Graduate School of Agricultural and Life Sciences / Faculty of Agriculture

The University of Tokyo

Message from the Dean

Nobuhiro Tsutsumi, Ph.D.

Dean of the Graduate School of Agricultural and Life Sciences / Faculty of Agriculture

The Graduate School of Agricultural and Life Sciences/Faculty of Agriculture, the University of Tokyo, offers research and teaching in areas of agriculture, forestry, fishery, the livestock industry, and the food industry, with a focus on production, processing, logistics, as well as socio-scientific conditions.

Faculty members conduct studies to understand life at all levels, from the molecular level, the level of an individual organism, to the level of community, the ecosystem, and the biosphere. We engage in cutting-edge research in the laboratory and on the field both in Japan and overseas, targeting a wide range of organisms and their products, from microorganisms such as bacteria and yeast to animals and plants of higher hierarchy.

Students gain an in-depth understanding of their specialized fields while also experiencing firsthand the diversity of agricultural science through our interdisciplinary educational programs. AGRI-COCOON (the Agricultural Research Incubator Community for Cooperative Network of Public, Administrative, Business, and Academic Sectors), offered in collaboration with business enterprises and government agencies, is a solutions-driven educational program with on-site activities. Agricultural Bioinformatics Research Unit provides practical education and research guidance in agriculture-related bioinformatics. We have also recently launched a World-leading Innovative Graduate Study Program (WINGS) for environmentally friendly agricultural science. We train students to become experts capable of collaborating with a wide variety of stakeholders on sustainable biological production, aiming to minimize the environmental burden by transitioning to a data-driven production-and-distribution system of food and bio-resources.

Affiliated institutions include The University of Tokyo Forests, the Institute for Sustainable Agroecosystem Services, Animal Resource Science Center, Fisheries Laboratories, and the Veterinary Medical Center. These facilities support extensive research activities and provide opportunities for students to apply the knowledge they have acquired in classes to real-world problem-solving.

Our faculty and staff are working together with a unified goal to prepare the next generation of professionals that can respond flexibly to society's needs and to promote the advancement of agricultural science as an integrated science.

International Academic Exchange Agreements (As of April 2021)

Argentina:
UNLP
Cambodia:
CARDI
China:
BFU, CAU, FAFU, HAUST, HNU, NAU, NEFU, NJFU, NKU, SAU, SWU, ZAFU, ZJUT
Colombia:
CIAT
France:
AgroParisTech
Germany:
KIT, UNI BONN
India:
TNAU
Indonesia:
IPB U, UNILA, UNMUL
Malaysia:
UMS
Mongolia:
MULS, NUM
Myanmar:
YAU
Nepal:
TU
Philippines:
CLSU
Poland:
UAK
South Korea:
KNU, PKNU, SNU
Sri Lanka:
UoR
Sweden:
SLU
Taiwan:
NCHU, NPUST, NTOU, NTU, TMU
Thailand:
ARDA, Chula, CMU, Kasetsart U, KKU
Turky:
Ege U
United Kingdom:
Newcastle U
United States:
UMNTC
Vietnam:
CTU, VNUA

(arphabetical order)

Departments

Department of Agricultural and Environmental Biology

The Department of Agricultural and Environmental Biology deals with field crops, vegetables, fruit trees, flowers, insects, silkworms, and plant pathogenic microorganisms, and has made numerous contributions to the sciences related to plant production and environmental conservation. The Department studies issues to create comfortable human environments in the closed ecosystem of the Earth, such as 1) higher crop productivity and quality, and genetic crop improvements, 2) control of plant diseases and insect damage, 3) development of sustainable production systems, 4) development of analytical methods to handle the increasing complexity and volume of biological information, and 5) development of technologies to improve the environment by utilizing plants and insects.

››› http://www.ab.a.u-tokyo.ac.jp/aeb/index-e.html

Experimental materials include crops, insects, microorganisms, and organelles

Molecular biology experiment room

Department greenhouses

laboratories

- Bioresource Development
  - · Plant Breeding and Genetics
  - · Insect Genetics and Pathology
- Applied Agrobiology
  - · Crop Science
  - · Horticultural Science
  - · Applied Entomology
- Basic Agrobiology
  - · Agronomy
  - · Plant Molecular Genetics
  - · Plant Pathology
  - · Biometry and Bioinformatics
- Nippon Gene-Endowed Chair
  - · Clinical Plant Science
- Asian Biological Resources (ARC-BRES)*
  - · Environmental Stress Tolerance Mechanisms
  - · Regional Resources Reassessment
  - · Genomics of Plant Resources
- Field Production Science*
  - · Sustainable Agriculture and Stress Biology

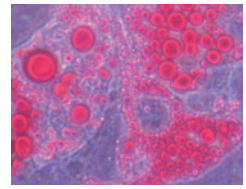
* Cooperative course

Department of Applied Biological Chemistry

The Department of Applied Biological Chemistry carries out studies and education across a wide range of research fields related to biological chemistry. In addition to the basic research methodology of biological chemistry, which consists of biochemistry, organic chemistry, and cellular biochemistry, the Department is actively introducing new research methodologies and techniques such as genetic engineering, protein engineering, and cellular engineering. By applying these research methodologies and techniques to plant and animal research fields related to food production, the cellular functions of food-producing organisms, and food immunology and nutrition, the Department seeks to discover new bioactive compounds and mechanisms supporting the environmental coexistence of human beings and living organisms, with the ultimate aim of advancing biological chemistry research methodology and the enhanced coexistence of human beings and all living things. The Department's efforts are part of a world network that is developing techniques in bioproduction and biological chemistry.

