

Program for Development of Next-Generation Front-Runners with Comprehensive Knowledge and Humanity (for Science and Engineering fields)

Fall Enrollment FY 2024 Application Information

This program is for the students enrolled in the doctoral program at Science Tokyo (Science and Engineering fields) in October 2024. For details on eligibility, please refer to "3. Eligibility." Applications may be cancelled or the details of the support and obligations of the supported students may be changed due to budget constraints or review of the program.

1. Purpose of This Program

Since FY 2021, Tokyo Tech has supported doctoral students who will play a key role in the future of science, technology, and innovation in Japan based on "Tokyo Tech Advanced Human Resource Development Fellowship for Doctoral Students" and "Cross the border! Tokyo Tech pioneering doctoral research project" subsidized by Ministry of Education, Culture, Sports, Science, and Technology (MEXT) and Japan Science and Technology Agency (JST), respectively. These programs have sought to empower such students to pursue a doctorate without hesitation, financial burden, or career uncertainty, and to choose diverse career paths that maximize their potential.

From FY 2024, the Institute has continued the basic initiatives of these programs and integrated them into a new program, " Program for Development of Next-Generation Front-Runners with Comprehensive Knowledge and Humanity."

This program aims to produce highly specialized human resources who will address modern societal challenges and contribute to the welfare and happiness of all members of the global community. It also aims to equip doctoral students with advanced specialized skills and versatility to independently choose their own careers from a variety of professions. Supported students will each receive a research incentive grant equivalent to living expenses and support for research expenses for up to three years, and will participate in various initiatives aimed at improving their research skills and supporting their career paths.

2. Expected Program Slots

37 slots (expected number)

This is the only opportunity for students enrolling in or advancing to doctoral studies at Science Tokyo (Science and Engineering fields) in October 2024 to apply for this program. In the event that a student withdraws after being selected, a previously unsuccessful applicant for this round may be moved up and selected.

3. Eligibility

Applicants must meet all the following requirements:

1. Students enrolling in or advancing to the following six schools of Science Tokyo in October 2024: School of Science, School of Engineering, School of Materials and Chemical Technology, School of Computing, School of Life Science and Technology and School of Environment and Society
2. Those who live in Japan as of October 1, 2024¹
3. Those who are willing to contribute to the creation of science, technology, and innovation in Japan even after completing the doctoral program
4. Those who aspire to solve the various problems that modern society will face and contribute to the welfare and happiness of all members of the global community, as next-generation front-runners with comprehensive knowledge and humanity
5. Those who wish to devote themselves to research in the doctoral program and independently choose their own careers

Note: Students to whom any of the following conditions apply are not eligible:

- a. Those who are or will be receiving scholarships or grants that restrict them from receiving funding from other sources, such as recipients of the JSPS Research Fellowship for Young Scientists, Japanese government (MEXT) scholarship students, and recipients of overseas government scholarships.² For university-recommended private scholarships, etc. which restrict them from receiving funding from other sources such as this program, applicants who have applied for the private scholarships by themselves can apply for this program but must withdraw from this program if they are selected for the private scholarship. In addition, those who have registered for a university-recommended private scholarship through the Registration Form for Privately Funded Scholarships and have been selected and have agreed to be a candidate for the scholarship which restricts them from receiving funding from other sources must withdraw from this program, even if they are still in the process of selection.
- b. Those who are recognized as earning stable income such as salaries and executive compensation exceeding 2.4 million yen per year as living expenses from the university or company to which they belong, as of October 1, 2024. However, part-time jobs, RA/TA compensation, paid internships, etc. are not considered stable income and are not subject to the 2.4-million-yen annual income limit. Even in such cases, it is not acceptable if such activities affect the fulfillment of supported students' obligations.

¹ If, despite having completed the prescribed procedures without delay, the visa, COE, etc. cannot be issued in time to fulfill the conditions concerned, the application will be accepted with assumption that the following three conditions will be observed. Please note that the payment of the research incentives and the use of the research funds will be delayed depending on the date of entry.

