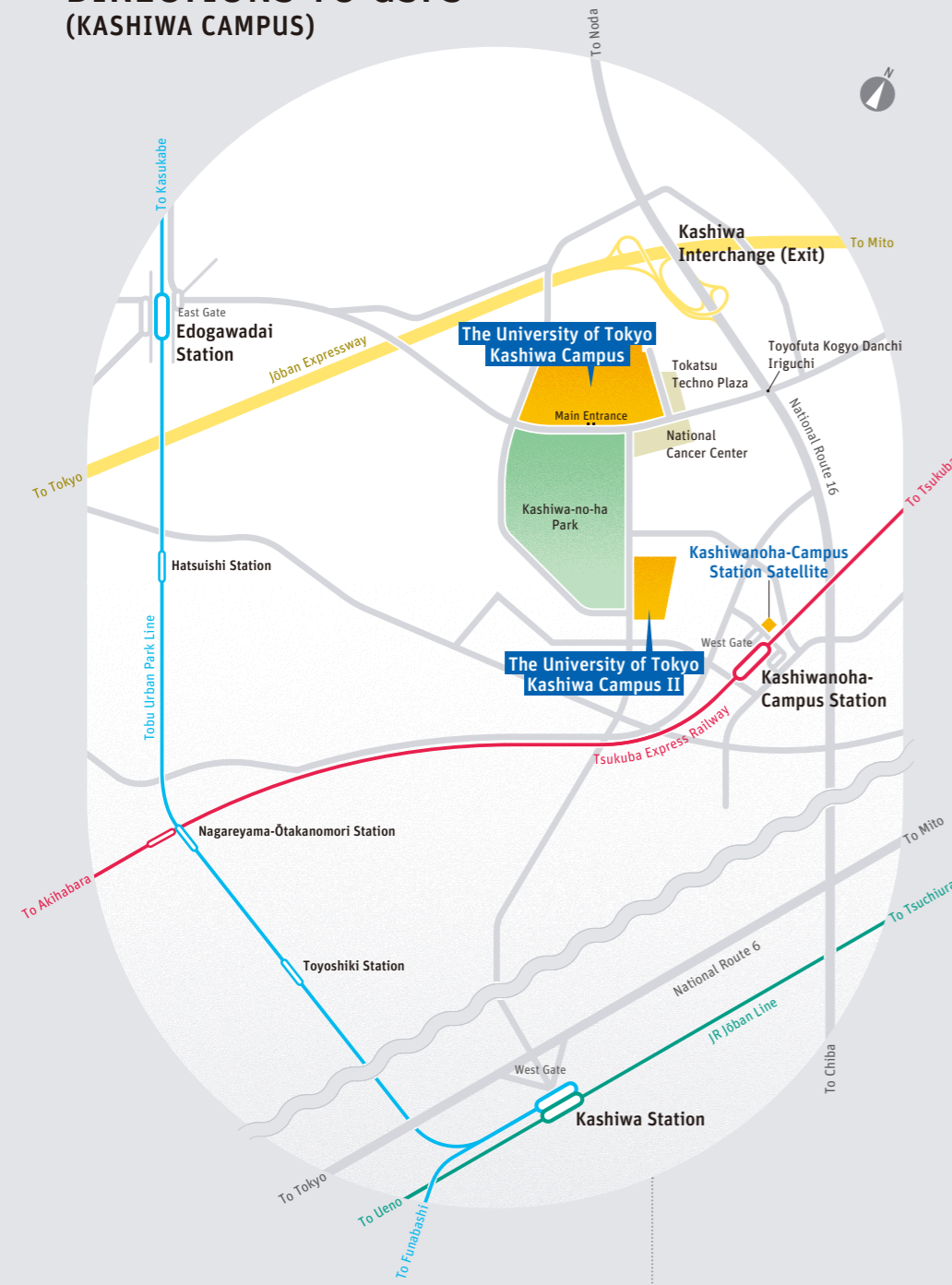


**DIRECTIONS TO GSFS
(KASHIWA CAMPUS)**



By Car

From Kashiwa Interchange (Exit) of the Jōban Expressway

Take the Jōban Expressway. Get off at Kashiwa Interchange (exit), and head for Chiba. Take National Route 16; after driving for 500m, turn right at Toyofuta Kogyo Danchi Iriguchi intersection. You will find the University of Tokyo Kashiwa Campus on your right after 1 km.

