

**2024/2025 Academic Years**  
**Graduate School of Integrated Sciences for Life**  
**Hiroshima University**

# **Application Guidelines**

## **General Selection**

**Master's Course**

**(October 2024/April 2025 Admissions)**

**May 2024**

**Hiroshima University**

# Admissions Policy <Master's Course>

The Graduate School of Integrated Sciences for Life, based on its Diploma Policy and Curriculum Policy, expects

Students who:

1. Have strong eagerness to learn, who wish to acquire deep expertise and understanding in a wide range of fields from the basics to applications that include medical treatment in the areas of study related to biology and life sciences, and who have basic academic knowledge for that purpose;
2. Wish to acquire interdisciplinary problem-searching and problem-solving abilities, which can integrate and link different fields, along with broad general education, without being constrained by conventional frameworks of
3. Are aware of both academic fields and the real world, and who wish to acquire international and interdisciplinary communication skills as well as practical capabilities in society.

In order to admit such individuals, this Graduate School selects applicants through a multifaceted and comprehensive evaluation process based on its own Diploma Policy and Curriculum Policy, using interviews, academic tests, and external examinations.

## 1. Type of Students We Seek

### [Program of Biotechnology]

Based on its Diploma Policy and Curriculum Policy, this program expects to admit students as described below.

Students who:

1. Have acquired an education at the level of completing an undergraduate of university course and basic knowledge in biological sciences and bioengineering as their special field of study;
2. Have a high level of interest in the bioengineering field, as well as the ambition and strong will to carry out research to its end;
3. Have a logical thinking ability and communication skills to verbally express their logical thinking;
4. Have acquired a command of English at the level of completing an undergraduate of university course or higher; and
5. Have acquired common sense and ethical standards as a working member of society.

In order to admit such individuals, this program selects applicants through a multifaceted and comprehensive evaluation process based on its own Diploma Policy and Curriculum Policy, using interviews, academic tests, and external examinations.

### [Program of Food and AgriLife Science]

Based on its Diploma Policy and Curriculum Policy, this program expects to admit students as described below.

Students who:

1. Have a high level of interest in theories and methods of understanding and utilizing foods and biological functions from the perspective of molecules and cells;
2. Have a high interest in finding and solving problems from a scientific perspective regarding functions and the advanced use of food resources;
3. Have acquired a command of English at the level of completing an undergraduate of university course or higher;
4. Have acquired abilities or higher regarding the knowledge, attitude, and skills related to their desired foods and life science fields; and
5. Have acquired common sense and ethical standards as a working member of society.

In order to admit such individuals, this program selects applicants through a multifaceted and comprehensive evaluation process based on its own Diploma Policy and Curriculum Policy, using interviews, academic tests, and external examinations.

## **[Program of Bioresource Science]**

Based on its Diploma Policy and Curriculum Policy, this program expects to admit students as described below.

Students who:

1. Have a high level of interest in systematically understanding life phenomena related to the production and use of biological resources based on the studies from the molecular level to ecosystems basis;
2. Have a high interest in understanding and dissolving various problems in the production of biological resources from regional to global scopes regarding roles and trends of biological resources in food production, their application to human life, and their relationships with the natural environment;
3. Have acquired a command of English at the level of completing an undergraduate of university course or higher;
4. Have acquired abilities at the level of completing an undergraduate of university course or higher regarding knowledge, attitude, and skills related to their desired biological resources and science fields; and
5. Have acquired common sense and ethical standards as a working member of society.

In order to admit such individuals, this program selects applicants through a multifaceted and comprehensive evaluation process based on its own Diploma Policy and Curriculum Policy, using interviews, academic tests, and external examinations.

## **[Program of Life and Environmental Sciences]**

Based on its Diploma Policy and Curriculum Policy, this program expects to admit students as described below.

Students who:

1. Have a broad interest in the life science fields from the molecular level to whole environments and ecosystems, and who wish to acquire basic research abilities for a specific field and to learn the theories and methods of understanding and utilizing these abilities from a comprehensive perspective supported by related expertise and skills;
2. Wish to understand various problems existing in life science and environmental science, and to solve them in cooperation with organizations outside the university and the international community;
3. Wish to play an active role as a generalist who covers areas outside life science and environmental science without being constrained by their own expertise;
4. Have acquired a command of English at the level of completing an undergraduate of university course or higher;
5. Have acquired abilities at the level of completing an undergraduate of university course or higher regarding knowledge, attitude, and skills related to their desired specialized fields; and
6. Have acquired common sense and ethical standards as a working member of society.

In order to admit such individuals, this program selects applicants through a multifaceted and comprehensive evaluation process based on its own Diploma Policy and Curriculum Policy, using interviews, academic tests, and external examinations.

## **[Program of Basic Biology]**

Based on its Diploma Policy and Curriculum Policy, this program expects to admit students as described below.

Students who:

1. Have acquired basic knowledge and skills in biology at molecular, cellular, individual, ecological, and evolutionary levels that should have been acquired in the related faculties;
2. Have acquired a command of English at the level of completing an undergraduate of university course or higher; and
3. Have acquired common sense and ethical standards as a working member of society.

In order to admit such individuals, this program selects applicants through a multifaceted and comprehensive evaluation process based on its own Diploma Policy and Curriculum Policy, using interviews, academic tests, and external examinations.

## **[Program of Mathematical and Life Sciences]**

Based on its Diploma Policy and Curriculum Policy, this program expects to admit students as described below.

Students who:

1. Are equipped with basic academic abilities in the fields of mathematics, physics, chemistry, and biology;
2. Have an ambition to open up a new research field for the mathematical science, molecular science, and life science fields as well as integrated fields;
3. Have acquired a command of English at the level of completing an undergraduate of university course

# CONTENTS

Admissions Policy.....	1
1. Number of Students to Be Recruited and Venue for Examinations, etc.....	5
2. Applicant Eligibility .....	6
3. Application Procedures .....	6
4. Examination Date and Time .....	10
5. Details of Examinations .....	10
6. Screening Criteria .....	12
7. Announcement of Successful Applicants.....	13
8. Enrollment Fee and Tuition .....	13
9. Hiroshima University Excellent Student Scholarships .....	13
10. Personal Information .....	13
11. Examination Information Disclosure.....	14
12. Frontier Development Program for Genome Editing.....	14
13. Additional Notices.....	15
14. Other Points of Attention .....	15
 <b>[List of Academic Supervisors]</b>	
Program of Biotechnology.....	16
Program of Food and AgriLife Science.....	21
Program of Bioresource Science.....	24
Program of Life and Environmental Sciences.....	26
Program of Basic Biology .....	28
Program of Mathematical and Life Sciences .....	30
Program of Biomedical Science .....	33

