ASPIRE
Adopting Sustainable Partnerships for Innovative Research Ecosystem

ASPIRE 3rd Joint Symposium (Healthcare Field)

Date :

Thursday, November 12, 2026

Location :

Rooftop, Hyatt Regency Bethesda

One Bethesda Metro Center, Bethesda, Maryland 20814, USA

AMED

内閣府
Cabinet Office

MEXT

Timetable

08:00 ~ 09:00 — **Registration & Networking**

09:00 ~ 09:10 — **Opening Remarks**

SATO Masafumi, Director, Washington, D.C. Office, Japan Agency for Medical Research and Development
NAKAGAMA Hitoshi, M.D., D.M.Sc., President, Japan Agency for Medical Research and Development (Video Message)

09:15 ~ 10:15 — **Session 1 : Introduction of Funding Programs by Funding Agencies**

TAKEGAMI Shiro, Project Director, Department of International Strategy/Manager, Division of Research Program, AMED
Joyelle Kalei Dominique, MS, MBA Director, Office of Global Research, NIH/NIAID
Satish Gopal, M.D., M.P.H., Director, Center for Global Health, NIH/NCI
Tyler Best, Ph.D., Acting Director, Health Science Futures, ARPA-H

10:20 ~ 12:00 — **Session 2 : Presentations by Selected Projects**

Chair :

SAITOH Noriko, Ph.D., Professor, Department of Multidisciplinary Life Science, Kyushu University, Japan
/ASPIRE Program Officer

International collaboration to understand physiological mechanisms of glial cells and their pathological transitions (Japan- Canada-Germany-US)

WAKE Hiroaki, M.D., Ph.D., Professor, National Institute for Physiological Sciences, Japan
Marie-Ève Tremblay, Ph.D., Professor, School of Medical Sciences, University of Victoria, Canada

Exploration of personal medical strategies and novel therapeutic targets based on the pathogenetic mechanisms of chronic rhinosinusitis in Japanese and US patients (Japan-US)

KIDOGUCHI Masanori, M.D., Ph.D., Assistant Professor, Department of Otorhinolaryngology–Head and Neck Surgery, Faculty of Medical Sciences, University of Fukui, Japan (Presenting on behalf of FUJIEDA Shigeharu, M.D., Ph.D)
KATO Atsushi, Ph.D., Associate Professor of Medicine, Northwestern University Feinberg School of Medicine, USA

Understanding the immune responses that develop against the gastric onco-pathogen Helicobacter pylori and its application to immunotherapy (Japan-Sweden)

YAMAOKA Yoshio, M.D., Ph.D., Professor and Chair, Department of Environmental and Preventive Medicine, Oita University Faculty of Medicine, Japan
Piddubnyi Artem, Ph.D., Postdoctoral Researcher, University of Gothenburg, Sweden
Butsyk Anna, Ph.D., Postdoctoral Researcher, Umeå University, Sweden

Chromatin molecular pathology for precision medicine (Japan-Sweden)

SHIRAHIGE Katsuhiko, Ph.D., Professor and Director, Institute for Quantitative Biosciences, The University of Tokyo/Visiting Professor, Karolinska Institute, Sweden

12:00 ~ 12:10 — **Photo Session**

12:10 ~ 13:00 — **Lunch & Networking**

13:00 ~ 14:40

Session 3 : Presentations by Selected Projects

Chair :

NISHIZONO Akira, M.D., Ph.D., Professor and Director, Research Center for Global and Local Infectious Diseases (RCGLID), Oita University, Japan/ASPIRE Program Officer

International and Interdisciplinary Research on Germ Cell Dynamics and Transgenerational Health Risks (Japan-UK-Germany)

YOSHIDA Shosei, M.D., Ph.D., Professor, Division of Germ Cell Biology, National Institute for Basic Biology, Japan

International Collaborative Research Pioneering Next-Generation Assisted Reproductive Medicine (Japan-US)

IKAWA Masahito, Ph.D., Professor, Research Institute for Microbial Diseases, The University of Osaka, Japan

Marisa S. Bartolomei, Ph.D., Perelman Professor of Cell and Developmental Biology, Professor of Genetics, University of Pennsylvania Perelman School of Medicine, USA

