

International Joint Research **FY2024 Application Guidelines**

The Institute of Medical Sciences, the University of Tokyo (IMSUT) has been promoting the Joint Usage/Research Center Project since FY2010, supported by the Ministry of Education, Culture, Sports, Science and Technology (MEXT). On 13 November 2018, IMSUT was authorized as the "International Joint Research Center for Promoting Basic and Applied Research and Implementing Translational Research", allowing us to expand our activities worldwide.

In FY 2021, IMSUT was approved to continue its International Joint Research Center project in line with MEXT's policy. The primary objective of this project is to establish IMSUT as a hub for international joint research to promote and accelerate medical science in Japan and abroad. Toward this goal, we have been making efforts to improve the system. We aim to improve medical science research standards at the international level, to increase new academic and scientific knowledge in medical science, to promote research and development of innovative medicines and medical technology, and to foster medical researchers and promote their wider exchange.

In addition, we are working toward the creation of new interdisciplinary research areas by opening up the latest achievements of genome analysis and our research infrastructure and applied technologies for infectious diseases, immunology, oncology, regenerative cell medicine, and gene therapy technologies to all researchers both in Japan and abroad.

We invite proposals for international joint research in the following three joint research areas: (1) Development of Cutting Edge Medical Therapies, (2) Genome/Cancer/Disease Systems Biology, (3) Infectious Diseases and Immunology.

We look forward to the visits of researchers from various research institutes both in Japan and abroad, and to promoting the authorized projects, which will lead to the vitalization and development of joint research.

1. Program Outline

A) Research Areas Inviting Proposals

Research proposals in the three research areas described below are being invited. Researchers specified in the proposal are expected to collaborate in pursuit of groundbreaking and innovative research through this program. For more information about our research areas, please visit the following webpages:

<https://www.ims.u-tokyo.ac.jp/imsut/en/lab/index.html>

(1) Development of Cutting Edge Medical Therapies:

In the research area of Development of Cutting-Edge Medical Therapies, we invite proposals (basic research and clinical research) for clinical application.

IMSUT has been keenly engaged in Translational Research (TR) that applies the results of basic

research to clinical medicine. A number of therapeutic and preventive approaches are being developed for a wide range of diseases including cancer, infectious diseases, immunological diseases, and hereditary and intractable diseases, by the identification of novel target molecules and the development of therapeutic and preventive methods using various approaches such as antibodies, small molecule therapeutics, gene and cell therapies, and regenerative medicine.

We have various facilities to support FACS analysis, proteomics analysis using the latest high-precision nanofluid liquid chromatography-tandem mass spectrometry system, and a supercomputer specialized for medical science and genome analysis. These facilities are used by many researchers for various types of research. In addition, our affiliated hospital provides medical treatment, clinical trials, and clinical studies for hematopoietic diseases, brain tumors, gastrointestinal diseases, infectious diseases, and allergic and immunological diseases.

As described above, we have an environment in which basic research and clinical application can be conducted seamlessly, and many researchers and physicians are involved in medical development. We would like to make this excellent environment widely available to researchers outside IMSUT and contribute to the development of medical care through joint research.

(2) Genome/Cancer/Disease Systems Biology:

We invite innovative and ingenious proposals that connect basic research to medical care in the fields of genomics, cancer, and disease systems.

In the field of genomics research, we aim to establish innovative medical treatments and disease prevention methods by conducting not only wet research (e.g., the development of new technologies for genetic analysis, the identification of marker genes useful for early diagnosis and treatment selection, and the development of molecular-targeted therapies using genetic information) but also dry research based on genomic information (e.g., the construction of databases integrating genomic and medical information).

In the field of cancer research, we aim to elucidate the mechanisms of cancer development and progression, and to develop new diagnostic and therapeutic methods for cancer by analyzing functions of oncogenes, tumor suppressor genes, and other cancer-related molecules at the gene, metabolite, protein, and cellular levels, as well as at the organism level using model animals and human clinical samples.

In the field of disease systems research, we invite research proposals that consider the living body (organism) as one system. By creating animals (mice, rats, etc.) genetically modified in molecules involved in the etiology of human diseases (e.g., cancer, autoimmune, and infectious diseases), we aim to elucidate the roles of their dysfunction in the pathophysiology of impacted diseases, and to establish new treatment methods.

