FY 2025 Follow-up of WPI Program

By Program Committee

March 2026

(This document reports on progress made under the WPI Program in FY 2024.)

In 2007, the Japanese government launched an ambitious initiative to create globally visible and internationally opened research centers. This program, World Premier International Research Center Initiative (abbreviated WPI), has, pursuant to the program's mission stated in 2007, successfully launched 13 centers over the 14-year period from 2007 to 2020. In 2020, a new mission was initiated that advances further the principles of the original WPI mission. The Launching of centers under the New Mission began in 2021, and 5 more centers have been launched by 2023. This 2025 follow-up report describes notable areas of progress in FY 2024 and new developments in FY 2025.

A. Highlights in FY2025

Distinguished Honorary Professor SAKAGUCHI Shimon, PI of IFReC, awarded the 2025 Nobel Prize in Physiology or Medicine

The 2025 Nobel Prize in physiology or medicine was awarded to Dr. SAKAGUCHI Shimon, together with Drs. Mary E. Brunkow and Frederick J. Ramsdell, "for their discoveries concerning peripheral immune tolerance". Dr. SAKAGUCHI has been a Principal Investigator at IFReC, Immunology Frontier Research Center, of The University of Osaka from the time of the center's establishment in FY 2007, and was IFReC's Deputy Director from FY 2012 through FY 2018, making outstanding scientific contributions and providing leadership that propelled IFReC to a world frontier research institute on immunology.

Prof. SAKAGUCHI Shimon
(Photo: The University of Osaka)

Distinguished Professor KITAGAWA Susumu, PI of iCeMS, awarded the 2025 Nobel Prize in Chemistry

The 2025 Nobel Prize in Chemistry was awarded to Dr. KITAGAWA Susumu, together with Drs. Richard Robson and Omar M. Yaghi, "for the development of metal-organic frameworks". Dr. KITAGAWA was Deputy Director of iCeMS, Institute of Integrated Cell-Material Sciences, of Kyoto University from the time of the center's establishment in FY 2007 through FY 2013, and was its Director from FY 2014 through FY 2023. Leading iCeMS through his outstanding

Prof. KITAGAWA Susumu
(Photo: Kyoto University iCeMS)

scientific contributions and robust leadership, he played a central role in promoting iCeMS's visibility and research advancement.

Interim evaluation of QUP

FY 2025 marked the 5th year since launch of QUP, which therefore underwent the Interim Evaluation mandated by the WPI Program. Since KEK, the host institute, proposed the change of Director, the evaluation of the new Director candidate was also conducted. Based on the hearing with QUP and KEK at the WPI Program Committee meeting and the report from the Working Group conveyed by the Program Officer, the Program Committee approved the change of Director, and concluded that the Interim Evaluation score is provisionally **B** with re-evaluation to be conducted in a year's time.

Screening of Development Plan of IRCN, NanoLSI, ICReDD, ASHBi

In FY 2025, four WPI centers, IRCN and NanoLSI in their 9th year since launch, and ICReDD and ASHBi in their 8th year, applied for the Development Plan funding. Carefully examining the four Development Plan proposals, the WPI Program Committee in its October meeting of 2025 approved the Development Plan of the four centers finding sufficient merit in each of the Plan.

B. WPI Outline

In 2007, Ministry of Education, Culture, Sports, Science and Technology (MEXT) launched the WPI Program aimed at establishing internationally open and globally visible "World Premium Institutes" in Japan. The background was:

- Increasing worldwide competition in generating new research outcomes and in recruiting talented scientists.
- Strong need felt for more efficient forms of funding to advance fundamental and innovative sciences, which are essential to building knowledge-based societies.
- The advent of research excellence initiatives designed to encourage outstanding research by providing large-scale and long-term funding.

To sharply focus the aim of the Program, the following Mission was given to the WPI centers.

- Advancing to the highest pinnacle of globally leading-edge research
- Creating interdisciplinary domains
- Establishing international research environments
- Reforming research organizations

MEXT supports the WPI centers within the following context.

- Up to ¥700 million a year per center in principle
  (Up to about ¥1.3 billion a year for centers launched in and before 2010)
- Research money is not included.
- Support for 10 years (5-year extension is applicable for centers launched in or before 2012)

In 2017, MEXT launched WPI Academy. Aiming to enhance the WPI brand, the Academy is comprised of the WPI centers which are certified to have successfully accomplished the WPI missions in the 10-year funding period.

In 2020, the New Mission, advancing on the principles of the original mission above, was formulated, namely,

- World-Leading Scientific Excellence and Recognition
  - The Highest Level of Research Impact
  - Expanding Knowledge Frontiers through Interdisciplinarity and Diversity
- Global Research Environment and System Reform
  - Harnessing Talent and Potential through Global Brain Circulation
  - Interdisciplinary and Inter-Organizational Capacity Building
  - Effective, Proactive and Agile Management
- Values for the Future
  - Societal Value of Basic Research
  - Human Resource Building: Higher Education and Career Development
  - Self-Sufficient and Sustainable Center Development

The launching of centers under the New Mission started from 2021. MEXT supports these WPI centers within the following context.

- Up to ¥700 million a year per center in principle
- Research money is not included.
- Support for 10 years

In 2023, MEXT introduced a new scheme of WPI center development while maintaining the new mission; a WPI CORE center which develops to a full-sized center through a stage gate process, and a WPI Multiple HOST center which is jointly proposed by multiple host institutions.

- For a WPI CORE center, up to ¥500 million a year per center in principle before the stage gate and thereafter up to ¥700 million a year per center in principle

- For a Multiple HOST center, up to ¥1 billion a year per center in principle

In 2025, MEXT introduced a new funding scheme for 11th to 15th year to help WPI centers establish sustainable center development after the initial 10-year WPI funding ends. In this scheme, for centers which are expected to achieve further growth and development, up to ¥300 million a year per center is provided for up to 5 years after the 11th year. Centers seeking this support submit a Development Plan in the 7th or 8th year of operation, and WPI Program Committee carries out screening of the proposed Development Plan. In 2025, as the start of this scheme, centers in the 9th year can also submit the plan.

C. WPI Centers

Five WPI centers were launched at the start of the WPI Program in 2007, which are now all in the WPI Academy.

- **AIMR** on materials and mathematics, Tohoku University
- **Kavli IPMU** on the origin of Universe, The University of Tokyo
- **iCeMS** on cell biology and materials, Kyoto University
- **IFReC** on immunology, The University of Osaka
- **MANA** on nanoarchitectonics, National Institute for Materials Science

The sixth WPI center was launched under the "green innovation program" in 2010, and it is the 6th member of the WPI Academy.

- **I^{2}CNER** on energy, Kyushu University

Three WPI centers were launched in 2012, and they are now all in the WPI Academy.

- **IIIS** on sleep, University of Tsukuba
- **ELSI** on the origins of Earth and life, Institute of Science Tokyo (Formerly Tokyo Institute of Technology)
- **ITbM** on plant/animal biology and chemistry, Nagoya University

In 2017, the 11th year of the WPI Program, two WPI centers were added:

- **IRCN** on origin of intelligence, The University of Tokyo
- **NanoLSI** on nano life science, Kanazawa University

In 2018, two more centers were launched:

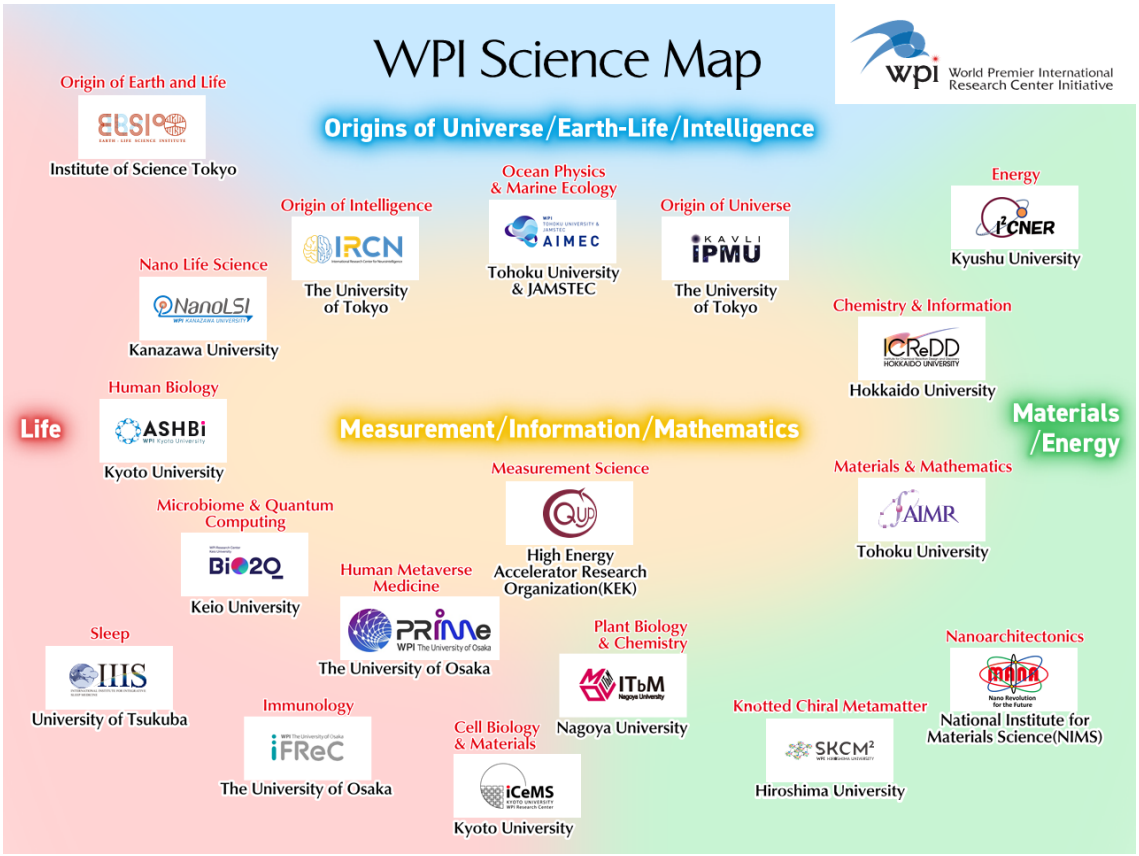
- **ICReDD** on chemistry and information, Hokkaido University
- **ASHBi** on human biology, Kyoto University

In 2021, one new center was launched under the New Mission:

- **QUP** on measurement science, High Energy Accelerator Research Organization (KEK)

In 2022, three new centers were launched under the New Mission:

- **PRIMe** on human metaverse medicine, The university of Osaka
- **SKCM²** on knotted chiral metamatter, Hiroshima University
- **Bio2Q** on microbiome and quantum computing, Keio University



As shown above, the sciences explored by the 18 WPI centers extend from Origins of the Universe, Earth-Life, and Intelligence, Life, Materials/ Energy, and Measurement /Information/ Mathematics.

In 2023, the 17th year of the WPI Program, one new Multiple HOST center was launched under the New Mission:

- **WPI-AIMEC** on ocean physics and marine ecology, Tohoku University and Japan Agency for Marine-Earth Science and Technology (JAMSTEC)

D. WPI Academy

Concurrent with the end of the 10-year support period for the initially established five WPI centers, a WPI Academy was launched by MEXT in 2017. Its aim is to enhance and amplify the WPI brand and to play a vanguard role in internationalizing and reforming Japan's research environment by leveraging the WPI achievements attained so far.

Academy membership requires certification by the WPI Program Committee that a center has achieved "world premier" status. Centers, then, need to be recertified every 3 to 4 years by the WPI Program Committee, which determines whether they have maintained their "world premier" status.

Currently, the WPI Academy centers are: AIMR, iCeMS, IFReC and MANA from FY 2017 and recertified in FY 2020, I^2CNER from FY 2020 and recertified in FY 2023, Kavli IPMU from FY 2017 and recertified in FY 2021 at its final evaluation, and IIIS, ELSI and ITbM since FY 2022.