**The Graduate School of Integrated Sciences for Life, Hiroshima University, is recruiting students for the Master's Course in the Department of Integrated Science for Life to be enrolled in**

**1. Number of Students to Be Recruited and Venue for Examinations, etc.**

	Program	Number of students to be recruited	Examination Date	Examination Venue	Inquiries Submission addresses	
Department of Integrated Sciences for Life	Biotechnology	October 2024 Admission A few	August 27, 2024	School of Integrated Arts and Sciences,	, Hiroshima University 1-3-1, Kagamiyama, Higashi- Hiroshima, 739-8530 TEL: (082) 424-7008, 7009	
	Food and AgriLife Science				(Graduate Student Affairs), Hiroshima University 1-4-4, Kagamiyama, Higashi- Hiroshima, 739-8528 TEL: (082) 424-7908	
	Bioresource Science				(Graduate Student Affairs), Hiroshima University 1-7-1, Kagamiyama, Higashi- Hiroshima, 739-8521 TEL: (082) 424-6316	
	Life and Environmental Sciences	April 2025 Admission 82				
	Basic Biology					
	Mathematical and Life Sciences					(Graduate Student Affairs), Hiroshima University 1-3-1, Kagamiyama, Higashi- Hiroshima, 739-8526 TEL: (082) 424-7309, 4468
	Biomedical Science					

## 2. Applicant Eligibility

Applicants must satisfy one of the following qualifications or be expected to receive any one of the following qualifications

. Applicants shall be residing in Japan and must make an affirmation of admission when applicants will pass the entrance examination.

- (1) have graduated from a Japanese university;
- (2) have completed a 16-year course of formal education outside Japan;
- (3) have taken a correspondence course from an overseas educational institution in Japan and completed a 16-year course of formal education;
- (4) have completed an undergraduate course of an overseas-based educational institute located in Japan that has been approved by the Minister of Education, Culture, Sports, Science and Technology (MEXT), whose graduates are regarded as having completed 16-year course of formal education.
- (5) have been conferred, a degree equivalent to a bachelor's degree through attending an overseas university or other overseas school (limited to those whose education and research activities have been evaluated by persons who have been certified by the relevant country's government or a related institution, or have been separately designated by the Ministry of Education, Culture, Sports, Science and Technology as being equivalent to such) and graduated from a course that requires 3 or more years to complete (Includes graduating from a course implemented by the relevant overseas school while living in Japan through distance learning, as well as graduating from a course implemented by an educational facility established with the relevant overseas country's school education system and has received the designation mentioned above).

Be sure to contact each support office in charge of the program before the application period, if you think you have academic achievements equivalent to or higher than those having completed an undergraduate course at a university.

## 3. Application Procedures

### (1) Application methods

Applicants are required to send the necessary documents by post.

(Partially online application)

#### <Online application>

- 1) Enter your personal information.
- 2) Pay the application fee, 30,000 yen.
- 3) All application documents must be either sent by mail or delivered in person to the aforementioned address.

#### Note:

**The application procedure wouldn't be completed without either sending or delivering in person all the necessary application documents by the due date.**

(the aforementioned address)

### (2) Application period

Applicants must complete all of the above procedures (from 1 to 3 in (1)) within the application period.

**From July 24, 2024 to July 30, 2024 (No later than 17:00 (JST))**

**(3) Online application**

Helpdesk (\*Japanese speaking only)

Inquires accepted from 10:00 am to 6:00 pm (\*Except from December 30 to January 3)

TEL: 03-6634-6494

If you have any questions regarding the entrance examination, please contact the support office stated on page 5 in these guidelines. Inquiries are accepted from 9:00 to 17:00. (Excluding Saturday, Sunday, and national holidays)

**<How to apply > Complete the following eight steps within the application period stated below:**

**6**

**C**

**CC**

Access the online application system from the Hiroshima University Admissions Information web page:  
<https://www.hiroshima-u.ac.jp/en/nyugaku>

**. 6**

**|**

**C**

**C, , 1. 0 . 0 1 3, 00 0 0 . . 0 .**



Choose the method of payment from the following list. For applications from outside Japan, only credit card payments can be accepted.

1. Credit Cards: VISA, MasterCard, JCB, AMERICAN EXPRESS, Diners Club
2. Convenience Stores: 7-Eleven, LAWSON, MINISTOP, FamilyMart, Daily Yamazaki, Seicomart
3. Banking facilities ATM Pay-easy
4. Online Banking

(Note)

**\*In addition to the entrance examination fee, applicants must cover the remittance fees.**

\*Applicants need to pay the Processing Fee (The amount of Processing Fee will be notified at the time of online application).

### **Important notices regarding the entrance examination fee**

The examination fee, once paid, will not be refunded for any reason.

However, in cases (1) and (2) below, the examination fee is refundable after deducting the bank transfer fee. Therefore in such c

given from the university and send it to the address mentioned page 5 by postal mail by Friday, February 21, 2025. (In any case, the Online Application Processing Fee is ineligible for a refund.)

- (1) If the application documents have not been submitted, or if they have not been accepted
- (2) If duplicate payments of the entrance examination fee have been made in error

36E

C

C

C J

CC

C

to print out a copy of the computer screen showing the number. The Registration Number is needed for confirming the application details later, and for sending the application documents by post.

46

C

CC

Submission Address: Each support office (see page 5)

All application documents must be either sent by registered mail or delivered in person to the support office. If you submit the application documents directly to the support office, application documents are accepted from 8:30 to 17:00 on a weekday. Please note that the office is closed on Saturday, Sunday, and national holiday.

If you send the application documents by mail, you must send them by registered mail and ensure that the documents reach the office by Tuesday, July 30, 2024. Should the application documents fail to reach the office by that date, however, those postmarked on or before Friday, July 26, 2024 can be accepted.

On the envelope, please write Application for the Program of , the Graduate School of Integrated Sciences for Life, Hiroshima University in red ink.