By Tsukuba Express (TX)

From Kashiwanoha-Campus Station

Shuttle Bus Service

Operating between Kashiwanoha-Campus station and Kashiwa Campus

Route Bus

Take one of the buses below at Tobu Bus Stop No. 1 on the side of the West Gate of the TX station and get off at Todai Nishi (UT West) or Todai Mae (In front of UT).

Nishi-Kashiwa 03 Bus Bound for Nagareyama-Ōtakanomori Eki Higashi-guchi (Nagareyama-Ōtakanomori Station East Gate) or Todai Nishi (UT West)

Nishi-Kashiwa 04 Bus Bound for Edogawadai Eki Higashi-guchi (Edogawadai Station East Gate)

Nishi-Kashiwa 10 Bus Bound for Edogawadai Eki Higashi-guchi (Edogawadai Station East Gate)

Taxi

Five minutes from TX Kashiwanoha-Campus station West Gate

By JR Jōban Line or

Tobu Urban Park Line

From Kashiwa Station

Route Bus

Take the bus below at Tobu Bus Stop No. 2 on the side of the West Gate and get off at Todai Nishi (UT West) or Todai Mae (In front of UT).

Nishi-Kashiwa 01 Bus Bound for Kokuritsu gan kenkyu center (National Cancer Center) via Kenmin Plaza

Taxi

20 minutes from JR Kashiwa station West Gate

By Tobu Urban Park Line

From Edogawadai Station

Route Bus

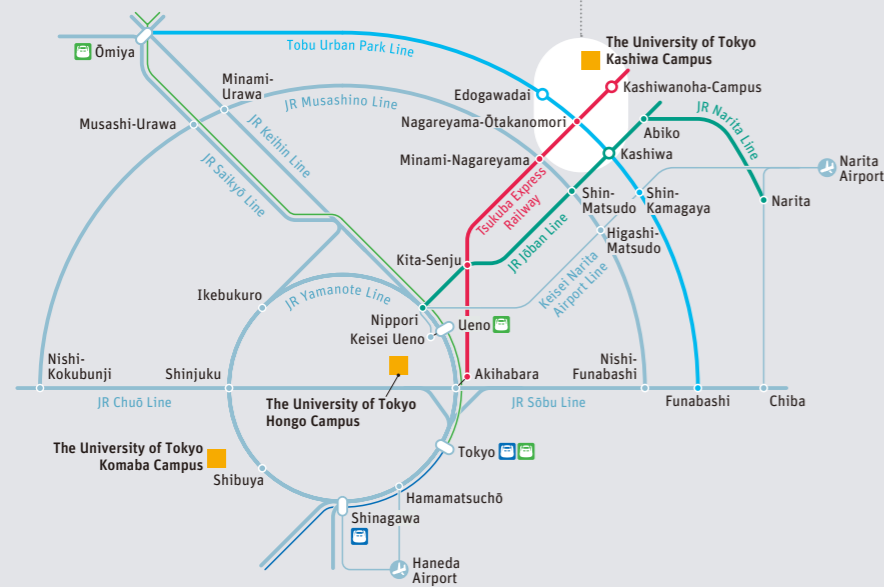
Take either bus below at Tobu Bus Stop on the side of East Gate and get off at Todai Nishi (UT West) or Todai Mae (In front of UT).

