

2024 年度 4 月入試

Academic Year 2024, April Enrollment

名古屋大学大学院生命農学研究科

博士後期課程

学生募集要項

(一般入試 [英語版])

Guidelines for Admission to the Doctoral Program

名古屋大学大学院生命農学研究科

Graduate School of Bioagricultural Sciences

Nagoya University

本研究科ではインターネット出願を導入しており、出願書類の提出の前にオンラインでの出願登録が必要になります。出願に必要なパソコンやプリンター等の機器、メールアドレス、顔写真データ、検定料の支払い方法、書類の提出方法等を十分確認のうえ、時間には余裕を持って出願を行ってください。なお、インターネット出願時に登録されたメールアドレスには、大学から入学試験に関する重要なお知らせが配信されますので、変更や削除の可能性がなく、日常的に確認できるメールアドレスを準備してください。

The Graduate School of Bioagricultural Sciences is accepting online applications. The applicants require online application registration before submitting application documents. Please make sure you have sufficient time to check the necessary equipment (e.g. computer, printer, etc.), e-mail address, photo data, payment method for the examination fee and how to submit the documents before submitting your application.

Important information about the examination and other related issues may be sent by the University to your registered e-mail address. Therefore, please use an e-mail address that you check on a regular basis and has little chance to be changed or deleted.

## 名古屋大学大学院生命農学研究科のアドミッション・ポリシー

### (1) 入学者受入れの方針

生命農学を探究するために必要な学力を有し、高い専門性を持った指導者や技術者として、知識と能力を社会に役立てようという志をもつ国内外の人材を求めています。

### (2) 選抜の基本方針

「生命農学関連専門科目の知識・理解力と論理的思考力・応用力」を学力検査によって、「英語能力」を外部試験成績によって評価します。また、研究能力を修士論文により評価します。さらに「志望する研究分野に対する明瞭な志向と研究への熱意」、および「その分野に関連する基本的な知識と理解力」を面接・口述試験によって評価し、入学者を選抜します。

#### 個人情報の取り扱いについて

出願にあたって提供された住所・氏名・生年月日その他の個人情報は、入学選抜、合格発表、入学手続及びこれらに付随する事項並びに入学後の学務業務における学籍・成績管理を行うためのみに利用します。

また、取得した個人情報は適切に管理し、利用目的以外に使用いたしません。

#### **Treatment of information on individuals (at Nagoya University)**

Any information regarding individuals which has been obtained from application documents, shall be used for the purposes of notifications concerning the application in hand, entrance examinations, announcements of results of entrance examinations, enrollment procedures and any other items subsidiary to these situations. It will also be used for the administration of the school register and for academic records connected with student academic affairs after enrollment. Furthermore, any information obtained concerning individuals will be treated appropriately, and shall never be used for any reason other than its administrative purpose.

#### < Changes in examination schedule and procedures due to unforeseen circumstances >

The examination schedule and selection measures may be modified in the event of an outbreak of infectious disease or other unforeseen circumstances. Please check the website regularly for the latest notices, especially in the days preceding the application and examination periods.

- Website of Graduate School of Bioagricultural Sciences, Nagoya University  
(Admission Information)

<https://www.agr.nagoya-u.ac.jp/english/admission/index.html>

- Contact info:

Student Affairs Section, Graduate School of Bioagricultural Sciences,  
Nagoya University



The following provides information to applicants on admissions to the Doctoral Program, Graduate School of Bioagricultural Sciences, Nagoya University, beginning in April

## 1. Requirements for applicants

Applicants must meet one of the following conditions by the day prior to the day of enrollment:

- (1) Applicants who have a master's degree or professional degree.
- (2) Applicants who have obtained in a foreign country a professional degree equivalent to the master's degree of Nagoya University.
- (3) Applicants who have obtained a degree equivalent to a master's degree or a professional degree by taking correspondence courses offered in Japan by a foreign school.
- (4) Applicants who have obtained a degree equivalent to a master's degree or a professional degree in Japan by completing one of the relevant courses at an educational institution that is recognized by the authorities of a foreign country as an institution offering graduate courses and is approved by the Ministry of Education, Culture, Sports, Science and Technology, Japan (MEXT).
- (5) Applicants who have completed a course of study at the United Nations University and have received a degree equivalent to a Master's degree at the United Nations University. The United Nations University refers to the university established by the United Nations General Assembly's resolution of December 11, 1972. The university is provided for under Paragraph 2, Article 1 of the Act on Special Measures (Law No. 72, 1976) concerning the Implementation of the Agreement between the United Nations and Japan relating to the Headquarters of the United Nations University.
- (6) Persons who have completed the curriculum of a foreign school, educational institution designated under criterion (4), or the United Nations University; have passed the equivalent of a basic skills review for doctoral thesis research; and have been recognized as having scholastic ability equivalent to or higher than that of persons who have a master's degree.
- (7) Applicants approved by the Minister of Education, Culture, Sports, Science and Technology (1994 Ministry Bulletin, Vol. 123).

Applicants must have either graduated from a university or completed a course of 16 years of formal education, followed by research for at least two years at a university or research institute. The results of this research must be recognized by the Graduate School of Bioagricultural Sciences, Nagoya University as the equivalent of a master's degree.

**NOTE: See "Candidates applying under requirement (7)" on page 14.**

- (8) Applicants who are recognized by this Graduate School to be equivalent in academic level to a graduate student with a master's degree or a professional degree.

**NOTE: See "Candidates applying under requirement (8)" on page 15.**

## 2. Academic Department/Laboratory offering doctoral programs and maximum number of enrollment

| Department                                   | Laboratory   | Number to be admitted |
|--|--|-----------------------|
| Forest and Environmental Resources Sciences* | Resources Cycling in Pedosphere, Plant-Soil Systems, Forest Hydrology and Disaster Mitigation Science, Forest Ecology, Forest Protection, Forest Resource Management, Forest Resources and Society, Forest Chemistry, Biomass Resource Utilization, Wood Physics, Timber Engineering, System Engineering for Biology | A Several             |

|                           |   |           |
|---------------------------|---|-----------|
| Plant Production Sciences | Plant Physiology and Morphology, Plant Genetics and Breeding, Crop Science, Horticultural Science, Plant Pathology, Plant Immunology, Information Sciences in Agricultural Lands, Food Economics, Plant Gene Function, Agrigenome, Plant Genomics and Breeding, Tropical Bioresources, Genetic Information for Bioresources, Practical Studies in Africa, Practical Studies in Asia, Plant Epigenetics  | A Several |
| Animal Sciences           | Animal Genetics and Breeding, Genome and Epigenome Dynamics, Animal Morphology, Animal Integrative Physiology, Animal Reproduction, Animal Nutrition, Animal Production Science, Avian Bioscience, Fish Biology, Sericulture and Entomoresources, Applied Entomology  |           |
| Applied Biosciences       | Organic Chemistry, Bioactive Molecules, Chemical Biology of Natural Products, Polymer Chemistry, Applied Enzymology, Molecular Biotechnology, Soil Biology and Chemistry, Applied Microbiology, Food and Biodynamics, Molecular and Cellular Regulation, Molecular Bioregulation, Glyco-Life Science, Animal Cell Function, Animal Cell Physiology, Nutritional Biochemistry, Alimentary Neuroscience Plant Signaling, Biochemistry, Molecular and Functional Genomics, Plant Cell Function, Plant Integrative Physiology, Plant Metabolic System, Metabolic Balance of Ecosystem |           |

**Applicants must ask the Laboratory in which he/she wishes to study for study topics before application.**

**NOTE: See the attached “Laboratories, Areas of Research, and Staff.”**

\* Students who have been accepted in the Department of Forest and Environmental resource Sciences have the opportunity to participate in the Integrated Environmental course. This course was initiated in 2009 in collaboration with the Graduate School of Environmental Studies and offers education, guidance and research opportunities for suitable graduate students. Further information on this program is available from the Students Affairs Section in the Graduate School of Bioagricultural Sciences.

### **3. Application Periods and Procedures**

Both of the following procedures (1) and (2) are required.

