



Swiss Federal  
Institute of  
Technology Zürich  
(ETH Zürich)

The University of  
Tokyo

Project to Establish  
a Strategic Partnership

FY2017



東京大学  
THE UNIVERSITY OF TOKYO

**ETH** zürich



## Foreword

With the cooperation of the School of Science, the School of Engineering, the Graduate School of Information Science and Technology, and the International Center for Elementary Particle Physics, the University of Tokyo (UTokyo) aims to establish a strategic partnership with the Swiss Federal Institute of Technology Zürich (ETH Zürich) that will promote academic and student exchange between the two institutions. This strategic partnership is being implemented as part of the “Constructing a Global Campus Model at UTokyo” project, which started in FY2014.

There is already a history of interaction between UTokyo and ETH Zürich as a result of collaborative research, symposia, and student and researcher exchanges. Through this project, we intend to extend this interaction over a wider range of disciplines and develop a structured system for academic exchange between the two universities.

### Constructing a Global Campus Model at UTokyo

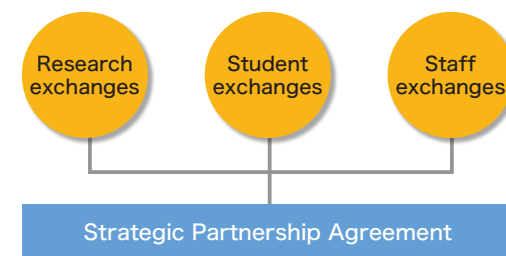
This project was selected as one of the Ministry of Education, Culture, Sports, Science and Technology’s “Top Global University Projects” in FY2014. Its three main aims are:

1. To establish strategic partnerships at the whole-university level, with the aim of developing close, creative, and collaborative relationships with the top universities in the world
2. To radically strengthen our university’s educational capability and comprehensively reform education in response to globalization
3. To establish a core platform to strengthen and integrate our university’s international operations

We aim to construct a model global campus in the 10 years leading up to FY2023.

## About the Strategic Partnership Project

UTokyo’s strategic partnerships are close, creative, and flexible collaborative relationships that make use of the strengths of our university as a whole and those of a limited number of partner universities. They are a new type of inter-university relationship that take a step beyond conventional academic exchange agreements with overseas universities. Building on ties established through collaborative research in cutting-edge fields, UTokyo’s strategic partnerships aim to generate a variety of collaborative projects and academic exchanges that fit the circumstances and requests of both institutions.



UTokyo’s first strategic partnership was with Princeton University, and we have now established partnerships with 18 other universities, including ETH Zürich.

The Strategic Partnership Project aims to open up the frontiers of academic investigation and promote collaborative research through activities such as joint symposia and reciprocal exchanges, primarily involving young researchers. By actively promoting student exchanges, the project will foster “global” scientists who are capable of engaging in activities on an international level. Moreover, exchange of administrative staff members will strengthen the administrative support for academic and student exchanges.

At the start of the Strategic Partnership Project, there were already more than 10 collaborations between researchers at UTokyo and ETH Zürich, mainly in the natural sciences. The Department of Chemistry (School of Science, UTokyo) is particularly active, with researchers interacting across a broad range of fields, including physical, organic, and inorganic chemistry. The Center for Nuclear Study (School of Science), the Departments of Chemical System Engineering and Architecture (School of Engineering), the Graduate School of Information Science and Technology, and the International Center for Elementary Particle Physics at UTokyo also participate in academic and student exchanges with ETH Zürich. Furthermore, the two universities are both members of the International Alliance of Research Universities (IARU), and participate in reciprocal exchanges with the backing of this organization.

## A Comprehensive, Close, and Collaborative Relationship



## Revision of the Inter-university Agreement

With the agreement of the School of Science, the School of Engineering, the Graduate School of Information Science and Technology, and the International Center for Elementary Particle Physics, as well as the School of Economics, the Graduate School of Frontier Sciences, and the School of Agriculture and Life Sciences, the Strategic Partnership Agreement was signed by Prof. Lino Guzzella, President of ETH Zürich, and Prof. Makoto Gonokami, President of UTokyo, and went into effect on January 12, 2016.