Nishi-Kashiwa 04 Bus Bound for Kashiwanoha-Campus Eki Nishi-guchi (Kashiwanoha-Campus Station West Gate)

Nishi-Kashiwa 10 Bus Bound for Kashiwanoha-Campus Eki Nishi-guchi (Kashiwanoha-Campus Station West Gate)

Taxi

Five minutes from Edogawadai Station East Gate



**Graduate School of Frontier Sciences
The University of Tokyo**



5-1-5 Kashiwanoha, Kashiwa-shi, Chiba 277-8561

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The University of Tokyo Jun. 2024



Graduate
School of
Frontier
Sciences
The University
of Tokyo

Graduate School of Frontier Sciences

In academia, the transdisciplinary approaches are becoming increasingly relevant, in addition to the in-depth research of specialties. The Graduate School of Frontier Sciences was established in 1998 to create new disciplines based on the “transdisciplinary” approach with three divisions: Transdisciplinary Sciences, Biosciences, and Environmental Studies.

We pioneer research and education in unexplored fields of academia regardless of conventional disciplinary boundaries. Our mission is to address critical interconnected issues that cannot be completely dealt with due to the limitations of the traditional academic system and to solve grave problems faced by humans to help our society prosper.



Division of Transdisciplinary Sciences

Department of Advanced Materials Science

Department of Advanced Energy

Department of Complexity Science and Engineering



Division of Biosciences

Department of Integrated Biosciences

Department of Computational Biology and Medical Sciences



Division of Environmental Studies

Department of Natural Environmental Studies

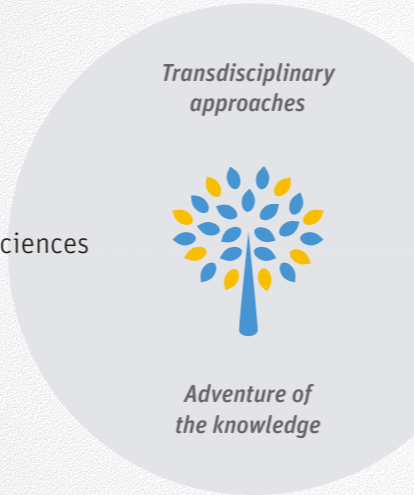
Department of Ocean Technology, Policy, and Environment

Department of Environment Systems

Department of Human and Engineered Environmental Studies

Department of Socio-Cultural Environmental Studies

Department of International Studies



Affiliated Centers

Life Science Data Research Center

Sustainable Society Design Center

Venture into Unknown Fields, Connect with Society, and Create New Disciplines: Experience an Intellectual Adventure!

The future always seeks new knowledge

A knowledge that penetrates problems blocking progress

A powerful torch lighting our way

Data Science, Novel Materials, Resources, Energy, Genomes, Medical Care, Healthcare, Life Principle, the Brain, Complexity, Safety, Risk, Climate Change, Environment, Space, the Earth, Ocean, Social Design, Sustainability, Human Augmentation

All these research fields for the future need undiscovered wisdom, imagination, intuition, and passion.

The Graduate School of Frontier Sciences has pursued research and education in new disciplines with faculty members, staff, researchers, and students eager to solve pressing challenges.

We are venturing out to undiscovered fields and connecting knowledge and society. Let us embark on a challenging but fascinating adventure together!



Campus Life

Various exchange events, such as BBQs, mini concerts, and tennis and basketball competitions, are held on the vast campus. The library has a collection of 48,000 items, including basic books for each academic field and natural science academic journals in automated storages, and excellent facilities such as a media hall where various lecture meetings can be held. These amenities will surely make your campus life satisfying.

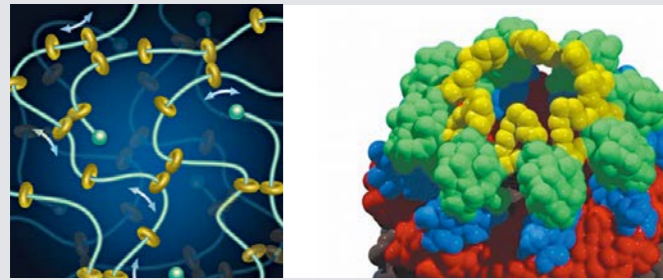




Division of Transdisciplinary Sciences

Creating new fields combining pre-existing scientific and technical fields to contribute to human welfare and happiness

基盤科学研究系



Right: Molecular model of a chaperone to prevent denaturation Left: Slide-ring material with freely moving, cross-linking points. Applications in various fields, such as coatings and damping materials, are currently under development

Department of Advanced Materials Science

Fostering global materials scientists

We conduct pioneering research to find the undiscovered functions hiding in the depths of "materials." We are advancing science and technology for the next generation by various methods, such as unveiling mechanisms and/or developing theories behind various phenomena observed in materials, designing novel devices based on deep understanding of materials, and developing state-of-the-art analytical methods for investigating properties of materials. Through these methods, we strive to establish our department as a global hub for comprehensive and systematic education and research in the field of materials science.