A Global Study Exploring Lifelong Health through the Maintenance, Promotion, and Restoration of Physical Functionality (Japan-US)

ASAHARA Hiroshi, M.D., Ph.D., Professor, Department of Systems BioMedicine, Graduate School of Medical and Dental Sciences, Institute of Science Tokyo, Japan

Martin K. Lotz, M.D., Ph.D., Professor, Department of Molecular and Cellular Biology, Scripps Research, USA

International Cardiovascular Digital Omics Consortium (Japan-US)

KOMURO Issei, M.D., Ph.D., Project Professor, The University of Tokyo Hospital, Japan

15:00 ~ 15:30

Session 4 : Plenary Speech from US based Japanese Researcher

Building Sustainable International Research Networks Through Mitochondrial Biology : From Scientific Discovery to Global Collaboration

SESAKI Hiromi, Ph.D., Professor, Department of Cell Biology, Johns Hopkins University School of Medicine, USA

15:40 ~ 16:40

Session 5 : Challenges and Future Prospects of International Collaboration

Moderator : SUGIHARA Jun, MD, MPH, DTM&H, Deputy Director, Washington DC Office, AMED

Panelist :

Joyelle Kalei Dominique, MS, MBA Director, Office of Global Research, NIH/NIAID

USAMI Takeshi, Ph.D., Director, Washington D.C. Office of Japan Science and Technology Agency (JST)

Martin K. Lotz, M.D., Ph.D., Professor, Department of Molecular and Cellular Biology, Scripps Research, USA

KATO Atsushi, Ph.D., Associate Professor of Medicine, Northwestern University Feinberg School of Medicine, USA

YAMAOKA Yoshio, M.D., Ph.D., Professor and Chair, Department of Environmental and Preventive Medicine, Oita University Faculty of Medicine, Japan

17:00 ~ 17:55

Session 6 : Future Collaboration Models & Human Resource Development

Moderator :

OKABE Shigeo, M.D., Ph.D., Director, RIKEN Center for Brain Science (CBS), Japan/ASPIRE Program Supervisor

Panelist :

Marisa S. Bartolomei, Ph.D., Perelman Professor of Cell and Developmental Biology, Professor of Genetics, University of Pennsylvania Perelman School of Medicine, USA

SESAKI Hiromi, Ph.D., Professor, Department of Cell Biology, Johns Hopkins University School of Medicine, USA

Marie-Ève Tremblay, Ph.D., Professor, School of Medical Sciences, University of Victoria, Canada

KOMURO Issei, M.D., Ph.D., Project Professor, The University of Tokyo Hospital, Japan

SHIRAHIGE Katsuhiko, Ph.D., Professor and Director, Institute for Quantitative Biosciences, The University of Tokyo/Visiting Professor, Karolinska Institute, Sweden

17:55 ~ 18:00

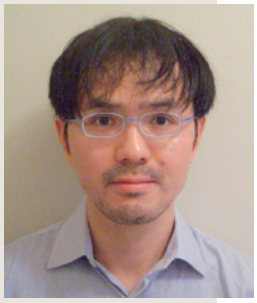
Closing Remarks

OKABE Shigeo, M.D., Ph.D., Director, RIKEN Center for Brain Science (CBS), Japan/ASPIRE Program Supervisor

18:00 ~ 19:30

Reception

Plenary Speaker



Hiromi Sesaki, Ph.D., is a Professor of Cell Biology at the Johns Hopkins University School of Medicine. He received his BS in Biology and PhD in Physiology from Osaka University and completed postdoctoral work at Johns Hopkins University. He joined the Department of Cell Biology faculty in 2006.
Dr. Sesaki's laboratory focuses on understanding fundamental mitochondrial biology and its translation to human disease. His research program investigates mitochondrial dynamics, the processes by which these essential organelles divide and fuse, as well as quality-control mechanisms that maintain mitochondrial function. Furthermore, his work explores how mitochondria participate in innate immune responses, revealing new connections between organelle biology and inflammation.
The Sesaki lab employs diverse experimental approaches, including in vitro reconstitution systems, cultured cell models, and genetically engineered mice, enabling mechanistic insights across multiple biological scales. Recent publications from his group include Yamada et al., Nature, 2025; Adachi et al., Nature Communications, 2025; and Murata et al., Developmental Cell, 2024.
Lab Website: www.iijima-sesaki-lab.com

