

Swiss Federal  
Institute of  
Technology Zürich  
(ETH Zürich)



The University of  
Tokyo

Project to Establish  
a Strategic Partnership



東京大学  
THE UNIVERSITY OF TOKYO

**ETH** zürich

## Foreword

With the aim of promoting academic and student exchanges, the University of Tokyo (UTokyo) aims to establish a strategic partnership with the Swiss Federal Institute of Technology Zürich (ETH Zürich) in cooperation with School of Science, School of Engineering, Graduate School of Information Science and Technology and International Center for Elementary Particle Physics.

This strategic partnership project will be implemented as a part of the project, "Constructing a Global Campus Model at UTokyo," inaugurated in FY2014.

The University of Tokyo and ETH Zürich already have a history of interaction between researchers through activities such as joint researches, symposiums and student exchanges. Through this project, we intend to expand systematic academic exchanges between the two institutions over an even wider range of disciplines.

### Constructing a Global Campus Model at UTokyo

This project adopted as a "Top Global University Project" of the Ministry of Education, Culture, Sports, Science and Technology is comprised of the following three pillars:

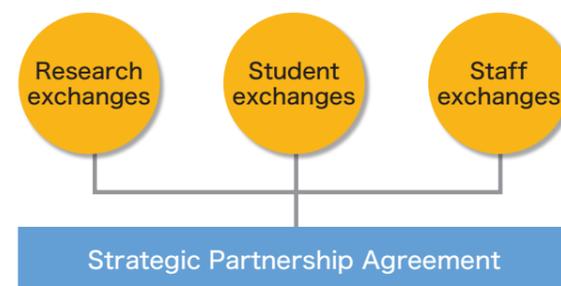
1. Establishment of strategic partnerships for the development of close, creative and cooperative relationships between our university as a whole and the top universities in the world
2. Radical strengthening of educational capabilities and comprehensive reform of education to respond to internationalization
3. Establishment of a core platform for the enhancement and integration of international collaboration

We aim to design a Global Campus model during the ten years leading up to FY2023.

## About the Project to Establish a Strategic Partnership

The strategic partnership is a close, creative and flexible cooperative relationship between our university as a whole and a limited number of partner universities. It is built by utilizing our mutual strengths. This is a new inter-university relationship that takes a step beyond the conventional academic exchange agreements with overseas universities. The aim of the partnership is to carry out a variety of collaborative projects and exchanges of academic staff and students. The realization of such actions matches the circumstances and hopes of both sides based on the ties established through joint research in leading fields. The University of Tokyo already has a strategic partnership with Princeton University, and has decided to establish new partnerships with eight other universities including ETH Zürich.

With the focus on young researchers, the aim of this project is to work together to promote collaborative projects and open up the frontiers of academic investigation through activities such as exchanging researchers and organizing symposiums. In addition, we also foster global scientific human resources capable of engaging in activities on an international level by promoting further exchanges between students. As well as this, we promote exchanges between staff members with the aim of enhancing ties between offices to support academic and student exchanges.



The University of Tokyo has been conducting academic exchanges with the Swiss Federal Institute of Technology Zürich (ETH Zürich) on more than 10 joint research projects mainly in the field of natural science. Especially in the Department of Chemistry of School of Science, researchers interact across a broad range of fields such as physical chemistry, inorganic chemistry and organic chemistry.

Also, research and student exchanges have been conducted in the Department of Chemical System Engineering and the Department of Architecture in School of Engineering, as well as the Graduate School of Information Science and Technology and the International Center for Elementary Particle Physics. In addition, the University of Tokyo and ETH Zürich are both members of the International Alliance of Research Universities (IARU), an international federation of research universities, and actively interact with each other.

## Building a Comprehensive, Close, Cooperative Relationship



- School of Science
- School of Engineering
- Graduate School of Information Science and Technology
- International Center for Elementary Particle Physics

### About the four Organizations of the University of Tokyo

The science and technology organizations of the University of Tokyo cover disciplines ranked among the top ten universities around the world. Their Nobel Laureates include Leo Esaki, Masatoshi Koshiba, Eiichi Negishi, Yoichiro Nanbu. In 2015, Prof. Takaaki Kajita was awarded the Nobel Prize in Physics based on the discovery of neutrino oscillations.



**ETH** Zürich

- Department of Physics
- Department of Chemistry and Applied Biosciences
- Department of Biology
- Department of Earth Sciences
- Department of Computer Science
- Department of Architecture
- Department of Civil, Environmental and Geomatic Engineering

### About Swiss Federal Institute of Technology Zürich

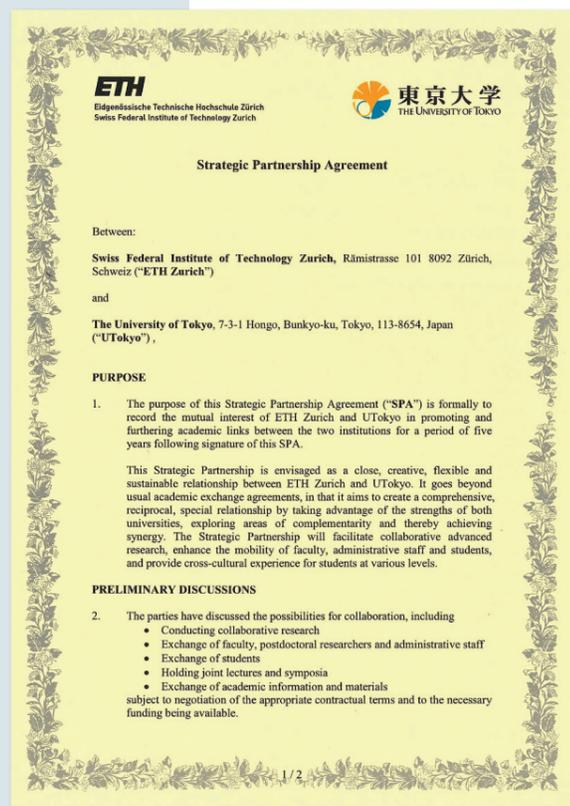
ETH Zürich is a leading university in Switzerland and has 16 departments which cover a broad range of fields in science and engineering. It is one of the top universities in the world which has produced 21 Nobel laureates including Albert Einstein.