››› http://www.bt.a.u-tokyo.ac.jp/english/introduction/

Morphology of the *kobito* (*kbt*) mutant of morning glory



An image of adipocytes stained with Oil Red O.

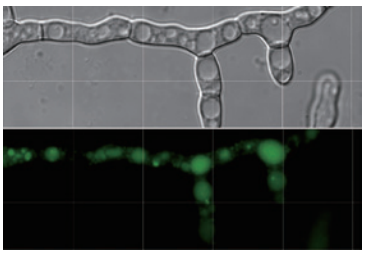
laboratories

- Biofunctional Chemistry
  - · Plant Molecular Physiology
  - · Biological Function and Developmental Chemistry
- Agricultural Chemistry
  - · Plant Nutrition and Fertilizer
  - · Biological Chemistry
  - · Bioorganic Chemistry
  - · Organic Chemistry
  - · Soil Science
  - · Chemical Biology
- Food Science
  - · Nutrition Chemistry
  - · Food Chemistry
  - · Food Biochemistry
  - · Analytical Chemistry
  - · Food Biotechnology and Structural Biology
- ILSI Japan-Endowed Chair
  - · Functional Food Science
- Nissin Food Products-Endowed Chair
  - · Taste Science
- Nippn-Endowed Chair
  - · Food Functionality Science
- Social Cooperation Laboratory
  - · Nutri-Life Science
  - · Health Nutrition

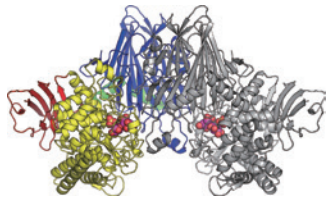
Department of Biotechnology

The Department of Biotechnology maintains high educational and research standards across wide-ranging areas of biotechnology. Employing DNA technology, protein engineering, and cell/tissue culturing techniques in combination with recent advances in biomolecular structure determination, genomic information, and bioinformatics, the Department elucidates the basic mechanisms of a variety of biological functions. Furthermore, the Department is applying these findings to contribute to the prosperity and happiness of human beings.

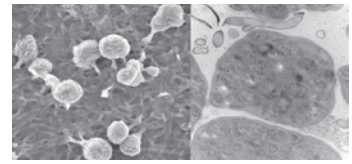
››› http://www.bt.a.u-tokyo.ac.jp/english/introduction/



Microscopic images of vacuoles in *Aspergillus oryzae*, the "Japanese National Microorganism," visualized by differential interference contrast and green fluorescence protein



Crystal structure of cellobionic acid phosphorylase, which plays a key role in biofuel production



Scanning and transmission electron microscopic images of actinomycete *Actinoplanes missouriensis sporangia*

laboratories

- Biomolecular Research
  - · Synthetic Biology
  - · Bioinformation Engineering
  - · Molecular Biotechnology
- Biofunctional Research
  - · Fermentation and Microbiology
  - · Applied Microbiology
  - · Enzymology
  - · Microbiology
  - · Cellular Genetics
- IFO-Endowed Chair
  - · Microbial Metabolic Potential
  - · Brewing Microbiology
- Social Cooperation Laboratory
  - · Microbial Ecotechnology
  - · Yeast and Fermentation
- Agro-Biotechnology Research*
  - · Environmental Biochemistry
  - · Cell Biotechnology
  - · Plant Functional Biotechnology
  - · Microbial Biotechnology (Kyowa Hakko Kirin Co.,Ltd.)
  - · Microbial Membrane Transport Engineering (IFO)

* Cooperative course

Department of Ecosystem Studies

The Department of Ecosystem Studies aims to develop sustainable global management schemes that value ecosystem mechanisms and allow human society and nature to exist in harmony. An important feature of the Department is a focus on fieldwork which is conducted in different ecosystems from forests to coastal environments. Based on an understanding of the mechanisms and existing problems of focal ecosystems, the Department aims to both integrate agricultural and life-science-related academic achievements and develop related principles and techniques while educating skilled professionals. The Department has two main divisions, Biological Conservation and Ecosystem Management, and the two associated divisions of Bioresources Management and Bioresources and Eco-Environmental Studies. The Bioresources Management associated division cooperates with the former two divisions in research and education and is composed of six facilities within the Graduate School of Agricultural and Life Sciences.

