2027 Academic Year

TOHOKU UNIVERSITY
GRADUATE SCHOOL OF LIFE SCIENCES

Master's Degree Program (2-year course)
Self-recommendation Entrance Examination
Student Application Guidelines
(April 2027 Enrollment)

Application Period	Monday, May 18, 2026 – Thursday, May 28, 2026, until 17:00
Connection Test	Saturday, June 13, 2026
Entrance Examination	Saturday, June 20, 2026, and Sunday, June 21, 2026
Result Announcement	Wednesday, July 1, 2026, around 17:00
Enrollment Date	April 1, 2027

Tohoku University Graduate School of Life Sciences
1-1-2 Katahira, Aoba-ku, Sendai 980-8577 JAPAN
TEL +81-22-217-5706
FAX +81-22-217-5704
https://www.lifesci.tohoku.ac.jp/

Information for Prospective Students

Tohoku University Graduate School Admission Policy

Philosophy & Mission

With over 100 years of history and distinguished traditions, Tohoku University has developed excellence in education and research under its principles of "Research First," "Open Doors," and "Practice-Oriented Research and Education" since its establishment in 1907. The university will maintain these traditions while looking toward even more dramatic progress in the future. As a world-leading center of education and research, it will contribute greatly to the human race by grappling with the difficult and complex issues facing the 21st century.

Tohoku University will focus the efforts of its faculties, graduate schools, and research institutes on fostering ethical international leaders who will carry humanity into the future, while expanding its globally renowned creative research for the benefit of society at large.

Characteristics

1) Three Foundational Ideals
"Research First," "Open Doors," and "Practice-Oriented Research and Education" — soon after its founding, Tohoku University established this set of unique ideals, the substance of which it is continually developing in response to our changing times.

2) Rich Educational Environment
Tohoku University has numerous research organizations and facilities, primarily comprising 10 undergraduate schools, 15 graduate schools, 3 professional graduate schools, and 6 research institutes. Research institute staff also participate in educational activities (there are approx. 3,000 instructors; enrollment limits are approx. 2,400 for undergraduates, 2,700 for graduate students).

3) Research University
Tohoku University is a school that continuously produces numerous internationally recognized research results and concertedly pushes forward with leading-edge research and education.

4) Active Regional/Industrial-Academic Ties
The university is actively working to expand its diverse regional and industrial ties.

5) Globalizing Education and Research
Among Japan's national universities, Tohoku University is one of the top schools in terms of agreements with overseas universities. It is actively expanding exchange in education and research. The university strives to foster globally active individuals through strong support for studying abroad by Japanese students, as well as recruitment of numerous international students.

Ideal Tohoku University Applicants

Tohoku University seeks students who sympathize with the university's principles and who are motivated by:

1) the desire to make outstanding contributions as world-class researchers by addressing the issues facing humanity in the 21st century, and
2) the desire to make outstanding contributions to the development of society as highly specialized professionals who possess abundant knowledge and leadership.

To realize these ambitions, students should also have strength of will, academic curiosity, a broad perspective, and an excellent foundation of specialized knowledge and abilities.

Tohoku University Admissions Process (Graduate School)

Depending on the number and type of candidates sought, Tohoku University graduate schools provide multiple categories of, and opportunities for undergoing, entrance exams to meet the needs of candidates from diverse backgrounds. Schools may evaluate the candidate's qualifications, abilities, and specialization using interviews, application documents such as research plans, proficiency exams, and external tests.

Graduate School of Life Sciences Admission Policy

The Tohoku University Graduate School of Life Sciences aims to foster leading researchers and engineers who can explore new areas of the life sciences using advanced knowledge and technologies. At the same time, we also focus on educating people who can leverage knowledge and technology based on the foundations of the life sciences and have a strong background in bioethics and environmental ethics. Therefore, we are looking for students who have a strong motivation to study the life sciences and the necessary academic background to complete the program.

In addition to the general selection examinations, we provide special selection examinations for working students, Japanese citizens returning from overseas (those who have lived in another country for a long time and received their education outside of Japan), and international students. Applicants are selected based on their motivation to carry out research according to our educational goals and their specialized knowledge and qualifications.

Master's Degree Program (2-year course)

In the general selection entrance examinations for the first term, specialized knowledge and the sufficiency of basic academic skills in each field of the life sciences are evaluated by interview.

In the self-recommendation as well as the second- and third-term general selection examinations, professional knowledge and qualifications are evaluated by interview. In particular, individuals who have studied fields other than the life sciences will also be assessed based on their willingness to apply their knowledge to life sciences research.

For the special selection examinations for working students, Japanese citizens returning from overseas, and international students, an interview is conducted according to the characteristics of each type of applicant to evaluate professional knowledge and qualifications.

Regardless of which examinations are taken, proficiency in English, the common language of the academic world, is evaluated based on scores that have been attained on external certification tests.

Applicants are expected to learn more about the specialized knowledge and research methods of the field they intend to pursue before enrolling.

Doctoral Degree Program (3-year course)

The general selection entrance examinations, special selection examinations for working students, and special selection examinations for international students take the form of an interview. In this interview, all applicants are required to present their past research and plans for their research after admission. Applicants are evaluated as to whether they have the specialized knowledge and qualifications necessary to carry out their research.

In addition, proficiency in English, the common language of the academic world, is evaluated based on scores that have been attained on external certification tests.

Before enrolling, applicants are expected to thoroughly investigate the research trends in the field they intend to pursue.

Contents

1. Departments and the Number of Students to be Accepted

Department	Course	Field of Study (Laboratory Name)	Number of Students
Department of Integrative Life Sciences	Brain and Nervous System	Neuroethology, Molecular Ethology, Brain Development, Systems Neuroscience	Few students for each field
	Cellular Network	Membrane Trafficking Mechanisms, Developmental Dynamics, Organelle Pathophysiology, Super-Network Brain Physiology	
	Developmental Regulation Network	Cancer Biology	
	(Cooperative faculties)	Systems Neurophysiology, Molecular Oncology, Immunobiology, Biological Interactions, Brain Aging, Neuronal Cell Biology	
Department of Ecological Developmental Adaptability Life Sciences	Biological Dynamics	Organ Morphogenesis, Plant Cell Dynamics, Plant Development, Plant Evolutionary Biology, Environmental Genetics, Plant Sensory and Developmental Biology, Adaptive Morphology	
	Ecological Dynamics	Functional Ecology, Ecological Integration, Symbiosis Genomics, Macroecology, Watershed Ecology	
	Biodiversity Dynamics	Plant Diversity and Evolution (*), Marine Biodiversity	
	Eco-Socio Dynamics	Ecosystem Functions	
	(Cooperative faculties)	Systems Bioinformatics, Human Evolution	
Department of Molecular and Chemical Life Sciences	Chemical Biology	Analytical Bioorganic Chemistry, Biostructural Chemistry, Bioactive Molecules, Molecular and Cellular Biology, Applied Biological Molecular Science	
	Molecular and Network Genomics	Microbial Genetics and Evolution, Plant Reproductive System, Molecular Genetics and Physiology (*), Evolutionary Genomics	
	Multilevel Biomolecular Structure and Dynamics	Molecular Analysis of Biological Functions, Biofunctional Chemistry and Nanobiotechnology, Structural Mechanism Research and Development, Dynamic Structural Biology	
	Genome Informatics	Omics and Informatics	
	(Cooperative faculties)	Chemical biology of Natural Product, Redox Biology, Bioorganic Medicinal Chemistry, RNA Physiology, Functional Chemical Proteomics, Dynamic structural biochemistry	
		Total	About 43 students

Notes: A “field” refers to a laboratory. In many cases, a laboratory is led by a faculty member serving as the head of the laboratory (such as a professor, associate professor, or assistant professor) and is composed

of other faculty members and graduate students. The “head of the laboratory” refers to the faculty member who oversees and manages the laboratory.