#### **(1) Register for Online Application System and Payment of Entrance Examination Fee.**

**Online Application and Payment Periods : November 6 to November 20, 2023**

Please complete this step before submitting documents.

For more information, see section 5. and section 6.

The application procedure is only complete when the application documents arrive at the Graduate School. Registration and application fee payment with the online application system alone does not complete the application procedures.

The entrance examination fee payment must be completed within 4 days from the day of registration. If a payment is not made within the period, the application registration will be automatically cancelled. (Please re-register if your registration is cancelled)

\*If the payment deadline is in less than 4 days, the payment deadline will be prioritized.

## (2) Submitting Documents for Application

Applicants can submit the application documents in two ways: by mail or by hand. In both cases, the online application registration must be completed by 20 November. You cannot submit your application document without prior online registration.

### **When Submitting Documents by mail**

**Application Periods: November 20 to November 24, 2023 (documents must be postmarked by November 24)**

When submitting application documents by mail, please print out the “Address Sheet” in color via the online application system, attach it to an envelope, and send it so it arrives by the application deadline (documents must be postmarked by November 24) via registered mail.

Address: Student Affairs Section, Graduate School of Bioagricultural Sciences, Nagoya University  
Furo-cho, Chikusa-ku, Nagoya 464-8601

### **When Submitting Documents by hand**

**Application Periods: November 20 to November 24, 2023**

**Open from 9:00 a.m. till 11:30 a.m. and from 1:30 to 4:00 p.m. (JST)**

When submitting application documents by hand, please print out the “Address Sheet” in color via the online application system, attach it to an envelope, and bring it to the Student Affairs Section of Graduate School of Bioagricultural Sciences during the reception hours.

Address: Student Affairs Section, Graduate School of Bioagricultural Sciences, Nagoya University  
Furo-cho, Chikusa-ku, Nagoya 464-8601

## 4. Required documents for application

|     |   |  |
|-----|---|--|
| (1) | Nagoya University Graduate School Application form/ Photograph Card | The application form and photograph card must be printed in color on a single-sided sheet of A4 sized paper from the online application system.<br>* The applicant must prepare and upload a portrait photo, that is front facing, includes the upper body, no hats or backgrounds, and has been taken within 3 months of the application. |
| (2) | Application form (Graduate School of Bioagricultural Sciences)      | Download and fill out the prescribed form from the Graduate School website.  |
| (3) | Academic Transcripts  | Original copies of official transcript from the undergraduate school (including liberal arts) and the graduate school the applicant has attended.<br>※If they are not written in Japanese or English, please attach an English translation version.  |

|      |   |   |
|------|---|---|
| (4)  | Certificate of master's degree or of being awarded a master's degree*                                     | * <b>Applicants who have graduated from a university in China</b> , should print the certificate issued by the Center for Student Services and Development (CSSD) and submit it along with other application documents. The details of this process can be checked on the CSSD website ( <a href="https://www.chsi.com.cn/en/">https://www.chsi.com.cn/en/</a> ). The issuance of certificates may take time, so applicants should start the process early. |
| (5)  | TOEFL or TOEIC or IELTS score sheet   | See " <b>7. Examinations</b> ", Item 1 "Submission of score sheets for foreign language (English) examination" for details. Applicants exempted from the written examination through application qualifications do not need to submit these.  |
| (6)  | A photo copy of Master's Thesis (or its equivalent) and three copies of its summary (Japanese or English) | If the Master's Thesis (or its equivalent) has not been completed, three copies of its summary in around 1,500 words English must be submitted at the time of application.  |
| (7)  | Letter of approval for taking examination if applicants have a job, using the prescribed form.            | NOTE: Needed only for applicants working at a government/public office or a company. Download and fill out the prescribed form from the Graduate School website.  |
| (8)  | Personal History for Foreign Applicants   | NOTE: Download and fill out the prescribed form from the Graduate School website.   |
| (9)  | A photo Copy of Residence Card (both sides).  | Needed only for applicants without Japanese nationality, excluding those with official approval of permanent residency in Japan.  |
| (10) | Declaration of Applicable Specific Categories*  | Download and fill out the prescribed form from the Graduate School website. If you fall into one of the following categories, please submit the relevant evidence. For details, please refer to *Regarding submission of "(10) Declaration of applicable specific categories".  |

\*Regarding submission of "(10) Declaration of applicable specific categories"

In November 2021, in accordance with the clarification of the scope of control for "Deemed Exports" under the Foreign Exchange and Foreign Trade Act ("FEFTA"), some provision of sensitive technology to students by universities has become subject to control under the FEFTA.

- 1) Please submit a "Declaration of applicable specific categories" when applying to our graduate program. Please also submit the relevant evidence if you fall into one of the Categories 1 to 3.
  - employed by a foreign government/corporation: proof of employment
  - receiving scholarship from a foreign government/corporation: notice of scholarship award or application form
- 2) Students will also be required to submit a "Letter of confirmation" at the time of their admission.

## 5. Online Application Flow

# Web Application Flow

The web application flow is as follows.



STEP

1

## Preparation

Prepare a computer and printer connected to internet (smartphone and tablet are not recommended).

Prepare \*required documents well in advance before application since it may take time to obtain them.

\*Required documents: ID photo data, certificates etc.  
For details, please check [the application guidelines](#) for the graduate schools you wish to enter.

STEP

2

## Access the Application Site

From the application site ▶ <https://e-apply.jp/ds/nagoya-gs/>

STEP

3

## MyPage Registration

Follow the instructions on the screen to enter the required information and register for MyPage. If you have already registered MyPage, please proceed to STEP4.

① If you register MyPage for the first time, please login from [My Page registration](#).

② Register your email address and click [Submit a temporary registration e-mail](#).

③ Click [Go to Login](#).

④ The initial password and URL for main registration will be sent to the e-mail address.

\* Please check your e-mail settings as well to ensure that you are able to receive e-mails from @e-apply.jp domain.

⑤ On the login screen, enter the registered e-mail address and the "initial password" you received in ④, and click [Login](#).

⑥ Change from the initial password to new password.

⑦ Enter the required personal information and click [Next](#).

⑧ Confirm the personal information you entered and click [To register in this content](#).



⑨ Registration is completed. Click **To My Page**.



⑩ When the above is displayed, MyPage registration is complete.

⑪ During the application period, click **Carry out the application procedure** to continue the application procedure. Outside of specified periods, you cannot proceed any further, so click **Log out** to logout.

## STEP

# 4

## Register the Application forms

Make sure to confirm to procedures and notes on the screen page, and enter required information.



① Login to MyPage and click **Carry out the application procedure**, then go to the registration screen.



② Select your graduate school.



③ Select the entrance exam to take and read the important notes.



④ Choose which major to apply for.



⑤ Upload ID photo data and click **To choose photo** to select a photo.



⑥ Enter the required personal information.



⑦ Confirm application form. You can check the application form by clicking **Application Form (sample)**.



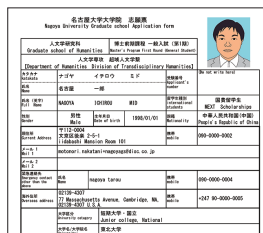
⑧ Application registration is completed. Click **Continue to pay** to proceed the examination fee payment screen.



Payment is due within 4 days including the date of application. However, if the Web application deadline falls earlier than that, the payment deadline will be the Web application deadline.

⑨ How to pay the examination fee

- Convenience stores\*
- ATMs with Pay easy\*
- Internet banking\*
- Credit card
- \* Only available in Japan



⑩ PDF documents are required for application (image).

⑪ Printing will be available after payment of the examination fee. These are required to submit as well as required documents.

If you choose to pay the examination fee at a convenience store or a bank ATM that supports Pay-easy, please make sure to write down the necessary payment number displayed after selecting the payment method, and pay the fee at a convenience store or bank ATM within the notified payment deadline.

