



Swiss Federal
Institute of
Technology Zürich
(ETH Zürich)



The University of
Tokyo

Project to Establish
a Strategic Partnership

FY2019



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

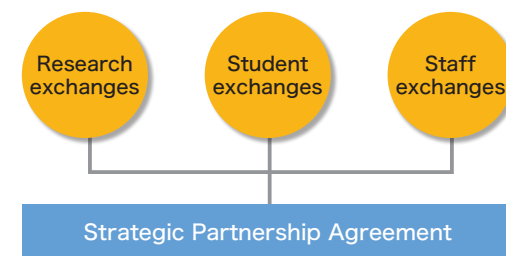
This project was selected as one of the Ministry of Education, Culture, Sports, Science and Technology’s “Top Global University Projects” in FY2014. Its three main aims are:

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 nine other strategic partner universities, including ETH Zürich, and nine prospective strategic partners.

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

◆2019

April Dr. Sara Badr, who received her Doctoral degree from ETH Zürich in 2017, was appointed as a project assistant professor in the Hirao-Sugiyama group in the Department of Chemical System Engineering (School of Engineering, UTokyo).



Assistant Prof. Badr

April 10 Prof. Martin Quack, Professor Emeritus in the Department of Chemistry and Applied Biosciences (ETH Zürich) visited UTokyo to give a lecture at the Department of Chemistry Zasshikai Seminar.

July Prof. Toshinori Mori and Associate Prof. Wataru Ootani of the International Center for Elementary Particle Physics (UTokyo) visited the Paul Scherrer Institute (PSI). They held a meeting about the summer school program that would be held at PSI in September.

August 21 – 29 November 9 – 19 Project Assistant Prof. Ryohei Hisano of the Social ICT Research Center (Graduate School of Information Science and Technology, UTokyo) visited ETH Zürich to discuss research that he is collaborating on with Prof. Didier Sornette of the Chair of Entrepreneurial Risks (Department of Management, Technology and Economics, ETH Zürich). They plan to continue their collaboration into the next academic year.

August 27 Prof. Kimito Funatsu of the Department of Chemical System Engineering (School of Engineering, UTokyo) took the opportunity to discuss his collaborative research with Prof. Gisbert Schneider of the Institute of Pharmaceutical Sciences (Department of Chemistry and Applied Biosciences, ETH Zürich) at the American Chemical Society Annual Meeting, where he was also presented with the Herman Skolnik Award.



Reception after the Herman Skolnik Award ceremony, with Prof. Funatsu (second from left) and Prof. Schneider (right)

September 16 – 20 Associate Prof. Yusuke Obuchi of the Department of Architecture (School of Engineering, UTokyo), and a member of his staff visited Profs. Fabio Gramazio and Matthias Kohler’s research group in the Department of Architecture (ETH Zürich), where they discussed their collaborative project organized by the Swiss government to design and build a pavilion for the House of Switzerland for the 2020 Tokyo Olympics.

November 17 Prof. Kimito Funatsu of the Department of Chemical System Engineering (School of Engineering, UTokyo) visited Prof. Gisbert Schneider of the Institute of Pharmaceutical Sciences (Department of Chemistry and Applied Biosciences, ETH Zürich) to discuss their research on drug design.

◆2020

January 30 – February 5 Associate Prof. Yusuke Obuchi of the Department of Architecture (School of Engineering, UTokyo) visited the National Centre of Competence in Research (NCCR) Digital Fabrication at ETH Zürich, where he attended a design review for graduate students at Gramazio Kohler Research. He also visited the digital fabrication facility at ERNE, a Swiss company that sponsors Gramazio Kohler Research, and held meetings with various governmental and industrial organizations.

February 6 – 7 Prof. Yasuhiro Sakemi of the Center for Nuclear Study (School of Science, UTokyo) and Prof. Klaus Kirch of the Department of Physics (ETH Zürich) participated as reviewers in the external advisory board meeting for an international particle physics collaboration at TRIUMF, Canada’s particle accelerator center. They took the opportunity to discuss the progress on their collaborative development of a magnetometer.

February 24 – March 1 Associate Prof. Yusuke Obuchi of the Department of Architecture (School of Engineering, UTokyo) invited Mr. Hannes Mayer, Senior Researcher in Gramazio Kohler Research (ETH Zürich) to give a lecture to his students at UTokyo. Mr. Mayer also reviewed the students’ research results, took part in meetings with the Japanese sponsors of their collaborative project, and visited the site on which they will build the pavilion for the House of Switzerland as part of the 2020 Tokyo Olympics.

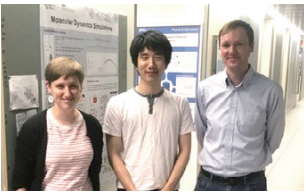
Exchanges and Recruitment of Students and Young Researchers

◆2019

January – August Project Assistant Prof. Ryohei Hisano of the Social ICT Research Center (Graduate School of Information Science and Technology, UTokyo) supervised Ms. Tianqi Wang, a Master’s student from the Seminar for Statistics (Department of Mathematics, ETH Zürich) in her Master’s thesis project. Her thesis was titled “An In-Depth Analysis of the Impact of ESG Investing on Returns Using Large-Scale News Data”.