Chairs



Dr. Shigeo Okabe is a Professor of the Department of Cellular Neurobiology and the Director of RIKEN Center for Brain Science. He studied the dynamics of the neuronal cytoskeleton and obtained a Ph.D. from the Graduate School of Medicine at the University of Tokyo under the supervision of Prof. Nobutaka Hirokawa in 1993. From 1993 to 1996, he stayed in the U.S. and worked as a Visiting Associate with Dr. Ron McKay at NINDS/NIH. In 1996, Dr. Okabe returned to Japan and began his work on the cell biology of neuronal synapses as a principal investigator at the National Institute of Bioscience and Human-Technology in Tsukuba. In 1999, he was appointed Professor of the Department of Cell Biology at Tokyo Medical and Dental University. Dr. Okabe returned to the Graduate School of Medicine at the University of Tokyo in 2007 and served as a full professor until 2026. In 2025, he was appointed as Director of the RIKEN Center for Brain Science (CBS).



Dr. Akira Nishizono is a Professor of the Research Center for Global and Local Infectious Diseases (RCGLID), Oita University and the Deputy Director of RCGLID. After obtaining a PhD degree in 1989, he has been involved in basic, clinical and epidemiological research on emerging and re-emerging infectious diseases. His special interest is to study pathogenesis and transmission dynamics of emerging viruses with high clinical impact; rabies, COVID-19, viral hemorrhagic fever and hepatitis. He is a world-leading authority, particularly in research on the rabies virus. He currently serves as a program officer, PO for the ASPIRE program, drawing on his previous experience leading international joint research projects SATREPS and USJCMSP viral disease panel under AMED.



Dr. Noriko Saitoh is a Professor at the Medical Institute of Bioregulation, Kyushu University. She received her Ph.D. from the Johns Hopkins University, School of Medicine in 1996. In her doctoral studies, she worked on mitotic chromosome structure under the supervision of Dr. William C. Earnshaw. As a postdoctoral fellow, she studied chromatin domain in Dr. Gary Felsenfeld's laboratory at NIDDK/NIH (1996-1998), and nuclear architecture in Dr. David L. Spector's laboratory at Cold Spring Harbor Laboratory (1998-2001). After returning to Japan, she served as an Assistant and Associate Professor in Kumamoto University (2002-2017). She joined the Japanese Foundation for Cancer Research as a Principal Investigator in 2017 and moved to Kyushu University in 2026. Her research has focused on epigenetics, 3D genome structure, and non-coding RNAs involved in breast cancer recurrence. She is a Society Officer of the Molecular Biology Society of Japan, and a Board Member of the Japanese Cancer Association. She serves for FASEB Journal as an Associate Editor and for Trends in Cell Biology as a Scientific Advisor. She currently is a Program Officer for the D4 and ASPIRE programs at AMED.

Invited Speakers



Joyelle Kalei Dominique is the Director of the Office of Global Research (OGR) at the National Institute of Allergy and Infectious Diseases (NIAID), National Institutes of Health (NIH). Under her direction, OGR coordinates and supports collaborative, international biomedical research programs in over 120 countries that focus on immunology and infectious diseases of global health importance. Joyelle led the development of NIAID's foreign entity assessment process to ensure NIAID is poised to be a leader in secure, collaborative research. She fosters coordinated, science-focused research security efforts that enable global collaborations to thrive. She is an expert in science diplomacy and NIH international biomedical research data analysis and reporting. She has served on and led USG- and HHS-wide working groups on global health and research topics. Joyelle has more than 25 years of experience in managing health programs with global impact. Prior to NIAID, Joyelle worked at the University of Maryland School of Medicine, Institute of Human Virology, directing an international laboratory capacity building program which supported more than 200 laboratories located across eight countries. Joyelle received her M.B.A. and M.S. in Management from the University of Maryland University College. She received her B.S. in Biochemistry from the Catholic University of America.