E. Follow-up framework

The WPI Program carries out a robust follow-up system comprising the international Program Committee, Program Director (PD), Deputy Program Director (DPD), Program Officers (POs), and Working Groups (WGs). Since 2017, an Academy Director (AD), Academy Officers (AOs), and Academy Working Groups (AWGs) have been put in place to oversee the follow-up activities of the WPI centers that are members of the WPI Academy.

Program Committee

WPI Program Committee continued its operation under its Chair, Dr. HAMAGUCHI Michinari.

The Committee members and their affiliations are listed in the following website: https://www.jsps.go.jp/english/e-toplevel/07_committee.html

In FY 2025, the Program Committee meeting was held on 29-30 October in Tokyo. The main items of business on Committee's agenda were (1) follow-up reviews and Development Plan screening of four centers (IRCN, NanoLSI, ICReDD,

Program committee meeting on 29-30 October 2025 in Tokyo

ASHBi), (2) interim evaluation of one center (QUP), (3) follow-up reviews of four centers (PRIMe, SKCM^2, Bio2Q, WPI-AIMEC), and (4) report on WPI Academy centers.

PD, DPD, POs and WGs

PD: Dr. UKAWA Akira has been serving as Program Director since April 2017.

DPD: Dr. KAIBUCHI Kozo has been serving as Deputy Program Director Since April 2022.

POs: Being experts in the research areas of each center, they chair site visits and prepare site-visit reports by compiling the comments of the site-visit team members.

WGs: Assembled for each WPI center, these groups principally consist of 3 domestic and 3 international experts in areas that cover the center's activities.

PD, DPD, POs and WG members and their affiliations are listed in the following website:

http://www.jsps.go.jp/english/e-toplevel/08_followup.html

AD, AOs and AWGs

AD: Dr. UKAWA Akira, Program Director, has been in this position since April 2021.

AOs: Being experts in the research areas of the member centers, they chair site visits and prepare site-visit reports for the Program Committee.

AWGs: Assembled for each WPI center, these groups principally consist of 2 domestic and 1 international expert in areas that cover the center's activities.

AD and AOs and their affiliations are listed in the following website:

https://www.jsps.go.jp/english/e-toplevel/18_academy.html

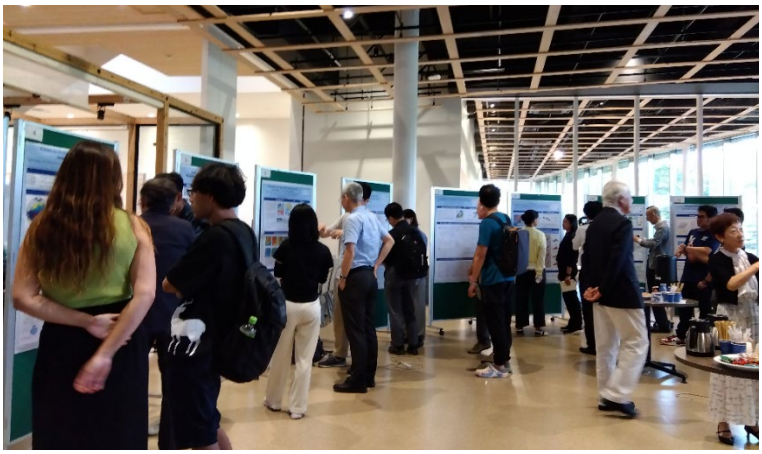
Dr. KUROKI Toshio

Dr. KUROKI Toshio, who led the WPI as Program Director from FY 2007 to FY 2016 and Director of WPI Academy from FY 2017 to FY 2020, passed away in August 2025.

Site Visits

Site visits to the WPI centers receiving ongoing funding were conducted during the period of July-September 2025. All the site visits were carried out on-site. They had full agendas over 2 days including presentations by the center directors and the heads of the host institutions, presentations by the PIs, and poster sessions by researchers. The reports on the site visits were submitted to the Program Committee and disclosed to the respective centers.

Presentation and Q & A session



Poster session

WPI Academy Site Visits

The Academy site visits for recertification of World Premier status for the four centers, AIMR, iCeMS, IFReC, MANA, were held on-site from December 2024 to January 2025 by AD/PD, AO, and AWG.

For the five Academy centers, I^2CNER, Kavli IPMU, IIIS, ELSI, ITbM, site visits were held from December 2024 to February 2025. Attended by AD/PD and AO these site visits were carried out online with a duration of about 2 hours.

Reports on the Academy site visits were made to the Program Committee in its October meeting by AD/PD.

F. Follow up on the 2 Centers launched in 2017

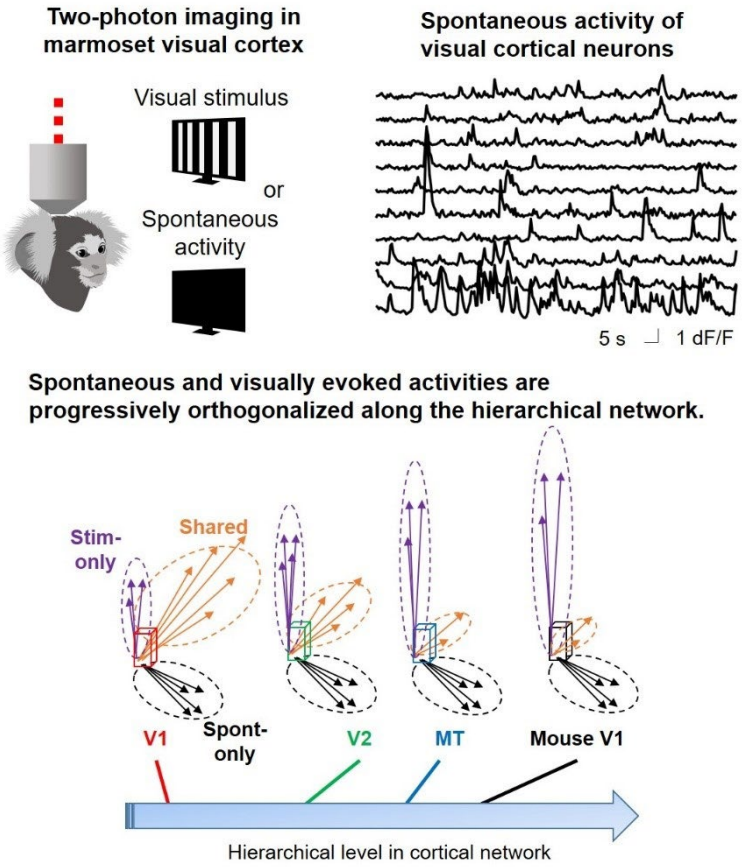
F-1. IRCN

Center director: Takao HENSCH

Program officer: MISHINA Masayoshi, Ritsumeikan University

1. Advancing research of the highest global level

IRCN is tackling the challenging question of how human intelligence (HI) arises by establishing principles of brain development, unraveling the etiology and treatment of mental disorders, and innovating neuro-inspired artificial intelligence (AI). With its bottom-up team science strategy, IRCN researchers have intensively interacted and produced high-quality publications. Its energy landscape analysis has revealed that the rigidity of whole-brain neural dynamics underpins autistic unique intelligence. Notable achievements have included the center's identification of a postnatal window when parenting quality determines lifelong attentional capabilities, and the sex-dependent



Research Highlight Separating signal from noise in the brain: Two-photon imaging of spontaneous vs stimulus-related neural responses in marmoset monkeys reveals progressively less shared activity along the visual hierarchy (V1->V2->MT) that is remarkably achieved already in mouse V1. (T. Matsui et al. and K. Ohki, published in *Nat. Comm*., December 2024).

impact of juvenile social isolation on brain structure. Also having significant impacts are the center's findings on the increase of slow-wave power and sleep amount by broad prefrontal cortex synaptic potentiation and the emergence of an orthogonal relationship between the brain's internal noise and stimulus-evoked signals along the visual hierarchy. AI Incubator activities strengthened by adding five Affiliated/Visiting PIs have advanced the application of brain function principles identified via IRCN research to reservoir computing, learning algorithms, and AI diagnostics. Energy landscape analysis and the development of synaptic chemogenetic tools represent the technical breakthroughs achieved by the center.

2. Implementation as a WPI center

Generating fused disciplines: The center's dynamic team science strategy has been facilitating interdisciplinary collaborations among the developmental, computational and clinical neuroscience groups. Comparing aphasic individuals' fMRI data with those of large language models was an exciting approach to integrating brain science and machine learning. Formal launch of the AI Incubator was an important step to advancing the application of brain function principles identified by IRCN research to design neuro-inspired AI. IRCN's AI Incubator capabilities were strongly enhanced by adding five Affiliated/Visiting PIs. It is commendable that the center has stimulated the collaboration of young researchers.

Realizing an international research environment: Under the leadership of Director Hensch, the globalization and creation of an international research environment in IRCN has advanced well. Globalization of the center has been maintained through research networks with 15 overseas and 4 domestic partner institutes. IRCN has conducted face-to-face gatherings such as international retreats and weekly seminar salons. IRCN hosted 30 visiting guest researchers from abroad. Its flagship Neuro-Inspired Computation Course was restarted. The ratio of foreign PIs is 17%, and that of foreign researchers is 27%. To establish a truly top-tier international center, a more aggressive strategy for recruiting world-leading senior PIs from abroad is essential.

Making organizational reforms: IRCN started three internal grant systems for young researchers. The introduction of the new prize platform for early-career investigators has markedly increased experiment-theory collaborations.

New official appointments were successfully introduced to strengthen the AI Incubator. The introduction of team science is evaluated as an effective system reform breaking down barriers between PI labs of traditional departments. The four Core Facilities provide professional, cost-effective and rapid access to research services and technologies. The ratio of female PIs is 17%, and that of female researchers remains 14%. IRCN intends to achieve a 27% ratio for female PIs and 25% for other female researchers.

Effort to secure the center's future development over the mid- to long-term: IRCN secured a commitment from UTokyo to maintain it as a permanent institute under the UTokyo Institutes for Advanced Study (UTIAS) and obtained greater autonomy and independence regarding personnel and budgeting decisions. The center has taken a significant step toward sustainable operations by introducing a tenure system and engaging in graduate education. UTokyo committed to allocate a budget to IRCN, increasing stepwise to 500 million yen per year beyond FY 2027. Together with center's successful acquisition of competitive research funding, this will ensure the sustainability of the center without scaling down.

Center's response to the follow up results of last year

IRCN has effectively addressed previous recommendations on neuro-inspired AI, origin of human intelligence, organization reform, diversity, graduate education and fostering young scientists.

3. Actions required and recommendations

1) Neuro-inspired AI: Efforts should be continued to maximize the unique contribution at the intersection of neuroscience and AI with AI Incubator.
2) Human intelligence: Efforts should be continued to clearly articulate the key scientific questions and specific strategies concerning the origin of human intelligence.
3) Measurable indicators: It is recommended to establish measurable indicators of success to track progress toward the center's core vision.
4) Diversity: Intensive efforts are needed to recruit world-leading senior PIs from abroad to enhance top-level diversity and solidify its global standing. The gender diversity of PIs should be improved.
5) Progress Seminars: It is recommended to organize progress seminars involving all laboratories at least once a month to facilitate information

sharing and promote collaborative research.

6) Support Plan: UTokyo should make strong efforts to implement the cross-appoint system for the access to graduate students and to move forward the construction of new building.

