Kobe University's
'Next-Generation Outstanding Doctoral Human Development Project based on Co-creation in Different Fields'
Academic Year 2025 Application Instructions

About Technology Agency (JST)'s Support for Pioneering Research Initiated by the Next Generation (SPRING) Program, Kobe University is inviting applications for this project for Kobe University's 'Next-Generation Outstanding Doctoral Human Development Project based on Co-creation in Different Fields'

1. Aim:
The project aims to give Kobe University doctoral students from various fields a solid grounding in mathematics and data science. This grounding will enable them to become outstanding PhD. graduates who can play an active global role in interdisciplinary fields. By cultivating transferable skills through our education and research, we aim to produce experts required by society.

2. Funding:
Those selected by this project will receive research support funds and research grants. In addition, we will provide a Comprehensive Support Package for Kobe University PhD. students to give recipients increased opportunities to improve their research skills and receive career path support.

Funding and research grants:
Research support fund   2,200,000yen per year
Research grant   200,000yen per year ＋additional funds
・Additional funds will be provided based upon the review of the application contents and budget.

3. Period:
From April 1, 2025 until course completion (However this funding will not exceed the standard course completion period)

4. Number of Nominees
Approximately 20 students in total
*However, it is possible that the number of applicants may change in the future, or that there will be no selectees at each grade level.

5. Eligible Graduate School:
All graduate schools at Kobe University.

6. Application Requirements:
The applicant must be fallen under all.
１）Students enrolled in the Master's Program of the Graduate School of Kobe University at the time of application
２）Applicants must be expected to be enrolled in the first year of the doctoral course at the Kobe University Graduate School as of April 1, 2025. However, those who are scheduled

to enroll in the academic year 2024 are excluded.

3） Those who are expected to complete their degree within the standard completion period.

4） The applicant should be affiliated with a laboratory that can manage the project's budget (includes prospective laboratory).

5） Apply for a JSPS research fellows (DC1). If you are selected for a research fellows (DC1), priority will be given to the DC1.

However, students to whom the following applies at the time of application cannot apply:

・JSPS research fellows (including prospective fellows), MEXT scholarship students (including prospective students), and international students receiving scholarships from your home country.

・Students who are receiving a stable income (over 2,400,000yen per year) that meets their living expenses (however, those receiving an unstable income through part-time/temp work can still apply).

7. How to Apply:

1） Application Deadline : March 12 , 2024 (Tuesday) 12:00(noon)

2） Please complete Form 1 and convert it to a PDF file, and submit it using the application form.

*The total file size must be less than 2 MB when sent.

*You can write your answers to sections 2 ~ 4 of Form 1 in English

*It is preferable to inform your supervisor that you are applying.

*If you do not receive an email receipt after submission, please contact the contact person.

*If you are unable to submit an application using the application form, please contact the contact person.

Application Form:
https://forms.gle/4rsJRpX7ST6YZDYv5

8. Selection Process:

・Candidates will be chosen by the project's steering committee.

・Selections will be made by judging how well the information submitted in Form 1 corresponds to the review criteria on Sheet 2.

・Interviews will be carried out as required during the selection process.

・Selection results are due to be published on the Career Center homepage by around early April 2024.

・In case of rejection, applicants can apply again in the following year.

9. Recipient's responsibilities

1） Submit a research progress report every year

For the year in which you complete your doctorate, you may use your degree thesis as the report.

2） The recipients are required to actively participate in the doctoral student support package programs (Sheet 1)and participate in the program equivalent to 2 credits of lessons (1 credit is 45 hours of study) per year. In particular, it is required that you make more than one

presentation at the multidisciplinary joint research conference. However, the programs offered in this package may not be regular courses with credits.

　3） Take the designated mathematics and data science courses (Sheet 3) during the period.

　4） Registration in the dedicated matching system for the job-based research internship program.

　5） Actively disseminate the research results via academic papers and/or academic conference presentations.

　6） Attend events specified by the steering committee.

　7） Respond to various surveys, such as follow-up survey on your career 10 years after graduating.

　*Please be aware that credit numbers and course names mentioned in this document are subject to change.

10. Disqualification or reduction from funding

　If any of the following points apply, the project may be disqualified or reduced from selection.

　1） The application requirements have not been met.

　2） The execution of the research plan, or the funded student's performance of their duties is deemed to be unsatisfactory.