Student exchanges

Research exchanges

## 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, the International Center for Elementary Particle Physics, 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 the University of Tokyo and went into effect on January 12, 2016.



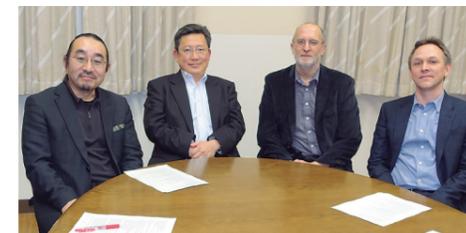
Strategic Partnership Agreement between ETH Zürich and the University of Tokyo

## Academic Staff Exchanges Invitations

### ◆2015

February 19 – 20

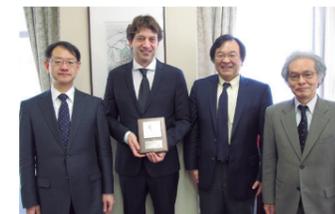
Prof. Donald Hilvert, Chairperson of Department of Chemistry and Applied Biosciences and Prof. Jeffrey Bode, Head of Laboratory of Organic Chemistry at ETH Zürich visited the School of Science where they paid their respects to Dean Professor Makoto Gonokami. Afterwards they gave talks at a symposium. Later, Prof. Hilvert and Prof. Bode attended a meeting with Prof. Kaoru Yamanouchi, Vice-Dean of the School of Science, and Chairperson of the Department of Chemistry, Prof. Hiroaki Suga to discuss their strategic partnership.



Meeting between (from the left) Chairperson of the Department, Prof. Hiroaki Suga, Vice-Dean of the School of Science, Prof. Yamanouchi (the University of Tokyo), Department Chairperson Prof. Donald Hilvert and Laboratory Head Prof. Jeffrey Bode (ETH Zürich)

March 4 – 6

Prof. Gisbert Schneider of Institute of Pharmaceutical Sciences, Department of Chemistry and Applied Biosciences of ETH Zürich, who is a Fellow of the School of Engineering, the University of Tokyo, visited and had discussions with Prof. Mamoru Mitsuishi, Dean of the School of Engineering, Prof. Tatsuya Okubo, Vice Dean of the School of Engineering and Prof. Kimito Funatsu.



Dean of the School of Engineering, Prof. Mitsuishi, Prof. Schneider, Vice-Dean, Prof. Okubo, and Prof. Funatsu (from the left)



After the seminar conducted by Prof. Schneider at the Funatsu Laboratory

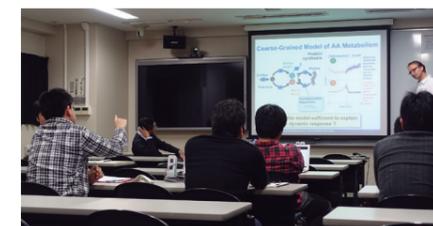
As well as a seminar on chemical systems engineering, Prof. Schneider conducted two seminars at the Funatsu Laboratory, providing opportunities for interaction among researchers in related fields.

November 23 – 27

Prof. Gisbert Schneider of ETH Zürich visited once again and, in addition to giving an invited lecture at the International Chemoinformatics Symposium, took part in an open seminar organized by the Department of Chemical System Engineering, School of Engineering. He also met and talked with researchers in related fields.

December 1 – 5

Prof. Uwe Sauer of Institute of Molecular Systems Biology, Department of Biology, ETH Zürich was invited to give a seminar at the laboratory of Prof. Shinya Kuroda of the Department of Biological Sciences, School of Science.

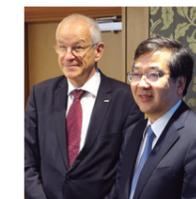


Seminar conducted by Prof. Sauer

### ◆2016

March 10 – 11

Former President of ETH Zürich, Prof. Ralph Eichler, was invited to visit UTokyo. He discussed with President Makoto Gonokami and Executive Vice President, Prof. Ken Furuya who is in charge of International Affairs at the University of Tokyo. He also discussed with Executive Director Vice President, Prof. Hiroaki Aihara, Vice Dean of the School of Science, Prof. Kaoru Yamanouchi, Prof. Toshinori Mori, International Center for Elementary Particle Physics (ICEPP), and Associate Prof. Hirokazu Sugiyama, School of Engineering, and discussed with Deputy Director General of the Division of International Affairs, Prof. Naoto Sekimura. He also visited ICEPP and Kavli IPMU to discuss with Prof. Sachio Komamiya and Prof. Hitoshi Murayama, respectively.



Prof. Eichler with President Gonokami

March 22 – 30

Prof. Emo Welzl, Deputy Chairperson of the Department of Computer Science, ETH Zürich, is going to be invited to the Graduate School of Information Science and Technology to discuss his field of research and wider research in the field of computer sciences.

