

Japan-Asia Youth Exchange Program in Science

SAKURA Exchange Program in Science

Report of Open Application Course

2014



<http://www.ssp.jst.go.jp>



Japan Science and Technology Agency

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■ Introduction



Kazuki Okimura

Counselor to the President, Japan Science and Technology Agency (JST)
Director, Japan-Asia Youth Exchange Program in Science Promotion Office at the China Research and Communication Center (CRCC)

The Japan-Asia Youth Exchange Program in Science (SAKURA Exchange Program in Science: SSP) is a short-term invitational project to contribute to the advancement of science and technology and the development of Asian economy. It aims to strengthen exchanges and friendly relations with countries and regions in Asia by inviting to Japan outstanding young people from growing Asian countries, and giving those young people chances to experience cutting-edge science and technologies.

This project was successfully launched and implemented under the guidance and support of Dr. Akito Arima, director of CRCC, JST (former Minister of Education, Culture, Sports, Science and Technology in Japan, and former president of the University of Tokyo).

SSP is a program for inviting high school, undergraduate and postgraduate students, researchers, and engineers 40 years of age or younger from 14 countries and regions* in Asia to such organizations in Japan as high schools, universities, research institutions, and companies, for about 10 days, in principle. The participants are given chances to take part in various activities, including joint research, training sessions, and study meetings. SSP features a grass-roots movement; that is, host organizations in Japan invite Asian organizations and friends to experience cooperative relationships, and to expand and strengthen exchanges and friendly ties through hospitality. SSP aims at expanding, across Japan, bases of cooperation with rapidly growing Asian countries and regions, and stimulating exchanges with them.

The call for applications from the public for SSP began in April 2014 and evoked an enormous response in Japan and abroad. Public applications for the program totaled several times more than expected. We asked the SSP Committee (Chairman: Chitoshi Miki, President of Tokyo City University) to fairly screen those applications and select applicants.

For high school students in Asia, JST planned the Special Course for Senior High School Students in a bid to help them become first-class scientists in the future. JST incorporated into this course visits to cutting-edge research institutions such as Riken, lectures by Nobel laureates and other distinguished scientists, and visits to the campuses of top-ranked Japanese universities. Outstanding students, including International Science Olympiad gold medalists at many select schools, took part in this special course.

In SSP's initial year of 2014, we invited 2,945 young people to visit Japan from other parts of Asia beyond our original plan. Those young people actively studied, discussed issues, and formed close friendships. Moreover, 140 universities and other institutions in Japan built strong ties with 488 sending organizations through SSP.

SSP achieved significant results and evoked a huge response in the year of its launch. We closed the first year of the program with excellent reputations. We gave a Certificate of Achievement to all who completed the program and awarded them membership in the SAKURA Science Club. We are setting up follow-up systems to sustain exchanges for many years to come.

Achievements

- Almost all SSP participants rated Japan highly. They returned home with positive impressions of Japan.
- Almost all participants stated their wish to visit Japan again for study, research, and employment. There is a possibility for SSP to contribute to the recruitment of distinguished personnel.
- Active international exchanges took place through host organizations that accepted participants. SSP contributed to the development of science and technology personnel and the globalization of Japanese universities and other institutions. Program activities are voluntarily undertaken by participating organizations, producing the effect of furthering globalization.
- SSP participants, related government officials, media organizations, and other parties in Asian countries and regions rated highly Japanese contribution to Asia through SSP. Media organizations that covered SSP totaled 113.

Impressions

We found both sending and receiving organizations, and participants rated the exchanges extremely highly and described SSP as a program they could easily take part in. The implementation of SSP gave me the solid sense that casual visits by Asian young people to Japan, and their gaining of a better understanding of Japan, will lead to further exchanges; thus, the program could make substantial contributions to full-scale international exchange and the promotion of globalization.

Asia has powerful policies when it comes to education, science, and technology. Universities throughout Asia are beginning to meet or surpass global standards, and talented Asian students are aiming to enter top-ranked universities in Europe and North America. I believe SSP will stimulate universities and other educational institutions in Japan and contribute in a major way to their improvement.

Asia is undergoing remarkable development in all aspects. I believe this region will become the most important part of the world in the near future. Asians have superior skills in many areas, and I hope young people in Asia will become world leaders in their fields, including science and technology. The development of leaders in Asia and the broadening of their networks through the sustained operation and expansion of SSP will continue to provide Japan with a great strength — soft power.