**(4) Documents to be submitted (Specified forms can be downloaded from the Home Page.)**

A	Academic Transcripts	Should be prepared and signed by the president/dean of the university from which you have graduated and sealed securely.
B	Certificate of (Expected) Graduation	<p>Should be prepared and signed by the president/dean of the university from which you have graduated.          *If you are a graduate or a current student of a university in China, please obtain          历证书查询</p> <p>5* ) ) ) * * ) ' )          毕业证书 硕 证书          * " )</p> <p>Graduates: Online Verification Report of Higher Education Qualification Certificate ( 历证书电 备 )          Expected Graduates: Online Verification Report of Student Record ( 线验证报 )</p> <p>Please note that applicants must pay the issuing fee for the Online Verification Report (2 / certificate) by themselves. Also be sure that there are 15 or more days left until the expiration date of the online verification at the time of its submission.</p>
C	Score Certificate of English Proficiency Tests (The certificate will be returned to you after confirmation by the office.)	<p>Submit a score certificate (original) of English language proficiency tests administrated by outside organizations. (*The score certificate must be ORIGINAL (not copy).)          If you have score certificates of more than one test, you may submit them all. In that case, the highest score will be adopted.          The types of tests should be any of the following:</p> <ul style="list-style-type: none"> <li>- TOEIC®Test (Official Score Certificate or Digital Official Score Certificate)</li> <li>- TOEIC®-IP (including College TOEIC®)</li> <li>- TOEFL®-PBT</li> <li>- TOEFL®-ITP</li> <li>- TOEFL®-iBT</li> <li>- IELTS™</li> <li>- The EIKEN Test in Practical English Proficiency EIKEN</li> <li>- Cambridge English</li> <li>- GTEC (Limited to CBT type)</li> <li>- TEAP 4 skills</li> <li>- TEAP CBT 4 skills</li> </ul> <p>TOEIC®-IP Online test is not applicable.</p>
D	Curriculum vitae	(Use the official form) All the schools/educational institutions you have enrolled in shall be written.
E	Research Plan	(Use the official form) / )
F	Return Envelope	A self-addressed standard-size envelope with appropriate postage (stamps)

**(5) Address for submission of application documents:**

Please see page 5 of these application guidelines.

**(6) Pre-arrangements for special needs applicants**

Those who require special consideration for taking examinations and/or pursuing an academic program due to a disability or other legitimate reason must first contact the Support Office (see page 5) and then submit a statement of information as described below (in free format) to provide advance notice so that necessary arrangements may be made.

(a) Period of statement submission: ~~ECQ/Spain 2024 July-12, 2024~~ ECQ/Spain 2024 July-12, 2024 CID 29 >>BDC 3q0 0 595.2 841.8 reW\* nBT/TT

\* \* In Special Subjects I, those who have graduated (or are expected to graduate) from the Program of Biotechnology in Cluster 3, the Faculty of Engineering, Hiroshima University, are required to take Biochemical Engineering and Microbiology. Students other than the above should select any two subjects from the following four subjects:  
Biochemical Engineering, Microbiology, Fundamentals of Biotechnology I, and Fundamentals of Biotechnology II.

Specialized subject II: Two subjects. Molecular Biology and Biochemistry

### **Program of Food and AgriLife Science**

Specialized subject I: An essay-based exam to qualify a person for the admission policy of the Food and AgriLife Science program.

Please refer to the page 1 for admission policy.

Specialized subject II: Specialized field

Please refer to the home page of Graduate School of Integrated Sciences for Life (<https://www.hiroshima-u.ac.jp/en/ilife/research/food-and-agrilife-science>) for the specialized subjects of the academic staffs.

### **Program of Bioresource Science**

Specialized subject I: An essay-based exam to qualify a person for the admission policy of the Bioresource Science program.

Please refer to the page 2 for admission policy.

Specialized subject II: Specialized field of the

Please refer to the home page of Graduate School of Integrated Sciences for Life (<https://www.hiroshima-u.ac.jp/en/ilife/research/bioresource-science>) for the specialized subjects of the academic staffs.

### **Program of Life and Environmental Sciences**

Specialized subject I · II: Please select and answer one subject concerning the following research fields.

The same research field is selectable for specialized subject I and II.

Physical chemistry, Organic chemistry, Analytical chemistry, Biochemistry, Cell Biology, Evolutionary Biology, Plant physiology, Ecology, Microbiology, Neuroscience, Environmental sciences

### **Program of Basic Biology**

Specialized subject I: Please select and answer some subjects out of basic questions concerning biology. (Reference book: Campbell Biology <11th Edition>)

Specialized subject II: An essay-based exam (Questions about basic knowledge and research of biology)

### **Program of Mathematical and Life Sciences**

Specialized subject I: Please select and answer one concerning your desired field out of the following subjects; Mathematics, Physics, Chemistry, Biology

Specialized subject II: Please select and answer one concerning your desired field out of the following subjects; Mathematics, Physics, Chemistry, Biology

### **Program of Biomedical Science**

Specialized subject I: Some basic questions from the fields of biochemistry, molecular biology, and cell biology are set on the exam. Candidates need to select and answer two questions.

Reference: Essential Cell Biology 5th ed. (WW Norton & Co)

Specialized subject II: Questions are set from the research fields of the faculty members. Please refer to the website of the Graduate School of Integrated Sciences for Life for their research fields. (<https://www.hiroshima-u.ac.jp/en/ilife/research/biomedical-science>)

## 6. Screening Criteria

(2) 150 points will be allocated to foreign language proficiency.

Evaluation of a foreign language proficiency will be based on the conversion to a maximum of 150 points according to the following conversion formula using score certificate of English language proficiency administrated by outside organizations submitted at the time of application.

Conversion formula

Score certificates for English language proficiency test other than the above, please check the conversion table below.

TOEIC® Test

TOEIC®-IP TOEFL®-PBT, and TOEFL®-ITP

English Proficiency Tests Foreign Language Proficiency (Max. of 150 points)	Cambridge English	The EIKEN Test in Practical English Proficiency EIKEN	GTEC (Limited to CBT type)	IELTS™	TEAP (4 skills)	TEAPCBT (4 skills)	TOEFL iBT®
150	200 - 230			8.5 - 9.0			
145	180 - 199	Grade 1	1350 - 1400	7.0 - 8.0	375 - 400	800	95 - 120
126	160 - 179	Grade Pre-1	1190 - 1349	5.5 - 6.5	309 - 374	600 - 795	72 - 94
97	140 - 159	Grade 2	960 - 1189	4.0 - 5.0	225 - 308	420 - 595	42 - 71
49	120 - 139	Grade Pre-2	690 - 959		135 - 224	235 - 415	
31	100 - 119	Grade 3	270 - 689				

## 7. Announcement of Successful Applicants

**12:00 (expected), Friday, September 6, 2024**

- (1) The Graduate School will send letters of acceptance to successful applicants. If you do not receive the letter even if your ID number is on the list of successful applicants, please inquire at each support office (page 5).
- (2) Sciences for Life, Hiroshima University. Please note that the announcement of the website will be unofficial. Official announcement will be made via the letters of acceptance. The office will not accept inquiries by phone regarding the results of the examinations.