## Academic Staff Exchanges Visits

## ◆2015

February 24 – 27

Associate Prof. Yusuke Obuchi of the Department of Architecture, School of Engineering, visited ETH Zürich at Section of Architecture and Digital Fabrication of the Department of Architecture. In addition to Prof. Hubert Klumpner, the Dean of the department, Prof. Fabio Gramazio and Prof. Matthias Kohler, Prof. Obuchi met with National Center of Competence in Research (NCCR) Digital Fabrication Managing Director Prof. Lussell Loveridge and Prof. Phillip Eversmann, NCCR Head of Education. Prof. Obuchi watched a presentation on research conducted by two doctoral students at the Department of Architecture, ETH Zürich on the introduction of robots at construction sites. At the presentation, he critiqued their research on construction-scale next-generation 3D printers.

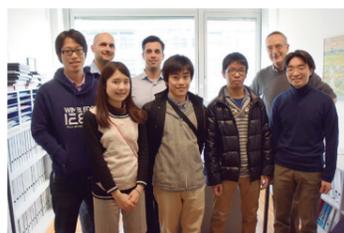


Construction robot

Prof. Obuchi took part in discussions over the prospect of future exchanges with ETH Zürich, focusing upon master's programs.

March 3 – 4

Accompanied by three undergraduate students, Associate Prof. Hirokazu Sugiyama of the Department of Chemical System Engineering, School of Engineering, visited Prof. Konrad Hungerbühler of the Department of Chemistry and Applied Biosciences of ETH Zürich and conducted a workshop on chemical process design.



From the right: Associate Prof. Sugiyama, Prof. Hungerbühler

March 12

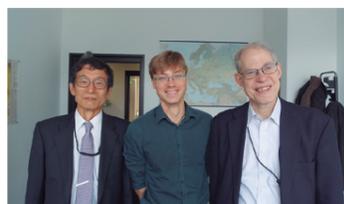
Prof. Hiroaki Suga, Chairperson of the Department of Chemistry, School of Science visited the Department of Chemistry and Applied Biosciences of ETH Zürich. He conducted a lecture on RaPID system drug development which was attended by more than 100 people. During his visit, Prof. Suga also held talks on matters such as joint-research planning and doctoral student exchanges with Prof. Jeffrey Bode, Head of the Laboratory of Organic Chemistry and Professor Jörn Piel and Prof. Kaspar Locher of the Department of Biology.

Mid-March

Prof. Hiroshi Imai of the Graduate School of Information Science and Technology visited two professors of the Department of Computer Science of ETH Zürich, Prof. Komei Fukuda and Prof. Bernd Gärtner in charge of student exchanges. Discussions were held in which it was agreed to continue student exchanges for overseas study and promote exchanges of young researchers.

March 24

Professor Robert Geller of the Department of Earth and Planetary Science, School of Science, visited Assistant Prof. Andreas Fictner of the Department of Earth Sciences of ETH Zürich together with University Research Administrator (URA) Teruyuki Hayashi and held talks on how to promote joint research. After the talks, URA Hayashi visited Prof. Ursula Keller of the Department of Physics of ETH Zürich and held discussions on the possibility of joint research and requirements for student exchanges.



URA Hayashi, Assistant Prof. Fictner, Prof. Geller

June 4

Associate Prof. Hirokazu Sugiyama of the Department of Chemical System Engineering, School of Engineering paid a visit to Prof. Konrad Hungerbühler of the Department of Chemistry and Applied Biosciences of ETH Zürich, during which discussions were held on research.

July 3 – 6

Prof. Kimito Funatsu of the Department of Chemical System Engineering, School of Engineering visited Prof. Gisbert Schneider of the Institute of Pharmaceutical Sciences, Department of Chemistry and Applied Biosciences of ETH Zürich and conducted two seminars.

## ◆2015

July 10

Prof. Toshinori Mori of the International Center for Elementary Particle Physics visited Prof. Klaus Kirch of the Section of Elementary Particle Physics, Department of Physics of ETH Zürich, during which a meeting was held to discuss on the summer program in August.

August 18 – 20

At the invitation of Prof. Konrad Hungerbühler of the Institute of Chemical and Bioengineering, Department of Chemistry and Applied Biosciences, Prof. Tatsuya Okubo of the Department of Chemical System Engineering, School of Engineering visited ETH Zürich and held discussions with Prof. Javier Pérez-Ramírez, Prof. Andrew de Mello and Prof. Wendelin Stark of the institute. Prof. Okubo also met researchers and administrative staff of laboratories of the institute. Many participants, including those from other groups attended a seminar conducted by Prof. Tatsuya Okubo at Konrad Hungerbühler Laboratory.

August 24 – 25

Prof. Masahiko Hirao of the Department of Chemical System Engineering, School of Engineering visited Prof. Konrad Hungerbühler's laboratory in the Institute of Chemical and Bioengineering, Department of Chemistry and Applied Biosciences of ETH Zürich. Prof. Hirao conducted a seminar there which was attended by one graduate student from the School of Engineering who was on an internship with the Swiss company Roche and one Japanese graduate student, Mr. Ryo Asakura from the School of Engineering enrolled in ETH Zürich. The seminar provided an opportunity for interaction between students.

In addition, Prof. Hirao held talks with Prof. Stefanie Hellweg of the Institute of Environmental Engineering, Department of Civil, Environmental and Geomatic Engineering of ETH Zürich on future joint research.

