniel Barber (T Lymphocyte Biology Section, LPD, NIAID/NIH, USA)

S9-2

Inactivation of DNA function by intrinsically disordered histone-like protein in mycobacteria

○Akihito Nishiyama¹, Masahiro Shimizu^{2,3}, Noriyuki Kodera², Anna Savitskaya¹, Yuriko Ozeki¹, Kouta Mayanagi⁴, Takehiro Yamaguchi⁵, Yoshitaka Tateishi¹, Sohkichi Matsumoto¹ (¹Dept. Bacteriol., Sch. Med., Niigata Univ., ²NanoLSI, Kanazawa Univ., ³Div. Quantum Beam Mater. Sci., Inst. Integr. Radiat. Nuc. Sci., Kyoto Univ., ⁴Med. Inst. Bioregulation, Kyushu Univ., ⁵Dept. Pharmacol., Sch. Med., Osaka City Univ.)

S9-3

Host Genetics to NTM Disease

○Ho Namkoong (Dept. Infect Dis., Sch. Med., Keio Univ.)

S9-4

Mycobacteria evade host immunity via TREM2, a macrophage receptor for non-glycosylated mycolic acids

○Hiromitsu Hara, Ei'ichi Iizasa (Dept. Immunol., Grad. Sch. Med. Dent. Sci., Kagoshima Univ.)

S10 Mycological researches from various perspectives and its future

Thursday, March 31 16:00–18:30
CH2

Conveners: Takahito Toyotome (Obihiro University of Agriculture and Veterinary Medicine)
Yasuhiko Matsumoto (Meiji Pharmaceutical University)

Co-host: Japanese Society for Medical Mycology,
Federation of Microbiological Societies of Japan

S10-1

Exploring chromosomes of blast fungi for mechanisms of pathogenicity differentiation

○Izumi Chuma (Obihiro Univ. of Agri. and Vet. Med.)

S10-2

Interaction of fungi with viruses and bacteria in pulmonary infectious diseases

○Ho Namkoong (Dept. Infect Dis., Sch. Med., Keio Univ.)

S10-3

Development of sensitive glucan detection system using functionally-modified glycoside hydrolase

○Daisuke Yamanaka (LIMP, Sch. Pharm., Tokyo Univ. Pharm. Life Sci.)

S10-4

What is effective acquired immunity and vaccine against cryptococcosis?

○Keigo Ueno, Yoshitsugu Miyazaki (Dept. Chemo. Myco., NIID)

S10-5

Research about fungal infections from the point of view of physician

○Takahiro Takazono (Dept. Infect Dis. Grad. Sch. Nagasaki Univ.)

S11 New departures of the study about bacterial toxins

Thursday, March 31 16:00–18:30
CH3

Conveners: Atsushi Tabata (Tokushima University)
Hidetomo Kobayashi (Hiroshima International University)

S11-1

Interactions between botulinum toxin complex and mucin in the host small intestine

○Sho Amatsu^{1,2}, Takuhiro Matsumura¹, Chiyono Morimoto¹, Mayu Kitamura¹, Yukako Fujinaga¹ (¹Dept. Bacteriol., Sch. Med. Sci., Kanazawa Univ., ²Dept. Forensic Med. Pathol., Sch. Med. Sci., Kanazawa Univ.)

S11-2

Effects of subtilase cytotoxin from Shiga-toxigenic *Escherichia coli* on host defense system

○Hiroyasu Tsutsuki¹, Kinnosuke Yahiro², Takaaki Akaike³, Tomohiro Sawa¹ (¹Dept. Microbiol., Grad. Sch. Med. Sci., Kumamoto Univ., ²Dept. Microbiol. Infect. Control Sci., Kyoto Pharm. Univ., ³Dept. Environ. Med. Mol. Toxicol., Tohoku Univ. Grad. Sch. Med.)