1) Enter the details of the reason and the expected date of entry into Japan in the "Supplementary Information" of the application form and submit it. 2) Submit documents (passport or a copy of the resident card) that can confirm the date of entry into Japan as soon as the applicant enters Japan. 3) If the applicant does not have a Japanese bank account in his/her own name at the time of application, enter the details of the reason and the expected date of submission in the "Reason for Non-Submission" section of the application form and submit it.

² Applicants who are scheduled to receive the Tsubame Scholarship for Doctoral Students, or IIR New Research Fellow Program can also apply. However, if you are selected for this program, those scholarships must be terminated. You cannot receive both. In principle, students enrolled in Science Tokyo Academy of Leadership and other Science Tokyo Academies are eligible to receive the scholarship for this program. For details, please contact the administrative staff of each Academy, as there are differences between each Academy, such as conditions for concurrent pay, etc.

- c. Those who are currently on a leave of absence, or plan to take a leave of absence.³

4. Support

4-1. Amount of support

Item of expenditure	Amount	Eligible persons	Payment method
a. Research Incentives (equivalent to living expenses)	2.16 million yen per year (180,000 yen per month)	All	Monthly remittance to the account specified by the student
b. Research Funds	300,000 yen per year (150,000 yen for half-year period)	All	Budget execution management at the Institute
c. Off-Campus Study Plus	Varies by destination and period	Selected from applicants	Budget execution management at the Institute

a. Research Incentives (equivalent to living expenses)

- In principle, monthly payments are made to the account designated by the student. (However, the first payment will be made in January 2025 for the months of October 2024 through January 2025 at a time.)
- There are no restrictions on how the money is used, and unused portions are not subject to return. Reporting to the Institute is not necessary.
- Research incentives are treated as miscellaneous income under the tax law and are subject to income tax and resident tax.
 - In principle, you need to file a final tax return every year.
 - If you are regarded as a dependent for health insurance or dependent allowance purposes, be sure to contact the person who is obligated to support you (such as a parent) and the relevant person in charge at their workplace. (In principle, you need to be removed as a dependent.)
 - You are required to complete and manage your own social insurance (pension, etc.) procedures.
 - Please contact your local tax office for information on tax treatment and final tax returns.

b. Research Funds

- Expenses can be paid as long as they are necessary for conducting your own research. However, there are some expenses that cannot be included.

³ If the leave of absence is for reasons such as study abroad, childbirth, childcare, or injury or illness, and the committee approves, selection of the student may not be cancelled. In this case, payment of the research incentives and research funds will be temporarily suspended during the period of the leave of absence, and will be resumed when the student returns to Science Tokyo. If you are planning to apply for this program, please consult with us in advance using the inquiry form (see "10. Contact") on our website.

- Please use the funds responsibly and in accordance with the plan described in the application documents.
- The budget will be managed by the Institute, and your academic supervisor will be the Administrative Budget Manager. Science Tokyo will retain ownership of all items purchased.
- The period of use is limited to the current fiscal year. In principle, unused funds cannot be carried over and must be returned.

c. Off-Campus Study Plus

This program provides additional support for travel and other expenses (airfare, lodging, daily allowance, visa fees, etc.) when conducting off-campus studies. Details will be provided again after you are selected.

4-2. Support Period

Up to 3 years (October 1, 2024 – September 30, 2027)

This support is available only while enrolled in the doctoral program. If the period of enrollment is interrupted by a leave of absence or exceeds three years, support will not be available during the subsequent period. However, if the leave of absence is for reasons such as study abroad, childbirth, childcare, or injury or illness, the support may be temporarily suspended and then resumed or subsequently extended, depending on individual circumstances.³

4-3. Notes

- If doctoral students who are selected as JASSO (Japan Student Services Organization) Type 1 Scholarship recipients are selected for this program, they are not eligible for the scholarship return waiver certification under the "Scholarship Return Waiver Program for Outstanding Achievement".
- The program provides financial support for students' research, and no employment relationship will be established between the students and Science Tokyo. Therefore, it is necessary for students to take care of their own social insurance, pension, etc.