Satish Gopal, M.D., M.P.H., was appointed Director of the National Cancer Institute's (NCI) Center for Global Health (CGH) in 2020. In 2025, he assumed additional responsibilities as Special Advisor to the NCI Director and, in 2026, as Acting NCI Deputy Director for Scientific Strategy and Development.
Dr. Gopal earned his medical degree from the Duke University School of Medicine. He completed training in internal medicine and pediatrics at the University of Michigan, lived and worked in Tanzania from 2007 to 2009, then returned to the United States to pursue medical oncology and infectious disease training at the University of North Carolina (UNC). He subsequently joined the faculty of the UNC Lineberger Comprehensive Cancer Center. From 2012 to 2020, he and his family primarily lived and worked in Malawi, where he was the country's only medical oncologist and treated public-sector cancer patients at the national teaching hospital. He returned frequently to provide clinical service at the North Carolina Cancer Hospital.



Dr. Tyler Best joined ARPA-H in October 2022 from the National Institutes of Health, where he was a Program Officer in the Office of the Director. He is a distinguished neurotechnologist specializing in the development and management of high-reward scientific initiatives. With a rich background in both scientific research and program management, Best excels at identifying, clarifying, and implementing innovative solutions across government, industry, and academic sectors. His expertise spans peripheral nerve interfaces, neuronal biophysics, and various facets of molecular and cellular biology.
Best's career includes significant contributions as a Booz Allen Hamilton associate, where he supported the Defense Advanced Research Projects Agency (DARPA). He earned a doctorate in neuroscience from the Uniformed Services University and conducted postdoctoral work at Northwestern University and Urogenix Inc.



USAMI Takeshi serves as Director of Washington D.C. Office of Japan Science and Technology Agency (JST) from April 2024, where he is responsible for promoting cooperation between JST and counterpart organizations in the United States, and between JST and U.S. scientists and researchers, as well as studying and analyzing STI policies, and R&D trends in the United States. Prior to that role, he was engaged in operation of JST's funding programs for strategic promotion of basic research and bilateral/multilateral international cooperation after he joined JST in January 2009. From 2013 to 2015, he worked for Japan's Ministry of Education, Culture, Sports, Science and Technology (MEXT) as Administrative Researcher. From 2018 to 2020, he served as Chief Program Officer of Science and Technology in Society forum (STS forum). He received M.S. and Ph.D. in Biological Sciences from Kyoto University and conducted research in plant developmental genetics in National Institute of Basic Biology.

Speakers



Dr. Hiroaki Wake, M.D., Ph.D., is a neuroscientist and Professor in the Division of Multicellular Circuit Dynamics, National Institute for Physiological Sciences (NIPS), With crossappointments at the Department of Anatomy and Molecular Cell Biology at the Nagoya University Graduate School of Medicine. Dr. Wake obtained his Medical Doctor degree from Nagoya City University School of Medicine in 2001 following his clinical residency in neurology at Nagoya City University Hospital (2001–2003), he pursued doctoral studies under the mentorship of Prof. Junichi Nabekura at the National Institute for Physiological Sciences (NIPS), earning his Ph.D. in 2007.
Dr. Wake's research interest is in how glia cell contributes on the neuronal circuit function in health and disease using state-of-the-art optical technologies—such as in vivo two-photon microscopy, two-photon holographic optogenetics.



Marie-Ève Tremblay is a Canadian neuroscientist, researcher and academic at the University of Victoria. Dr. Tremblay obtained her Ph.D. in Neurological Sciences at the Université de Montréal in 2009, then conducted postdoctoral training with Dr. Ania Majewska at the University of Rochester, New York (2009-2011), as well as Dr. Giulio Tononi and Dr. Chiara Cirelli at the University of Wisconsin-Madison (2011-2012). She started her first independent position in the Department of Molecular Medicine of the Université Laval in Québec, Canada (2013-2020), then relocated to the University of Victoria, Canada (since 2020), where she is currently Full Professor at the School of Medical Sciences, a Tier 1 Canada Research Chair in Neurobiology of Healthy Cognitive Aging and an Elected College Member of the Royal Society of Canada. In 2021, 2022, 2023, 2024, and 2025, Clarivate ranked her among the top 1% of most highly cited researchers cross-fields.