S11-3

Cryo-EM structure and translocation mechanism of binary toxin in *C.perfringens* and *C.difficile*

○Hideaki Tsuge^{1,2,3} (¹Faculty of Life Sciences, Kyoto Sangyo University, ²Institute for Protein Dynamics, Kyoto Sangyo Univ., ³Center for Molecular Research in Infectious Diseases)

S11-4

Bioactivity of *Bartonella*-derived angiogenic autotransporter and potential for drug discovery

○Kentaro Tsukamoto (Dept. Microbiol., Fujita Health Univ. Sch. Med.)

S11-5

Bordetella toxins: adenyl cyclase toxin, dermonecrotic toxin, pertussis toxin, and one more thing

○Yasuhiko Horiguchi^{1,2} (¹Dept. Mol. Bacteriol. RIMD, Osaka Univ., ²CiDER, Osaka Univ.)

S12 Reports from overseas bases: frontline research for infectious diseases

Thursday, March 31 16:00–18:30
CH4

Conveners: Shinji Yamasaki (Osaka Prefecture University)
Yukako Fujinaga (Kanazawa University)

Co-host: Japan Agency for Medical Research and Development

S12-1

Basic research on the development of a new treatment for infections with enveloped viruses

○Jin Gohda (Research Center for Asian Infectious Diseases, The Inst. of Med. Sci., The Univ. of Tokyo)

S12-2

Collaborative Studies on Acute Diarrheal Diseases in Thailand-Japan Research Collaboration Center

○Kazuhiisa Okada (RCC-ERI, RIMD, Osaka Univ.)

S12-3

Study on the spread of cholera disease in Kolkata, India

○Keinosuke Okamoto (Colla. Res. Cent. Infect. Dis. Ind., Okayama Uni.)

S12-4

Research activities in Vietnam Research Station in Hanoi

○Taichiro Takemura (Vietnam Research Station, Institute of Tropical Medicine, Nagasaki Univ.)

S12-5

Studies in Zambia for the control of zoonosis

○Yasuhiko Suzuki¹, Hirofumi Sawa² (¹Div. Bioresources, Int. Inst. Zoonosis Contr., ²Div. Mol. Pathobiol, Int. Inst. Zoonosis Contr.)

Workshop

W1 Unexpected operation mechanism of supramolecular machinery working in cell membrane

Tuesday, March 29 14:30–16:30
CH1

Conveners: Seiji Kojima (Nagoya University)
Tohru Minamino (Osaka University)

W1-1

Functional mechanism of the flagellar stator revealed by the structure-based functional studies

○Seiji Kojima (Div. Biol. Sci., Grad. Sch. Sci., Nagoya Univ.)

W1-2

A small ring contributes to the mechanical response of the bacterial flagellar motor

○Norihito Takekawa (Dept. Macromol. Sci., Grad. Sch. Sci., Osaka Univ.)

W1-3

Bacterial calcium channels indicate the universal mechanism of calcium-selective ion permeation

○Katsumasa Irie (Dept. Biophys. Chem., Sch. Pharm., Wakayama Med. Univ.)

W1-4

Enzyme rhodopsins: Light sensitive membrane proteins with enzymatic functions

○Satoshi Tsunoda (Dept. Biosci. Applied Chem., Nagoya Institute of Technology)

W1-5

Structure-based working model of SecDF, a proton-driven bacterial protein translocation factor

○Tomoya Tsukazaki (Nara Inst. of Sci. and Tech.)

W1-6

Energy coupling mechanism of the bacterial flagellar type III secretion system

○Tohru Minamino (Grad. Sch. Front. Biosci., Osaka Univ.)

W2 New etiology of oral infections

Wednesday, March 30 9:15–11:45
CH2

Conveners: Akihiro Yoshida (Matsumoto Dental University)
Kenichi Imai (Nihon University)

W2-1

SARS-CoV-2 infection in oral cavity, saliva, and airway

○Takafumi Kato, Yu Mikami (Marsico Lung Institute, Sch. Med., Univ. of North Carolina at Chapel Hill)

W2-2

The effect of oral dysbiosis on glucose/lipid metabolism

○Sayaka Katagiri (Dept. Periodontol, TMDU)

W2-3

The relationship between *Fusobacterium nucleatum* in the oral cavity and colorectal cancer

○Tutomu Yoshihara, Takuma Higurashi, Shigeki Tamura, Tomohiro Takatsu, Noboru Misawa, Keiichi Ashikari, Atsushi Nakajima (Dept. Gastroenterol. Hepatorol., Sch. Med., Yokohama City Univ.)