## 8. Enrollment Fee and Tuition Fee

### Payment

Enrollment Fee: ¥282,000

Tuition Fee: ¥535,800 per year (W26 574.87466 ngini535,800 per year)

## 11. Examination Information Disclosure

The disclosure of examination results (considered as personal information) may be requested in the following manner:

- (1) Obtain an examination information disclosure application form:

Write to the address below, indicating on the envelope \_\_\_\_\_ or "Examination Information Disclosure Application Form Request," enclosing a self-addressed return envelope (long No. 3 type, 120 mm×235 mm) bearing the examinee's name, address and postal code and an 94 yen stamp.

- (2) Complete the examination information disclosure application form, and send by post the documents listed below between April 1 and May 31, 2025(postmarked) to the address mentioned page 5.

Completed examination information disclosure application form

Original Examination Card for the admission examination of the Graduate School of

\_\_\_\_\_, Hiroshima University (a copy will not be accepted; the original Card will be returned at the time of information disclosure)

Self-addressed return envelope (long No. 3 type, 120 mm × 235 mm) bearing the examinee's name, address and postal code and a 414 yen stamp.

Disclosure Applicants may be requested to correct any submitted documents found to be inappropriate.

- (3) The Graduate School of \_\_\_\_\_ will send a notice of examination information disclosure to the Disclosure Applicant by simplified registered mail within 30 days from the receipt of the application form.

## 12. Frontier Development Program for Genome Editing

Hiroshima University has launched the Frontier Development Program for Genome Editing which was selected as a WISE program by MEXT in 2018. This program includes a Life Science Course (5-year curriculum) and a Medical Course (4-year curriculum), providing students with opportunities to acquire basic

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  
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.) \*see Note 2  
Travel grants (transportation and accommodation expenses) will be provided up to the amount specified by the program for students' educational and research activities. (Details will be announced after admission.)  
\*see Note 3

\*Note 1: Financial support is as of April 1, 2024 and is subject to change.

\*Note 2: Financial support for (1), (2), and (3) will end on March 31, 2028. Financial support after April 1, 2028 is not yet confirmed.

\*Note 3: Financial support for (4) will end on March 31, 2025.

In addition to the support mentioned above, you can find more information about the university/graduate school-wide support on the student information system "MOMIII" and the Graduate School website.

#### ◆Contact

Collaboration Office, Education Office, Hiroshima University  
3F Student Plaza, 1-7-1 Kagamiyama, Higashi-Hiroshima City, Hiroshima 739-8514 JAPAN  
TEL 082-424-6819 Email [leading-program@office.hiroshima-u.ac.jp](mailto:leading-program@office.hiroshima-u.ac.jp)

### 13. Additional Notices

- (1) **Prior to application, please consult about the research programs with a faculty member under whom applicant wishes to study.** (<https://www.hiroshima-u.ac.jp/en/ilife/research>)
- (2) Hiroshima University  
the Foreign Exchange and Foreign Trade Act, and conducts strict examinations for acceptance of international students, etc. Therefore, please be advised that International applicants may be unable to receive their desired education or conduct their desired research due to the restriction by the above regulations.
- (3) The certificates to be submitted must be the originals or certified photocopies. Uncertified photocopies would not be recognized as official certificates.
- (4) No changes are permitted in the content of documents after their submission.  
The examination fee will not be returned for any reason.
- (5) Any forgery or falsification of the documents and/or academic fraud would result in cancellation of acceptance even after passing examination or admission.
- (6) If an applicant could not graduate from the university before the admission date, he/she would lose the eligibility to enter our graduate school in this session.
- (7) Application Guidelines and other related documents can be downloaded from the website of the Graduate School of Integrated Sciences for Life, Hiroshima University.
- (8) If the program of an academic supervisor under whom you wish to study is changed due to program reorganization, the program you belong to may change.
- (9) For further information, please contact the following each support office in charge of the program(s) (page 5).

### 14. Other Points of Attention

Smoking is prohibited entirely in All Hiroshima University campuses from January, 2020.



## Research Fields

## Keywords

Professor Tsunehiro AKI

Genomic breeding of oleaginous microorganisms for provision of new health foods, pharmaceuticals, chemicals and sustainable bioenergy.

Lipid engineering, Microbial biotechnology, Biorefinery

Professor Kenji ARAKAWA

We aim to characterize the mechanism for the biosynthesis of bioactive compounds and their regulatory system in Streptomyces species. Isolation of new metabolites and characterization of biosynthetic enzymes are also studied in our laboratory.

Bioactive compounds  
Biosynthesis Secondary  
metabolism

ompou

Academic Staff		Research Fields	Keywords
Professor	Ryuichi HIROTA	Studies on the phosphorus cycling in the environment and the phosphorus metabolism of bacteria. We analyze the molecular mechanisms of the phosphorus metabolic system of bacteria and apply their functions for developing innovative biotechnology that contributes to phosphorus recycling, biosafety strategy, and bioprocessing.	Phosphorus metabolism, Bacteria, Biotechnology
Professor	Masaki MIZUNUMA	Ca <sup>2+</sup> Ca <sup>2+</sup> We focus on mechanisms of Ca <sup>2+</sup> -dependent signaling using the unicellular eukaryote, <i>Saccharomyces cerevisiae</i> , as a model system. In particular, we are currently investigating aspects of calcium-dependent signal transduction in yeast, including cell-cycle, life span, and apoptosis. We also study on aging and life span in <i>Caenorhabditis elegans</i> .	Yeast, <i>C. elegans</i> , Lifespan
Visiting Professor	Takeshi AKAO	Applied genomics of sake yeast and the related industrial strains: Utilization of the genome information for exploration of unique DNA markers in each lineage, genetical study on characteristic features of valuable sake yeast strains and development of efficient breeding method.	Sake yeast, Applied genomics, Genetics of brewing characteristics
Visiting Professor	Atsuko ISOGAI	Studies on the aroma compounds in sake and shochu, aiming at identification of components responsible for their characteristics, elucidation of their formation mechanism, and development of control techniques.	Sake, Shochu, Aroma compounds
Visiting Professor	Kazuhiro IWASHITA	AI Sake making involves the fermentation of steamed rice with koji-king and yeast in sequence, followed by further maturation. The genomes of koji-king and yeast have been revealed, and research on individual genes has been advancing. However, sake brewing involves the complex interaction of these various genetic functions. Our goal is to unravel these complex interactions using information from metabolomics, genomics, and other omics data using several information technology such as AI technologies.	Metabolomics, Genomics, Artificial intelligence
Visiting Professor	Tomotake MORITA	To develop new bio-based materials, we are promoting the screening, characterization, and genetic modification of industrial microbes.	Bio-based materials, Industrial microbes, Applied microbiology

