

## Hiroshima University Graduate School Research Fellowship Application Guideline

**(Research Field - Information/AI, Quantum Physics, Materials, Sustainability Science; 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. The program provides the Fellows with stipends and research expenses as financial support. Furthermore, the university plans to allocate incentives to excellent Fellows besides the stipends and research expenses.

The call for applications for support starting from April 2022, has been updated below.

### 1. Number of Positions

Research Field	Major Subject (Program)	No. of Fellowships to be Awarded
Information/AI	Division of Advanced Science and Engineering (Mathematics Program / Electrical, Systems, and Control Engineering Program / Informatics and Data Science Program) Division of Integrated Sciences for Life (program of Mathematical and Life Sciences)	Approx. 8
	Division of Advanced Science and Engineering (programs other than those listed above) Division of Integrated Sciences for Life (programs other than those listed above) Division of Humanities and Social Sciences Division of Educational Sciences Division of Integrated Health Sciences	A few
Quantum Physics	Division of Advanced Science and Engineering (Mathematics Program / Physics Program / Quantum Matter Program)	Approx. 5
	Division of Advanced Science and Engineering (programs other than those listed above)	A few
Materials	Division of Advanced Science and Engineering (Basic Chemistry Program / Applied Chemistry Program / Chemical Engineering Program / Mechanical Engineering Program / Physics Program / Quantum Matter Program / Smart Innovation Program)	Approx. 8
	Division of Advanced Science and Engineering (programs other than those listed above) Division of Integrated Sciences for Life (all programs)	A few
Sustainability Science	Division of Humanities and Social Sciences (International Economic Development Program) Division of Advanced Science and Engineering (Transdisciplinary Science and Engineering Program) Division of Integrated Sciences for Life (all programs) Division of Integrated Health Sciences (Program of Biomedical Science)	Approx. 5
	Division of Humanities and Social Sciences (programs other than those listed above) Division of Educational Sciences, Division of Advanced Science and Engineering (programs other than those listed above) Division of Integrated Health Sciences (programs other than those listed above)	A few

\* The upper part of the "Major Subject (Program)" column for each research field shows the major subjects (programs) that are mainly targeted for the respective research fields, and the lower part shows the other major subjects (programs) which are also eligible to apply

## 2. Eligibility

The following (1) to (5) are the descriptions of the eligibility requirements applicable to this Research Fellowship.

(1) Applicants must be scheduled to enroll 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 receive an income that exceeds 2.4 million yen (for the period from January 2022 to December 2022). However, receiving a salary or working part-time in a job such as a TA or RA does not preclude the eligibility requirements.

(3) 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.

(4) Applicants must NOT be supported by any fellowships or scholarships offered by local public agencies/private organizations where recipients are not allowed to receive their current scholarship at the same time as the Research Fellowship.

(5) Applicants must NOT be supported by the Program for Developing and Supporting the Next-Generation of Innovative Researchers at Hiroshima University or the Hiroshima University Fellowship for Female Graduate Students in Science and Technology (including those Hiroshima University has unofficially selected).

## 3. Application Methods

(1) Application via the official online form

Please access the official application form (Google Forms) from the following URL or QR code, enter the following items, and submit it. The applicant's Google account details and password authentication are required for access. (In case an applicant cannot submit the form, please see 3. (2) below to apply by e-mail.

Also, please note that applicants are not allowed to apply for multiple research fields.

<URL>

<https://forms.gle/arwUP7UhF8ypa9wb6>

<QR Code>



\* You may also refer to this Fellowship's website to find the link for the official application form.

<Entry Items>

Research Field Desired for Review/Research title within your Doctoral Course/Full Name/Furigana for the Full Name/Student ID Number/Graduate school or Program for your Doctoral Course/ Enrolment Date/Date of Birth/E-mail Address/Phone Number/Academic Background/Name of the Worksite (if you are an employee)/Expected Income for this year/Status of JSPS Research Fellowships for Young Scientists (DC1 or DC2) Application/Status of Application for Program for Developing and Supporting the Next-Generation of Innovative Researchers at Hiroshima University/Country or Region/Academic Supervisors' Information/Have you ever consulted with your academic supervisor about your research plan?/Are you applying for Doctoral Courses of Hiroshima University and another university at the same time?/Application Form or documents (specified format, converted from Word into PDF to be uploaded)

(2) Application via e-mail

Please attach and send the application documents below to the e-mail address detailed within "8. Contact Information". The subject of the e-mail should be "Graduate School Research Fellowship Application: Research Field – ○○".