We were able to execute SSP successfully under appropriate guidance provided by Minister of Education, Culture, Sports, Science and Technology Hakubun Shimomura. I would like to express my heartfelt appreciation to the ministry, universities, research institutions and other organizations in Japan, related organizations in respective countries and regions including the Ministry of Science and Technology of the People's Republic of China, and the young people who took part in the program. Their cooperation and efforts led SSP to success.

*The number of countries and regions in the 2014 fiscal year. Fifteen countries and regions participated in the 2015 fiscal year.

2014 Japan-Asia Youth Exchange Program in Science (SAKURA Exchange Program in Science) Overview of Open Application Program

1. Summary

The Japan-Asia Youth Exchange Program in Science (SAKURA Exchange Program in Science: SSP) is a new program started in the 2014 fiscal year. The program aims to invite Asian young people to Japan for a short-term visit to encourage their dreams and enhance their levels in science and technology through exposure to Japanese science and technology. Concurrently it aims to support a solid and sustainable grass-root movement to contribute to the development of science and technology in Asia.

The first call for open application ran from April 25 to May 23, 2014, and, in total, three calls were held in 2014. As the program officially started in fiscal 2014 (from April 1, 2014), with a very short preparation, we made our most efforts to ask for collaboration and to implement PR activities to such related parties as foreign government's organizations and universities as well as Japanese universities, corporations, local municipalities, high schools, and associations.

As a result, we were successful to invite from all targeted countries and regions in Asia with a total of 2,599 young people, surpassing the initial plan of 2,000 participants from 330 sending organizations in 14 countries and regions.

Japanese receiving organizations include mainly universities, followed by research institutes, corporations, local governments, incorporated associations, high schools, and technical colleges (*kosen*). Outstanding young people were selected from organizations in each country and region.

After completing the program, invitees expressed high evaluations about the program and described their impressions as “well-prepared program,” “cutting-edge

research and research environments,” “hoping to visit Japan again to study and do research,” “interested in Japanese companies,” “gained favorable feeling and understanding about the real Japan and Japanese people,” “gratitude to host organizations for their support.” Many participants requested that the program be continued, which showed that the program has achieved its objectives.

2. Budget

810 million yen (inviting 2,000 people — budget base)

3. Open Application Program

① Contents

(1) Purpose of the Program

Asia is undergoing a period of dramatic progress. Promoting science and technology is a key engine to actualize a bright future for Asia and it is vitally important to enhance the exchange of Japanese and Asian young people who will play a crucial role in the field of science and technology. Based on this concept, through the close collaboration of industry–academia–government, the program aims to invite Asian young people to Japan for a short-term visit to enhance exchanges between Asian and Japanese young people in the fields of science and technology. This program also aims to foster outstanding human resources from abroad required by Japanese universities, research institutions, and private companies by stimulating Asian young peoples' interest in leading Japanese science and technologies.

(2) Targeted countries and regions (in alphabetical order)

A total of 14 countries and regions including Brunei Darussalam, Kingdom of Cambodia, People's Republic of China, Republic of Indonesia, Republic of Korea, Lao People's Democratic Republic, Malaysia, Mongolia, Republic of the Union of Myanmar, Republic of the Philippines, Republic of Singapore, Taiwan, Kingdom of Thailand, and Socialist Republic of Viet Nam

(3) Qualification

Eligible young people must be a student of high school, university, or graduate school, or a postdoctoral researcher or a teacher under 40 years of age who has never stayed in Japan before, in principle.



Indonesian students of Hasanuddin University depart for Japan to join SSP.

(4) Types of Exchange

Course A “Science and Technology Exchange Activity Course”

Based on the arrangements made by the receiving organization which would be a high school, university, research institute, or private company, the Asian young people invited to Japan participate in activities such as receiving special lectures and visiting research laboratories at individual receiving organizations.

- Length of Stay: Up to 10 days (with an average of 7 days)
- Number of people invited: A limit of 10 people as a general rule (excluding supervisors)

Course B “Collaborative Research Activity Course”

University or graduate school students and/or post-doctoral researchers from Asia conduct short-term collaborative research activities based on the arrangements made by the receiving organization, which would be a university, research institute, or private company in Japan.

