

Tokyo University of Marine Science and Technology

“Support Project for Emergent Ocean Research and Industrial Human Resource Development”

AY 2024 Spring Student Application Guidelines

1. Project Objective

The Support Project for Emergent Ocean Research and Industrial Human Resource Development (hereafter, The Project) aims to provide an environment where students can dedicate themselves to their research and develop Emergent Ocean Research and Industrial Human Resources who aspire to create new marine industries and conduct research that contributes to solving issues in the marine society and social reform. The purpose of which is to develop doctoral graduates who will be the foundation to the future of Japan’s science, technology, and innovation and undertake research that will contribute to solving social issues. The aim of The Project will be achieved by providing research incentives and research funds to doctoral students at Tokyo University of Marine Science and Technology (hereafter, TUMSAT). TUMSAT will also construct necessary support programs throughout the University, based on the Support for Pioneering Research Initiated by the Next Generation implemented by the Japan Science and Technology Agency (JST).

2. Overview of The Project

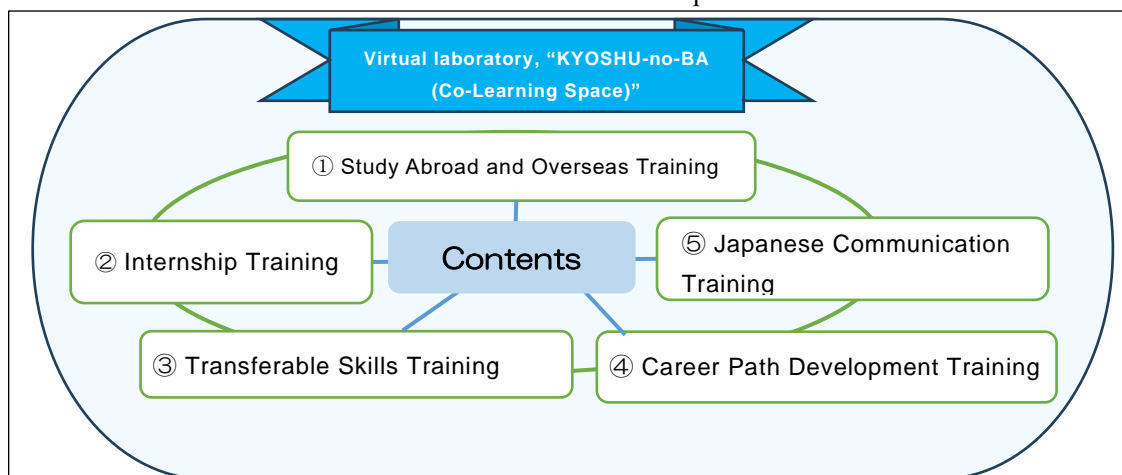
To develop Emergent Ocean Research and Industrial Human Resources, TUMSAT will use a selection process to select students who aspire to solve societal issues and are highly motivated to contribute to a marine version of a digital transformation for society. TUMSAT will provide the below financial and academic support to the selected students.

(1) Financial Support

- ① ¥2,400,000, an amount equivalent to living expenses, will be provided annually as a research incentive. A fixed amount will be separately provided for research funds in light of research content.

(2) Academic Support

- ① Students will belong to the **virtual laboratory, Co-Learning Space**, a platform that promotes emergence by learning from one another through discussion that transcends the boundaries of students’ specializations.
- ② Students will take the Career Development and Training Courses that will encourage synergy through interdisciplinary exchange
- ③ **Mentor Faculty will be assigned to each student.** Mentor Faculty have excellent educational and research achievements in a different field to the student’s supervisor.



3. Project Requirements

Students eligible to apply to The Project must fulfill all the below requirements in ① and ②.

- ① Students who are doctoral students at TUMSAT Graduate School as of April 1, 2024 (including those who plan to enroll. Excluding students on a leave of absence) and who can complete their degree within the standard duration of the degree program.
- ② Students who do not fall under any of the below categories:
 - (1) Students who are receiving the Ministry of Education, Culture, Sports, Science and Technology's "University Fellowship Program for the Creation of Innovation in Science and Technology"
 - (2) Those who are receiving the Research Fellowship for Young Scientists at the Japan Society for the Promotion of Science
 - (3) Students who are deemed to be receiving a stable annual income that exceeds ¥2,400,000 from TUMSAT, a company, or have started their own company, in the form of salary or executive compensation
 - (4) Students who are receiving Scholarships for Graduate Students in Development of WISE Program to foster AI Professionals for Marine Industries
 - (5) International students who are receiving the Japanese Government Scholarship, or any other scholarship from their home country
 - (6) Students who are receiving a scholarship from a government or a private organization and fall under any of the below categories:
 - ① Students are not permitted by the government or private organization from which they are receiving the scholarship to receive any other financial aid apart from these scholarships;
 - ② The purpose of the scholarship, etc. provided by the government, etc. is to support living expenses, and students receive more than 2.4 million yen per year (if there is income as described in (3) above, the amount is the total of the scholarship and the income. This excludes the case in which the scholarship is for support for research expenses, tuition exemption, etc.)

