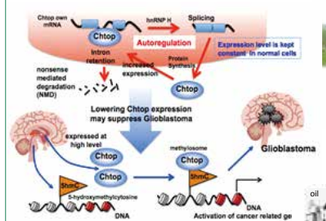
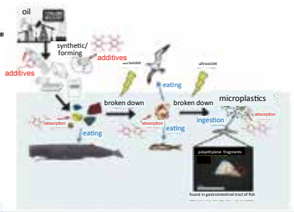
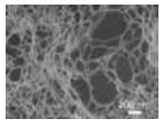
Food



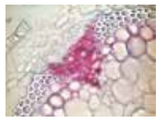


Microprastics carry chemical substances to marine organisms

Abiotic and Biotic Stresses in plants



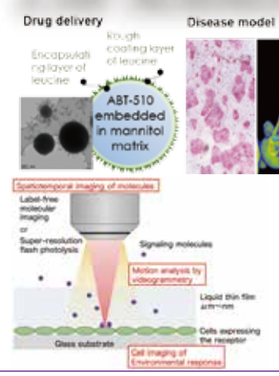
Cellulose nanofibers prepared from plant biomass using nano-engineered technique

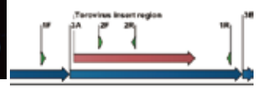


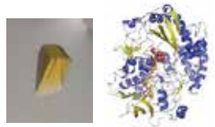
Distinct effects of the mutations in *4CL* genes on lignification of vascular tissue and interfascicular fibers

Energy

Life Science







Crystal structure of Protein structure of glucose dehydrogenase glucose dehydrogenase

-Fuchu Campus

3-5-8 Saiwai-cho, Fuchu-shi, Tokyo 183-8509

□By JR Chuo line, Kokubunji Station
Take the Keio bus (Fuchu Station via Meisei Gakuen, Tera No91) from bus terminal no. 2 boarding area of Kokubunji Station south exit and get off Harumicho bus stop. About 10 minutes bus ride.

□By Keio line, Fuchu Station
Take the Keio bus (Kokubunji Station south exit via Meisei Gakuen, Tera No91) from bus terminal no. 2 of boarding area of Fuchu Station north exit and get off Harumicho bus stop. About 7 minutes bus ride.

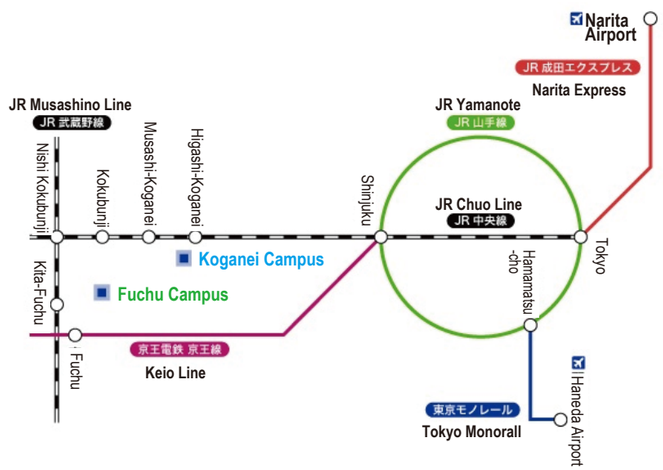
□By JR Musashino line, Kita-Fuchu Station
Walk about 12 minutes to campus.

-Koganei Campus

2-24-16 Naka-cho, Koganei-shi, Tokyo 184-8588

□Take the JR Chuo Line from Tokyo Station (rapid train) to Higashi-Koganei Station: 40 minutes. Walk about 10 minutes to campus.

□Take the JR Chuo line to Musashi-Koganei Station. Walk about 20 minutes to campus.



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3-8-1 Harumi-cho, Fuchu-shi, Tokyo 183-8538 TEL: +81-42-367-5646

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Tokyo University of Agriculture and Technology
Institute of Global Innovation Research

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Challenge to the global problems of "food" and "energy"

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Message

President
Prof. Hiroyuki Ohno

TUAT is a university with distinctive emphasis/focus on education and research in the respective and interdisciplinary fields of agriculture and engineering, which form the foundation of industry nowadays. Under our third medium-term objectives/plan, “to achieve competitive research capabilities on a global level” , we aim to play a major role to lead Japan to the world.
We believe our distinctive strengths will enable us to create unique and new forms of knowledge, as well as driving globalization of our cutting edge research in the both fields.

GIR Dean
Prof. Hidehiro Kamiya

To strengthen our role in promoting global research, the Global Innovation Research Organization,established in 2014, was reorganized as the Institute of Global Innovation Research (GIR) in April 2016, including the three organizations: "Women's Future Development Organization," "Innovation Advancement Organization," and "Organization for Promotion of Tenure-track System". We promote the activities of GIR strategic research teams on three major areas: "food," "energy," and "life science".

GIR Executive Acting Dean
Prof. Chisato Miyaura

Along with Prof. Arie (Vice-Dean, Agriculture) and Prof. Yohda (Vice-Dean, Technology), I organize the GIR committee particularly in the three fields of food, energy and life science, to facilitate international collaborative research in Japan. We endeavor to enhance the further globalization of younger researchers, including graduate students. In the three priority areas, we formed strategic research teams by inviting world's leading researchers from abroad as the core members, to provide the younger researchers with various opportunities to increase their competitiveness and to foster global-innovative human resources.

