KYUSHU
UNIVERSITY

BIORESOURCE AND BIOENVIRONMENT

International Graduate Program (IGP)
Graduate School of Bioresource and Bioenvironmental Sciences

International Undergraduate Program (IUP)
School of Agriculture

Kyushu University

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WHY CHOOSE US?

English-based Degree Program

Friendly Instructors Teaching in Small-groups

New Campus

Exciting International Social Encounters

High-tech Learning Environment

Large Choice of Specializations

AGRONOMY

WEBSITE

This area is primarily concerned with scientific analysis of the life phenomena of bioresource organisms from the viewpoint of heredity, environment, and interrelations among organisms, so as to contribute to the resolution of global environmental issues. In our laboratories, students conduct research on edible crops such as rice and beans, garden crops such as vegetables and flowers, and bioproduction-related microorganisms, including phytopathogens, and various insects. Each laboratory seeks to improve productivity and product quality, the biological control of pests, the development of biological pesticides and methods of using natural enemies, and the discovery and utilization of new functions hidden in living creatures. Responding to the remarkable progress of the life sciences, we are engaged in education and research that makes good use of gene expression control and tissue culture methods.

Rice Genetics Has Entered the Age of Genome Biology

LABORATORY

- Plant Breeding
- Crop Science
- Horticultural Science
- Plant Production Physiology
- Plant Pathology
- Entomology
- Insect Genome Science

AGRO-PRODUCTION ENVIRONMENTAL ENGINEERING

WEBSITE

Establishing the foundations for bioproduction is the basic target of this special area. We conduct research and education aimed at improving bioresource output and creating affluent rural areas through the utilization, control and preservation of the natural environment, and creation of new technologies. This area covers an extensive array of subjects, including those that involve soil, water, living creatures, weather, and our society. Our research goal is to explore the best ways to optimize these vast systems. To this end, we have established a uniquely broad academic system that covers both basic and applied fields. This comprehensive approach to academics and engineering allows us to play an important role in fulfilling the increasingly diversified needs of society.

Stackable growing beds that use sunlight effectively

LABORATORY

- Irrigation and Water Management
- Water Environment Engineering
- Environmental Soil Engineering
- Soil Science
- Agricultural Meteorology

BIOPRODUCTION SYSTEM ENGINEERING

WEBSITE

In this area, research is conducted in pursuit of improving productivity and product quality, centering on the mechanization and systematization of each product cycle process, from bioresource production to distribution.

This means that we work toward the development of machines related to crop cultivation as the primary step of bioproduction, technologies that boost productivity, improvements in processing, storage, and distribution technologies, as well as improved safety and systemization for the handling of the crops produced. Beyond this, we are making solid inroads in the pursuit of human safety and comfort, as well as in robotization and automation. On the utilization and management sides, improvements in efficiency using the system engineering approach are being achieved.

Study on Measurement, Extraction, and Visualization of Plant Phenotype Using Computer Vision

LABORATORY

- Agricultural Machinery and Production Systems Design
- Postharvest Science

AGRICULTURAL ECONOMICS

WEBSITE

Bioresource and Bioenvironmental economics covers the socioeconomic issues involved in the international food system, mainly in Asia, to contribute to the stable supply of safe food and to the environmentally sustainable development of domestic and foreign food industries and regional economies. Attaining these objectives requires not only basic knowledge of bioresource and bioenvironmental economics, but also knowledge of natural science and technological knowledge of food, the environment, and rural economies as well as an international sensibility. Therefore, students are required to complete basic subjects in natural sciences and technological sciences and to nurture an international awareness through close exchanges with students and researchers from Asia, Europe, and America. In this way, they can obtain sufficient knowledge in both natural sciences and technological sciences in addition to social sciences.

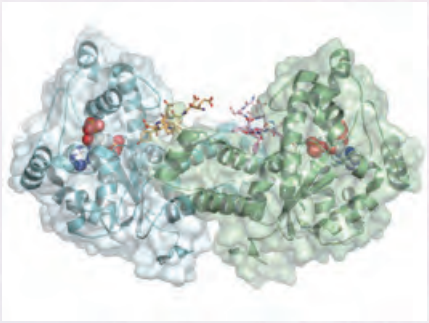
LABORATORY

- Food and Agricultural Policies
- Agricultural and Farm Management
- Quantitative Food Economic Analysis
- Food Marketing and Distribution
- Environmental Economics

AGRICULTURAL CHEMISTRY

WEBSITE

This research area is geared to nurture students understanding of the structure-function relationships of biomolecules involved in various biochemical reactions. Students can opt to engage in research in a wide range of molecular biosciences, including organic chemistry, biochemistry, cell biology, gene technology, bio-energy, genetic engineering and many others. We conduct research and studies that seek to clarify the various life phenomena engaged-in by living creatures, chemically breaking down the structures and functions of the diverse substances they produce and analyzing the interaction between the creatures and their environment from a physical standpoint. We use this knowledge to enhance our own primary and secondary production processes and ultimately aim to contribute to the welfare and prosperity of humankind.