September 16

Prof. Sachio Komamiya, Director of the International Center for Elementary Particle Physics, held discussions with Prof. Klaus Kirch at the Paul Scherrer Institute (PSI) of the ETH Domain (an organization comprised of ETH Zürich and the Swiss Federal Institute of Technology Lausanne (EPFL) as well as a number of other laboratories, including PSI during which the two exchanged views on the summer programs.

September 27 – 29

At the invitation of ETH Zürich, Prof. Takeo Igarashi of the Department of Computer Science, Graduate School of Information Science and Technology gave a lecture at the Distinguished Computer Science Colloquium of Department of Computer Science. In addition, it was confirmed that exchanges would be promoted including collaborative research with Prof. Olga Sorkine-Hornung and the Interactive Geometry Lab (IGL) under her supervision. Discussions were also held on future collaborative research with the NCCR Digital Fabrication Center.

October 29  
– November 3

Associate Prof. Naokazu Kano of the Department of Chemistry, School of Science, visited the Department of Chemistry and Applied Biosciences of ETH Zürich where he gave a lecture on the Chemistry of Typical Elements. Prof. Kano also discussed plans for joint research with Prof. Hansjörg Grützmacher and exchanged views with other professors.

November 21 – 24

Prof. Kaoru Yamanouchi, Vice Dean of the School of Science, URA Yoshiko Baba, Financial Affairs Team Manager Takafumi Yokoyama, and Senior Staff of Personnel Team Atsuko Takatsuno visited ETH Zürich. The group met with ETH Global Director Jürg Brunnschweiler, Director Anders Hagström and Dr. Rahel Byland. It was agreed that both would promote opportunities for joint collaboration according to the Strategic Partnership Agreement. During their trip, they met with and interviewed Ms. Kana Yamada, a graduate student of the Department of Chemistry, who was on a short-term overseas studies program at ETH Zürich. They also discussed their progress on joint research projects (See pages 14-15) and spoke with Prof. Ursula Keller, Department of Physics at ETH Zürich. A decision was reached for the University of Tokyo to accept young researchers from the Keller Laboratory.

## ◆2016

January 26 – 29

Associate Prof. Hirokazu Sugiyama of the Department of Chemical System Engineering, School of Engineering visited Prof. Konrad Hungerbühler of the Institute of Chemical and Bioengineering, Department of Chemistry and Applied Biosciences of ETH Zürich. He was accompanied by graduate students Mr. Gioele Casola and Mr. Haruki Shirahata and undergraduate student Mr. Kensaku Suginami.

He gave a seminar and a workshop. About 10 students at ETH Zürich attended the workshop. He met Prof. Rudiyanto Gunawan of the same institute to discuss their research.

## Exchanges and Recruitment of Young Researchers

### ◆2015

Mid-February

Dr. Volkher Scholz, a researcher at the Department of Physics, ETH Zürich visited Prof. Mio Murao of the Department of Physics, School of Science. Dr. Scholz conducted three seminars and he informed that there was a master's program student of ETH Zürich who would like to go on to doctoral programs at the University of Tokyo.

Early-March

Dr. Yibo Wu of the Department of Biology of ETH Zürich visited Japan and conducted a seminar with the group of Prof. Shinya Kuroda of the Department of Biological Sciences, School of Science. A decision was reached to initiate joint research and discussions were held on the possibility of student exchanges.

March 11 – 12

Assistant Prof. Toby Passioura of the Department of Chemistry, School of Science visited Prof. Donald Hilvert, Chairperson of the Department of Chemistry and Applied Biosciences and Prof. Jeffrey Bode, Head of the Laboratory of Organic Chemistry of ETH Zürich. Discussions on joint research were held.



From the right: Prof. Passioura, Prof. Copéret, Head of Laboratory, Prof. Bode, Head of Laboratory, and Prof. Hilvert, Department Chairperson.

Mid-March

Visiting Researcher Sonoko Moriyama of the Graduate School of Information Science and Technology visited ETH Zürich where she took part in joint research. In addition, Researcher Hironori Yoshida visited Prof. Matthias Kohler and Prof. Fabio Gramazio of the NCCR Digital Fabrication Center and held discussions during which it was agreed to promote joint research with Prof. Takeo Igarashi of the Graduate School of Information Science and Technology.

April

Dr. Naohiro Terasaka, who obtained a doctorate at the Suga Lab of the Department of Chemistry, School of Science in March 2015, took up his post as a postdoctoral researcher at ETH Zürich. Dr. Terasaka was recruited as a fellow of the international fellowship program, "Human Frontier Science Program (HFSP)."

May

Researcher Hironori Yoshida, Graduate School of Information Science and Technology was assigned as a researcher of the NCCR Digital Fabrication Center of ETH Zürich.

### ◆2015

June 14 – 20

Assistant Prof. Yuki Goto of the Department of Chemistry, School of Science visited ETH Zürich where he attended the 16th International Symposium on Advancing the Chemical Sciences (ISACS16). He conducted lectures and initiated joint research at the laboratory of Prof. Jeffrey Bode, Head of Laboratory of Organic Chemistry, Department of Chemistry and Applied Biosciences.

October

Dr. Richard Obexer, who obtained his doctorate at the laboratory of Prof. Donald Hilvert, Chairperson of Department of Chemistry and Applied Biosciences was recruited under the JSPS Postdoctoral Fellowship for Foreign Researchers program and took up his post at the Suga Laboratory of the Department of Chemistry, School of Science.