Academic Staff		Research Fields	Keywords
Associate Professor	Yoshiteru AOI	Our research goals are (i) bringing innovation to microbial cultivation, by development of radically new cultivation technology; (ii) isolation of environmentally important or potentially useful but yet-to-be cultured microorganisms; (iii) puzzling out the reason as to why most of the environmental microorganisms are recalcitrant for cultivation.	Unknown microbes, Unculturable microbes, Dormancy and resuscitation
Associate Professor	Takeshi IKEDA	Our research focuses on the interaction between inorganic silicon (Si) materials and bacteria (and their biomolecules). We are developing biointegrated devices/materials using Si-associated biomolecules as an interface. We also investigate the contribution of Si-utilizing bacteria to the global Si cycle.	Biomineralization Biointegrated devices/materials Silicon cycle
Associate Professor	Masaru UENO	Study on molecular mechanisms of telomere maintenance and DNA repair and their applications for development of anti-cancer and anti-ageing agents.	Telomere, Cancer, Aging
Associate Professor	Setsu KATO	1 We analyze how microbial cells adapt and survive under various conditions using the single cell quantitative method. We are also interested in the process of cell death to identify the weakness of cellular homeostasis. These analyses will help us to find the principles of life and to create useful host cells for bioprocess.	1 Cellular homeostasis, Life and death, Single cell analysis
Associate Professor	Kenji KITAMURA	( ) ( ) Studies on modulation of cellular physiology in yeast by nutrients via regulation of peptide transporters. Searching for their non-peptide substrates, and exploration of novel bioactivities of dipeptides. Development of high-functioning yeast strains.	Yeast, Transporter, Amino acid/dipeptide
Associate Professor	Kazunori KUME	We would like to understand mechanisms of global cellular systems which are fundamental to cellular growth, development and reproduction of eukaryotic cells. Especially we are interested in cell polarity and organelle size and shape. For this research, we use the genetically amenable model organism, yeasts.	Cell structure, Organelle, Cell polarity

Research Fields

Keywords

Research Fields

Keywords

Academic Staff		Research Fields	Keywords
Professor	Satoru UENO	Characterization of Physical properties and Clarification of kinetics for edible lipids.	Lipid, Crystallization, Polymorphic transformation
Professor	Kiyoshi KAWAI	Food processing, preservation, and texture analysis.	Food processing, Preservation, Texture analysis
Professor	Yoshihiro SAMBONGI	Studies on structure and function of microbial energy metabolism proteins.	Energy metabolism Extremophiles Protein structure
Professor	Masayuki SHIMADA	The study for understanding molecular and endocrine mechanisms of reproductive functions and developing novel reproductive technologies.	Reproductive biology, Molecular endocrinology, Reproductive technology
Professor	Tadashi SHIMAMOTO	Analysis of pathogenicity-related genes and drug resistance genes of foodborne pathogenic bacteria and development of norovirus inactivation method.	Foodborne pathogenic bacteria, Drug-resistant bacteria, Norovirus
Professor	Takuya SUZUKI	Physiological functions of nutrients and food factors.	Functional foods, Nutrition, Human health
Professor	Susumu NAKAE	Studies of pathogenesis of allergic and autoimmune disorders.	chronic inflammation, cytokines, mouse models for human diseases
Professor	Takeshi NAGANUMA	Study on applications of environmental biological resources.	Extreme environments, Extremophiles, Biodiversity
Professor	Masahide NISHIBORI	Studies on Mammalian and Avian Molecular Evolution, Phylogenetics and Geography using Their Information of Animal Genome, and Their Application to Agricultural Sciences.	Animal genetics, Molecular evolution, Molecular phylogenetic study
Professor	Shinichi NISHIMURA	Chemical biology using bioactive natural products	natural products chemistry, bioactive metabolites, chemical biology
Professor	Yoshio HAGURA	Analysis of mechanical and electrical properties of the food, and development of food processing and measurement techniques using those properties.	Mechanical properties, Electrical properties, Food processing
Professor	Kenji HOSONO	Socio-economic Agricultural Study about Sustainable Food Resource and Supply Chain.	Food production management, Food market, Sustainable development

Academic Staff		Research Fields	Keywords
Professor	Hiroyuki HORIUCHI	Basic and applied study using avian stem cells and genome editing technology in the agriculture field.	Avian, Stem cells, Genome editing
Professor	Noriyuki YANAKA	Molecular mechanisms of lifestyle-related diseases and nutritional science.	Lifestyle-related diseases, Food factor, Molecular nutrition
Visiting Professor	Masaki OKUDA	Research for production and utilization of high quality rice for sake making.	Alcoholic beverage, Sake rice, Properties of rice used for sake
Visiting Professor	MASAKI	Development of microorganisms for the brewing, and enzymatic research for its applications.	Enzyme, Brewing, Microorganism
Associate Professor	Hisashi OMURA	Studies on chemical interactions between plants and insects.	Chemical ecology, Semiochemical, Pheromone
Associate Professor	Yasushi OKINAKA	Studies on the interactions between aquatic organisms and their pathogens.	Pathogen, Fish, Infection mechanism
Associate Professor	Thanutchaporn KUMRUNGSEE	Food factors with muscle and brain disease prevention.	Food factors, Muscle, Brain
Associate Professor	Hisato KUNIYOSHI	Biochemical studies on metamorphosis and reproduction in aquatic animals.	Proteins, Bioactive substances, Instrumental analyses
Associate Professor	Haruhiko KOIZUMI	Clarification of the physical behavior of crystallization in food components, including pharmaceuticals.	Electric field, Crystal growth, Biopolymer
Associate Professor	Wakana TANAKA	Elucidation of molecular mechanisms that regulate plant development and their application for crop improvement.	Plant developmental genetics, Meristem, Rice
Associate Professor	Yosuke CHOMEI	Studies on resources using for sustainable development of food production and communities.	Farm management, Consumer, Community
Associate Professor	Tatsuya NAKAYAMA	Studies on the pathogenicity of foodborne bacteria and the spread and prevention of antibiotic-resistant bacteria.	Foodborne bacteria, Pathogenicity, Antibiotic-resistant bacteria
Associate Professor	Kouichi FUNATO	Molecular genetic studies of lipid dynamics and functions.	Lipid, Yeast, Molecular genetics
Lecturer	Makoto HIRAYAMA	Studies on function and application of bioactive compounds from marine organisms.	Lectin, Glycan, Anti-virus agent
Lecturer	Yukichi FUJIKAWA	Biochemical studies on gene expression and function of stress-responsive enzymes in higher plants.	Enzyme, Gene expression, Biochemistry