W2-4

Unveiling a causative role of oral dysbiosis during gut inflammation

○Sho Kitamoto, Nobuhiko Kamada (Dept. Int. Med., Sch. Med., Univ. of Michigan)

W3 Selected from Oral Session 1: Physiology, Structure and Ecology

Wednesday, March 30 16:00–18:00
CH1

Conveners: Hiroji Chibana (Chiba University)
Shinji Takai (Kitasato University)

W3-1/ODP-038

D. acidovorans inhibited the *S. epidermidis* growth by alkaline stress that induces ROS production

○Tomotaka Ohkubo^{1,2}, Yasuhiko Matsumoto¹, Otomi Cho¹, Takashi Sugita¹ (¹Dept. Microbiol., Meiji. Pharm. Univ., ²Dept. Anal. Biochem., Meiji. Pharm. Univ.)

W3-2/ODP-041

Growth inhibition of group A *Streptococcus* via extracellular vesicle produced by *Escherichia coli*

○Yu Kawagishi, Kazunori Murase, Chihiro Aikawa, Takashi Nozawa, Ichiro Nakagawa (Dept. Microbiol., Grad. Sch. Med., Kyoto Univ.)

W3-3/ODP-032

Breastfeeding regulates acquisition of maternal oral bacteria in infant oral microbiota

○Shinya Kageyama, Michiko Furuta, Toru Takeshita, Jiale Ma, Mikari Asakawa, Yoshihisa Yamashita (Sect. Prevent. Dent. Public Health, Grad. Sch. Dent., Kyushu Univ.)

W3-4/ODP-043

The resuscitation-promoting mechanism of albumin to VBNC *Mycobacterium tuberculosis*

○Yuta Morishige¹, Yoshiro Murase¹, Kinuyo Chikamatsu¹, Akic Aono¹, Yuriko Igarashi¹, Asanu Osugi¹, Keisuke Kamada¹, Hiroyuki Yamada¹, Akiko Takaki¹, Satoshi Mitarai^{1,2} (¹Dept. Mycobac. Ref. Res., Res. Inst. Tubercul., JATA, ²Dept. Basic Mycobacteriol., Grad. Sch. Biomed. Sci., Nagasaki Univ.)

W3-5/ODP-064

Magnetosomal protein MamJ regulates polymerization of MamK cytoskeleton

○Azuma Taoka^{1,2}, Takumi Saito¹, Yousuke Kikuchi² (¹Inst. Sci. Eng., Kanazawa Univ., ²Nano LSI, Kanazawa Univ.)

W3-6/ODP-051

The directional switching of flagellar rotation affected by mutations in the stator protein PomA

○Hiroyuki Terashima¹, Kiyoshiro Hori², Kunio Ihara³, Michio Homma², Seiji Kojima² (¹Dept. Bacteriol., Inst. Trop. Med. (NEKKEN), Nagasaki Univ., ²Div. Biol. Sci., Grad. Sch. Sci., Nagoya Univ., ³Cent. Gen. Res., Nagoya Univ.)

W3-7/ODP-066

Multiple roles of flagellar export chaperones for flagellar filament formation in *Salmonella*

○Tohru Minamino¹, Yusuke Morimoto^{2,3}, Miki Kinoshita¹, Keiichi Namba^{1,4,5} (¹Grad. Sch. Front. Biosci., Osaka Univ., ²Dept. Phys. Info. Tech., Kyushu Inst. Tech., ³PREST, JST, ⁴BDR, RIKEN, ⁵Spring-8, RIKEN)

W3-8/ODP-068

Manganese and zinc efflux via MntE is critical for the growth and virulence of Group A *Streptococcus*

○Chihiro Aikawa, Akihide Shimizu, Kazunori Murase, Takashi Nozawa, Ichiro Nakagawa (Dept. Microbiol., Grad. Sch. Med., Kyoto Univ.)