5. Obligations

Students selected for this program will have the following obligations:

- Understanding the purpose of the program and striving to acquire skills
- Completing one of the following activities or courses from a and b:
 - a. Conducting off-campus study abroad or in Japan for at least 90 days (a combination of periods is acceptable). Overseas study is preferred, but research or an internship at a domestic company or academic institution is also acceptable. International students are encouraged to study outside their home countries.
 - b. Taking one of the following (b1 to b4):

- b1. 4 credits from DSAI Expert Level⁴ & 3 credits from DSAI Expert Level Plus Courses⁵
- b2. 4 credits from DSAI Expert Level & 3 credits from Entrepreneurship Courses⁶
- b3. 3 credits from DSAI Expert Level Plus & 4 credits from Entrepreneurship Courses
- b4. 8 credits from Japanese language and culture courses (selectable only for international students⁷; see next section for details)

- To attain the minimum level of Japanese language required for international students to continue their careers in Japan, those with no prior experience in Japanese language study must take 2 credits of Basic Japanese 1 and Basic Japanese 2 in the designated course list of Japanese Language and Culture Courses. Students with no prior experience in Japanese language study are those who are judged to be at the B1 or B2 level on the placement test for Japanese Language and Culture Courses (students who do not fall into this category are exempted from taking Basic Japanese 1 and Basic Japanese 2). When taking "Basic Japanese 1" and "Basic Japanese 2," students may register them as "Japanese Culture and Language 1/2/3/4 (LAJ.C602.1/2/3/4)" and regard them as the Humanities and Social Science Courses among the requirements for completion of the doctoral degree.

International students at the basic or intermediate level of Japanese language (those who are judged to be at the B1 to B4 or I1 to I8 level on the placement test for Japanese Language and Culture Courses) who take 8 credits from the Japanese Language and Culture Courses (Course Number 400 and 500 series) are considered to have fulfilled obligations b (b4). The 8 credits taken in this case are not included in the requirements for completion of the doctoral degree, and the student must register them as a 400 or 500 series course. However, if "Basic Japanese 1" and "Basic Japanese 2" are included in the 8 credits, these two courses may be considered as credits of the doctoral degree requirements by registering them as "Japanese Culture and Language 1/2/3/4 (LAJ.C602.1/2/3/4)". Please refer to the following website of Japanese Section:

<https://js.ila.titech.ac.jp/~web/index.html>

- Participating in at least two designated events, courses, etc. from those on the Career Development Content List every fiscal year. Participating in at least one in the fiscal year of six-month support
- Participating in research meetings, workshops, seminars, etc. designated by this program
- Registering the matching system of Cooperative Education through Research Internships
- Applying for a JSPS Research Fellowship (DC2)
- Taking the designated research ethics and compliance training

⁴ Complete courses in accordance with the requirements for completion of the Expert Level of University-wide Education Program in Data Science and Artificial Intelligence. Students who have already taken courses included in the Expert Level (including those who have completed the requirement of the Expert Level) must take 4 credits from the courses they have not taken.

⁵ Complete courses in accordance with the requirements for completion of the Expert Level Plus of University-wide Education Program in Data Science and Artificial Intelligence. Students who have already taken courses included in the Expert Level Plus category must take the Expert Level Courses that they have not yet taken in addition to the remaining Expert Level Plus Courses required (total of 3 credits).

⁶ Students must take courses from the course list of Entrepreneurship Courses. In both cases, course credits cannot be included in the requirements for completion of the doctoral degree.

⁷ Those who fall under any of the following categories are not eligible to select b4.

- Those who have obtained a bachelor's degree from a Japanese university (excluding GSEP students).
- Those who have passed JLPT N1.
- Those who have been judged to have sufficient Japanese language ability by the Japanese language instructor.

- Indicating in acknowledgments that you have received a grant from this program
- Submitting a summary of the above performance and research achievements by the designated date
- Preparing an expenditure record that contains details of the use of research funds, etc.
- Filing a tax return every year
- Cooperating in career-related follow-up surveys for up to 10 years after completing the doctoral program

6. How to Apply

Applicants who have completed both "6-1. Online application" within the following application period are eligible for screening.