An “academic advisor” is a faculty member responsible for providing research and academic guidance to students, as well as for the examination and conferral of their degrees. Academic advisors are typically professors, associate professors, or assistant professors who serve as heads of the laboratory; however, even faculty members holding the same title may not always be eligible to serve as academic advisors. Applicants are required to contact their prospective academic advisor in advance. For information on which faculty members are eligible to serve as advisors in each laboratory, please contact the relevant laboratory directly.

Underlined fields indicate fields of study for which collaborating faculty members are responsible. Number of students to be accepted: a few students in each field. However, if the number of successful applicants is fewer than the number of available positions, the remaining positions will be added to the general entrance examination.

(*) In fields marked with an asterisk, the prospective academic advisor may retire or be transferred within the next few years. When applying, please consult with the faculty member you wish to study under in advance and confirm that they will be able to supervise you for the full duration of your program. Please submit your application only after obtaining their consent.

Purpose

The purpose of self-recommendation admission is to admit students from other universities or students who are not currently under the direct research supervision of Tohoku University Graduate School of Life Sciences faculty members, and to improve the effectiveness of graduate education by promoting student mobility.

2. Eligibility and Application Requirements

Applicants must have excellent academic records and character and must be willing to use the knowledge and experience gained at the Graduate School to play an active role in the future. Applicants must also be able to guarantee that they will enroll in the Graduate School if accepted and must fall into one of the following categories.

1) Those who are expected to graduate from a university other than Tohoku University by March 2027.
2) Those who are not currently being supervised by a faculty member of the Graduate School of Life Sciences at Tohoku University and who are expected to graduate from Tohoku University by March 2027.
3) Those who are enrolled in a major course of study at a college of technology with a completion period of two years, and who are expected to receive a bachelor's degree in March 2027.

3. Application Period

(1) Applicants are required to carefully read this application guide and upload the application documents to TAO application registration site (hereinafter referred to as "TAO") within the following period.

Upload period to TAO
From Monday, May 18, 2026, to Thursday, May 28, 2026, at 17:00 (JST)

(2) For documents that must be submitted as original documents in paper form, such as IELTS certificates, please submit them by Thursday, May 28. (Documents sent by post must arrive by

the deadline.)

In case of direct submission at the office of the Academic Affairs Section, documents can be accepted from 9:00 to 11:50 and from 13:00 to 17:00 on weekdays.

1-1-2 Katahira, Aoba-ku, Sendai 980-8577
Academic Affairs Section, Graduate School of Life Sciences, Tohoku University
TEL: 022-217-5706 Email: lif-kyom@grp.tohoku.ac.jp

4. Application Documents and Procedures

(1) Application Procedure

Please follow the steps below to submit your application via TAO. Please note that some documents, such as IELTS certificates, are required to be submitted in original paper form.

1) Confirmation of Application Procedures and Advance Preparation.

First, please read this application guide carefully, confirm that you are eligible to apply, and prepare the necessary application materials.

- Please obtain approval for your application from your academic advisor in the field you wish to study. (For details, please refer to "(2) Application Documents" Notes 1 and 2, as well as No. 6.)
- Please note that some application documents require the submission of original paper English test score reports, such as official TOEFL scores, which may take around two months to be delivered; therefore, please be sure to prepare them well in advance.

2) Examination Fee Transfer (to be made within the application period)

Transfer the examination fee of 30,000 yen and obtain documents (such as bank statements) to verify the transfer. (For details, please refer to "(2) Application Documents," No. 7.).

If you are applying from overseas, we will provide information on how to pay the entrance examination fee from abroad. Please contact the Academic Affairs Office of the Graduate School of Life Sciences via email.

3) Application registration through TAO

a) To use TAO, please create an applicant account on the TAO website below.
TAO website: https://admissions-office.net/en/portal

b) Next, please proceed with the application for the entrance examination on the "Graduate School of Life Sciences Admission Information Page," and complete your registration by entering the required information and uploading the designated documents through the **"TAO Application URL"**.
Graduate School of Life Sciences Admission Information Page:
https://www.lifesci.tohoku.ac.jp/admission/schedule

Notes:

・The "TAO Application URL" on the Admission Information website is different for each type of entrance examination. Please make sure that it is the entrance examination you are applying for before registering your application.

・Please be careful not to make any mistakes when selecting the university, graduate school, or entrance exam.

・Please convert certificates and other documents to PDF or another designated format and upload them.

・A temporary save option is available, so please use this function, for example, to make a final

confirmation before submitting your application.

・After entering your application information, please confirm that the status on TAO is marked as "Submitted."

4) Complete the Graduate School of Life Sciences "Application Confirmation Form".

The form will be available on the Graduate School of Life Sciences website on the Admission Information page (see below) depending on the application period. Please fill in the required information regarding your web environment during the examination and submit your responses. Please note that some of the questions on the form overlap with those on TAO form.

Graduate School of Life Sciences Admission Information Page:
https://www.lifesci.tohoku.ac.jp/admission/schedule

(2) Application documents

Notes:

1) Please contact your prospective supervisor in advance to inform them of your intention to apply through self-recommendation. Make sure to have a thorough discussion with the professor to fully confirm and mutually understand the research activities and topics that can be conducted in their laboratory. Obtain their approval before applying (Refer to No. 6).

2) There is a deadline for the application, so please contact your academic advisor well in advance.

No.	Documents	Notes
1	Application form	Please fill in the information in each section of the "Application for Admission" on TAO.
2	Photo data	Upload the applicant's own photo through TAO. - The photo must be taken within 3 months before the application. - The data format must be PNG, JPEG, or JPG.
3	Statement of reasons for your application	Please prepare a personal statement with your reasons for applying, future goals, and self-promotion, and upload it in pdf format to TAO. Example Name: John Smith Desired Field of Study: XXX I am XXXX (write about a reason for applying, etc.) XXXX Precautions for Preparation - Please write horizontally on a one-page, A4-size document. - Please write the applicant's name and field of interest on the first line. - The standard font size is 11-12 pt. and the standard number of words in the main text is 1,000 (500 words in English).
4	Transcript of academic records	Upload the certificate prepared by the dean of your university (faculty) in PDF format through TAO. The original hard copy of the latest version of this certificate (in paper form) must be submitted during the enrollment process (in March 2027).
5	Certificate of (expected) graduation	Upload the appropriate certificate in PDF format through the TAO application registration site. (1) Certificate of expected graduation for applicants who are

	(From the most recent educational institution)	expected to graduate from a university undergraduate program. (2) Certificate of Degree Award (Application Acceptance)" or "Certificate of Planned Degree Application" from the principal of a college of technology is required for applicants expected to receive a bachelor's degree from the National Institution for Academic Degrees and Quality Enhancement of Higher Education. The original hard copy of the latest version of this certificate (in paper form) must be submitted during the enrollment process (in March 2027).
6	Email confirmation of application approval from prospective supervisor (see note)	Submit (upload) **<u>an email</u>** in A4 PDF format to TAO confirming that you have received approval for your application from your prospective supervisor. - The email must include the following information Sender's email address and date of sending, Recipient's email address and date of receipt, Applicant's name, Name of entrance exam (self-recommendation), Field of study, and name of prospective supervisor --Sample of a reply e-mail from a prospective supervisor to an applicant -- (Note) Dear Mr. <applicant's name> I, <professor's name>, hereby give my approval to take the self-recommendation entrance examination. Prospective Academic Advisor: ○○ Field of study: ○○ ---------- Email signature of prospective academic advisor (name, affiliation, contact information, etc.) --Sample e-mail sent by a candidate to a potential supervisor-- Subject: Regarding application for self-recommended entrance examinations for the Graduate School of Life Sciences at Tohoku University Professor <professor's name> My name is <applicant's name> from the Faculty of ○○, ○○ University. (Reason for application, etc.) Therefore, I would like to apply to your laboratory through the self-recommendation entrance examination as follows. Field of study: ○○ Expected supervisor: ○○Professor (or Associate Professor) ---------- Applicant's email signature (name, affiliation, contact information, etc.)