W4 Mechanism and significance of the development of Bifidobacteria-dominated microbiota in human gut

Wednesday, March 30 16:00–18:00
CH2

Conveners: Takahiro Matsuki (Yakult Central Institute)
Ro Osawa (Kobe University)

Co-host: Bifidus Study League

W4-1

Roles of the cell surface architecture of *Bifidobacterium* in the gut colonization

○Keita Nishiyama (Dept. Microbiol. Immunol., Sch. Med., Keio Univ.)

W4-2

Identification of bifidobacterial genes contributing to intestinal survival by insertion sequencing

○Satoru Fukiya (Lab. Microbial Physiol., Res. Fac. Agr., Hokkaido Univ.)

W4-3

Gut short-chain fatty acid profiles and their association with bifidobacteria in early life

○Kana Yahagi, Naoki Tsukuda, Takahiro Matsuki (Yakult Central Institute)

W4-4

Molecular perspectives on responders and non-responders to prebiotics

○Toshitaka Odamaki (NGS Inst. R&D div. Morinagamilk Ind.)

W4-5

Physiological roles of bifidobacteria: a perspective on the metabolism of breast milk components

○Mikiyasu Sakanaka (Grad. Sch. Biostudies, Kyoto Univ.)

W5 Selected from Oral Session 2: Genetics, taxonomy and Epidemiology

Wednesday, March 30 16:00–18:00
CH3

Conveners: Yoshitoshi Ogura (Kurume University)
Hidenori Matsui (Kitasato University)

W5-1/ODP-098

Analysis of the toxin-antitoxin system, ECs3274-ECs3275, encoded in *Escherichia coli* O157 strain

○Yuka Sasaki¹, Mizuki Yoshioka¹, Yuna Mogi², Yuichi Otsuka¹ (¹Dept. Biochem. Mol. Biol., Grad. Sch. Sci. Eng., Saitama Univ., ²Grad. Sch. Front. Sci., Univ. of Tokyo)

W5-2/ODP-001

Global population analysis of *Escherichia coli* O103:H2 and comparison of complete genomes

○Itsuki Taniguchi¹, Keiji Nakamura¹, Yasuhiro Gotoh¹, Kenichi Lee², Tadasuke Ooka³, Yoshitoshi Ogura⁴, Makoto Ohnishi², Sunao Iyoda², Tetsuya Hayashi¹ (¹Dept. Bact., Grad. Sch. Med. Sci., Kyushu Univ., ²Dept. Bact. I, NIID, ³Dept. Microbiol., Grad. Sch. Med. Dent. Sci., Kagoshima Univ., ⁴Div. Microbiol., Dept. Infect. Med., Kurume Univ. Sch. Med.)

W5-3/ODP-014

Characterization of *Clostridium tetani* detected from the soil in Kumamoto prefecture

○Chie Shitada¹, Tsuyoshi Sekizuka², Chiyomi Sakamoto¹, Makoto Kuroda², Motohide Takahashi¹ (¹Kumamoto Health Science Univ. Toxin and Biologicals Research Laboratory, ²Pathogen Genomics Center., NIID)

W5-4/ODP-076

BeMAp for practical phylogenetic analysis and mapping of antimicrobial resistance plasmids

○Yusuke Tsuda¹, Masahiro Suzuki², Jun-ichi Wachino^{1,3}, Kouji Kimura¹, Yoshichika Arakawa^{1,3} (¹Dept. Bacteriol., Grad. Sch. Med., Nagoya Univ., ²Dept. Microbiol., Sch. Med., Fujita Health Univ., ³Dept. Med. Tech., Shubun Univ.)