(Note 1): Students receiving grant- or loan-type scholarships that are permitted to be received alongside other scholarships from the Japan Student Services Organization (JASSO) are permitted to receive the research incentive alongside their JASSO scholarship.

(Note 2): Students selected as JASSO's Category 1 Loans are not eligible for the "Exemption from Repayment for Graduate School Students with Particularly Outstanding Achievements."

4. Number of Students Accepted (For the 2024 Spring Semester)

About seven students

5. Project Duration

From April 2024 to the completion of the doctoral course within the standard duration of the degree program.

6. Application Procedure

Ideally, students should apply after attending an information session for prospective students and supervisors. Information regarding the information session schedule can be accessed by clicking on the website of this Project shown below.

<https://www.kaiyodai.ac.jp/s-project/>

(1) Application Deadline: 10:00am(JST), Tuesday, April 9, 2024

(Applications after the deadline will not be accepted)

(2) Application Method: Please complete the necessary items in **Forms 1.** and **2.** listed below and submit your application by email within the application period to the address listed below.

Form 1. Application form (when applying, you must have the approval of your supervisor) (Format: MS Word document)

Form 2. Research Plan (Format: MS Word document)

[Where to submit your application] Please send an email with “Application for the Emergent Ocean Human Resources Project” as the subject and send the email address listed below under 13. Inquiries.

7. Selection Process

A comprehensive evaluation using the two below screening methods will be conducted by the screening team of The Project’s executive committee. Based on this, the supervisor of The Project, i.e. University President, will make the final decision.

(1) Document screening: Screening of the documents listed in 6. Application Procedure. (Applicants will be informed of the results by email)

(2) Presentation screening: Screening of a presentation and Q&A session of the research plan listed in 6. Application Procedure.

- ① Time and date of the presentation: Tuesday, April 30, 2024 or Wednesday, May 1 2024.
(Applicants who pass the document screening will be officially notified of the time and date by email.)
- ② Format: 10-minute presentation and subsequent 10-minute Q&A session (held online, in Japanese)
- ③ Applicants should submit a PowerPoint file of two to three slides that summarize the research plan referenced in (2) of 6. Application Procedure. To be submitted by email to the address listed under “13. Inquiries,” with “Screening Materials for the Emergent Ocean Human Resources Project” as the subject heading.

Submission Deadline: 10:00am(JST), Wednesday, April 24, 2024.

8. Factors evaluated

Applicants’ achievements and ability, motivation and degree of societal orientation, research achievements, internationality, AI-related skill set, and attendance of TUMSAT’s career development and training programs.

9. Results

Applicants will be informed within one week of the presentation date listed in the above (2) of 7. Selection Process.

10. Obligations of the Selected Students (hereafter, Project Students)

- The Project Students will belong to Co-Learning Space, a virtual learning laboratory, and must have regular discussions with their Mentor Faculty assigned for The Project, and attend all of The Project’s designated courses.
- They must be taking or have completed the education in research ethics, APRIN e-learning program, before participating in The Project.
- Each academic year, they must report the status of their research and The Project to The Project supervisor.
- The Project Students consent to having their name and other information published on the TUMSAT website and Japan Science and Technology Agency’s (JST) website.
- The Project Students must clearly state on their research papers and research outcome presentations that they received support from The Project.
- The Project Students must cooperate with monitoring surveys conducted by JST.
- The Project Students must register the necessary information from the dedicated system URL of ‘Cooperative Education through Research Internships’.
- The Project Students must cooperate with follow-up studies into their career after the support period has ended (ten years or more).

- After the support period has ended, the Project Students must participate in a student network for The Project designated by TUMSAT (social media, etc.) for information exchange.

