

Tentative Program
Japan-US Research Collaboration Week (JURC) 2026

Wednesday, July 22 - Friday, July 24
Stanford University School of Medicine

Wednesday, July 22

AM **Opening Plenary**

Venue: LK130, Li Ka Shing Center for Learning

Remarks:

Ronald Pearl, Stanford University

Hiroshi Amano, Nagoya University

 Others to be determined

Cooling the Earth with Diamonds

Venue: LK130, Li Ka Shing Center for Learning

Session Outline: [Link](#)

Speakers:

Hiroshi Amano, Nagoya University

Hideaki Yamada, National Institute of Advanced Industrial Science and
 Technology (AIST)

Seong woo Kim and **Koji Koyama**, Orbray Co., Ltd.

Firooz Falil, Northern Carbon

Eiji Yagyu, Mitsubishi Electric Corporation

Srabanti Chowdhury, Stanford University

Session Organizers:

Hiroshi Amano, Nagoya University

Srabanti Chowdhury, Stanford University

PM **Bio-Mathematical Approaches Toward Ultra-Early Diseases Prediction and
Prevention**

Venue: Munzer Auditorium, Beckman Center for Molecular and Genetic
Medicine

Session Outline: [Link](#)

Speakers:

Naoki Honda, Nagoya University

Shunta Sakaguchi, Nagoya University

Hampei Sasahara, The University of Tokyo

Yoshiharu Yamamoto, The University of Tokyo

 Others, to be determined

Session Organizers:

Hiroshi Yamamoto and **Sachiko Ito**, Japan Science and Technology
 Agency

Other sessions to be determined

Thursday, July 23

- AM **Special Session hosted by Kanagawa Prefectural Government**
Venue: Berg Hall B and C, Li Ka Shing Center for Learning
- AM-PM **JURC Roundtable Forum**
Including **Luncheon Session**
Venue: Berg Hall B and C, Li Ka Shing Center for Learning
Session outline: [Link](#)
Keynote Speakers:
 Hiroshi Amano, Nagoya University (Nobel Prize in Physics 2014)
 Thomas Südhof, Stanford University (Nobel Prize in Physiology or Medicine 2013)
 Others to be determined
- Evening **Gala Dinner**
Venue: Berg Hall B and C, Li Ka Shing Center for Learning

Friday, July 24

- AM **University Startup Growth Strategy Session**
Venue: LK120, Li Ka Shing Center for Learning
Session Outline: To be determined
Speakers: To be determined
Session Organizers:
 The University of Tokyo, Kyoto University, Nagoya University, Stanford University, University of California, San Diego, and Japan Agency for Medical Research and Development (AMED) Washington, D.C. Office
- PM **Designing Co-presence of Minds - Toward Nigiwai Economy**
Venue: LK120, Li Ka Shing Center for Learning
Session Outline: [Link](#)
Speakers:
 Sae Kondo, The University of Tokyo / Mie University
 Naohiro Matsumura, The University of Osaka
 Abby King, Stanford University
 Keiko Murayama, Mie University / (Former) Skidmore, Owings & Merrill LLP
 Jim Spohrer, Retired IBM
Session Organizers:
 Yukio Ohsawa, The University of Tokyo
 Sae Kondo, The University of Tokyo / Mie University
 Kazuyoshi Shimada, Japan Science and Technology Agency

Information and Communications in the Era of Beyond Connectivity

— Communications × AI × Security —

Venue: LK120, Li Ka Shing Center for Learning

Session Outline: [Link](#)

Speakers and Moderators:

Motoaki Yasui, NICT (National Institute of Information and Communications Technology)

Shiho Moriai, NICT

Iwao Hosako, NICT

Naoto Nishizuka, NICT

Nobuhiko Shimura, Skye Investment Managers Co. Ltd.

Others to be determined

Session Organizers:

Motoaki Yasui, NICT

Shiho Moriai, NICT

Session Outlines

Cooling the Earth with Diamond: Thermal Pathways for Next Generation Power Dense Semiconductors

Rapid advances in power electronics and high performance computing have driven semiconductor chips to unprecedented power densities, making thermal management a critical bottleneck for performance, reliability, and sustainability. This session will explore transformative approaches to heat dissipation using ultra high thermal conductivity materials, with a particular focus on diamond and wide bandgap semiconductor integration.