W5-5/ODP-092

Development of an efficient gene-targeting system in the fungal pathogen *Trichosporon asahii*

○Yasuhiko Matsumoto¹, Tae Nagamachi¹, Asami Yoshikawa¹, Tsuyoshi Yamada^{2,3}, Takashi Sugita¹ (¹Dept. Microbiol., Meiji Pharm. Univ., ²Teikyo Univ. Ins. Med. Mycol., ³Asia Int. Ins. Infect. Dis. Contr., Teikyo Univ.)

W5-6/ODP-082

Pheromone-responsive bacteriolysin Bac41 maintains plasmid propagation in *Enterococcus faecalis*

○Jun Kurushima, Haruyoshi Tomita (Dept. Bacteriol., Sch. Med., Gunma Univ.)

W5-7/ODP-017

Differences in the PlcR regulation system affect sphingomyelinase production in *Bacillus cereus*

○Atsushi Yokotani¹, Fumi Takahashi¹, Ryoko Aoyama¹, Go Kamoshida¹, Tadashi Kosaka², Masaki Nakanishi³, Naohisa Fujita⁴ (¹Dept. Microbiol. Infect. Cont. Sci., Kyoto Pharm. Univ., ²Dept. Pharm., Univ. Hosp., Kyoto Pref. Univ. Med., ³Dept. Infect. Cont. Lab. Med. Univ. Hosp., Kyoto Pref. Univ. Med., ⁴Kyoto Prefectural Institute of Public Health and Environment)

W5-8/ODP-086

Temperature-dependent regulation and heterogeneity of *myo*-inositol operon in *Clostridium perfringens*

○Ryosuke Fukuda¹, Nozomu Obana^{2,3}, Nobuhiko Nomura^{3,4} (¹Sch. Life Environ. Sci., Univ. Tsukuba, ²TMRC, Fac. Medicine, Univ. Tsukuba, ³MiCS, Univ. Tsukuba, ⁴Fac. Life Environ. Sci., Univ. Tsukuba)

W6 Selected from Oral Session 3:

Pathogenicity (Toxins, Effectors, Bioactive substances, Adhesion Factors and Colonization Factors)

Wednesday, March 30 16:00–18:00
CH4

Conveners: Shigetada Kawabata (Osaka University)
Naoya Ohara (Okayama University)

W6-1/ODP-121

Streptococcus pyogenes secreted toxin NAD-glycohydrolase inhibits host translation systems

○Hirotaka Toh, Takashi Nozawa, Ichiro Nakagawa (Dept. Microbiol., Grad. Sch. Med., Kyoto Univ.)

W6-2/ODP-109

Pneumolysin-dependent nasal epithelial barrier dysfunction involved in pneumococcal dissemination

○Yuki Takahara¹, Tomoko Sumitomo¹, Masamitsu Kono³, Masaya Yamaguchi¹, Masanobu Nakata⁴, Muneki Hotomi³, Shigetada Kawabata¹ (¹Dept. Oral Mol Microbiol. Osaka Univ. Grad. Sch. Dent., ²Dept. Fixed Prosthodont. Osaka Univ. Grad. Sch. Dent., ³Dept. Otorhinolaryngology-Head and Neck Surgery. Wakayama Medical Univ., ⁴Dept. Oral. Microbiol., Grad. Sch. Med. and Dent. Kagoshima Univ.)

W6-3/ODP-125

Aeromonas sobria serine protease disrupts tight junctions and contributes to bacterial translocation

○Hidetomo Kobayashi¹, Soshi Seike¹, Eizo Takahashi², Keinosuke Okamoto³, Hiroyasu Yamanaka¹ (¹Labo. Mol. Microbiol. Sci., Fac. Pharm. Sci., Hiroshima International Univ., ²Labo. Med. Microbiol., Dept. Health Pharm., Yokohama Univ. of Pharmacy, ³Collaborative Research Center of Okayama Univ. for Infect. Diseases in India)

W6-4/ODP-135

E. coli-derived CirA relayed by extracellular vesicles induce inflammatory responses in macrophages

○Risa Imamiya¹, Mayuko Osada-Oka², Akari Shinohara², Yasuhiko Horiguchi^{3,4} (¹Food Hyg. Health., Life Env. Sci., Kyoto Pref. Univ., ²Food Hyg. Env. Health., Grad. Sch. Life Env. Sci., Kyoto Pref. Univ., ³Dept. Mol. Bact., RIMD, Osaka Univ., ⁴CiDER, Osaka Univ.)

