The Frontier Development Program for Genome Editing

Doctoral Program for World-leading Innovative & Smart Education (WISE)

Application Guide for Admission

Special Selection for Applicants from Hiroshima University

October 2023/April 2024 Enrollment

May 2023

HIROSHIMA UNIVERSITY

Admission Policy

The Frontier Development Program for Genome Editing of the Graduate School, Hiroshima University expects to admit students who have the following aspirations and motivations, as well as the basic academic ability necessary to learn specialized expertise in this program.

Students who:

1. Are highly motivated to learn about genome editing technologies, and who have the basic academic ability in the areas of study related to fundamental biology, molecular science, biofunctional science, environmental science, biological resource science, biological production science, food science, biological engineering, medicine, pharmacology, dentistry, and health science;

2. Are willing to acquire expertise to make effective use of genome editing technologies, thereby developing their research capabilities to play an active role in a company;

3. Aim to create innovative technologies that will form the core of key industries, by acquiring the capability to develop new technologies (for genome alterations and delivery);

4. Aim to obtain the capability to flexibly adapt to changes in industrial structures as new industries emerge, by developing a sense of ethics as well as knowledge of social trends regarding genome editing-related regulations, etc.; and

5. Aim to acquire the qualities and capabilities needed to work as highly specialized professionals, through pursuing learning and research activities at the graduate school, based on their scientific and logical thinking ability and communication skills.

In order to admit such individuals, The Frontier Development Program for Genome Editing selects applicants through a multifaceted and comprehensive evaluation process based on its own Diploma Policy and Curriculum Policy, using document screening and interviews.

Program Overview

Life Science Course (5-year curriculum):

In the first and second years, students will learn both basic and advanced genome-editing techniques. From the third year, they will conduct their research while applying the knowledge that they have acquired from the course. Through basic courses on social implementation of technologies and internships, they will be trained to become experts with the capacity to work at the cutting edge of genome-editing technology.

- The course is a 5-year integrated PhD program for graduate students.

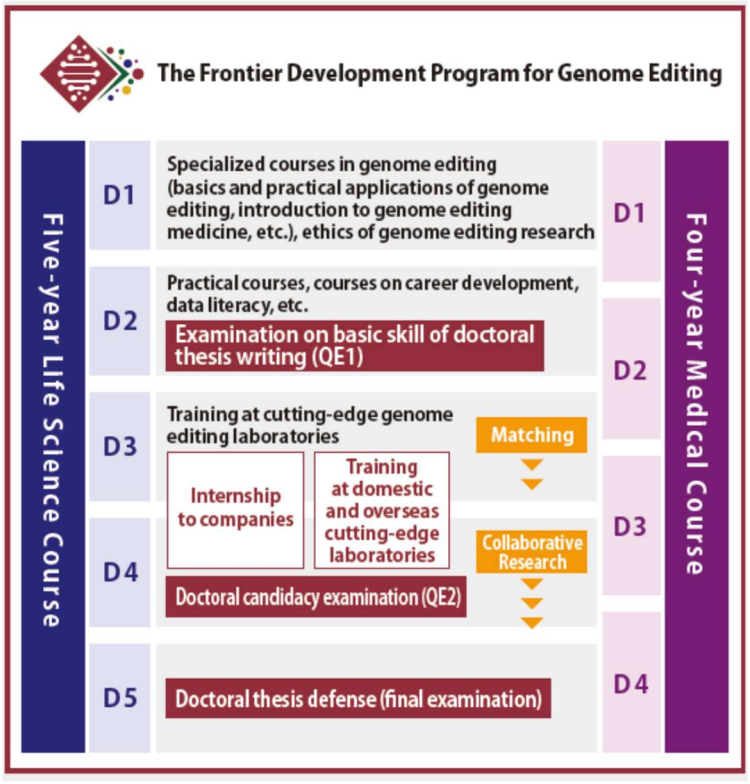
*There is also a 3-year doctoral program for postgraduate students. (Transfer admission to 3rd year)

Medical Course (4-year curriculum):

After systematically learning the basic and advanced genome editing technologies in the first and second years, students will conduct research for their doctoral thesis, while applying the knowledge that they have acquired from the course. In addition, through internships at domestic and overseas partner institutes, they will be trained to be able to work at the cutting edge of genome editing in the medical field.

- The course is a 4-year integrated PhD program for graduates from 6-year professional schools and masters.