<table>
<tr><td></td><td></td><td>Note: The reply email from your prospective advisor is a response to your application and does not guarantee admission to the Graduate School of Life Sciences of Tohoku University.
Please contact the faculty members you wish to be your advisor individually and obtain their consent, rather than sending emails to multiple faculty members at the same time.
Furthermore, professors, associate professors, or assistant professors who serve as heads of the laboratory may be designated as prospective advisors; however, even if they hold the same title, some faculty members may not be eligible to serve as advisors. Please contact each laboratory directly to confirm which faculty members can be designated as prospective advisors.</td></tr>
<tr><td>7</td><td>Examination Fee and Confirmation of Examination Fee Payment</td><td>(1) Transfer the application fee of 30,000 yen to the bank account below via bank counter, ATM, or Internet banking during the application period.
(Applicants are responsible for any handling charges incurred at the time of transfer.)
Please be careful not to make any mistakes in the information below.

Payment details:
<table>
<tr><td>銀行名 / Bank Name</td><td>UFJ/ MUFG Bank, Ltd.（金融機関/ Bank Code: 0005)</td></tr>
<tr><td>支店名 / Branch Name</td><td>わかたけ支店/Wakatake Shiten（支店コード/ Branch Code: 809)</td></tr>
<tr><td>預金種別/ Account Type</td><td>普通 / Ordinary Savings</td></tr>
<tr><td>口座番号/ Account Number</td><td>２２５９４１１</td></tr>
<tr><td>カナ名義/ Account-holder Name in Kana</td><td>ダイ）トウホクダイガク/ DAI) TOUHOKUDAIGAKU</td></tr>
<tr><td>口座名義/ Account-holder Name</td><td>国立大学法人東北大学/ National University Corporation Tohoku University</td></tr>
</table>
Notes
- When making a bank transfer, please enter the <u>name of the person who will be taking the examination</u>. Other information (telephone number, etc.) may be entered by the person actually making the transfer (e.g., a relative).
- When transferring money from an account in the name of a person other than the applicant, be sure to change the name of the payee to the <u>name of the person taking the examination</u> before transferring the money.
- If you are applying for an exemption from the application fee for disaster victims, please do not transfer the application fee. Please refer to the following website for details: https://www.tnc.tohoku.ac.jp/exempt.php /
- MEXT (Government-funded) international students are not required to pay the fee.

(2) After the transfer, please obtain "proof of the transfer ", such as a copy of your bank transfer request document, ATM statement, or</td></tr>
</table>

		a copy of your net banking transfer completion screen (please make sure that the transfer procedure has been completed) and upload it to TAO. (The file format should be PNG, JPEG or JPG.)
8	Certificate of residence (Jūminhyō)	Only for foreigners residing in Japan (whose stay exceeds 90 days), - Upload the certificate in PDF format through TAO. - The certificate must be issued within 3 months prior to the date of application. - Should include the status of residence and the number of the residence card, but do not need to include the personal number "My Number". The original hard copy of the latest version of this certificate (in paper form) must be submitted during the enrollment process (in March 2027).
9	TOEFL®TEST(*) TOEIC®TEST(**) IELTS or Duolingo English Test Score Grades for Foreign Language (English) will be based on the grades on this score *TOEFL is a registered trademark of Educational Testing Service (ETS). This material has not been reviewed or approved by ETS. ** The "TOEFL iBT® Test" is referred as the "TOEFL iBT®" in these guidelines.	All applicants are required to submit a score from one of the following tests: TOEFL®, TOEIC®, IELTS, or Duolingo English Test score. Tests taken within the two years prior to the first day of the entrance examination are considered valid. Please note that it takes time to obtain scores from each test. Therefore, take the tests well in advance of your application to ensure that your scores are received in time. Multiple score submissions are allowed. (e.g. one TOEIC® L&R score, one TOEFL iBT® score) **(1) Eligible Scores** ➢ **TOEIC® L&R** Group TOEIC® IP test score will not be accepted. The "Digital Official Score Certificate" must be submitted. ➢ **TOEFL iBT®** (including Home Edition) Group TOEIC ITP® test score will not be accepted. Official Score Report must be submitted (including online reports). The score report will automatically include two types of scores: the test result for each test date (Test Date score) and the MyBest™ score. The Graduate School will use the Test Date score. ➢ **IELTS** (Academic Module only) Test Report Form must be submitted. ➢ **Duolingo English Test Score** This applies to test results issued online. **(2) Uploading English Scores to TAO** Please upload the applicable official score reports to TAO. (Accepted file formats are PDF, PNG, JPEG, or JPG.) **(3) Submission of Original English Scores** Please prepare and arrange for delivery of the official score sheet

		by the application deadline, as follows. ➢ **TOEIC® L&R** The "Digital Official Score Certificate" will be available on the TOEIC application site in PDF format. You only need to upload this PDF to TAO; submission of the original document is not required. ➢ **TOEFL iBT®** Please complete the mailing procedures for the Official Score Report (including online reports) through ETS. The DI code for ETS is **B430** (Graduate School of Life Sciences, Tohoku University). Please note that it takes approximately two months from the time the ETS is sent to the time it is delivered, so be sure to take the necessary steps well in advance. ➢ **IETS** Please send the original Test Report Form (official transcript) by post. ➢ **Duolingo English Test** After taking the test, you will be asked to select the school to which you wish to apply. Please select the Graduate School of Life Sciences to complete the issuance process. Please take the test well in advance, as it may take some time for the score to be evaluated, and in some cases, the test may not be approved. **If you have difficulty submitting the designated score by the application deadline** (1) If you have difficulty submitting the official score by the application deadline, please upload the examinee's score (personal verification) or similar document when submitting the application through TAO. (2) If the original eligible official score is not submitted by 17:00. on Thursday, June 18, the applicant will not be allowed to take the examination. The examination fee will not be refunded. (3) The original official score to be submitted must be the same test score (same type of test, same test administration date, same score, and rating) as the examinee's score (personal verification) uploaded to TAO at the time of application. Submission of scores from a different test (e.g., higher test scores) will not be accepted.

10	Filling out the “Application Confirmation Form” for the Graduate School of Life Sciences	Applicants are required to complete the Application Confirmation Form. The form will be available on the Graduate School of Life Sciences Admission Information Website during the application submission period. Admissions Information Page https://www.lifesci.tohoku.ac.jp/schedule/

(3) Notes

1) Please note that applications will not be accepted if there are any omissions or other deficiencies in the information to be entered or registered. Application documents will not be returned.

