

佐賀大学大学院農学研究科  
国際人材育成プログラム  
修士課程（外国人留学生一在外）  
学生募集要項

**Post-graduate Program for  
Global Human-resources Development (PPGHD)  
in Graduate School of Agriculture, Saga University**

**( Master Course )**

**2023**

**Guide for the Application for  
the Foreign Students**

Application Deadline: June 5, 2023

Academic Year Start: October 1, 2023

Graduate School of Agriculture  
SAGA UNIVERSITY

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**Post-graduate Program for  
Global Human-resources Development (PPGHD)  
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## **Guide for the Application for the Foreign Students of Post-graduate Program for Global Human-resources Development(PPGHD) in Graduate School of Agriculture, Saga University**

The Post-graduate Program for Global Human-resources Development (PPGHD) in Graduate School of Agriculture provides all lectures, seminars, and internships in English for foreign students. The PPGHD is an educational course in the Graduate School of Agriculture, Saga University, in order to bring up global researchers and/or engineers who will contribute to the agricultural sciences. This is a call for application to a two-year Master Course starting from October 1, 2023.

Education and research in agricultural sciences should be conducted from comprehensive and global viewpoints. Expertise on agriculture is important for the production of food and biological resources. The synthesis of agricultural expertise is indispensable for understanding and solving the problems posed by the impact of human activities on the global environment and on all living things, including humans. This special course is geared to international students, so that they will be able to acquire agricultural knowledge and enhance their ability of logical thinking, in the hope that their knowledge and ability will be useful for generating clear insights on agricultural issues from comprehensive global viewpoints after they return to home countries.

In the Master Course program of the PPGHD, education and research guidance of the fields are given by the department of Biological Resource Sciences in the Graduate School of Agriculture. Applicants should decide the research fields and choose prospective relevant supervisor(s) appearing on the List of Academic Staffs.

Students who complete the Master Course program of the PPGHD are granted the degree of Master of Agriculture. The month of entrance is October 1, 2023 and the applicants can enter the PPGHD course after completing their Bachelor Course program in their country.

### **Qualifications**

1. **Nationality:** Non-Japanese citizens can apply for this program.
2. **Academic carrier:** The following candidates may apply for admission.
  - a. Those who have received Bachelor's Degree from Japanese University as of September 30, 2023.
  - b. Those who have received Bachelor's Degree after completing 16 years course of school education in foreign country, or will receive it as of September 30, 2023.
  - c. Those who have completed 16 years course of school education of foreign country in Japan through correspondence education of a foreign school, or will complete the course as of September 30, 2023.
  - d. Those who have completed 16 years course of school education of foreign country at educational institutions of the foreign country in Japan, which is designated by the Minister of Education, Culture, Sports, Science and Technology of the Japanese Government, or will complete the course as of September 30, 2023.
  - e. Those who have completed 15 years course of school education in foreign country, and been admitted by the Graduate School of Agriculture, Saga University to obtain sufficient credits with excellent score.
  - f. Those who have successfully completed the course that Minister of Education, Culture, Sports, Science and Technology of the Japanese Government appoints particularly among a specialized course of a special vocational school (it is limited to the course whose years required for graduation are more than 4 and that satisfies the other standards that Minister of Education, Culture, Sports, Science and Technology of the Japanese Government establishes.) after the day that Minister of Education, Culture, Sports, Science and Technology of the Japanese Government establishes.
  - g. Those who have been designated by the Minister of Education, Culture, Sports, Science and Technology of the Japanese Government.

- h. Those who are 22 years old or more as of September 30, 2023, and are admitted by the Graduate School of Saga University as that their academic abilities are equivalent to or higher than Bachelor's Degree of Japanese Universities upon reviewing the submitted materials.
  - \* Those who intend to apply based on the terms e, f, g, or h should submit the application form to the Entrance Examination Office of Saga University one month earlier than the application deadline.
- 3. **Language proficiency:** A good working level of English is required.
- 4. **Arrival in Japan:** Applicants should arrive in Japan by September 30, 2023, if admitted.

### Tuition expenses

1. **Entrance examination fee:** 30,000 yen.
2. **Entrance fee:** 282,000 yen (scheduled)
3. **Tuition fee:** 267,900 yen for each semester (scheduled). [535,800 yen per academic year (scheduled).] Amount of due might be slightly revised depending on the decision of the administration council. Payments must be done for each semester biannually within the beginning two months of the semester.

