



Vigorous Development of the Next-Generation by Establishment of the Hiroshima University Fellowship for Female Graduate Students in Science and Technology

Hiroshima University supports female students to enter the science and technology fields.



HIROSHIMA UNIVERSITY

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Hiroshima University has been designated as an implementing organization for the “Initiative for Realizing Diversity in the Research Environment (Specific Correspondence Type)”, a support project for the Development of Human Resources in Science and Technology [FY2021] conducted by the Ministry of Education, Culture, Sports, Science and Technology (MEXT).

As a result of Hiroshima University’s implementation of various female research support-related projects over the years, the percentage of female researchers at Hiroshima University has risen from 10.9% (FY2009) to 21.2% (FY2021), and we are steadily accumulating such results.

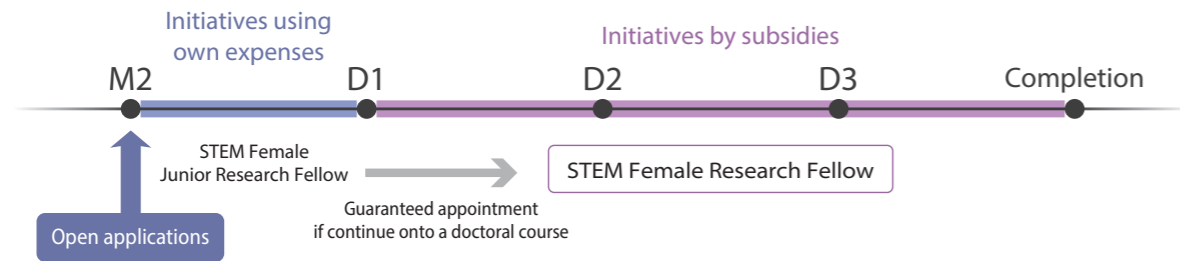
Along with this, there is a growing awareness towards actively hiring female faculty members in the Science, Technology, Engineering and Mathematics (STEM) fields as well, where the proportion of female researchers has historically been low. In saying that, the number of female students in the STEM fields has not been increasing.

Therefore, Hiroshima University will actively promote initiatives to make it easier for female students to select the STEM fields in order to further develop the female human resources of the future within the STEM fields.

Our 3 Initiatives

1

Hiroshima University Fellowship for Female Graduate Students in Science and Technology



Hiroshima University provides stipends (equivalent to living expenses) and research expenses to female graduate students who are motivated to play an active role in the science and technology fields. With this Fellowship, we provide an environment where students can concentrate on their research by alleviating them of the financial concerns they may have when going on to higher education, and supporting students to take on the challenge of undertaking the research which they want to do.

This support is offered to second year master's course students (STEM Female Junior Research Fellows) and doctoral course students (STEM Female Research Fellows). If a STEM Female Junior Research Fellow goes on to a doctoral course at Hiroshima University, we guarantee them that they will be continuously supported as a STEM Female Research Fellow. Through such efforts, we provide support to female graduate students who have high hopes and aspirations to become researchers in the STEM fields.

Support for the STEM Female Research Fellow

- Stipends: JPY 150,000/month
- Research expenses: JPY 420,000/year

Support for the STEM Female Junior Research Fellow

- Stipends: JPY 75,000/month
- Research expenses: JPY 240,000/year

Micron Awards

By utilizing the funds donated from the Micron Technology Foundation Inc., Hiroshima University provides a grant-type scholarship for female graduate students who are motivated to play an active role in the science and technology fields to support their high hopes and aspirations for the future.