**At Seven Eleven**

|                                 |                           |
|---------------------------------|---------------------------|
| Payment slip number (13 digits) | □ □ □ □ □ □ □ □ □ □ □ □ □ |
|---------------------------------|---------------------------|

**At Daily Yamazaki, SeicoMart**

|                                      |                       |
|--------------------------------------|-----------------------|
| Online settlement number (11 digits) | □ □ □ □ □ □ □ □ □ □ □ |
|--------------------------------------|-----------------------|

**At Lawson, Mini Stop, FamilyMart, ATMs with Pay-easy**

|                                       |                       |
|---------------------------------------|-----------------------|
| Customer number (11 digits)           | □ □ □ □ □ □ □ □ □ □ □ |
| Confirmation number (6 digits)        | □ □ □ □ □ □           |
| receiving institute number (5 digits) | 5 8 0 2 1             |

At ATMs with Pay-easy

A confirmation e-mail will be sent to you after you have completed the registration of your application. If you have set restrictions on receiving e-mails, please allow the sender (@e-apply.jp).  
\*Please note that the confirmation email may be sent to your junk folder.



After the examination fee has been paid, you will not be able to correct your application contents. Please check your application contents before paying the examination fee. If there are any errors, please register again from Step 3.

\*Please note that if you select credit card in "⑨How to pay the examination fee", the payment will be completed at the same time as registration.



STEP

5



# Pay the examination fee

## 1 Paying with a credit card

You can select and pay during the Web application.

[Credit cards available for the payment]

VISA, Master, JCB, AMERICAN EXPRESS, MUFG, DC, UFJ, NICOS



The payment can be completed during the Web application.

## 2 Paying by internet banking

(Only in Japan)

After your Web application is registered, the page will shift to the site of the bank you chose. Make the payment as instructed on the screen.

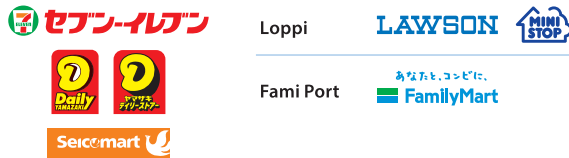
\*Required your bank account is registered for internet banking.

The payment can be completed online.

## 3 Paying at convenience stores (Only in Japan)

Write down the number displayed after your Web application is registered, and pay at any one of the following convenience stores.

- Pay at the cashier
- Pay using the terminal



## 4 Paying at ATMs with Pay-easy option

(Only in Japan)

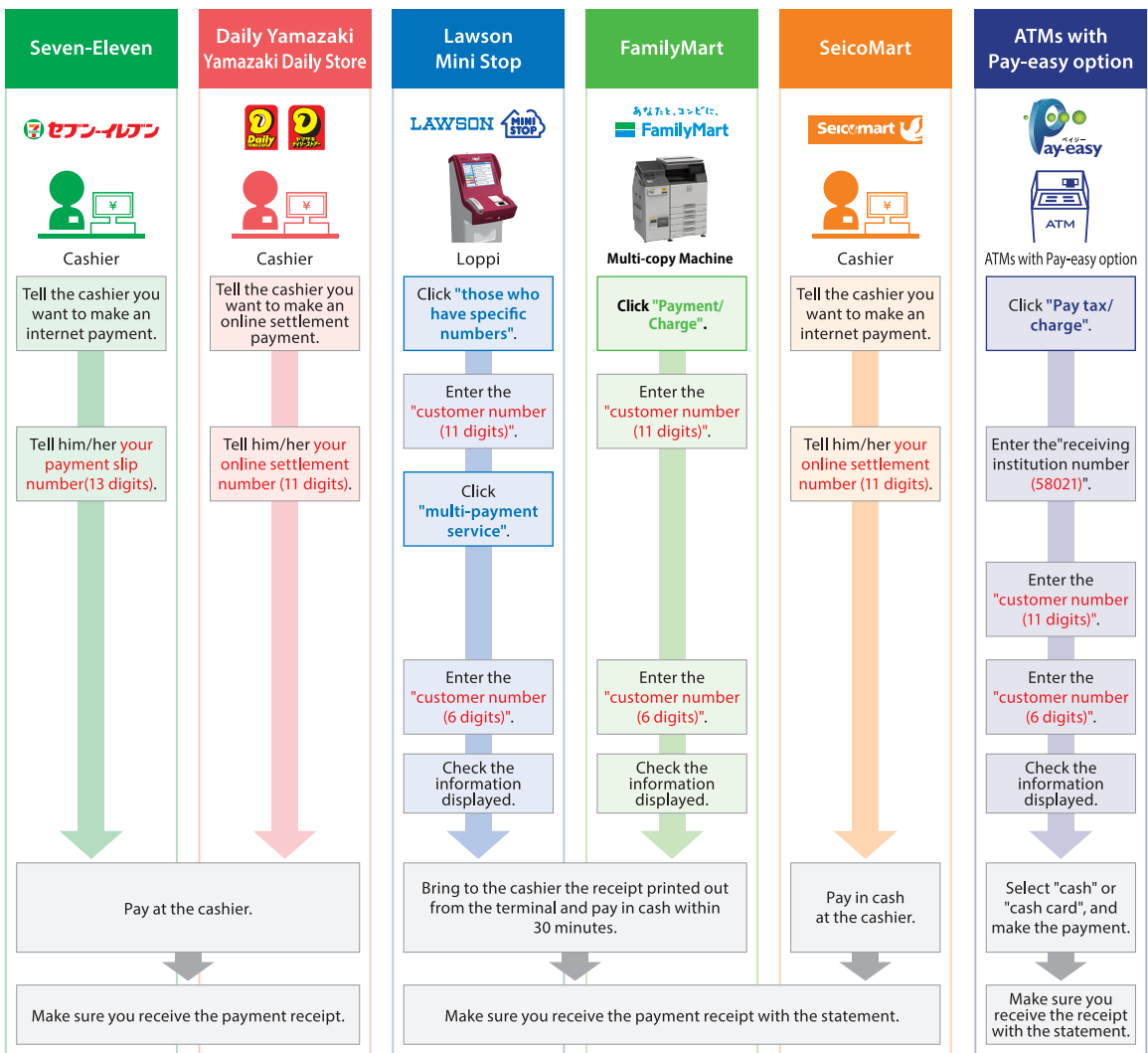
Write down the number displayed after your Web application is registered, and pay at any one of the ATMs with Pay-easy option as instructed on the screen.



\*Banks with Pay-easy option can be checked on the [Selection of Payment Method] page.

Enter necessary information as instructed on the screen of the terminal or ATM, check the information displayed, and make the payment.

### 3 Convenience stores



## STEP

# 6



## Send Required Documents by Post

Print the documents downloadable in color after the completing and paid your application and send them from post office by registered express mail (書留速達郵便) along with other required documents. If you are from outside Japan, send them by tracked post (EMS etc.) within the application period.

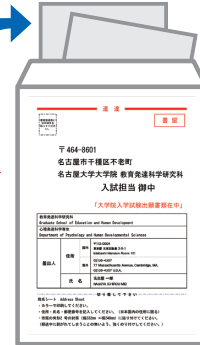
### Required documents

- Documents to be printed from the web applicaton
- Documents to be downloaded from the Graduate School WEB site and prepaed
- Certificated issued by your garaduated universities



One copy is required for each application registration. Please refer to **the application guidelines** for the required documents.

The mailing address of your application will be automatically printed on the Address Sheet. When sending from overseas, do not use this sheet.



Address sheet for submitting your application

Attach the sheet to a commercially available Kaku 2 envelope (24cm x 33.2cm).



If the application guideline specify other submission methods, please follow it.

\*The examination fee and necessary documents that have been received will not be returned in any way except for those specified it in **the application guidelines**.

## < Application Completion >

### Note for Application

Your application will be completed only after you complete the web application, pay the examination fee, and send by post the required documents by the deadline.

Please make sure to check the deadline in **the application guidelines**.

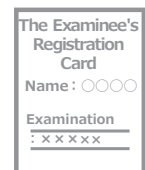
## STEP

# 7



## Print the Examinee's Registration Card

When the application is accepted and the examinee's registration card is able to be printed, you will be notified it through the e-mail address you have registered. If you do not receive the e-mail, please login to the Web application site by the day before the examination, print the card out on an A4 paper, single-sided in color, and bring this with you on the day of the examination.



## 6. How to Pay Entrance Examination Fee

(1) Entrance Examination Fee: 30,000 JPY

\*In addition to the application fee, a service charge (about 500 JPY) will be required.