Application Documents:

- ① Application Form for this Fellowship (specified format, Excel)
- ② Application documents (specified format, converted from Word into PDF)

## **4 . Application Deadline**

January 31 (Mon), 2022, 12:00 p.m. (noon, Japan Standard Time)

(The Fellowship office will not accept any submissions after the appropriate deadline has passed.)

## **5 . Selection Process and Notification of Results**

The Screening Committee for each category of the 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.

In addition, regarding the evaluation of each applicant, an emphasis is placed on the applicant's capability to "contribute to bring scientific and technological innovations to Japanese society in the future" as of the purpose of this program.

Please note that depending on the results of the First Screening, the Second Screening may not be undertaken.

- First Screening (planned): February to mid-March, 2022
- Second Screening (planned): Late-March to early-April, 2022
- Notification of Results (planned): Mid-April, 2022

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**

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

Please remember that applicants are highly recommended to apply for the Research Fellowships for Young Scientists from the Japan Society for the Promotion of Science as well, even if they are selected as a Research Fellow.

## **7 . About each Research Field**

### **【Information/AI】**

The information/AI research field promotes the acquisition of technologies necessary for the realization of Society 5.0. Besides, we are developing leading human resources that can open up new possibilities and meet the needs of the international community. This research field aims to develop human resources with both AI/information expertise and application field expertise. Therefore, we will select and support excellent doctoral students motivated to match that direction.

### **【Quantum Physics】**

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 a 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 desire to open a new paradigm in such mathematics-related to quantum physics as quantum groups and quantum walks.

### **【Materials】**

In the materials research field, we encourage each Research Fellow to cultivate a strong desire for knowledge, enhance their comprehensive viewing capabilities, and improve their transferable skills by promoting cross-disciplinary and integrated education and research activities to develop personnel who can play an active role in both industry and academia and contribute to the strategy for strengthening material innovation, toward the realization of Society 5.0.

### **【Sustainability Science】**

In the field of sustainability, we provide interdisciplinary educational programs necessary to solve global issues such as poverty, conflict, infectious diseases and environmental problems, in order to build a sustainable society. This program develops human resources who understand the complex interdependence between natural environmental systems and human social systems from a macro perspective on a global scale and a micro perspective at the regional level. We hope that these human resources will have the ability to propose and implement problem-solving methods by means such as the social implementation of science and technology, policy planning, and collaboration with stakeholders in any aspect of the world.

### **8. Contact Information**

Research Fellowship Contact Office, Hiroshima University (Global Career Design Center)

E-mail: [fellowship@office.hiroshima-u.ac.jp](mailto: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.

\*If a Research Fellow is enrolled beyond the standard study period, the stipends will not be provided anymore. However, if the Research Fellow must take a leave of absence from the University or extend the period of the stipends in the case of childbirth, childcare, illness, etc., the President of Hiroshima University will make a decision regarding the stipends according to the individual's situation.

Also, for whom selected by applying for a reopen call which will be conducted to fill a vacancy of the position, the support will be provided until the last day of the support period for his/her predecessor.

(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) The stipends are taxable as a miscellaneous income. Therefore, every Research Fellow is required to file an income tax return.

In addition, if a student with dependents (parents, etc.) is provided with a Research Fellowship, they may need to be excluded from their dependents. Therefore, if a student is selected as a Research Fellow, they should inform their dependents (parents, etc.) that the stipends they receive will be treated as a miscellaneous income under the Japanese tax law. For the procedures required to change your health insurance or dependents, please contact the person in charge at the workplace of your dependents (parents, etc.).

(4) 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.

(5) 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 six months (or within one year if you cannot arrive in Japan due to the special handling of border measures due to the COVID-19.) after being provisionally selected for the Research Fellowship, as a general rule, Hiroshima University will revoke your provisional selection for the Research Fellowship and you will not be provided with any stipends or research expenses.

(6) Hiroshima University plans to allocate incentives to excellent Fellows besides the stipends and 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 Fellow's latest annual income from January to December exceeds a certain amount (2.4 million yen or more per year). However, receiving a salary or working part-time in a job such as a TA or RA does not preclude the Fellow's eligibility requirements.

(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 Payments of Stipends and Research Expenses**

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 and research expenses deemed excessive at the period of termination.

#### **5. Others**

(1) As long as it does not interfere with your research activities, working part-time or receiving a salary in a job such as a TA or RA does not void your eligibility for application.

(2) The names of all the selected Research Fellows will be announced on the Hiroshima University website.

(3) The personal information of the applicants stated in the application documents and any necessary personal information of the applicants provided by the graduate school to which they belong to will be used only for purposes such as the selection of candidates, preparation for acceptance, and education/research guidance, etc.