Academic Staff		Research Fields	Keywords
Assistant	Masashi IKUTANI	Roles of allergy-related immune cells in chronic inflammatory diseases.	Allergic inflammation, Cytokine, Animal models for human diseases
Assistant	Jun TOMINAGA	Studies on mechanisms of photosynthesis and biomass production in land plants, development of techniques for sensing plant response to environment, and its application for crop production.	Plant Physiology, Crop Science, Photosynthesis
Assistant	Sotaro FUJII	Studies on structure and function of metalloprotein from extremophiles.	Coordination chemistry, Structural biology, Extremophiles
Assistant	Mei MATSUZAKI	Studies on regulation mechanisms of fertilization process in birds, Development of techniques for producing genome-edited birds and their application.	Avian reproduction, Genome editing
Assistant	Yoshinari YAMAMOTO	Studies on immune functions of foods and microorganisms, and its application for development of functional foods.	Food immunology, immunogenics, health



Research Fields

Keywords

Professor Naoki ISOBE

Immunology and endocrinology in mammary gland of ruminants.

Mastitis, Antimicrobial peptide, Innate immunity

Academic Staff		Research Fields	Keywords
Associate Professor	Aki KATO	Aquaculture and conservation of algal resources.	Coralline algae, Edible seaweeds, Climate change
Associate Professor	Shin-ichi KAWAKAMI	Research of the brain mechanisms of feeding, drinking, and aggressive behavior in avians.	Animal behavior, Hypothalamus, Chicken
Associate Professor	Yuzo KUROKAWA	Research on healthy life cycle of dairy cows.	Dairy cow, Life cycle, Antioxidant capacity, Milk production
Associate Professor	Hidetoshi SAITOU	Researches on population ecology of macrobenthos in freshwater and shallow seawater zones.	Ecology, Benthos, Alien species
Associate Professor	Toshinori NAGAOKA	Studies on soil functions in plant production.	Soil, Nutrient dynamics, Organic matter
Associate Professor	Yoshiaki NAKAMURA	Preservation of mammalian and avian genetic resources on the basis of germ cell manipulation.	Germ cells, Cryopreservation, Genetic modification
Associate Professor	Takahiro NII	Enhancement of immune function and productivity to focused on intestinal environment in chickens.	Chicken, Intestinal environment, Egg production
Associate Professor	Toshiya HASHIMOTO	Understanding of the marine environment using the field observation and numerical simulation model.	Marine environment, Data analysis, Ecosystem model
Associate Professor	Masayuki YOSHIDA	Biological basis of emotion, learning, and mind in animals.	Animal psychology, Emotion, Neuroscience
Associate Professor	Kaori WAKABAYASHI	Reproduction and growth of marine invertebrates.	Seed production, Larval development, Embryology
Assistant	Mayumi KIKUTA	Agronomic studies for improving crop productivity in the tropics.	Crop science, Growth analysis, Cultivation management
Assistant	Naoki SUZUKI	Control of intramammary infection in dairy animals.	mastitis, infection control, foodborne zoonoses
Assistant	Aira SEO	Field study for the improvement of companion animals and livestock animal welfare from the viewpoint of the symbiotic	Animal Welfare, Human-Animal Relationship, Free-roaming cat
Assistant	Aneesh PANAKKOOL THAMBAN	Phylogeny and ecology of crustaceans parasitizing marine fish.	Parasitic crustaceans, phylogeny, marine fish

		Research Fields	Keywords
Professor	A tsuhiko ISHIDA	Biochemistry on enzymes and proteins which mediate protein phosphorylation and dephosphorylation.	Enzyme, Neuron
Professor	Yasuhiro ISHIHARA	Glial function in health and disease.	Neuropharma-toxicology, Glia, Model animals
Professor	Kazuyoshi UKENA	Study on the physiological functions of neuronal substances regulating appetite and energy homeostasis.	Neuroendocrinology, Neuropeptide, Appetite
Professor	Yukari KUGA	Plant and microbe symbioses in soil ecosystem.	Mycorrhiza, Soil-borne disease, Cellular-ecological functions
Professor	Akiko SATOH	The mechanism of the polarized vesicle trafficking in neurons.	Golgi units, Photoreceptors, Drosophila melanogaster
Professor	Kazuhiko TAKEDA	Environmental dynamics and analysis of trace compounds and reactive oxygen species in the atmosphere and hydrosphere.	Environmental Analytical Chemistry, Reactive Oxygen Species, Trace Pollutants
Professor	Takayuki NAKATSUBO	Roles of plants, animals and microorganisms in terrestrial ecosystems.	Ecosystem ecology, Plant ecology, Environmental coservation
Professor	Toshihiro YAMADA	Conservation of organisms based on ecology.	Biodiversity conservation, Population dynamics, Tropical forests
Professor	Jun WASAKI	Plant-microbial interactions in the vicinity of root and nutrient dynamics.	Rhizosphere, Plant physiology, Nutrient dynamics
Professor	Masumi VILLENEUVE	Thermodynamic studies on interfacial behavior of bio-related substances using model cell membranes, basic science related to drug delivery.	Interface Chemistry, Thermodynamics, Membranes
Associate Professor	Yoko IWAMOTO	Biogeochemical cycles between the atmosphere and ocean, and their impact on climate.	Aerosol, Cloud, /TT1 82 Tf10 251

Research Fields

Keywords

Associate  
Professor Akio TSUCHIYA

Climate change caused by deforestation of rainforests in Amazonia.