››› http://www.es.a.u-tokyo.ac.jp/english/

Satoyama, a traditional rural landscape of Japan

Riparian forest in Chichibu mountains, central Japan

laboratories

- Biological Conservation
  - · Biodiversity Science
  - · Conservation Ecology
- Ecosystem Management
  - · Landscape Ecology and Planning
  - · Forest Ecosystem Studies
  - · Aquatic Conservation
- Bioresources Management
  - · Institute for Sustainable Agro-ecocsytem Services
  - · Fisheries Laboratory
  - · University Forests
- Bioresources and Eco-Environmental Studies
  - · Bioresources and Eco-Environmental Studies
  - · Rural Landscape Ecology

Departments

Department of Forest Science

Practical student exercise in a mountain village

Our comfortable life is dependent on advanced science and technology and generates major environmental load. Environmental problems on a global scale, such as extreme weather and extinction of species, have become apparent. Degradation of the environment is a serious problem as it relates to humankind. Forests are the biggest terrestrial ecosystems on earth, accounting for about 80% of plant production. They play a major role in hydrological and carbon cycles on a global scale and help conserve the global environment. Extensive human activity leading to deforestation and forest degradation is a cause of deterioration of the global environment. Moreover, forests bring various benefits such as wood resources, pure water, and a comfortable environment, and the use of forests is indispensable to our lifestyles and livelihoods. Forest science is a discipline that helps us to sustainably enjoy the benefits of forests by harmonizing forest ecosystems with human activities.

››› http://www.fr.a.u-tokyo.ac.jp/en/index.html

Collecting botanical specimens in a practical course

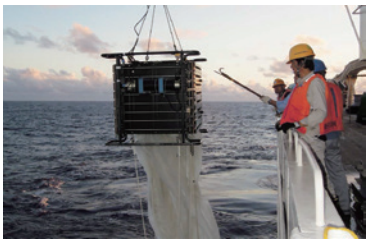
An 80-m-tall canopy crane with a 75-m-long rotating jib in a tropical rainforest, Sarawak, Malaysia

laboratories

- Forest Life and Environmental Science
  - · Forest Botany
  - · Forest Zoology
  - · Silviculture
- Forest Resources and Environmental Science
  - · Forest Management
  - · Forest Policy
  - · Forest Utilization
  - · Forest Biogeosciences
  - · Forest Landscape Planning and Design
- Asian Environmental Science (ARC-BRES)*
  - · Tree Physiology and Tropical Silviculture
  - · Forest Symbiology
  - · Tree Environmental Physiology
- Forest Ecosystem Science and Management*
  - · Forest Ecosystem
  - · Forest Functional Biology
  - · Forest and Human Society Relationship
  - · Forest and Water Resources Management

* Cooperative course

Department of Aquatic Bioscience



The Department of Aquatic Bioscience has the following major aims: 1) find ways to preserve aquatic ecosystems given the global scale of environmental havoc wreaked by humankind, 2) develop self-sustaining fisheries, and 3) investigate ways to contribute to human well-being, including food production using knowledge and expertise from other research fields such as biotechnology. The Department's laboratories, including the Fisheries Laboratory on Lake Hamanako and those in the Atmosphere and Ocean Research Institute, are tackling these problems and have achieved many encouraging results. However, the ocean, which has spawned and nurtured life since the Earth's formation, is vast and as yet only partially understood. There is a real need to once again observe biological phenomena in the ocean from a fresh viewpoint and with an open mind.

››› http://www.a.u-tokyo.ac.jp/english/departments_e/d-ab.html

School of sardines

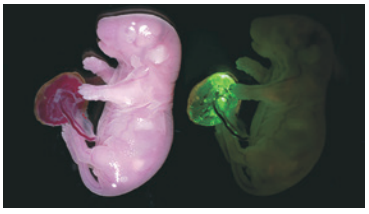
Kuruma prawn

laboratories

- Aquatic Molecular Biology and Biotechnology
  - · Aquatic Molecular Biology and Biotechnology
- Aquatic Production and Environmental Science
  - · Fisheries Biology
  - · Fish Disease Research
  - · Aquatic Biology and Environmental Science
- Aquatic Life Science
  - · Aquatic Animal Physiology
  - · Aquatic Natural Products Chemistry
  - · Marine Biochemistry
- Applied Marine Biology*
  - · Applied Marine Biology
- Marine Bioscience*
  - · Marine Planktology
  - · Marine Microbiology
  - · Fish Population Dynamics
  - · Biology of Fisheries Resources
  - · Fisheries Environmental Oceanography
  - · Behaviour, Ecology and Observation Systems
  - · International Coastal Research Center
- Coastal Marine Environment (ARC-BRES)*

* Cooperative course

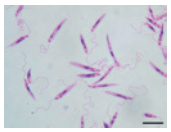
Department of Animal Resource Sciences



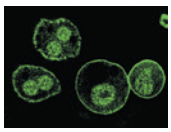
Chimeric mouse placenta produced by injection of GFP-positive TS cells

The primary aim of research and education at the Department of Animal Resource Sciences is to maximize the utility of various functions of animals, mainly mammals, by revealing mechanisms underlying diverse and complex life phenomena. To this end, the Department is working to elucidate life phenomena from a variety of perspectives, ranging from molecular biology to ethology. It also aims to improve the productive capability of animals and seeks effective ways to preserve valuable genetic resources by applying state-of-the-art biotechnologies that enable elicitation of the potentiality of animals and animal cells. At the same time, the Department has always placed high priority on fostering the potential of its students. Graduates from the Department occupy important positions not only in the field of animal resource sciences but also other fields including medical and life sciences.