　3） The applicant submits a withdrawal notice.

　4） The university president or the project's steering committee determines that there is cause for disqualification or reduction.

11. Precautions:

・A final income tax return where research support funds are taxed as miscellaneous income is required.

・Recipients are permitted to earn remuneration from teaching assistant/part-time job positions, internships or prizes from academic societies, as long as these do not hinder their research activities.

・Your name will be published on the University homepage if your project is selected.

12. Inquiries:

　　Kobe University Main Office for Doctoral Student Support TEL: 078-803-5217

　　Email Address : crct-hakase@edu.kobe-u.ac.jp

（Sheet 1）

'Next-Generation Outstanding Doctoral Human Development Project based on Co-creation in Different Fields'
Comprehensive Support Package for Kobe University PhD students

    A. Global Education/Study Abroad Support Program
    B. Mid- to Long-term Internship Program
    C. Mathematics/Data Science Education Program
    D. Cross-disciplinary Co-creation Program
    E. Career Support Program for PhD
    F. International Student Support Program

(Sheet 2)

'Next-Generation Outstanding Doctoral Human Development Project based on Co-creation in Different Fields'
Review criteria and contents

Review criteria	Contents
Research Achievements	Do the applicant's research achievements show future potential?
Positioning of Research	Does the applicant explain the background behind their chosen research theme, and is the idea outstanding?
Research aim/contents	Are the research aim, methodology and contents clearly indicated? Does the research method show originality and does the applicant indicate how they will develop their research topic?
Research Competency	Are the applicant's 'strengths in relation to research' and 'factors considered necessary for further development' concretely explained, and are they able to sufficiently self-analyzed their own research performance? In addition, do they fully expect to become an outstanding researcher who bears responsibility for the future of academia?
Mathematics/Data Science	Does the applicant have a strong desire to acquire data science training?
Development into multidisciplinary co-creation research	Does the research plan or future plan contain aspects that are expected to be developed into multidisciplinary co-creation research?
Development of challenging research	Does the research plan or future plan contain aspects that are expected to be developed into pioneering/challenging research?
Development of new research fields	Is the applicant not only eager to contribute towards the development of their current specialized field but also to break into and develop new research fields?
Capacity to resolve social issues	Has the applicant paid attention to social issues? Have they acquired the skills via their doctoral research to contribute towards resolving these issues? How to contribute to science, technology and innovation in Japan in the future.

(Sheet 3)

Mathematics/Data Science Education Program

Mathematical and data science education programs must take at least 2 credits before completion. These programs will be provided by Kobe University's Center for Mathematical and Data Sciences. These may not be a regular credited course depending on the graduate school. The following programs were held on AY 2023.

Course Title	credit	Contents
Advanced Data Science 1	1	In Advanced Data Science 1, students learn about the technical aspects of artificial intelligence and machine learning, which are the foundation of data science. In Advanced Data Science 2, problem-solving workshops are held on the practical applications of data science based on case reports from companies on the user side of artificial intelligence technology and companies that provide technology (companies on the seed side).
Advanced Data Science 2	1	
Exercise in Practical Data Science, A	1	Learn data analysis methods and acquire basic knowledge to solve problems. Also, learn how to operate the system through hands-on exercises using actual data.
Exercise in Practical Data Science, B	1	PBL (Project Based Learning) through group work, in which data that may be relevant to actual issues is provided by the local government, with the aim of setting and solving issues through data analysis and analysis.
PBL Exercises in Data Science (contest type)	1	Practical learning of how to handle data, classification and regression problems using Python through PBL (Project Based Learning) exercises modeled after data science competitions.
JRI-Kobe Open innovation Workshop Financial Business and Information System Engineering	1	Through PBL (Project Based Learning) group work, students will learn how the basic technologies of information systems engineering, such as algorithms, data structures, cyber security, information communication networks, and artificial intelligence, are used in actual financial businesses and how they are deeply related to each other.
Theory of Stochastic Processes	2	Students will understand the rudiments of stochastic analysis based on Brownian motion. Students will also be exposed to Black-Sholes theory, which has applications in financial engineering. *Advanced knowledge of mathematics is required as the level is quite high.
Topics in Applied Mathematics 3a	1	Learn the basic concepts of various statistical methods and how they are used in real life.
Topics in Applied Mathematics 3b	1	