Academic Staff		Research Fields	Keywords
Professor	Takuya IMAMURA	Understanding epigenomic mechanisms that underlie the development of primate brain.	RNA primate, brain, non-coding RNA
Professor	Hajime OGINO	Genomic and epigenetic regulation of development and regeneration (sensory organs and central nervous system) in vertebrates. Molecular mechanisms of genome evolution and environmental adaptation in amphibians.	Development, Regeneration, Evolution
Professor	Yutaka KIKUCHI	Studies on tumor microenvironment network. Analysis of Chromatin 3D Structure.	RNA Tumor microenvironment, Chromatin, long non-coding RNA
Professor	Makoto KUSABA	Molecular mechanism of leaf senescence, Molecular genetics in the genus Chrysanthemum, Genetic resources of chrysanthemum and cycad.	Molecular genetics, Leaf senescence, Chrysanthemum
Professor	Takahiro CHIHARA	( Molecular mechanism underlying neural network formation, maturation and maintenance. Genetic studies to reveal molecular mechanism for the interaction between environment (nutrition, odor and various stress etc.) and individual condition (longevity and behavior etc.).	Neural network, Olfaction, Longevity
Professor	Toshinori HAYASHI	Study of organ regeneration and development using urodele amphibian. Regulatory mechanism of cell proliferation in organ regeneration.	Iberian ribbed newt, Organ regeneration, Development
Professor	Yuki HIRAKAWA	Development and evolution of meristems in land plants. Cell signaling mediated by plant peptide hormones.	Meristem, Stem cell dynamics, Plant peptide hormones, Marchantia
Associate Professor	Takeshi IGAWA	Genome evolution underlying speciation and environmental adaptation of amphibians.	Amphibians, Adaptive evolution, Genomics
Associate Professor	Tatsuya UEKI	Mechanism of metal ion accumulation and reduction by marine invertebrate animals and their physiological	Physiology, Metal ion, Redox
Associate Professor	Misako OKUMURA	Molecular mechanism of phototransduction. Molecular mechanism of phenotypic plasticity.	Nematode, Photoreceptor, Phenotypic plasticity
Associate Professor	Masaki SHIMAMURA	Phylogeny, taxonomy morphology and ecology of bryophytes. Diversity and evolution of cell division system of land plants.	Bryophytes, Plant taxonomy, Morphology
Associate Professor	Atsushi SUZUKI	Molecular mechanisms of vertebrate early development, maintenance/differentiation of stem cells, and tissue regeneration.	Early development, Stem cell, Regeneration

Academic Staff		Research Fields	Keywords
Associate Professor	Kunifumi TAGAWA	Study to elucidate the origin and evolution of Deuterostomia and Bilateria by analysing molecular developmental biology and comparative genomics of marine organisms such as Enteropneust hemichordate and Acoel flatworms.	Marine Organisms, EvoDevo, Comparative genomics
Associate Professor	Hiromi TSUBOTA	Studies of plants and vegetation focusing on the ecology, evolutionary biology, biogeography, phytosociology, and conservation of biotas on islands surrounded by ocean and its related area.	Biodiversity, Phytogeography, Molecular phylogeny
Associate Professor	Kozue HAMAOKA	Molecular mechanisms of cytoskeletal regulation and cell division in animal cells.	Cytoskeleton, Mitosis, Cytokinesis
Associate Professor	Jutarou FUKAZAWA	Molecular mechanisms of plant growth and development via plant hormone Molecular mechanisms of plant hormone biosynthesis, signaling and crosstalk.	Plant hormone, Transcriptional regulation, Signal transduction
Lecturer	Kazuki MORIGUCHI	Molecular mechanisms of bacteria-eukaryotes interactions. Molecular mechanisms at horizontal gene transfer, and the spread and diversity of genes caused by it.	Bacteria, Horizontal gene transfer, Interaction, Gene introduction
Assistant	Haruko TAKAHASHI	(in vitro) <sup>3</sup> Analysis of the malignant mechanism of cancer and its therapeutic application by integrated analysis using 3D in vitro cancer tissue models, images and omics data.	3 in vitro , 3D in vitro model, Tumor microenvironment, Anti-cancer
Assistant	Takashi NOBUSAWA	Analysis of the mechanisms of plant development and growth regulation. Study on lipid metabolism in plants.	Plants, Organ development, Senescence, Lipids

		Research Fields	Keywords
Professor	Makoto IIMA	Theoretical and experimental study of complex flows and models such as swimming/flying problems based on mathematical science.	Fluid mechanics, Swimming/Flying, Vortex dynamics
		MALDI	SALDI-IMS
Professor	Shunsuke IZUMI	Development of MALDI matrix for protein analysis and search for chemical repellents using SALDI-IMS method.	, SALDI-IMS MALDI matrix, Proteomics, SALDI-IMS method
Professor	Yoshihiro OMORI	Understanding molecular mechanisms of vertebrate morphogenesis, evolution, and pathogenesis of ophthalmology disease using teleost fish models based on genome science  (1) ; (2) (3)	GWAS Genome science, Teleost fish models, Neurodegenerative diseases, Vertebrate evolution, Genome wide association study
Professor	Atsushi SAKAMOTO	(1) Molecular mechanisms for stress responses and adaptation in plants; (2) Metabolic plasticity-based strategies for plant growth and survival; (3) Basic and applied research on plant function towards its agricultural and industrial applications (improved performance under stress; algal bioenergy innovation, etc.).  NMR	Plant molecular function, Stress response, Metabolism and molecular physiology  NMR
Professor	Shin-ichi TATE		

Academic Staff		Research Fields	Keywords
Associate Professor	Akinori AWAZU	Theoretical molecular and cell biology : Theoretical and experimental studies of genome dynamics, gene regulation, development, and morphogenesis.	Phenomenal mathematical modeling, Experiment data driven modeling, Experiments for modeling
Associate Professor	Isamu OHNISHI	Our labo's slogan is "To control it, we must first understand this". My labo works for nonlinear pure mathematical science, especially within such subjects, my specialty is nonlinear mathematical science related to biological activities of both plants' and cyanobacteria's biological activity. We use a system of nonlinear partial differential equations to create a dynamical system in which interesting dynamics occur due to nonlinear effects, also using the perspective of finite dimensional and infinite-dimensional dynamical systems. Furthermore, our labo will deal with the mathematically scientific theoretical deterministic control theory. Actually, by applying it to concrete control problems (especially concrete engineering control problems), we will study it from mathematically scientific point of view.	nonlinear mathematical science for life organization, mathematically scientific theoretical deterministic control theory, research for nonlinearity
Associate Professor	Katsuo KATAYANAGI	DNA HIV X Three dimensional structure and function of Protein by protein X-ray-crystallography, and, Molecular evolution of protein derived from X-ray structure of artificial proteins.	X 3D structure of protein, X-ray crystallography, Synchrotron radiation
Associate Professor	Nen Saito	From the viewpoints of biophysics and mathematical biology, we aim to understand various biological phenomena by performing mathematical modeling , large-scale numerical computation and machine learning analysis, etc.	mathematical modeling, biophysics, theoretical biology
Associate Professor	Naoaki SAKAMOTO	Research for transcriptional regulation of morphogenetic genes, nuclear dynamics of gene, chromatin and chromosome during development, and mechanism of insulator activity, using the sea urchin development as a model.	Sea urchin development, Transcription, Nuclear dynamics
Associate Professor	Hiroshi SHIMADA	Analysis of photosynthesis, and improving photosynthetic efficiency for greater yield by gene modification and chemical biology. Analysis of chloroplast biogenesis.	Photosynthesis, Chloroplast, Chemical biology



