

Hiroshima University Graduate School Research Fellowship (Guideline) (Research Field - Quantum Physics; Support Starting from April 2022)

The Ministry of Education, Culture, Sports, Science and Technology (MEXT) promotes the "Project for Establishing University Fellowships for the Creation of Innovation in Science and Technology" with the aim of fostering and securing creative researchers who will assume essential roles for the future creation of science, technology and innovation in Japan.

Recently, MEXT selected Hiroshima University to establish Fellowships within the following four research categories: information/AI, quantum physics, materials, and sustainability science. As a result, Hiroshima University has established the Hiroshima University Graduate School Research Fellowship to train advanced research personnel who can lead the creation and utilization of new wisdom, create value that will tow the next generation, and bring science and technology innovation to society. The Fellowship will recruit and select Research Fellows from amongst 1st-year doctoral students of graduate schools and programs related to information/AI, quantum physics, materials, and sustainability science, and provide them with financial and career support so that they concentrate on their research.

In the quantum physics research field, viewing quantum phenomena scale-seamlessly in the area from elementary particle physics, physics of solids such as electron spin-driven superconductivity, strongly correlated electrons, quantum magnetism, topological material as well as macroscopic photonics such as quantum optics, photonic quantum information and nano-photonics, to astrophysics such as black hole and dark matter, we welcome the applicants who aim to open the physics of new quantum phenomena and develop novel quantum physics-based electronic and photonic devices. We also welcome the applicants who aim to open a new paradigm in such mathematics strongly related to quantum physics as quantum groups and quantum walks.

The call for applications for the quantum physics research field, for support starting from April 2022, has been updated below. Eligible applicants are also able to apply for the material research field, which is currently accepting applications. If an eligible applicant applies for both research fields and is selected to be a Research Fellow for the material research field, please inform the operating office as soon as possible via the e-mail address detailed within "7. Contact Information" below, to make sure that your application for the quantum physics field does not proceed.

1. Number of Fellowships to be Awarded, Research Field, Major Subjects and Programs

Research Field	Major Subject (Program)	No. of Fellowships to be Awarded
Quantum Physics	Division of Advanced Science and Engineering (Mathematics Program / Physics Program / Quantum Matter Program)	A few
	Division of Advanced Science and Engineering (programs other than those listed above)	

* The upper part of the "Major Subject (Program)" column shows the major subjects (programs) that

are mainly targeted for the quantum physics research field, and the lower part shows the other major subjects (programs) which are also eligible to apply.

2. Eligibility

【Applicants who are scheduled to enroll in a doctoral course in October 2021】(The following (1) to (4) are the descriptions of the eligibility requirements applicable to this Research Fellowship)

(1) Applicants must be enrolled in a doctoral course in October 2021 as 1st-year students at Hiroshima University to study a major subject/program from the above listed table.

(2) Applicants must NOT be employed/working at companies or research institutes as of application. (The definition of an “employee/worker” means a person who has a job for salary, wages, remuneration or other ordinary income, or a person who has quit their job or is a housekeeper.)

(3) Applicants must be less than 30 years old as of April 1, 2021 (for applicants from medical fields who participated in the mandatory clinical practice in Japan, less than 33 years old is permissible). For those who have experienced certain life events such as childbirth and childcare, consideration will be given according to individual circumstances.

(4) Applicants must NOT be supported by the following fellowships or scholarships:

- Research Fellowships for Young Scientists from the Japan Society for the Promotion of Science (including those JSPS has unofficially selected).
- Japanese Government (MEXT) Scholarships for international students.
- Any scholarship/s from the home countries of international students.

【Applicants who are scheduled to enroll in a doctoral course in April 2022】(The following (1) to (4) are the descriptions of the eligibility requirements applicable to this Research Fellowship) *Applicable only for Fellowships where support will start from April 2022.

(1) Applicants must be enrolled in a doctoral course in April 2022 as 1st-year students at Hiroshima University to study a major subject/program from the above listed table.

(2) Applicants must NOT be employed/working at companies or research institutes as of application. (The definition of an “employee/worker” means a person who has a job for salary, wages, remuneration or other ordinary income, or a person who has quit their job or is a housekeeper.)

(3) Applicants must be less than 30 years old as of April 1, 2022 (for applicants from medical fields who participated in the mandatory clinical practice in Japan, less than 33 years old is permissible). For those who have experienced certain life events such as childbirth and childcare, consideration will be given according to individual circumstances.

(4) Applicants must NOT be supported by the following fellowships or scholarships:

- Research Fellowships for Young Scientists from the Japan Society for the Promotion of Science (including those JSPS has unofficially selected).
- Japanese Government (MEXT) Scholarships for international students.
- Any scholarship/s from the home countries of international students.