- Length of Stay: Up to three weeks
- Number of people invited: A limit of 10 people as a general rule (excluding supervisors)

Course C “Planning Activity Course”

Young Asian people participate in exchange activities such as visiting universities or corporate research laboratories, visiting schools and science museums, engaging in scientific experiments and events based on the arrangements made by the receiving organizations. The receiving organizations for the Asian young people invited to Japan must be an organization such as a local government, a *zaidan-houjin* (incorporated foundation) or a *shadan-houjin* (incorporated association) that does not directly conduct any educational activity or research activity in science and technology.

In order to make Course C not just an observation trip, they must clarify the objective of the plan and it must include content that can achieve this objective.

- Length of Stay: Up to 10 days (with an average of 7 days)
- Number of people invited: Around 10 people as the standard and a limit of 15 people (excluding supervisors)

(5) Model plan

Course A “Science and Technology Exchange Activity Course”

- DAY 1 Arrival, orientation, etc.
- DAY 2 Introduction of research, special lectures, etc.
- DAY 3 Visit research facilities, etc.
- DAY 4 Opinion exchanges with researchers and students
- DAY 5 Visit local companies, etc.
- DAY 6 Visit a science museum, etc.
- DAY 7 Departure for home

Course B “Collaborative Research Activity Course”

- DAY 1 Arrival, orientation, etc.
- DAY 2 Introduction of research, meeting regarding joint research procedure
- DAY 3 – 17 Joint research
- DAY 18 Report on joint research, opinion exchanges for future collaboration
- DAY 19 Visit local companies, etc.
- DAY 20 Visit a science museum, etc.
- DAY 21 Departure for home

Course C “Planning Activity Course”

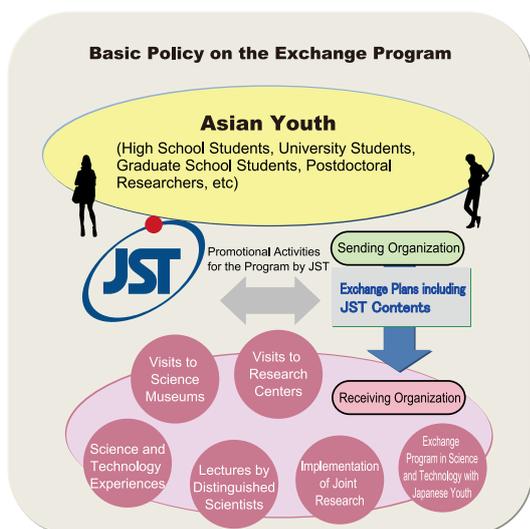
- DAY 1 Arrival, orientation, etc.
- DAY 2 Visit research institutes (universities, corporations), etc.
- DAY 3 Transfer, visit research institutes, etc.
- DAY 4 Transfer, visit research institutes, etc.
- DAY 5 Visit local companies, etc.
- DAY 6 Visit a science museum, etc.
- DAY 7 Departure for home

② Results

Three calls for open application drew a total of 574 program proposals. JST selected 283 exchange proposals for implementation based on the recommendations by the SSP Committee. As a result, 140 Japanese receiving organizations invited a total number of 2,599* youth from 330 sending organizations in Asian countries and regions, exceeding the planned 2,000 invitees.

JST issued a Certificate of Achievement for those who completed the program, and invited them to be a member of “Sakura Science Club.”

*Invitees in FY2014, including a special course for high school students, totaled 2,945 youths.



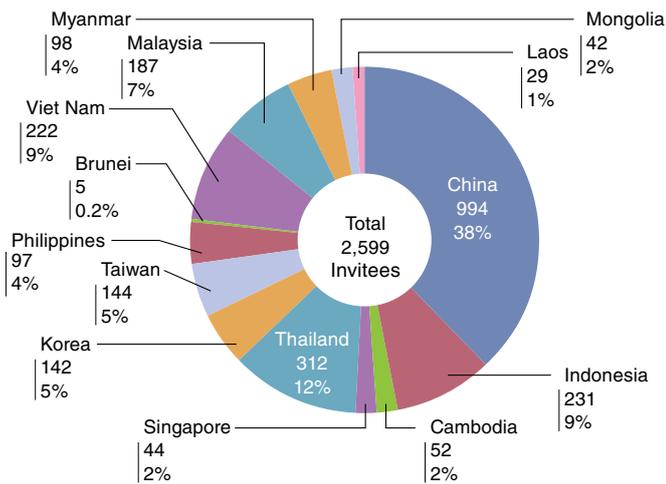
Reference: Conceptual Diagram of the Exchange Program