Masanori Kidoguchi, MD, PhD, is an Assistant Professor in the Division of Otorhinolaryngology and Head & Neck Surgery at the University of Fukui, Japan. He received his MD from the University of Fukui in 2010 and his PhD from the University of Fukui in 2020. From 2023 to 2026, he conducted postdoctoral research in the Division of Allergy and Immunology at Northwestern University Feinberg School of Medicine under the mentorship of Dr. Atsushi Kato.
His research focuses on the molecular and cellular mechanisms of chronic rhinosinusitis with nasal polyps (CRSwNP), particularly type 2 inflammation, innate immune cell heterogeneity, molecular endotyping, and the sinonasal microbiome. Using single-cell transcriptomics and complementary multi-omics approaches, he has investigated the functional diversity and clinical relevance of group 2 innate lymphoid cells and other immune cell populations in CRSwNP. His current work aims to integrate genomic, transcriptomic, single-cell, epigenomic, and microbiome data from Japanese and U.S. patient cohorts to advance biomarker-based precision medicine for chronic rhinosinusitis.



Dr. Kato received B.S. degree in 1996 and M.S. degree in 1998 at Tokyo University of Pharmacy and Life Science in Japan. After receiving his Ph.D degree at Kochi Medical School in Japan in 2004, Dr. Kato came to Northwestern University Feinberg School of Medicine as a post-doctoral fellow in 2005. Dr. Kato joined the faculty (tenure-track Assistant Professor of Medicine) at Northwestern University in 2007 and became Associate Professor of Medicine (tenured) in 2016. Dr. Kato established systems for translational research in chronic rhinosinusitis (CRS) at Northwestern in collaboration with ENT surgeon-scientists, Allergists and laboratory investigators, forming the Sinus and Allergy Center of Northwestern University. The aim of his research is to understand the pathogenesis, endotypes, and molecular mechanisms of CRS.

Speakers



Yoshio Yamaoka, M.D., Ph.D. is Professor of Environmental and Preventive Medicine and Vice President for International Strategy at Oita University, Japan, and Professor of Medicine at Baylor College of Medicine, USA. He has conducted Helicobacter pylori research for more than three decades, focusing on bacterial virulence, antimicrobial resistance, genomic epidemiology, and gastric cancer prevention. He discovered and named OipA (outer inflammatory protein A), an important H. pylori outer membrane protein, and has made major contributions to understanding the geographic diversity and pathogenicity of H. pylori. His group has established one of the world's largest collections of H. pylori clinical isolates, comprising more than 10,000 strains collected through extensive international collaborations across Asia, Africa, and other regions. He has a Scopus h-index of 82 and was corresponding author of a 2024 Nature study on the evolutionary diversity of H. pylori. Through the AMED ASPIRE program, he leads a Japan–Sweden collaboration with Professor Thomas Borén at Umeå University to develop novel preventive and therapeutic strategies targeting bacterial adhesion, particularly OipA and BabA, while fostering international researcher mobility and training the next generation of global investigators.



Artem Piddubnyi, M.D., Ph.D. is a physician-scientist and pathologist currently working as a Researcher in the Department of Chemistry and Molecular Biology at the University of Gothenburg, Sweden, and as a Senior Researcher at the Ukrainian-Swedish Research Center SUMEYA. He received his M.D. from Sumy State University and Ph.D. in Pathology in Ukraine, with research focused on tumor pathology and biomineralization. His multidisciplinary expertise spans pathology, molecular and cellular biology, cancer research, and host–pathogen interactions. Dr. Piddubnyi has extensive experience in histopathology, immunohistochemistry, bacterial binding assays, protein biochemistry, and quantitative tissue imaging. In recent years, his research has focused particularly on Helicobacter pylori-associated gastric disease and cancer. He is a co-first author of two 2026 studies in Science Translational Medicine investigating therapeutic vaccination with an H. pylori attachment protein and attachment-blocking antibodies for prevention of gastric disease and cancer. Through international collaborations, he aims to translate mechanistic insights into novel preventive and therapeutic strategies against H. pylori-associated malignancy.