October 30

The ETHZ-U-Tokyo "Interactive Workshop on Interactive Geometry" was held at the University of Tokyo with the participation of three young postdoctoral researchers from ETH Zürich, Dr. Daniele Panozzo, Dr. Wenzel Jakob and Dr. Fabrizio Pecem. Three other researchers from USA also took part and engaged in discussions on research and interaction together with Project Lecturer Daisuke Sakamoto and graduate students of the Graduate School of Information Science and Technology.

### ◆2016

February 29  
– March 6

Dr. Matteo Lucchini of the Keller Group at the Department of Physics of ETH Zürich was invited by Prof. Yamanouchi, Vice Dean, School of Science, to conduct seminars and discussed about future joint research at the Yamanouchi Laboratory.

March 16 – 23

Assistant Professor Vorapong Suppakitpaisarn and Visiting Researcher Sonoko Moriyama of the Graduate School of Information Science and Technology visited Prof. Bernd Gärtner and Prof. Komei Fukuda of the Department of Computer Science of ETH Zürich.

March 18 – 27

Prof. Takeo Igarashi of the Graduate School of Information Science and Technology invited Dr. Hironori Yoshida from the NCCR Digital Fabrication Center of ETH Zürich.

## Staff Exchanges

### ◆2015

March 12

Based on an agreement reached at the kick-off symposium in February, URA Satoru Nogami, Assistant Manager of Accounting Administration Masashi Uesugi, Chief Librarian of the School Library Satoko Nishimura, staff member of the General Affairs Section Yuuki Kuroda and staff member of the Educational Affairs Section Junko Ikutani visited the ETH Zürich headquarters. Discussions were held with Anders Hagström, Director of Global Educational Affairs over the acceptance of overseas students and obtaining funding in Europe, as well as the accountability to taxpayers.

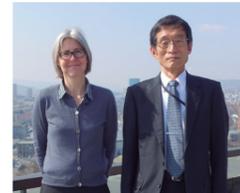


Dr. Wittek, supervisor of student exchanges (third from the left), Ms. Hofrichter (fourth from the left) with Dr. Byland, supervisor of international exchanges (second from the right)

The party met with Prof. Donald Hilvert, Chairperson of Department of Chemistry and Applied Biosciences, Prof. Jeffrey Bode, Head of Laboratory of Organic Chemistry and Prof. Christophe Copéret, Head of Laboratory of Inorganic Chemistry. A tour of the research facilities was given.

March 23

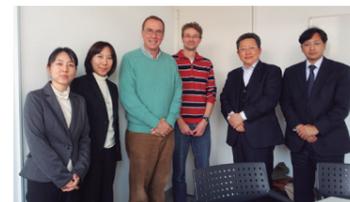
URA Teruyuki Hayashi of the School of Science visited ETH Zürich where he held talks and confirmed the significance of research support coordination with EU Grants Access Co-Head Agatha Keller.



Co-Head Keller and URA Hayashi

November 21 – 24

Yoshiko Baba, URA, Takafumi Yokoyama, Assistant Manager of Financial Affairs Team and Atsuko Takatsuno, Senior Staff of Personnel Affairs of the School of Science, visited ETH Zürich together with Prof. Yamanouchi and Secretary Mihoshi Abe. With the members from ETH Global, EU Grants Access Co-Head Agatha Keller, Department Chairperson Prof. Simon Lilly and Mr. Andreas Brandstetter of the Department of Physics, they discussed systems to acquire outside funding, methods of allocation and management of university funds, and intra-departmental research support systems.



Department Head Prof. Lilly at center left and Mr. Brandstetter to the right with Prof. Yamanouchi and his party

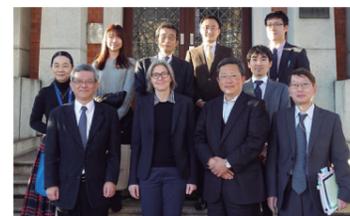
### ◆2016

January 26 – 29

Co-Head Agatha Keller of EU Grant Access of ETH Zürich was invited to visit the University of Tokyo. Co-Head Keller met with University President Makoto Gonokami and Executive Vice President Ken Furuya (Director General of the Division of International Affairs) and shared her ideas on future exchanges. During informal meetings among Co-Head Keller, Prof. Naoto Sekimura, Deputy-Director General of the Division of International Affairs, Prof. Kaoru Yamanouchi, Vice Dean of the School of Science and Yukitsugu Ono, General Manager of the International Affairs Department, the four deepened their mutual understanding of their strategic partnership. In addition, Co-Head Keller gave a lecture entitled "International Research Management @ ETH Zürich" and discussed the promotion of research with URAs and staff members of research support division.



From the left: Executive Vice President Furuya, Co-Head Keller, President Gonokami and Prof. Yamanouchi



Front row, from the left: Prof. Sekimura, Ms. Keller, Prof. Yamanouchi and Mr. Ono

## Student Interaction and Enrollment

### ◆2015

February 3

Mr. Yuta Murakami (D2) of the Department of Physics, School of Science visited Prof. Manfred Sigrist of the Department of Physics of ETH Zürich. After a discussion, Mr. Murakami made a research presentation at a seminar.

