

The 71st Annual Meeting of
the Japanese Association for
Laboratory Animal Science

Program

Program

The 71st Annual Meeting of the Japanese Association for Laboratory Animal Science
May 30 (Thu) 13:30 ~ 15:30 Room 1 (ROHM Theatre Kyoto 1F South Hall)

■ Honorable Contribution Award

Dr. Toshiaki Ochiai (Hamri Co., Ltd.)

Dr. Yasuko Yamada (National Institute of Infectious Diseases)

■ Ando-Tajima Award

Ichiro Miyoshi (Tohoku University)

L-1 Research on genome editing and animal models in experimental animal science

○ Tomoji Mashimo

The University of Tokyo Institute of Medical Science

■ Encouragement Award

Ichiro Miyoshi (Tohoku University)

L-2 Development of adriamycin nephropathy model and podocyte injury model using TRECK method

○ Masaki Watanabe

Lab. of Laboratory Animal Science and Medicine, Dep. of Veterinary Medicine, Kitasato Univ.

■ 2023 Best Paper Award of Experimental Animals

Rescue of oocytes recovered from postmortem mouse ovaries

Nagi Fujii, Yuta Nakata, Yoko Kato

Cyba and *Nox2* mutant rats show different incidences of eosinophilia in the genetic background- and sex-dependent manner

Masayuki Mori, Jian Dai, Hiroki Miyahara, Ying Li, Xiaojing Kang, Kazuto Yoshimi,
Tomoji Mashimo, Keiichi Higuchi, Kiyoshi Matsumoto

Establishment of a human microbiome- and immune system-reconstituted dual-humanized mouse model

Yuyo Ka, Ryoji Ito, Ryoko Nozu, Kayo Tomiyama, Masami Ueno, Tomoyuki Ogura, Riichi Takahashi

■ International Award

Kazuo Goto (Teikyo University)

Dinh Thi Huong Tra (RIKEN BRC)

O-44 Therapeutic potential of fenugreek seed extracts on *Escherichia coli* urinary tract infection in BALB/c mice

○ Siti Nor Hikmah Abdul Rasid¹, Leslie Thian Lung Than¹, Pike See Cheah¹, Shalini Vellasamy²

¹ Faculty of Medicine and Health Sciences, Universiti Putra Malaysia,

² Faculty of Medicine, Bioscience and Nursing, MAHSA University

O-45 Cognitive and social behaviors during abstinence from chronic toluene inhalation in adolescent rats

○ Joannes Luke B. Asis¹, Johanna C. Munar², Ajina C. Carampel¹, Jariel N. Bacar²,
Cynthia Grace C. Gregorio³, Gregory J. Quirk², Rohani Cena-Navarro²

¹ College of Medicine, University of the Philippines Manila,

² National Institute of Molecular Biology and Biotechnology, National Institutes of Health,
University of the Philippines Manila,

³ Institute of Chemistry, University of the Philippines Diliman

O-46 Increased amyloid burden precedes glial activation in a genetic mouse model of Alzheimer's disease

○ Yuek Ling Chai^{1,2}, Wei Wang¹, Jasinda H Lee^{3,4}, Christopher LH Chen^{1,2}, Thiruma V Arumugam^{5,6},
Mitchell KP Lai^{1,2}

¹ Department of Pharmacology, Yong Loo Lin School of Medicine, National University of Singapore,

² Memory, Ageing and Cognition Centre, National University Health System, Singapore,

³ Department of Biochemistry, Yong Loo Lin School of Medicine, National University of Singapore,

⁴ NUS Healthy Longevity Translational Research Programme, Yong Loo Lin School of Medicine,
National University of Singapore,

⁵ Department of Physiology, Anatomy and Microbiology, La Trobe University, Australia,

⁶ School of Pharmacy, Sungkyunkwan University, Republic of Korea

O-47 Evaluation of phytochemical constituents, antioxidant capacity with special reference to hypoglycaemic activity of the tuberous root of *Asparagus racemosus* on Wistar albino rats

○ Anusha Senevirathne¹, Vijitha Paheerathan², Piratheepkumar Rajadurai², Sivakanesan Ramiah³

¹ Department of Biochemistry, Faculty of Medical Sciences, University of Sri Jayewardenepura,

² Faculty of Siddha Medicine, Trincomalee Campus, Eastern University,

³ Department of Biochemistry, Faculty of Medicine, University of Peradeniya

O-48 Simultaneous protective immune responses of ducks against duck plague and fowl cholera by recombinant duck enteritis virus vector expressing *Pasteurella multocida* OmpH gene

○ Nisachon Apinda¹, Venugopal Nair^{2,3,4}, Nattawooti Sthitmatee¹

¹ Faculty of Veterinary Medicine, Chiang Mai University, ² The Pirbright Institute,

³ Jenner Institute, University of Oxford, ⁴ Department of Biology, University of Oxford

Plenary Lecture 1 May 29 (Wed) 13:30 ~ 14:30 Room 1 (ROHM Theatre Kyoto 1F South Hall)

Chairperson: Gen Kondoh (Kyoto University)

