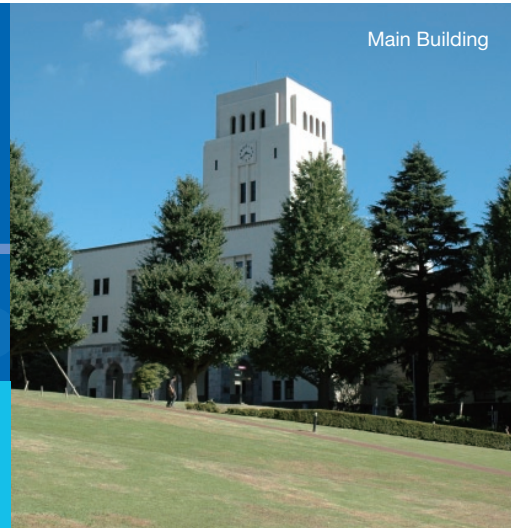




Research Exchanges

VOL. 2



⇒ Foreword

Tokyo Institute of Technology (Tokyo Tech) is Japan's premier university focused on science and engineering education through coursework and advanced research. Tokyo Tech has six graduate and three undergraduate schools with approximately 10,000 students enrolled, equally divided between undergraduate and graduate programs. All students undertake research as part of their education.

Most of the students and faculty are Japanese, since the undergraduate

courses are taught in the Japanese language. At the graduate level, which currently has 25% international students from approximately 80 countries, courses are taught in either English or Japanese.

The Graduate School of Engineering (ENG) has 320 faculty members and 16 departments (see the box at right). In addition, there are 4 leading doctoral programs that educate specifically on energy, nuclear safety, bioinformatics and global leadership.

→ Departments

- Metallurgy & Ceramics Science
- Organic & Polymeric Materials
- Applied Chemistry
- Chemical Engineering
- Mechanical Sciences & Engineering
- Mechanical & Control Engineering
- Mechanical & Aerospace Engineering
- Electrical & Electronic Engineering
- Physical Electronics
- Communications & Computer Engineering
- Civil Engineering
- Architecture & Building Engineering
- International Development Engineering
- Nuclear Engineering
- Chemistry & Materials Science
- Engineering Fundamentals & Strategic Planning

⇒ Research Student Exchange Motivation

In today's global economy, an engineer needs not only advanced knowledge in their fields of study, but also global competencies, international experience and communication skills. As a result, Tokyo Tech ENG has established research exchange programs (see pages 2 & 3) with overseas univ. partners to allow its students to attain these skills. Tokyo Tech students who participate in overseas research

exchanges return to campus exhibiting greater maturity, higher self-confidence and improved communication skills. To internationalize students who do not travel overseas, ENG hosts talented international research exchange students in its professors' laboratories. The professor serves as both mentor and advisor, thus the laboratory research experience is similar to on-the-job-training.

⇒ Why apply for a research exchange at Tokyo Tech?

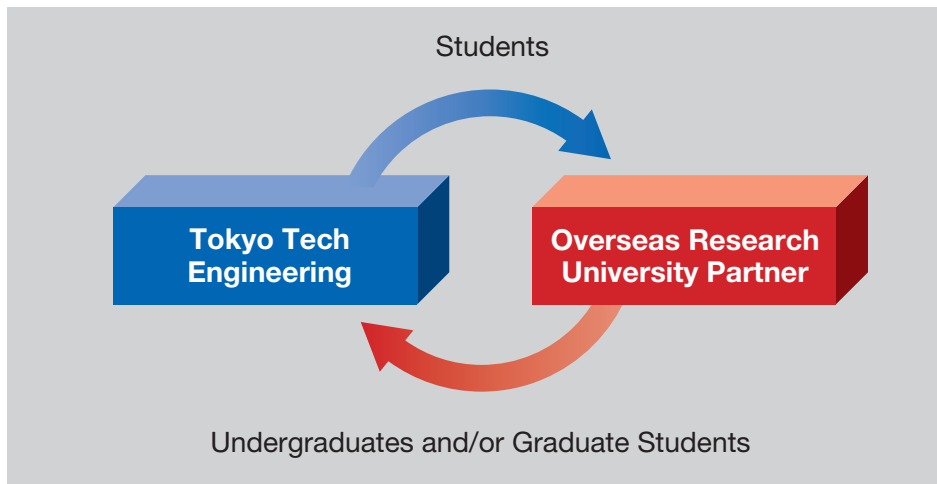
A research exchange allows students to directly experience an excellent academic environment with high tech research facilities and work with renowned faculty. It also allows one to experience life in Tokyo: explore its museums, festivals, parks, temples and

experience Japanese traditional/pop culture, martial arts, and enjoy Japanese cuisine. Tokyo is also conveniently located for weekend trips to world heritage sites, mountain hiking, bathing in hot springs, sailing, or spending time at the beach.