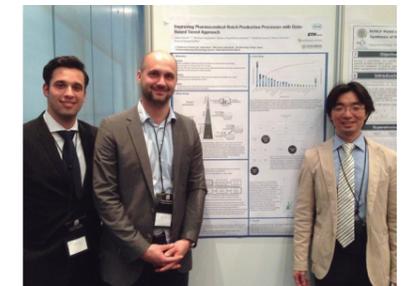
Mid-March

Ms. Hanna Sumita and Mr. Hidefumi Hiraishi, doctoral students in the Graduate School of Information Science and Technology, visited ETH Zürich and made a presentation at the Mittagsseminar.

Prof. Hiroshi Imai of the Graduate School of Information Science and Technology went to Zürich and had a discussion with three of five graduate students who are currently studying abroad at ETH Zürich.

May 31 – June 4

Associate Prof. Hirokazu Sugiyama of the Department of Chemical System Engineering, School of Engineering took part in the 12th Process Systems Engineering / 24th European Symposium on Computer Aided Engineering (PSE2015/ESCAPE24), which were held in Copenhagen, Denmark. Together with ETH Zürich doctoral program students, he presented the results of joint research with Prof. Konrad Hungerbühler of the Department of Chemistry and Applied Biosciences of ETH Zürich and the Swiss pharmaceuticals manufacturer Roche. Mr. Gioele Casola, a graduate student from ETH Zürich who had spent approximately half a year at the Sugiyama laboratory also attended from Switzerland and made a presentation. As detailed in the next page, he enrolled in the Department of Chemical System Engineering doctoral program at the University of Tokyo in October 2015.



From the left: Mr. Casola, ETHZ graduate student and Associate Prof. Sugiyama

June 17 – 19

Mr. Daniel Reker, a doctoral student at the laboratory of the Prof. Gisbert Schneider of the Institute of Pharmaceutical Sciences, Department of Chemistry and Applied Biosciences of ETH Zürich visited the Funatsu Laboratory at the Department of Chemical System Engineering, School of Engineering. He took part in a 3-day seminar and alongside interacting with students in the laboratory, made a research presentation with them.

Summer

Mr. Ryo Asakura, a graduate from the Department of Applied Chemistry, School of Engineering went on to a master's program of the Department of Chemistry and Applied Biosciences at ETH Zürich.

## Student Interaction and Enrollment

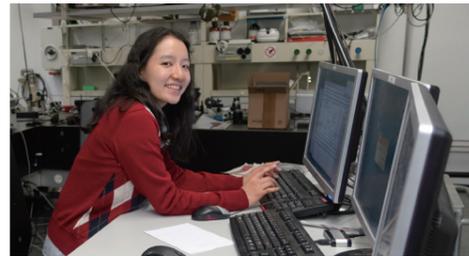
### ◆2015

October 1

Mr. Gioele Casola, originally from the Institute for Chemical and Bioengineering at Department of Chemistry and Applied Biosciences in ETH Zürich enrolled in the doctoral program at the Department of Chemical System Engineering, School of Engineering, the University of Tokyo. (Supervisor: Associate Prof. Hirokazu Sugiyama)

October 1  
– November 30

Ms. Kana Yamada of the Department of Chemistry (D2), School of Science conducted research at the laboratory of Prof. Ursula Keller of the Department of Physics, ETH Zürich. (See pages 14-15 for her interview)



Ms. Kana Yamada at ETHZ

October 21

Four graduate students from the Graduate School of Information Science and Technology studied at ETH Zürich for a period of one year from September 2014. Mr. Shuichi Katsumata (M2) gave a presentation on studying at ETH Zürich at the "Study abroad guidance and advice" briefing session organized by Prof. Reiji Suda (Assistant to the Dean of Graduate School of Information Science and Technology (International Exchanges Supervisor) and engaged in activities to recommend student exchange to his juniors.

### ◆2016

January 8

The Graduate School of Information Science and Technology at the University of Tokyo encourages members from overseas universities to serve as a member of doctoral candidate screening committees. In line with this policy, Prof. Komei Fukuda of ETH Zürich served as a member of the doctoral candidate screening committee in the Department of Computer Science.



From the left: PhD candidate Mr. Hiraishi, Associate Prof. Shibuya, Prof. Fukuda of ETHZ, Prof. Suda, Prof. Imai and Researcher Moriyama

February 24  
– March 22

Mr. Hidefumi Hiraishi of the Graduate School of Information Science and Technology spent approximately four weeks at ETH Zürich with the support of the school.

March 16 – 23

Graduate student Naoto Osaka visited Prof. Bernd Gärtner and Prof. Komei Fukuda of Department of Computer Science.

April – September

ETH Zürich Graduate Student Alzbeta Kubinocova, Janis Fluri, and Julian Alexander Riebartsch are scheduled to spend time at the laboratories of Prof. Eiichi Nakamura of the Department of Chemistry, Prof. Junichi Yokoyama of the Research Center for the Early Universe of School of Science and Lecturer Kathrin Wimmer of the Department of Physics, School of Science, as a special research student based on the Strategic Partnership Agreement.

April

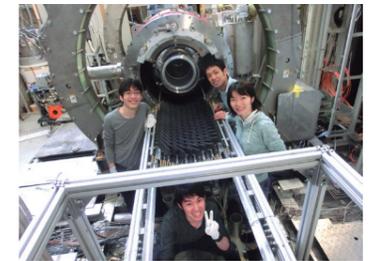
ETH Zürich graduate student, Matthias David Strodtkötter, is scheduled to enroll as a doctorate student at Prof. Mio Muraio Laboratory of the Department of Physics, School of Science.