W6-5/ODP-110

Bordetella parapertussis produces melanin involved in the bacterial survival during host infection

○Yukihiro Hiramatsu¹, Takashi Nishida¹, Dendi Krisna Nugraha¹, Yasuhiko Horiguchi^{1,2} (¹Dept. Mol. Bact., RIMD, Osaka Univ., ²CiDER, Osaka Univ.)

W6-6/ODP-118

Investigation of the mechanism by which Bcr4 controls T3SS activity in *Bordetella bronchiseptica*

○Masataka Goto¹, Asaomi Kuwae¹, Tomoko Hanawa², Akio Abe¹ (¹Lab. Bact. Infect., Grad. Sch. Infect. Cont. Sci., Kitasato Univ., ²Dept. Infect. Dis., Kyorin Univ. Sch. Med.)

W6-7/ODP-102

Roles of outer membrane components for the leptospiral motility on the kidney cells

○Keigo Abe¹, Nobuo Koizumi², Shuichi Nakamura¹ (¹Grad. Sch. Eng., Univ. Tohoku, ²Dept. Bacteriology I, National Institute of Infectious Disease)

W6-8/ODP-105

Pathogenicity analysis of experimentally evolved *Acinetobacter baumannii* strains by tracheal tube

○Go Kamoshida¹, Daiki Yamaguchi¹, Noriteru Yamada¹, Norihiko Takemoto², Kinnosuke Yahiro¹ (¹Dept. Microbiol. and Infect. Cont. Sci. Kyoto Pharm. Univ., ²Pathogenic Microbe lab., Dept. Infect. Dis., NCGM)

W7 Decoding various infectious diseases from cases

Thursday, March 31 13:05–15:05
CH1

Conveners: Tadasuke Ooka (Kagoshima University)
Noriko Konishi (Tokyo Metropolitan Institute of Public Health)

W7-1

A large outbreak of food poisoning due to *Escherichia coli* O7:H4 carrying *astA*

○Shinichi Shimada (Div. Food Microbiology, Saitama Inst. Public Health)

W7-2

Whole Genome Analysis detects the emergence of a single *Salmonella* Chester clone in Japan

○Naoshi Ando (Chiba Pref. Inst. Public Health)

W7-3

A case of food poisoning due to *Clostridium botulinum* type C

○Shunsuke Yahiro, Misato Mori, Rika Maeda, Seiya Harada (Kumamoto Pref. Inst. Public-Health and Environmental Science)

W7-4

Human leptospirosis in Okinawa, Japan

○Tetsuya Kakita (Okinawa Pref. Inst. Health & Environ.)

W7-5

Four cases of *Shigella* outbreaks in Tokyo, Japan, 2018

○Maho Kawamura, Kou Murakami, Asuka Ono, Noriko Konishi, Keiko Yokoyama, Kenji Sadamasu (Dept. Microbiol., Tokyo Metro. Inst. Pub. Hlth.)

W8 Development of new methods for diagnosis and chemotherapy of invasive yeast infections

Thursday, March 31 13:05–15:05
CH2

Conveners: Takashi Sugita (Meiji Pharmaceutical University)
Koichi Tanabe (Ryukoku University)

Co-host: The Japanese Society for Medical Mycology

W8-1

Emerging yeast, *Candida auris*

○Ken Kikuchi (Dept. Infectious Diseases, Tokyo Women's Medical Univ.)