生命科学研究所



Division of Biosciences

Developing human resources promoting transdisciplinary approaches by diversified biosciences, medical science, and bio-informatics



Right: Research materials and subjects (counterclockwise from the left) three-spined stickleback, cricket, Arabidopsis, Ly49A and MHC class I molecules, Drosophila, parasitic nematodes (*Strongyloides venezuelensis*) Left: Experimental scene at wet lab

Department of Integrated Biosciences

Integrating cutting-edge fields in the biosciences and opening new frontiers

We analyze elementary processes and collaborating mechanisms in life phenomena and study topics including the universality and diversity of life, cooperation and competition between living beings, and the origins and evolution of life from the aspects of structure and function. We foster scientists who can contribute to problem-solving in the biosciences and create next-generation bioscience, relying on advanced, transdisciplinary education and research as our philosophy and covering everything from fundamentals to applications.



環境学研究系



Division of Environmental Studies

Constructing a new academia to integrate the diverse elements related to multifaceted environmental issues and guide society for solutions

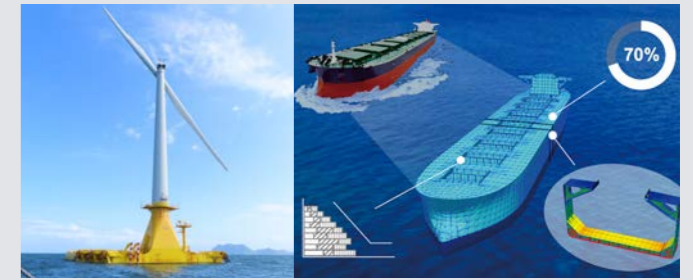


Right: Fieldwork by research vessel Shinsei Maru Left: Landscape observation from the experimental forest, Keiseikaku, Hokkaido

Department of Natural Environment

Nurturing a Better Environment by Researching the Relationship between the Natural Environment and Human Activities

Our department consists of courses on terrestrial and marine environmental studies. The land and the oceans, which account for 70% of the Earth's surface, closely interact. We develop human resources who can understand terrestrial and oceanic environment on a global scale, providing them with comprehensive research and expertise on these environments based on field science.



Right: Digital Twin, a marine transportation system Left: On-site measurement around floating offshore wind turbines

Department of Ocean Technology, Policy, and Environment

Producing professionals for ocean utilization and generation of industry, conservation and creation of marine environment

We conduct education and research contributing to the development of technology and technical policy studies related to ocean utilization and conservation, the generation of new ocean industries, and the creation of ocean environments. We have established programs on ocean utilization, ocean environment, ocean sensing technology, and marine research and development systems. Thus, we foster human resources with the high level of expertise and international perspective to contribute to ocean-related policies, promote new ocean industries and achieve conservation of marine environment.



Right: Plasma confinement experiment device Left: Electric vehicle driving experiment

Department of Advanced Energy

Developing the energy of the future and cutting-edge applications of energy We conduct comprehensive education and research regarding "energy." We make full use of large-scale experiment equipment and work in fields such as aerospace engineering, deep space exploration, advanced electromagnetic energy, nuclear fusion energy, and plasma science and engineering in collaboration with the Japan Aerospace Exploration Agency (JAXA), the Central Research Institute of Electric Power Industry (CRIEPI), and the National Institute for Fusion Science (NIFS).