Strategic Partnership Agreement between ETH Zürich and UTokyo

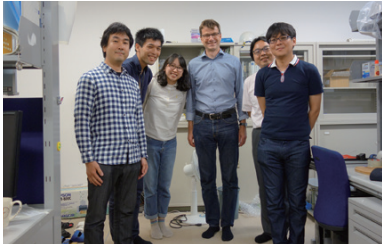


# Academic Staff Exchanges

## ◆2017

June 27 – 30

Prof. Klaus Kirch of the Department of Physics (ETH Zürich) visited Prof. Yasuhiro Sakemi of the Center for Nuclear Study (School of Science, UTokyo) and both took part in a meeting of the nEDM Experimental Program Review Committee, an international review committee on the use of neutrons in particle physics. They also exchanged views on experimental techniques and the development of technology for the highly sensitive measurement of magnetic fields.



Prof. Kirch (fourth from left) with young staff and graduate students from Prof. Sakemi's group



From left: Prof. Sakemi (UTokyo), Prof. Emeritus Asahi (Tokyo Institute of Technology), Prof. Kirch (ETH Zürich), and Prof. Momose (University of British Columbia)

September

Associate Prof. Hirokazu Sugiyama of the Department of Chemical System Engineering (School of Engineering, UTokyo) gave a lecture at the symposium held at ETH Zürich on the occasion of Prof. Konrad Hungerbühler's retirement. Prof. Hungerbühler was Prof. Sugiyama's supervisor while he was a doctoral student in the Institute of Chemical and Bioengineering (Department of Chemistry and Applied Biosciences) at ETH Zürich. To coincide with this lecture, Prof. Sugiyama visited his collaborators at F. Hoffmann-La Roche, Ltd., where he also used to work.



After the symposium in honor of Prof. Hungerbühler's retirement, with Prof. Hungerbühler in the center

September 28

Prof. Masashi Haneda, Executive Vice President of UTokyo, visited ETH Zürich. Prof. Haneda and Prof. Hiroaki Suga of the Department of Chemistry (School of Science, UTokyo) met Dr. Sarah Springman, Rector of ETH Zürich; Prof. Gerhard Schmitt, Senior Vice President of ETH Global; and Prof. Gisbert Schneider, Associate Vice President of ETH Global from 2018, to discuss the diverse points that will direct future collaborations in research, education programs, and student exchanges between the two universities.

October 10

Prof. Kaoru Yamanouchi of the Department of Chemistry (School of Science, UTokyo) gave a lecture at ETH Zürich's Physical Chemistry Colloquium. His host was Prof. Hans Jakob Wörner of the Laboratory of Physical Chemistry (Department of Chemistry and Applied Biosciences).

## ◆2018

January 17

Prof. Hiroaki Suga and Dr. Kate Harris, University Research Administrator (URA) in the School of Science (UTokyo), met with Profs. Jeffery Bode, Donald Hilvert, and Yoko Yamakoshi of the Department of Chemistry and Applied Biosciences (ETH Zürich), and Dr. Rahel Byland, Programme Manager at ETH Global, to discuss ways to promote and expand the strategic partnership. They also met Dr. Marjan Kraak, Head of the Spin-off Group at ETH transfer, and discussed the possibility of including entrepreneurship among the strategic partnership activities.



Prof. Suga with Dr. Kraak

Mid-March

Prof. Hiroshi Imai and Assistant Prof. Hidefumi Hiraishi, both of the Graduate School of Information Science and Technology (UTokyo), visited ETH Zürich with Mr. Kohji Liu, an undergraduate student in their research group. They discussed their current and future collaborations with ETH Zürich and finalized plans for Prof. Imai to host an exchange student from Prof. Karsten Borgwardt's group in the Department of Biosystems Science and Engineering from April 2018.

