

20 years, and uses this experience in managing this center. By incessantly supporting his efforts, the University is realizing the “new ventures for the university” that are demanded by tomorrow’s society.

We specified “International Institute for Integrative Sleep Medicine” for a Midterm Plan in FY2012.

<Concrete Measures>

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

(1) How it will support the center’s need to secure resources that match or exceed the project grant through such means as competitive grants obtained by researchers participating in the project, in-kind contributions and other forms of assistance by the host institution (including partial payment of salaries, provision of research space), and/or external donations.

In order to manage this center and carry out research activities there, the University is giving support as indicated below which amounts to at least as much as the support supplied by the WPI program. Further, even after the Funding Program for World-Leading Innovative R&D on Science and Technology (FIRST Program) ends its “Molecular Mechanism and Control of Complex Behaviors” project which formed the basis of this center, personnel and laboratory resources have been expanded significantly through MEXT’s kind support as well as the University’s self-funding and outside funding to support the participating researchers.

- 1) The University of Tsukuba Organization for the Support and Development of Strategic Initiatives (formed by the University President and Vice-President) continues to give intensive support to make this an international center pioneering new fields, as one of the Organization’s strategic initiatives. Specifically, the Organization supports the center with ¥10 million per year to cover expenses of center activities.
- 2) Competitive research funds obtained by researchers participating in the center
Competitive research funds obtained by researchers participating in the center amounted to an average of US\$8.86 million in the past 5 years, and it was anticipated that an equivalent amount would be gained. However, the Center Director resigned from Howard Hughes Medical Institute (HHMI) Investigator according to recommendation by the WPI committee, and the significant funding from HHMI was lost at the end of FY2013. After the completion in FY2014 of the FIRST program that founded this center, the total amount of competitive funds dropped to a level of serious concerns, i.e., US\$1.78 million, but the financial crisis was avoided quickly by rapid increases in the external funds growing by 100% every year. The amount in FY2016 reached US\$6.10 million thanks to great efforts by all researchers participating in this center. The University has provided full support for their applications for competitive external and internal research funds.
- 3) Support through handling of personnel expenses
The personnel expenses of the Vice Center Director and 5 Collaborative PIs in the University participating in this center have been treated as University personnel expenses for researchers. University staffs (3 persons) have been assigned to carry out the administrative works of the center such as general affairs and accounting. The expenses for these staff have been handled by considering them to be administrative staff participating in an administrative support division. Further, a half of personnel expenses of a University Research Administrator has been born by the University.
- 4) Support through supply of research space
The University used its Facility Department to implement building of research facilities (8,000 m²) according to a plan that gives the center an outstanding research environment and distinctive tangible advantages.
- 5) Support for the use of research facilities
Various core facilities have been offered for use (see paragraph (5) below).

(2) How it will institute a system 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, allows the center director autonomy in making decisions regarding the center’s operation.

This center is established as an independent research organization separate from other research bodies, and also as a special institute for the purpose of making the level of research at the center as high as any in the world.

In order for the center director to be able to fully exercise his leadership, the system has been instituted in which the director has managerial powers over key aspects of the center, including the power to decide upon personnel and the budget. In order to implement this system, the University has taken necessary measures such as amending relevant regulations as needed. Further, the director is supported by the administrative division established within this center which includes Professor Toshio Kokubo who has rich administrative experience such as the Senior Director of Biomedical Research Laboratories, Pharmaceutical Division, Takeda Pharmaceutical Co. Ltd., administrative personnel dispatched from the University for support, and other personnel recruited from outside the University. These personnel supply the director with the information needed for him to hand down decisions, and keep the director’s work load from becoming excessive.

(3) The support it will provide 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 Deliberative Committee to Prepare for Establishment of the University of Tsukuba International Institute for Integrative Sleep Medicine was established with the President as the head and persons in charge of research, administration, finances, and facilities, University Vice Presidents and Division Directors with international responsibilities, and related institute directors participating. Necessary adjustments were made within the University to support design of the organization of this center.

At the establishment of this center, 5 persons from other institutes/faculties in the University assembled in this center as collaborative principal investigators, and thorough adjustment was made with those institutes/faculties in keeping with this center’s status as a priority target for the Organization for the Support and Development of Strategic Initiatives.

Specifically, adjustment and support were carried out so that there is no impediment to the research and education carried out by the institute/faculty in question; these support included securing replacement personnel and taking measures to reduce administrative and educational work loads.

(4) Its flexibility in applying, revising, or supplementing 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) unfettered by conventional modes of operation.

This center has been made an independent research organization reporting directly to the University President and kept separate from other research centers. University systems have been executed flexibly, making amendments and adjustments as necessary.