PL-1 Mechanism and *in vitro* reconstitution of mammalian germ-cell development

○ Mitinori Saitou^{1,2,3)}

¹⁾Institute for the Advanced Study of Human Biology, Kyoto University Institute for Advanced Study, Kyoto University,

²⁾Department of Anatomy and Cell Biology, Graduate School of Medicine, Kyoto University,

³⁾Center for iPS Cell Research and Application, Kyoto University

Plenary Lecture 2 May 30 (Thu) 15:45 ~ 16:45 Room 1 (ROHM Theatre Kyoto 1F South Hall)

Chairperson: Masahide Asano (Kyoto University)

PL-2 Regulation of phospholipid distribution in the lipid bilayer by flippases and scramblases

○ Shigekazu Nagata

Immunology Frontier Research Center, Osaka University

Special Lecture

May 30 (Thu) 11:10 ~ 11:45 Room 4 (Miyako Messe B1F Main Conference Room)

“Special Lecture from KALAS (Korea)”

Chairperson: Masahide Asano (Kyoto University)

SP-1 Molecular pathway of beneficial effect of exercise in Germ Free mouse

○ Je Kyung Seong^{1,2)}

¹⁾College of Veterinary Medicine, Seoul National University, ²⁾Korea Mouse Phenotyping Center (KMPC)

Open Public Lecture

May 31 (Fri) 13:30 ~ 15:30 Room 1 (ROHM Theatre Kyoto 1F South Hall)

“Learning with Animals: From the Zoo to the African Jungle”

Chairpersons: Masahide Asano (Kyoto University)

Chie Naruse (Kyoto University)

PLC-1 Activities of Kyoto City Zoo to support the well-being of wild and captive animals

○ Yumi Yamanashi

Center for Research and Education of Wildlife, Kyoto City Zoo

PLC-2 A brief history of Japanese primatology and the last ape (Bonobo) society

○ Gen'ichi Idani

Wildlife Research Center, Kyoto University

“Contributions to One Health ~ Current Status of Drug Resistances ~”

Chairpersons: Kentaro Setoyama (Kagoshima University)
Hitoki Yamanaka (Shinshu University)

One Health has recognized internationally as a comprehensive approach to secure the health of peoples, animals, and ecosystems. Recently, the spread of drug-resistant bacteria has been noticed in livestock and companion animals, which are thought to affect human society, and the use of antibiotics must be carefully considered. In experimental animals, the prevalence of drug-resistant bacteria may not be concerned due to improved microbiological control techniques and minimized antibiotics usage. We therefore need to reconsider the prevalence of drug-resistant bacteria in experimental animals and its impact. This symposium will provide the general and latest information on the drug-resistances in humans, the environment, livestock, and companion animals, which would be important for us to reconsider the impacts of drug-resistances in experimental animals and learn the contributions to One Health.

S1-1 Gain an overview of the circulation of AMR bacteria at the human-animal-environment interface

○ Noriyuki Nagano

School of Health Sciences, Faculty of Medicine, Shinshu University

S1-2 Prevalence of antimicrobial resistant bacteria derived from livestock by perspective of One Health

○ Masaru Usui

Rakuno Gakuen University

S1-3 AMR in companion animals in Japan: current status and issues

○ Kazuki Harada

Laboratory of Veterinary Internal Medicine, Tottori University

“A New Stage in Memory Mechanism Research”

Chairpersons: Masahide Asano (Kyoto University)
Akihiro Goto (Kyoto University)

Memory mechanisms are one of the most important issues that humans have not been able to elucidate. Recent genetic modification techniques using rodents, techniques for measuring neural activity and the use of various memory tasks are beginning to reveal the reality of this problem. Dr. Goto will give a lecture on the development of a new optogenetic method to erase synaptic LTP by light and the mechanism of long-term storage of memory. Dr. Nomoto will give a lecture on the mechanisms by which multiple sensory information is integrated as memory, as revealed by *in vivo* calcium imaging in mice. Dr. Fujisawa will give a lecture on the mechanism of spatial navigation that predicts future movement by performing large-scale extracellular neural activity recordings in rats. Dr. Kida will give a lecture on the mechanisms of fear memory remobilization and erasure using the fear conditioning context task and the passive avoidance response task. The symposium will introduce latest studies that use cutting-edge technology to uncover the mechanisms of memory.