(2) Payment Period (Japan Standard Time)

**November 6 to November 20, 2023**

(3) Payment Method

Please pay the entrance examination fee through one of the following methods.

See “**5. Online Application Flow**” for details.

- Credit card
- Internet banking
- Convenience Store
- ATM with Pay-easy

(4) Refunding of Entrance Examination Fee

We will not refund the paid entrance examination fee once the application documents have been received. However, we will refund the paid entrance examination fee if any of the following circumstances apply. Please note that any transfer fees required for the refund process will be deducted from the refunded amount.

- a) The entrance examination fee has been paid, but no application was made or the application was not accepted.
- b) The entrance examination fee has been paid twice.

**\*Entrance examination fee refunds will be done through bank transfer. If the refund is sent to an overseas bank account, the refunded amount will be greatly reduced, and it will take many days to complete the refund process, so please be careful when paying the entrance examination fee.**

For information on how to request a refund, please check the Nagoya University website (<http://www.nagoya-u.ac.jp/>) - Admissions - Graduate School Entrance Examination/Undergraduate Transfer Examination etc. - Regarding Entrance Examination Fees (in Japanese).

## 7. Examinations

(1) Submission of score sheets for foreign language (English) examination

(Applicants under requirement (7) or (8) must submit it.)

TOEFL or TOEIC or IELTS scores will be used as the means of assessment for the foreign language (English) examination.

Note: Applicants fulfilling requirements (1),(2),(3),(4),(5) or (6), are exempted.

### 1. Examination Method

Submit one TOEFL or TOEIC or IELTS score sheet. There will be no written examination. The score from either TOEFL or TOEIC or IELTS will be calculated using the following method, and will be adopted as your foreign language (English) score.

#### ■For TOEFL iBT

English score =  $50 + (\text{TOEFL iBT score} - 50) \times 5/3$  (converted scores of 100 points or higher will all be treated as 100 points)

#### ■For TOEFL iBT Home Edition

English score =  $50 + (\text{TOEFL iBT Home Edition score} - 50) \times 5/3$  (converted scores of 100 points or higher will all be treated as 100 points)

■ For TOEFL ITP

English score = TOEFL ITP score  $\times$  0.34 – 108 (converted scores of 100 points or higher will all be treated as 100 points)

■ For TOEIC

English score = TOEIC score / 10 (converted scores of 80 points or higher will all be treated as 80 points)

■ For TOEIC-IP

English score = TOEIC-IP score / 10 (converted scores of 80 points or higher will all be treated as 80 points)

\*TOEIC-IP Online is not available.

■ For IELTS(Academic Module)

English Score = 100 for IELTS Overall Band Score of 6.0 or higher, 82 for 5.5, 68 for 5.0

\* Any converted score of less than 60 points will count as a failing score. In this case, please be aware that the application fee is still non-refundable.

## 2. Eligible scores

Scores from the following can be submitted: TOEFL-iBT, TOEFL iBT Home Edition, TOEFL-ITP, TOEIC (limited to Listening & Reading Test), TOEIC-IP (limited to Listening & Reading test) or IELTS(Academic Module). International applicants who have TOEFL-PBT scores should consult the Student Affairs Section before submitting documents.

## 3. Submission of score sheet

Score sheets must be submitted during the application period. **(Submissions after the application period will not be accepted. Note that score sheets may not be changed after submission, without exception.)**

■ If you submit a score sheet from TOEFL iBT or TOEFL iBT Home Edition.

Please submit both (1) and (2) below.

If either (1) or (2) is not received by the application period, the score sheet will be deemed not to have been submitted.

(1) Official Score: "Institutional Score Report" or "Official Score Report"

(2) A copy of the "Test Taker (Examinee) Score Report" that is sent to the examinee.

Please note the following points when submitting the score sheets.

1) For the "Institutional Score Report" or the "Official Score Report", please be sure to complete the designated procedures so that the reports can be sent from the ETS to Nagoya University within the application period (When making the procedures, please designate the appropriate Nagoya University's Institution Code "0312" and the Department Code. If there is no appropriate Department Code, designate "99".) Note that after the TOEFL examination, it takes about 6 to 8 weeks for the "Institutional Score Report" or "Official Score Report" to reach the designated recipient. There may be delays in arrival, so please take the TOEFL examination well ahead of time.

2) If you submit the "Institutional Score Report", use only the "Test Date Scores". (You may not use My Best Score.)

3) Please submit a copy of the "Test Taker (Examinee) Score Report" with the application documents.

■ If you submit a score sheet from TOEFL ITP

Please submit an original of the "Test Taker's Copy of Score Report (light purple card)" with the application documents.

- If you submit a score sheet from TOEIC  
Please submit an original of the "Official Score Certificate" with the application documents.  
If using a digital official certificate, submit a printout of the PDF.
- If you submit a score sheet from TOEIC-IP  
Please submit an original of the "Score Report" with the application documents.  
\*TOEIC-IP Online scores are not available.
- If you submit a score sheet from IELTS (Academic Module)  
Please submit an original of the "Test Report Form" with the application documents.

#### 4. Period of validity of score sheets

Tests from 2 years before the entrance examination (i.e. January 4, 2022, or later) to those for which results can be submitted by the application deadline are valid.

Please note that TOEIC "Official Score Certificate" will not be returned.

#### (2) Oral examination

Date: January 4, 2024 Time: one and half hours during 10:00 to 17:00

(or Date: January 5, 2024 Time: one and half hours during 9:00 to 12:00)

(Details will be notified on January 4)

Matter of Oral Examination

Fundamental knowledge in the target academic area in which the applicant wishes to study, research plan, master's thesis, etc., and proficiency of foreign language (English)

#### (3) Place of Examination

Graduate School of Bioagricultural Sciences, Nagoya University (School of Agricultural Sciences)  
500m eastward from the city bus stop "Nagoyadaigaku" or the subway station "Nagoyadaigaku",  
or 500m southward from the subway station "Higashiyama-koen"

## 8. Announcement of examination results

(1) Time/Date: around 10:00 a.m. (JST), January 9, 2024

(2) Place: Graduate School of Bioagricultural Science website: <https://www.agr.nagoya-u.ac.jp/>

NOTE: Successful applicants will also be notified by mail.

## 9. Enrollment Procedures

(1) Detailed enrollment procedures will be notified by mail beginning in March, 2024.

(2) Registration fee: 282,000 yen (expected)

(3) Tuition: 267,900 yen per semester (535,800 yen per year) (expected)

NOTE: In case of any revision in tuition, the new rate will be made effective on and after the date of revision.

(4) Registration date: The matriculation date is scheduled to be on March 15, 2024.

## 10. Notes

(1) Applicants cannot make any changes or ask for a refund after submitting the application form.

(2) Further notifications for the examination will be given on the notice board on the date of examination.  
Examinees must be seated in the examination room 20 minutes before the examination starts.

(3) The results of the entrance examination are to be disclosed to those who have failed this entrance

examination. Requests should be made within 2 weeks to 2 months after the examination. For more information, please send an e-mail to (kyomu@agr.nagoya-u.ac.jp).

(4) For applicants with disabilities or other special needs

Applicants with disabilities or other special needs that require reasonable accommodations and adjustments for taking the entrance examinations due to their disabilities or other special needs should submit the following documents to the Student Affairs Section, Graduate School of Bioagricultural Sciences, Nagoya University by October 27, 2023.

- 1) Application form for reasonable accommodations or adjustments: On A4 size paper in the format of your choice, please provide information regarding the condition of your disabilities or other special needs, which specific accommodations and adjustments are required for you to take the entrance exam and why they are necessary.
- 2) Medical certificate, any certificates of your disability (e.g., “Shogaisya-techo” in Japan), etc.: Applicants must submit Medical Certificates or other alternative documentation that provides detailed information regarding the limitation on a major life activities caused by the disabilities or other special needs, and provides sufficient justification for the requested accommodations or adjustments. (Copies acceptable)
- 3) Third Party Statements: Applicants must obtain and submit statements from third parties that are familiar with the applicant's disabilities or special needs and can attest to the resulting limitation on a major life activities and required accommodations. (Observations and opinions from medical professionals, relevant faculty from the applicant's school, and other specialists)
- 4) Other Documents: Applicants may, if desired, submit additional documentation providing additional information regarding their disabilities or other special needs and the recommended accommodations or adjustments.