Schematic diagram of this program



Students acquire the ability to apply technologies to society (ability for social implementation) under an organization that enables them to experience the speed of advanced research.

***A student of this program is required to satisfy the requirements of both his/her major in the graduate school and this program simultaneously.**

As stated below, Hiroshima University seeks students wishing to enroll in the "Frontier Development Program for Genome Editing" in October 2023 and April 2024.

1. Number of Students to Be Admitted

Course	Number of Students	Remarks
Life Science Course (5-year curriculum)	Several students	
Life Science Course (3-year curriculum)	Several students	*Transfer admission to 3rd year
Medical Course (4-year curriculum)	Several students	

2. Eligibility for Application

Those who satisfy one of the following eligibility requirements and who are going to belong to a research group of a faculty member listed in the "7. List of Program Members".

2-1. Eligibility for Application (Life Science Course)

(1) Those who have been admitted to the Division of Integrated Sciences for Life, Graduate School of Integrated Sciences for Life for October 2023 or April 2024 enrollment.

(2) Those who have applied for admission to the above graduate school for October 2023 or April 2024 enrollment.

* Those who fail to pass the above graduate school entrance examination will lose their eligibility for application.

*Candidates and successful candidates of the Early Completion Course of the Doctoral Program for working people（社会人特別入試短期修了コース）of the Graduate School of Integrated Sciences for Life are not eligible to apply for this program.

2-2. Eligibility for Application (Medical Course)

(1) Those who have been admitted to the Division of Biomedical Sciences, Graduate School of Biomedical and Health Sciences for October 2023 or April 2024 enrollment.

(2) Those who have applied for admission to the above graduate school for October 2023 or April 2024 enrollment.

*Those who fail to pass the above graduate school entrance examination will lose their eligibility for application.

3. Application Procedures

All applicants must consult the prospective advisor who has to be a faculty member listed in the "7. List of Program Members" regarding whether or not their planned research activities are appropriate for the program and obtain his/her consent before applying to a program.

(1) Application period

The application period shall run from July 28 to August 3, 2023 with a 5:00 p.m. (JST) deadline

*Office hours are from 8:30 a.m. to 5:00 p.m. for application submissions.

(2) Application documents

Document Name	Remarks
Application Form	Use the prescribed form. *see Note
Personal History	Use the prescribed form. *see Note
Research Plan	Use the prescribed form. *see Note *Approximately two pages in A4 sheet *Tables and figures can be inserted
(a) Photocopy of Examination card or (b) Acceptance letter	(a) Submit a photocopy of the Hiroshima University Graduate School Acceptance Letter: Those who have been admitted to the Hiroshima University Graduate School. (b) Submit a photocopy of the Hiroshima University Graduate School examination card: Those who have applied for admission to the Hiroshima University Graduate School. *Applicants who are unable to submit either document by the end of the application period must contact the Collaboration Office “6. Inquiries and Submission.”
Application Fee	Not required

(Note) Prescribed form can be downloaded from the website below.

URL：https://genome.hiroshima-u.ac.jp/en/recruitment/index.html

(3) Submission of application documents

① Method of submission

By the end of the application period, applicants must submit their application documents in person or by post (by registered mail or any other method that provides a record of delivery). If submitting by post, applicants must mark the envelope in red “Application for the Frontier Development Program for Genome Editing.”

Applications submitted after the deadline or incomplete will not be accepted.

② Where to submit

See “6. Inquiries and Submission”

(4) Other matters

① The content of the application documents must not be changed after submission.

② Submitted application documents will not be returned to applicants.

③ Personal information (name, date of birth, gender, etc.) collected on the application forms will be used only for the purpose of selecting and notifying successful applicants and for enrollment procedures. Such personal information will not be used for any other purpose and will not be seen by anyone other than University personnel. Subject to the conclusion of an agreement on the appropriate use of personal information, there may be cases where related tasks are outsourced to companies outside the University for the purpose of computer processing.

4. Selection Procedure

(1) Oral Examination

- Life Science Course
  Date: September 4, 2023
  Venue: Hiroshima University Higashi-Hiroshima Campus
- Medical Course
  Date: September 5, 2023
  Venue: Hiroshima University Kasumi Campus

*Detailed information about the time and place will be sent to applicants separately.

*At the venue specified by the university, applicants will take an oral examination (approximately 15 minutes per person) based on their application documents to evaluate their basic academic ability and English proficiency.