Right: Large-scale biodata measurement equipment Left: Training of modern medicine at the Institute of Medical Science

Department of Computational Biology and Medical Sciences

We lead biomedical science through the integration of biological, medical, and informatics studies

Our missions are as follows: (1) Analyzing bio-molecule functions and structures, (2) Quantifying genomic information and expression and developing large-scale data analysis algorithms, (3) Understanding complex life systems consisting of diverse genomic information, and (4) Conducting research on ethical, legal, and social issues to enable social implementation of the research findings. We aim to conduct interdisciplinary research that connects life science, computational biology, and medical research with cutting-edge medical care, and to develop human resources who can lead the next generation for these missions.



Right: Ocean environment survey Left: Reaction experiment using supercritical water

Department of Environment Systems

Modeling environmental systems and designing a sustainable society Human activities have significantly affected environmental system. This department conducts research to design and realize a sustainable society by analyzing the interaction and relationship between humans and the natural environment. Our approach employs modeling techniques to investigate the feasibility of elucidating the precise localization of issues, devising appropriate solutions and control strategies, and facilitating education and research endeavors, all with the ultimate goal of designing and actualizing an environmentally conscientious society.



Right: Research on low environmental impact automotive powertrain Left: Development of a cushion-type device that guides users to breathe steadily and deeply

Department of Human and Engineered Environmental Studies

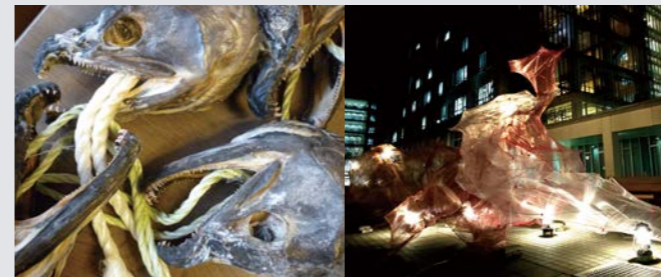
Development of innovative human-centric technologies Leveraging the foundations of engineering and informatics, we conduct human-centric research by designing new component technologies and developing systems to support human activities. Major research themes include life-supporting technology, ensuring the safety and reliability of social infrastructure and working toward carbon neutrality. We aim to build a safe and secure society following our motto "Understand, support, and connect with people."



Right: Haptocline (Haptic and optical clone) Left: Nerve activity visualization

Department of Complexity Science and Engineering

Developing multiscale complexity science and technology We research "complexity" from the nano-to the cosmic scale based on four modules: the brain, astrobiology, extreme matter, and complexity (BAEC) platforms. We foster future researchers and technicians who can discover approaches that merge engineering and science and design revolutionary paradigms.



Right: Hagoromo structure created in a design studio Left: Negotiating with salmon to share the abundance of a more-than-human world

Department of Socio-Cultural Environmental Studies

Exploration of design in interactions among humans, architecture, and local communities Our department is structured into three core programs—Society and Humanity; Spatial Planning and Design; Water and Material Cycle—and a cooperative program in addition: Spatial Information Science. We engage in education and research on the analysis, evaluation, prediction, creation, and management of physical and sociocultural environments at the architectural, urban, regional, and global levels. Students acquire the ability to deal with various challenges in environmental studies by taking a multi-faceted approach to natural and sociocultural sciences.



Right: A rural village in Ghana: Cooking supper together Left: A market in Ethiopia: Merchants connecting cities and rural villages

Department of International Studies

Scientifically resolving international cooperation issues from multidisciplinary perspectives Our department equips motivated students with analytical skills to tackle global problems by exploring topics across three themes: development cooperation, environment and resources, and institutional design. We aim to foster mission leaders and researchers in the field of international cooperation who have the creativity and administrative skills for innovative policymaking.



Affiliated Centers



Right: Sequencer NovaSeq6000
Left: Xenium analyzer



Life Science Data Research Center

Achieving a sustainable environment by analyzing big data on life sciences
The Life Science Research Center (LiSDaC) measures multilayered molecular mechanisms underlying various life phenomena in a systematic manner. We aim to achieve a sustainable environment by discovering the diversity and evolution of life and developing design technologies for life science systems.