For inquiries regarding reasonable accommodations or adjustments for taking the entrance examination or while attending Nagoya University, please feel free to contact the Student Affairs Section, Graduate School of Bioagricultural Sciences, Nagoya University by the application deadline.

## 11. Others

For more information on the examinations, ask:

\*Please be sure to email us.

Student Affairs Section, Graduate School of Bioagricultural Sciences, Nagoya University  
Furo-cho, Chikusa-ku, Nagoya 464-8601  
E-mail: kyomu@agr.nagoya-u.ac.jp  
<https://www.agr.nagoya-u.ac.jp>

## Candidates Applying under Requirement (7)

### 1. Requirements for applicants

By the day prior to the day of enrollment, applicants must have graduated from a university, followed by research for at least 2 years at a research institute. Applicants must also have published research papers, books, made research presentations, or hold patents recognized as the equivalent of a master's thesis or above.

### 2. Application for Certificate of Approval as Eligible Applicant.

Applicants under Requirement (7) must either submit or mail the following documents ①~⑨ by or on October 6, 2023 to the Student Affairs Section, Graduate School of Bioagricultural Sciences, Nagoya University. The set of documents, if mailed, should have "Application for Certificate of Approval as Eligible Applicant." written in red ink on the envelope, and be sent by registered mail.

Applicants will be notified of the results after November 3, 2023.

Documents required:

- ① Application Form for the application under Requirement (7)  
Download and fill out the prescribed form from the Graduate School website.
- ② Certificate of graduation from a university
- ③ Summary of research results.  
Download and fill out the prescribed form from the Graduate School website. It should be written in the format of a research paper and be approx. 4,000 Japanese characters in length (1,500 words if in English).
- ④ Bibliography  
Download and fill out the prescribed form from the Graduate School website.
- ⑤ Certificate of academic background  
Download and fill out the prescribed form from the Graduate School website. The form should be signed by the head or other proper authority at the applicant's affiliated institution.
- ⑥ Letter of recommendation  
To be written by the head or other proper authority at the applicant's affiliated institution.  
Download and fill out the prescribed form from the Graduate School website.
- ⑦ A copy of research papers, books, research presentations, or patents, etc.
- ⑧ Personal History for Foreign Applicants  
Download and fill out the prescribed form from the Graduate School website (only required for those who do not possess Japanese citizenship).
- ⑨ A return envelope to receive results of the application. Enclose a self-addressed envelope (12×23 cm) with a 374 JPY stamp affixed.  
(If the applicant resides overseas, please enclose a sufficient International Reply Coupon (IRC) to cover the required return postage.)

### 3. Application Procedures

The candidates approved as Eligible Applicants must submit the set of documents specified on "4. Required documents for application" to the Student Affairs Section, Graduate School of Bioagricultural Sciences, Nagoya University, from November 20 to November 24, 2023. Applications can also be sent by mail to our office. (See "3. Application Periods and Procedures" for details.)

## Candidates Applying under Requirement (8)

### 1. Requirements for applicants

Applicants must be recognized by the Graduate School of Bioagricultural Sciences, Nagoya University to be equivalent in academic level to a graduate student with a master's degree or a professional degree, and must reach 24 years old by the day prior to the day of enrollment.

\* Applicants who have graduated from any school in China must ask the Student Affairs Section, Graduate School of Bioagricultural Sciences for details.

### 2. Application for Certificate of Approval as Eligible Applicant.

Applicants under Requirement (8) must either submit or mail the following documents by or on October 6, 2023 to the Student Affairs Section, Graduate School of Bioagricultural Sciences, Nagoya University. The set of documents, if mailed, should have "Application for Certificate of Approval as Eligible Applicant." written in red ink on the envelope, and be sent by registered mail.

Applicants will be notified of the results after November 3, 2023.

Documents required:

① Application Form for the application under Requirement (8)

NOTE: Download and fill out the prescribed form from the Graduate School website.

② Reference material showing that the applicant is equivalent in academic level to a graduate student with a master's degree or a professional degree;

\*Submit one or more relevant materials listed below. For example: 1) or 3)

1) Applicants who have graduated or will be graduating from a junior college, technical college, special school or other school:

- Diploma or certificate of graduation/ expected graduation
- Official transcript (academic record)
- Syllabus

2) Applicants who have technical/ professional career:

- Certificate of employment, specifying its period and matter of tasks, and report of his/her career achievements prepared by the applicant (form not specified).

3) Applicants with academic work:

- Certificate of academic background

Note: Download and fill out the prescribed form from the Graduate School website. The form should be signed by the applicant's academic advisor or other proper authority.

- Bibliography

Note: Download and fill out the prescribed form from the Graduate School website.

- Summary of research results

Note: It should be made up in paper style by the applicant, with approx. 4,000 characters in Japanese (1,500 words in English). Download and fill out the prescribed form from the Graduate School website.

4) Applicants with published research papers or books, research presentations, patents, etc.:

- Any reference material showing each

③ Others

- Any material for examination purposes (e.g.: Letter of recommendation)

④ Personal History for Foreign Applicants

Note: Download and fill out the prescribed form from the Graduate School website.



⑤ A return envelope to receive results of the application. Enclose a self-addressed envelope (12cm×23cm) with a 374 JPY stamp affixed.

(If the applicant resides overseas, please enclose a sufficient International Reply Coupon (IRC) to cover the required return postage.)

### **3. Application Procedures**

The candidates approved as Eligible Applicants must submit the set of documents specified on “**4. Required documents for application**” to the Student Affairs Section, Graduate School of Bioagricultural Sciences, Nagoya University, from November 20 to November 24, 2023. Applications can also be sent by mail to our office. (See “**3. Application Periods and Procedures**” for details.)

Admission Data for the Doctoral Program of Academic Year 2023 (Jan.2023)

| 専攻<br>Department   | 志願者数<br>Number of Applicants | 受験者数<br>Number of Examinees | 合格者数<br>Number of Successful Applicants |
|--|------------------------------|-----------------------------|---|
| 森林・環境資源科学専攻<br>Forest and Environmental Resources Sciences | 1 [0] (0)                    | 1 [0] (0)                   | 1 [0] (0)                               |
| 植物生産科学専攻<br>Plant Production Sciences                      | 5 [2] (3)                    | 5 [2] (2)                   | 4 [2] (2)                               |
| 動物科学専攻<br>Animal Sciences                                  | 1 [0] (1)                    | 1 [0] (1)                   | 0 [0] (0)                               |
| 応用生命科学<br>Applied Biosciences                              | 5 [1] (4)                    | 4 [1] (3)                   | 4 [1] (3)                               |
| 計<br>Total   | 12 [3] (8)                   | 11 [3] (6)                  | 9 [3] (5)                               |