››› http://www.ar.a.u-tokyo.ac.jp/pages/English/E_top.html



Promastigotes of *Leishmania* parasites (Giemsa stain)



Insulin-dependent activation of *Akt* associated with plasma membrane

laboratories

- Bio-regulatory Systems
  - · Molecular Immunology
  - · Applied Genetics
  - · Cell Regulation
- Functional Bioscience
  - · Cellular Biochemistry
  - · Veterinary Ethology
  - · Animal Radiology
- Bio-animal Science*
  - · Animal Life Science and Biotechnology

* Cooperative course

Department of Veterinary Medical Sciences

A graduate student in veterinary medicine who is inspecting the oral cavity of a cat.

Veterinary medicine encompasses a broad area of the life sciences, taking in not only animal medicine but also the biology of mammals and higher vertebrates. In the Department of Veterinary Medical Sciences, highly advanced research is being carried out at the molecular, cellular, and *in vivo* levels in order to fully understand the vital processes of normal and diseased animals. Veterinary medicine encompasses two aspects of science: basic science to understand the mechanisms underlying biological phenomena, and applied science to satisfy social demands for the maintenance and improvement of human well-being and the productivity of domestic animals. The department collaborates with the Veterinary Medical Center located on the Yayoi campus. The Center is equipped with the latest advanced medical instruments and plays an important role as an advanced veterinary hospital in the area. We collaborate with Department of Animal Resource Sciences and three donated laboratories in both veterinary education and research. In addition, we also collaborate with Veterinary Medical Center and the Animal Resource Science Center about small animal medicine, theriogenology and farm animal medicine.

››› http://www.vm.a.u-tokyo.ac.jp/eng/

Staff describes the disease history of an elephant farm in Thailand to students in a practical collaboration with Kasetsart University

A horse (Winerscircle; left) at the stock farm of the Animal Resource Science Center, and his Holter electrocardiography recording in the early morning (blue dot, atrio-ventricular block; right)

laboratories

- Basic Veterinary Medicine
  - · Theriogenology
  - · Veterinary Anatomy
  - · Veterinary Physiology
  - · Veterinary Pharmacology
  - · Veterinary Microbiology
  - · Veterinary Public Health
  - · Veterinary Ethology*
  - · Cellular Biochemistry*
  - · Molecular Immunology*
  - · Applied Genetics*
  - · Animal Radiology*
- Clinical Veterinary Medicine
  - · Veterinary Pathophysiology and Animal Health
  - · Veterinary Pathology
  - · Veterinary Internal Medicine
  - · Veterinary Surgery
  - · Biomedical Science
  - · Veterinary Clinical Pathobiology
  - · Farm Animal Medicine
  - · Infection Control and Disease Prevention
  - · Veterinary Emergency Medicine
  - · Global Animal Resource Science*
- Bio-Animal Science*
  - · Animal Life Science and Biotechnology
- Experimental Medicine*
  - · Laboratory Animal Research Center
- Donated Laboratories*
  - · Food and Physiological Models
  - · Environmental Science for Sustainable Development
  - · Veterinary Science for Global Disease Management

* Cooperative course

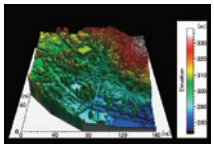
Departments

Department of Biological and Environmental Engineering

Tone Oozeki barrage for irrigation and municipal water supply

The Department of Biological and Environmental Engineering (BEE) deals with the technologies and engineering essential for the appropriate management of natural and biological resources sustaining human beings on the Earth. The Department consists of five branches. Particularly, Rural Environmental Engineering (REE) seeks advances in modern technologies associated with the engineering of land resources, water resources, and soil-plant-air systems. It aims to encourage efficient food production and to conserve the Earth's environment, especially in rural areas, by harmonizing production with natural ecological systems. Biological Systems Engineering (BSE) aims to develop advanced techniques and research in bioengineering, biological process control, controlled environment plant production, biosensing and robotics, bioenergy production, and post-harvest technology. The remaining three branches are Biological and Environmental Information Engineering (BEIE), Ecological Safety Studies (ESS), and Sustainable Agro-ecosystem Engineering (SAE).