Anna Butsyk, Ph.D. is a medical microbiologist and Postdoctoral Researcher in the Department of Medical Biochemistry and Biophysics at Umeå University, Sweden, working with Professor Thomas Borén. She received her Ph.D. in Biology from Sumy State University, Ukraine, and has more than eight years of experience in microbiology, infectious disease research, and laboratory-based biomedical science. Her expertise includes bacterial isolation and identification, antimicrobial susceptibility testing, host–pathogen interactions, immunological assays, mammalian cell culture, and advanced microscopy. Her current research focuses on Helicobacter pylori pathogenesis and the development of novel preventive and therapeutic strategies against H. pylori-associated gastric disease and cancer. She has contributed to two 2026 studies in Science Translational Medicine investigating therapeutic vaccination with an H. pylori attachment protein and attachment-blocking antibodies. Her broader research also includes antimicrobial biomaterials and preclinical approaches to infected wound treatment. Through international collaborative research, she aims to advance translational approaches to infectious disease prevention and antimicrobial resistance while contributing to the development of next-generation therapeutic strategies.



Katsuhiko Shirahige, PhD, is Professor and Director of the Institute for Quantitative Biosciences at The University of Tokyo and Visiting Professor at Karolinska Institutet. His research focuses on chromosome biology, especially cohesin and other SMC complexes, three-dimensional genome organization, transcriptional regulation, and the molecular basis of cohesin-related developmental disorders and cancer. His group develops quantitative genomic, imaging, biochemical, and reconstitution approaches to determine how chromosome architecture controls gene expression and genome stability. Recent work from his laboratory has revealed how cohesin regulates RNA polymerase II recruitment, pause release, and processive elongation. He leads the AMED ASPIRE project "Chromatin Molecular Pathology for Precision Medicine" and co-leads the UTokyo–KI LINK programme, which promotes long-term researcher exchange, joint education, and collaborative research between Japan and Sweden. He served as President of the Molecular Biology Society of Japan from 2021 to 2022 and actively supports international collaboration and early-career researcher development.

Speakers



Shosei Yoshida is Professor at the National Institute for Basic Biology (NIBB), Japan, where his focus is on spermatogonial stem cells (SSCs) that support life-long spermatogenesis. Shosei's lab has developed live-imaging, lineage-tracing, and quantitative approaches to reveal the behavior of SSCs within the in vivo context of the testis. His work has helped establish a dynamic view of the mammalian spermatogonial stem cell system, revealing how stem cell states, niche regulation, cell competition, and differentiation together sustain long-term self-renewal.
More recently, his group has expanded this work across spatial and temporal scales, uncovering how local SSC dynamics is coordinated into tissue-scale organization and tracing germ cell clones from embryonic development to their transmission to the next generation. He is also investigating how mutations arise in SSCs, undergo selection within the testis, and are transmitted to offspring. Through the AMED ASPIRE program, he leads international team integrating stem cell biology, human genetics, genomics, and quantitative modeling, together tackling the questions above.



Dr. Masahito Ikawa is a Distinguished Professor and Director at Osaka University's Research Institute for Microbial Diseases. His research focuses on elucidating the molecular mechanisms of mammalian reproduction through innovative genetic and reproductive technologies. He pioneered the generation of GFP-expressing "green mice" and has subsequently advanced mouse transgenesis using CRISPR/Cas9, generating more than 500 knockout lines to identify genes essential for male and female fertility. His work has also expanded beyond genetic models to the development of experimental and therapeutic approaches for male infertility, including in vitro spermatogenesis using seminiferous tubule culture and mRNA-based supplementation to restore reproductive function. By integrating genome editing, organ culture, and mRNA technologies, his research seeks both to uncover the fundamental mechanisms of gametogenesis and to translate these discoveries into potential treatments for infertility. He has published more than 400 papers and received major honors, including the JSPS Prize (2013), the Society for the Study of Reproduction Research Award (2017), and a Commendation by the Minister of Education, Culture, Sports, Science and Technology (MEXT) of Japan (2023).