注) [ ] : distinguished students who are holding a job

( ) : international students

## Laboratories, Areas of Research, and Staff

| Department                                     | Laboratory  | Area of Research   | Research Key Words  | Staff               |                     |   |                     |
|--|---|--|---|---------------------|---------------------|---|---------------------|
|  |   |  |   | Professor           | Associate Professor | Lecturer  | Assistant Professor |
| 1. Forest and Environmental Resources Sciences | 1. Resources Cycling in Pedosphere                  | Cycles of carbon, nitrogen, and trace elements in pedosphere and related environments. Chemical structure, function, and dynamics of soil organic matter, in particular humic substances.  | Soil organic matter, humic substances, black carbon, greenhouse gas, dissolved organic matter   | WATANABE, Akira     |                     |   |                     |
|  | 2. Plant-Soil Systems                               | Studies on nutrient dynamics in forest ecosystems. Our specific focus is to evaluate forest health by disentangling tripartite interactions among plant, soil, and microbes.   | biogeochemistry, coastal forests, forest soil science, Ground penetrating radar, plantation forests   |                     | TANIKAWA, Toko      |   |                     |
|  | 3. Forest Hydrology and Disaster Mitigation Science | Research for elucidating hydrological cycle, sediment dynamics, and disaster vulnerability of local community in regional and watershed scales. Research and its social implementation for sustainable resources management is included.   | hydrological processes in watersheds, biosphere-atmosphere interaction, human-nature interaction, disaster resilience and sediment dynamics | GOMI, Takashi       | TANAKA, Takafumi    |   | KOTANI, Ayumi       |
|  | 4. Forest Ecology                                   | Our laboratory covers a wide range of studies related to forest ecology, forest genetics, and forest ecophysiology. Especially structure, dynamics, and functions in forest communities. Also genetic diversity, reproductive ecology, ecophysiology, and dry matter production in tree populations. | Forest tree, Reproductive ecology, Population genomics, Molecular ecology, Conservation, Tropical forest                                    | TOMARU, Nobuhiro    | NAKAGAWA, Michiko   | OGAWA, Kazuharu (Scheduled to retire in March 2024) |                     |
|  | 5. Forest Protection                                | Forest entomology focusing on insect-fungus and insect-plant interactions. Forest ecosystem conservation based on the management of biological communities.  | Forest insects, Interactions among organisms, Forest pests, Arthropod communities, Forest microbes, Symbiosis                               | KAJIMURA, Hisashi   |                     | TOKI, Wataru  |                     |
|  | 6. Forest Resource Management                       | Research on development of cutting edge measurement technology of forest, construction of theory concerning forest resource management, development of future planning and evaluation method of forest management.   | Remote Sensing, GIS, Forest planning, Forest measurement, LiDAR   | YAMAMOTO, Kazukiyo  |                     |   |                     |
|  | 7. Forest Resources and Society                     | Studies on forest management policy for realizing both forest conservation and improvement of local livelihoods, forest certification, participatory forest management, community forestry and timber procurement strategies of enterprise   | Forest policy, National park, Community forestry, Ecotourism, Forest resource use   | HARADA, Kazuhiro    | IWANAGA, Seiji      |   |                     |
|  | 8. Forest Chemistry                                 | Organic chemical, biochemical, and analytical chemical studies on the formation process, structure, and advanced utilization of woody biomass.   | woody biomass, plant cell wall, lignin, chemistry   | FUKUSHIMA, Kazuhiko | AOKI, Dan           |   |                     |
|  | 9. Biomass Resource Utilization                     | Isolation and structural elucidation, biosynthesis, distribution and utilization of wood extractives.  | Wood extractives, Isolation and structural elucidation, Biosynthesis, Visualization, Chemical analysis                                      |                     | IMAI, Takanori      |   |                     |
|  | 10. Wood Physics                                    | Generation processes of growth stress and wood properties during tree growth, Growth and maturation of tropical plantation species, Analysis of reaction wood formation by molecular approach, Physical and mechanical properties of wood materials.   | Cell wall, cellulose, secondary growth, growth stress, plantation resources   | YAMAMOTO, Hiroyuki  | YOSHIDA, Masato     |   |                     |
|  | 11. Timber Engineering                              | Mechanical durability in structural use of wood and wood-based materials, Analysis of mechanical behavior in timber structure, Quality-of-material distribution and the plan for demand and supply of forest resources, Wood utilization in urban design.  | Timber engineering, Strength, Failure and fatigue, Woodutilization, Woodurbanism  | YAMASAKI, Mariko    |                     |   | ANDO, Kosei         |
|  | 12. System Engineering for Biology                  | Studies on nondestructive measurement system and data science for biological resources.  | Nondestructive measurement, Spectroscopy, Imaging analysis, Data science, Machine learning, Mechanical engineering                          | TSUCHIKAWA, Satoru  | INAGAKI, Tetsuya    |   |                     |

\*\*\* Designated Assistant Professor

(as of October 1, 2023)

## Laboratories, Areas of Research, and Staff

| Department                      | Laboratory   | Area of Research  | Research Key Words   | Staff                |                                  |   |   |
|---------------------------------|--|---|--|----------------------|----------------------------------|---|---|
|                                 |  |   |  | Professor            | Associate Professor              | Lecturer                                    | Assistant Professor                     |
| 2. Plant Production Sciences    | 13. Plant Physiology and Morphology  | Studies from both aspects of structure and function on functional differentiation of plant cells and tissues, and response and tolerance to environmental stresses.   | Rice, C4 plants, Photosynthesis, Salinity, Environmental stresses, Stress tolerance, Ultrastructure, Electron microscope                 | TANIGUCHI, Mitsutaka | MITSUYA, Shiro                   |   | OI, Takao                               |
|                                 | 14. Plant Genetics and Breeding  | Breeding, molecular genetical, molecular biological, and physiological researches related to the evolution, morphogenesis, development, and environmental stress tolerance of cultivated plant species.   | Crop plants (rice, maize, wheat and soybean), Abiotic stress tolerance, Flooding, Root, Panicle, Molecular genetics, Molecular breeding, | NAKAZONO, Mikio      | TAKAHASHI, Hirokazu              |   | AGATA, Ayumi                            |
|                                 | 15. Crop Science   | Physiological and ecological studies on crop production: nutrient acquisition and growth response to environment.   | Crop productivity, Environmental stress, Nutrient acquisition, Sink-source relationship, Symbiosis                                       | KONDO, Motohiko      | YANO, Katsuya                    | SUGIURA, Daisuke                            |   |
|                                 | 16. Horticultural Science  | Physiological, biochemical, and molecular biological approaches to clarify the characteristics and growth of horticultural crops, i.e. flowers, vegetables, and fruit trees, to improve their quality and productivity.   | Horticultural crops, Molecular breeding, Genome editing, Multi-omics, Metabolomics and metabolic engineering                             |                      | SHIRATAKE, Katsuhiko             |   |   |
|                                 | 17. Plant Pathology  | Physiological, biochemical and molecular-biological researches on defense mechanisms of plants against plant pathogens, and interactions of plant pathogens and beneficial environmental microorganisms with host plants. Development of biocontrol measures and understanding of its mechanisms. | Plant disease resistance, Elicitor, Plant-associated microbes, Plant and Fungal viruses, Biological control                              |                      | TAKEMOTO, Daigo<br>CHIBA, Sotaro |   | SATO, Ikuo                              |
|                                 | 18. Plant Immunology   | Studies on the molecular mechanisms of plant immune response in plant-pathogen interactions. Development of a plant vaccine based on the mechanisms.  | NADPH oxidase, ROS burst, MAP kinase, Plant immunity, Plant pathology  |                      | YOSHIOKA, Hirofumi               |   |   |
|                                 | 19. Information Sciences in Agricultural Lands   | Studies to improve agricultural production by analyzing information from field (crop DNA sequences, morphology, physiological characteristics, yield, soil, environment, etc.) by means of informatics/ data science  | Agricultural informatics, Soil and rhizosphere microbiome, Genetic diversity, Breeding, Field informatics                                | MURASE, Jun          | DOI, Kazuyuki                    |   | NISHIUCHI, Shunsaku<br>SAWADA, Kozue*** |
|                                 | 20. Food Economics   | Socioeconomic studies on food system, regional resource management and multifunctional roles of agriculture.  | Agricultural Economics, Farm Management, Rural Resource Management, Food System  | TOKUDA, Hiromi       | TAKESHITA, Hironobu              |   | MIURA, Satoshi                          |
|                                 | 21. Plant Gene Function  | Studies on plant gene function and its application.   | Rice, Stem elongation, Water tolerance, Molecular breeding   | ASHIKARI, Motoyuki   |                                  |   | NAGAI, Keisuke                          |
|                                 | 22. Developmental and Systems Plant Biology  | Studies on genomic information for development of useful traits of rice and creation of novel plant regulators.   | Rice, QTL, GWAS, GA, Structural biology  | TSUJI, Hiroyuki      | YAMAUCHI, Takaki                 |   |   |
|                                 | 23. Plant Genomics and Breeding  | Study on plant genomics and breeding to solve various problems of modern society, i.e. environment, energy, food problems, etc.   | sorghum, energy crop, QTL, GWAS, heterosis   | SAZUKA, Takashi      |                                  |   | OKADA, Satoshi                          |
|                                 | 24. Bioindustry<br>*No applications  | Studies on plant grafting and systemic signaling in plants to improve plant resources for future sustainability.  | Grafting, long distance signaling in plants, micro devices for plant science, GA, Structural biology                                     | NOTAGUCHI, Michitaka |                                  | KUROTANI, Kenichi**<br>KASAHARA, Ryushiro** |   |
|                                 | 25. Tropical Bioresources  | Exploring and evaluating the traits of tropical plant resources for sustainable agricultural development in the tropics responding to diversification of food demand and climate change.  | Crops (Sago palm, Rice, Cowpea), Cultivation technique, Environmental stress,  | EHARA, Hiroshi       |                                  |   | NAKATA, Mana                            |
|                                 | 26. Genetic Information for Bioresources   | Aiming at stable crop production under climate change, we conduct research on the extraction and utilization of genetic information related to useful traits from bioresources.   | Genetics, Breeding, Rice, Abiotic stress, Stress avoidance   | INUKAI, Yoshiaki     |                                  |   |   |
| 27. Practical Studies in Africa | Research on environmental response of crop genetic resources and cultivation technology development for improving and stabilising crop production in Africa. | Africa, Crop, Cultivation technology, Practical study, Rice   |  | MAKIHARA, Daigo      |                                  |   |   |
| 28. Practical Studies in Asia   | Studies on agriculture and rural development including natural resources management in Asia for better livelihoods, poverty reduction and food security.     | International Cooperation Official Development Assistance Agricultural and rural development  |  | ITO, Kasumi          |                                  |   |   |