2) If false information is provided in the application documents or if the original documents cannot be verified at the time of admission, the acceptance of the application may be canceled, or the admission permit may be withdrawn even after the applicant has already been enrolled.

3) In the event of serious misbehavior prior to enrollment, the school reserves the right to cancel acceptance or revoke admission even after the student has been permitted to enter the graduate school.

4) The examination fee is non-refundable for any reason.

5) Once an application has been received, no withdrawals or changes to the information on the application form will be accepted.

5. Examination and Selection

Selection is based on a review of application materials, an online interview, and English proficiency through external test scores.

1) Date, type, and place of the examination

Date	Time	Examination type	Place	Other
June 20 (Saturday) – June 21 (Sunday)	(Applicants will be notified of the time of their exam after application)	Online interview (Presentation and Q&A session, including questions for evaluation of academic skills)	A private room with internet access must be arranged by the applicant	Before the start of the examination, you will be asked to use a camera to show the room and your surroundings. Please be sure to have nothing (e.g., dictionaries and notes) except the designated items close to you. No one is allowed to enter your room during the exam.

Applicants are required to give a 10-minute oral presentation (in Japanese or English) on their reasons for applying to the Graduate School of Life Sciences and their research plans after admission to the Graduate School, using presentation software by accessing the URL of the online video conferencing system designated by the Graduate School of Life Sciences. Following the presentation, applicants will be evaluated through a question-and-answer session of approximately 10 minutes. Details will be provided separately after application.

To be sure that the examination will be conducted without problems on the actual day of the

examination, a preliminary connection test will be held on June 13 (Saturday). Details will be provided separately after application.

2) Regarding Foreign Language (English) Grades

The English test score from external certification exams submitted with the application will be converted to a foreign language proficiency score using the general method. If multiple scores are submitted, the highest score after conversion will be used.

6. Announcement of Results

The examination numbers of successful applicants will be announced on the Graduate School of Life Sciences website, and successful applicants will receive a "Letter of Acceptance" via TAO. The Graduate School of Life Sciences will not respond to any inquiries regarding the results.

Scheduled date of announcement: Wednesday, July 1, 2026, around 17:00

Graduate School of Life Sciences website: https://www.lifesci.tohoku.ac.jp/admission/

7. Time of Enrollment

The date of enrollment for the successful applicants will be April 1, 2027.

8. Expenses Required at the Time of Enrollment

Successful applicants are required to pay the following admission fees by the specified deadline.

(1) Entrance fee: 282,000 yen (expected)

(2) Tuition for:

Japanese students: First semester – 267,900 yen (annual amount: 535,800 yen) (tentative)

International students*: First semester – 450,000 yen (annual amount: 900,000 yen) (tentative)

*Refers to individuals residing in Japan with a “Student” residence status as defined in Appended Table I (4) of the Immigration Control and Refugee Recognition Act (Cabinet Order No. 319 of 1951).

Note 1: The amounts shown above are tentative. In the event of a revision to the admission fee or tuition fees, the new amounts will apply from the time of the revision.

Note 2: The details of the payment of the entrance fee and tuition fee will be provided in the enrollment procedure documents, which will be sent in late February 2027. The information about the application for waiver and deferment is available at the Financial Support Section, Student Support Division, Education and Student Support Department, Tohoku University.

(Kawauchi-Kita Campus, Education, and Student Support Center, 1F, Window 4, Tel: 022-795-7816, Open from 8:30 to 17:15)

For more information, please visit the Tohoku University website.

Tohoku University website (Entrance and tuition fee waivers and other information):

https://www2.he.tohoku.ac.jp/menjo/

9. Long-Term Course Program

Those who wish to obtain a master's degree in life science by systematically completing the educational program over a certain period, exceeding the standard course length of two years in the Master's Degree Program, due to special reasons ((1) full-time employees of companies or those who run their businesses, (2) those who need to take care of childbirth, childcare, or nursing care, etc., (3) other students who have been approved by the Graduate School) may be permitted to enroll as a long-term course student by submitting the required application at the time of enrollment procedures based on the notice of enrollment procedures that will be sent to successful applicants. The duration of study cannot exceed four years, but students may request to shorten the approved period of study midway through their studies.

Education and research guidance will be provided using the regular curriculum and class schedule.

The annual tuition fee for long-term course students is the amount obtained by multiplying the annual tuition fee for general students by the number of years of the standard course of study (2 years) and dividing it by the number of years of study permitted for long-term course students.

For reference, the annual tuition fee for students enrolled in the 2025 academic year is as follows. In the event of a revision of the tuition, the new tuition will be used from the time of revision.

- Annual tuition for general students with a standard term of study of 2 years: 535,800 yen
- Annual tuition fee for students with 3 years of study permitted: 357,200 yen
- Annual tuition fee for students with 4 years of study permitted: 267,900 yen

10. Handling of Personal Information

(1) Personal information collected by Tohoku University is strictly protected in accordance with the "Act on the Protection of Personal Information (Act No. 57 of 2003)" and other laws and regulations, and is handled in accordance with the "Personal Information Protection Regulations of Tohoku University National University Corporation" and other related regulations of Tohoku University for the protection of personal information.

(2) Personal information such as exam results used for admission selection will be used for the following purposes: selection of applicants, admission procedures, pre-admission education, follow-up surveys, student support after admission (scholarships, tuition waiver, health care, etc.), educational purposes such as academic guidance, and tuition related matters, as well as for surveys (improvement of entrance examinations, research, analysis of application trends, etc.) and research. (For admitted students, this includes post-admission analysis of personal information.)

(3) In some cases, work related to admissions and academic affairs may be performed by companies contracted by the University (hereinafter referred to as "trustee"). In the event that all or part of personal information is provided to a trustee company for outsourcing, necessary measures will be taken to ensure that the information is handled appropriately in accordance with the "Personal Information Protection Regulations of Tohoku University National University Corporation" and other relevant regulations of Tohoku University.

(4) By applying to the Graduate School, applicants are considered to have agreed to the above statement.

11. Other

(1) Application documents and examination fee cannot be returned.

(2) Consultations are available for those who require special consideration for entrance examinations and academic study, so please contact the Academic Affairs Section of the

Graduate School of Life Sciences by Friday, May 15 if needed.