F-2. NanoLSI

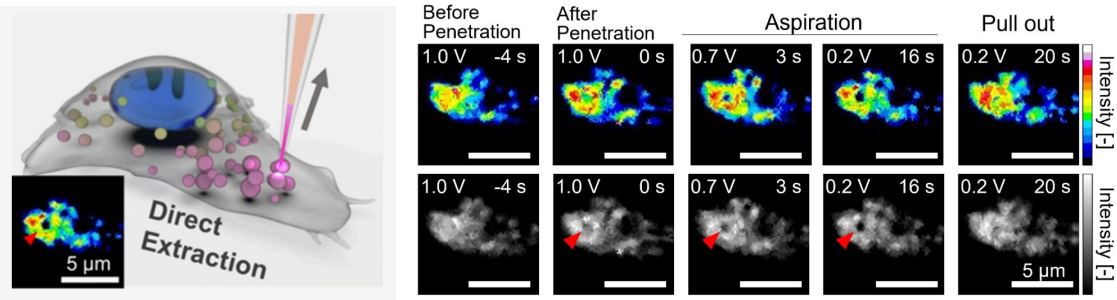
Center director: FUKUMA Takeshi

Program officer: NAKANO Akihiko, Institute of Science Tokyo

1. Advancing research of the highest global level

NanoLSI is making good progress in science. Bio-SPM research continues to be at the world-top level. Especially impressive observations this year included the application of high-speed AFM to DNA dynamics, tethering and folding by the SMC complex, and wrapping and compacting by histone and protamines, which have never been visualized by other methodologies. The center has also developed combined imaging of SICM and FRET/FLIM, AI-assisted automation of Bio-SPM measurements and data collection, integration of chemical sensor systems into nanopipettes, and analysis of tissue development by AFM data and simulation.

Reflecting such high activities in science, the number of the center's publications shows a steady increase reaching over 200 in FY 2024. The amount of external grants secured by NanoLSI has also been kept at a level of over 1.3 billion JPY, demonstrating appreciation for the quality of science at NanoLSI.



Exosomes were successfully extracted and analyzed directly from living cells, prior to secretion, through a combination of scanning ion conductance microscopy, electrochemical syringes, and confocal microscopy. RNA expression profiles of these exosomes differed from those extracted from the cytosol and extracellular vesicles, providing unprecedented insights into exosome biology. (Ida H, Yoshida T, Kumatani A, Hanayama R, Takahashi Y. *Nano Lett.* 2025. 25. 4322−4329)

2. Implementation as a WPI center

Generating fused disciplines:

Interdisciplinary research is promoted by 1) various meetings - Luncheon Meetings, T-meetings, NanoLSI Colloquium and NanoLSI Symposium - which together provide an opportunity for all members of NanoLSI to meet at least once a month, and 2) Transdisciplinary Research Promotion Grants, the bottom-up type supporting junior researchers (17 out of 24 applications in FY

2024) and the top-down type consisting of 3 focused subjects for FY2024-2026. New scientific concepts and paradigms are emerging, which will lead to important new discoveries in life sciences and their applications.

Realizing an international research environment:

At the end of FY 2024, 31% of PIs and 35% of total researchers at NanoLSI are international, and many researchers had visited the center from overseas. The international support team (URA) provides substantial help to young foreign researchers. As a remarkable result, 8 out of 23 applications by overseas researchers for Kakenhi grants were selected in FY 2024. NanoLSI maintains strong international partnerships with leading institutions and promotes dynamic exchange through joint projects, symposia, and researcher mobility programs. This globally connected environment not only accelerates scientific innovation but also positions NanoLSI as a world-class hub for Nanoprobe Life Science research. The establishment of the Vietnamese Biophysical Society, triggered by international symposia held in Vietnam, and the MOU exchange between NanoLSI and ICISE in Vietnam are recognized as impressive ripple effects.

Making organizational reforms:

NanoLSI is making sincere efforts to improve its gender balance. A new female PI was appointed starting in April 2025, and a search for new female Jr.PI is in progress. In the center's administration, a female Deputy Administrative Director has been appointed. The ratio of female researchers has steadily increased since 2020 reaching 24% in FY 2024. NanoLSI further aims to achieve 25% by FY 2026 and 30% in FY 2031.

NanoLSI is also making efforts to nurture junior scientists. Its tenure-track review has resulted in 4 Jr.PIs being granted tenure for either full or associate professorships. Two promotions have also been made from fixed-term assistant professors to associate professor positions.

Effort to secure the center's future development over the mid- to long-term:

Division of Nano Life Science, Graduate School of Frontier Science Initiative, Kanazawa University, launched for NanoLSI in 2020, expanded its enrollment capacity in 2024 to 12 for master's and 10 for doctoral courses, almost double the numbers of FY 2020. As of April 1st, 2025, the Division is operating well

with 14 master's and 33 doctoral students. In FY 2024, 10 students graduated from the doctoral course and acquired positions in academia in Japan or abroad or in industry.

The commitment of President Wada of Kanazawa University to the future development of NanoLSI continues to be very important and valuable.

Center's response to the follow up results of last year

As always, NanoLSI has sincerely responded to the advice and recommendations of the Working Group from last fiscal year. The center's approaches to answer still-unanswered questions in life science are nicely aligned with the comments from the Working Group.

3. Actions required and recommendations

1) Formulate a NanoLSI roadmap for the next decade, extending the roadmap for the first decade, through discussions and sharing by all members of NanoLSI.

2) Complete the center missions for the 10-year program and aim more toward the next years. Consider how to continue and expand NanoLSI's international presence and visibility.

3) Continue efforts to better the gender balance.

G. Follow up on the 2 Centers launched in 2018

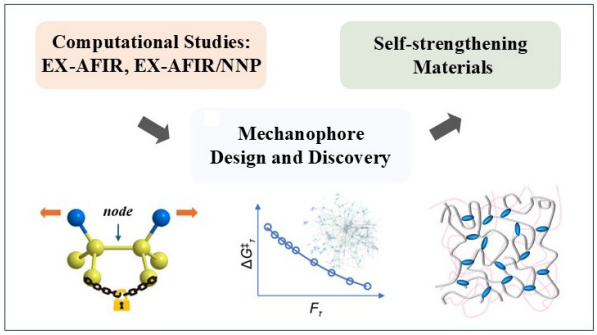
G-1. ICReDD

Center director: MAEDA Satoshi

Program officer: TATSUMI Kazuyuki, Nagoya University

1. Advancing research of the highest global level

ICReDD is making excellent progress toward delivering world-leading researchers with high productivity. Theoretical chemists, synthetic chemists, and information scientists have continued to collaborate toward creating a new paradigm for reaction discovery and to expand the scope of designing chemical reactions. The center's six Flagship Projects have been used as key drivers of its research focus, in which there's a notable utilization of big data analysis and machine learning/artificial intelligence tools. Particularly noteworthy are 1) the application of AFIR to a full theoretical design of chemical syntheses of useful fluorinated compounds 2) use of AFIR for transition-metal catalysis, enantio-selective catalysis, and organocatalysis, 3) mechanochemical synthesis, and 4) the use of high-performance hydrogels to induce cancer stem cell (CSC)-like properties where this work has deepened the mechanistic understanding of how extracellular environments regulate CSC phenotypes. This is a highly original achievement with broad implications—not only for understanding cancer biology, but also for discovering new anticancer agents. These significant activities of ICReDD have been very visible within the scientific community.



Recent Highlight [Left] Data-Driven De Novo Design of Super-Adhesive Hydrogels (*Nature* 2025. DOI: 10.1038/s41586-025-09269-4)
[Right] "Node" Facilitated Thermostable Mechanophores for Rapid Self-Strengthening in Double Network Materials (*Chemical Science* 2025. DOI: 10.1039/d5sc00151j)

2. Implementation as a WPI center

Generating fused disciplines:

ICReDD has a system for conducting flagship projects that bring together

researchers from a multitude of fields, and to promote bottom-up proposals by young researchers of different disciplines. This system provides institutional support for addressing interdisciplinary challenges and establishes a flexible management structure that allows projects to be expanded or reorganized. As a consequence of these efforts, more fusion projects have now been initiated, with their original idea coming from the computational side, with experimental verification following.

Realizing an international research environment:
At the end of FY 2024, there were 3 overseas PIs out of 15 PIs (3/15=20%), and 32 overseas researchers out of the total of 79 researchers (32/79=41%), satisfying the WPI requirement. The number of researchers coming from established top-institutes in Europe and the US has increased notably, and they are highly visible in ICReDD's daily activities. Inauguration of the "List DX Catalyst Collaboration Research Platform" within the structure of ICReDD gives added impetus and focus to its research activities and also enhances its international reputation as a top institute, boosted by Prof. Benjamin List's active contribution to ICReDD in Mülheim and in Sapporo.

Making organizational reforms:
Hokkaido University is conducting its "Grand Challenge Research Strategy" as a top-down organizational reform, whose main targets are currently centered on ICReDD, i.e., the List DX Catalyst Collaboration Research Platform, the Mitsui Chemicals-ICReDD Innovative Chemical Reaction Design Laboratory, and its Clinical Platform for Chemical Reaction Collaboration (CLIP).

As for gender balance, ICReDD has been making continuous efforts to increase its female ratio, which has been steadily increasing from 7% in 2018 to 18% as of August 2025, with a target of 25%. ICReDD has adopted a career-conscious approach in which female researchers are hired at every level.

Effort to secure the center's future development over the mid- to long-term:
Hokkaido University has made substantial commitments, both financially and with regard to organizational issues, to ICReDD so as to give it a good possibility of finding its own way after WPI funding ends. Plans are underway to institutionalize ICReDD as a permanent research center within Hokkaido University. Beginning FY 2028, Hokkaido University will place ICReDD as the

first member of its new "Cluster of Excellence of International Research (tentative)," which will give ICReDD greater autonomy. Notable progress has been made by the university in establishing the MANABIYA system. Course preparations for a new ICReDD graduate Course "Chemical Reaction Design and Discovery" based on MANABIYA have been completed.

Center's response to the follow up results of last year

The points raised during the 2024 site visit have been adequately addressed, and positively resolved. However, we still do not see a sufficient number of junior researchers from ICReDD going abroad to make short-to-medium-term stays at overseas institutes.

3. Actions required and recommendations

1) Continue efforts to achieve top-level science.

2) Continue efforts to improve gender balance at all levels, particularly at the PI level.

3) It is recommended to improve support systems that encourage junior PIs, young scientists, and graduate students at ICReDD to experience interacting closely with the international community, e.g., by attending international meetings and presenting their work and by staying and advancing their work at the well-established institutes abroad.

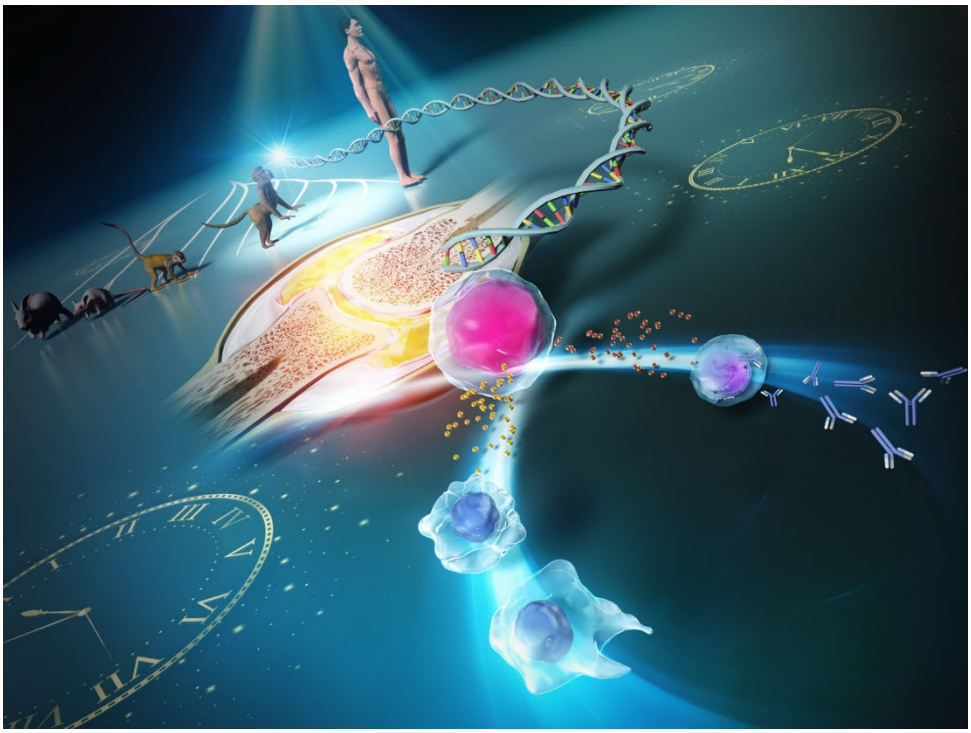
G-2. ASHBi

Center director: SAITOU Mitinori

Program officer: OKANO Hideyuki, Keio University

1. Advancing research of the highest global level

ASHBi's science is making excellent progress at a top level worldwide, publishing 82 papers in leading journals and making significant advances in the fields of embryogenesis robustness, human germline epigenetic reprogramming, enhancer atlases in immunity, primate motor recovery and depression circuitry. In fusion research of biology and mathematics, it is notable that the Entropic Gaussian Mixture Optimal Transport (EGOT) method has successfully generated spatiotemporal gene expression patterns and could be applied in the future to elucidate species-specific gene regulatory networks. In the bioethics section, the presentation lacked reflection on basic ethical



Rheumatoid arthritis (RA) is a chronic autoimmune disease in which the immune system mistakenly attacks the lining of the joints. ASHBi researchers have discovered that an immune molecule found only in primates, called IGFL2, plays a key role in regulating inflammation in RA. Additionally, IGFL2 levels were much higher in the blood of patients with RA. This research paves the way for the development of new clinical applications for RA. Human CD4+ T cells regulate peripheral immune responses in rheumatoid arthritis via insulin-like growth factor like family member 2.
(Human CD4+ T cells regulate peripheral immune responses in rheumatoid arthritis via insulin-like growth factor like family member 2. *Science Immunology*.2025.
https://doi.org/10.1126/sciimmunol.adr3838)

reasoning. Some sort of evaluation criteria should be established regarding this point.