\*\*Designated Lecturer

\*\*\* Designated Assistant Professor

(as of October 1, 2023)

## Laboratories, Areas of Research, and Staff

| Department             | Laboratory   | Area of Research  | Research Key Words   | Staff               |                                      |                |   |
|------------------------|--|---|--|---------------------|--------------------------------------|----------------|---|
|                        |  |   |  | Professor           | Associate Professor                  | Lecturer       | Assistant Professor                                       |
| 3. Animal Sciences     | 29. Animal Genetics and Breeding   | Studies on the genetic basis of qualitative and quantitative traits in mammals and birds; evolutionary genetics research of animals using genetic engineering such as genome editing; evaluation, conservation and utilization of animal genetic resources; and development of new laboratory animal models for human disease and biological functions. | qualitative (Mendelian) traits, quantitative traits, evolutionary genetics, developmental animal genetic engineering, livestock resources, poultry, laboratory animal models | SUMIYAMA, Kentaro   | ISHIKAWA, Akira                      |                | YAMAGATA, Takahiro  |
|                        | 30. Genome and Epigenome Dynamics  | Epigenetic regulatory systems for transposons and genes in vertebrates. Epigenome regulation during germ cell development. Genome-epigenome interactions during evolution. Mechanism of cancer cell growth inhibition by activation of transposons.   | Epigenetics, Germ Cells, iPS cells, Transposable elements, Transgenerational Inheritance, Diabetes, Cancer   | ICHIYANAGI Kenji    |                                      |                | OHTANI, Hitoshi   |
|                        | 31. Animal Morphology  | Formation and deformation of the traits in vertebrates. Viral endogenization and the roles of the viral-derived element in vertebrates. Transgenerational epigenetic inheritance (TEI).   | morphology, molecular genetics, reproductive system, Vertebrates   | HONDO, Eiichi       |                                      |                | IIDA, Atsuo   |
|                        | 32. Animal Integrative Physiology  | Understanding the regulatory mechanisms of circadian and seasonal rhythms in vertebrates. Development of transformative bio-molecules that improve animal production and human health. Studies on physiological regulation of gene expression and release of growth factors in birds.   | Seasonal Rhythm, Circadian Rhythm, Growth Hormone, Comparative Biology, Chemical Biology   | YOSHIMURA, Takashi  | OHKAWA, Taeko                        | KON, Naohiro** | TSUKADA, Akira<br>NAKAYAMA, Tomoya***<br>CHEN, Junfeng*** |
|                        | 33. Animal Reproduction  | Basic studies on the neuroendocrinological mechanism regulating animal reproduction and its application to animal production and drug discovery.  | Gonadotropins, GnRH, Kisspeptin, Gonads, Brain, Neuroendocrinology   | TSUKAMURA, Hiroko   | UENOYAMA, Yoshihisa<br>INOUE, Naoko  |                |   |
|                        | 34. Animal Nutrition   | Studies on the metabolic properties of nutrients (amino acids and vitamin C etc.) and their physiological functions in avian and mammalian species. Analysis of the uptake mechanism of biomolecules into avian eggs and its application to production of valuable protein.   | Nutritional factors, Animal disease model, Metabolic diseases, Fatty liver, Egg production   | MURAI, Atsushi      |                                      |                | FURUKAWA, Kyohei  |
|                        | 35. Animal Production Science  | Studies on regulatory mechanism of physiological functions in ruminants and its utilization for animal production.  | Reproduction, GnRH, Uterine function, Ovarian activity, Heat stress  | OHKURA, Satoshi     | MATSUYAMA, Shuichi<br>NAKAMURA, Sho* |                |   |
|                        | 36. Avian Bioscience   | Functional genomics-based identification of genes that control useful phenotypes of birds. Production of genetically manipulated birds for model animals and industrial use.  | Animal model, Genetic resource, Biopharmaceutical production   | NISHIJIMA, Ken-ichi |                                      |                | OKUZAKI, Yuya   |
|                        | 37. Fish Biology   | Morphological, physiological, and behavioral studies of the brain, sensory receptors, motor systems, and peptidergic neurons in aquatic animals.  | fish, nervous system, sensorimotor circuit, peptidergic neurons, behavior  | YAMAMOTO, Naoyuki   | ABE, Hideki                          |                | GOTO, Maki<br>HAGIO, Hanako***                            |
|                        | 38. Sericulture and Entomoresources  | Molecular mechanisms of baculovirus infection, baculovirus-host interaction and antiviral responses in insects.   | Insect pathology, Baculovirus infection, Antiviral response, Host range determination  | IKEDA, Motoko       |                                      |                | HAMAJIMA, Rina  |
| 39. Applied Entomology | Studies on the development of insect pest management methodology via physiological and molecular approaches. | Insect hormone and pest management  |  | MINAKUCHI, Chieka   |                                      |                |   |

\* Designated Associate Professor

\*\* Designated Lecturer

\*\*\* Designated Assistant Professor

(as of October 1, 2023)