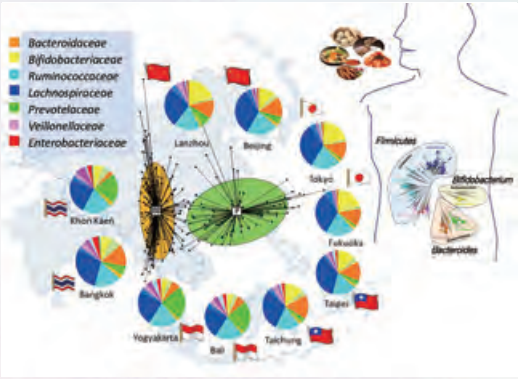


LABORATORY

- Plant Nutrition
- Soil and Environmental Microbiology
- Applied Microbiology
- Biochemistry
- Pesticide Chemistry
- Synthetic Biology
- Biophysical Chemistry
- Molecular Gene Technology
- Bio-Process Design

FOOD SCIENCE AND TECHNOLOGY

WEBSITE



Study on "Gut Flora"—the Interface Between Food and Health

This research area carries the banner for bioscience based on life science and its technologies. Therefore, the kind of study we shall engage in is not just a parallel of biology, chemistry, and engineering, but rather a truly interdisciplinary domain that unifies these four subjects. Our research and education involve: (1) the advanced utilization of the functions of food materials and their by-products, the conversion of unused resources into food, and the development of new bioresources; (2) confirming the safety, quality and nutritional status of secondary and tertiary products of food; (3) clarifying the physical, chemical, and biochemical changes that occur in the production processes and their controls; and (4) the principles of food processing, related machinery, and the biological treatment of organic waste products.

LABORATORY

- Nutrition Chemistry
- Food Chemical Biology
- Food Analysis
- Food Hygienic Chemistry
- Food Process Engineering
- Microbial Technology
- Cellular Regulation Technology
- Microbial Bioresources
- Functional Genomics and Metabolism

FOREST ENVIRONMENTAL AND MANAGEMENT SCIENCES

WEBSITE

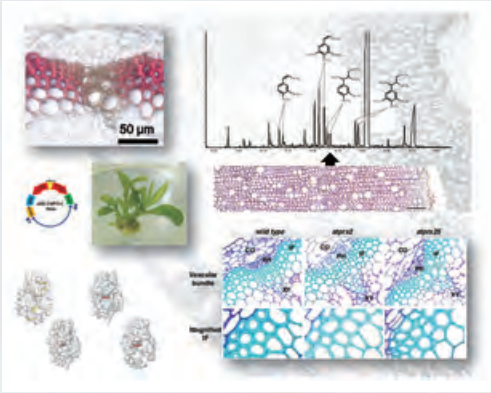
Seeking to achieve the preservation of the global environment and the sustainable production of forest resources, this study area covers a wide range of research topics, including preservation of the natural environment and land; elucidation of forest functions to prevent natural disasters; the development of new technologies related to measurements of forest resources; and optimization of the policies related to forest management that harmonize wood productivity, public interest, and the natural environment.

LABORATORY

- Forest Management
- Erosion Control
- Forest Policy

FOREST BIOSCIENCES

WEBSITE



Interdisciplinary Science of the Formation of Tree Cell Walls

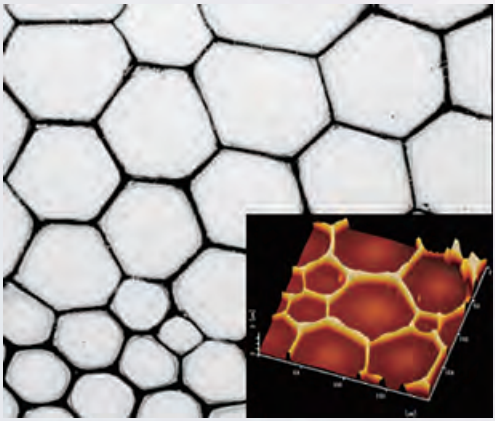
Extensive research and education are conducted on subjects ranging from the molecular and material to the ecological level, all aimed at actively developing the various functions of forest creatures and their complex environment for new applications, preserving and restoring the global environment, and making optimal use of forest resources in harmony with nature.

LABORATORY

- Silviculture
- Wood Science
- Forest Chemistry and Biochemistry
- Systematic Forest and Forest Products Science

BIOMATERIAL SCIENCES

WEBSITE



Honeycomb film made of cellulose

This specialised area covers research on the advanced use of biomaterials, especially wood products. The research topics include advanced physical and chemical utilization of forest bioresources and highly organized engineering of forest-related environmental issues. All of this research is done with the goal of realizing the coexistence of an affluent society with the preservation of the global environment, thus requiring the wide-ranging education we offer.