Application period: Tuesday, October 1, 11:00 a.m. (JST) to Tuesday, October 15, 11:00 a.m. (JST) (strict deadline)

You may apply for "BOOST"(Development of Co-creative Experts towards Top-level AI Research) concurrently with this program. "6-1. Online application" is for both of the programs. Even if applying for both of the programs, the application process can be completed by online application simultaneously. Do not apply for each program separately.

6-1. Online application

- Applicants by themselves must fill out and submit the online application form.
- If the form is filled out and submitted by someone other than the applicants, the application will be disregarded.
- After the online submission, any corrections of the information or re-submissions will be accepted. (In the event of multiple submissions, the one submitted earlier will be disregarded.) Please carefully check the information you have entered before clicking the submit button.
- Screening will be conducted based on the information provided at the time of online application. Any discrepancies, errors, or falsehoods may be disadvantageous in the screening process.
- A confirmation email will be sent to your email address which you enter in the online application form. Please check your email settings beforehand and make sure you are not blocking "@jim.titech.ac.jp" domain.
- If no confirmation email is received after submission of your online application, please check spam folder. Incorrect email address in the online application form may result in failure of receiving confirmation email. In such case, you may submit the online application again if it is within the application period.

Online application form URL

https://tokyotech-crossborder.gakumu.titech.ac.jp/apply/spring_boost_application-form/

- Submission of the required documents are accepted only through the online application.
- Submission in any other way (e.g., email, post, in person, Slack, or your academic supervisor) will not be accepted.
- **File size of each document must be smaller than 10MB.** Any files with the size of over the 10MB will not be accepted.
- All the documents can be either in color or black and white.
- Illegible documents will not be accepted. It will be considered as failure of submission, and the application will be regarded as withdrawn.

- At the time of online application, all the four documents (1) Application Form ~ (4) A copy of the relevant bankbook page are required to be submitted. If there are any cases where you cannot submit any of the documents, enter the reason and estimated date of submission in the corresponding “Reason for Non-Submission” section of the form. If you do not submit any of the documents without entering such information, your application will be withdrawn.
- Once submitted, changes to the documents, including Application Form and Transcripts of Master's degrees, will not be accepted.
- Those who make false statements in the application documents will be disqualified and their applications will be rejected. If such falsification is discovered after the selection has been made, the selection may be revoked and the applicant may be asked to return any research funds already paid.
- Omission or inadequacy in the application documents may result in losing the eligibility. We will not contact you for that case.
- Following cases may cause disadvantage for the applicants such as ineligibility for screening.
 - Submission of wrong documents (e.g., uploading a wrong document in a wrong section)
 - Submission of blank/uncompleted documents

(1) Application Form

- Please download the form from the following URL:
<https://science-tokyo.box.com/s/q5h3yd0vr9kxj730xewlauzck8j1wdtr>
- Please rename the file as; ***Application category* _Student number⁸ _Name_ 申請書***
 (e.g., SB_24D08000_Kagaku Taro_申請書)

*Application category: Enter the following alphabet(s) depending on the program you are applying for.

[S]: If applying for this “SPRING” program only; [SB]: If applying for both of this “SPRING” program and “BOOST” (Program for Development of Co-creative Experts towards Top-level AI Research; Science and Engineering fields) program

- Please save the form as PDF format. NO other file formats will be accepted.

Note: The signature of the academic supervisor

When applying for this program, applicants must consult with their academic supervisors in their doctoral degree program and obtain their approval to apply for this program. When it is difficult to obtain the signature of your academic supervisor, contact the administrative office via the website inquiry form (see "10. Contact") before the deadline.

(2) Transcript of master's degree

- Please rename the file as; ***Application category* _Student number _Name_ 成績証明書***
 (e.g., SB_24D08000_Kagaku Taro_成績証明書)

⁸ This refers to the student ID number of Science Tokyo's doctoral program.