# Exchanges and Recruitment of Students and Young Researchers

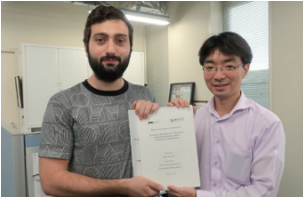
## ◆2017

Summer Semester

A graduate student from ETH Zürich spent one semester at the Graduate School of Information Science and Technology (UTokyo) as an exchange student.

April – August

Mr. Shant Dakessian, a student at ETH Zürich, came to UTokyo to work on research for his Master's thesis in Associate Prof. Hirokazu Sugiyama's research group in the Department of Chemical System Engineering (School of Engineering).



Mr. Dakessian with Associate Prof. Sugiyama

August – September

Mr. Keisho Yabuta, a first-year doctoral student in the Department of Chemical System Engineering (School of Engineering, UTokyo), carried out a 2-month internship in the Swiss pharmaceutical company F. Hoffmann-La Roche, Ltd.



Dr. Strübing of F. Hoffmann-La Roche, Ltd. with Mr. Yabuta, a first-year doctoral student at UTokyo

September

Ms. Risa Wakabayashi, a fourth-year Bachelor's student enrolled in the Global Science Course in the Department of Chemistry (School of Science, UTokyo), spent 1 month in Prof. Donald Hilvert's laboratory in the Department of Chemistry and Applied Biosciences at ETH Zürich.

From September

Ms. Anicia Zeberli, a graduate of ETH Zürich who spent half a year in Associate Prof. Hirokazu Sugiyama's research group last year, began her doctoral studies at UTokyo.

Autumn Semester

A graduate student from ETH Zürich and one from the Graduate School of Information Science and Technology (UTokyo) spent one semester in each other's institutions as exchange students.

September 25 – 29

Dr. May Szedlak of the Department of Computer Science (ETH Zürich) visited the Graduate School of Information Science and Technology at UTokyo. She gave a lecture for graduate students titled "Algorithms for Abstract Linear Programming" and a seminar on her specialist field of study.

From October 1

Mr. Ryoto Iwai, a first-year doctoral student in the Department of Physics (School of Science, UTokyo) was accepted into ETH Zürich's PhD program. He is now working on new research at the Paul Scherrer Institute (PSI) under the supervision of Prof. Klaus Kirch.

## ◆2018

January 17

Associate Prof. Yusuke Obuchi; Dr. Shuntaro Nozawa, a project researcher; and five Master's students from the Department of Architecture (School of Engineering, UTokyo) visited the Next Evolution in Sustainable Building Technologies (NEST) experimental research facility at the Swiss Federal Laboratories for Materials Science and Technology (Empa) with Dr. Russel Loveridge, Managing Director of the National Centre of Competence in Research (NCCR) Digital Fabrication at ETH Zürich. Prof. Obuchi and two of his students, Ms. Ruta Stankeviciute and Mr. Otto Lindstam, then demonstrated the group's research to students in ETH Zürich's Master of Advanced Studies in Architecture and Digital Fabrication course.



Tour of the robotic concrete casting system at the NEST facility



Demonstration for students in the Master of Advanced Studies in Architecture and Digital Fabrication course

Staff Exchanges

◆2018

January 17 – 18

Dr. Kate Harris, University Research Administrator (URA) in the School of Science (UTokyo), visited ETH Zürich to learn about the support systems they have in place to help researchers focus on their research. She met Ms. Agatha Keller, Co-Head of EU GrantsAccess; Ms. Annika Glauner, Research Development Manager and Senior Policy Advisor; and Dr. Sonja Negovetic, Deputy Head of the Office of Research, and discussed international grant applications as well as ETH Zürich's internal grant system for high-risk research. She also talked about fundraising techniques with Mr. Walter Esposito, who is responsible for Donor Relations at the ETH Zürich Foundation.