(3) For inquiries regarding student applications, please contact the following

1-1-2 Katahira, Aoba-ku, Sendai 980-8577, Japan
Academic Affairs Section, Graduate School of Life Sciences, Tohoku University
TEL +81-22-217-5706 E-mail lif-kyom@grp.tohoku.ac.jp

(4) Below you will find the Graduate School of Life Sciences website regarding the admissions process. Please check this page from time to time for the latest information. (Q&A and other information is also available.)
https://www.lifesci.tohoku.ac.jp/admission/

March 2026
Graduate School of Life Sciences,
Tohoku University

12. List of Fields of Study for which Students are Accepted (including faculty members and research contents)

1) Department of Integrative Life Sciences

Course	Field of Study and Faculty Members	Research Content
Brain and Nervous System	**Neuroethology** Professor 〇TANIMOTO Hiromu Associate Professor 〇KOGANEZAWA Masayuki Assistant Professor HUANG Tzu Ting	We investigate neural mechanisms underlying a wide array of behavior using genetic manipulation of targeted neurons. Our favorite model animals are fruit flies and jellyfish. Behaviors of our interest include associative learning, feeding, sexual behavior, and alcohol preference. https://www.lifesci.tohoku.ac.jp/en/research/fields/laboratory---id-18215.html
	Molecular Ethology Professor 〇TAKEUCHI Hideaki Assistant Professor KAJIYAMA Towako	We aim to elucidate the operating principles of neural mechanisms involved in social cognition and behavioral selection in animals. We construct social behavior experimental systems mainly using medaka fish and employ next-generation sequencing, mutant creation, and genetic modification technology to identify genes and neurons involved in behavior. https://sites.google.com/view/molecular-ethology-laboratory/english
	Brain Development Professor 〇ABE Kentaro Assistant Professor AOKI Sho	We study the mechanisms underlying plastic change of the brain according to a variety of postnatal experiences such as social interaction, lifestyles, and diseases. For our research, we apply techniques in molecular biology, behavioral analysis, *in vivo* live imaging on mice, songbirds, and cell cultures as model systems. https://www.lifesci.tohoku.ac.jp/en/research/fields/laboratory---id-45397.html
	Systems Neuroscience Professor 〇TSUTSUI Ken-Ichiro 〇HOSHINO Ayuko Associate Professor 〇OHARA Shinya	We investigate sensory, reward, memory, and executive functions and their underlying neural mechanisms by combining various state-of-the-art techniques, such as electrophysiology, molecular biology, and computational analytics and modeling. As experimental subjects, we use human and non-human primates as well as rodents. https://www.lifesci.tohoku.ac.jp/en/research/fields/laboratory---id-2592.html

Cellular Network	**Membrane Trafficking Mechanisms** Professor ○FUKUDA Mitsunori Assistant Professor KASAHARA Atsuko	Our lab mainly focuses on the Rab protein, which acts as a traffic controller, to understand the molecular mechanisms of membrane traffic that underlies various cellular events such as epithelial polarity formation, exosome secretion, neurotransmission, melanosome transport, and autophagy. https://www.lifesci.tohoku.ac.jp/en/research/fields/laboratory---id-2582.html
	Developmental Dynamics Professor ○SUGIMOTO Asako Assistant Professor HARUTA Nami	Our goal is to elucidate the principles of regulation of cellular dynamics during development and its evolutionary processes. Using several nematode species as model systems, we take an integrated approach that combines molecular genetics, cell biology, biochemistry, and functional genomics. Current research topics include 1) tissue-specific regulation of microtubule dynamics, 2) evolution of the reproductive system, and 3) development of novel chromosome engineering technologies. https://www.lifesci.tohoku.ac.jp/en/research/fields/laboratory---id-2580.html
Cellular Network	**Organelle Pathophysiology** Professor ○TAGUCHI Tomohiko Assistant Professor KUCHITSU Yoshihiko	Intracellular organelles cooperatively regulate cellular homeostasis, proliferation, and differentiation, through a continuous exchange of soluble and membrane-bound molecules via membrane trafficking and/or membrane contact transfer. A failure in organelle cooperation often results in various human diseases. Our laboratory uses methods in biochemistry, cell biology, and molecular biology to identify novel organellar proteins and lipids. With these methods, we aim to unveil novel functions of organelles and the molecular mechanisms that regulate organelle cooperation. https://www.lifesci.tohoku.ac.jp/en/research/fields/laboratory---id-45407.html
	Super-Network Brain Physiology Professor ○MATSUI Ko Assistant Professor IKOMA Yoko	The local brain environment affects how the neuronal circuit operates. Glial cells in the brain may have a pivotal role in controlling the neuronal information properties. Using in vivo fiber photometry, optogenetics, and acute patch-clamp electrophysiological techniques, we explore the realm of mind-body interface. Interactions between neurons, glia, vascular, and other cellular network of networks constitute the function of our mind. https://www.lifesci.tohoku.ac.jp/en/research/fields/laboratory---id-45398.html

Developmental Regulation Network	**Cancer Biology** Professor ○CHIBA Natsuko Assistant Professor YOSHINO Yuki FANG Zhenzhou	Accumulation of gene mutations in oncogenes and tumor suppressor genes causes cancer. We elucidate the regulatory mechanism of cell division and DNA damage response by cancer-related molecules. Furthermore, we are trying to develop methods to diagnose and treat cancer by elucidating the carcinogenic mechanism caused by the functional failure of cancer-related molecules. https://www.lifesci.tohoku.ac.jp/en/research/fields/laboratory---id-2586.html
Cooperative faculties	**Systems Neurophysiology** Professor ○TAKAHASHI Mayu	We rely on visual input for about 80% of our sensory information. To accurately capture visual targets at the fovea of the retina, the brain employs five distinct types of eye movements. Our goal is to elucidate the neural transformation mechanisms from visual input to eye movement output—specifically, where and how the brain generates precise eye movements—using physiological and anatomical approaches primarily in non-human primates. https://www.lifesci.tohoku.ac.jp/en/research/fields/laboratory---id-45430.html
	Molecular Oncology Professor ○TANAKA Kozo	Chromosomal instability, a condition in which chromosome missegregation occurs at high rates, underlies age-related diseases such as cancer and neurological disorders. Our goal is to reveal how chromosomal instability occurs and how it is related to the pathophysiology of these diseases in order to contribute to their prevention and treatment. Using culture cells and mice and various technics such as live-cell imaging, biochemical analysis, genetic and epigenetic analysis, we aim to understand these mechanisms from the molecular to the organismal level. https://www.lifesci.tohoku.ac.jp/en/research/fields/laboratory---id-45400.html
	Immunobiology Professor ○OGASAWARA Koetsu	The immune system is involved in many diseases, including cancer, allergies, infectious diseases, and autoimmune diseases. We will clarify immune responses through immune repertoire analysis and receptor analysis using the latest equipment, such as flow cytometry and next-generation sequencers. We will then use the latest techniques, such as gene transfer and genome editing, to create and analyze cell lines and experimental animals to understand the target molecules from the molecular level to the individual level. Furthermore, we aim to create artificial antibodies and TCR-T artificial cells and develop new therapeutic medicines. https://www.lifesci.tohoku.ac.jp/en/research/fields/laboratory---id-45426.html

	Biological Interactions Professor 〇KAWAOKA Shinpei	Our laboratory aims to understand diverse interactions within and around biological systems through the following three research themes: (1) Mechanisms by which cancer disrupts organismal homeostasis (tumor–host interactions) (2) Regulatory roles of non-coding genomic regions in metabolism, immunity, and aging (molecular interactions) (3) Effects of daily activities and social environments on human biology (environment–human interactions) To address these questions, we integrate multi-layered approaches including bulk, single-cell, and spatial transcriptomics, metabolite and cytokine profiling, electroencephalography, and psychological assessments, aiming to achieve a comprehensive and integrative understanding of biological interactions across multiple scales. https://www.lifesci.tohoku.ac.jp/en/research/fields/laboratory.html?id=45438
	Brain Aging Professor 〇SATOH Akiko	As we age, the brain undergoes functional decline, a process known as “brain aging.” Recent studies suggest that brain aging is not only a consequence of aging itself, but may also play a determining role in lifespan. We aim to deepen our understanding of brain aging at the molecular to tissue levels and to elucidate the role of the brain in regulating aging and lifespan in mammals. https://www.lifesci.tohoku.ac.jp/en/research/fields/laboratory.html?id=45439

For information regarding prospective supervising faculty members in each field, please contact the faculty members marked with a circle (〇).