(2) Admission decision

The admission decision will be made in a comprehensive manner, considering the results of the documentary review and the oral examination. In the selection process, applicants will be evaluated on a three-point scale on the following criteria:

Motivation for the Program, Aptitude for the Field, and Basic Scholarship Skills.

(3) Announcement of successful applicants

Announcement expected at 10:00 a.m., September 21, 2023

Successful applicants will be announced on the Frontier Development Program for Genome Editing webpage. Successful applicants will also receive letters sent by postal mail. As a general rule, we will not respond to telephone inquiries about selection results.

(URL: https://genome.hiroshima-u.ac.jp/en/recruitment/index.html)

5. Financial Support for Students *see Note 1

We currently offer financial support to students in the program as described in (1), (2), (3), and (4) below. This support is provided only during the standard course period.

(1) 50,000 yen per month will be provided for up to three students for six months to students who are recognized as having excellent academic performance and outstanding achievements in academic activities after enrollment. (Details of the application procedure will be announced after admission.)

(2) Free tuition will be provided for the third and later years of the Life Science Course and for all years of the Medical Course. (Some students may not be eligible due to their academic performance.) *see Note 2

(3) Ikenoue Student Dormitory is available with priority for two years after enrollment in the program.
(*Boarding fee, common expenses, and utility fee will be charged.)
- Ikenoue Student Dormitory: https://www.hiroshima-u.ac.jp/en/nyugaku/shien/jyuukyo/gakuseisyukusya

(4) Travel grants (transportation and accommodation expenses) will be provided up to the amount specified by the program for students' educational and research activities. (Some students may not be eligible due to their income. Details will be announced after admission.)

In addition to the above, there are also university-designated dormitories. (Higashi-Hiroshima Campus only)

- Dormitory: https://www.hiroshima-u.ac.jp/en/explore_hu/life/residence

*Note 1: Financial support is as of April 1, 2023 and is subject to change.

*Note 2: Financial support for (2) will end on March 31, 2025. Financial support after April 1, 2025 is not yet confirmed.

In addition to the above support, in a bid to support students advancing to a doctoral course, who are motivated towards research and who will become important leaders in bringing scientific and technological innovations to our society in the future, Hiroshima University offers the Hiroshima University Graduate School Research Fellowship, the Program for Developing and Supporting the Next-Generation of Innovative Researchers at Hiroshima University, and the Hiroshima University Fellowship for Female Graduate Students in Science and Technology.

- Hiroshima University Postgraduate Advancement Project: https://fellowship.hiroshima-u.ac.jp/en/

6. Inquiries and Submission

Collaboration Office, Education Office, Hiroshima University

1-1-1 Kagamiyama, Higashi-hiroshima City, Hiroshima, Japan 739-8524
(Room 809, Building B of the Graduate School of Education)
Tel: 082-424-6819 E-mail: leading-program@office.hiroshima-u.ac.jp

* When sending an inquiry email, please include "[Name]_About Application" in the subject line.

7. List of Program Members

All applicants must consult the prospective primary advisor who has to be a program member regarding whether or not their planned research activities are appropriate for the program and obtain his/her consent before applying to a program.

(1) The following list is effective as of April 1, 2023 and is subject to change.

(2) A student in the program is required to fulfill the requirements for both his/her major in the Graduate School and this program simultaneously.

(3) An applicant who wishes to work with a program member with an "*" mark in the list as an academic advisor must contact the Collaboration Office "6. Inquiries and Submission" prior to applying to a program.

【Life Science Course】

Name	title	Specialty	Program of the Division of Integrated Sciences for Life, Graduate School of Integrated Sciences for Life
YAMAMOTO Takashi	Professor	Genome biology	Program of Mathematical and Life Sciences/ Program of Biomedical Science
BONO Hidemasa	Professor (Special Appointment)	Bioinformatics	Program of Mathematical and Life Sciences/ Program of Biomedical Science