LABORATORY

- Wood Materials Technology
- Bioresources Chemistry
- Biomacromolecular Materials
- Biomaterial Design

FISHERIES SCIENCE

WEBSITE

With growing populations and increased food demands in the world, fishery resources have a vital role to play in the supply of bioresources. Aquatic organisms living in marine and freshwater environments are important bioresources providing not only food but also unique compounds that can be used as medical and industrial materials for human welfare and environmental conservation. Studies in aquatic biosciences include advanced lectures and various field and laboratory activities in marine biosciences and biotechnology to produce experts on fisheries and related biosciences.

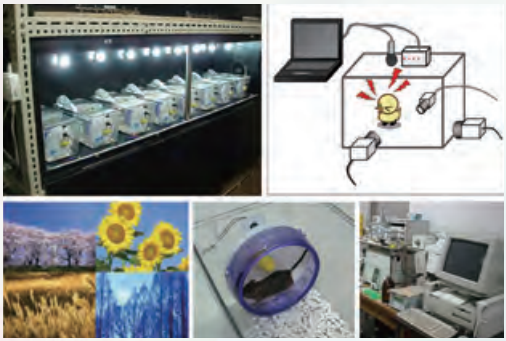
LABORATORY

- Marine Biology
- Fisheries Biology
- Marine Biochemistry
- Marine Resource Chemistry
- Marine Environmental Science
- Aquatic Field Science

ANIMAL SCIENCE

WEBSITE

Animal science provides methods for production of high-quality protein sources, including milk, meat, and eggs, originating from domestic animals. Although the remarkable increase in the world´s population requires the effective production of animal products, sustainable production in harmony with the environment is also essential. This research area comprises anatomy, physiology, biochemistry, and biotechnology of domestic and wild animals, aimed at optimized utilization of animal resources, development of animal food processing, evaluation of feed resources, and animal protection.

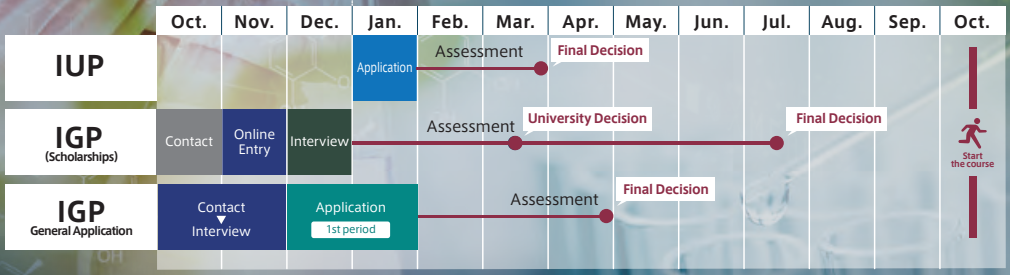


Applying Biological Clocks and Seasonal Rhythms to Animal Production and Health Science

LABORATORY

- Functional Anatomy
- Reproductive Physiology
- Zoology
- Muscle & Meat Sciences
- Regulation in Metabolism and Behavior

ADMISSION

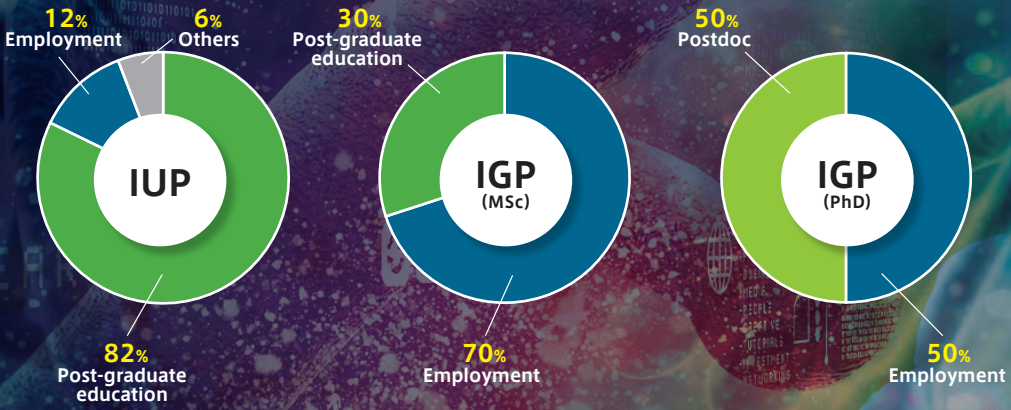


*IGP applicants can apply during three application periods: the 1st, 2nd, and 3rd application periods. Doctoral course begins in either the autumn term (October Entry) or the spring term (April Entry).

Applicant guidelines for International Undergraduate Program

Applicant guidelines for International Graduate Program

CAREER PATHS



SCHOLARSHIP

Scholarship

ACCOMMODATION

Accommodation