April – August Three students from ETH Zürich, Mr. Manuel Grossmann, Ms. Simona Lara Santamaria, and Mr. Matteo Signer, spent the spring semester at the Graduate School of Information Science and Technology (UTokyo). They carried out research in the groups of Project Associate Prof. Rie Yamaguchi, Prof. Yoshihiko Nakamura, and Prof. Takeo Igarashi, respectively.

June – September Mr. Yamato Komatsu, a second year Doctoral Student in the Department of Chemistry (School of Science, UTokyo), spent 3 months in Prof. Sereina Riniker’s group in the Department of Chemistry and Applied Biosciences (ETH Zürich) to start a new collaborative research project. The project aims to evaluate the membrane permeability of peptides discovered at UTokyo and to use computational chemistry to simulate its three-dimensional structure. He is now using the simulation results to start a new collaborative research project, and hopes to continue to take advantage of the different expertise of the two groups.



Mr. Komatsu (center) with Prof. Riniker (left) and Dr. König Gerhard, a postdoctoral researcher at ETH Zürich

September Mr. Philipp Zuercher, who received his Master’s degree from ETH Zürich in 2019, joined the Hirao-Sugiyama group in the Department of Chemical System Engineering (School of Engineering, UTokyo) as a Doctoral student.

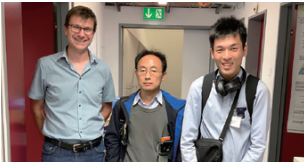
◆2020

March – May Mr. Fan Shi, a Doctoral student in Prof. Masayuki Inaba’s group in the Graduate School of Information Science and Technology (UTokyo), was selected by the NCCR Robotics PhD/Postdoc Exchange Programme to spend 3 months at the Swiss National Centre of Competence in Research (NCCR) at ETH Zürich.

Staff Exchanges

◆2019

September 5 – 6 Prof. Yasuhiro Sakemi of the Center for Nuclear Study (School of Science, UTokyo) and his group are continuing to work with Prof. Klaus Kirch of the Department of Physics (ETH Zürich) on the development of magnetic shielding technology. Dr. Yasuteru Kotaka, a technical specialist in Prof. Sakemi’s group, visited the Paul Scherrer Institute (PSI) to discuss the performance and construction of their large-scale magnetic shielding room.



Dr. Kotaka (center) with Prof. Kirch (left) and Assistant Prof. Kazuo Tanaka (Tohoku University) (right)

◆2020

February 19 Dr. Kate Harris, University Research Administrator (URA) in the School of Science (UTokyo), visited ETH Global to discuss how they could work more closely together to promote the partnership.

Summer Programs

◆2019

September 5 – 6 Four Master’s students from the Department of Physics (School of Science, UTokyo), two graduate students from ETH Zürich, three from Italy, and one from the International Center for Elementary Particle Physics (ICEPP)’s collaboration partner at Kyushu University participated in the fifth summer school program held at the Paul Scherrer Institute (PSI). The aim of the program is to teach students about cutting-edge research and experimental technology in particle physics through hands-on training and active participation in international collaborative research.



Summer school program at PSI

Symposia, Seminars, and Workshops

◆2019

June 4 – 5
October 15 – 16

International seminars on the international collaborative research being carried out at the Paul Scherrer Institute (PSI), as well as other related research, were held at PSI. The participants held in-depth discussions on the progress and results of the MEG II experiment. These seminars are an important part of the JSPS Core-to-Core Program “Global Developments of Researches in Lepton Flavor Physics with Muons”, which was selected for funding in 2018. A total of 35 participants attended each seminar, including four Master’s students from the Department of Physics (School of Science, UTokyo) and one graduate student from ETH Zürich, who reported their results from last year’s summer school program. Several researchers from related fields also joined the discussions about developments in student education, which focused on the results and future plans for the summer school program.



International seminar on collaborative research at PSI

November 27 – 28

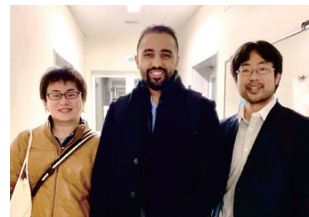
Prof. Gisbert Schneider of the Institute of Pharmaceutical Sciences (Department of Chemistry and Applied Biosciences, ETH Zürich) was invited by Prof. Kimito Funatsu of the Department of Chemical System Engineering (School of Engineering, UTokyo) to give a lecture at the 6th International Symposium on Chemoinformatics, which was held at the Nara Kasugano International Forum.



Speakers’ dinner after the symposium

December 13 – 22

Dr. Mohammed Alser, Lecturer and Senior Researcher in the Department of Computer Science (ETH Zürich), was invited to UTokyo to hold a workshop titled “A Roadmap for Fast and Efficient Genome Analysis”. The workshop was held over 3 days on Kashiwa Campus (December 18), Hongo Campus (December 19), and Shirokanedai Campus (December 20).



Dr. Alser (center), with Assistant Prof. Soramichi Akiyama (UTokyo) (left) and Prof. Masahiro Kasahara (UTokyo) (right).