11. Considerations Concerning Funding for Project Students

- The Project Students must adhere to regulations prescribed by TUMSAT concerning the handling of public research funds, ethical research, and accounting.
- The Project Students must report as necessary on the usage of the research funds and other matters when requested by The Project supervisor.
- If the Project Students wish to conduct research at a foreign university, travel expenses may be provided from the research funds.
- The grant provided as an amount equivalent to living expenses is treated as miscellaneous income under tax law (Project Students will be required to file a tax return as this will be subject to income tax and resident tax). Therefore, Project Students must inform their support obligor (parent, etc.) and must inquire about the handling of support with regards to health insurance and support allowance with the person reasonable for such matters at their support obligor's workplace or applicable location. The Project Students must also inquire at their local tax office about the handling of support regarding income tax.
- The grant provided as an amount equivalent to living expenses will be paid directly from the university to the Project Student's bank account. However, the research funds will be provided in accordance with the procedures stipulated by the university after approval by the Mentor Faculty assigned for The Project.
- If any of the below items are applicable, then the payment of the research incentives for The Project will be discontinued.
 - (1) If the Project Student commits acts unbefitting a Project Student, such as being subjected to disciplinary action under TUMSAT's regulations.
 - (2) If the Selected Student ceases to be enrolled at TUMSAT due to withdrawal, expulsion, or transfer to another university.
 - (3) If the Selected Student takes a leave of absence or repeats a year.
 - (4) If the research or progress of The Project that is reported to The Project supervisor each academic year is deemed to be unbefitting a Project Student.
 - (5) If the Select Student no longer meets the Project eligibility or application requirements.

12. Handling of Personal Information

Personal information included in the application documents will be handled under TUMSAT's Personal Information Protection Guidelines and will be used to the extent necessary to conduct The Project.

13. Inquires

[Matters related to application documents] Email address for the Support Office of the TUMSAT Support Project for Emergent Ocean Research and Industrial Human Resources:

doctoral-c-pj@o.kaiyodai.ac.jp (“@” should be one-byte character)

(Reference Information)

Overview of The Project's “Five Career Development and Training Courses” and “The Seven Competencies to be Acquired”

(1) Five Career Development and Training Courses

① Study Abroad and Overseas Training

- Overseas training program

To cultivate an international mindset to become world-class doctoral candidates, various short-, medium-, and long-term internship programs at companies, international organizations, and foreign government agencies (possible recipients include the Thai Department of Fisheries, SEAFDEC, and Japanese companies

in Shanghai and Vietnam) will be offered. Dispatch will be decided based on the training program plan at the overseas internship cooperation agencies that is prepared by the student who wishes to participate in the program, and his/her foreign language communication skills. Students who wish to participate in the program are encouraged to use the university's existing overseas travel support expenses.

② Internship Training

• Residentsip

Students will take "Residentsip" (job-based internship class), a common research course for the doctoral program in the Graduate School (Students in the WISE Program to foster AI Professionals for Marine Industries may also take the program's "Residentsip" training). By participating in long-term (2 months or more) paid research internships conducted by the Job-Based Research Internship Promotion Council, students will contribute to solving problems in business and society while developing practical skills and broadening their career possibilities as independent advanced professionals and researchers who are pioneers in cutting-edge fields.

• Regular internship

A program in which students are matched with the internships of their choice from a list of internships provided by the Career Support Center (on-campus bulletin board and TUMSAT Career Navi "Job Research/Internship" website).

• Corporate interview training

In order to learn about the actual conditions with regard to industries and companies, understand their needs, and expand employment options, students will visit companies and use opportunities such as exhibitions, etc. to conduct interviews with universities and other research institutions and companies, and compile reports in order to broaden their perspectives in selecting employment options.

③ Transferable Skills Training

By taking the following programs, through interdisciplinary exchanges that transcend the boundaries of specializations and occupations (such as multidisciplinary exchange, integration of cross-disciplinary research, contests between universities, etc.), students will achieve synergy in their research; expand the scope of their research; and enhance their AI-related skills, research ability (presentation, discussion, analysis, and investigative skills) and interpersonal skills, as well as gain transferrable skills.

• Co-learning seminar

1) Regular seminar (once a month in principle): To help students form their own image of employment by providing concrete examples of research promotion and career development by university faculty members and business people.

2) Joint seminar (twice a year): Provide opportunities for students to present and support the promotion of their research.

3) Convergence camp (once a year): Conduct a convergence camp for interdisciplinary exchange and problem solving.

• URA course (Fisheries and Ocean Innovation Officer Development Program)

Provide training that follows the URA Skill Standards. Conduct training on policy understanding, external funding acquisition, industry-academia-government collaboration, intellectual property, etc., as skills needed to obtain research budgets when acquiring research positions at universities and other research institutions. Students will acquire knowledge on collaborative research and contracts necessary to utilize the university after graduation, even if they are employed by a company. Support will also be provided to

URA seminar students seeking employment at the URA of universities and other research institutions.