Faculty members marked with an asterisk (*) are expected to retire or transfer due to mandatory retirement, expiration of appointment, or other reasons within the next few academic years. Even if a prospective supervising faculty member is scheduled to retire or transfer within the student’s standard period of enrollment, the student may still be admitted, provided that an appropriate supervisory structure is arranged thereafter. When applying, please consult thoroughly in advance with the faculty member you wish to be supervised by regarding the research supervision system throughout your standard period of enrollment, and submit your application only after obtaining mutual agreement.

2) Ecological Developmental Adaptability Life Sciences

Course	Field of Study and Faculty Members	Research Content
Biological Dynamics	**Organ Morphogenesis** Professor 〇TAMURA Koji 〇KURANAGA Erina Assistant Professor UESAKA Masahiro	We investigate the mechanisms underlying morphogenesis in vertebrate limb/fin development and regeneration as model systems. Also, we seek to elucidate the evolution of developmental programs that diversify vertebrate morphology through comparative developmental experiments, as well as genomic, transcriptomic, and epigenomic comparisons. https://www.lifesci.tohoku.ac.jp/en/research/fields/laboratory---id-2589.html
	Plant Cell Dynamics Professor 〇UEDA Minako Assistant Professor KIMATA Yusuke MATSUMOTO Hikari	We aim to understand what happens inside plant cells and how these processes lead to plant development. We focus on the cells that play a central role in plant body formation, such as the zygote, and perform high-resolution live imaging to reveal intracellular dynamics and genetic analysis to identify regulatory mechanisms. https://www.lifesci.tohoku.ac.jp/en/research/fields/laboratory---id-45415.html
	Plant Development Professor 〇KYOZUKA Junko Assistant Professor TERANISHI Mika	https://www.lifesci.tohoku.ac.jp/en/research/fields/laboratory---id-40745.html
	Plant Evolution Dynamics Professor 〇YASUI Yukiko	Our goal is to understand how diverse plants have evolved at the molecular level. Specifically, we focus on the sexual reproductive systems and environmental responses of bryophytes and investigate how these traits have evolved through chromosomal and functional genomic approaches. We also integrate comparative genomic analyses and fieldwork into our research. https://www.lifesci.tohoku.ac.jp/en/research/fields/laboratory.html?id=45434
	Environmental Genetics Professor 〇OKUMURA Misako	The environment surrounding an organism influences a wide range of traits, including behavior, physiology, and development. We aim to elucidate the molecular and neural mechanisms by which animals sense environmental information, integrate multiple cues, and ultimately determine their phenotype. https://www.lifesci.tohoku.ac.jp/en/research/fields/laboratory.html?id=45435

	Plant Sensory and Developmental Biology Associate Professor 〇FUJII Nobuharu.	Our research is aimed at understanding the relationship between plant growth and environmental cues such as water and gravity. Important findings include that plant roots show hydrotropism in response to moisture gradients, which together with gravitropism plays an important role in regulating root growth orientation to efficiently obtain water. We use physiological and genetical analyses to understand regulatory mechanisms of these processes. https://www.lifesci.tohoku.ac.jp/en/research/fields/laboratory---id-2555.html
	Adaptive Morphology Assistant Professor 〇ANDO Toshiya	The mechanisms that build the sophisticated body forms—adaptive morphologies—that life has acquired over four billion years of evolution are encoded in the genomes. How has life on Earth altered genome sequences to evolve such sophisticated forms? We decipher the traces of environmental adaptation embedded in the genomes of insects with diverse morphologies, as well as the ways in which they deviate from preexisting developmental systems. Through this, we seek to reconstruct and understand the evolution of adaptive morphology in the laboratory using genome engineering technologies. https://www.lifesci.tohoku.ac.jp/en/research/fields/laboratory.html?id=45436
Ecological Dynamics	**Functional Ecology** Professor 〇HIKOSAKA Kouki Assistant Professor KAJINO Hirofumi	We study ecology of plants mainly by analyses of plant functions such as photosynthesis, resource acquisition and use, and stress responses. Recently, our interests are (1) functional differentiations in plant traits, (2) remote sensing of plant functions, (3) field ecology for forests and moorlands and (4) modeling of plant functions. https://www.lifesci.tohoku.ac.jp/en/research/fields/laboratory---id-2548.html
	Ecological Integration Professor 〇KONDOH Michio 〇FUJITA Kaori (C) Assistant Professor ISHIKAWA Kota OTA Hiroshi (C)	Ecosystems are vast complex systems driven by diverse organisms interacting with one another. Armed with mathematical and statistical models, we aim to grasp the essence of various ecological phenomena and theoretically elucidate the common principles underlying them. Simultaneously, we pioneer new research fields enabling the construction of nature-positive societies and the prediction, control, and design of ecosystems. https://www.lifesci.tohoku.ac.jp/en/research/fields/laboratory---id-2553.html
	Symbiosis Genomics Professor 〇SATO Shusei Associate Professor 〇MITSUI Hisayuki Assistant Professor HANANO Shigeru	Our research targets are plant-microbe interactions, based on “symbiosis” in the narrow sense, and environmental interactions, based on “symbiosis” in the broad sense. We aim to explore complex interrelated networks of organisms and their surrounding environments by using genomics approaches, such as population and comparative genomics. https://www.lifesci.tohoku.ac.jp/en/research/fields/laboratory---id-45414.html

	Macroecology Associate Professor 〇KASS, Jamie M. Assistant Professor MIRANDA Everton	We conduct research using big data and large-scale analyses to answer pressing questions about biodiversity, which is declining due to human-driven global change. To do this, we employ geospatial analysis and statistical modeling to predict and map species' ranges and biodiversity over space and time. Research applications include range movement due to climate change, alien species invasion risk, ecosystem service provisions, and conservation prioritization. We also develop programming tools to advance macroecological analyses. https://www.lifesci.tohoku.ac.jp/research/fields/laboratory.html?id=45417
	Watershed Ecology Associate Professor 〇UNO Hiromi Assistant Professor FAULKS, Leanne Kay MAKINO Wataru	Nature consists of various landscape elements including forests, rivers, ponds, wetlands and the ocean. These elements are interconnected through movements of water, animals, and other materials. We study ecosystem processes and how animals live in watershed ecosystems through field observations, surveys, and experiments. By studying how biota live and interact with each other in natural ecosystems, we aim to better understand nature and provide essential foundational information for humans to better coexist with nature. https://www.lifesci.tohoku.ac.jp/en/research/fields/laboratory---id-45420.html
Biodiversity Dynamics	**Plant Diversity and Evolutiom** Professor 〇MAKI Masayuki ＊ Assistant Professor OHYAMA Motonari ITO Takuro	https://www.lifesci.tohoku.ac.jp/en/research/fields/laboratory.html?id=2552
	Marine Biodiversity Professor 〇KUMANO Gaku 〇KONDO Michio (C) Associate Professor 〇MINOKAWA Takuya Assistant Professor IWASAKI Aiko MORITA Shumpei	Focusing on various kinds of marine animal inhabitants around Asamushi, we research animal development such as germline development, tissue/organ morphogenesis and cell differentiation in relation to animal diversity and evolution, as well as morphologies of rarely studied animals at their critical developmental stages. We also research the distributions, community structures and diversities of marine organisms, such as benthos, to determine their biological interactions and relationships with abiotic factors. http://www.biology.tohoku.ac.jp/lab-www/asamushi/english.html
Eco-Socio Dynamics	**Ecosystem Functions** Visiting Professor 〇TAYASU Ichiro Visiting Associate Professor 〇ISHII Reichiro	We study ecosystem functions, evaluation of ecosystem services, and response mechanisms of ecosystems to global environmental change through analysis of the structure and dynamics of biological communities using stable isotope approaches and modeling techniques. https://www.lifesci.tohoku.ac.jp/en/research/fields/laboratory---id-45406.html