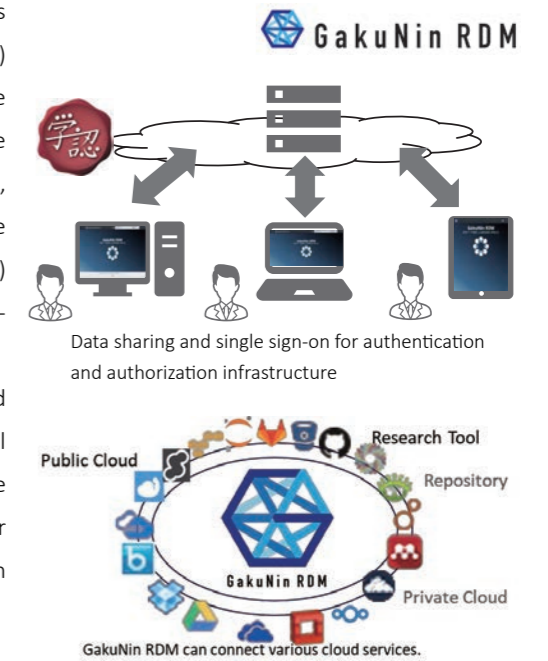
Our 3 Initiatives

2

Improvement of research efficiency of female researchers

Hiroshima University aims to improve the research efficiency of female researchers, and through this program, we will proceed with the Digital Transformation (DX) of research activities which makes use of ICT (information and communication technology) and digital characteristics. Specifically, through this program, we will establish a system which will allow female researchers at the University to access the research data management platform, GakuNin RDM, operated by the Research Center for Open Science and Data Platform (RCOS) of the National Institute of Informatics (NII) of the Research Organization of Information and Systems (an Inter-University Research Institute Corporation).

By utilizing GakuNin RDM, research data can be quickly managed and shared with multiple researchers across organizational boundaries. GakuNin RDM makes it possible to smoothly advance research projects of various sizes and fields as a hub not only for individual-level research activities but also for joint research with multiple researchers.



Our 3 Initiatives

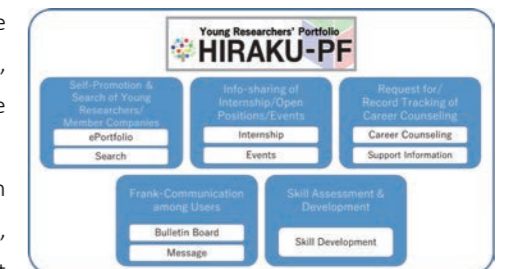
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Enhancement of transferable skills of female researchers

“Transferable skill” is a term used in the sense of repurposable skills, such as the ability to manage teams and projects, leadership, communication skills, etc., which are necessary regardless of the course of choice, in academia or industry.

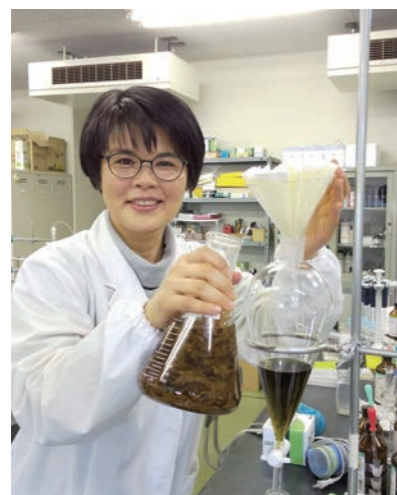
In collaboration with Vitae, a U.K. non-profit organization with an internationally proven track record in researcher development, Hiroshima University translated the Researcher Development Framework (RDF), which was developed by Vitae and has been used by more than 200 research institutes in 20 countries, into Japanese, building a foundation for researchers to perform self-assessments to enhance their transferable skills.

By utilizing the “Young Researchers’ Portfolio” system or “HIRAKU-PF” for short, which has the RDF built-in as a professional development platform, researchers can objectively analyze their skills, and develop necessary skills. Furthermore, support programs focused on female researchers, such as career seminars for female students, will be prepared.