(1) Application and selection for three calls

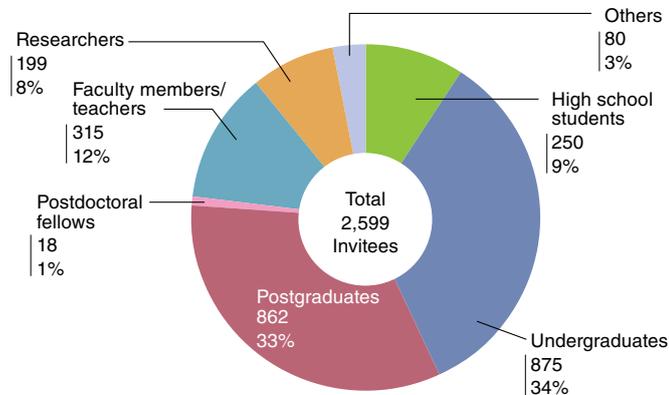
Application call	Application period	Application numbers	Selected numbers	Applicants	Selected invitees
1st	4/25-5/23	316	155	3,808	1,510
2nd	6/23-7/18	211	88	1,921	862
3rd	11/17-12/4	47	40	300	227
	Total	574	283	6,029	2,599

(As of March 31, 2015)

(2) Number of invitees (by country and region)



(3) Number of invitees (by attribute)



(4) Invited 14 countries and regions (in FY2014)



4. Orientation activities

① In Japan

(1) Explanatory meetings/Venue and dates

Tokyo on April 14, 2014
 Osaka on April 15, 2014
 Sendai on April 16, 2014
 Fukuoka on April 18, 2014

(2) Main explanatory meetings with major related organizations

<2014>

April Union of Kansai Government
 July Council for the Promotion of Overseas Student Activities of Shizuoka
 September JICA/ Embassy of Myanmar in Tokyo
 October Embassy of India in Tokyo/Embassy of Laos in Tokyo/Brunei Embassy in Tokyo
 November Opinion exchanges with super global universities
 December Opinion exchanges with Japanese universities with academic exchange with India

<2015>

January Japan Association for Chemical Innovation

② For targeted countries/regions (explanatory activities and request for cooperation)

<2014>

March The Philippines (Dept. of Science and Technology)
 Malaysia (University of Malaya, Science Council of Malaysia, etc.)
 Indonesia (Agency for the Assessment and Application of Technology)
 China (Dalian University of Technology, etc.)
 Taiwan (Ministry of Science and Technology, etc.)
 April Korea (Ministry of Science, ICT and Future Planning; National Research Foundation of Korea, etc.)
 Mongolia (Ministry of Education and Science, National University of Mongolia, etc.)
 The Philippines (Dept. of Science and Technology, etc.)
 Malaysia (Ministry of Education, etc.)
 Indonesia (Ministry of National Education, State Ministry of Research and Technology, etc.)

May	Vietnam (Ministry of Science and Technology, Ministry of Education and Training, Vietnam National University, etc.) Cambodia (Ministry of Education, Institute of Technology of Cambodia, etc.)
September	China (Ministry of Science and Technology, etc.) Myanmar (MoC Agreement with Dept. of Science and Technology)
October	China (International Education Exhibition, etc.)
December	China (Chinese Academy of Science, etc.)

5. PR Activities

To draw more public attention to SAKURA Exchange Program in Science for Asian young people, proactive PR activities were implemented.

① Results (as of March 31, 2015)

(1) Article placement and broadcast by media

Japan: 85 companies (leading media, TV, magazines, online news)
Overseas: 28 companies (media in China, Korea, Mongolia, Malaysia)

(2) Website uploads by receiving and sending organizations

Japan: 252 organizations
Overseas: 13 organizations

(3) Official Website

<http://ssp.jst.go.jp/>
(Japanese/English/Chinese)

Access numbers: 346, 241 page views
Upload: 282 news

(4) Official Facebook

<https://www.facebook.com/sspjapan> (in Japanese only)

Exposure: 77,743 viewers

| SSP supporters in science and technology fields

Akito Arima: Former Minister of Education, Science, Sports and Culture; former Director General of the Science and Technology Agency; Dean of the Musashi Academy of the Nezu Foundation; Director, China Research and Communication Center, JST

Reiko Kuroda: Professor, Tokyo University of Science; former Vice President of ICSU; 2013 Laureate for L'Oréal-UNESCO Awards for Women in Science