*Application category: Enter the following alphabet(s) depending on the program you are applying for.

[S]: If applying for this “SPRING” program only; [SB]: If applying for both of this “SPRING” program and “BOOST” (Program for Development of Co-creative Experts towards Top-level AI Research; Science and Engineering fields) program

- Only pdf, png, jpg, jpeg files are accepted.

(3) Bank transfer request form⁹

- Please download the form from the following URL:

<https://science-tokyo.box.com/s/gvn46bjfxpyri5l1nondhcfqry0k8xmk>

- Please rename the file as; ***Application category*_Student number_Name_振込依頼書***
(e.g., SB_24D08000_Kagaku Taro_振込依頼書)

*Application category: Enter the following alphabet(s) depending on the program you are applying for.

[S]: If applying for this “SPRING” program only; [SB]: If applying for both of this “SPRING” program and “BOOST” (Program for Development of Co-creative Experts towards Top-level AI Research; Science and Engineering fields) program

- Please save the form as xlsx format. Do not change the file format after download. NO other file formats will be accepted.

(4) A copy of the relevant bankbook page

- Please submit a copy of your bankbook showing account details including the following items. For banks that do not issue bankbooks, please provide data such as a screenshot that shows the following items.

Required Information:

Bank name, branch name, deposit type, account number, account name (kana or roman letters)

- Please rename the file as; ***Application category*_Student number_Name_通帳コピー***
(e.g., SB_24D08000_Kagaku Taro_通帳コピー)

*Application category: Enter the following alphabet(s) depending on the program you are applying for.

[S]: If applying for this “SPRING” program only; [SB]: If applying for both of this “SPRING” program and “BOOST” (Program for Development of Co-creative Experts towards Top-level AI Research; Science and Engineering fields) program

- Only pdf, png, jpg, jpeg files are accepted.

⁹ Please submit the relevant documents at the time of application in order to proceed with the grant procedure as soon as possible after the selection decision is made. Those unable to submit the transfer request form or other documents due to unavoidable circumstances, please be sure to indicate the reason and the expected date of submission on the application form. If you open a bank account within six months of entering Japan, it will automatically be a non-resident deposit account. You can use the non-resident deposit account to receive payment from this program, but the payment may be delayed by a few days.

6-2. Research field

Please choose and apply for one of the following six cross-cutting fields.

	Target Fields	Overview
1	Next-generation Element Strategy	"Element strategy" refers to research of substances and materials with the aiming of using knowledge to express useful functions from common elements. Recently, new methodologies that combine information science and AI are being rapidly adopted in materials research. As a result, there is promise that research of complex materials (grain boundaries, amorphous materials, etc.) for which calculation had not been possible will be enabled for the first time. The "Next-generation element strategy" aims to create world-class materials by organically combining these new research methods with accumulated element strategies that have produced innovative materials through structural control.
2	Integrated Energy Science	"Integrated energy science" will strive for a carbon and material recycling society with stable energy supply and economic efficiency by working to refine renewable energy systems that utilize the accumulated technology of all-solid-state batteries and hydrogen energy, as well as innovative elemental technologies and system technologies. By consolidating these technologies into integrated energy science, we will contribute to achieving carbon neutrality and strengthen the driving force for a sustainable energy society.
3	Digital Social Devices and Systems	This field focuses on developing the foundational devices necessary for the emergence of a super smart society (Society 5.0) and future societies, emphasizing the integration of hardware and software, including IoT technologies. It covers a broad spectrum of innovations, including semiconductor integrated circuits, sensor devices, and communication devices crucial for millimeter wave, optical communication, and next-generation mobile communications. Also integral are various IoT devices, such as power devices that serve as vital components in electricity and power supply systems, along with the necessary network systems and system control technologies. By merging these accumulated technologies, we aim to maintain our leadership as a worldwide hub for the devices and systems that will propel the digital society.
4	Sustainable Social Infrastructure (SSI)	This research field seeks to construct a next-generation social infrastructure that supports the happiness of every person with safety and peace of mind in an era of 100-year lifespans. In an effort to achieve next-generation social infrastructure, we are working to solve four global social issues: building a resilient society, designing voices of the Earth, creating smart cities, and innovation. By fusing its research capabilities in the humanities and sciences with the knowledge and energy of corporations and industries, we will contribute to the sustainable development of human society through the social implementation of research results.
5	Holistic Life Science (HLS)	This field promotes the growth of science and technology related to life science and biotechnology. By doing so, it achieves a bio-driven society that is friendly to humans and the earth; in other words, a bio-first society. Based on its strengths, which are mathematics and materials, we will work to obtain an essential understanding of living organisms, life information, and life on earth. Our ultimate aim is to construct a