Institute of Global Innovation Research Website
https://www.tuat-global.jp/ (Japanese)
https://www.tuat-global.jp/english/ (English)

Tokyo University of Agriculture and Technology

Approaches

Tokyo University of Agriculture and Technology (TUAT) was selected by the Japanese government as one of the 12 national universities rapidly promoting global research in 2014. In exploiting our advantages in the agriculture and engineering fields, and as an initiative to enhance our research capabilities, we established the Global Innovation Research Organization in June 2014 to further our goals as a research university. In 2016, it was reorganized as the Institute of Global Innovation Research (GIR), a new research institution at the graduate school.
At the GIR, we prioritize research in three key areas: "food," "energy," and "life science" which constitute an interdisciplinary area between agriculture and engineering fields. We aim to boost the number of international joint research efforts and internationally co-authored papers, creating advanced innovative results for themes with a high social demand in the key areas.

Food

Food is one of the critical challenges that the international community is currently facing. Particularly, food shortages afflict many people living mainly in the Asia-Pacific region. “Food” as a priority theme encompasses both food production and environmental science to solve these issues.

Tadashi Yokoyama Team
■Research and development for increasing yields of rice, soybean and vegetables using advanced biofertilizer technology and their genome information


Prof. Yokoyama


Dr. Gary Stacey


Dr. Sonoko Dorothea Bellingrath-Kimura


Dr. Matthew Reynolds

Nobuhiro Takahashi･Makoto Shibutani Team
■ Elucidation of biological functions aimed at maintaining health・overcoming various diseases and searching for control method


Prof. Takahashi


Prof. Shibutani


Dr. Richard J. Simpson


Dr. Wanzhu Jin

Hideshige Takada Team
■ Impact Assessment of Microplastics in Marine Ecosystems


Prof. Takada


Dr. Peter Ryan


Dr. Richard Thompson


Dr. Hrissi Karapanagioti

Ryo Funada Team
■ Analysis of molecular structure of cell wall for advanced utilization of plant biomass


Prof. Funada


Dr. John Ralph


Dr. Edouard Pesquet

Dr. Peter Kitin

Takashi Gomi Team
■ Research and development of green infrastructure for resilient rural areas


Prof. Gomi


Dr. Roy C. Sidle


Dr. Raghavan Srinivasan

Taishi Umezawa Team
■ Functional and biochemical interactions between abiotic and biotic stress responses in plants


Assoc. Prof. Umezawa


Dr. Scott C. Peck


Dr. Jeffrey Anderson


Dr. Vojislava Grbic

Energy

Energy issues should be considered to be a great challenge facing humanity. “Energy” as a priority theme addresses energy problems according to the application of capacitors, LED, ionic liquids, and smart green mobility.

Tsuyoshi Tanaka･Nobufumi Nakamura Team
■ Innovative marine omics & energy conversion technologies


Prof. Tanaka


Prof. Nakamura


Dr. Bruno Scrosati


Dr. Chris Bowler

Katsuhiko Naoi ･Yoshinao Kumagai Team
■ Development of novel supercapacitor and switching device materials for advanced transportation electric system


Prof. Naoi


Prof. Kumagai


Dr. Patrice Simon


Dr. Bo Monemar

Toshihiko Kuwabara Team
■ Development of novel and fundamental technology to promote smart green mobility


Prof. Kuwabara


Dr.Frédéric Bartlat


Dr. Mathias Lidberg


Dr. Dana Kulic

Yoichi Tominaga Team
■ Development of polymeric materials for flexible energy conversion/storage devices


Assoc. Prof. Tominaga


Dr. Jusef Hassoun


Dr. Erik J. Berg

Dr. Suwabun Chirachanchai

Life Science

Life science has a significant impact on our health and well-being. “Life Science” as a priority theme pushes and precedes the edge of technical possibility, mainly in protein synthesis and life science.

Kazuhiro Chiba･Masaki Inada Team
■ Life-Medical Research Based on Synthetic Drug Evaluation Using Diseases Model Analysis

Prof. Chiba

Assoc. Prof. Inada

Dr. Esko I. Kauppinen

Dr. Hideaki Nagase

Koji Sode Team
■ Development of innovative biodevices employing autonomous sensing actuator

Prof. Sode

Dr. Christofer Robin Lowe

Dr. Ashok Mulchandani

Dr. Antonio Ortega

Kazuhiko Misawa Team
■ Interdisciplinary research initiative of optical science for clarifying in-vivo signaling mechanism

Prof. Misawa

Dr. Hiroaki Matsunami

Dr. Xuehua Zhang

Dr. Atsushi Yabushita

Tetsuya Mizutani Team
■ Research on emerging viral infectious diseases outbreaks in the near future

Prof. Mizutani

Dr. Shinji Makino

Dr. Atsushi Okumura

Dr. Christopher B. Buck

Priority Field *1* **Food**

Food Science | Animal Science
Environmental Science | Protein Synthesis

Production of Food
Environmental Science

Tokyo University of Agriculture and Technology
Institute of Global Innovation Research
Priority fields: Strategic research teams
■ Employment of world’s leading researchers as core professors
“Carrier challenge” (Tenure Track system) etc

- Advancement of international collaboration
- Development of young researchers

Priority Field *2* **Energy**

LED | Ionic Liquid
Capacitor | Green Mobility

Energy Control
Energy efficiency

Biomolecule | Life science
Biodevice | Advanced measurement

Protein Science
Life and Medical Science

Priority Field *3* **Life Science**