Sadayuki Sakakibara: Chief Senior Advisor, Chief Senior Counselor, Toray Industries, Inc; Chairman, KEIDANREN (Japan Business Federation)

Leo Esaki: President, Yokohama College of Pharmacy; 1973 Nobel Prize in Physics

Susumu Tonegawa: Director, RIKEN Brain Science Institute; 1987 Nobel Prize in Physiology or Medicine

Hideki Shirakawa: Professor Emeritus, University of Tsukuba; 2000 Nobel Prize in Chemistry

Ryoji Noyori: Former President, RIKEN (the Institute of Physical and Chemical Research); 2001 Nobel Prize in Chemistry

Koichi Tanaka: Senior Fellow, Shimadzu Corporation; 2002 Nobel Prize in Chemistry

Makoto Kobayashi: Professor Emeritus, KEK (High Energy Accelerator Research Organization); 2008 Nobel Prize in Physics

Toshihide Maskawa: Director, Kobayashi-Maskawa Institute for the Origin of Particles and the Universe, Nagoya University; 2008 Nobel Prize in Physics

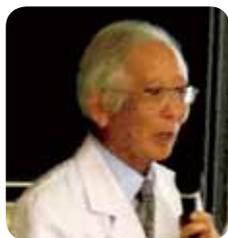
Osamu Shimomura: Professor Emeritus, Boston University; 2008 Nobel Prize in Chemistry

Akira Suzuki: Professor Emeritus, Hokkaido University; 2010 Nobel Prize in Chemistry

Ei-ichi Negishi: Distinguished Professor, Purdue University; 2010 Nobel Prize in Chemistry

Shinya Yamanaka: Professor, Kyoto University; 2012 Nobel Prize in Physiology or Medicine

Comments by Nobel Laureates on SSP: Impressions and expectations



Hideki Shirakawa

Professor Emeritus, University of Tsukuba; 2000 Nobel Prize in Chemistry

As it was my first time giving instructions for a classroom experiment in English, I was worried; but I thoroughly enjoyed SSP. The level of participating high school students was high, and they were very eager to learn. Unlike Japanese students, who tend to shy away from speaking up, many students in this experimentation session raised their hands to answer questions I raised. When some students were a little weak in their English-speaking abilities, others provided translation. I felt everyone's enthusiasm for the experiment, so it was a lift-

ing experience for me. I read impressions of the experiment class written by participating students and felt reassured that they had fully understood what I intended to teach them.

I think it is important for SSP to invite to Japan as many high school students as possible and provide them with chances to experience Japanese culture. The program should not end merely with introductions to cutting-edge Japanese science and technologies; I would like them to learn more about science and technology through basic scientific experimentation, and to experience Japan as it is.



Toshihide Maskawa

Director, Kobayashi-Maskawa Institute for the Origin of Particles and the Universe, Nagoya University; 2008 Nobel Prize in Physics

I noticed immediately that visiting high school students from other Asian countries had positive attitudes and an extremely strong desire to learn science: they showed longings for things beyond their current knowledge; had an idea that there might be discoveries just ahead; and held the spirit that they could do something innovative. I found many had even stronger self-motivation and enthusiasm than some of the Japanese students.

I would like the Asian students to develop their strong points, because they showed such high potential. I would also like them to quickly catch up to science skill levels in advanced nations and take part in cutting-edge research.

Japan was defeated in the war when I was young. In those days, Japan lagged behind other countries. Regardless, we had an awareness that we could take the lead in climbing the ladder as the youth of Japan.

But now, it seems that Japanese young people are satisfied with the idea that an affluent family with a beautiful wife and wonderful kids is enough.

Dr. Yoichiro Nambu won the 2008 Nobel Prize in Physics. When he was 35, Dr. Nambu resigned from his post in Japan as full-time faculty and moved to the United States to compete, on an equal basis, with world-class researchers. A longing always comes true as long as you have one. I want young people in Asia to run up to the frontlines of science, by all means.



Akira Suzuki

Professor Emeritus, Hokkaido University; 2010 Nobel Prize in Chemistry

With bright eyes, young people from Japan and China enthusiastically asked me questions when I was lecturing in the Special Course for High School Students of SSP last summer. I remember that very well. It is my sincere hope that members of young generations in Japan and other Asian coun-

tries come to understand more science and technology and expand their potential worldwide.