→ About

This brochure outlines science and engineering research exchange programs, often called internships, in which the Graduate School of Engineering participates or organizes.

⇒ Research Student Exchange Model



The research exchange model is shown above: Tokyo Tech Engineering (graduate) students are dispatched with partial financial support for several months to do research overseas, and

undergraduates and/or graduate students are accepted in exchange. The summer schedule is shown below and photos of participants in various activities are shown on pages 2-4.

⇒ Tokyo Tech Summer Research Exchange Program

Activity	June	July	August
Arrival & orientation	★		
Survival Japanese class	↔		
Factory Tours	↔	↔	
Laboratory research, 10 weeks	←————→		
Workshop (MISW) & departure			★

Inbound exchange students join a professor's laboratory and conduct research projects under faculty supervision. Students can also join industrial factory tours (High Tech Japan class) and are eligible to attend special lectures and participate in activities relating to Japanese culture

(tea ceremony). In August, the annual Multi-disciplinary International Student Workshop (MISW) is held, in which students present their summer research results (see photos on p. 4). Awards are given for the best oral and poster presentations at this workshop.

1 Summer Exchange Research Program (SERP)

The SERP began in 2005, and is an overseas summer exchange program for stays of several months with EU and US partner universities. Participants must be enrolled at a university listed at

the right and apply through their home university SERP coordinator. Funding for the exchange is provided by the dispatching university or by the participant.



Cherry tree-lined boardwalk

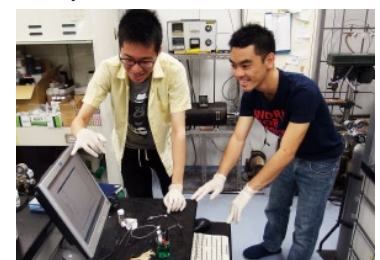
→ Summer activities



AOTULE welcome reception



Faculty research discussion



Research Lab

→ SERP Partner Universities

- Imperial College London (UK)
- University of Cambridge (UK)
- University of Oxford (UK)
- University of Warwick (UK)
- University of Southampton (UK)
- Ecole Polytechnique (France)
- Pierre and Marie Curie Univ. (France)
- RWTH Aachen University (Germany)
- Universidad Politécnica de Madrid (Spain)
- University of Minnesota (USA)
- University of Wisconsin-Madison (USA)
- University of California Santa Barbara (USA)
- The Pennsylvania State University-University Park (USA)

2 Asia-Oceania Top University League on Engineering (AOTULE) Student Exchange Programs

The AOTULE was founded in 2007, consisting of engineering programs at research universities in Asia and Oceania. A graduate student workshop, Administration staff and

Dean's Meeting are held annually as well as student exchange programs. A brief outline of programs are below. For further information on the AOTULE, see the website.

→ <http://www.aotule.eng.titech.ac.jp/index.htm>

A Tokyo Tech Inbound Program

Tokyo Tech ENG sponsors a dozen of summer graduate student researchers annually. The summer program activities are shown on page 2.

In this program, graduate students from AOTULE partners are selected based upon nominations from their home univ. engineering Dean's office. The students undertake research projects on topics of their choice in a host professor's laboratory and attend a student workshop (MISW) at the end of the summer, where they present

their research results.

Tokyo Tech engineering partially supports participant travel, living and housing expenses.

B Overseas Partner Programs

AOTULE partner universities (e.g. Bandung Institute of Technology in Indonesia) host AOTULE univ. students on their campuses to participate in their summer programs. In addition, several other AOTULE universities organize university-wide summer programs on their campuses.

3 Externally funded exchange programs

To further promote student mobility, Tokyo Tech receives external funding from overseas and Japanese governmental organizations for specific programs, such as the EU's Erasmus Mundus program. For example, until 2017 Tokyo Tech is part of a 12-university Japan-Korea-EU Consortium called EASED that supports energy based research exchanges for

faculty, post-docs, and Ph.D. students (www.ecp.fr/em_eased). In addition, Tokyo Tech has received a JSPS grant to promote student internships and research exchanges overseas under the Tokyo Institute of Technology Research Opportunity Program (TiROP) until 2015.

See the website below for details.