Marisa Bartolomei is the Perelman Professor of Cell & Developmental Biology and Director for the Center of Women's Health and Reproductive Medicine at the University of Pennsylvania Perelman School of Medicine. She received her BS from the University of Maryland and PhD from the Johns Hopkins University School of Medicine. She subsequently trained as a postdoctoral fellow with Dr. Shirley Tilghman at Princeton University. In 1993, Dr. Bartolomei was appointed as an Assistant Professor at the University of Pennsylvania rising to Professor in 2006. Dr. Bartolomei received the 2006 Society for Women's Health Research Medtronics Prize for Contributions to Women's Health. She was elected as a Fellow of the American Association for the Advancement of Science in 2014. Dr. Bartolomei is the recipient of the 2017 Genetics Society Medal (UK Genetics Society), 2022 Research Award and 2025 Mentor Award from the Society for the Study of Reproduction, and is a Member of National Academy of Sciences. She also received the 2024 March of Dimes Richard B. Johnston, Jr. MD Prize. Dr. Bartolomei's research addresses the epigenetic mechanisms of genomic imprinting and germline reprogramming, as well as the impact of early developmental environmental insults, including techniques used in Assisted Reproductive Technologies, on epigenetic gene regulation using the mouse as a model.



Hiroshi Asahara is Professor of Systems BioMedicine at the Institute of Science Tokyo. He received his M.D. from Okayama University in 1992 and his Ph.D. in 1997, after clinical training in orthopaedic surgery and rheumatology. As a postdoctoral fellow at Harvard Medical School and the Salk Institute, he studied CREB/CBP-mediated transcriptional regulation with Dr. Marc Montminy. In 2002 he established his own laboratory at Scripps Research, where he has continued to lead a research group under a joint appointment for more than twenty years, supported by six NIH R01/R21 awards as principal investigator, and he served five years on the NIH/NIAMS study section. After heading a department at the National Center for Child Health and Development, he was appointed Professor at Tokyo Medical and Dental University in 2011, which was renamed the Institute of Science Tokyo in 2024. His laboratory studies the gene regulatory networks that govern development, homeostasis, and regeneration of the musculoskeletal system, identifying the tendon master transcription factor Mohawk (Mkx), cartilage-specific microRNAs, and the PIEZO1-Mkx mechanosensing axis that links exercise to physical performance. He received the MEXT Minister's Award for Science and Technology in 2023.

Speakers



Martin Lotz is Professor in the Department of Molecular and Cellular Biology at Scripps Research, La Jolla, California, and Director of Osteoarthritis Research at Calibr, the drug discovery division of Scripps Research. He received his M.D. from the University of Heidelberg in 1981 and trained in internal medicine at Heidelberg University Hospital, followed by a postdoctoral fellowship in immunology at the Scripps Clinic and Research Foundation and a clinical fellowship in rheumatology at the University of California, San Diego, where he subsequently joined the faculty. Since 1989 he has directed a research program on joint biology, joint aging, and osteoarthritis pathogenesis that extends to preclinical and clinical drug development. His group discovered mesenchymal progenitor cells in adult articular cartilage, showed that cellular homeostasis mechanisms are compromised with aging, and established a Joint Omics program identifying FOXO, KLF, and MKX transcription factors as regulators of cartilage, meniscus, ligament, and spine disease. He directed a Phase 1 clinical trial of a regenerative osteoarthritis therapy and leads projects within the NIH HuBMAP and HEAL RE-JOIN consortia. He is a past President of the Osteoarthritis Research Society International.



Dr. Komuro is Professor Emeritus and Project Professor at the University of Tokyo, as well as Chair Professor at the International University of Health and Welfare in Tokyo, Japan. After graduating from the University of Tokyo and completing his clinical training, he began his research career. Following his research at Harvard Medical School, he served as Professor and Chair of Cardiology at Chiba University, Osaka University, and the University of Tokyo, where he mentored numerous graduate students and achieved remarkable milestones in cardiovascular research. Notably, his team discovered that mechanical stress accelerates DNA damage in cardiomyocytes and endothelial cells, driving cellular senescence, inflammation, and the progression of heart failure—a finding that is highly acclaimed worldwide. Furthermore, he pioneered the application of single-cell analysis to the heart, demonstrating that the DNA damage–p53 pathway plays a central role in human heart failure pathogenesis, regardless of the underlying etiology. More recently, through genome-wide association studies on coronary artery disease and atrial fibrillation—major causes of heart failure—his group identified numerous novel susceptibility loci and developed a polygenic risk score that significantly correlates with heart failure mortality.

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https://www.amed.go.jp/en/program/list/20/01/0091.html

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