››› https://www.a.u-tokyo.ac.jp/english/departments_e/d-bee.html



3D image of forest measured by helicopter-borne scanning LiDAR

laboratories

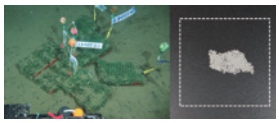
- Rural Environmental Engineering
  - · Land Environmental Engineering
  - · Water Environmental Engineering
  - · Soil Physics and Soil Hydrology
- Biological Systems Engineering
  - · Bioenvironmental Engineering
  - · Biological and Mechanical Engineering
  - · Bioprocess Engineering
- Biological and Environmental Information Engineering
  - · Biological and Environmental Information Engineering
- Ecological Safety Studies
  - · Ecological Safety Studies
- Sustainable Agro-ecosystem Engineering

Department of Biomaterial Sciences

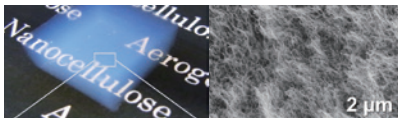
Yayoi Auditorium Annex in the campus of the University of Tokyo using HP shells structure with wood-based materials

We consume various kinds of raw materials to better our quality of life. As many of these materials are currently produced from fossil resources, the environmental impact of their excessive consumption is cause for concern. Development and introduction of biomaterials more in harmony with the environment is therefore desirable to facilitate replacement of fossil resources. Wood, the most important biomaterial, is both renewable and clean. Promoting its beneficial utilization will help preserve the environment and is essential for the continued existence of human beings far into the future. To constructively promote biomaterial utilization, we must strive for efficient and complete wood usage and application of knowledge and research methods based on material sciences to biomaterials other than wood. The Department is advancing science and technology toward this goal.

››› http://www.fp.a.u-tokyo.ac.jp/graduate/english/



Biodegradable plastic submerged at 850 meters in the deep sea and a film that degraded 80% in 5 months in the deep sea.



Aerogel of cellulose nanofibers

laboratories

- Adhesion Science and Bio-composites
  - · Adhesion Science and Bio-composites
- Material and Housing Sciences
  - · Wood Physics
  - · Wood-based Materials and Timber Engineering
  - · Pulp and Paper Science
- Biomass Chemistry
  - · Forest Chemistry
  - · Wood Chemistry
  - · Science of Polymeric Materials
- Sustainable Materials Design (ARC-BRES)*

* Cooperative course

Department of Global Agricultural Sciences

Balinese rice terrace: Cultural landscape in Bali is registered as a UNESCO world cultural heritage since 2012

The Department of Global Agricultural Sciences (GAS) is committed to serving global society through education and research on sustainable ecosystem services such as foods, fibers, and other bioresources. GAS programs are issue-oriented rather than technology-oriented and are based on a strong combination of expertise across disciplinary and national boundaries. The associated programs offered by professors from institutions outside the university give further breadth to GAS education and research. Students are advised to join overseas training courses organized by GAS in collaboration with other universities and institutes. Students in the Master's program are also encouraged to minor in another department to strengthen their expertise in the pertinent discipline. Students will thus become well prepared to navigate a globalizing and ever-changing world.

››› http://www.ga.a.u-tokyo.ac.jp/English/

Interview in Bali cattle farm by participating students of an overseas program in Global Agriculture and Culture

Small-scale fishery Batan Bay, Philippines (Photo by Kamiyama)

laboratories

- Global Animal Production Sciences
  - · Global Fisheries Science
  - · Global Animal Resource Science
- Global Plant Production Sciences
  - · Plant Science for Sustainable Agriculture
  - · Global Plant Material Science
- Global Biological and Environmental Sciences
  - · Global Forest Environmental Science
  - · Plant Biotechnology
  - · International Agricultural Development Studies
- International Development and Agro-Environmental Sciences
  - · International Environmental Economics
  - · Agro-Environmental and Informatics
- Adjunct Faculty
  - · Dead Body Science, The University Museum
- Courses for social cooperation
  - · Global Infectious Diseases Control Science

Department of Agricultural and Resource Economics

We seek consistency between efficient agricultural production and favorable rural environments

How can we meet the global need for foodstuffs and agricultural materials under the growing constraints of natural resources and the environment as well as deficiencies in food distribution, systems, including reconciling production in coexistence with the environment while preventing hunger and ensuring satiation? This challenging issue should be addressed in consideration of fundamental socio-economic elements, e.g., unsustainable development and resource depletion, enlargement of poverty and social inequality, and economic and institutional conflicts among developed and developing countries. Our department embodies the following two key principles of graduate education and academic research for the new age of agricultural and resource economics. 1) Global perspective: Our research concerns have become broader and more internationalized beyond traditional agricultural economics.
2) Local perspective: We pay attention to the reality of rural communities and individuals.
We continue to offer intensive seminars and classes for graduate students, which deepen their professional insight and enhance their communication abilities. In addition, we intend to strengthen intellectual collaboration with other natural science disciplines.