Right: Joint fieldwork was conducted in QwaQwa, Republic of South Africa
Left: "Smart City School," a professional education program

Sustainable Society Design Center

Contributing to designing sustainable societies
Societies today face diverse challenges tied to sustainability. The Sustainability Society Design Center offers various educational programs on sustainability science for both graduate students and working professionals. The center brings together interdisciplinary researchers and various stakeholders with the aim to support their work towards transforming sustainable societies.



Right: Practicum in Kashiwanoha, Japan
Left: Practicum in Republic of South Africa

Graduate Program in Sustainability Science (GPSS)

Fostering future leaders with a global perspective and an action-oriented mindset
The Graduate Program in Sustainability Science offers Master's and Doctoral Degrees in sustainability science to foster future leaders with a global perspective and action-oriented mindset who will work toward realizing a sustainable society. Learning experiences, including lectures, practicums, and seminars, are conducted in English. Most students join us from overseas.



An Optimal Environment for Innovative Studies

The Graduate School of Frontier Sciences provides cutting-edge research facilities and an environment to conduct research in association with the government, businesses, and local community.

On an open campus surrounded by lush greenery, the Graduate School of Frontier Sciences houses Japan's top-level research facilities, including the Hypersonic and High-Enthalpy Wind Tunnel and the magnetospheric plasma device Ring Trap-1, and provides the infrastructure to support research. These facilities are partially available to researchers within and outside the university. Thus, they contribute to collaborations among industries, the government, and academia.

The campus is located in Kashiwa, Chiba Prefecture. The city promotes the *Kashiwa-no-ha International Campus Town Initiative*, aiming to develop into an international academic and next-generation environmental city. Having a base of the university-local community association, the Urban Design Center Kashiwa-no-ha in the vicinity of the Kashiwanoha Campus Station, we participate in Kashiwa's smart city social experiments, support venture businesses, and implement several other projects to promote public-private-academia collaborations.

In addition, we are establishing the industry-academia collaboration

hub on the Kashiwa II Campus situated at the heart of the *Tsukuba-Kashiwa-Hongo Innovation Corridor Project*, promoted by the University of Tokyo. Moreover, we support university startups to encourage industry-academia cooperation based in Tokatsu Techno Plaza, operated by Chiba Prefecture, and Todai Kashiwa Venture Plaza, operated by the Organization for Small & Medium Enterprises and Regional Innovation.

Meanwhile, as the university's globalization hub, Kashiwa International Office primarily assists international students and researchers traveling to and living in Japan.

We emphasize the development of human resources with a broad education and expertise by offering various educational programs for students to acquire multifaceted perspectives, communication skills, and implementation ability, in addition to the high-level professional education programs provided by the Institute for Solid State Physics, Atmosphere and Ocean Research Institute, Kavli Institute for the Physics and Mathematics of the Universe, Institute for Cosmic Ray Research on the Kashiwa Campus, Institute of Industrial Science, and Information Technology Center. We actively make a commitment to provide recurrent education for working professionals.



World-leading INovative Graduate Study Program in Proactive Environmental Studies (WINGS-PES)



Five-year program that spans master's-doctoral experience for fostering professionals with environmental knowledge
WINGS-PES is an integrated five-year master-doctoral program for brilliant students (including international students). Based on the characteristics of the location of the Kashiwa Campus and the philosophy of interdisciplinary research promoted by the Graduate School of Frontier Sciences, we aim to develop "Environmental Knowledge Professionals" who can anticipate future issues and proactively propose the direction society should take.

Professional Education Program

We offer educational programs for working professionals in order to strongly promote diverse educational activities to cooperate and share research findings with society.

- System Design School
- Smart City School
- Sustainable Finance School
- Genome School

A Variety of Transdisciplinary Education Programs / Courses

- Nuclear Fusion Research Education Program
- Education Program for High Dimensional Data Driven Science (HD3)
- Deep Space Education Program (DESP)
- Data Scientist Training/Education Program (DSTEP)
- Biomedical Innovation Course
- Medical Genome Science Program (MGSP)
- Computational Biological Science Program (CBSP)
- Integrated Environmental Design Program (IEDP)
- Minor Program in Sustainability Science (MPSS)
- Environment Engineer Training Program
- Environment Manager Training Program