W8-2

Screening of in vivo essential genes for the development of antifungal drugs in *Candida glabrata*

○Hiroji Chibana, Kaname Sasamoto, Keico Nakano, Michiyo Sato, Azusa Takahashi (Med. Mycol. Res. Ctr, Chiba Univ.)

W8-3

Development of novel antifungal susceptibility test

○Koichi Tanabe¹, Minoru Nagi^{2,3}, Yoshitsugu Miyazaki² (¹Fac. Agr., Ryukoku Univ., ²Dept. Fungal Infect., NIID, ³AMR Res. Center, NIID)

W8-4

Structural characterization of the extracellular polysaccharides from *Candida* spp.

○Makoto Urai (Dept. Chem. Life Sci. Agricul., Fac. Life Sci., Tokyo Univ. of Agricul.)

W8-5

Is dimorphic conversion involved in bloodstream infection caused by *Malassezia* ?

○Takashi Sugita, Otomi Cho (Dept. Microbiology, Meiji Pharmaceutical Univ.)

W9 Selected from Oral Session 4: Pathogenicity (Cell invasion, Proliferation, Paracitism and Immune Evasion) and Biophylaxis

Thursday, March 31 13:05–15:05
CH3

Conveners: Hideaki Higashi (Hokkaido University)
Hisanori Domon (Niigata University)

W9-1/ODP-189

Guanylate binding protein 1 regulates GAS-targeting selective autophagy by TBK1 phosphorylation

○Miyako Hikichi, Takashi Nozawa, Ichiro Nakagawa (Dept. Microbiol., Grad. Sch. Med., Kyoto Univ.)

W9-2/ODP-170

Investigation of the mechanism by which pneumococcal infection becomes severe in elder mice

○Masaya Yamaguchi¹, Kunio Kawanishi², Momoko Kobayashi¹, Daisuke Motooka³, Daisuke Okuzaki^{3,4}, Shigetada Kawabata¹ (¹Dept. Oral Mol. Microbiol., Osaka Univ. Grad. Sch. Dent., ²Fac. Med., Tsukuba Univ., ³Res. Inst. Microb. Dis., Osaka Univ., ⁴Osaka Univ., Immunol. Front. Res. Cent.)

W9-3/ODP-143

Development of NanoBiT assay system for evaluating pneumococcal virulence, and its application

○Sayaka Shizukuishi^{1,2}, Michinaga Ogawa¹, Yukihiro Akeda¹, Akihito Ryo², Makoto Ohnishi¹ (¹Bacteriol. I, Nat. Inst. Infect. Dis., ²Dept. Microbiol., Yokohama City Univ., Grad. Sch. Med.)

W9-4/ODP-141

Indole suppresses the intracellular growth of *Chlamydia trachomatis* L2

○Hiroyuki Yamaguchi¹, Jeewan Thapa², Torahiko Okubo¹, Yoshikazu Furuta², Shinji Nakamura³, Hideaki Higashi² (¹Fac. Health Science, Hokkaido Univ., ²Int. Inst. Zoonosis Cont., Hokkaido Univ., ³Lab. Morphol. Image. Anal., Res. Sup. Cent., Juntendo Univ. Grad. Sch. Med.)

W9-5/ODP-151

LLO promotes phosphorylation of the inflammasome adaptor ASC through Lyn to exacerbate infection

Yuko Tanishita¹, Hisateru Sekiya¹, Gabriel Nunez², Akihiko Yoshimura¹, ○Hideki Hara¹ (¹Dept. Microbiol. Immunol., Sch. Med., Keio Univ., ²Dept. Pathol., Sch. Med., Univ. Mich.)

W9-6/ODP-153

Knockout of the *ykcB* gene increases virulence in *Bacillus subtilis*

○Daiki Takano, Chikara Kaito, Kazuyuki Furuta (Grad. Sch. of Med., Dent., and Pharm. Sci., Okayama Univ.)