››› https://www.a.u-tokyo.ac.jp/english/departments_e/d-are.html

Economic theories and field researches are fundamental at our department

laboratories

- Agricultural Structure and Farm Business Management
  - · Farm Business Management and Rural Development
  - · Agricultural Structure and Policy
  - · Agricultural History
- Development Policies and Economics
  - · Agricultural and Development Economics
  - · Food and Resource Economics
- Rural Development Finance
  - · Rural Development Finance
- Pan-Asia*
  - · Economic Development in Asia

* Cooperative course

Educational Programs

International Program in Agricultural Development Studies (IPADS)

“Traditional and innovative”
“Wide spectrum of research activities”
“Make a difference in the modern, globalized industry of agriculture”
“Practical, relevant and challenging”
Inaugurated in the academic year 2010/2011, International Program in Agricultural Development Studies (IPADS) is an English-language MSc and PhD Program at the Graduate School of Agricultural and Life Sciences. Issue-oriented rather than methodology-oriented, this exciting international program offers its candidates the opportunity to develop the requisite expertise across discipline and country boundaries to tackle agricultural and environmental problems in developing countries around the world. Joint lectures and workshops are also offered in collaboration with Center of Development Research (ZEF) of the University of Bonn, Germany. Graduates will be well-equipped to make a difference in the modern, globalized industry of agriculture.


One Earth Guardians Development Program

The One Earth Guardians Development Program, which started in 2017, aims to foster human resources called “One Earth Guardians.” The Guardians are a network of scientists who will take action to secure the future of the Earth for the next 100 years as a place where all living beings, including humans, coexist in harmony.
Since the beginning of human history, we have consumed unsustainable levels of various biological and non-biological resources to pursuit economic efficiency and industrial prosperity. As a result, our planet “One Earth” will not sustain our lives shortly if we do not take action now.
Agriculture combines academic and applied sciences covering various aspects of our daily life, such as food, clothing, housing, and more. As individuals devoted to agriculture, we are responsible for establishing scientific technologies for a sustainable future by fostering prospective scientists. The program takes advantage of collaboration with companies, NPOs, governments, other academic institutions, and even people unfamiliar with such global issues, to find and solve environmental and/or social problems happening today or in the future. We designed this research and education program to help us answer the question, “What can we do for the Earth in the next 100 years?”

Agricultural Bioinformatics Research Unit

The Agricultural Bioinformatics Research Unit was established in 2004 with support from MEXT (Ministry of Education, Culture, Sports, Science and Technology) to conduct education and research on bioinformatics for graduate students studying agricultural and life sciences. The Unit’s educational program includes lectures, practical education, and seminars in advanced topics of bioinformatics and their agricultural applications. It also supports the research of master’s and doctoral students and presents practical education linked directly to each research topic. The Unit aims to become a base of cooperation for experimental and computational studies while promoting industry–university collaboration. The Agricultural Bioinformatics Research Unit was renewed in 2009 in order to enhance its activities by building upon past experiences, and to promote university–industry cooperation and international cooperation. So far (2004–2020 academic years), a total of 2376 students have completed the lectures and a total of 250 students have completed this program.

AGRI-COCOON

AGRI-COCOON (AGricultural Research Incubator COmmunity for COOperative Network of Public, Administrative, Business, and Academic Sectors) is a research and educational community established in 2005 at our graduate school. The primary mission of AGRI-COCOON is to develop and implement multidisciplinary programs for graduate students. The programs are designed to enable graduate students to conduct original, highly creative, and self-directed research projects by enhancing their skills in terms of:
» Information collection » Problem assessment » Academic communication
» Knowledge building » Knowledge integration
AGRI-COCOON also contributes to the further advancement and enrichment of the Graduate School through collaborative interactions among academia, business, government, and private institutions. By building agro-science knowledge and developing a new agricultural research and education protocol, AGRI-COCOON aims to systemize mutual understanding and communications among various stakeholders related to agricultural sciences.

Educational Resources

University Library for Agricultural and Life Sciences

We have our own library, established in 1965 with donations from alumni and the aid of the Rockefeller Foundation. The Library contains 450,000 volume of books and periodicals dealing with agricultural and other natural sciences. About 1,600 periodical titles are received annually, and various databases and online journals are available.
Designated as the National Center for Overseas Periodicals in agricultural areas, the library collects domestically rare foreign periodicals to improve the infrastructure of academic information in Japan.
The library digitizes valuable collections such as early modern Japanese agricultural materials and illustrated books on plants and animals, and makes them open to the public. Digital images can be reused without permission or payment under certain conditions.


Office for International Cooperation and Exchange

Office for International Cooperation and Exchange (OICE) offers various services to the international community of the Graduate School of Agricultural and Life Sciences/ Faculty of Agriculture. Our principal mission is to help international students adjust to university life in Tokyo. To this end, we render language support, provide information on various topics, including social and cultural differences, answer questions about daily life, and offer advice when necessary. We also host cultural exchange events throughout the year. We are committed to creating an inclusive environment where students and researchers from diverse cultural, religious, and racial backgrounds feel respected and supported.

Affiliated Institutions

Institute for Sustainable Agro-ecosystem Services


The Institute for Sustainable Agro-ecosystem Services (ISAS) was founded on April 1, 2010, by integrating the University's Field Production Science Center (University Farm) and the Experimental Station for Landscape Plants. The Institute is also affiliated with the University of Tokyo Tanashi Forest for education and research in forest sciences. The ISAS campus is located in Nishitokyo City and has a total area of 19 ha covering upland fields, rice paddies, greenhouses, and other research and education facilities. For more details, you may visit our website (https://www.isas.a.u-tokyo.ac.jp) or even better, visit our campus personally!