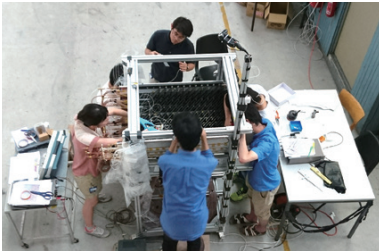
Dr. Harris with Mr. Esposito of the ETH Zürich Foundation

Summer Programs

◆2017

August 22 – 25

Four Master's students from the Department of Physics (School of Science, UTokyo) and two graduate students from ETH Zürich participated in the third summer school program held at the Paul Scherrer Institute (PSI), where they worked together with researchers from other countries to learn about cutting-edge research and experimental technology in particle physics.



Summer school program at PSI

Symposia, Seminars, and Workshops

◆2017

November 15 – 16

Prof. Kimito Funatsu's research group in the Department of Chemical System Engineering (School of Engineering, UTokyo) organized the 5th Autumn School on Chemoinformatics, and invited Prof. Gisbert Schneider from the Institute of Pharmaceutical Sciences (Department of Chemistry and Applied Biosciences, ETH Zürich) to give a lecture on drug discovery.

◆2018

January 16

The "2nd ETH Zürich-The University of Tokyo Strategic Partnership Symposium on Science, Design, Manufacturing, and Innovation" was held at ETH Zürich, with a total of 61 participants: 30 from ETH Zürich, 30 from UTokyo, and 1 from F. Hoffmann-La Roche, Ltd. Lectures in fields ranging from particle physics to architectural design brought together researchers from diverse backgrounds and prompted lively discussions. The symposium ended with a poster session, with 33 posters presented mainly by students and young researchers. After the symposium Dr. Russell Loveridge, Managing Director of the National Centre of Competence in Research (NCCR) Digital Fabrication (ETH Zürich), led a guided tour of the Arch\_Tec\_Lab, which was constructed through interdisciplinary collaboration using new digital fabrication technologies.



Poster session



Presentation by Assistant Prof. Ryohei Hisano of the Social ICT Research Center (UTokyo)



Robotic Fabrication Laboratory in the Arch\_Tec\_Lab

February 14

Prof. Didier Sornette of the Chair of Entrepreneurial Risks (Department of Management, Technology and Economics, ETH Zürich) visited the Graduate School of Information Science and Technology (UTokyo) for a timely workshop titled "Virtual Currencies and Privacy towards Frontier ICT Education." The workshop was held in connection with the Graduate Program for Social ICT Global Creative Leaders.

March 22

The Department of Architecture (School of Engineering, UTokyo) invited guest speakers from ETH Zürich to a talk session on architecture and digital technology. The purpose of the talk session was to review the pavilion project that Associate Prof. Yusuke Obuchi's research group has been working on for the last 5 years by drawing comparisons with similar examples from other universities.

Other Activities

◆2017

October 30

A manuscript on research carried out in collaboration between Associate Prof. Hirokazu Sugiyama of the Department of Chemical System Engineering (School of Engineering, UTokyo) and F. Hoffmann-La Roche, Ltd. was accepted for publication by *AIChE Journal*. The first author of the article is Mr. Gioele Casola, who graduated from ETH Zürich and is now a doctoral student in Prof. Sugiyama's group.

December

Dr. Rainer Schmidt of F. Hoffmann-La Roche, Ltd. was elected as a Fellow of the Faculty of Engineering at UTokyo. Dr. Schmidt has participated in and contributed to the creation of the strategic partnership between ETH Zürich and UTokyo as a representative of the Swiss industrial sector.

Ongoing

The Center for Nuclear Study (School of Science, UTokyo) is preparing an application for the Japan Society for the Promotion of Science (JSPS) Core-to-Core Program and plans to invite Prof. Klaus Kirch of the Department of Physics (ETH Zürich) to be one of the core institutions in a counterpart country.

See [http://www.s.u-tokyo.ac.jp/UTokyo\\_ETHZ/](http://www.s.u-tokyo.ac.jp/UTokyo_ETHZ/) for more details.



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