Academic Staff		Research Fields	Keywords
Associate Professor	Takuma SUGI	Behavioral systems biology and neural network aging.	Behavior, Imaging, Neural network aging
Associate Professor	Yoshihisa FUJIWARA	Effects of environmental factors of light, magnetic field, and gravity (microgravity and hypergravity) on biological phenomena and reactions of micro-organism such as <i>Aspergillus oryzae</i> . Influence of their factors on reactions, micro-structure, and function of chemical functional nano-materials.	Effects of light, Magnetic field and gravity Photochemistry <i>Aspergillus oryzae</i>
Assistant	Masashi FUJII	Theoretical Biology: e.g. molecular dynamics and theory of biochemical reactions, system biology and statistical analysis.	Phenomenological modeling, molecular dynamics model, mathematics and physics of biology
Assistant	Muneyuki MATSUO	Construction of artificial "Life-like Systems" by introducing non-equilibrium and non-linearity based on the supramolecular system chemistry, and elucidation of their functional emergence mechanisms.	Systems Chemistry, Supramolecular Chemistry, Artificial Cells, Protocells, Origins of Life
Assistant	Kyota TASUDA	/ Spatio-temporal regulation mechanisms of intracellular/extracellular functions of biomolecules and their relation to diseases. Cellular Morphology, Molecular Distribution, and Functional Polarity.	RNA Cellular imaging, omics analysis, neurodegenerative diseases, RNA localization

Academic Staff		Research Fields	Keywords
Professor	A tshiko ISHIDA	Biochemistry on enzymes and proteins which mediate protein phosphorylation and dephosphorylation.	Neuron Enzyme,
Professor	Yasuhiro ISHIHARA	PM2.5 DHA Neuropharmacology and neurotoxicology on glial cells: Modulation of neurological disorders by chemical exposure (i.e. environmental chemicals and PM2.5) and neuroprotective action of unsaturated fatty acid such as DHA.	Glia, Harmful chemicals, Neuroprotection
Professor	Takuya IMAMURA	Understanding epigenomic mechanisms that underlie the development of primate brain.	RNA primate, brain, non-coding RNA
Professor	Kazuyoshi UKENA	Study on the physiological functions of neuronal substances regulating appetite and energy homeostasis.	Appetite, Obesity, Metabolic disease
Professor	Hajime OGINO	Genomic and epigenetic regulation of development and regeneration in vertebrates. Molecular mechanisms of genome evolution and environmental adaptation in amphibians.	Development, Regeneration, Evolution
Professor	Yoshihiro OMORI	Understanding molecular mechanisms of vertebrate morphogenesis, evolution, and pathogenesis of ophthalmology disease using teleost fish models based on genome science	GWAS Genome science, Teleost fish models, Neurodegenerative diseases, Vertebrate evolution, Genome wide association study
Professor	Yutaka KIKUCHI	Construction of musculoskeletal systems and molecular mechanisms of their breakdown.	Musculoskeletal systems
Professor	Shinichi TATE	Exploreing the structure dynamics and functions associtaed with intrinsically disordered proteins (IDPs).	NMR, NMR, Intrinsically disordered protein, Protein struture dynamics
Professor	Takahiro CHIHARA	Molecular mechanism underlying neural network formation, maturation and maintenance. Genetic studies to reveal molecular mechanism for the interaction between environment (nutrition, odor and various stresses etc.) and physiological condition (longevity and behavior etc.).	Neural network, Olfaction, Longevity
Professor	Toshinori HAYASHI	Study of organ regeneration and development using urodele amphibian. Regulatory mechanism of cell proliferation in organ regeneration.	Iberian ribbed newt, Organ regeneration, Development
Professor	Takashi YAMAMOTO	Development of genome editing technology and generation of disease model cells and animals.	Genome editing, Disease model
Professor	Hidemasa BONO	Development of database technologies for genome editing and functional genomics by bioinformatic approach.	Genome editing, Bioinformatics, Functional genomics

Academic Staff		Research Fields	Keywords
Visiting Professor	Keiichi HATAKEYAMA	Cancer genome analysis to integrate of clinical information and genome data. Improving the accuracy of cancer genome analysis using tumor cell enrichment and its application in clinical practice.	Cancer genome, mutation, somatic/germline alteration, clinical application
Visiting Professor	Tomonobu M WATANABE	Stem cell researches with development of optical measurement technologies to quantify biological phenomena, and medical/industrial applications of them.	Optical spectroscopy, quantitative biology, biophysics, stem cell
Associate Professor	Takeshi IGAWA	Genome evolution underlying speciation and environmental adaptation of amphibians.	Amphibians, Adaptive evolution, Genomics
Associate Professor	Masaru UENO	DNA Study on molecular mechanisms of telomere maintenance and DNA repair and their applications for development of anti-cancer and anti-ageing agents.	Telomere, Cancer, Aging
Associate Professor	Misako OKUMURA	Molecular mechanism of phototransduction. Molecular mechanism of phenotypic plasticity.	Nematode, Photoreceptor, Phenotypic plasticity
Associate Professor	Kazunori KUME	Study on the control mechanisms of cell structure (organelles and cell polarity etc.) which ensures cellular functions.	Cell structure, Organelle, Cell polarity
Associate Professor	Naoaki SAKAMOTO	Research for transcriptional regulation of morphogenetic genes, nuclear dynamics of gene, chromatin and chromosome during development, and mechanism of insulator activity, using the sea urchin development as a model.	Sea urchin development, Transcription, Nuclear dynamics
Associate Professor	Takuma SUGI	Behavioral systems biology and neural network aging.	Behavior, Imaging, Neural network aging
Associate Professor	Kozue HAMAOKA	Molecular mechanisms of cytoskeletal regulation and cell division in animal cells.	Cytoskeleton, Mitosis, Cytokinesis
Associate Professor	Masayuki YOSHIDA	Biological basis of emotion, learning, and mind in animals.	Animal psychology, Emotion, Neuroscience

Academic Staff		Research Fields	Keywords
Assistant	Haruko TAKAHASHI	(in vitro)3 Analysis of the malignant mechanism of cancer and its therapeutic application by integrated analysis using 3D in vitro cancer tissue models, images and omics data.	3 in vitro , 3D in vitro model, Tumor microenvironment, Anti-cancer
Assistant	Masashi YUKAWA	Our research focuses on the molecular mechanisms to establish and maintain a bipolar spindle structure, which is essential for proper chromosome segregation. We also aim to implement our findings towards the development of novel drugs and therapeutic technologies by which to build and sustain healthy aging society.	Cell cycle, Chromosome segregation, Cytoskeleton