The University of Tokyo Forests


The University of Tokyo Forests (UTF) was established for research and educational purposes in the field of forestry and forest science. The UTF has seven regional university forests in a wide variety of vegetation localities, with a total forest area of approximately 32,000 ha. UTF consists of the University of Tokyo Chiba Forest (UTCBF), the University of Tokyo Hokkaido Forest (UTHF), the University of Tokyo Chichibu Forest (UTCF), the University of Tokyo Tanashi Forest (UTTF), Ecohydrology Research Institute (ERI), Fuji Iyashinomori Woodland Study Center (FIWSC), and the Arboricultural Research Institute (ARI). Three organizations of the UTF including the Education and Extension Center (EEC), Field Data Research Center (FDRC) and Executive Office (EO) are located in the Yayoi Campus.

Animal Resource Science Center


The Animal Resource Science Center, established in 1949 as a livestock farm for undergraduate and graduate student instruction, is located in Kasama, Ibaraki Prefecture, 90 km north of the main campus. One associate professor, eight technical assistants including a veterinarian and staff with doctoral and master's degrees, two management staff members, and two part-time assistants support teaching and research for veterinary medicine, animal life sciences, and animal biotechnology. Many of the graduate students affiliated with the research unit in animal resource sciences investigate front-line topics in veterinary, animal, and agricultural sciences.

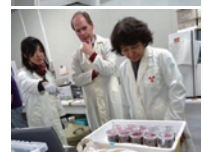
Veterinary Medical Center


The Veterinary Medical Center (VMC) was established in 1880 and has since engaged in education and research on clinical veterinary medicine. The VMC building, which has 4-stories with a total area of 3,000 m^2, is equipped with advanced diagnostic imaging systems, such as color doppler ultrasonography, endoscopy /arthroscopy, computed tomo-graphy (CT), and magnetic resonance imaging (MRI) apparatus. A total of 15,000 animal patients are referred to VMC every year to receive advanced and high-level clinical services.

Fisheries Laboratory (Aquatic Bioscience Research Center)

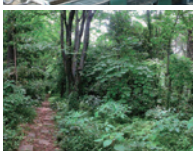

The Laboratory is well situated for research and education regarding genetics, physiology, development, and ecology of marine organisms. The facility can supply seawater as well as fresh water to more than 100 tanks and ponds of various sizes, ranging from 1 to 100 m^3. Moreover, state-of-the-art instruments for use in genomics, genetics, imaging, cell biology, and biochemistry enable researchers to study marine organisms at the molecular level. Currently, as part of our main research focus, we are investigating the genetic basis of the phenotypic evolution of aquatic animals to help make fisheries and aquaculture sustainable.

Isotope Facility for Agricultural Education and Research

The Isotope Facility for Agricultural Education and Research (Isotope Facility) in the Graduate School of Agricultural and Life Sciences was reorganized in 2017. It is equipped with plant growth chambers, safety cabinet system, cryostat, analytical instruments such as GC-MS and SEM-EDX, as well as radiation measuring instruments such as NaI scintillation counters, and imaging plates with image readers to support the research activities. Since 2011, samples containing radiocaesium derived from the Fukushima Dai-ichi Nuclear Power Plant accident have been measured in the isotope facility.

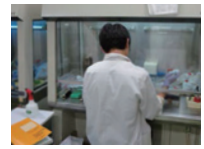
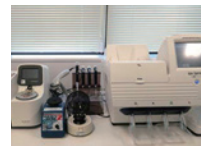
Technology Advancement Center

Biotron: As environmental conditions in agricultural field experiments are frequently affected by natural climate conditions, the accuracy and reproducibility of experimental data are occasionally limited. Such problems can be resolved to a certain extent by the use of the Biotron facility, where environmental conditions are kept constant and controlled year-round, and different conditions can be set at the same time for comparative experiments.

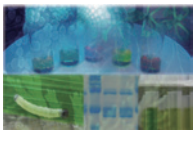
Koishikawa Arboretum: Koishikawa Arboretum occupies about 0.6 ha of the northwest part of the Koishikawa Botanical Gardens, which belongs to the Graduate School of Science, the University of Tokyo.

Research Center for Food Safety

The Research Center for Food Safety was established in November 2006 to meet the expectations and need for the development of food safety science and technology. The Center aims to conduct comprehensive research on food safety and dissemination of scientific information through close collaboration with national and international organizations. The Center is devoted not only to research activities but also to providing scientific information to the public and government and private sectors. The Center also aims to develop leaders with high levels of knowledge and skills by training students, researchers, and government officials from Asian and other countries.