S2-1 Elucidation of synaptic plasticity mechanism of long-term memory storage

○ Akihiro Goto

Department of Pharmacology, Kyoto University Graduate School of Medicine

S2-2 Sensory information processing in the hippocampus through Ca²⁺ imaging

○ Masanori Nomoto^{1,2,3,4}, Emi Murayama^{1,2}, Shuntaro Ohno^{1,2}, Reiko Okubo-Suzuki^{1,2},
Kaoru Inokuchi^{1,2,4}

¹) Graduate School of Medicine and Pharmaceutical Sciences, University of Toyama,

²) Research Center for Idling Brain Science, University of Toyama,

³) Japan Agency for Medical Research and Development (AMED), ⁴) CREST, JST

S2-3 Neuronal representation for future spatial information in the hippocampus and entorhinal cortex

○ Shigeyoshi Fujisawa

RIKEN Center for Brain Science

S2-4 Mechanisms of fear memory after retrieval

○ Satoshi Kida

Graduate School of Agriculture and Life Sciences, The University of Tokyo

Symposium 3 May 29 (Wed) 14:45 ~ 17:15 Room 2 (ROHM Theatre Kyoto B2F North Hall)

“Digital Transformation in Animal Testing Techniques Contributing to the Advancement of the 3Rs”

Chairpersons: Mutsumi Suzuki (Non-Clinical Evaluation Expert Committee, Drug Evaluation Committee,

Japan Pharmaceutical Manufacturers Association (JPMA)/ Kyowa Kirin Co., Ltd.)

Kazuto Watanabe (Non-Clinical Evaluation Expert Committee, Drug Evaluation Committee,

Japan Pharmaceutical Manufacturers Association (JPMA))

Digital Transformation (Dx) has become indispensable, contributing to increased productivity, accuracy, and optimization in a variety of areas. The utility of Dx is similar in animal studies. It improves the quality of animal research by collecting and sharing accurate data free of human error, and improves efficiency by reducing work time and the number of workers. It is also expected to contribute to the improvement of animal welfare by promptly detecting and responding to animal abnormalities. This symposium will focus on the contribution of Dx to the 3Rs in animal use, and will provide an opportunity to discuss the use of Dx from various perspectives in animal experiments.

S3-1 Implementation of Virtual Control Group in toxicology studies utilizing historical control data

○ Gen Sato^{1,2}

¹) Global Nonclinical Regulatory Affairs, Eisai Co., Ltd., ²) Japan Pharmaceutical Manufacturers Association

S3-2 AI pathology in laboratory animal science and non-clinical research field

○ Izumi Matsumoto^{1,2}

¹) Sumitomo Pharma Co., Ltd., ²) AI Pathology Task Force, Non-Clinical Evaluation Expert Committee, JPMA

S3-3 Challenges to innovation in evaluation of clinical symptoms using novel wearable device technology

○ Ryota Tochinai

Vet. Pathophysiol. and Anim. Health, The University of Tokyo

S3-4 Contribution of e-learning video materials on proper animal experiments to the 3Rs

○ Mariko Amano

KAC Co., Ltd.

S3-5 Vivarium management and 24/7 homepage monitoring with Digital transformation (DX)

○ Yusuke Tanaka

Tecniplast Japan Co., Ltd.

Symposium 4 May 30 (Thu) 9:30 ~ 12:00 Room 1 (ROHM Theatre Kyoto 1F South Hall)

“Cutting-Edge Cancer Research Utilizing Experimental Animals”

Chairpersons: Kazuhiro Okumura (Chiba Cancer Center Research Institute)

Chie Naruse (Kyoto University)

Using experimental animals in cancer research has provided significant insights over an extensive history. These include a variety of models, such as tumor transplantation, carcinogenesis, genetically engineered animal models, and personalized medicine models, including immunotherapy. Various animal models have been developed, given the inherent limitations of modeling cancer development within the human body. From genetic, pathological, and reproductive technology perspectives, experimental animals like rodents remain indispensable in cancer research. In this symposium, five speakers will present the latest findings from various cancer research, ranging from basic research to pre-clinical trials. We aim to provide an opportunity for active discussion and participation from a diverse audience to deepen our understanding of cancer research, gain insights into new therapies and drug development, and revisit the emerging role of experimental animal models in cancer biology.

S4-1 Analysis of senescent cells using a mouse model

○ Akiko Takahashi^{1,2)}

¹⁾Division of Cellular Senescence, Cancer Institute, Japanese Foundation for Cancer Research,

²⁾Cancer Cell Communication Project, NEXT-Ganken Program, Japanese Foundation for Cancer Research

S4-2 Cell competition between normal and transformed epithelial cells

○ Yasuyuki Fujita

Kyoto University Graduate School of Medicine

S4-3 Creating a pancreatic cancer rat model using the pancreas-targeted hydrodynamic gene delivery

○ Osamu Shibata, Kenya Kamimura, Yuto Tanaka, Hiroyuki Abe, Satoshi Ikarashi, Takeshi Yokoo, Shuji Terai

Division of Gastroenterology and Hepatology, Graduate School of Medical and Dental Sciences, Niigata University

S4-4 Nonclinical evaluation of CAR-T cell products

○ Yukari Fujiwara

Novartis Pharma K.K. Translational Medicine

S4-5 Approach for the prevention of hereditary cancer

○ Shinya Toyokuni¹⁾, Yingyi Kong¹⁾, Yaguang Luo¹⁾, Tatsuhiko Imaoka²⁾, Tomoji Mashimo³⁾

¹⁾Department of Pathology and Biological Responses, Nagoya University Graduate School of Medicine,

²⁾Department of Radiation Effects Research, National Institute of Radiological Sciences, National Institutes for Quantum Science and Technology,

³⁾Laboratory Animal Research Center, Institute of Medical Science, The University of Tokyo

“Infectious Diseases and Microbiological Control of Immunodeficient Animals”

Chairpersons: Miyuu Tanaka (Osaka Metropolitan University)
Shinichiro Nakamura (Azabu University)

In recent years, severely immunodeficient animals such as NOG mice and genetically modified animals for specific immune-related genes have been produced and used in various experiments. Immunocompromised animal models are susceptible to infection, and strict microbiological control is important in their breeding and management. In this symposium, we will discuss the basics of immunodeficient animals (mice and rats), case studies of infectious diseases, microbiological monitoring and husbandry in immunodeficient animals, and aim to deepen understanding of appropriate microbiological quality control and husbandry of immunodeficient animals.