2. **Implementation as a WPI center**

Generating fused disciplines: The fusion of mathematics and biology has entered a new phase, with real progress being achieved in data representation theory. Biology-ethics fusion research, as demonstrated by the **ISSCR**(International Society for Stem Cell Research)/**ASRM** (American Society for Reproductive Medicine) dialogues and fetal/early postmortem tissue frameworks, shows great depth and impact.

Realizing an international research environment: ASHBi has successfully recruited international research talent at various levels. Foreign PI recruitment exceeds the 25% target and achieved improved diversity (44% foreign researchers and 31% female researchers).

Making organizational reforms: ASHBi has established an administrative office comprising a Research Acceleration Unit, which provides problem-solving research support, and an Administrative Management Unit, which handles conventional administrative operations.

ASHBi has been making significant effort to achieve gender balance, appointing two female deputy directors. As of September 2025, there are three female Principal Investigators out of sixteen (3/16= 19%), and twenty-three female researchers out of seventy-two (23/72= 31%). Other notable initiatives include childcare support during academic events and maintaining an open, English-speaking work environment.

Effort to secure the center's future development over the mid- to long-term: Kyoto University (KU) continues to provide solid support to ASHBi. This includes seven tenure positions, and the hiring of one postdoc for each KU PI after the WPI funding period ends.

Toward future development of ASHBi, a greater focus on human biology and human evolution (including through recruitment), thoughtful incorporation of AI, and strategic use of the five new positions will be critical.

Center's response to the follow up results of last year: ASHBi has responded thoughtfully and strategically to the actions required & recommendations from FY 2024. New efforts have also been launched to investigate human-specific biology through enhancer and comparative

genomic analyses.

3. Actions required and recommendations

1) Clarify and emphasize human-specific traits: Although ASHBi's mission to uncover 'what makes us human' is powerful and distinctive, the center is encouraged to define and prioritize research that targets uniquely human biological features more explicitly.
2) Given the planned recruitment of five new faculty members, it might be worth considering areas interested in human brain development, as this would increase the center’s focus on 'what makes us human' and complement its existing strengths in human embryogenesis.
3) ASHBi should make further effort to communicate how its findings contribute to the societal understanding of human health and identity.

H. Interim evaluation of the Center launched in 2021

H-1. QUP

Acting director: HANAGAKI Kazunori

Program officer: TSUNETA Saku, Chiba Institute of Technology

Score: B

QUP was launched with the ambition of becoming a world-leading center for the development of novel detection principles and their implementation, aiming at transformative breakthroughs in the study of fundamental particles and the universe. However, the Center struggled to develop its distinctive and innovative features as a WPI center. The SpaceTES project, the primary flagship project of the Center, made insufficient progress, leading KEK to terminate its commitment to the flight model. Systemology, a new paradigm intended to guide large-scale system development, did not develop beyond conventional systems engineering, and ultimately abandoned. QUP also continued to struggle with a low level of internationalization, and persistent difficulties in attracting researchers to the Center.

While the Working Group and the WPI Program Committee repeatedly pointed out the deficient state of the center's progress for the past four years, QUP and KEK had not taken necessary actions. However, the proposal of a new progress plan and a new director candidate this year, were initiated by Director General ASAI who took office in April 2024. Based on the actions for the past four years, the WPI Program Committee considered the termination of the center project. Yet, the new plan, which aims to establish QUP as a center for quantum sensor development, holds the potential for a major restructuring and for QUP becoming both unique and valuable - provided its activities gain momentum under renewed leadership and a revitalized team of principal investigators.

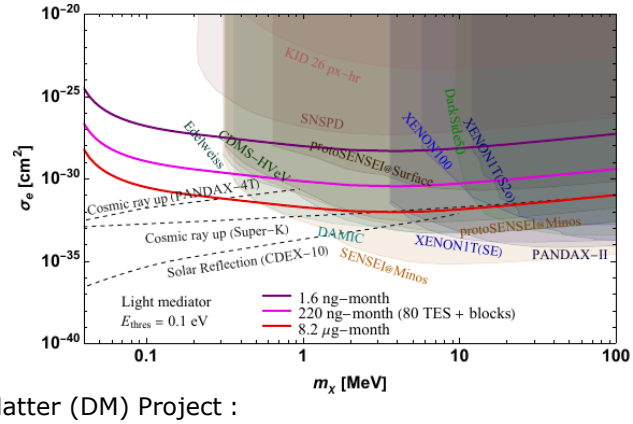
Therefore, The WPI Program Committee evaluates QUP's state of progress as provisionally B with the condition that progress under the new plan is to be strictly evaluated in a year's time. The WPI Program Committee will evaluate it next year whether the provisional B rating is appropriate, including the termination of the center project if it is deemed difficult for the center to achieve its goals even with further effort.

A. Advancing the establishment of the center

1. World-Leading Scientific Excellence and Recognition

1-1. Advancing research of the highest global level

The SpaceTES project for JAXA's LiteBIRD mission was designated as QUP's flagship project. QUP stated, only after explicitly requested by the Working Group, that it would take responsibility for delivering the flight model. This declaration raised serious concerns regarding the feasibility of the goal, particularly in light of QUP's limited technical capability, experience, and available manpower. Ultimately, the SpaceTES project made insufficient progress, leading KEK to terminate its commitment to the flight model.



Progress on the Kamioka Light Dark Matter (DM) Project :
(Left figure:) A dilution refrigerator was placed in the Kamioka mine in November 2024.
(Right figure:) A sensitivity study for DM-electron scattering with optical TES targets, planned for phase 2 of the project. The solid lines show the project's sensitivity, and the shaded regions indicate constraints derived from other experiments. The planned experiments cover searches for DM in the lighter mass range.

In response to criticisms from the Working Group on the lack of additional or alternative flagship project, the Kamioka Dark Matter (DM) project was proposed as a candidate flagship initiative. However, this project has also experienced delays, with an uncertain timeline and no clear demonstration of international competitiveness thus far. Other projects have not made sufficient progress to achieve recognition as internationally competitive efforts.

1-2. Interdisciplinary research activities

QUP introduced systemology as a new paradigm intended to guide large-scale system development. In practice, however, this approach closely resembled conventional systems engineering applied at the project inception phase. Ultimately, QUP terminated the systemology initiative.

QUP has introduced several new interdisciplinary initiatives including optical TES development and NV diamond sensor initiative. The Theory Group appears to serve as a conduit for fostering interdisciplinary experimental efforts. However, QUP has yet to develop a coherent or substantive

integration of different research projects or disciplines.

2. Global Research Environment and System Reform

2-1. Globalization of the institution

As of the end of FY 2024, 4 out of 14 PIs (29%) and 14 out of 40 researchers (35%) are from overseas, exceeding the WPI mandates of 20% and 30%, respectively. However, many of the international PIs spend only a limited amount of time physically present at QUP. While the introduction of deputy-PI positions has helped mitigate the lack of day-to-day supervision, this measure alone has not been sufficient to foster the vibrant and intellectually stimulating environment.

2-2. Organizational reform

QUP introduced a new governance structure including autonomous appointment of personnel, which is distinct from that of the host institution, KEK, which operates under an Inter-University Research Institute Corporation model. QUP also set up Strategy Office led by the Administrative Director. However, these structural changes have yet to yield visible improvements in either organizational effectiveness or research outcomes.

3. Values for the Future

3-1. Societal Value of Basic Research

QUP has launched initiatives such as QUP Synergy Summit to engage industries. Outreach to high school students and collaboration with foreign institutions have been implemented. These efforts are meaningful but still small in scale and not yet institutionalized. Its contribution to societal value through basic research remains potential rather than actual.

3-2. Fostering Next-Generation Human Resources

QUP launched the QUPIP initiative, which has achieved some success in attracting students and postdoctoral researchers. Additionally, the QUP International Fellowship Program, aimed at accepting graduate students from abroad, was initiated in 2024. However, it is still too early to assess the effectiveness of this program.

3-3. Self-sufficient and Sustainable center Development

KEK has remained unclear on two critical issues in framing a concrete plan to support the Center’s long-term growth: (1) the strategic rationale for hosting QUP, and (2) the specific financial and staffing commitments it is prepared to

make. Following an internal crisis and the subsequent termination of the SpaceTES and systemology programs, KEK has expressed full support for the restructured QUP under new leadership. It has also pledged to provide ¥600 million annually after the conclusion of the WPI funding period to help sustain the Center.

4. Future prospects of the center's project

KEK leadership, under the new Director General ASAI who took office in April 2024, recognized and begun to address the WPI Program Committee's longstanding concerns. While the resignation of the founding Director and the subsequent internal restructuring underscore the Center's ongoing instability and lack of strategic clarity, they may also mark a critical turning point. The systemic improvements observed during this year's review cycle could lay the groundwork for future success.

QUP is undergoing a major transition with the articulation of a renewed progress plan and a new director candidate to establish itself as an international hub for quantum sensor development. In line with this vision, new research projects and new PIs are being introduced to broaden the Center's scientific portfolio.

B. Host institution's plan toward an autonomous research institute in the second half of the grant period (from the 6th year of the center's operation)

The host institution, KEK, is currently considering a concrete action plan to transform QUP into an autonomous research institute. Director General ASAI has articulated a forward-looking vision for KEK centered on achieving international excellence at the quantum frontier. Within this vision, QUP is positioned as the core initiative for quantum sensor development, serving as a nexus that links and collaborates with various institutes and centers within KEK. This framing helps clarify QUP's role and potential value to KEK.

If KEK indeed envisions QUP as a central pillar of its quantum research strategy, KEK must provide a sustainable number of permanent positions and adequate funding to secure core PIs and researchers who are physically and professionally based at KEK. Without this, the center's capacity to maintain excellence and continuity is at risk.

C. Proposal of new progress plan and change of Director

This year QUP and KEK proposed a major restructuring of the progress plan and a new director candidate for leading the plan. In the new plan, QUP will focus on quantum sensor development and initiate new projects such as a superconducting qubit-based dark photon search and gravitational wave detection using superconducting cavities. While these are scientifically compelling, the proposals were presented with vague objectives and timelines and without reference to international benchmarks. Furthermore, the new plan does not yet clearly articulate what integrated framework, if any, is intended to take the place of the now-discontinued "systemology" concept.