## Laboratories, Areas of Research, and Staff

| Department                  | Laboratory   | Area of Research  | Research Key Words   | Staff             |                         |                              |                     |
|-----------------------------|--|---|--|-------------------|-------------------------|------------------------------|---------------------|
|                             |  |   |  | Professor         | Associate Professor     | Lecturer                     | Assistant Professor |
| 4. Applied Biosciences      | 40. Organic Chemistry  | Bioorganic studies on naturally occurring organic molecules possessing novel structure and biological activity: development of new synthetic methodologies, total synthesis of natural products, elucidation and control of the biofunctions.   | organic synthesis, natural products, chemical biology, molecular design  | NISHIKAWA, Toshio |                         |                              | MIYASAKA, Tadachika |
|                             | 41. Bioactive Molecules  | Studies on identification, action mechanism, and application of bioactive molecules produced by plants and microorganisms. Mechanistic analysis and application of carbohydrate-binding small molecules.  | natural products, antibiotics, carbohydrates, peptides   |                   | NAKAGAWA, Yu            | KONDO, Tatsuhiko             |                     |
|                             | 42. Chemical Biology of Natural Products   | Isolation, structure determination, synthesis, biosynthesis, and modes of action of bioactive natural products that regulate biologically and physiologically intriguing phenomena. Anesthetic substances from venomous mammals, and key substances for marine symbiotic relationships. Development of new analytical methods for target molecules using fluorescent probes.  | natural products, chemical biology, chemical probe, mode of action, toxins, symbiosis  | KITA, Masaki      | TSUNEMATSU, Yuta        |                              |                     |
|                             | 43. Polymer Chemistry  | Studies on controlled syntheses and functions of biomaterials and medical polymers including artificial glycoconjugates, bifunctional polymers and environmentally friendly synthetic polymers.   | Biomaterials, Biopolymers, Functional Polymers, Polymer Synthesis, Organic Synthesis   | AOI, Keigo        | NOMURA, Nobuyoshi       |                              |                     |
|                             | 44. Applied Enzymology   | Mechanistic enzymology of flavin and pyridoxal enzymes. Physiological function of isoprenoid, amino acids, and vitamins. Microbial and enzymatic production of useful substances. Lipid biosynthesis in Archaea.  | enzyme, isoprenoid, archaea, D-amino acid, pyridoxal phosphate   | HEMMI, Hisashi    | ITO, Tomokazu           |                              |                     |
|                             | 45. Molecular Biotechnology  | Molecular bioengineering for novel biomolecules, bioprocesses and analytical processes. Currently, novel monoclonal antibody screening, single molecule technology for protein engineering, and the mechanism of translation-enhancing peptide are major research topics.   | Bioinformatics, Enzyme engineering, Protein Engineering, Antibody Engineering, Next Generation Sequencing, High-throughput Screening | NAKANO, Hideo     |                         | DAMNJANOVIC, Jasmina         | KATO, Teruyo        |
|                             | 46. Soil Biology and Chemistry   | Studies on the microbial population, and the chemical and biological processes occurring in the paddy field ecosystem.  | Agricultural land, Biogeochemical cycles, Microbial ecology, Microbial physiology, Microbial taxonomy                                | ASAKAWA, Susumu   | WATANABE, Takeshi       |                              |                     |
|                             | 47. Applied Microbiology   | Molecular and chemical genetic studies on gene regulation of agriculturally and industrially important microorganisms, especially filamentous fungi.  | Filamentous fungi, Food microbiology, Polysaccharide-degrading enzymes, Transcriptional regulation, Secondary metabolites            | KIMURA, Makoto    |                         |                              | MAEDA, Kazuyuki     |
|                             | 48. Food and Biodynamics   | Chemical biology of electrophilic ligands, such as lipid peroxidation products and functional food molecules.   | Oxidative stress, Covalent modification of proteins, Functional foods, Lifestyle-related diseases, Extracellular vesicles            | SHIBATA, Takahiro |                         |                              | NAKASHIMA, Fumie    |
|                             | 49. Molecular and Cellular Regulation  | Biochemical and molecular cell biological studies on signal transduction, intracellular traffic, gene expression regulation in animal cell differentiation, growth and cell death.  | Ca <sup>2+</sup> -binding proteins, Cell death, Cell growth, Membrane traffic, Molecular interactions                                |                   | SHIBATA, Hideki         | TAKAHARA, Terunao            |                     |
|                             | 50. Molecular Bioregulation  | Biochemistry and molecular cell biology on the biosynthesis and dynamics of proteins, nucleic acids and their complexes in mammals, and on the functions and regulations of these molecules in living organisms, including cell proliferation and tissue differentiation. Specifically, we are studying mammary gland development and milk synthesis, translational control including ribosomes, and the epithelial responses to bioactive factors. | Mammary gland, Milk, Ribosome, Epithelial cell   |                   | NADANO, Daita           |                              | OHSHIMA, Kenji      |
|                             | 51. Glyco-Life Science   | Interdisciplinary studies between bioagricultural, medicinal, and pharmaceutical sciences on regulatory mechanisms for glycans-involved phenomena to attain better health, environment, and food  | Glycocalyx, glycans, glycosyltransferase, glycosidase, immune system, neural system  | SATO, Chihiro     |                         |                              | HANE, Masaya        |
|                             | 52. Animal Cell Function   | Studies on impacts of metabolic changes of glycans in proteins and lipids at the organism level, using medaka models and their integrated omics including glycomics.  | Glycobiology, Sialic acid metabolism, Membrane microdomain, Reverse genetics of Medaka, Glycomics, Glycoproteomics                   | KITAJIMA, Ken     |                         |                              | WU, Di              |
|                             | 53. Animal Cell Physiology   | Studies on functions of extracellular matrix, transporter proteins, and signal transduction.  | Bone, Heart, Molecular Biology, Electrophysiology, Imaging   |                   | MATURANA, Andrés Daniel | NIIMI, Tomoaki               |                     |
|                             | 54. Nutritional Biochemistry   | Nutritional regulation of enzyme and gene expression in mammals. Molecular mechanisms for hepatocyte differentiation in 3-dimensional culture systems. Physiological significance of liver circadian rhythm. Metabolism and physiological functions of branched-chain amino acids.  | Gene expression, Liver clock, Branched-chain amino acids (BCAA), Muscle  |                   | ODA, Hiroaki            | KITaura, Yasuyuki            |                     |
| 55. Alimentary Neuroscience | Omnivorous animals including human evaluate and select specific foods among several candidates before consumption. Our goal is the identification of the neural mechanism for food choice. | Brain, Gustatory, Food preference, Appetite   | NAKAJIMA, Ken-ichiro   |                   |                         | RATTANAJEARAKU L, Nawarat*** |                     |

|                                       |  |   |                     |                                  |   |  |
|---------------------------------------|--|---|---------------------|----------------------------------|---|--|
| 56. Plant Signaling                   | Studies on molecular mechanisms underlying optimization of plant growth and development in response to environmental cues with focusing on phytohormone function.  | Nutritional response, Plant hormones, Growth regulation, Nitrogen, Iron   | SAKAKIBARA, Hitoshi | KIBA Takatoshi                   | TABATA, Ryo**<br>HASHIMOTO-SUGIMOTO, Mimi | BELLEGARDE, Fanny***                                     |
| 57. Biochemistry                      | Biochemical, molecular genetic, and microscopic studies on regulatory mechanisms of development of plant organs such as flowers, pollen grains, and roots. Studies on molecular functions and regulation of membrane proteins that support photosynthesis and inorganic nutrient assimilation in plants and cyanobacteria. | Flower development and anthesis, Pollen morphology, Meristem organization, Jasmonic acid, Transcription factors, Membrane transporter   |                     | ISHIGURO, Sumie                  |   | MAEO, Kenichiro<br>MAEDA, Shin-ichi<br>NAKANISHI, Yoichi |
| 58. Molecular and Functional Genomics | Biochemical, cellular and genetic studies on molecular mechanisms of chlorophyll biosynthesis, nitrogen fixation, circadian rhythm and phytohormone signal transduction in cyanobacteria and plants.   | Cyanobacteria, Chlorophyll biosynthesis, Nitrogen fixation, Plants, Circadian clock, Plant hormone signal transduction, Gene regulation | FUJITA, Yuichi      | YAMASHINO, Takafumi              |   | YAMAMOTO, Haruki   |
| 59. Plant Cell Function               | Molecular mechanisms of plant growth and development, and their regulation in response to environmental signals. Studies on the construction of artificial membrane-less organelles in plant cells.  | meristem, endosperm, stress, seed dormancy, jasmonic acid, membraneless organelles  |                     | UEGUCHI, Chiharu<br>TAKEDA, Shin |   |  |
| 60. Plant Integrative Physiology      | Understanding plant circadian rhythms and seasonal behaviors with multi-omics approaches. Improvement of plant biomass and productivity by controlling key genes for circadian and seasonal behaviors.   | Plant circadian clock, Transcriptional network, Bioactive small molecules.  | NAKAMICHI, Norihito |                                  |   | MURANAKA, Tomoaki  |
| 61. Plant Metabolic System            | Studies on biological functions and regulatory mechanism of plant metabolism.  | amino acids, environmental stress, mathematical modelling, metabolome, specialized metabolites  | HIRAI, Masami       |                                  |   |  |
| 62. Metabolic Balance of Ecosystem    | Methodology development of analysis of metabolic balance of ecosystem and its application to applied sciences.   | homeostasis, environmental analysis, complexity, NMR, data science, machine learning  | KIKUCHI, Jun        |                                  |   |  |

\*\*Designated Lecturer

\*\*\*Designated Assistant Professor

(as of October 1, 2023)