

# World Premier International Research Center Initiative (WPI)

## Host Institution's Commitment

Jun 2, 2017

To MEXT

The University of Tokyo  
Makoto Gonokami, President

Signature

I confirm that the measures listed below will be carried out faithfully regarding "International Research Center for Neurointelligence" adopted under the World Premier International Research Center Initiative.

### <Provision in host institution's mid-to-long-term plan>

• Describe clearly the host institution's mid-to-long-term plan and how it will position the center within that plan.

In its *Third Mid-Term Goals and Plans*, the University of Tokyo (UTokyo) has decided to "establish research hubs that address academic and social challenges in a pioneering, adaptive, and result-based manner and thereby promote solution-driven, interdisciplinary activities". For this purpose, particular attention has been made to "reinforce the organizational structure and operations platform of the University of Tokyo Institutes for Advanced Study (UTIAS) and other centers of excellence". The *UTokyo Vision 2020*, released in October 2015 to embody the motto of excellence and diversity, specifies the "expansion and establishment of internationally renowned bases for research" as a key action plan. The International Research Center for Neurointelligence (IRCN) will be positioned as the third UTIAS member institution in addition to the Kavli Institute for the Physics and Mathematics of the Universe (Kavli IPMU) and the Integrated Research System for Sustainability Science (IR3S).

Taking note of its 140-year history, post-incorporation situations of the national universities, and the recent drastic changes in the national and international socioeconomic environment, UTokyo is planning to apply for a Designated National University Corporation status in order to achieve greater academic governance and capabilities to contribute to the evolving social and economic needs. As per the *UTokyo Vision 2020*, we have been implementing a series of initiatives to enhance UTokyo's academic competitiveness. Those measures include: (i) to increase management efficiency by ensuring the transparency of human, financial, and technological resource allocation and by reviewing institutional research data, and (ii) to expand revenue and strengthen financial self-sufficiency through industrial partnership, effective use of available land assets, and other means.

### <Concrete Measures>

• Describe the concrete measures that the host institution will take to satisfy the following requirements.

#### 1) How the host institution will support the center's operation and research activities in accordance with the Application Guidelines, section "6. Host institution's commitment."

IRCN deals with the evolution of human intelligence, one of the unexplored fields of science. The

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Institute is expected to be a hub for advanced artificial intelligence (AI) research that assists in creating new robotics industries, intelligent healthcare systems, and other social advances. UTokyo has launched the Tsukuba–Kashiwa–Hongo Innovation Corridor Plan to foster a research and development platform on UTokyo's Kashiwa Campus for collaboration on innovative material, AI, analytical measurement techniques, and other cutting-edge topics. The National Institute of Advanced Industrial Science and Technology, the National Institute for Materials Science, the National Cancer Center, and UTokyo's spin-off venture companies will participate in this project. In addition, UTokyo established the Next Generation Artificial Intelligence Research Center in October 2016 and the Center for Education and Research of Mathematics and Data Science in February 2017. These initiatives aim to develop experts in next-generation AI, and mathematical and informatics sciences. In collaboration with these organizations, IRCN will apply its findings to a wide range of scientific arenas, thereby contributing to social and economic advancements. UTokyo has positioned the new WPI center as one of its most important driving forces for its structural reform, and will support its activities to achieve its clearly defined goals.

**2) How the host institution will establish a basic policy for the mid-to-long term direction of its organization and operation, one that restructures its existing organization in ways that give the center a permanent place within its organization. Please provide a concrete schedule for carrying out this organizational restructuring.**

Kavli IPMU, the first institute under the UTIAS umbrella, is undergoing organizational adjustments so that it can gain a stable and durable basis by the end of the extended WPI grant period. IRCN will be located at first under the UTIAS umbrella. Following the example of Kavli IPMU, the new WPI center will undergo organizational restructuring to obtain a stable and long-lasting status from a university-wide organizational perspective.

**3) Ways in which the host institution will provide support to sustain the center as a world premier international research center after the WPI grant period ends.**

IRCN will receive sufficient financial support from UTokyo's special budget committee established in 2015 to take responsibility for strategic development and management of revenue streams. Additionally, the University's Administration Bureau will provide the necessary financial and human resources support to the departments that assign their faculty members on a joint basis to the new WPI center to ensure that the establishment of the new center will cause no adverse impact on the research and educational activities of those departments.

**4) How will a system be instituted under which the center's director is able to make substantive personnel and budget allocation decisions necessary to implementing the center project—a system, which in practice, will allow the center director autonomy in making decisions regarding the center's operation.**

The success of Kavli IPMU will shape the new WPI center's executive leadership and governance policy. Specifically, budget and recruitment will not be a remit of the board of professors. Instead, the center director will assume sole responsibility for the recruitment of post-doctoral fellows, academic development of junior researchers, allocation of travel expenses, invitation of external speakers, project participation,

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and other matters related to the operation of the center. This top-down chain of command will help maximize the center's overall performance.

**5) Support that will be provided to the center director in coordinating with other departments within the host institution when recruiting researchers for the center, while giving reasonable regard to the educational and research activities of those departments.**

The center director and the director of administration will be primarily responsible for the operation and management of the center. In addition, a powerful administrative office will assist the center director to make quick and strategic decisions. This efficient and centralized management system will reduce the administrative load of the new WPI center's principal and other researchers who will have concurrent responsibilities in their other affiliations, such as the Graduate School of Medicine, Graduate School of Science, Graduate School of Pharmaceutical Sciences, Graduate School of Arts and Sciences, Graduate School of Frontier Sciences, the Institute of Industrial Science, and the University of Tokyo Hospital. The Administration Bureau will allocate adequate financial and human resources support to maximize their research and teaching potential.