- Entrepreneurship course “Theory of Ocean Entrepreneurship, advanced course”

Students will take "Theory of Ocean Entrepreneurship, advanced course," a common research course for the doctoral program in the Graduate School. The purpose of the program is to provide students with knowledge on corporate mechanisms, marketing, human resources management, finance, legal affairs, fund procurement, intellectual property strategy, and business idea creation, etc., and to acquire knowledge about corporations and management, etc., so that they can gain useful information for making decisions when considering employment in a company or starting a business as an additional option.

- Introduction to Python Machine Learning.

In order to realize digital transformation of the marine industry, smart ocean and blue economy, it is necessary to utilize digital technology and AI. This course will help students to acquire basic knowledge on machine learning, deep learning, etc. using Python, as they are highly useful as general-purpose transferable skills.

- Marine AI workshop

Students will take "Marine AI Workshop II," a common research course in the doctoral program of the Graduate School. Lecturers from the Marine AI Consortium will introduce examples of AI applications in various marine fields and present themes for discussion in workshop format using the World Café method. Through this workshop, students will acquire the latest information in fields other than their specialty, communicate with researchers in different fields, and gain a bird's-eye view of marine issues from a broad perspective that goes beyond their own field of expertise.

④ Career Path Development Training

- Career path development workshop

Specially-appointed faculty members from the Career Support Center will conduct workshops from their professional standpoints in career development, eliciting students' independence in job hunting and fostering positive attitudes toward job hunting through opinion exchanges among students.

- Career counselor interview

Specially-appointed faculty members from the Career Support Center, who are qualified career consultants, etc., will listen to each student's hopes for the future and provide specific support for job hunting activities.

- Career path development interview

Project mentor faculty members will meet with students to check their progress in their research and job hunting activities as well as their commitment to the program, and give advice as appropriate.

- Use of external employment services

Students will systematically conduct job hunting activities by selecting and utilizing information and support events useful for selecting their future career paths, as appropriate, through the employment services operated by private companies at the Career Support Center and J-RECIN, a job hunting website for researchers geared toward students who wish to find a job in the research field.

⑤ Japanese Communication Training

This course will help foreign students who need to learn Japanese acquire a level of Japanese language proficiency that will serve them well in Japanese society in the future, as even excellent foreign students in research fields are sometimes at a disadvantage in employment due to insufficient Japanese communication

skills.

(2) The Seven Competencies to be Acquired

Competency Human resource development menu	Occupational ethics	Analytical skills	Planning skills	Communication ability	Research ability	Internationalism	AI-related skills
① Study Abroad and Overseas Training	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>		<input type="radio"/>	
② Internship Training	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			
③ Transferable Skills Training	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		<input type="radio"/>
④ Career Path Development Training	<input type="radio"/>		<input type="radio"/>		<input type="radio"/>		
⑤ Japanese Communication Training				<input type="radio"/>		<input type="radio"/>	

(3) Career Development and Training Courses Completion Requirements

	Compulsory	Required or Elective	Elective
① Study Abroad and Overseas Training •Overseas training program			<input type="radio"/>
② Internship Training			
•Residentsip		<input type="radio"/>	
•Regular internship			
•Corporate interview training			
③ Transferable Skills Training			
•Co-learning seminar	<input type="radio"/>		
•URA course	<input type="radio"/>		
•Entrepreneurship course	<input type="radio"/>		
•Introduction to Python Machine Learning			<input type="radio"/>
•Marine AI workshop			<input type="radio"/>
④ Career Path Development Training			
•Career path development workshop	<input type="radio"/>		
•Career counselor interview	<input type="radio"/>		
•Career path development interview	<input type="radio"/>		
•Use of external employment services			<input type="radio"/>
⑤ Japanese Communication Training (Note)			<input type="radio"/>

(Note) For foreign students

Career Development and Training Courses Schedule (Image)

Details of implementation	Frequency	Implementation period
① Study Abroad and Overseas Training •Overseas training program	As needed	As needed
② Internship Training		
•Residentsip	As needed	During the year
•Regular internship	As needed	During the year
•Corporate interview training	Once/year or more	During the year
③ Transferable Skills Training		
•Co-learning seminar	Once/month in principle	Every month
•URA course	Once/half year	Apr – Sept, Oct - March
•Entrepreneurship course	A total of 15 times/half year	Oct – March, Apr – Sept (Video)
•Introduction to Python Machine Learning	As needed (e-learning)	Scheduled for Oct – March
•Marine AI workshop	A total of 15 times, twice/day	June - Oct
④ Career Path Development Training		
•Career path development workshop	Once/half year	Once/half year
•Career counselor interview	Once/half year	Once/half year
•Career path development interview	Once/half year	Once/half year
•Use of external employment services	As needed	As needed
⑤ Japanese Communication Training (Note)	As needed	As needed

(Note) For foreign students