◆2020

February 17

Prof. Hiroaki Suga of the Department of Chemistry (School of Science, UTokyo) and Profs. Jörn Piel, Jeffrey Bode, and Sereina Riniker of the Department of Chemistry and Applied Biosciences (ETH Zürich) organized the “4th ETH Zürich-The University of Tokyo Strategic Partnership Symposium: Innovations in Chemical Biology” at ETH Zürich. Five early career researchers from the Schools of Science and Engineering (UTokyo) and five from ETH Zürich participated in the symposium and spent the day engaged in active discussions with their peers. Several of the UTokyo researchers stayed longer in Zürich to discuss their research with their collaborators in more depth.



Presentation by Assistant Prof. Yusuke Nasu (UTokyo)

March 24 – 25

Prof. Toshinori Mori of the International Center for Elementary Particle Physics (UTokyo) organized an international seminar on the JSPS Core-to-Core Program “Global Developments of Researches in Lepton Flavor Physics with Muons” in Japan, which included a report of the summer school program held at the Paul Scherrer Institute (PSI).

Other Activities

◆2019

July 8

Prof. Hiroko Akiyama of the Institute of Gerontology (UTokyo) gave a presentation on the topic of “Ageing Society” at a luncheon meeting for the Swiss Economic and Scientific Mission to Japan led by the Swiss Federal Councillor Guy Parmelin. The invitation was arranged in collaboration with the Science & Technology Office Tokyo of the Embassy of Switzerland in Japan.

◆2020

March 16 – 18

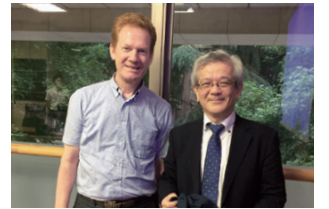
Mr. Dejun Mao, a first-year Master’s student in the Graduate School of Information Science and Technology (UTokyo) attended the 36th European Workshop on Computational Geometry in Würzburg, Germany, to present a paper that he and Assistant Prof. Hidefumi Hiraishi had written in collaboration with Mr. Patrick Schnider, a Doctoral student from ETH Zürich. Mr. Schnider spent 1 week at UTokyo in 2018, when he was invited to give a talk at the Department of Computer Science lecture series.

Towards an Expansion of the Partnership

◆2019

July 19

Prof. Christian Schwarzenegger, Vice President Faculty Affairs and Scientific Information of the University of Zürich (UZH), visited UTokyo to discuss the possibility of setting up a strategic partnership between the two universities. He met with Prof. Naoto Sekimura, Vice President of UTokyo, and six other faculty members, and discussed the potential for collaborations in fields ranging from classics to AI and space engineering. The visit was arranged in collaboration with the Science & Technology Office Tokyo of the Embassy of Switzerland in Japan.



Prof. Schwarzenegger with Prof. Sekimura

October 9

Prof. Christian Schwarzenegger, Vice President Faculty Affairs and Scientific Information of the University of Zürich (UZH), visited UTokyo with Prof. Michael Schaeppman, Vice President Research of UZH, to further discuss a possible future partnership with Prof. Naoto Sekimura, Vice President of UTokyo. They also talked in more detail with Prof. Shinichi Nakasuka of the Department of Aeronautics and Astronautics (School of Engineering, UTokyo) about promising collaborations in satellite development and remote sensing.

◆2020

January 16

Prof. Christian Schwarzenegger, Vice President Faculty Affairs and Scientific Information of the University of Zürich (UZH), visited UTokyo with Prof. Abraham Bernstein, Director of the Digital Society Initiative at UZH, to discuss the possibility of expanding the strategic partnership with ETH Zürich to include UZH. They met with Prof. Hiroaki Suga of the Department of Chemistry (School of Science, UTokyo), who leads the ETH Zürich Strategic Partnership team, and also with Prof. Yasunori Kasai of the Graduate School of Humanities and Sociology to talk about possible collaboration topics in the social sciences and humanities.

February 18

Prof. Hiroaki Suga of the Department of Chemistry, together with Dr. Kate Harris, University Research Administrator (URA), both in the School of Science (UTokyo), visited the University of Zürich (UZH). They were given an introduction to the Faculty of Science and discussed the research areas that are regarded as most promising for a future partnership.



Prof. Suga with Dr. Rie Shimizu-Inatsugi (UZH)

February 19 – 20

Dr. Kate Harris, University Research Administrator (URA) in the School of Science (UTokyo), visited the International Relations Office of the University of Zürich (UZH) to establish a relationship with UZH at the administrative level. She also met members of the Research Development Team at UZH to learn more about the support available to Swiss researchers.

March 19

Prof. Shinichi Nakasuka of the Department of Aeronautics and Astronautics (School of Engineering, UTokyo) traveled to Zürich to meet Prof. Christian Schwarzenegger, Vice President Faculty Affairs and Scientific Information of the University of Zürich (UZH), and Prof. Oliver Ullrich, Director of the UZH Space Hub. During his visit, he was also given a tour of the facilities and research groups at the UZH Space Hub.



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