*If it is found that after being selected, a Research Fellow does not meet the above eligibility requirements, their selection as a Research Fellow may be cancelled.

3. Application Method

Please submit (via e-mail) a single, combined PDF file of all application forms as an attached file to the e-mail address of the operating office detailed within “7. Contact Information” below. The subject of the e-mail should be “Graduate School Research Fellowship Application: Research Field - Quantum Physics”.

4. Application Deadline

Monday, June 21, 2021, 12:00 p.m. (noon) (Japan Standard Time. Please make sure to take care of the application deadline date and time when submitting your application.)

5. Selection Process and Notification of Results

The Screening Committee for the Research Field – Quantum Physics Research Fellowship will conduct the First Screening (screening of the submitted application documents) and the Second Screening (screening via an interview). Applicants will proceed to the Second Screening only if they successfully pass the First Screening. The Committee will announce the date and time of the interview to each applicant individually. Please note that depending on the results of the First Screening, the Second Screening may not be undertaken.

- First and Second Screenings (planned): Late-June to early-July, 2021
- Notification of Results (planned): Mid-July, 2021

All applicants will be notified of the screening results for the Fellowship by e-mail. Please note that individual inquiries regarding each decision will not be able to be responded to.

6. Outline of Support after Selection for the Research Fellowship

Please refer to the attached “Outline of Support by Hiroshima University Graduate School Research Fellowship” for further details.

7. Contact Information

Research Fellowship Contact Office, Hiroshima University

E-mail: fellowship@office.hiroshima-u.ac.jp

<Outline of Support by Hiroshima University Graduate School Research Fellowship>**1. Research Fellow Support**

(1) To support Research Fellows to concentrate on their studies and/or research, stipends will be provided for three years after their enrollment*. Based on the principle monthly amount of 150,000 yen, two months' worth of payments will be provided in May, July, September, November, January, and March.

*For those who have already enrolled before they apply for the Research Fellowship, the stipends will start from the month in which their Research Fellowship commences. Therefore, the overall period of stipends may be shorter than three years for such a case.

(2) The stipends may be reduced and adjusted according to the President's discretion or at the timing of termination of a Research Fellowship.

(3) Research expenses (maximum amount of 300,000 yen per year) will be funded to the Research Fellows for up to three years after their enrollment.

(4) If you are an international student who is currently overseas and is provisionally selected for the Research Fellowship, your Fellowship will only be formally confirmed once you arrive in Japan. Hiroshima University will provide you with the stipends and the research expenses once you have arrived in Japan. The amount of the stipends for the month of your arrival will be calculated based on the amount of days left in that particular month. Please note that if you are not able to arrive in Japan within 6 months after being provisionally selected for the Research Fellowship, Hiroshima University may revoke your provisional selection for the Research Fellowship and you may not be provided with any stipends or research expenses.

2. Research Fellow Obligations

Research Fellows shall fulfill the following obligations to receive support:

- (1) Develop a yearly research plan for each academic year and concentrate on research activities based on the plan.
- (2) Participate in programs offered by the University related to improving research capabilities.
- (3) Report the progress of research activities to the University regularly.
- (4) Have regular meetings with mentors.

3. Early Termination of Awards to Research Fellows

The assignment of Research Fellows may be appropriately terminated before the end of the formal award period for the cases mentioned below. In these cases, the provision of stipends and research expenses shall be terminated:

(1) When the Research Fellow becomes employed/commences working at a company or a research institute. (The definition of becoming an employee/commencing working at a company or a research institute means a person who commences a job for salary, wages, remuneration or other ordinary income, or a person who has quit their job or is a housekeeper).

(2) When the Research Fellow commences being supported by the following fellowships or scholarships:

- Research Fellowships for Young Scientists from the Japan Society for the Promotion of Science (including those unofficially selected by JSPS).
 - Japanese Government (MEXT) Scholarships for international students.
 - Any scholarship/s from the home countries of international students.
- (3) When the research progress or the fulfillment of the Research Fellow Obligations is insufficient.
 - (4) When it is found that after selection, a Research Fellow does not meet the eligibility requirements.
 - (5) When the Research Fellow requests to terminate the Fellowship.
 - (6) When the Research Fellow takes a leave of absence from the University. However, in the case of childbirth, childcare, illness, etc., the payments will be suspended during the period of leave and resume with the return of the Research Fellow. (The timing and conditions of the suspension and subsequent resumption of the payments will be decided according to the individual's situation).
 - (7) When the Research Fellow withdraws from Hiroshima University or is removed from the University.
 - (8) When the President of the University decides that there is a valid reason to terminate the Fellowship.

4. Reimbursement of Excess Stipend Payments

In the case where a Research Fellowship is terminated before the end of the formal award period, a Research Fellow must reimburse any excess amount of the stipends deemed excessive at the period of termination.