Specifically, English is the official language of the center, with the administrative tasks carried out in English and administrative documents made bilingual. Persons with high English proficiency were recruited from within and outside the University, and further training has been provided to some persons after entering the center as needed.

Under the management of the director, systems for determining salaries based on merit, for annual salaries, for evaluating researcher's achievements, for determining salaries based on evaluations of the work, and for renewal of contracts are being introduced.

Also, to deal with requests for flexible execution, improvement, or adjustment of systems in the center, the director exercises the functions established by the Organization for the Support and Development of Strategic Initiatives for dealing with research groups to take appropriate measures, subject to amendment through negotiation with the University President and related Vice Presidents and administrative divisions.

(5) Its accommodation of the center's infrastructural requirements (for facilities, e.g., laboratory space; equipment; land, etc

In order to assemble many leading researchers by making the center the one place where they want to work, the University used its Facility Department to the greatest extent to implement building of research facilities according to the plan that gives the center an outstanding research environment and distinctive tangible advantages so that it can claim with confidence to be a place for research of the highest level.

Specifically, construction of a new building to house the Center was completed successfully. The construction started in February 2014 and completed in May 2015.

The building has a total floor space of 8,000 square-meters and is designed as state-of-the-art research laboratories, incorporating opinions of researchers and the recent design trend of the world's leading research institutes. The building provides an optimum environment for creative studies to elucidate the fundamental mechanisms of sleep/wake. It is located close to Laboratory Animal Resource Center in the University, with which close collaboration is essential for the success of the Center. There is a natural pond named "Kasuga-ike" in front of the building, and the pond and its surround are arranged as a natural garden of the building. The modern research facilities surrounded by the natural atmosphere serve as the center of excellence for the studies of sleep/wake.

Until the construction had been completed, we continued to use the building that housed the FIRST Program, the Health and Medical Science Innovation Building, as main research facilities. However, its space available for the Center was limited, and it was provided with temporary floors on the Laboratory of Advanced Research and some labs in TARA Center in the University for rapid start-up of the studies.

Further, University of Tsukuba has provided university housing or satisfactory housing close to the University to researchers and administrative staff participating in this center, including foreign researchers. The University has also made its housing facilities available to foreign and Japanese researchers visiting this center so that they can hold seminars and carry out joint research.

(6) How it will support to sustain the center as a world premier international research center after the WPI-grant period ends.

As a concrete policy for raising the level of research to the highest international level, a goal proclaimed in the University's Midterm Plan, it is stated in this Plan that the University shall "promote high quality fundamental research taking a long term view of academic progress" and that "research groups and organizations which are expected to achieve outstanding research results will be singled out for appropriate support, including allocation of research resources, hiring of supporting personnel, and reforming of organizations, and will be aggressively promoted as international centers of research." The measures necessary to make this one of the world's leading centers, of which the University may be proud, shall be taken.

Specifically, in the third mid-term plan of University of Tsukuba starting from FY2016, it has set out a strategic framework of research resources over the entire university and planned to reallocate it, based on evaluation of research activities/achievements. Tenure positions are also subjected to the reallocation. The President, University of Tsukuba, Dr. Nagata has committed himself to offer a tenure position to the PI that produces sufficient research achievements in IIIS by using the planned reallocation system, so that IIIS will survive as a World premier international research center beyond the end of the WPI program implementation period. Details shall be decided upon consultation between the Vice Presidents in charge of Research and Personnel Affairs.

(7) Other types of assistance it will provide to give maximum support to the center in achieving its concepts and objectives and becoming a world premier international research center in both name and deed.

The University of Tsukuba is striving to be an “open university,” and is leading the way in realizing a flexible education and research organization and the new university organization demanded by tomorrow’s society. With this as the conceptual basis of our policies, we have introduced reforms in Japan’s universities. Dr. Sin-itiro Tomonaga, Dr. Leo Esaki, and Dr. Hideki Shirakawa are Nobel prize Laureates associated with the University, and in recent years, two of the centers of the Funding Program for World-Leading Innovative R&D on Science and Technology (FIRST Program) created by the Japanese government are being run in the University.

Also, in order to make the University more international, it is one of 13 universities promoting the formation of a network, Global 30, that makes international interactions a part of daily activities, and that makes the University into a world center of knowledge.

A University of Tsukuba research administrator (URA) headquarters (headquarters chief: the Vice President in Charge of Research) which is charged with carrying out business involving the URAs who are sent from the Ministry of Education, Culture, Sports, Science and Technology provide support for research strategies, international joint efforts, compliance with legal and social requirements, etc. that are key to this center’s research activities.

In order to truly raise the research level of this center as high as any in the world, the know-how and resources which can be the basis of such accomplishments must be exploited to the maximum extent. It is the responsibility of the University to see that this is carried out, by supplying all necessary support.