S5-1 History, development, and application of immune deficient animals

○ Takeshi Takahashi

Central Institute for Experimental Medicine and Life Science

S5-2 A case report of Pneumocystis outbreak in a breeding room of immunodeficient mice

○ Shinichiro Nakamura^{1,2}, Ichiro Terakado², Hideaki Tsuchiya²

¹) Veterinary School of Medicine, Azabu University,

²) Research Center for Animal Life Sciences, Shiga University of Medical School

S5-3 Rat polyomavirus 2 infection in a colony of immunodeficient rats

○ Miyuu Tanaka^{1,2}

¹) Veterinary Pathology, Osaka Metropolitan University, ²) Institute of Laboratory Animals, Kyoto University

S5-4 Murine Chapparvovirus (MuCPV) — a virus that causes renal disease in immunocompromised mice

○ Shigeri Maruyama

The Jackson Laboratory Japan, Inc.

S5-5 Microbiological quality control of immunodeficient mice

○ Nobuhito Hayashimoto

ICLAS Monitoring Center, CIEM

S5-6 Breeding and management of severe immunodeficient mice at CLEA Japan, Inc.

○ Megumi Nishiwaki

CLEA Japan, Inc.

“Current Status of 3Rs in Animal Experimentation: International Guidelines, Scientific Advancements, and Implementation Strategies”

Chairpersons: Shigiko Takei (Ina Research Inc.)

Hidenori Watanabe (JT Creative Service Inc.)

The symposium will focus on international guidelines related to the 3Rs and engage in a comprehensive discussion about the progress of scientific and technological advancements alongside practical implementation strategies. The purpose is to share the forthcoming developments toward the practical application of the 3Rs principles (Reduction, Refinement, Replacement) based on the most recent international guidelines and to understand how new guidelines and advancements in science and technology will be implemented in practice. Moreover, through this symposium, we aim to explore the direction of sustainable animal experimentation and research. Our goal is to provide participants with an opportunity to consider new ideas and strategies for the future development of the 3Rs.

S6-1 Awareness and understanding of anesthesia for laboratory animal euthanasia in Japan and overseas

○ Atsushi Asano

Joint Faculty of Veterinary Medicine, Kagoshima University

S6-2 Risk assessment utilizing new approach methods promoted by the OECD

○ Yoko Hirabayashi

National Institute of Health Sciences

S6-3 Research trend and regulatory/industrial acceptance in microphysiological systems (MPS)

○ Hitoshi Naraoka

Non-clinical Bioscience, Astellas Pharma Inc.

S6-4 The current state of the 3Rs in Pharmaceutical Toxicology Study Guidelines

○ Mutsumi Suzuki

Non-Clinical Evaluation Expert Committee, Drug Evaluation Committee,
Japan Pharmaceutical Manufacturers Association

“Laboratory Animal Bioresources for the New Era”

Chairpersons: Atsushi Yoshiki (RIKEN BRC)

Tomoji Mashimo (The University of Tokyo)

Experimental animals have become increasingly important as a fundamental resource for life science researches, including toxicity testing, safety assessment, and as disease models for personalized medicine. On the other hand, genome editing technologies have been rapidly advancing, and the abundance of genomic and associated information is becoming crucial for users. In this symposium, prominent representatives from national and international bioresource centers will explain in an accessible manner the changing landscape of these circumstances and the future utilization of these resources for participants.

S7-1 Advancing mouse resource infrastructure program

○ Atsushi Yoshiki

RIKEN BioResource Research Center

S7-2 Past and future of the rat resource project

○ Masahide Asano

Institute of Laboratory Animals, Graduate School of Medicine, Kyoto University

S7-3 Why do we use monkeys for experiments?

○ Katsuki Nakamura

Center for the Evolutionary Origins of Human Behavior

S7-4 Chicken/ quail resources: new resources with genetic engineering

○ Ken-ichi Nishijima, Yuya Okuzaki

Graduate School of Bioagricultural Sciences, Nagoya University

S7-5 Zebrafish as a model experimental animal and NBRP

○ Hitoshi Okamoto

RIKEN Center for Brain Science

S7-6 Seoul National University Hospital Marmoset Model Network Center (SNUH-MMNC) and disease model

○ Byeong-Cheol Kang^{1,2)}

¹⁾Seoul National University College of Medicine,

²⁾Biomedical Research Institute, Seoul National University Hospital

Symposium 8 May 31 (Fri) 13:30 ~ 15:30 Room 2 (ROHM Theatre Kyoto B2F North Hall)**“New Perspectives to Explore Animal Welfare”**

Chairpersons: Naoko Hashimoto (Kyoto University)

Hironari Koyama (KAC Co., Ltd.)