Agro-Biotechnology Research Center

Agro-Biotechnology Research Center (AgTech) plays a leading role in research and educational activities in biotechnology. The mission of AgTech is to perform world-leading research in agricultural and life sciences, especially plant science and microbiology related to crop production, environmental cleanup and useful material production. In addition, AgTech supports the research activities of the Graduate School members by promoting interdisciplinary research organization and providing consultation and facilities. All staff in AgTech also participate in educational courses for graduate students in the Department of Biotechnology.

Asian Research Center for Bioresource and Environmental Sciences


The Asian Research Center for Bioresource and Environmental Sciences (ARC-BRES) promotes integrated research in collaboration with various stakeholders through diverse approaches, such as environmental restoration, strengthening the resilience of biological production, and co-creation of resource utilization systems, with the aim of achieving sustainable use of bioresources. By conducting research activities through international collaboration and on-the-ground practice, we will raise professionals who can contribute to both local and global communities.

››› https://www.anesc.u-tokyo.ac.jp/en/

Organization

Academic and Administrative Staff

Faculty Staff (As of May 1, 2021)

Professor	Associate Professor	Lecturer	Assistant Professor	Total	Administrative Personnel	Technical Staff	Total
90	103	7	76	276	88	94	182

Enrollment of Students

Undergraduate (international students in parentheses) (As of May 1, 2021)

3rd Year	4th Year	5th Year	6th Year	Research Students	Total
258(4)	301(5)	30(0)	36(1)	1(0)	626(10)

Graduate (international students in parentheses) (As of May 1, 2021)

Master's Program	Doctoral Program	Research Students	Total
646(150)	425(173)	43(35)	1114(358)

International Research Exchange

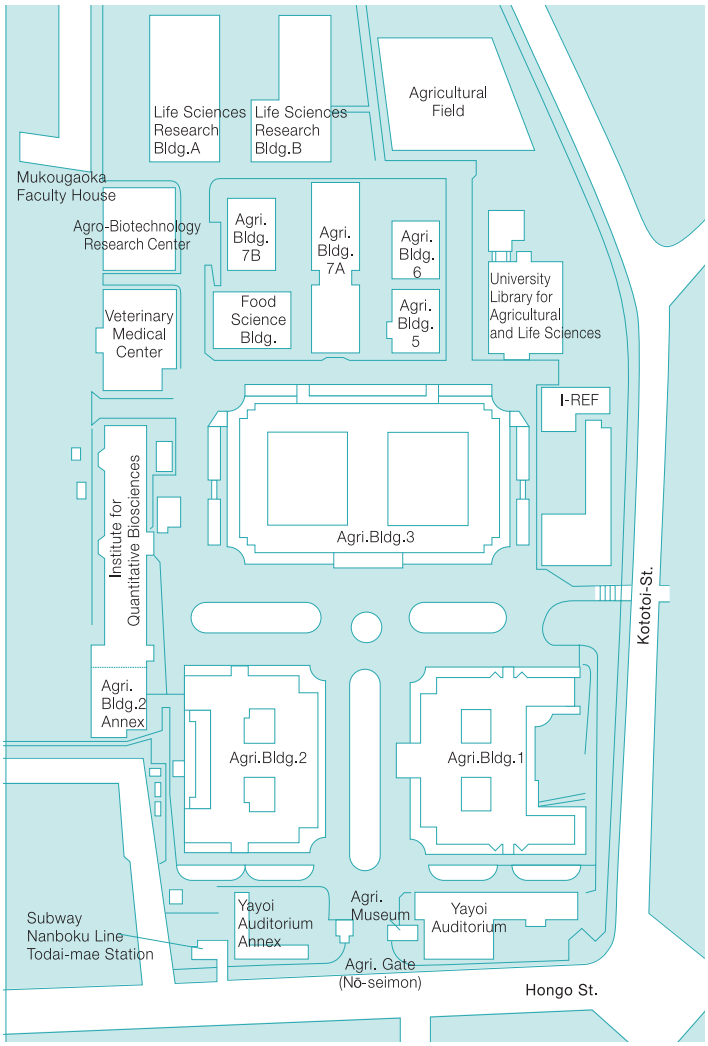
Visiting Scholars from Abroad

Region	FY 2019
North America	11
Central/South America	2
Europe	26
Africa	8
Middle East	6
Asia	190
Oceania	1
Total	244

Overseas Research Visits by Faculty

Region	FY 2019
North America	88
Central/South America	12
Europe	112
Africa	13
Middle East	3
Asia	297
Oceania	12
Total	537

MAP of The Yayoi Campus



Locations of Affiliated Institutions

1 Yayoi Campus
2 Koishikawa Arboretum
3 Institute for Sustainable Agro-ecosystem Services (Tanashi Campus)
The University of Tokyo Tanashi Forest
4 The University of Tokyo Hokkaido Forest
5 Research Facility for Radiation Breeding
6 The University of Tokyo Animal Resource Science Center
7 The University of Tokyo Chichibu Forest
8 The University of Tokyo Chiba Forest
9 Fuji Iyashinomori Woodland Study Center
10 Arboricultural Research Institute
11 Fisheries Laboratory
12 Ecohydrology Research Institute

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