### Selection

1. Applicants who have excellent record will take an interview or an internet interview by their desired Advisory Professor (Supervisor) after all-round judgment of submitted papers.
2. Applicants shall be examined by the Screening Committee of the PPGHD. Only those who have a solid academic background, research capability and commitment are selected as a successful candidate.
3. The final results of selection will be informed in the middle of July, 2023.
4. A few number of students can be admitted.

### Admission

1. Date of enrollment is October 1, 2023.
2. Date of registration for admission: September 19 to September 26, 2023. If the applicant does not register on these days, his/her admission shall be canceled.
3. Admission shall be canceled if the applicant fails to receive the Bachelor's Degree on or before September 30, 2023.

### Application

1. Applicants should prepare the following documents to be forwarded to the Dean of the Graduate School of Agriculture, Saga University.
  - ① Application Form (Form A).
  - ② Field of Study and Study Program (Form B)
  - ③ Official transcript of Bachelor's degree or certificate representing that the applicant will be conferred Bachelor's degree by September 30, 2023. The transcript or certificate must be sealed by the authority or sent directly from the college.
  - ④ Transcripts of **Academic Record** issued by university authorities and its English translation.
  - ⑤ English summary of **Bachelor's Thesis** or it's equivalent if available, not exceeding four sheets of A4 size paper typed in double space. If a Bachelor's Thesis is not required by the University from which the applicant graduated, prepare a statement to this matter.
  - ⑥ Certificate of **Citizenship** issued by appropriate authorities.
  - ⑦ **Recommendation and Reference**
    - a. A letter of **Recommendation** (Form C) from the head of the applicant's affiliated institution.
    - b. Letter(s) of **Reference** from those who know the applicant's research/study capability should be addressed to the Dean of the Graduate School of Agriculture, Saga University.

The letters of recommendation and reference(s) should indicate the English proficiency of the applicant. Enclose, therein, a certificate indicating the scores of TOEFL or a corresponding English Ability Test, if any.

- ⑧ **Three Photographs** (hatless portrait), 4.5 cm × 3.5 cm in size, taken within six months before the date of application. Two copies should be attached to the application form. One extra copy should be enclosed therein, with the applicant's name and nationality on the reverse side of the copies.
  - ⑨ **Entrance Examination Fee:** 30,000 yen. The entrance examination fee should be transferred as a postal money order at post office, or send as a check (US dollar) to Entrance Examination Office of Saga University. Note that in the case of a check, if amount of exchanged Japanese yen was below 30,000 Yen, the check cannot be received by Entrance Examination Office of Saga University.
2. All documents should be sent by registered mail and received by the Entrance Examination Office by **June 5, 2023**.

### Remarks

1. The above documents should be type-written in English on A4 size paper.
2. Incomplete documents are not acceptable.
3. Applicants are advised to choose their desired Advisory Professor (Supervisor), and to indicate the supervisor's name on the application form (Form A).
4. None of the documents submitted is returned to the applicant in any case.

### Notes

1. The applicant will be deprived his/her entrance under the following cases:
  - a. False statements on the documents.
  - b. Violation of the pledge.
2. Applicants are recommended to be well acquainted with the Japanese language, culture, customs, etc. A knowledge of the Japanese language is necessary in daily life.
3. Applicants are expected to complete their Master Course Program within two years.

### Correspondence

Any correspondence relating to the application for the PPGHD should be sent by mail to the address below.

**Entrance Examination Office**  
**Saga University**  
**1 Honjo-machi**  
**Saga 840-8502, Japan**  
**E-mail: [contact@mail.admin.saga-u.ac.jp](mailto:contact@mail.admin.saga-u.ac.jp)**

# ACADEMIC STAFFS ATTENDING PPGHD, AND THEIR MAJOR FIELDS AND RESEARCH INTERESTS

## *Biological Science Course*

### **Genetics and Plant Breeding**..... **Watanabe, S.**

1. Molecular breeding in rice and soybean.
2. Development and utilization of breeding methods based on gene manipulation.
3. Improvement of soybean fatty acid composition by induced mutation.

### **Crop Science**..... **Suzuki, A.**

1. Mechanism of root nodule symbiosis and its utilization for leguminous crops production.
2. Mechanism of arbuscular mycorrhizal symbiosis and its utilization for crops production.

### **Vegetable and Ornamental Horticulture**..... **Isshiki, S. and Ogura-Tsujita, Y.**

1. Genetics and systematics of eggplant and its related Solanum species.
2. Cell, tissue and organ culture of vegetables and ornamentals.
3. Breeding of eggplant.
4. Biology of orchid mycorrhizal symbiosis and its application for horticultural uses.
5. in vitro culture of orchids and symbionts.
6. Conservation of wild orchids.