W9-7/ODP-146

Examination of a meningococcal function-unknown protein with unnatural amino acid photocrosslinkers

○Hideyuki Takahashi¹, Makoto Ohnishi¹, Ken Shimuta¹, Shigeyuki Yokoyama², Tatsuo Yanagisawa² (¹Dept. Microbiol I, Nat. Inst. Infect. Dis., ²Structural Lab., RIKEN)

W9-8/ODP-168

Role of toll-like receptor 4 during *Clostridium perfringens* type A infection

○Masaya Takehara, Keiko Kobayashi, Masahiro Nagahama (Dept. Microbiol., Fac. Pharm. Sci., Tokushima Bunri Univ.)

W10 Selected from Oral Session 5: Antimicrobials and Drug resistance

Thursday, March 31 13:05–15:05
CH4

Conveners: Shin-ichi Yokota (Sapporo Medical University)
Haruyoshi Tomita (Gunma University)

W10-1/ODP-212

Genetic analysis of quinolone resistance in *Gemella* isolated from clinical specimens

○Michiko Furugaito¹, Yuko Arai², Yutaka Uzawa², Ken Kikuchi² (¹Dept. Central Clinical Laboratory, Kindai Univ. Hospital, ²Dept. Infectious Diseases, Tokyo Women's Medical Univ.)

W10-2/ODP-220

Multidrug efflux pump of *Pseudomonas aeruginosa* represses the effect of sub-MIC of macrolide

○Shin Suzuki¹, Yuji Morita², Takeshi Shimizu¹ (¹Dept. Molecular Infectiology, Grad. Sch. Medicine, Chiba Univ., ²Dept. Infection Control Science, Meiji Pharmaceutical Univ.)

W10-3/ODP-222

The Establishment of the ARG-UGS Analysis for the environmental AMR monitoring

○Nobuyoshi Yagi, Itaru Hirai (Lab. Microbiol., Sch. Health. Sci., Univ. Ryukyuu)

W10-4/ODP-209

Functional analysis of multi-drug resistance genes in *M. tuberculosis* using CRISPR interference

○Nao Hirata, Kayo Kumadaki, Motoko Shinohara, Yui Kitagawa, Yusuke Minato (Dept. Microbiol., Sch. Med., Fujita Health Univ.)

W10-5/ODP-198

Classification and characterization of bacteriocin immunity factors in *Streptococcus mutans*

○Mi Nguyen-Tra Le, Miki Kawada-Matsuo, Hitoshi Komatsuzawa (Dept. Bacteriol., Grad. Biomed., Hiroshima Univ.)

W10-6/ODP-213

Antipseudomonal activity of polycarboxylated aminopenicillin derivatives

○Touya Toyomoto, Akter Shahinur, Hiroyasu Tsutsuki, Katsuhiko Ono, Tianli Zhang, Tomohiro Sawa (Dept. Microbiol., Sch. Med., Kumamoto Univ.)

W10-7/ODP-214

Bacteriophage-resistant variants of MRSA are resensitized to β -lactam antibiotics

○Tomohiro Nakamura¹, Keita Nishida¹, Jumpei Fujiki¹, Ryo Murata², Kazuki Yamamoto³, Satoshi Ichikawa³, Hidetomo Iwano¹ (¹Lab. Vet. Biochem., Sch. Vet. Med., Rakuno Gakuen Univ., ²Lab. Vet. Bacteriol., Sch. Vet. Med., Rakuno Gakuen Univ., ³Lab. Drug Discov., Grad. Sch. Pharm. Sci., Hokkaido Univ.)

W10-8/ODP-201

A novel antibiotic Lysocin E exhibits high therapeutic efficacy through host-microbe interaction

○Hiroshi Hamamoto¹, Suresh Panthee², Atmika Paudel³, Atsushi Miyashita¹, Kazuhisa Sekimizu^{2,4} (¹Teikyo Univ. Instit. of Med. Mycol., ²Drug Discoveries by Silkworm Models, Fac., Pharma-Sci., Teikyo Univ., ³Int. Instit. Zoono. Cont., Hokkaido Univ., ⁴Genome Pharm., Sci., Inst.)