## Summer Program

### ◆2015

August 24 – 31

A total of eight students comprised of five graduate students from the Department of Physics, School of Science and three graduate students from ETH Zürich participated in research on the latest particle physics and experimental technology at the Paul Scherrer Institute (PSI) in the ETH Domain. They engaged in joint work and discussions, and also had interactions with researchers from other countries taking part in international joint researches.



Graduate students of the University of Tokyo in training at the Paul Scherrer Institute

## Symposiums, Seminars and Workshops

### ◆2015

February 19

Prof. Donald Hilvert, Chairperson of Department of Chemistry and Applied Biosciences and Prof. Jeffrey Bode, Head of Laboratory of Organic Chemistry at ETH Zürich, visited the School of Science where they gave talks at a symposium.



Prof. Hilvert giving a lecture.



Prof. Bode giving a lecture.

November 12

Prof. Kaoru Yamanouchi, Vice Dean of the School of Science, and Ms. Mayuko Nakai of the Division on International Affairs attended a workshop on human resources systems for academic staff and researchers held at the Swiss Embassy. This was attended by Dr. Matthias Frey, Head of the Science and Technology office of the Swiss Embassy stationed in Japan, Mr. Thomas Eichenberger, Head of Faculty Affairs, Dr. Rahel Byland, ETH Zürich, and Mr. Boris Dongelmans, ETH representative stationed in Japan. They met and held discussions with representatives from other universities and organizations.



Workshop at the embassy. Prof. Yamanouchi can be seen center left.

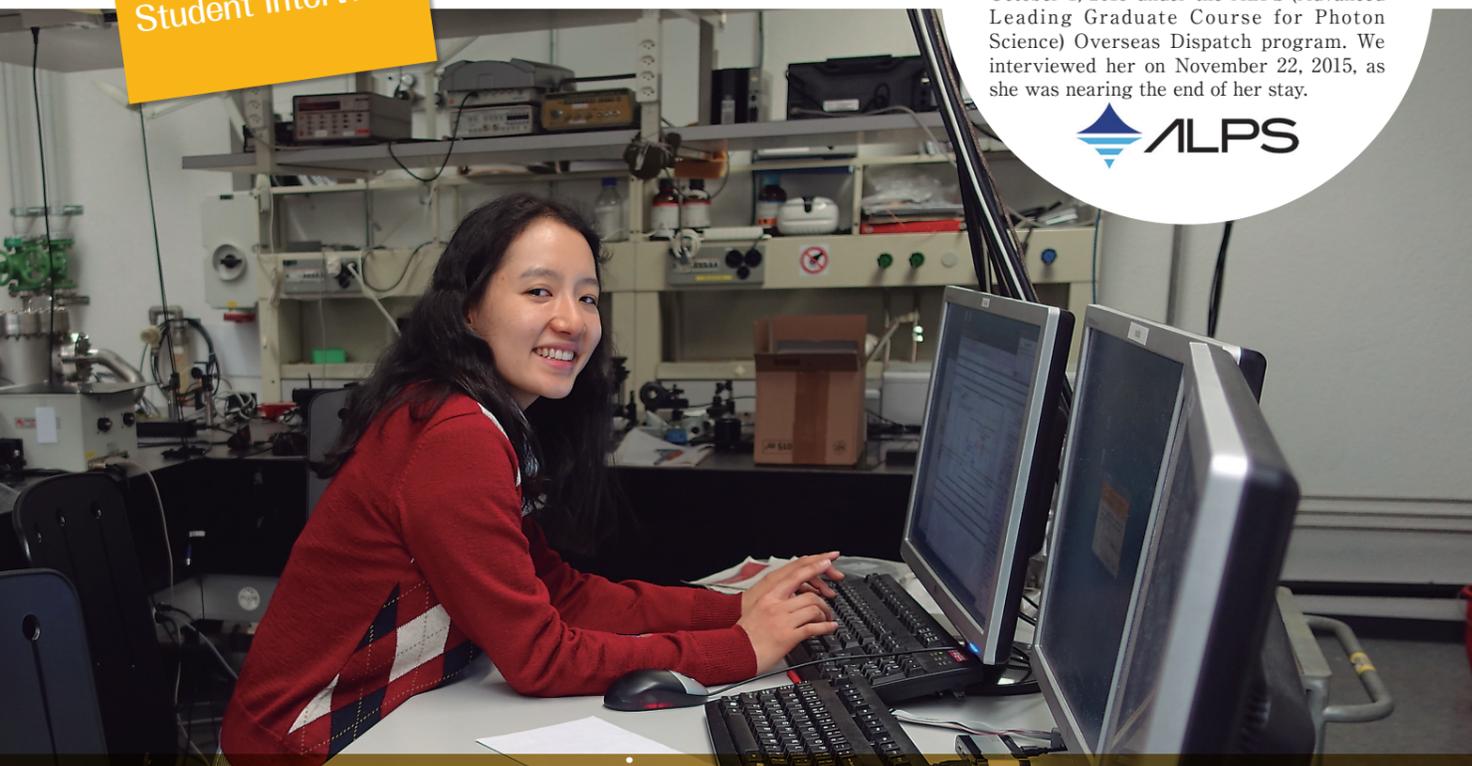
### ◆2016

End of March

An international joint seminar on international joint research and related research conducted at Paul Scherrer Institute (PSI) will be held at the University of Tokyo (Six people from the University of Tokyo and three from ETH Zürich will take part). A presentation on the results of last year's summer program will take place.