Cooperative faculties	**Systems Bioinformatics** Professor 〇KINOSHITA Kengo	As is the case for next generation sequencing, experimental data are increasing year by year. These data contribute to the elucidation of life science only when they are analyzed correctly and made into information. In this laboratory, we conduct research on data-driven bioinformatics that analyzes vast amounts of life science-related data, including genomics, by making full use of data-science methods such as machine learning and statistical analysis. https://www.lifesci.tohoku.ac.jp/en/research/fields/laboratory---id-45401.html
	Human Evolution Professor 〇SANO Katsuhiro	We study human evolution based on analyses of macroscopic and microscopic traces on Paleolithic artifacts left by *Homo erectus*, Neanderthals, Denisovans, and *Homo sapiens*. Our research relies on experimental traceology and field works, including excavations and surveys. Experimental traceology allows us to reconstruct past human behaviors, such as hunting, butchering, hide-working, and processing of organic materials, which eventually will lead to a better understanding of how and when humans developed their cognition and technologies through time. https://www.lifesci.tohoku.ac.jp/en/research/fields/laboratory---id-45427.html

For information regarding prospective supervising faculty members in each field, please contact the faculty members marked with a circle (〇).

Faculty members marked with an asterisk (*) are expected to retire or transfer due to mandatory retirement, expiration of appointment, or other reasons within the next few academic years. Even if a prospective supervising faculty member is scheduled to retire or transfer within the student's standard period of enrollment, the student may still be admitted, provided that an appropriate supervisory structure is arranged thereafter. When applying, please consult thoroughly in advance with the faculty member you wish to be supervised by regarding the research supervision system throughout your standard period of enrollment, and submit your application only after obtaining mutual agreement.

* Professor Masayuki Maki is scheduled to retire in March 2028.

3) Molecular and Chemical Life Science

Course	Field of Study and Faculty Members	Research Content
Chemical Biology	**Analytical Bioorganic Chemistry** Professor 〇ARIMOTO Hirokazu Assistant Professor TAKAHASHI Daiki	The Arimoto Group studies small molecules that contribute to human healthcare. We have developed AUTAC degraders that selectively degrade cytoplasmic materials via autophagy, the removal of "dysfunctional mitochondria, protein aggregates, and pathogens" utilizing AUTAC technology may contribute to disease and aging control We are also developing antimicrobial agents targeting vancomycin-resistant strains. We utilize a variety of chemical and biological techniques, including eukaryotic and bacterial cell culture, biochemistry, molecular biology, and organic synthesis. https://www.lifesci.tohoku.ac.jp/en/research/fields/laboratory---id-7811.html
	Biostructural Chemistry Professor 〇UEDA Hirofumi Assistant Professor UMEHARA Atsushi	Our research focuses on the total synthesis of alkaloids with complex and unique molecular architectures, as well as the development of innovative synthetic methodologies. Through the concise synthesis of molecules relevant to drug discovery and the synthesis of artificial biologically active compounds, we aim to contribute to the advancement of life sciences. https://www.lifesci.tohoku.ac.jp/en/research/fields/laboratory.html?id=45437
	Bioactive Molecules Professor 〇ISHIKAWA Minoru Assistant Professor TOMOSHIGE Shusuke	We study novel strategies that employ methods of organic chemistry, molecular biology and cellular biology to regulate disease-related proteins. One example is PROTAC (proteolysis-targeting chimera) which induces the degradation of a target proteins by hijacking the ubiquitin-proteasome system. Our research focuses on developing PROTACs for the treatment of neurodegenerative diseases. https://www.lifesci.tohoku.ac.jp/en/research/fields/laboratory---id-45409.html
	Molecular and Cellular Biology Professor 〇OHASHI Kazumasa Associate Professor 〇YASUMOTO Ken-ichi Assistant Professor CHIBA Shuhei	Our research focuses on how cells sense and respond to the external environment. We aim to elucidate the molecular mechanisms that regulate cell morphology, motility, growth, differentiation, and the organization of cell populations in mammalian cells by sensing mechanical stresses such as stiffness and force, exerted by the external environment. We also seek to elucidate the molecular mechanisms of the cellular stress response. https://www.lifesci.tohoku.ac.jp/en/research/fields/laboratory---id-2520.html
	Applied Biological Molecular Science Professor 〇TANAKA Yoshikazu	We clarify the structural basis of molecular mechanisms in biopolymers, primarily proteins, and aim to develop new technologies through the application of their unique molecular characteristics. https://www.lifesci.tohoku.ac.jp/en/research/fields/laboratory---id-2518.html

Molecular and Network Genomics	**Microbial Genetics and Evolution** Professor ○NAGATA Yuji Associate Professor OTSUBO Yoshiyuki＊ Assistant Professor KISHIDA Kouhei	Some bacteria can degrade anthropogenic pollutants. We aim to comprehensively understand how such bacteria rapidly adapt and/or evolve in response to environmental changes by using microbiological, molecular genetics, molecular biological, protein engineering, cell biological, genomic, and ecological approaches. Additionally, we seek to develop new technologies to effectively utilize unexplored microbial functions. https://www.lifesci.tohoku.ac.jp/en/research/fields/laboratory---id-45412.html
	Plant Reproductive System Professor 〇WATANABE Masao Associate Professor 〇INABA Yasuko Assistant Professor HAYASHI Maki	During the evolutionary process, plants have developed various reproductive systems adapted to their environment by regulating the balance between selfing and outcrossing in "hermaphrodites" In our laboratory, we focus on self-incompatibility, one of the plant reproductive systems, and aim to elucidate the molecular mechanisms controlling selfing and outcrossing in plants using genetic and physiological methods. https://www.lifesci.tohoku.ac.jp/en/research/fields/laboratory---id-45421.html
	Molecular Genetics and Physiology Professor 〇HIGASHITANI Atsushi ＊	https://www.lifesci.tohoku.ac.jp/en/research/fields/laboratory.html?id=2550
	Evolutionary Genomics Professor ○MAKINO Takashi Associate Professor ○SATO Atsuko ○ICHINOSE Toshiharu(C) Lecturer YOKOYAMA Ryusuke Assistant Professor BESSHO Kanako BESSHO Manabu(C)	Laboratories in Graduate School of Life Sciences website https://www.lifesci.tohoku.ac.jp/en/research/fields/laboratory---id-45408.html Visit the lab's website. https://www.lifesci.tohoku.ac.jp/evolgenomics/home-en/
Multilevel Biomolecular Structure and Dynamics	**Molecular Analysis of Biological Functions** Professor ○TAKAHASHI Satoshi Associate Professor ○ARAKI Yasuyuki Assistant Professor ITOH Yuji	Proteins and RNAs perform various functions by folding into their specific structures. By using our home-built confocal microscopes, we aim to understand their dynamics, structure, and function. Recently, we are interested in the dynamics and function of proteins and RNA derived from SARS-CoV-2. (Takahashi, Itoh group) https://www.lifesci.tohoku.ac.jp/en/research/fields/laboratory---id-2519.html