		sustainable ecosystem and grow into a new green revolution.
6	Fundamental Research Related to the Fields Above	Fundamental research related to the fields above.

7. Evaluation

7-1. Points of assessment

Preliminary screening will be conducted based on the submitted documents (application form and transcript).

- Is the research plan sufficiently highly specialized and feasible based on the applicant's own academic and research achievements to date?
- Does the research plan include enough challenging and integrative elements?
- Is the budget plan for the funds reasonable and based on the research plan? Is the budget plan well thought out?
- Is the student's career plan ambitious in terms of solving social problems or implementing strategies for solving them, based on their doctoral research and the potential it encompasses?
- Is the research and its social significance easily understood not only by those in the same field of specialization but also to those outside of the field?

7-2. Announcement of the results, etc.

Any changes to the schedule below will be announced on the website.

Announcement of selection results: **Tuesday, November 26, 11:00 a.m. (JST)**

Names of successful applicants will be posted on the website. Please check for yourself.

Successful applicants must immediately fill out the designated form to indicate their acceptance or withdrawal.

Acceptance Deadline: **Friday, November 29, 2024, 11:00 a.m. (JST)**

Non-receipt of your form by the deadline may be considered as withdrawal.

Announcement of additional selection results: **Tuesday, November 26 (p.m. (JST)) to Monday, December 2 (a.m. (JST))**

If any of the successful applicants withdraws from the program, alternative candidates will be selected from unsuccessful applicants. Only the relevant applicants will be contacted by administrative office by email (or phone if urgent). Please respond as soon as possible if contacted by the administrative office.

Announcement of supported student selection results: **Monday, December 2, 11:00 a.m. (JST)**

Names of supported students will be posted on the website.

If any of the supported students withdraws or is subject to revocation, a previously unsuccessful applicant may be moved up and selected. Only the relevant applicants will be contacted by administrative office via email or phone. Additionally selected students will receive funds from the date they are selected up until the originally scheduled end

date for the student who withdrew, etc.

8. Revocation of Funding

After becoming a supported student, support from the program will be terminated if any of the following occurs:

- The student no longer meets the qualifying criteria for this program
- The student does not fulfill obligations without a valid reason
- The student takes a leave of absence ³
- The student exceeds the standard period of study (3 years)
- The student withdraws from the program
- The student withdraws, transfers out of, or is dismissed from Science Tokyo
- The student is subject to disciplinary action
- The student is otherwise found to be unsuitable for the program

9. Handling of Personal Information

The personal information contained in the application documents will be strictly managed in accordance with the "National University Corporation Science Tokyo Personal Information Protection Rules" and will be used only to carry out the work of this program. In addition, part of the personal information will be used for monitoring by Japan Science and Technology Agency (JST) and a follow-up survey after completion of the doctoral course.

10. Contact

For inquiries, please use the "Inquiry Form" on our website (emails or phone calls are not accepted).

<https://tokyotech-crossborder.gakumu.titech.ac.jp/en/contact/contact-form/>



If you have not received a response or contact from us for more than 3 business days, it is possible that your inquiry has not been received. Please make sure if your e-mail address is entered correctly and contact us again.

* Exceeding the application deadline by reason of waiting for a response is not acceptable. For example, it is not allowed that you ask a question near the deadline, so that you could not get the answer before the deadline.

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