### **Improvement of Tropical Crops**..... **Zheng, S.H. and Fujita, D.**

1. Physiology and Eco-morphology of tropical leguminous crops.
2. Sustainable cropping system which adapted to tropical agriculture.
3. Improvement of yield-related traits in rice through genetic and breeding studies.
4. Genetic and breeding studies for resistance to planthopper and leafhopper in rice.
5. Genetic improvement for days to heading in indica rice.

### **Plant Nutrition**..... **Nishida, S.**

1. Molecular mechanism of plant adaptation to variable nutrient availability.
2. Biotechnology to improve plant tolerance to low nutrient availability and mineral stress.
3. Metal/metalloid accumulation in plants.

### **Animal Reproduction**..... **Yamanaka, K.**

1. Efficient production of offspring from genetically superior individuals by reproductive technologies.
2. Application of reproductive technology to fertility treatment.
3. Recent problems in animal reproduction.

### **Controlled Environment Horticulture**..... **Goto, F.**

1. Indoor production system.
2. Energy saving technology in greenhouses.
3. Breeding of vegetables suitable for plant factories.
4. Environmental optimization to adapt new crops to plant factories.

- Functional Plant Resources**..... **Matsumoto, Y.**
1. Breeding and cultivation of functional and medicinal plants.
  2. Storage and processing techniques of horticultural crops.
- Integrated Field Science** ..... **Ueno, K.**
1. Production methods for sustainable agriculture.
- Fruit Science** ..... **Fukuda, S.**
1. Molecular breeding in loquat and wild onion.
  2. Genetics and genomics of Rosaceae.
- Animal Science** ..... **Ebara, F.**
1. Animal behavior and management.
- Plant Mycology** ..... **Kusaba, M.**
1. Classification and identification of plant pathogens.
  2. Genetics of pathogenicity of plant pathogens.
  3. Genetic diversity in the fungal population.
- Nematology**..... **Yoshiga, T.**
1. Biological and physiological characteristics of plant parasitic nematodes.
  2. Growth regulation and pathogenicity of entomopathogenic nematodes.
  3. Species diversity and ecological significance of brackish water nematodes.
- Systems Ecology**..... **Tokuda, M.**
1. Insect-plant interactions.
  2. Mechanism and adaptive significance of host manipulation by insects.
  3. Evolutionary ecology and biosystematics of gall-inducing insects.
  4. Insect pest management.
- Fruit Tree Science** ..... **Kotoda, N.**
1. Genomics, physiology, and chemistry in fruit crops (apple, citrus, grape, kiwi fruit, olive, papaya, passion fruit, and peach etc.).
  2. Citrus germplasm (cultivated/wild species) and DNA marker development.
  3. The molecular mechanism of flowering and the role of gibberellins in plants.
  4. Postharvest physiology in fruit crops.

***Food Resource and Environmental Science Course***

- Agricultural and Environmental Geotechnics**..... **Kondo, F. and Miyamoto, H.**
1. Solidification of soft and contaminated clay by fly ash-based geopolymer.
  2. Evaluation of clay plasticity for promotion of ceramic industry.
  3. Soil management and conservation for sustainable crop production.
- Rural Environment**..... **Haraguchi, T.**
1. Conservation of the water environment in agricultural field.
  2. Water utilization for agriculture.



**Environment of Shallow Sea and Tidal Flat** ..... **Koriyama, M.**

1. Conservation of tidal flat environment.
2. Environmental monitoring of shallow sea area.

**Irrigation Science** ..... **Yuge, K.**

1. Quantification of water consumption in agricultural field.
2. Multi-functionality in agriculture.
- 3.. Sustainable land use planning in Japanese rural area.

**Environmental Soil Science** ..... **Tokumoto, I.**

1. Transport of water, salts, ions and heat in unsaturated soil.
2. Measurement of soil hydraulic properties and salt movement.

**Agricultural Environmental Chemistry** ..... **Ueno, D.**

1. Instrumental analytical chemistry to evaluate agricultural environment.
2. Identification of odor chemicals (stinks and flavors) from field and products.
3. Development of pest control system using odor chemicals.

**Water Environmental conservation in Rural Areas** ..... **Anan, M.**

1. Evaluation of agricultural water management in paddy field.
2. Modeling of water flow and quality in rural area.
3. Quantification of flood mitigation function in agricultural field.