Voices of students receiving support

Voice of students



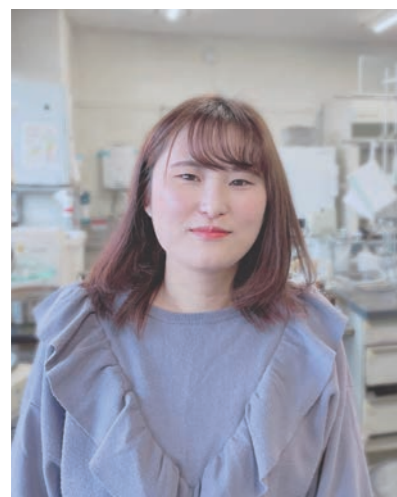
IIDA Manami

Program of Food and AgriLife Science,
Graduate School of Integrated Sciences for Life

Second year master's course
Selected in 2021

I am investigating whether seaweed has the activity of repelling agricultural pests, and if so, what is the nature of that activity at the molecular level, with the aim of applying seaweed-derived compounds to agrochemicals. My research targets brown algae of the family Dictyotaceae, which is an inedible seaweed. Several years ago, I happened to taste a piece of seaweed on the beach and felt a pungent taste. Later, I identified the seaweed as *Dictyota dichotoma* and further learned through various literature that secondary metabolites in the algae of this family have feeding inhibitory effects on herbivores such as sea urchins, and that some species even store sulfuric acid in their cells. I believed that these unique compounds might have pest control effects and as a result, started researching about it. My research explores the relationship between the characteristics of marine and terrestrial organisms, which requires a variety of experiments. I can deepen my understanding of the subject by connecting points to form a line and connecting lines to form a plane and I am also curious about what lies beyond, all of which drives me to conduct my research.

My appointment as a STEM Female Junior Research Fellow has given me a high degree of confidence in proceeding with my research and at the same time, it has made me more determined and enthusiastic about producing results. I plan to use my research funds to purchase the necessary supplies for seaweed sampling and activity testing. Encouraged by the support, I will overcome any difficulties I face.



ITO Mizuki

Basic Chemistry Program, Graduate School of
Advanced Science and Engineering

Second year master's course
Selected in 2021

I am currently working on the "solid-state ion exchange system of organic cations". This research handles a crystal in which crown ethers, which are cyclic compounds, are arranged to form a one-dimensional cylindrical channel with the lithium ions in its center. Our research group has reported on the solid-state ion exchange system with exchanges of the lithium ions in the channel by other cations, without breaking the crystal structure. This is performed by immersing the crystal in a solution containing the other cations. However, the mechanism of the solid-state ion exchange has not yet been clarified. As an approach to elucidate this mechanism, I am conducting the solid-state ion exchange of organic cations and the assessment of physical properties of the ion exchanged crystal. Using the research expenses, I will try to synthesize crown ethers labeled with deuterium. Using a crystal that contains these labeled crown ethers for solid-state ion exchange, our research will help unravel the mechanism.

As a STEM Female Junior Research Fellow, I will make more efforts and devote my time to research activities.



TOKUMOTO Ryoka

Physics Program, Graduate School of Advanced
Science and Engineering

Second year master's course
Selected in 2021

Thank you for appointing me as a FY2021 STEM Female Junior Research Fellow. I deeply appreciate that you have chosen me as a Research Fellow for the first academic year in which this system has been established. Your support promotes a forward-looking attitude about entering a school of a higher level, especially for female students who are hesitating going on to a doctoral course because of economic reasons and the fact that there are only a few such students.

My research is to elucidate the interactions between composite particles or baryons (including protons and neutrons) that consist of three quarks, which are the smallest constituent of substances. These interactions have been studied for a long time because their investigation will lead us to the two major themes of physics, the origin of substances and the internal structure of a neutron star. However, the interactions between baryons including the s quark, which is one of the six types of quarks, have still not been completely explained. I belong to an experiment group using the LHC of the European Organization for Nuclear Research (CERN) and am exploring dibaryons, which are composite particles consisting of six quarks. Quantum chromodynamics, which is a basic theory of strong interactions, does not prohibit the existence of such particles. However, dibaryons including s quarks have not been discovered, but they are very interesting particles. The objective of my research is to accumulate knowledge on the interactions that remain to be unexplained through the discovery of these particles.

After going on to a doctoral course, I will devote myself to deepening my research as a STEM Female Research Fellow.





HIROSHIMA UNIVERSITY

Office of Research and Academia-Government-Community Collaboration
1-3-2 Kagamiyama, Higashi-Hiroshima City, Hiroshima, Japan 739-8511

https://www.hiroshima-u.ac.jp/en/diversity_stem

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