This symposium focuses on animal welfare in animal care and management, which is unfamiliar to animal experimenters. Animal welfare is an important aspect to improve reproducibility of animal experiment results, and it is necessary for technicians and researchers to have a better understanding of animal care and management. In this symposium, three speakers will introduce animal welfare initiatives in various fields including laboratory small animals, fishes, and farm animals. We would like to discuss with the speakers and audience participants how animal welfare considerations for laboratory animals support animal experiments and how animal welfare can be promoted in the future. We hope that this symposium will provide an opportunity for both technicians and researchers to rethink animal welfare, to gain knowledge and useful insights from discussions and exchanges of opinions among experts involved in different fields, and to consider how to improve the accuracy of animal experiments.

S8-1 Anguish of laboratory animal Breeder — Balance between animal welfare and customer needs —

○ Yohei Goto

The Jackson Laboratory Japan, Inc.

S8-2 Welfare of laboratory fish for animal drug development

○ Kiyotaka Kawamura

Kyoritsu Seiyaku Corporation

S8-3 Understanding and controlling of farm animal welfare

○ Tsuyoshi Shimmura

Tokyo University of Agriculture and Technology

LAS Seminar 1

May 29 (Wed) 9:00 ~ 11:30 Room 3 (Miyako Messe B1F Special Exhibition Hall A)

I want to know! Experimental Animals part 3 (in Japanese)

Organizers: Hiroshi Kiyonari (RIKEN Center for Frontier Biosciences)

Ryuichi Miura (Life Science Research Ethics Support Office, The University of Tokyo)

Seminar Outlines

In animal experimentation, it is crucial to select the appropriate species, maintain them in suitable environments and handle them properly. Therefore, this seminar provides an opportunity to comprehend the characteristics of a new laboratory animal species and acquire essential knowledge about its management, including acquisition, care and treatment as described below. We also encourage individuals already using the target animal species to take this seminar as an opportunity to reconfirm their methods of care and handling. This year will mark the third installment in a series that began two years ago and will cover “bats”, “squirrel monkeys”, “naked mole rats” and “pigs”.

- What advantages of use: biological classification, physiology/ecology, characteristics as a laboratory animal, status of research use, etc.
- How to obtain: source, precautions for acquisition, relevant laws, etc.
- How to care: environmental condition, housing, feeding, environmental enrichment, etc.
- How to treat: picking up, holding, administration, etc.

Speakers:

LAS1-1 Shizuko Hiryu (Doshisha University)

No problem in the darkness! Bats manipulate their ability to ‘see’ through sound

LAS1-2 Shin-ichi Yokota (The University of Tokyo)

Mischievous and amiable! “Saimiri boriviensis”

LAS1-3 Yoshimi Kawamura (Kumamoto University)

The secret of the naked mole-rat

LAS1-4 Arata Honda (Jichi Medical University)

Advancing medical research: the unique benefits of using pigs as model organisms

Understanding animal feelings (behavior analysis)

Organizers: Kimie Niimi (Riken CBS)
Noboru Ogiso (NCGG)

Seminar Outlines:

This seminar will present examples of behavior analysis using frogs, bats, pigeons, mice, common marmosets, and macaque monkeys, as well as the analysis of the results. The lectures will cover a wide range of topics from an overview of animal behavior science to the latest research results on efforts to understand animal “feelings” from animal behavior.

Speakers:

LAS2-1 Nozomi Nishiumi (NBB)

Adaptive decision-making explored through the tactics of predators and prey

LAS2-2 Kazunari Miyamichi (RIKEN BDR)

Functional dissection of hypothalamus underlying emotion and instinct behaviors: lessons from aggressive and parental behaviors in mice

LAS2-3 Teppei Ebina (The University of Tokyo)

Development of behavior tasks for functional imaging of neuronal activity in common marmosets

LAS2-4 Kentaro Miyamoto (RIKEN CBS)

Investigation of introspective ability of macaque monkeys during foraging tasks and natural behaviour observation

Getting started with bioinformatics

Organizers: Ayako Isotani (Nara Institute of Science and Technology)

Takashi Inoue (Central Institute for Experimental Medicine and Life Science)

Seminar Outlines:

Understanding biological phenomena requires analysis of various components such as RNA transcribed from genomic DNA, proteins which are the final products of genes, and various metabolic products synthesized in the body through protein functions. In recent years, life science research has made it possible to easily obtain a vast amount of information with the advancement of high-throughput instruments, as typified by next-generation sequencers. On the other hand, bioinformatics is essential to narrow down the information from these vast datasets and understand biological phenomena.