## Student Interview

Ms. Kana Yamada did research at the Swiss Federal Institute of Technology Zürich (ETH Zürich) for approximately two months from October 1, 2015 under the ALPS (Advanced Leading Graduate Course for Photon Science) Overseas Dispatch program. We interviewed her on November 22, 2015, as she was nearing the end of her stay.



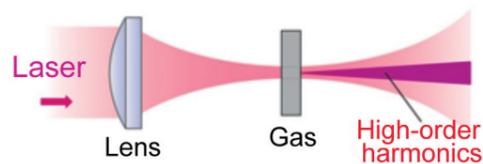
## Ms. Kana Yamada

Department of Chemistry, School of Science  
Doctoral Program Second Year  
(Yamanouchi Laboratory)

At the Yamanouchi Laboratory, the University of Tokyo, Ms. Yamada investigates responses of atoms and molecules to short-wavelength light that is generated using an ultrashort pulsed near-infrared laser light. We asked Ms. Yamada about her experience during her two-month stay at ETH Zürich.

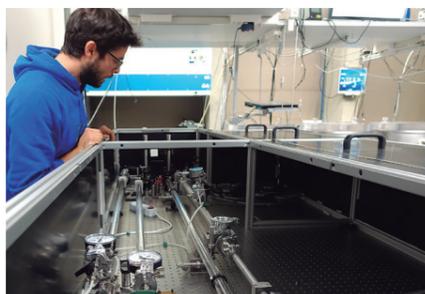
## What laboratory did you choose for your research abroad and why?

I chose the laboratory of Prof. Ursula Keller of the Department of Physics at the Swiss Federal Institute of Technology for my overseas research. I wanted to try using techniques and conducting research in fields that are a little different to those I have experienced up till now. Like the Yamanouchi Laboratory, Prof. Keller's Laboratory conducts research using short-wavelength light (high-order harmonics) generated by laser light. After reading papers about their research, I realized that the high-order harmonics generated at Prof. Keller's Laboratory differ to those generated at the Yamanouchi Laboratory in terms of wavelength distribution and pulse width. Furthermore, techniques for measuring phenomena are also different, and their research targets not only atoms and molecules, but also solid samples.



## What hardships have you experienced when conducting research in a different environment?

Several months before I began my research overseas, I sent an email to the laboratory asking about the kind of research they conduct and this smoothed my entry into the research group. As well as Swiss researchers, there are also a lot of researchers from other countries at the laboratory, so the basic language used is English. Although I did have some difficulties with English for everyday conversation right after I arrived in Switzerland, I didn't have any particular problems with English per se since seminars at the Yamanouchi Laboratory are conducted in English.



## What has impressed you the most during your time here?

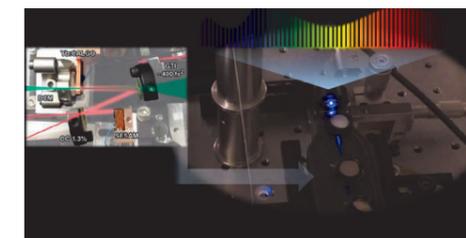
I was impressed by the absence of a hierarchical structure in the laboratory because this creates an atmosphere that makes it easy to discuss matters. Everyone says what they want to and it does not lead to arguments or create bad tension. In addition, there is a very friendly atmosphere throughout the whole laboratory and I sometimes go out with other members of the laboratory on weekends.



<http://www.ulp.ethz.ch/>

## Could you tell us about the results you have achieved within this limited time?

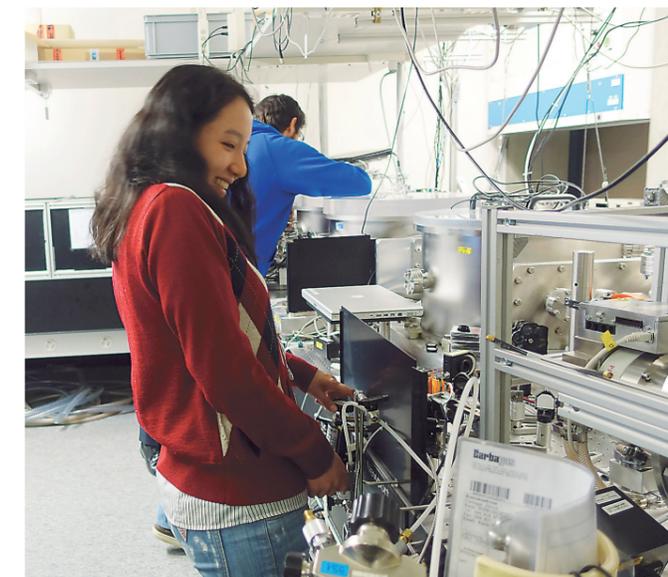
The experimental phase turned out to be a little later than I had imagined before coming here and I have only now finally reached the stage where I can conduct the experiments I had initially planned. Because my time at ETH Zürich is about to come to an end, some members of the laboratory have said to me, "Are you really going back to Japan now?" I will be returning to Japan very soon, but I am in the process of considering the possibility of coming to this laboratory again to conduct my experiments.



<http://www.ulp.ethz.ch/>

## What are your ambitions for future overseas research?

I was thinking of moving onto the world of academics in Japan after getting my doctorate. This time, I have been able to make use of the ALPS Overseas Dispatch program, so I decided to take advantage of the opportunity and come to a laboratory overseas. Since this experience has given me the chance to learn about the research environment overseas and experience an atmosphere conducive to debate, I have now added work and research overseas as another of my career path options.





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