In the new plan, QUP intends to retain its current research activities. However, they lack clearly defined objectives within the new plan, milestones, and timelines. Additionally, the future of QUP's collaboration with Berkeley Lab—particularly after the exclusion of the LiteBIRD project—remains undefined. Given the importance of that partnership in the original plan, this omission is concerning.

The new plan does not sufficiently address persistent organizational challenges, particularly in the areas of internationalization and systemic reform. One notable concern is the absence of a candid assessment of the problems encountered under the previous leadership, as well as the lack of a clearly articulated reform strategy grounded in such an assessment.

In summary, the new vision is attractive and conceptually promising, yet its practical implementation lacks sufficient specificity, coherence, and demonstrated commitment.

Dr. Azuma was appointed Deputy Director of QUP in April 2025. He is expected to enhance the Center's operations by drawing on his extensive experience in leading atomic, molecular, and optical (AMO) physics laboratories as Chief Scientist at RIKEN, and on his strong background in interdisciplinary collaboration and engagement with international scientific communities.

Dr. Azuma was subsequently proposed as the next Director of QUP. Dr. Azuma presented his vision for QUP, emphasizing the absence of a robust organization for detector development in Japan and expressing his ambition to establish QUP as a sustainable international hub in this field. He outlined a strategy aimed at maintaining a balanced portfolio of projects—combining detector fabrication and development with the achievement of scientific objectives within the WPI

funding period.

Dr. Azuma's response to wide range of questions at the WPI Program Committee conveyed his grasp of the task, enthusiasm and sincerity. The Committee approved Dr. Azuma's appointment as Director with a note that every effort has to be made to respond to the criticisms to the new plan.

Advice/recommendations
(Including opinions on host institution's plan toward a sustainable Center)

The new progress plan, while scientifically appealing, lacks concreteness and clarity in its implementation toward achieving WPI excellence. The Program Committee advises QUP and KEK to make every effort to address those concerns. The WPI Program Committee shall carefully review the progress that the Center makes under the new plan at the next year's Program Committee meeting and evaluate its prospect for success.

1) Turnover of personnel

The roles and positions of projects continued from the previous leadership remain unclear. The new Director should not be constrained by the former organizational structure and is expected to take proactive steps to establish a framework necessary for realizing the new progress plan. Specifically, based on the new progress plan, it is essential to re-evaluate the direction of ongoing projects carried over from the previous leadership and to review the operational structure, including the renewal of personnel. If projects from the previous leadership are to be continued, clear goals must be defined for each project within the context of the new progress plan, thereby clarifying their roles and expected outcomes.

2) Specific Research Content

The research projects to be initiated by the new plan should have clear international benchmarks of excellence, and a concrete roadmap and schedule for achieving the goals. The Program Committee expects some early milestone achievements by next year to demonstrate success of the new plan.

3) KEK's Commitment

KEK should clearly demonstrate its commitment to positioning QUP as the core initiative for quantum sensor development and continuing to support it with a

sustainable number of permanent positions and adequate funding to secure core PIs and researchers even after the WPI grant ends.

4) On-site quantum device fabrication facility

The new leadership must develop more concrete and detailed plans across several critical dimensions. For example, if QUP aims to establish itself as a leading center for Transition Edge Sensor (TES) development, fabrication and applications, it must promptly define a solid foundation for this effort. Specifically, it should clarify whether QUP has the in-house capacity to develop TES detector systems—whose specifications vary by application, as noted in the new proposal—or whether it will rely on fabrication, for instance, by UC Berkeley. The answer to this question will fundamentally shape the character and identity of QUP.

5) Future of QUP’s collaboration with UC Berkeley

The future of QUP's collaboration with UC Berkeley, particularly in the post-LiteBIRD context, has not been sufficiently addressed. Clear discussions and substantiation of its future role are necessary.

6) New PIs

A group of young PIs has been recruited to support the renewed vision. However, with the exception of one individual, there is concern that most of these PIs are based at satellite institutions rather than at KEK, potentially undermining their impact on the Center’s core activities.

7) Strategy Office

Although QUP has established Strategy Office headed by Administrative Director and manned by University Research Administrators, its strategic role in promoting internationalization and institutional innovation has been very limited. Under the leadership of the Administrative Director, the Strategy Office should take on a more proactive role in advancing the WPI mission - particularly in building international networks, supporting structural reform, and ensuring long-term sustainability.

I. Follow up on the Centers launched in 2022

I-1. PRIMe

Center director: NISHIDA Kohji

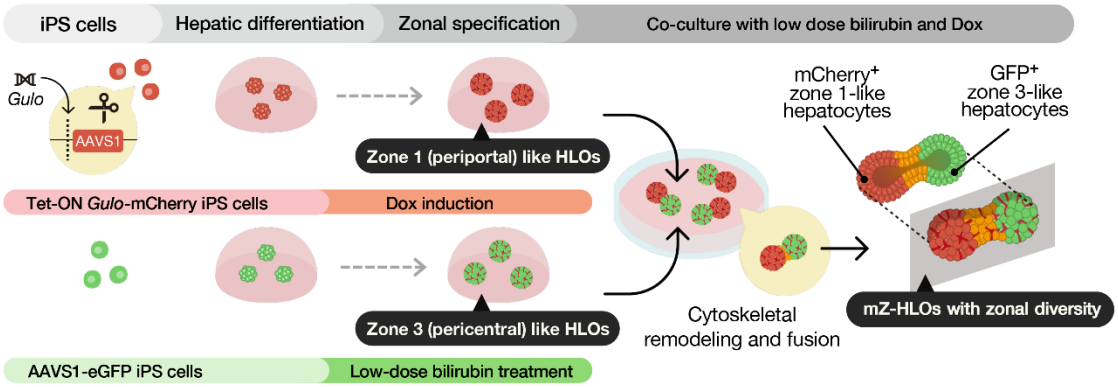
Program officer: KURODA Shinya, The University of Tokyo

1. Implementation as a WPI center

(1) World-Leading Scientific Excellence and Recognition

Advancing research of the highest global level:

PRIMe made a significant progress toward its patient-specific bio-Digital Twin vision by accelerated integration of organoid biology with mathematical modeling and clinical data. Concrete advances include Standardized Operating Procedure (SOP) for data capture, a data-use framework with Osaka University Hospital, and organizational enablers (Research Steering Committee, bio-Digital Twin Creation Unit, Data Core Facility) improving coordination. Flagship organ projects (retina, liver, ovary, heart and cartilage) demonstrated global excellence through omics and AI. Partnerships with Institut Curie and The Systems Biology Institute (SBI), and the use of DeepMind's C2S-scale model expanded capabilities.



Schematic for development of multi-zonal human liver organoids (mZ-HLOs)

Recent Highlight PRIMe PI Takanori Takebe and colleagues successfully created the world's first liver organoids from human iPS cells that reproduce the natural zonation (layered functional structure) found in the human liver. This multi-zonal organoid system serves as an in vitro human model to better recapitulate hepatic architecture relevant to liver development and disease. *Nature* (2025) DOI: https://doi.org/10.1038/s41586-025-08850-1

Generating fused disciplines:

PRIMe has unified organoid biology, computational modeling, and clinical medicine. Programs such as Joint Research Grants, dual-background leadership, and the bio-Digital Twin Unit foster collaboration. Shared tools enable smooth pipelines from organoid data to in-silico models, producing joint disease-modeling and drug-prediction results recognized through KAKENHI successes.

(2) Global Research Environment and System Reform

Realizing an international research environment:

As of 2025, 15% of PIs and 29% of researchers are international, with active recruitment and growing collaborations with Institut Curie and SBI. Female and international representation are steadily rising, and the effort should be further continued.

Making organizational reforms:

PRIMe's organizational reform is taking hold: a balanced deputy-director team, strengthened committees/cores (bio-Digital Twin, Big/Data, SOP), performance-based PI incentives, junior grants, and expanded data infrastructure are improving project execution and wet-dry lab integration. With the new building Suita Agora 2 coming online, PRIMe can convert these reforms into faster decisions, tighter integration, and durable culture change.

(3) Values for the future

Societal Value of Basic Research:

PRIMe has built a solid outreach and ELSI framework—website, newsletter NEXUS, social media, press system, and international symposia, while advancing basic research with clear public relevance (women's health, retinal RP, MASLD with psychosocial factors).

Human resource building: higher education and career development:

PRIMe is building a pipeline that nurtures interdisciplinary talent through the Human Metaverse Medicine graduate program, already teaching and set to launch in FY2027 with about 10 students/year, which is evolving to a medicine × data/AI double degree program.

Self-sufficient and sustainable center development:

PRIMe has a solid base for self-sufficiency with ¥700 M/year support, tenured post, permanent administrative staff, and the Agora 2 research building expansion (2027) committed from the University of Osaka. To ensure long-term stability, PRIMe should formalize a post-WPI funding plan, diversify revenue, and deliver validated bio-Digital Twins demonstrating clear value to funders and partners.

2. Center's response to the follow up results of last year

PRIMe's responses are highly positive, exceeding expectations in several areas. Governance was restructured, direction clarified, and leadership in

mathematical biology and data cores strengthened. Progress in data standardization, EDI, and recruitment improved operational maturity and long-term sustainability, with notably clearer presentations this year.

3. Actions required and recommendations

1) Strengthen experiment–model integration by adding bridge or modeling PIs and postdocs. In addition, early integration of Large Disease Models with organoid studies is recommended.
2) Create a clear roadmap linking organ-specific models into a unified human bio-Digital Twin. Because organoid integration is complex and globally competitive, PRIMe should narrow its targets and clearly define both short-term milestones and long-term goals.
3) Develop young researchers through greater involvement in modeling and the Joint Research Grant scheme.
4) Standardize data with automated metadata and global SOPs.
5) Bridge organoid and clinical data via patient cohorts and workflow integration.
6) Advance internationalization and diversity in leadership and junior researchers by recruiting overseas and female researchers.
7) Make stronger career development for young scientists, and ongoing organizational reform to enhance efficiency.
8) Improve presentations by showing unified wet–dry–model integration and interdisciplinary poster sessions.

I-2. SKCM^2

Center director: Ivan SMALYUKH

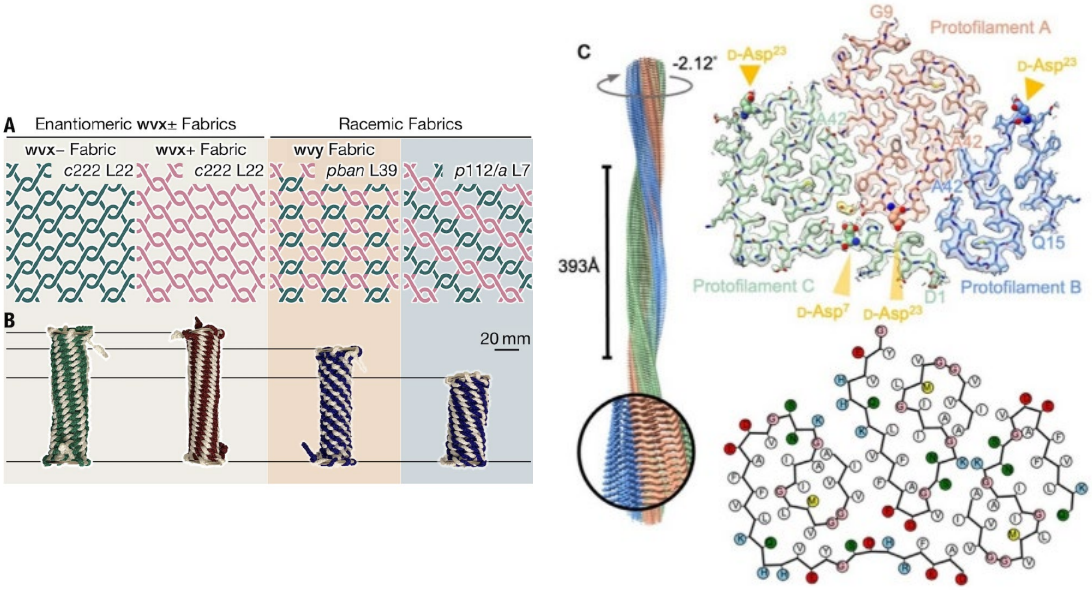
Program officer: YASHIMA Eiji, Nagoya University/ National Tsing Hua University

1. Implementation as a WPI center

(1) World-Leading Scientific Excellence and Recognition

Advancing research of the highest global level:

SKCM^2 aims to be a globally visible research hub advancing the new paradigm of "knotted chiral meta matter" integrating topology with fundamental research into matter. Although the research plan has an ambitious vision, its scope appears overly broad. Despite this, several areas are producing excellent scientific results. A central concern is that many of the leading PIs are based overseas. Their extended presence at SKCM^2 would be essential for realizing the high-level interdisciplinary research, yet this is not happening at present.