The session will address fundamental and applied challenges in cooling next generation devices such as GaN, SiC, and advanced AI accelerators, where conventional thermal interface materials and packaging architectures are no longer sufficient. Topics will include diamond substrates and heat spreaders, heterogeneous integration strategies, thermal modeling of extreme heat fluxes, and scalable manufacturing pathways. Emphasis will be placed on connecting materials science breakthroughs with device and system level thermal solutions.

By bringing together experts in materials growth, device physics, packaging, and system engineering from Japan and the United States, this session aims to catalyze new interdisciplinary collaborations. Ultimately, improved thermal management enabled by diamond based technologies not only supports higher power and efficiency in electronics, but also contributes to global energy savings—highlighting how advanced cooling can play a role in “cooling the Earth.”

Bio-Mathematical Approaches Toward Ultra-Early Diseases Prediction and Prevention

Age-related diseases such as cancer, dementia, diabetes, and cardiovascular disease pose major societal challenges, making ultra-early prediction and prevention an urgent priority. However, for many diseases, the processes leading to onset remain insufficiently understood, and robust methods for prediction and prevention are not yet fully established. Increasingly, it is recognized that diseases arise not from a single factor or organ, but from complex interactions among multiple biological systems, highlighting the importance of maintaining overall systemic health through an integrated, whole-body approach.

Against this background, there is growing expectation that integrating diverse biological and clinical knowledge will enable more accurate assessment of disease risk and support the development of future preventive strategies. Through close collaboration among researchers in biology, clinical science, mathematics, and engineering, predictive models are developed and validated using both non-clinical and clinical data, providing a scientific basis for practical applications in healthcare and daily life.

JURC Roundtable Forum

In this forum, we will hear from keynote speakers—including Nobel laureates and business leaders from Japan and the United States—on topics ranging from the frontiers of research to key technologies including artificial intelligence (AI) that are fundamentally transforming science, business, as well as our daily lives. Through small-group roundtable discussions where participants can freely exchange views on these topics across different roles and sectors, we aim to provide an opportunity for mutual learning and deeper networking.

Designing Co-presence of Minds - Toward Nigiwai Economy

Nigiwai refers to a place where diverse people gather sustainably, generating broad economic and social value. It operates through mechanisms rooted in individuals' "minds" shaped by first-person narratives that connect people and activate the potential of a place. At JURC2025, studies using pedestrian flows, video, attractions, and citizen voices demonstrated how such data can support societal decision-making, extending beyond spatial design itself. However, a key question remains: how do these designed or analyzed spaces influence individual narratives, interactions, and behaviors?

JURC2026 focuses on the mind as the source and the result of Nigiwai. We explore methods for designing spaces of mental symbiosis, emphasizing first-person narratives—often unspoken inner states expressed through words or images. By externalizing and visualizing these narratives and their interconnections, the cognitive process of Nigiwai participants will be revealed and deepened. Evaluation should move beyond external indicators like population density, to include the evolution of the thoughts and sensibilities of individuals via their interaction.

This session shifts urban analytics toward internal cognition, integrating perspectives from AI, urban planning, social sciences, and beyond. For initiating global collaboration, aiming to establish a scientific foundation for fostering socially diverse and prosperous environments, we also plan a workshop using our method for an ethical design of Nigiwai society on 25th July.

Information and Communications in the Era of Beyond Connectivity

— Communications × AI × Security —

As we move beyond 5G and toward the next generation of communications, full-scale development of infrastructure that looks further into the future is expected to accelerate. This infrastructure will be characterized by the integrated construction of social systems and digital infrastructure, premised on the advanced utilization of AI, and by the seamless connection and coordination of the physical and cyber worlds as a digital twin.

In this era, the sphere of human activity is expected to expand gradually beyond the Earth's surface to low Earth orbit and onward to the cislunar space. To enable humans to actively engage in these environments anytime and anywhere with both high convenience and assured safety and security, it will no longer be sufficient merely to enhance infrastructure performance. Instead, operations based on AI-enabled autonomous situational awareness, prediction, and control will become indispensable.

In particular, to ensure safe, secure, and stable operation of infrastructure across both the cyber and physical domains, the establishment of real-world security and cyber-world security with AI at their core will be a key requirement.

In this session, this emerging era is defined as the "Beyond Connectivity era." Experts from various fields will present their perspectives on the future of network infrastructure premised on AI utilization, new approaches to security, and the structure of ecosystems in which these elements are seamlessly connected with and circulate through economic activities. Based on insights gained from these presentations, the session aims to provide a forward-looking perspective on the future relationship between society and technology in the Beyond Connectivity era.