Among wet-lab researchers and technicians, who mainly focus on animal experiments, some may have a slight discomfort with bioinformatics. However, recent findings reported in top-tier life science journals using bioinformatics underscore its crucial role in understanding new biological phenomena.

In this seminar, experts in single-cell RNA sequencing analysis, proteomic analysis, metabolomic analysis, and transomic analysis will deliver lectures on the characteristics and applications of each field for beginners in bioinformatics. We hope that beginners in bioinformatics will utilize this knowledge to advance their research endeavors.

LAS3-1 Itoshi Nikaido (RIKEN BDR)

Guided by AI: practical analysis of single-cell RNA sequencing data

LAS3-2 Yusuke Kawashima (Kazusa DNA Research Institute)

Introduction to proteomics and its data analysis

LAS3-3 Yuki Sugiura (Kyoto University)

Spatial metabolomics -exploring metabolic biochemistry with molecular imaging

LAS3-4 Toshiya Kokaji (Nara Institute of Science and Technology)

Pathway estimation from omic datasets for wet laboratory**Best Presentation Award****May 29 (Wed) 9:30 ~ 12:00****Room 1 (ROHM Theatre Kyoto 1F South Hall)****Poster presentation****May 30 (Thu) 17:00 ~ 18:00****Poster & Exhibiton (Miyako Messe 1F Exhibition Hall C,D)**

Chairpersons: Seiji Kito (Nagoya University)

Natsuki Matsushita (Aichi Medical University)

BP-01 Study on proteins and glycans that play an important role in homing of hematopoietic stem cells

○ Xuchi Pan, Chie Naruse, Tomoko Matsuzaki, Kazushi Sugihara, Masahide Asano

Institute of Laboratory Animals, Graduate School of Medicine, Kyoto University

BP-02 Investigation of functional exons in organogenesis using a novel genome editing mouse series

○ Hayate Suzuki, Akihiro Kuno, Kazuya Murata, Fumihiro Sugiyama, Seiya Mizuno

Laboratory Animal Resource Center, Institute of Medicine, University of Tsukuba

BP-03 Seminoripid is required for Sertoli cell polarity and the function of blood-testis barrier

○ Kanon Akiyama¹⁾, Kousuke Noritake¹⁾, Airi Nakano¹⁾, Mikio Furuse^{2,3)}, Tatsuyuki Yamashita⁴⁾, Kouishi Honke⁵⁾, Manabu Ozawa⁶⁾, Masahito Ikawa^{6,7)}, Yoshitaka Fujihara⁸⁾, Tokuko Iwamori^{9,10)}, Seiya Mizuno¹¹⁾, Narumi Ogonuki¹²⁾, Atsuo Ogura¹²⁾, Seiji Takashima^{1,13,14)}

¹⁾ Shinshu Univ., ²⁾ NIPS, ³⁾ SOKENDAI, ⁴⁾ Kochi University Medical School, ⁵⁾ Kochi Univ.,

⁶⁾ The Univ. of Tokyo, ⁷⁾ Osaka Univ., ⁸⁾ NCCC, ⁹⁾ Kyushu Univ., ¹⁰⁾ JSPS-RPD, ¹¹⁾ Univ. of Tsukuba,

¹²⁾ RIKEN BRC, ¹³⁾ ICCER, Shinshu Univ., ¹⁴⁾ SSSI, Shinshu Univ.

BP-04 Development of AAV vector-mediated knock-in in porcine embryos

○ Mitsuhiro Noguchi¹⁾, Fuminori Tanihara¹⁾, Yuka Inage²⁾, Makoto Inoue^{1,3)}, Yutaka Hanazono¹⁾, Takashi Yokoo²⁾, Arata Honda¹⁾

¹⁾ Jichi Medical University, ²⁾ The Jikei University School of Medicine, ³⁾ Sumitomo Phama Co., Ltd.

BP-05 A newly developed Kit mutat rat allows for hematopoietic stem cell engraftment without irradiation

○ Ryuya Iida¹⁾, Saeko Ishida¹⁾, Jinxi Wang¹⁾, Kosuke Hattori¹⁾, Kazuto Yoshimi^{1,2)}, Satoshi Yamazaki^{3,4)}, Tomoji Mashimo^{1,2)}

¹⁾ Division of Animal Genetics, Laboratory Animal Research Center, IMSUT, The University of Tokyo,

²⁾ Division of Genome Engineering, Center for Experimental Medicine and Systems Biology, IMSUT, The University of Tokyo,

³⁾ Division of Cell Regulation, Center of Experimental Medicine and Systems Biology, IMSUT, The University of Tokyo,

⁴⁾ Laboratory of Stem Cell Therapy, Faculty of Medicine, University of Tsukuba

BP-06 Skin graft with dermis and appendages generated *in vivo* by cell competition

○ Naoaki Mizuno^{1,2)}, Hisato Nagano^{2,3)}, Hideyuki Sato²⁾, Eiji Mizutani^{2,4)}, Ayaka Yanagida^{2,5)}, Mayuko Kano^{2,6)}, Mariko Kasai²⁾, Hiromi Yamamoto²⁾, Motoo Watanabe²⁾, Fabian Suchy⁷⁾, Hideki Masaki²⁾, Masami Kanai¹⁾, Hiromitsu Nakauchi^{2,7)}