(3) Infectious Diseases and Immunology:

We invite proposals aimed at applying basic research results in the field of Infectious Diseases and Immunology to clinical practice.

In addition to emerging and re-emerging infectious diseases caused by viruses, bacteria, fungi, parasites, and nosocomial infections caused by anti-microbial resistant bacteria (AMR), which are becoming more serious due to globalization and global warming, the pandemic of a new coronavirus and the worldwide outbreak of monkeypox have raised public concern and awareness of infectious diseases to an unprecedented extent. Infectious diseases are becoming more prevalent than ever before.

Furthermore, sudden changes in our lifestyles and environments not only affect infectious diseases, but also lead to rapid increases in allergic and autoimmune diseases caused by abnormal host responses.

Considering this background, we are conducting basic research investigations on pathogens and host immune responses in infectious diseases and other immunological disorders, and we aim at research and development of new vaccines and therapies based on the knowledge obtained from our findings.

We welcome original challenging proposals aimed not only at analyzing pathogens that cause infectious diseases, elucidating pathophysiology and developing new treatments for infectious diseases, autoimmune and allergic diseases, but also developing new analytic techniques in pursuit of their application.

B) Project Members

Institution outside Japan (Applicant) + Institution(s) inside and outside Japan (Project member(s)) + IMSUT (Host Researcher)

Note: Each project applying for this program is strongly encouraged to have a researcher who belongs to a Japanese institution other than IMSUT among its project members. This point is highly valued in the screening process. There is no upper limit to the number of institutions participating in the Program.

C) Research support to the accepted projects

Successful applicants and project members are allowed the same access to IMSUT facilities as our faculty members. (Please consult with the IMSUT Host Researcher about the necessary procedure to use the facilities.)

< Pledge >

Applicants are required to pledge to the following three terms to IMSUT.

- ✓ I will comply with the instructions of the IMSUT host researcher, relevant laws and regulations, and the application guidelines when conducting the joint research project.
- ✓ If I encounter any unclear points or problems while engaged in joint research activities at IMSUT, I will consult with the IMSUT host researcher and deal with them in good faith.
- ✓ I will explain the above terms to my project members, including new members who joined in the middle of the fiscal year, and ensure that they comply with them.

2. Eligibility

- The “Principal Investigator” must be a researcher at a university or public research institute outside Japan.
- The “IMSUT Host Researcher” must be a principal investigator at IMSUT.
- “Project Member(s)” must be researcher(s) inside and outside Japan.

Undergraduate (fourth year, or fifth/sixth year in six-year undergraduate programs) and graduate students are eligible to participate*. We look forward to the active participations of students as well as young scientists.

<Before starting the joint research>

Undergraduate as well as graduate students are required to enroll in personal accident insurance for students ("Gakkensai" etc.) at their home university. Undergraduate students are also required to conduct experiments under the supervision of the IMSUT Host Researcher or a faculty member of their home university. Researchers who are not covered by accident insurance by their home institution must obtain accident insurance coverage at their institution.

< Security Export Control >

Researchers who belong to the University of Tokyo are required to undergo a security export control check if the research project involves exports (e.g., receiving/employing researchers, providing technology, exporting observation equipment, etc.), so please contact the Office of Export Control (anzen[at]ducr.u-tokyo.ac.jp).

To Researchers who do not belong to the University of Tokyo:

Please confirm the procedures and related laws and regulations for security control at your own institution when participating in joint research at IMSUT.

3. Duration of Joint Research

Support period: 1 year, lasting from April 1, 2024 until March 31, 2025

Support period can be extended up to 3 years; however, an application for extension is required for each fiscal year. For any multi-year joint research application, the selection examination will be conducted based on both the evaluation for the entire period's and the single period's research plans. (See 4. Application Procedure <Application for Continuing Joint Research>)

*If the applicant wishes to continue the project after the third year of a project's duration, a new application with a new project title is required.

4. Application Procedure

The applicant is required to consult closely with the IMSUT Host Researcher prior to the application and submit the “FY2024 International Joint Research Application form” (Form 1) via the IMSUT Joint Usage/Research Online Management System.