	Biofunctional Chemistry and Nanobiotechnology Professor 〇MIZUKAMI Shin Associate Professor 〇KOWADA Toshiyuki Assistant Professor NOVIANTI, Ira	We design and synthesize hybrid chemical probes composed of organic small molecules and proteins to develop technologies for visualizing biomolecular functions and physiological activities in living organisms and live cells, as well as for controlling cellular functions using light. Based on these technologies, we aim to elucidate the mechanisms of biological phenomena and diseases and to develop novel therapeutic strategies. https://www.lifesci.tohoku.ac.jp/en/research/fields/laboratory---id-2526.html
	Structural Mechanism Research and Development Professor 〇YONEKURA Koji ＊ Associate Professor 〇HAMAGUCHI Tasuku ＊ Lecturer KUROKAWA Hirofumi Assistant Professor IKEUCHI Ken	Our laboratory aims to achieve high-resolution and high-accuracy structural analysis of complex targets, ranging from organic compounds and proteins to organelles and cells, using cryo-electron microscopy. This involves developing technologies such as AI applications and the complementary use of X-ray free-electron lasers to elucidate the mechanisms of structure formation, stabilization, and functional expression. https://www.lifesci.tohoku.ac.jp/en/research/fields/laboratory---id-45416.html
	Dynamic Structural Biology Professor 〇NANGO Eriko Assistant Professor FUJIWARA Takaaki TAGUCHI Masahiko KOJIMA Mariko	Targeting light-sensitive proteins and unique enzymes, we will elucidate the dynamic structures of proteins in action using the latest measurement techniques, including X-ray free-electron lasers and synchrotron radiation. Furthermore, we aim to create new protein molecule through rational design based on the obtained dynamic structural information. https://www.lifesci.tohoku.ac.jp/en/research/fields/laboratory---id-45425.html
	De Novo Biomolecular Design Professor TAKAHASHI Satoshi (C) William F. DeGrado Associate Professor 〇SOMIYA Masaharu	Our research focuses on the design of de novo proteins using computational approaches and AI models, as well as the analysis of their functions and their potential applications in medicine and industry. In particular, we are interested in de novo proteins that can manipulate biological membranes, with the goal of developing new strategies for intracellular drug delivery and applications in synthetic biology. (website, TBD)

Genome Informatics	**Omics and Imformatics** Visiting Professor 〇IKEDA Kazutaka Visiting Associate Professor 〇YAMAKAWA Hisashi	To elucidate various biological phenomena in plants and animals, we are developing technologies for omics analysis from genomic information to metabolites produced through the processes of transcription and translation. Furthermore, we aim to understand complex biological phenomena at the ecosystem level by analyzing the commensal bacteria and environmental DNA. Laboratories in Graduate School of Life Sciences website https://www.lifesci.tohoku.ac.jp/en/research/fields/laboratory---id-2549.html Visit the lab's website: https://www.kazusa.or.jp/en/
Cooperative faculties	**Chemical biology of Natural Product** Professor 〇UEDA Minoru	We conduct research on natural products with biological activity. Our work focuses on receptors and signalling, as well as biosynthesis and metabolism of phytohormone-related compounds that exert potent effects on plants. We aim to achieve the chemical and biological control of biological systems. https://www.lifesci.tohoku.ac.jp/en/research/fields/laboratory---id-45402.htm
	Redox Biology Professor 〇MOTOHASHI Hozumi	Redox reactions play central roles in energy metabolism, signal transduction, and proteostasis. Our goal is to understand the pathogenesis of age-related diseases, such as cancers and chronic inflammation, from the viewpoint of redox regulation using biochemical and molecular biological approaches. https://www.lifesci.tohoku.ac.jp/en/research/fields/laboratory---id-45404.html
	Bioorganic Medicinal Chemistry Professor 〇DOI Takayuki ＊	We study synthetic methods for biologically active natural products and their application to the rapid synthesis of analogues to elucidate structure-activity relationships and identify their target molecules. We aim to clarify the structural features essential for biological activity and to discover new potent compounds. https://www.lifesci.tohoku.ac.jp/en/research/fields/laboratory---id-45403.html
	RNA Physiology Professor 〇WEI Fan-Yan	Our laboratory primarily focuses on the post-transcriptional modification of RNA in mammalian cells. We aim to elucidate the biological functions of RNA modifications in regulating energy metabolism, protein translation, and cell signaling, as well as to understand their roles in physiological regulation in vivo and disease development. We hope to apply RNA modification technology to establish novel disease biomarkers and contribute to drug discovery. https://www.lifesci.tohoku.ac.jp/en/research/fields/laboratory---id-45419.html

	Functional chemical Proteomics Associate Professor 〇SATO Shinichi	We develop unique protein labeling methods using organic chemistry, including nanoscale proximity labeling, tyrosine-selective labeling, and aggregated protein-selective labeling. Combined with mass spectrometry-based proteomics, we advance from biological understanding to drug discovery and diagnosis through original chemical tool development. https://www.lifesci.tohoku.ac.jp/en/research/fields/laboratory---id-45432.html
	Dynamic structural biochemistry Associate Professor 〇OKUMURA Masaki	We aim to elucidate the protein quality control system within the endoplasmic reticulum from the viewpoints of biochemistry, cell biology, and structural biology, and to elucidate the causes of diabetes and other related diseases. In particular, we explore the physiological significance of new compartments within the endoplasmic reticulum. https://www.lifesci.tohoku.ac.jp/en/research/fields/laboratory---id-45433.html

For information regarding prospective supervising faculty members in each field, please contact the faculty members marked with a circle (〇).

Faculty members marked with an asterisk (*) are expected to retire or transfer due to mandatory retirement, expiration of appointment, or other reasons within the next few academic years. Even if a prospective supervising faculty member is scheduled to retire or transfer within the student's standard period of enrollment, the student may still be admitted, provided that an appropriate supervisory structure is arranged thereafter. When applying, please consult thoroughly in advance with the faculty member you wish to be supervised by regarding the research supervision system throughout your standard period of enrollment, and submit your application only after obtaining mutual agreement.

＊Associate Professor OTSUBO Yoshiyuki appointment is scheduled to expire in September 2026.
＊Professor HIGASHITANI Atsushi is scheduled to retire in March 2028.
＊Professor DOI Takayuki is scheduled to retire in March 2029.
＊Professor YONEKURA Koji appointment is scheduled to expire in March 2029.
＊Associate Professor HAMAGUCHI Tasuku appointment is scheduled to expire in March 2029.

Notes: - Information about research in each laboratory of the Graduate School of Life Sciences, Tohoku University: https://www.lifesci.tohoku.ac.jp/en/research/fields/

- The campuses of the Graduate School are in Sendai City, Aomori City (Aomori Prefecture), Kyoto City (Kyoto Prefecture), and Kisarazu City (Chiba Prefecture). The Marine Biodiversity Field is based at the Asamushi Research Center for Marine Biology, part of the Graduate School in Asamushi, Aomori City, Aomori Prefecture. The Ecosystem Functions Field is located at the Research Institute for Humanity and Nature, Kyoto, Japan. The Omics and Informatics Field is situated at the Kazusa DNA Research Institute in Kisarazu, Chiba, Japan.