¹⁾ Center for Experimental Animals, Tokyo Medical and Dental University,

²⁾ Stem Cell Therapy Laboratory, Tokyo Medical and Dental University,

³⁾ Department of Plastic and Reconstructive Surgery, National Defense Medical College,

⁴⁾ Laboratory of Stem Cell Therapy, University of Tsukuba,

⁵⁾ Department of Veterinary Anatomy, The University of Tokyo,

⁶⁾ Metabolism and Endocrinology, St. Marianna University School of Medicine,

⁷⁾ Institute for Stem Cell Biology and Regenerative Medicine, Stanford University School of Medicine

BP-07 Exocyst complex is essential for oogenesis in mice

○ Kim Chi Lieu Nguyen¹⁾, Woojin Kang²⁾, Fumihiro Sugiyama²⁾, Atsuo Ogura³⁾, Satoru Takahashi²⁾, Seiya Mizuno²⁾

¹⁾ PhD. Program in Human Biology, School of Integrative and Global Majors, University of Tsukuba,

²⁾ Laboratory Animal Resource Center and Trans-Border Medical Research Center, University of Tsukuba,

³⁾ Bioresource Engineering Division, RIKEN BioResource Research Center

BP-08 Selective breeding and gut microbiota: role of intestinal bacteria in domestication of mice

○ Bhim Bahadur Biswa^{1,2)}, Hiroshi Mori^{2,3)}, Atsushi Toyoda⁴⁾, Ken Kurokawa^{2,5)}, Tsuyoshi Koide^{1,2)}

¹⁾ Mouse Genomics Resource Lab, National Institute of Genetics,

²⁾ Graduate University for Advanced Studies (SOKEDNAI), ³⁾ Genome Diversity Lab, NIG,

⁴⁾ Comparative Genomics Lab, NIG, ⁵⁾ Genome Evolution Lab, NIG

BP-09 Pate family genes expressed in the epididymis cooperatively support sperm maturation

○ Hina Shinohara¹⁾, Ayumu Taira¹⁾, Kimi Araki¹⁾, Masahito Ikawa²⁾, Taichi Noda^{1,2)}

¹⁾IRDA, Kumamoto University, ²⁾RIMD, Osaka University

BP-10 Effects of parent-child separation during infancy on brain gene expression in marmosets

○ Haruka Shinohara^{1,3)}, Makiko Meguro-Horike²⁾, Takashi Inoue¹⁾, Miyuki Shimazu²⁾,
Machiko Hattori⁴⁾, Hitoshi Hibino⁴⁾, Kazumasa Fukasawa⁴⁾, Erika Sasaki¹⁾, Shin-ichi Horike^{2,3)}

¹⁾Central Institute for Experimental Medicine and Life Science,

²⁾Research Center for Experimental Modeling of Human Disease, Division of Integrated Omics Research,
Kanazawa University,

³⁾United Graduate School of Child Development, Osaka University, Kanazawa University,
Hamamatsu University School of Medicine, Chiba University and University of Fukui,

⁴⁾Yaotsu Breeding Center, CLEA Japan, Inc.

BP-11 Development of human IgH/Ig λ antibody-producing mice by using chromosome engineering technology

○ Kazuto Shimoya¹⁾, Shigenori Baba²⁾, Takashi Moriwaki^{1,2)}, Satoshi Abe³⁾, Akane Okada³⁾,
Kanako Kazuki³⁾, Yasuhiro Kazuki^{1,2,3,4)}

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BP-12 Establishment of a humanized mouse model for contact hypersensitivity induced by human Th2 cells

○ Yusuke Ohno¹⁾, Misa Mochizuki¹⁾, Kenji Kawai¹⁾, Yukio Nakamura²⁾, Ryuji Suzuki²⁾,
Motohito Goto¹⁾, Riichi Takahashi¹⁾, Mamoru Ito¹⁾, Ryoji Ito¹⁾

¹⁾Central Institute for Experimental Medicine and Life Science, ²⁾Repertoire Genesis Inc.

Oral Presentation

Oral Presentation 1 (O-01 ~ 17)

May 29 (Wed) 9:00 ~ 11:50 Room 4 (Miyako Messe B1F Main Conference Room)

Oral Presentation 2 (O-18 ~ 33)

May 29 (Wed) 14:40 ~ 17:20 Room 3 (Miyako Messe B1F Special Exhibition Hall A)

Oral Presentation 3 (O-34 ~ 43)

May 29 (Wed) 14:40 ~ 16:20 Room 4 (Miyako Messe B1F Main Conference Room)

Oral Presentation 4 (O-49 ~ 59)

May 30 (Thu) 9:00 ~ 10:50 Room 4 (Miyako Messe B1F Main Conference Room)

Oral Presentation 5 (O-60 ~ 74)

May 31 (Fri) 9:00 ~ 11:30 Room 4 (Miyako Messe B1F Main Conference Room)