Name	title	Specialty	Program of the Division of Integrated Sciences for Life, Graduate School of Integrated Sciences for Life
SAKAMOTO Naoaki	Associate Professor	Molecular biology	Program of Mathematical and Life Sciences/ Program of Biomedical Science
SAKUMA Tetsushi	Professor	Genome biotechnology	Program of Mathematical and Life Sciences/ Program of Biomedical Science
SUGI Takuma	Associate Professor	Behavioral Systems Biology	Program of Mathematical and Life Sciences/ Program of Biomedical Science
SAKAMOTO Atsushi	Professor	Plant molecular biology, Plant physiology	Program of Mathematical and Life Sciences
SHIMADA Hiroshi	Associate Professor	Plant molecular cell biology	Program of Mathematical and Life Sciences
UENO Masaru	Associate Professor	Molecular cell biology	Program of Biotechnology/ Program of Biomedical Science
FUJIE Makoto	Associate Professor	Plant cell biology	Program of Biotechnology
SHIMADA Masayuki	Professor	Reproductive biology	Program of Food and AgriLife Science/ Program of Bioresource Science
HORIUCHI Hiroyuki	Professor	Animal cell technology, Immunobiology	Program of Food and AgriLife Science
YANAKA Noriyuki	Professor	Molecular nutritional science	Program of Food and AgriLife Science
TANAKA Wakana	Associate Professor	Plant Developmental Genetics	Program of Food and AgriLife Science
MATSUZAKI Mei（*）	Assistant Professor	Animal production science	Program of Food and AgriLife Science
SATOH Akiko	Professor	Cell biology	Program of Life and Environmental Sciences
UKENA Kazuyoshi	Professor	Neuroendocrinology	Program of Life and Environmental Sciences/ Program of Biomedical Science
WASAKI Jun	Professor	Plant nutrition	Program of Life and Environmental Sciences/ Program of Bioresource Science
IMAMURA Takuya	Professor	RNA biology, Epigenetics	Program of Basic Biology/ Program of Biomedical Science
CHIHARA Takahiro	Professor	Neurogenetics	Program of Basic Biology/ Program of Biomedical Science
OGINO Hajime	Professor	Developmental biology, Evolutionary biology	Program of Basic Biology/ Program of Biomedical Science
HAYASHI Toshinori	Professor	Regeneration biology, Developmental biology	Program of Basic Biology/ Program of Biomedical Science
HAMAO Kozue	Associate Professor	Cell biology	Program of Basic Biology/ Program of Biomedical Science
OKUMURA Misako	Associate Professor	Neuroscience	Program of Basic Biology/ Program of Biomedical Science
TAGAWA Kunifumi	Associate Professor	Evolutionary developmental biology	Program of Basic Biology

【Medical Course】

Name	title	Specialty	Program of the Division of Biomedical Sciences, Graduate School of Biomedical and Health Sciences
ADACHI Nobuo	Professor	Knee joint surgery	Program of Medicine
OHDAN Hideki	Professor	Surgery, Gastrointestinal surgery, Transplantation, Immunology	Program of Medicine
OKADA Satoshi	Professor	Immunology	Program of Medicine
KUDO Yoshiki (Retirement at the end of March 2025)	Professor	Obstetrics and gynecology	Program of Medicine
SAKAGUCHI Takemasa (Retirement at the end of March 2026)	Professor	Virology	Program of Medicine
SOTOMARU Yusuke	Professor	Reproductive and developmental engineering	Program of Medicine
HATTORI Noboru (Retirement at the end of March 2026)	Professor	Molecular and internal medicine	Program of Medicine
MARUYAMA Hirofumi	Professor	Clinical neuroscience and therapeutics	Program of Medicine
YASUDA Tomoharu	Professor	Immunology	Program of Medicine
SHUKUNAMI Chisa	Professor	Molecular biology	Program of Dental Sciences
TANIMOTO Kotaro	Professor	Orthodontics	Program of Dental Sciences
KAMIYA Hiroyuki	Professor	Pharmacy, Biological pharmacy	Program of Pharmaceutical Sciences
NOMURA Wataru	Professor	Chemical pharmacy, Bio-related chemistry	Program of Pharmaceutical Sciences
ICHINOHE Tatsuo	Professor	Hematological malignancies, Cell transplant science	Program of Radiation Biology and Medicine
KAMINUMA Osamu	Professor	Laboratory Animal Science, Immunology	Program of Radiation Biology and Medicine
KAWAKAMI Hideshi (Retirement at the end of March 2025)	Professor	Neurogenetics	Program of Radiation Biology and Medicine
KUME Kodai（*）	Associate Professor	Neurogenetics	Program of Radiation Biology and Medicine
MATSUURA Shinya (Retirement at the end of March 2026)	Professor	Genetic medicine	Program of Radiation Biology and Medicine

8. Total ban on smoking in Campus

Smoking has been prohibited entirely in all Hiroshima University campuses.

*This guide is made in Japanese and translated into English. The Japanese text is the original and the English text is for reference purposes. If there is any conflict or inconsistency between these two texts, the Japanese text shall prevail.