→ <http://www.ipo.titech.ac.jp/tirop/>

➤ Searching for ENG Faculty and Their Research Areas

Faculty members' research areas can be identified by a keyword search in the Tokyo Tech Research Repository (see

below) or by Googling a research topic keyword and "titech.ac.jp", and then cross-checking with the ENG dept. list.

→ http://t2r2.star.titech.ac.jp/index_en.html

➔ AOTULE members

- The University of Melbourne (Australia)
- Tsinghua University (China)
- The Hong Kong Univ. of Science & Technology
- Bandung Institute of Technology (Indonesia)
- Tokyo Institute of Technology (Japan)
- KAIST (Korea)
- University of Malaya (Malaysia)
- Nanyang Technological University (Singapore)
- National Taiwan University (Taiwan)
- Chulalongkorn University (Thailand)
- Indian Institute of Technology Madras (India)*
- Hanoi University of Science and Technology (Vietnam)*

* - pending until Nov. 2014 meeting



Lab seminar



Survival Japanese Class

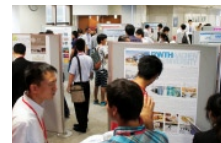


NHK research lab tour



Japanese Tea Ceremony

⇒ Photographs from the MISW Student Workshop



MISW poster session



MISW Best student presentation Award with Engineering Dean

⇒ Factory Tours



⇒ Past Summer Exchange Student Comments

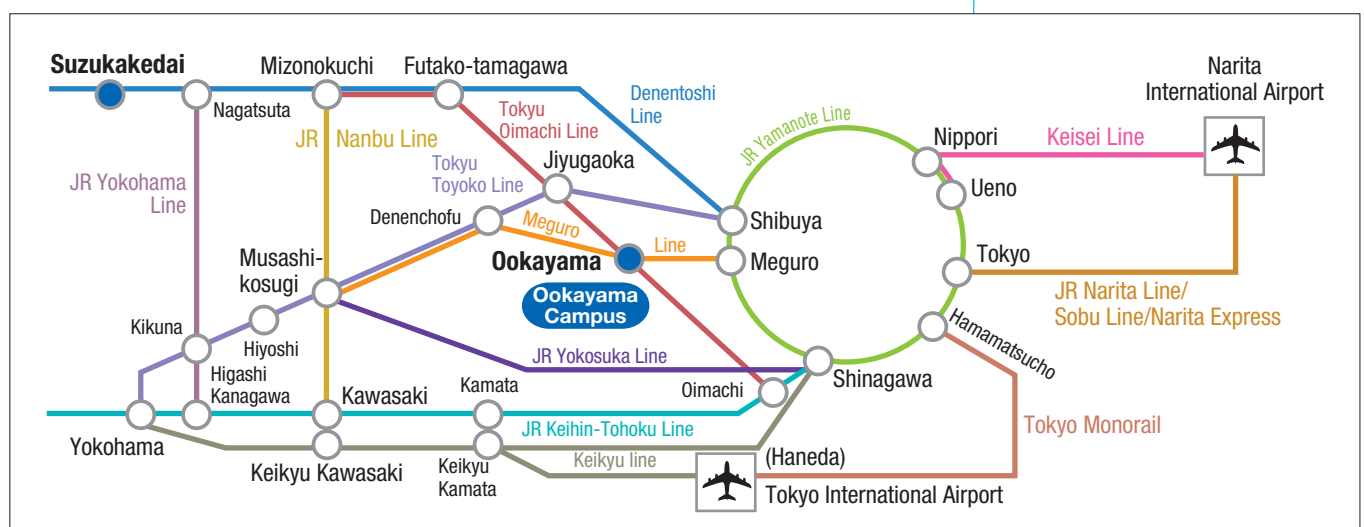
- I love the AOTULE summer program and Japan a lot and I sincerely miss Tokyo Tech!
- The (engineering) summer program contains a lot of events, like courses, factory tours and travel, besides our regular research work. I think these events are well organized and provides us with a better understanding of Japanese culture and technology.
- I really appreciate the staff in the engineering international office, because of their support, I stayed without any problem.
- Without a doubt my experience at Tokyo Tech as a SERP student has been the best time of my life. I am extremely grateful to Tokyo Tech (Engineering) for the opportunity of a lifetime; I wish I could repeat my stay a hundred times over!
- I wanted to stay longer than 3 months...

⇒ Location of Tokyo Tech's Ookayama campus

Tokyo Tech's school of engineering is located on the Ookayama campus, shown below in relation to Tokyo's two international airports and rail network. The Ookayama campus is situated in front of the Ookayama train station. Another campus is located in Yokohama, near Suzukakedai train station.



Japan



Further information and contact

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