[Left] Inoue, Matsumoto, Kotorii, et al. demonstrated, both theoretically and experimentally, that the mechanical properties of weft-knitted fabrics are determined by their topology. By treating knitted fabrics as topological materials, they proposed a new framework that rigorously classifies and describes knitting structures using concepts such as chirality, point defects, linking number, and symmetry. The figure shows stitch patterns and the corresponding tubular knitted fabrics. The first two are mirror images (enantiomeric patterns), while the remaining ones are racemic knitting patterns. arXiv:2509.23604v1

[Right] Hsu, Tate, and Haino, revealed a significant difference in Amyloid β (Aβ) fibril structures when D-Asp (an amino acid with aberrant chirality found in aged Alzheimer's disease patients' brains) is present. Aβ with D-Asp residues forms *novel fibril structures* that are distinct from those previously observed in polymorphic sets of Aβ fibrils. This could have important implications for understanding the pathology of Alzheimer's disease. *J. Mol. Biol.* (2025)

SKCM^2 published more than 190 WPI papers in 2024 with SKCM^2 in the affiliation name. However, most of the WPI papers originate from the home

institutions/universities of the principal investigators (PIs), the center director, and many affiliate members, rather than from research conducted within SKCM^2 itself. Papers based on strategic plans aligned with SKCM^2's scientific mission of "sustainability with knotted chiral meta matter" continue to remain limited. To become a truly world-class research center, SKCM^2 should have a more focused and coherent research plan.

The center lacks junior PI level researchers (associate/assistant professors), essential for advancing the novel science of chiral meta matter research.

Generating fused disciplines:

SKCM^2 launched ten fusion projects involving multiple PIs from different disciplines, and several of these efforts show early promise. However, the current fusion research projects cover too many diverse subjects, and research progress has been slow. Greater focus and acceleration are required, to reach world-class achievement levels. Flagship projects should focus on a smaller set of topics, with more potential for deep interdisciplinary fusion through concentrated efforts.

(2) Global Research Environment and System Reform

Realizing an international research environment:

Most of the overseas PIs were not staying at Hiroshima University (HU) long-term and mostly continued their research independently at their home universities/institutes. To resolve this issue, the overseas PIs are planning to hire co-PIs to conduct daily research at HU as their representative. For establishing an international hub, it is desirable that co-PIs be invited from overseas. It is necessary to accelerate this mechanism.

Making organizational reforms:

SKCM² has prioritized gender balance from the start.

Strong support from HU President Ochi reinforces the institutional commitment.

The new research building for SKCM^2 is expected to be completed by the end of FY 2025 with labs for all PIs. This will enable overseas PIs to stay longer at SKCM² and promote truly interdisciplinary fusion research specific to SKCM^2 at HU among PIs, postdocs, and graduate students.

A satellite lab with an enormous budget has been established at the University of Colorado Boulder (CU-Boulder), but its organizational and operational structure remains unclear.

(3) Values for the future

Societal Value of Basic Research:

SKCM² has actively promoted public and student outreach and dissemination events through school visits, open symposia, and related activities.

Some ongoing projects on "knotted chiral meta matter" such as thermal insulation materials, porous crystals, cellulose-based structural colors, and designer knotted textiles seem to contribute to a sustainable society. These efforts highlight the center's potential to connect basic research with environmental and industrial applications.

Human resource building: higher education and career development:

SKCM² launched an interdisciplinary graduate program with a multi-mentor system and financial support. Start-up fund for Ph.D. students and postdocs (up to 1M JPY) is a strong incentive. So far, however, the number of PhD students is still low. Future growth is expected, especially in overseas student enrollment and program expansion.

Self-sufficient and sustainable center development:

HU provides strong institutional support to SKCM² from the beginning. The new 5,000 m² SKCM² building is under construction and is expected to be ready for move-in by the end of March 2026.

2. Center's response to the follow up results of last year

The center made significant effort to respond to last year's recommendations, though key issues, such as the longer-term physical absence of overseas PIs at SKCM^2, the lack of clear identifications of key members, the connection between the sustainability and the center's research mission and plan, and the successful execution of fusion projects, remain unsolved.

3. Replacement of center director by acting director

After the site visit conducted on July 28-29, 2025, HU decided to proceed with a change in leadership of SKCM^2 to enhance its research capabilities. Dr. Smalyukh stepped down from his position as the center director, but continues as a PI of SKCM^2. Prof. KIMURA Akio, PI at SKCM^2, was appointed as the acting director of SKCM^2 in October 2025. HU stated that, under the leadership of the acting director and in discussion with the candidate for the new center director, it is committed to accelerate the development of a new concept for the center.

While the WPI Program Committee generally agreed with HU's decision to change the center director, it expressed concerns about the continuity and stability of the research system. A new leader must be appointed urgently to take responsibility for the center's development. Expediting the selection and hiring of the new center director is essential to minimize disruption to ongoing research activities. In addition, the new center director needs to be directly involved in defining and selecting the flagship projects of SKCM^2.

4. Actions required and recommendations

1) If a new leadership is to be implemented, it is desirable to designate a candidate for the position of center director and organizationally integrate him or her into SKCM^2 at HU as early as possible. Ideally, the candidate would have a title within SKCM^2, such as the deputy center director.

2) Furthermore, the center director candidate, the acting center director, the administrative director, each PI, and HU should collaborate closely to develop a new center concept. Accordingly, the selection of flagship projects should be linked to this process.

3) The former center director, Dr. Smalyukh, continues to serve as a PI after stepping down from the directorship. Explanation should be provided regarding how this leadership change may affect the comprehensive agreement signed with the University of Colorado Boulder (CU-Boulder) in June 2025.

4) The current arrangement raises a governance concern. Maintaining the satellite unit at CU-Boulder while the former center director continues his involvement after stepping down as center director requires immediate clarification. SKCM^2 and HU should review the organizational structure of the satellite and clearly define roles and responsibilities to ensure stable and transparent management moving forward.

5) To enhance the international visibility and to create a truly international research environment at SKCM^2, foreign PIs should increase their physical presence at HU. Although some overseas PIs plan to hire co-PIs to conduct daily research at HU as their representatives, sustained engagement by the overseas PIs themselves remains essential. With the new research building scheduled for completion by the end of FY2025, foreign PIs are strongly encouraged to spend sufficient time at HU to work closely with their co-PIs

and lab members, thereby enabling the interdisciplinary fusion research central to SKCM^2's mission.

6) The center currently lacks junior-level PIs, which is a serious concern for long-term research growth and the development of the next generation of scientists. The center should urgently formulate a strategic plan to strengthen the junior PI recruitment and career development.

I-3. Bio2Q

Center director: HONDA Kenya

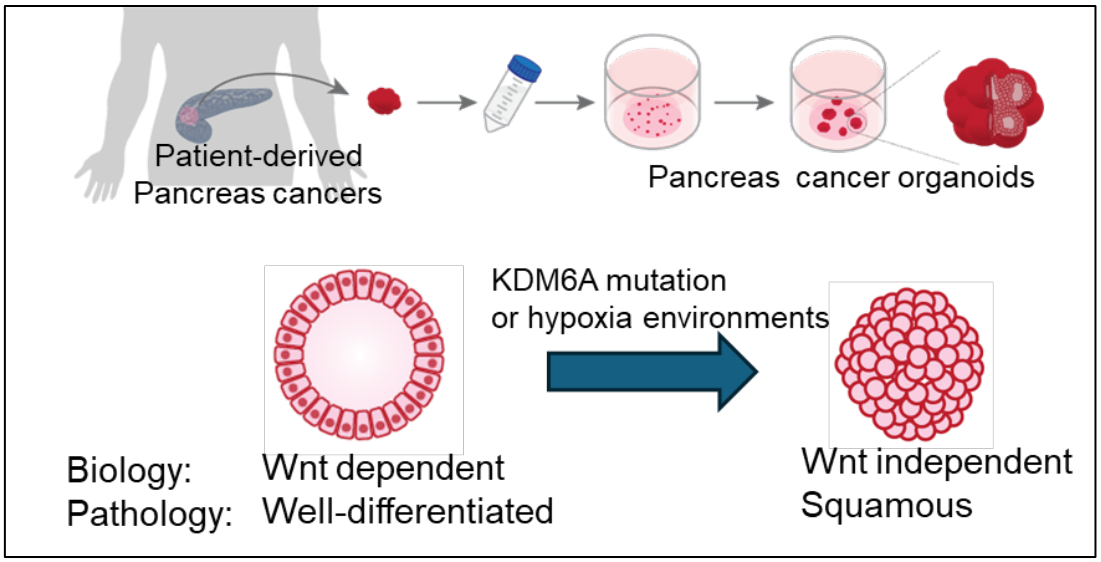
Program officer: TAKAHASHI Ryosuke, Kyoto University

1. Implementation as a WPI center

(1) World-Leading Scientific Excellence and Recognition

Advancing research of the highest global level:

There has been remarkable progress made in microbiome, lipidomics and organoids research including the discovery that a group of commensal bacteria weakens the colonization of proinflammatory Gram-negative Enterobacteriaceae, a detailed lipidome dataset covering multiple tissues across various life stages in mice, and establishing long-term culture and differentiation of human adult hepatocyte, laying the foundation for liver-gut network analysis. The integration of these outputs into a well-defined, overarching scientific framework could be further strengthened. With Q computing, there was an actual hybrid classical-quantum computing study for predicting the most effective bacterial combinations against multi-drug-resistant pathogens. Classical computing including AI is strengthened by the recruitment of a new PI. Nevertheless, Q-Core needs a strategy to identify problems/obstacles so as to go forward towards its goals.



Recent highlight: Genetic or hypoxia-mediated inactivation of KDM6A triggers epigenetic reprogramming and adenosquamous transformation in pancreatic cancer. This work uncovers a mechanism by which low oxygen drives tumor plasticity and progression.**Tamagawa et al, *Nature Cell Biology, 26*, 2024; https://doi.org/10.1038/s41556-024-01498-5**

Generating fused disciplines:

Highly effective joint efforts have been made in promoting the

characterization of microbiome-derived lipids, but overall, the cross-over between disciplines and into clinical applications remain at a more modest level.

Trying to bring quantum computing to bear on biological problems, a design plan for quantum algorithmic therapeutics against multi-drug-resistant infections have been made. Actual results are yet forthcoming. A technical roadmap for metabolic pathway quantum analysis of gut microbiome using quantum singular value transformation of stoichiometry matrix were presented. While scientific goals are well aligned with the vision of Bio2Q, actual quantum computing has to await the realization of a fault-tolerant quantum computer, expected around 2029. While these efforts made towards a concrete project that develops quantum computing in biology at Bio2Q are appreciated, the results to date are not yet satisfactory.

Bio2Q has set up several platforms, including the Science Meeting series for frequent and inclusive discussions, Annual Scientific Retreats, and the Open Lab system. Co-mentoring system adopted by the STaMP graduate student program will help foster the next generation of researchers with multidisciplinary backgrounds.

(2) Global Research Environment and System Reform

Realizing an international research environment:

The center has made excellent progress in attracting, hiring, and onboarding international members at the level of PI, postdoc and student as well as in establishing its English-based administrative system. Bio2Q launched the Bio2Q internship program, which invites foreign students for up to 8 weeks at one or two laboratories.