Poster Presentation

May 29 (Wed) 9:00 ~ 30 (Thu) 18:00

Room: Poster & Exhibition (Miyako Messe 1F Exhibition Hall C,D)

Core Time: May 29 (Wed) 17:30 ~ 18:30 (Odd numbers of P-001 ~ 137)

May 30 (Thu) 17:00 ~ 18:00 (Even numbers of P-001 ~ 137 and BP-01 ~ 12)

Luncheon Seminar LS-1 (Sponsor Name: CLEA Japan Inc., Tokyo, Japan)

May 29 (Wed) 12:15 ~ 13:15 Room 2 (ROHM Theatre Kyoto B2F North Hall)

Chairperson: Masami Shinohara (CLEA Japan Inc., Tokyo, Japan)

Title: Unmet medical needs and repositioning of animal models

Speaker: Takeshi Ohta (Laboratory of Animal Physiology and Functional Anatomy, Graduate School of Agriculture, Kyoto University, Kyoto, Japan)

Luncheon Seminar LS-2 (Sponsor Name: The Jackson Laboratory Japan, Inc.)

May 29 (Wed) 12:15 ~ 13:15 Room 3 (Miyako Messe B1F Special Exhibition Hall A)

Chairperson: Takashi Ueda (The Jackson Laboratory Japan, Inc.)

Title: JAX® Mice: Unique Models for Ground-Breaking Biomedical Discoveries

Speaker: Aya Uchida (The Jackson Laboratory Japan, Inc. Technical Information Services)

Luncheon Seminar LS-3 (Sponsor Name: Natsume Seisakusho Co., Ltd.)

May 29 (Wed) 12:15 ~ 13:15 Room 4 (Miyako Messe B1F Large Conference Room)

Chairperson: Teppei Ogawa (Natsume Seisakusho Co., Ltd.)

Title: Animal Experiment Equipment Moves to the Next Stage with the “AUTiv” Mouse Tail Vein Auto Injection System Using Deep Learning

Speaker: Takuya Inoue (Preferred Networks, Inc.)

Takashi Koshikawa (Summit Pharmaceuticals International Corporation)

Teppei Ogawa (Natsume Seisakusho Co., Ltd.)

Luncheon Seminar LS-4 (Sponsor Name: MIURA CO.,LTD.)

May 30 (Thu) 12:15 ~ 13:15 Room 2 (ROHM Theatre Kyoto B2F North Hall)

Chairperson: Erika Sasaki (Central Institute for Experimental Medicine and Life Science)

Title: Innovative Approaches to Energy Conservation in Cleaning & Sterilization Practices

Speaker: Naoto Abe (MIURA CO.,LTD.)

Luncheon Seminar LS-5 (Sponsor Name: KAC CO.,Ltd.)

May 30 (Thu) 12:15 ~ 13:15 Room 3 (Miyako Messe B1F, Special Exhibition Hall A)

Chairperson: Hironari Koyama (KAC CO.,Ltd.)

Title 1: Genotyping of G0 generation genome-edited mice

Speaker: Seiya Mizuno (University of Tsukuba, Institute of Medicine, Transborder Medical Research Center, Laboratory Animal Resource Center)

Title 2: How do we deal with such a situation? FAQ on primate husbandry

Speaker: Naoko Hashimoto (Center for the Evolutionary Origins of Human Behavior, Kyoto University)

Luncheon Seminar LS-6 (Sponsor Name: The Jackson Laboratory Japan, Inc.)

May 30 (Thu) 12:15 ~ 13:15 Room 4 (Miyako Messe B1F Large Conference Room)

Chairperson: Shigeri Maruyama (The Jackson Laboratory Japan, Inc.)

Title: The usefulness of environmental samples in terms of the detection status of pathogenic microorganisms and the stability of bacteria in the environment

Speaker: Yuki Suzuki (The Jackson Laboratory Japan, Inc. Monitoring center)

Luncheon Seminar LS-7 (Sponsor Name: Avidity Science Co., LTD.)

May 31 (Fri) 12:15 ~ 13:15 Room 3 (Miyako Messe B1F, Special Exhibition Hall A)

Chairperson: Ryoichi Sugimoto (Avidity Science Co., LTD.)

Title: Animal Welfare, your drinking systems options

Speaker: Mike Douglas (Allentown, LLC)

Equipment Exhibition

May 29 (Wed) 9:00 ~ 31 (Fri) 12:00

Room: Poster & Exhibition (Miyako Messe 1F Exhibition Hall C,D)

Hospitality Room

May 29 (Wed) 9:00 ~ 31 (Fri) 12:00

Venue: Miyako Messe B1F

【HR-1】 CLEA Japan (Craft Room)

【HR-2】 Central Institute for Experimental Medicine and Life Science (CIEM) (Conference Room 1)

【HR-3】 ARK Resource (Conference Room 2)

【HR-4】 The Jackson Laboratory Japan (Conference Room 3)

Social Gathering (Banquet)

May 30 (Thu) 18:30 ~ 20:30

Hotel Okura Kyoto, 4F Gyoun (暁雲)