**Agricultural Machinery and Information Technology** ..... **Inaba, S.**

1. Running resistance of agricultural rubber crawler.
2. Vibration analysis for agricultural vehicles.
3. Database for agricultural production.
4. Management of glassy ratio of rye with image processing technology.

**Agricultural Production Engineering** ..... **Tanaka, M.**

1. Environmental control for hydroponic culture of vegetables.
2. Nondestructive quality evaluation of agricultural products.

**Food Resource Research and Informatics** ..... **Kitagaki, H.**

1. The effect of food components on intestinal microbes
2. The effect of cosmetics on skin microbes
3. Functionalities of cosmetics
4. Application of informatics to food and cosmetic research

***Applied Biochemistry and Food Science Course***

**Applied Microbiology** ..... **Kobayashi, G and Goto, M.**

1. Development of acetone-butanol-ethanol fermentation from biomass.
2. Microflora analysis by PCR-DGGE.
3. Isolation and characterization of useful bacteria and fungi.
4. Molecular breeding of fungi for production of organic acids, enzymes.

- Molecular Biological Science** ..... **Horitani, M.**
1. Molecular mechanism of cold adapted enzymes and protein engineering.
  2. Functional analysis of new enzymes from plants.
  3. Advanced magnetic resonance and X-ray crystallography.
  4. Structural and functional studies on metallo-enzymes.
- Biomolecular Chemistry**..... **Soh, N.**
1. Colorimetric and fluorescence analysis for bioscience
  2. Biohybrid materials for bioanalysis and bioengineering
- Bioresource Science and Technology**.....**Noma, S.**
1. Extraction of food components using pressurized carbon dioxide.
  2. Preparation of seasoning under pressurized carbon dioxide.
  3. Pasteurization of microorganisms in food.
- Bioresource Chemistry** ..... **Hama, Y. and Mitsutake, S.**
1. Structure and function of mucus glycoproteins and algal polysaccharides.
  2. Isolation and characterization of novel glycolipids from marine animals.
  3. Synthesis, metabolism and cellular signaling of membrane lipid in health and disease.
  4. Development of Functional food materials.
- Nutrition Biochemistry** ..... **Nagao, K.**
1. Control of lipid and lipoprotein metabolism by food ingredients and drugs.
  2. Nutrition and physiology of polyunsaturated fatty acids.
  3. Enzymatic and genetic regulation of glycerolipid metabolism.
  4. Lipid metabolism and cytokine regulation in hepatic diseases.
- Algal Life Science**..... **Kimura, K.**
1. Developments of molecular breeding method for *Pyropia yezoensis* “Nori”.
  2. Physiology of macro algae and its relating microbe and virus.
  3. Molecular physiology of phytoplankton and its infectious virus.
  4. Phytoplankton ecology in Ariake sea.
- Food Function Development**..... **Inoue, N.**
1. Evaluation of plant-derived functional ingredients.
  2. Prevention and improvement of lifestyle-related diseases by functional lipids.
- Biochemistry**..... **Tsujita, T.**
1. Elucidation of the molecular mechanism for oxidative, hypoxia, proteostasis stress using genomic modified vertebrate and/or cell lines.
  2. Discovering the bioactive compounds to protect lifestyle diseases from chemical library or natural plants.
- Genomics** ..... **Nagano, Y.**
1. Genomics of food and medicinal plants
  2. Genomics of other organisms

**Chemistry of Natural Resources** ..... **Kawaguchi, S.**

1. Synthesis and evaluation of cosmetic materials using organic molecules derived from agricultural product and biomass.
2. Synthesis and evaluation of bioactive molecules.
3. Synthesis of organophosphorus compounds using unused phosphorus.
4. Synthetic use of iodine resources

**Chemistry of Natural Resources** ..... **Kawazoe, Y.**

1. Identification, purification, and structure elucidation of bioactive natural products.
2. Elucidation of mode of action of bioactive molecules.
3. Development of molecular tools.

***Regional Development and Management Studies Course***

**Agricultural Economics & Farm Management** ..... **Tsuji, K.**

1. Agricultural economics
2. Farm management
3. Rural development in Asia

**Regional Resources** ..... **Nakai, S.**

1. Geographical studies on landscape, communities, and land utilization of rural settlement.
2. Land improvement and sustainable developments.
3. Food culture from an anthropological perspective.

**Rural Development** ..... **Fujimura, M.**

1. Environmental change and human survival in Asia.
2. Issues and challenges relating to land use and conservation in rural community.