Bio2Q recruited four new PIs, including two foreign PIs, to work at the Center. They also hired four postdoctoral fellows and two research-support staffs proficient in English. Further, two female Jr. PIs are scheduled to join in FY 2025. At the end of FY 2024, the percentage of overseas PIs was 29%, 20% of the Jr. PIs; 86% of the postdoctoral fellows; and 14% of the graduate students.

Making organizational reforms:

Bio2Q has established internal regulations for biosafety and gene recombination, an independent committee for COI management, bilingual

records of Executive Committee meetings shared within the Center. A Centralized Center Resource Portal was started, and a 10-year strategy for IT infrastructure including data management, storage and analysis tools was refined.

Two new young overseas PIs are being evaluated by the Medical Graduate School to obtain permission to directly supervise graduate students. This marks a significant progress of reform within Japan's rigid graduate school system.

Sustained efforts are being made to improve gender balance. The percentage of overall female researchers is 27%: 19% of the PIs, 20% of the Jr. PIs, 29% of the postdoctoral fellows, and 40% of the graduate students. Family-friendly policies such as organizing meetings basically within business hours are implemented.

(3) Values for the future

Societal Value of Basic Research:

Toward the scientific community, 16 open seminars were held, and its 3rd International Symposium was attended by 198 participants. Bio2Q participated in 2025 EXPO Digital Open Innovation Campus, hosted 3 visits to the center by high school students, and issued 3 brochures in the booklet series to young readers. The Center's basic research on microbiota together with metabolomics is leading to the elucidation of various life phenomena and the prevention/treatment of diseases. Thus, the societal value of its activities is enormous.

Human resource building: higher education and career development:

The STaMP graduate program shows steady growth, with the number of students increasing to 20. In FY 2024, 14 STaMP graduate students have enrolled in the WPI Research Assistant system which enables students to work as part-time researchers with monthly stipends. The AI/Quantum Workshop is a timely addition that equips young researchers with skills relevant to emerging technologies. As an important strategy to promote science communication, Dr. Behie, a former *Cell* editor, was recruited as the Director of Research Programs.

Self-sufficient and sustainable center development:

Keio University has consistently provided substantial support to Bio2Q. The

new building is to be completed and opened in April 2028. Bio2Q is currently seeking funding for an animal experiment facility. A Working Group named Bio2Q NEXUS was established to develop strategies to strengthen the financial foundation for securing Bio2Q's financial independence.

2. Center's response to the follow up results of last year

Overall, Bio2Q has responded well to the comments from FY 2024 on collaborations between basic and clinical scientists, concrete projects on Q computing, improving international and gender diversity, and strengthening graduate program.

3. Actions required and recommendations

1) Research progress in individual themes is significant and at top level but the added value of Bio2Q is often not clear. It will therefore be crucial to articulate the progress status with respect to Bio2Q's overarching scientific goals, i.e., the elucidation of the muti-organ network and mechanisms underlying healthy longevity driven by microbiome metabolites and the characterization of "dark matter" metabolites by utilizing quantum computing/AI. Moreover, it will be important not only to use AI and quantum computing in research, but also to ensure that Bio2Q advances these areas to the leading edge of their respective fields, leveraging microbiome research as a key driver.

2) Quantum computing is slowly starting to become more closely involved in Bio2Q but is still far from being practically useful. Efforts should be continued to develop concrete projects for advancing Q computing in the biology of Bio2Q. Proof-of-concept of the Q and AI-based metabolic pathway analysis proposed by Bio2Q should involve actual Q computing, even using the toy examples. It would be desirable that data generated in the Bio-core labs to be analyzed more thoroughly by advanced computational methods in a collaborative manner.

3) Collaboration between basic and clinical science should be optimized further. There seems to be limited focus on building strong and ambitious basic science/clinical partnerships. The organizational changes are appreciated, but concrete actions are missing, such as for example early involvement of clinicians in project planning. This translational direction should be more clearly articulated and further strengthened.

4) In planning the animal facility, which is separate from laboratory spaces, sufficient attention should be given to ensure that experimental procedures - such as animal housing, viral injection, anatomical and physiological analyses, and behavioral assessments - be conducted smoothly.

5) It would be beneficial if the Center could consider developing a shared database that allows researchers to access these valuable datasets in a standardized and secure manner. Development of Data Management Plans and the introduction of Electronic Lab Notebooks are also recommended. Consistent and internationally compatible data stewardship will be critical to Bio2Q’s impact.

6) The primary affiliation of PIs and researchers should be Bio2Q in presentations and documents. This is important from the view of Bio2Q being an autonomous organization in Keio University and from the view of establishing Bio2Q's identity.

J. Follow up on the Centers launched in 2023

J-1. WPI-AIMEC

Center director: SUGA Toshio

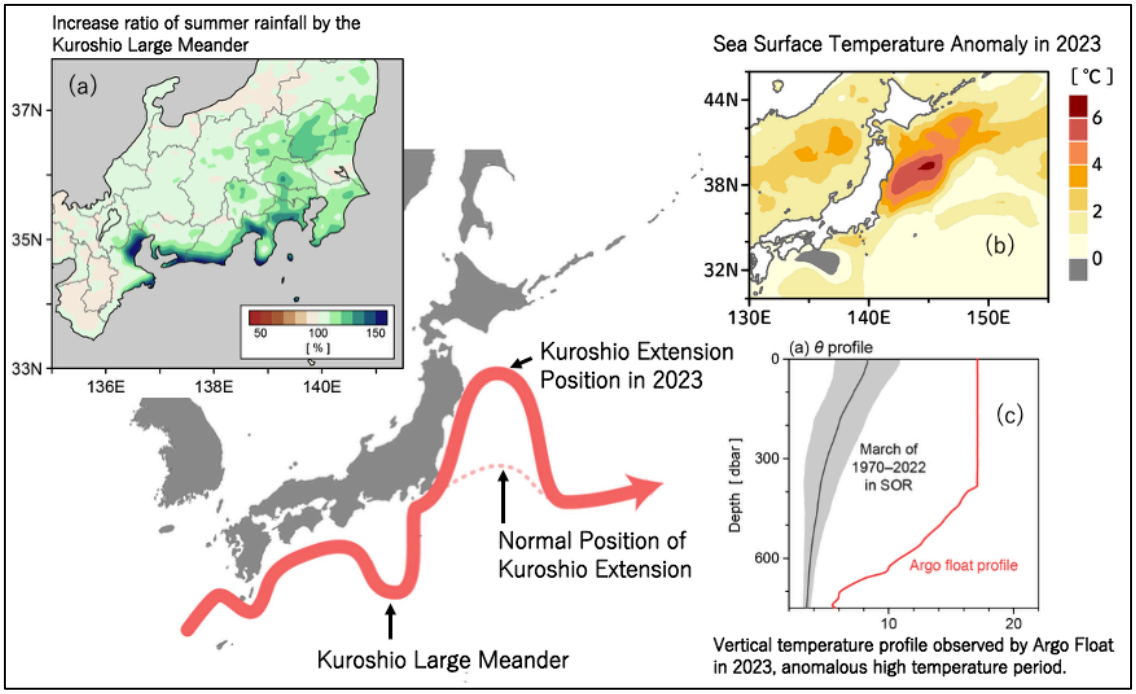
Program officer: SAITO Hiroaki, The University of Tokyo

1. Implementation as a WPI center

(1) World-Leading Scientific Excellence and Recognition

Advancing research of the highest global level:

High level studies have been conducted over past years. However, reported activities from the Units were essentially disciplinary; insufficient efforts were made to establish fusion sciences across Units, which is crucial for creating the inherently multi-disciplinary science of marine ecosystem change.



Highlights: The anomalous current path of the Kuroshio Current dramatically altered the climate and marine environment in Japan and increase climate-related risk. The Kuroshio Large Meander increased sea surface temperatures and water vapor in the Tokai region. This resulted to a 1.3-fold increase in precipitation (shown in (a)) and a 1℃ increase in surface air temperature (figure omitted). The enhanced greenhouse effect of water vapor further intensified heatwaves and heavy rainfall events (e.g. the 2020 heavy rains). In the Kuroshio Extension region, the ocean off the coast of Sanriku has experienced extreme sea surface warming of +6℃ since 2023, among the largest anomalies observed globally temperatures (shown in (b)). This warming extended into the ocean interior, reaching depths of 400m (shown in (c)). These changes may be affecting marine ecosystem and extreme weather events, and warm-water fish species have been observed off the coast of Miyagi Prefecture. (Sugimoto, 2024; Sugimoto.et.al, 2025)

Generating fused disciplines:

The WPI mission calls for more than excellence within disciplines, it demands

fusion science, characterized by deep, co-designed integration across fields. While the establishment of five Grand Challenges (GCs) provides a promising thematic framework, the center has yet to clearly articulate how these GCs converge toward specific, high-impact scientific goals and corresponding fusion research activities that provide solutions toward achieving these goals.

To enhance its international recognition, AIMEC should define which GC(s) it aims to lead globally and communicate the transformative outcomes expected. Clarifying its long-term scientific vision will help solidify its identity as a world-premiere institute.

The term "Ocean-Ecosystem Change Systematics (OECS)," positioned in the proposal as a core academic innovation, is notably absent in the progress report. AIMEC should formulate a clear strategic roadmap that shows how its ten-year efforts will create this novel fusion science.

(2) Global Research Environment and System Reform

Realizing an international research environment:

AIMEC has been making commendable efforts to realize an international research environment. As of July 2025, there are 9 overseas PIs out of the total of 21 PIs (43%), 31 overseas researchers out of the total of 74 (42%), both surpassing the WPI standard of 20% and 30%. In particular, there has been a significant influx of postdocs (13) and AIMEC researchers (10) from overseas, recruited from the 2024 public calls. We also encourage AIMEC to recruit Japanese junior researchers.

AIMEC should also take opportunities to be more ambitious in expanding strategic international partnerships. While the University of Hawai'i serves as a valuable overseas node, AIMEC could be strengthened through closer alignment with other international institutions that are leading efforts in marine ecosystem change.

Making organizational reforms:

AIMEC is established jointly by Tohoku University and JAMSTEC. We highly commend them for making the necessary institutional reforms, creating rules, and getting the center functioning via AIMEC’s own efforts. AIMEC should continue to strengthen institutional cohesion by clearly articulating how strategic decisions are made across both host organizations and by maintaining a shared, transparent vision of AIMEC's evolving identity.

For gender balance, AIMEC aims at 30% for female PIs and 42% for all researchers by April 2027. As of July 2025, there are 5 female PIs (24%) and 22 female researchers (30%). This effort should continue.

(3) Values for the future

Societal Value of Basic Research:

AIMEC has been actively engaged in outreach through large-scale conferences, citizen science initiatives (e.g., ANEMONE), and collaboration with aquariums and regional organizations. AIMEC has assigned two URAs to lead its outreach activities.

The center could further enhance its societal relevance by developing mechanisms to quantitatively evaluate and communicate the impact of its outreach activities. To advance dialogue with stakeholders, it should consider hiring communication specialists who can bridge the gap between experts and stakeholders.

Human resource building: higher education and career development:

Tohoku University's International Joint Graduate Program GP-EES has been successfully expanded. The establishment of a DEI committee and increased support for international researchers reflect attention to diversity and inclusion. Looking ahead, AIMEC should continue improving mentorship and career development systems to ensure that students and postdocs are well-supported and actively engaged in the center's fusion science mission.

Self-sufficient and sustainable center development:

Tohoku University and JAMSTEC continue to provide strong support to AIMEC, including constructing a new building for AIMEC scheduled to be completed in 2028. Continuous efforts are needed to secure tenured positions for talented young researchers so as to further AIMEC's self-sufficient development.

2. Center's response to the follow up results of last year

AIMEC faithfully responded to the advice of last year, though it needs to make further efforts toward satisfying some aspects of the Committee's advice including the GCs and Fusion Science. Efforts to promote international collaboration and to advance diversity were evident. There is still room for improvement regarding the use of AI. Also, the use of the various facilities of JAMSTEC should be promoted further.