Each person has his or her own way of living. You can expand your own world by having exchanges with people from various countries and broadening your knowledge while you are young. I'm looking forward to seeing how young Asian people will expand their worlds.



Ei-ichi Negishi

Distinguished Professor, Purdue University; 2010 Nobel Prize in Chemistry

I have had two opportunities to lecture participants in SSP's Special Course for High School Students. On both occasions, I keenly felt the high intellectual level of senior high school students in Asia. They asked me many questions that addressed key points in research, such as how to determine the

structure of compounds.

Through the lectures, I urged young people in the audience to think a great deal more about ABC: Ambition, Basics, and Creativity. I sincerely hope the program will produce many individuals who will lead innovation and build bridges between Japan and the rest of Asia.

Hokkaido University (Course A)

Inviting students from China and Taiwan to an international summer school on materials science

August 20 – 29, 2014



Top: The opening event and introduction of the School of Engineering's various international programs Bottom: Research seminar at a materials engineering lab



Left: Visit to Nippon Steel & Sumitomo Metal's Muroran Works Top right: Students observed a swordsmith's forging work Bottom right: Excited students examining a genuine, heat-treated Japanese sword

Materials engineering is a field of scientific technology in which Japan maintains competitive advantage globally. Japan's advantage is characterized by the fact that research at academic institutions links directly to applications used in industries. The Faculty of Engineering at Hokkaido University, which is the Japanese receiving organization for the SAKURA Exchange Program in Science (SSP), is globally known for its materials manufacturing processes and advanced analytical methods.

The university held an international summer school on materials with the aim of demonstrating the state of excellence in Japan in the materials field to outstanding students from China, which is undergoing significant industrial growth. The university also hoped to encourage these students to study in Japan and to contribute to future Japan-China cooperative relationships.

Invited to the summer school were students from the School of Material Science and Engineering at the University of Science and Technology of Beijing — 25 International Course undergraduate students, nine Masters Course students, and two faculty members — and two students from the Department of Materials Engineering at National Chung Hsing University of Taiwan.

Visit to corporations possessing world-leading technologies

The first half of the program offered students a tour of the Hokkaido University campus, where they viewed its School of Engineering and related laboratories. In addition, the students attended seminars that introduced materials science (the main field of study in the summer school) and the university's numerous international programs.

The latter half of the program featured off-campus field trips to Toyota Motor Hokkaido, Inc. in Tomakomai, and Nippon Steel & Sumitomo Metal Corporation's Muroran Works and the Japan Steel Works, Ltd.'s Muroran Plant in Muroran. Students examined the latest robot technologies, manufacturing processes for specialty steel, and processing of large structural materials for construction.

Students also toured numerous other facilities, including Hokkaido Shrine, the Olympic Winter Sports Museum, a Japanese sword forge, and a volcano museum.

Despite their busy schedule, all participants maintained full energy and were heartily content with the opportunity to learn about Japan, while increasing their knowledge in their respective fields of study.

Day	Program	Venue
1	Arrival	
2	Introduction to School of Engineering, Hokkaido University	Hokkaido University
3, 4	Summer seminars: students assigned to individual labs	Hokkaido University
5	Visit museum Travel to Tomakomai	Sapporo Tomakomai
6	Visit Toyota Motor Hokkaido Visit Nippon Steel & Sumitomo Metal's Muroran Works	Tomakomai Muroran
7	Visit Japan Steel Works' Muroran Plant Visit Volcano Museum Travel to Sapporo	Muroran
8	Training sessions at Materials Engineering Dept., Faculty of Engineering, Hokkaido University	Sapporo
9	Free time Panel discussion on studies	Sapporo
10	Departure for home	

Tohoku University (Course A)

Chinese students attend short-term study program on disaster dentistry

October 22 – 29, 2014

The Tohoku University Graduate School of Dentistry invited seven graduate school students and three undergraduate students from China's leading universities of dentistry: Peking University School of Stomatology, Sichuan University West China College of Stomatology, Tianjin Medical University School of Stomatology, and Fujian Medical University School of Stomatology. For the ten students selected from these universities, the Tohoku University Graduate School of Dentistry implemented SSP focusing on disaster dentistry.

Japan is known as a world pioneer in the field of disaster dentistry. Moreover, the nation maintains the highest standards in research, education, and hands-on experience in this field. In particular, the Tohoku University Graduate School of Dentistry gained an abundance of experience in conducting hands-on operations at the time of the Great East Japan Earthquake; thus, the School plays a leading role in the disaster dentistry field in Japan.