**6) Flexibility that will be given in applying, revising, or outfitting the host institution's internal systems as needed for the center to effectively implement new management methods (e.g. English-language environment, merit-based pay, top-down decision making, cooperation in graduate education) unfettered by conventional modes of operation.**

The innovative solutions adopted at Kavli IPMU have revolutionized its organizational management strategies. UTokyo has been making efforts to improve the international competence of its administrative staff in assisting with the relocation of researchers from overseas. For example, the proportion of staff members who have scored 800 or higher on the TOEIC (Test of English for International Communication) has increased by 10% in the past 10 years, and over the next decade, over 30% of the total staff body is expected to be at this level. The current reform efforts of UTokyo include a systematic review and integration of international programs, creation of World-leading Innovative Graduate Study (WINGS), and support for graduate students. Such efforts will produce a synergistic relationship between IRCN and the graduate schools of UTokyo.

UTokyo is the pioneer in academic reform among Japanese higher education institutions. For example, we have adopted a cross appointment system and other programs to facilitate the employment of leading junior researchers and female researchers. We will launch a new initiative in April 2018 to increase the number of tenure-track faculty members aged 40 years or younger by leveraging a variety of revenue sources. This first-of-its-kind initiative aims to increase the number of researchers which had been shrinking due to the rising cuts in Government funding for operating expenses. At the start of the academic year (AY) 2017, 89 researchers aged 40 years or younger have gained tenure-track positions. The aim is to increase the number to 300 by the end of AY 2020. UTokyo is dedicated to designing, revising, and implementing strategic faculty employment and allocation policies.

**7) The accommodation that will be given the center's infrastructural requirements (for facilities,**

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e.g., laboratory space; equipment; land, etc.).

IRCN will occupy a sizable, dedicated area on Hongo Campus to host an interactive, collaborative environment. UTokyo's cutting-edge apparatuses and equipment will be available to internal and external users upon request. Agreements will be made to allow the WPI center researchers to gain prioritized access to such facilities and other shared research spaces.

UTokyo is dedicated to fostering a safe and comfortable living environment for researchers and students from abroad. Under the President's globally outward-looking leadership, construction of the Mejirodai International Residence Hall is underway in the vicinity of Hongo Campus. The building, which will be completed by the end of July 2019, will cover an overall floor space of 28,700 m<sup>2</sup>, housing 857 rooms for international researchers and students (95 and 476, respectively), as well as domestic male and female students (95 and 191, respectively). The geographic proximity provides an easy access to Hongo Campus. Negotiations are underway to prioritize a certain number of residential rooms for overseas researchers and students of the new WPI center.

## **8) Other types of assistance that will be provided to give maximum support to the center in achieving its concepts and objectives and in becoming a world premier international research center in both name and deed.**

The UTIAS Steering Committee, chaired by the board member responsible for the WPI initiative, provides guidance and recommendations on internationally competitive WPI centers. Specifically, the committee provides university-wide support for the proposed center, enabling close coordination and maximum synergy with Kavli IPMU and IR3S. UTokyo is planning to revise its administrative personnel management policy in a step-wise manner, starting in April 2018. With the goal of ensuring a robust financial basis for operations, this revision aims to develop and maintain professional administrative staff members capable of creating new value and transform their occupational self-identification from "administrative workers" to "academic clerks", and UTokyo is shifting gears from "school management" to "business administration". The establishment of the Future Society Initiative Co-creation will be a key milestone in this regard. These university-wide reform efforts will provide maximum support for the proposed WPI center.

## **9) How the host institution will self-evaluate the good results of the system reforms achieved by the center and take the initiative in extending them to departments throughout its organization.**

The 2016 WPI Follow-up Report, issued in February 2017 by the WPI Program Committee, reads as follows:

"Kavli IPMU has initiated a number of system reforms: nenpo system and merit-based salary system, split appointments, top-down management, Kavli endowment, and non-traditional tenure positions. These reforms have become widespread in other WPI centers, and even adopted by MEXT in its National University Reform Plan".

IRCN will adopt these proven approaches, and influence the future reform actions of the host organization by showcasing their positive impact.

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- 10) If the host institution has already established a WPI center, it should be fully supporting the maintenance and further development of the existing center and be capable, at the same time, of fully supporting the new center.**

Kavli IPMU has adopted a variety of innovative administrative measures, which include a cross appointment system (a first among Japan's higher institutions), a flexible wage system to recruit world-class scientists, quick top-down decision-making, and the appointment of an internationally competent administrative staff to provide daily-living support for overseas researchers and their families who have relocated to Japan. Their success has positively shaped the subsequent reform actions by the Administration Bureau. UTokyo has introduced a special employment system for promising junior researchers. In 2016, it launched a special program to register university research administrators (URAs) and senior URAs who can provide assistance in strengthening its research quality. Starting in 2017, indefinite-term, annual-salary, full-time employment opportunities will be offered to selected URAs. The appointment of such researchers and URAs to Kavli IPMU and the new WPI center will advance the future reform movement of UTokyo.

Kavli IPMU is devoted to the mystery of the birth of the universe, whereas IRCN aims to investigate the neural basis of human intelligence. Despite the differences in the research fields, both centers address fundamental scientific challenges using approaches characterized by excellence and diversity, the hallmark of UTokyo. The mutual influences between the two centers will help UTokyo gain world-wide recognition as a premier research university.