- [IMSUT Joint Usage/Research Online Management System](#)

*Please refer to the User Guide

< Application for new joint research >

- Form 1: FY2024 International Joint Research Application Form (New)

< Application for continuing joint research >

- Form 1-1: FY2024 International Joint Research Application Form (For Continuation)

*In Form 1-1, please report on the research progress since adopted.

5. Deadline

Please complete the application by 17:00 on November 30, 2023.

Applications submitted after the deadline will not be accepted regardless of the reason.

6. Notification of Selection Results

Applicants will be notified of the selection results around late March 2024.

If the application is successful, the applicant, the project member(s), and the IMSUT Host Researcher are required to comply with these “Application Guidelines”, the above “Pledge”, and the “Important Notes for PIs and Host Researchers of Accepted Projects” stated in the “Notification of Selection Results”. Please read them carefully before starting the joint research. (See 1. Program Outline)

The “Principal Investigator” and each “Project Member” can engage in joint research activities at IMSUT as an “IMSUT Joint Research Project Researcher (JRP Researcher)”.

7. Research Funding

The maximum funding an applicant can request per fiscal year in expenses to conduct the joint research is 2,500,000 JPY.

This aims to support the applicant and/or project member(s) with the travel expenses needed for coming to IMSUT, for the purpose of joint research only. Thus, the funding cannot be used for IMSUT faculty members’ travel, nor for other purposes such as attending academic symposia.

The funding can also be used for expendable supplies, but in that case, they need to be purchased by the IMSUT Host Researcher and should be used at IMSUT, for the specified joint research purpose only. Please note that the lab of the Host researcher will handle necessary procedures for the JRP Researchers’ expenses.

If the Principal Investigator and/or “Project Member(s)” cannot visit IMSUT due to the COVID-19 pandemic, we encourage joint research activities without visits.

We approve the following expenditures.

- Expenses for purchasing expendable supplies, and shipping fees in joint research activities without visits, for the specified joint research purpose only.

(Please note that they need to be purchased by and delivered to IMSUT.)

E.g.)

- IMSUT Host Researcher sends reagents purchased at IMSUT to the PI’s institution, requesting the

PI to conduct an experiment.

→ The funding can cover the expenses for purchasing reagents, and also the shipping fee.

- PI sends cells etc. to IMSUT and requests the IMSUT Host Researcher to analyze them.

→ The funding can cover the shipping fee, and also the expenses for purchasing expendable supplies needed for the analysis.

Cancellation charges for flights, hotels etc., when the scheduled visits were cancelled due to the COVID-19 pandemic.

Please consult closely with the IMSUT Host Researcher in conducting the joint research projects.

8. Submission of Report

After the end of FY2024, PIs and IMSUT Host Researchers are required to submit a report in the prescribed format.

< Joint research continuing to the next fiscal year >

- Form 2: FY2024 International Joint Research Report (Annual/~~Project Completion~~)

*Report on the progress made during FY2024

< Joint research completing at the end of the fiscal year >

- Form 2: FY2024 International Joint Research Report (Annual/~~Project Completion~~)

*Report on the achievements obtained through the project period

*Further details, including the due date, will be announced later.

*IMSUT will also ask the PIs and the Host Researchers to fill out a questionnaire on this project.

*Please do not include any research paper that does not include an acknowledgment for this project, in the case that member(s) of IMSUT are not among the authors.

9. Publishing of the Report

The submitted report will be published on the website of IMSUT. The report should be submitted with particular attention to matters related to intellectual property. (See 8. Submission of Report)

10. Submitting Scientific Papers

When a scientific paper is to be published with the support of this project, it should contain an acknowledgment of the project's support.

- Project Name: International Joint Usage/Research Center
- Example Sentence of an Acknowledgment: This study was supported (partly) by a Grant from International Joint Usage/Research Center, the Institute of Medical Science, the University of Tokyo.

11. Intellectual Property Rights

In principle, the attribution of intellectual property rights should be determined by consultation between the institutions concerned, considering the contributions of each researcher and institution.

12. List of Forms

- Form 1 : FY2024 International Joint Research Application Form (New)
- Form 1-1 : International Joint Research Application Form (For Continuation)
- Form 2 : FY2024 International Joint Research Report (Annual/Project Completion)
- Form 3 : Notice of Change in Principal Investigator's Affiliation
- Form 4 : Request for Change of IMSUT Host Researcher

13. Contacts

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