3. Actions required and recommendations

1) AIMEC should intensify its efforts significantly toward fusion science. GC should be more focused and clearly articulated to establish new fusion sciences of AIMEC. Fusion Science Activities (FSAs), which represent the concrete fusion research activities, should be urgently redesigned so that they are aligned to support each GC. If necessary, remove the research units and reorganize the AIMEC researchers pool in the fusion clusters so that they directly support new FSAs.

2) Continue to promote efforts for improving communication between scientists and staff through various communication activities under the one roof of AIMEC. Further effort is needed to strengthen communication between PIs so as to break the barriers between each disciplinary science and establish "Ocean-Ecosystem Change Systematics (OECS)."

3) AIMEC should develop a coherent research roadmap explicitly highlighting its fusion science mission. The roadmap should clearly articulate how revised FSAs and research clusters contribute to each GC and their relevance to societal challenges.

4) Expand global leadership and partnerships. Given AIMEC's distinctive advantages and expertise in climate and marine ecosystem sciences, developing strategic partnerships with other world-leading institutions and scientists will further solidify its role and brand as an international hub for marine ecosystem change science.

5) Strengthen AI and machine learning (ML) integration. AIMEC should significantly enhance its strategic commitment to AI and ML, embedding these advanced tools deeply within its fusion science framework. This will require clearly defined plans for AI/ML incorporation across FSAs and GCs, including specific personnel investments and training programs.

6) Continue and expand societal impact and engagement through communication activities, engage with stakeholders through a science-policy interface, and produce policy briefs or public tools to enhance outreach.

K. Screening of Development Plan of centers launched in 2017 and 2018

In FY 2025, MEXT introduced a new framework to extend the funding period after the initial 10 years for up to 5 additional years for further sustainable development of WPI centers. Centers seeking the extension submit a proposal for the Development Plan for the extension period, which consists of the Project Plan describing innovative research strategy of the center, and the Resource Allocation Plan backing the research strategy through a clearly defined funding and personnel plan.

Four centers, IRCN and NanoLSI in their 9th year since launch, and ICReDD and ASHBi in their 8th year submitted proposals for the Development Plan in FY 2025. The WPI Program Committee in its meeting in October 2025 examined each proposal based on the hearings and two reports. One is on the Project Plan provided by the Working Group and the other is on the Resource Allocation Plan by MEXT. Carefully reviewing whether the proposal features innovative approaches rather than mere continuations or expansions of current activities, the WPI Program Committee approved the Development Plan of the four centers finding sufficient merit and strength in each of the Plan.

L. Follow-up of the Academy centers

L-1. Recertification of the centers that joined the Academy in 2017

For AIMR, iCeMS, IFReC and MANA, the Academy site visits for recertification were conducted in December 2024 (iCeMS, MANA) and January 2025 (AIMR, IFReC) with a full on-site format. Site visit reports by the Academy Working Groups were forwarded to the Program Committee, whose domestic members carried out the recertification evaluations in the Committee's February 2025 meeting. The Committee fully confirmed that each of the four centers had maintained the standard of research and operation at the "world premier" level, as called for in the "Academy of the World Premier International Research Center Initiative."

AIMR

AIMR continued to produce excellent research results, establishing AIMR as fusion driver of mathematics and material science. There has been a significant expansion in the number of researchers (115 to 203) and diversity (overseas researcher ratio 36% to 56%; female researcher ratio 12% to 23%) from 2020 to 2024. An effective top-down governance was maintained while keeping free

and open atmosphere. The Strategic Public Relations Office is functioning effectively, attracting researchers and international collaborations world-wide. AIMR is highly appreciated by the host institute, Tohoku University, and continues to receive strong support in terms of personnel, equipment and budget. Tohoku University's founding concept for "University of International Research Excellence" directly overlaps with the mission of WPI.

iCeMS

Research accomplishments of iCeMS are well within the WPI standard. Younger PIs replacing senior PIs have been producing excellent research results. The 8 On-site Laboratories abroad play an important role not only in collaborative research but also in recruiting young researchers and students. iCeMS's Analysis Center serves as a model system for the core facilities of Kyoto University, the host institute. Venture Studio bridges basic research to applied research. Top-down management supplemented by bottom-up mechanisms such as PI meetings is working well for transparent and effective operation. Diversity is emphasized in all activities including scientific meetings, recruitment and training. Strong support is provided from Kyoto University in personnel, indirect costs, and space.

IFReC

IFReC has amassed an extremely high level of research achievements. Team Handai Project driven by IFReC to combat COVID-19 led to the establishment of new centers CiDER and CAMaD for infectious diseases. International ties have been strengthened with University of Bonn, University College London, and University of Melbourne in graduate programs. Immunology School and Advanced Postdocs have contributed to the high international visibility of IFReC, attracting a large number of excellent applicants. IFReC is strongly supported by the University of Osaka, the host institute, through the arrangement of Comprehensive Collaborative Agreements with a new industry member, and with the commitment of additional personnel and budget from 2027. IFReC has had significant impact on the host institution through high-level research, novel industry collaborations, and advanced administrative systems.

MANA

As one of seven centers of NIMS, MANA is established as one of seven centers of NIMS for basic research of materials science, focusing on basic research of materials science especially for Nanomaterials and Quantum materials as

newly topics. MANA has continuously produced excellent research results. The researcher demographics stands at 41.5% overseas and 14.9% female with room for improvement for diversity at PI level. Support from the host institution remains robust in terms of personnel, research building, and budget. MANA is successful in securing ample external funding. Active outreach has been conducted through wire-service of "Research Highlights", publication of "MANA E-BULLETIN", and annual International Symposia even through the COVID-19 period. System reforms initiated at MANA has spread to NIMS including creation of administrative office for each center, Independent Researcher System, and fellowships to attract young researchers from abroad.

L-2. Follow-up of the Academy centers that joined the Academy in 2020 and 2022

I^2CNER

Science at I^2CNER is progressing well with emphasis on Energy Materials, Energy Conversion Systems, and Multiscale Science and Engineering for Energy and Environment. International activities are strong: of the 25 PIs, 12 are from abroad, and internationally co-authored publications are at a 52% ratio and include those with Australia, South America and African countries. Kyushu University continues to strongly support I^2CNER. Center for Energy Systems Design was established through the University Budget Request to MEXT. Collaborative research with industries including those with Mitsui Chemical and Mazda is going well. The strategic partnership between Kyushu University and University of Illinois at Urbana Champaign has been extended to include National Taiwan University in February 2024.

Kavli IPMU

Kavli IPMU is a member of WPI Academy since 2017 and recertified in 2021, the final year of the 5 year-extension of WPI funding.

Research at Kavli IPMU is making good progress. Subaru HSC Project has produced 210 papers. A tension in S8 parameter remains. Super Kamiokande Gadolinium Project has started data taking. Kavli IPMU supports visits of overseas Affiliate Members to other institutions in Japan, making Kavli IPMU a gateway to institutions in Japan for overseas researchers. Future Planning Committee was established to discuss future research strategy of Kavli IPMU in theory and experiment. Outreach activities continue to be active including Workshop for female students, Science Café and Open campuses. Director

Yokoyama is managing Kavli IPMU with meticulous attention to detail, resulting in signs of increased activity in publications and postdoctoral applications.

IIIS

Science activities are kept at high level. Novel advances include an identification of sleep regulating genes, mechanisms of non-REM and REM sleep regulation, and development of portal device for monitoring sleep disorders. International exchange of junior researchers and students are promoted with KAKENHI, International Leading Research (RECONNECT). IIIS Seminar series have been held by inviting many overseas guest speakers. University of Tsukuba has established Tsukuba Institute for Advanced Research to which IIIS participates as "World Leading Research Center" and receives further support. Providing tenure to all PIs is progressing as planned. More effort is needed to increase the female PIs. The leadership continues to make conscious effort for media exposure.

ELSI

Tokyo Institute of Technology, the host institute of ELSI, merged with Tokyo Medical and Dental University, and became Institute of Science Tokyo (Science Tokyo) in October 2024. Its President and CEO pledged that ELSI will continue as an autonomous institute in Institute of Future Science with the same support guaranteed from Science Tokyo. Research at ELSI has been expanding from Life on Earth to Life on Planets. Recent highlights include identification of organic compounds in the sea of Enceladus, osmotic energy conversion at hydrothermal vents, and hydrazine synthesis by minerals. The ELSI Graduate Course with 10 student enrollments (5 from abroad, 5 domestic) is going well. Collaborations with JAXA/ISAS has been expanded to international organizations including ESA and Origin Institute in Spain.

ITbM

Fusion research unique to ITbM is expanding. In addition to progress of field trials of SPL7 to Striga, a novel stimulant for Orobanche was developed. The CRY2 activator targeting glioblastoma has entered the phase I trial. Publications are kept at high level in quantity and quality. Inclusive management of ITbM has resulted in more engagement of junior researchers and students. International exchange is robust, and is further expanded by ITbM International Symposia and by KAKENHI, International Leading Research (RECONNECT) with University of Munster. ITbM is supported as a permanent

institute under Nagoya University's Institute for Advanced Study. The framework of Graduate Program of Chemo-Bio Research (GTR) is spreading university wide. The 4 Support Centers (Live-Imaging, Molecular structure, Chemical Library, Peptide/Protein) are now providing service university-wide, adding income for ITbM.

M. Branding and outreach

Collaboration with European Molecular Biology Organization (EMBO)

Aiming to strengthen the global presence of the WPI Program and WPI centers, a special WPI session was organized in EMBO Fellows Meeting in Heidelberg, Germany, in June-July 2025.

WPI session in EMBO Fellows Meeting in Heidelberg

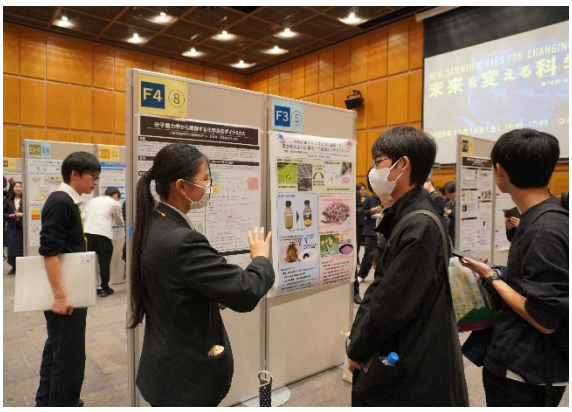
Dr. KAIBUCHI (WPI DPD)

The session started with an introduction to WPI by WPI Deputy Program Director KAIBUCHI Kozo, a keynote lecture by Dr. SAITOU Mitinori, Director of ASHBi, followed by short talks and poster presentations by 13 young WPI researchers, who thoroughly enjoyed interactions with EMBO postdoctoral fellows. Prior to the EMBO meeting on 27 June 2025, an open event was organized at EMBL entitled "Global insights in life science: EMBO meets WPI" showcasing WPI and WPI scientists to EMBL and other researchers.

14th WPI Science Symposium

In November 2025, the 14th WPI Science Symposium was held in Tsukuba on the theme "New Scientific Eyes for Changing the Future". QUP of KEK led in organizing the symposium. There were 244 attendees including 49 high school students. A poster session in which 31 posters by high school students were presented side by side with 18 posters by young WPI researchers provided a very stimulating arena for high school students to interact directly with young

scientists of WPI centers.



Poster session of high school students and young scientists

Exhibition at 2025 Materials Research Society (MRS) and American Geophysical Union (AGU) Meetings

To foster direct communication and enhance WPI's global presence within the international research community, dedicated WPI booths were showcased at academic conferences in the United States. AIMR and iCeMS participated in the Fall Meeting of the Materials Research Society in Boston in November–December 2025, while I^{2}CNER, ELSI, and AIMEC exhibited at the Annual Meeting of the American Geophysical Union in New Orleans in December 2025, delivering the message: 'Join world-leading research in Japan.' The booths attracted about 1,000 young international researchers and students.

Many young researchers visited the WPI booths at MRS and AGU.