During an eight day program, the Chinese students undertook a variety of study programs. They attended lectures on disaster dentistry at Tohoku University and visited its graduate school and hospital.

A study tour to understand dentistry activities in disaster-affected areas

During an on-site training tour in the disaster-affected area of Tohoku, the students visited the town of Minami-sanriku to see the damage that remains there. They also attended a lecture given by a medical doctor who graduated from Tohoku University. The doctor explained the situation that arose shortly after the arrival of a massive tsunami in Minami-sanriku and surrounding areas, and reviewed the dentistry activities conducted in the disaster-affected region.

The students also learned about Japan's latest science and technology for automobile production by visiting the Miyagi Ohira Plant of Toyota Motor East Japan, Inc., where they were informed about the plant's power supply system. With solar power generation, the system can supply electric power not only to the Miyagi Ohira Plant but also other plants nearby when the power supply is cut off due to disaster.

During their stay, the students also toured such places as the Sendai Science Museum, the Sendai City Museum, and the Aoba Castle Museum to become better acquainted with Japanese history and culture.

An interactive meeting between Chinese and Japanese students was also held. The Japanese students seemed greatly inspired through exchanging opinions with Chinese students.



Chinese students viewing a human-shaped robot for dentistry training



Visit a 3D-printing system at the dental division of the university hospital

Day	Program	Venue
1	Arrival Orientation	Tohoku University
2	Visit Tohoku University Graduate School of Dentistry Visit Dental Division of Tohoku University Hospital	Tohoku University Tohoku University Hospital
3	Special lecture on disaster dentistry	Tohoku University
4	Training tour at sites affected by the Great East Japan Earthquake	Minami-sanriku, Miyagi Prefecture
5	Visit Sendai Science Museum, Sendai City Museum, and Aoba Castle Museum	Sendai City
6	Visit Miyagi Ohira Plant of Toyota Motor East Japan Tohoku University Museum	Kurokawa, Miyagi Prefecture Katahira Campus of Tohoku University
7	Sightseeing in Matsushima	Matsushima, Miyagi Prefecture
8	Departure for home	

Nagaoka University of Technology (Course B)

Joint research with graduate students from Thailand and Malaysia, and attending a colloquium

November 4 – 24, 2014



Invited students worked on experiments at their assigned laboratories.



A memorial photo, with certificates of completion in hand, after the presentation of research results

Day	Program	Venue
1	Guidance Seminar	Nagaoka University of Technology
2-4	Research studies at assigned labs	Nagaoka University of Technology
5-6	Sightseeing	Nagaoka City
7-11	Research studies at assigned labs	Nagaoka University of Technology
12-13	Sightseeing	Nagaoka City
14-17	Research studies at assigned labs	Nagaoka University of Technology
18	Final report conference	Nagaoka University of Technology
19-20	City sightseeing	Nagaoka City
21	Departure for home	

Nagaoka University of Technology invited six graduate school students from Chulalongkorn University (CU) in Thailand and four graduate school students from the University of Science-Malaysia (USM) in Malaysia, to enter a joint research conducted with faculty members of Nagaoka University of Technology.

Nagaoka University of Technology has held joint symposiums twice (at CU and USM, respectively) with attendance of 80 people from Nagaoka University of Technology.

In addition, the university has also invited researchers from CU and USM to international conferences (IGCN 2012, 2013, 2014) held at the university annually. In this way, the university has carried out active research exchanges with CU and USM.

In accepting students from Thailand and Malaysia, Nagaoka University of Technology selected research advisors with careful consideration of students' specialties and research subjects, and allocated students to specific research laboratories for materials science, chemistry, and biology.

For about three weeks, the Thai and Malaysian students were involved in experimentation and analysis at their assigned laboratories and worked under the guidance of research supervisors.

Active exchange of opinions at research presentations

During SSP, a joint colloquium was also held in addition to joint research activities. The colloquium was attended by nine young faculty members of CU, who were invited by another program, six students of CU invited by SSP, and more than 30 people from Nagaoka University of Technology, mainly comprising young faculty members of materials science and technology, post-doctoral researchers, and undergraduate and graduate students.

As the conclusion of three weeks of SSP joint research, a final report conference was held, with ten invited students making presentations of their research results. Many faculty members and students from related laboratories attended and listened to their presentations, and afterward had active discussions with CU and USM students. It turned out to be a rewarding conference for both invited students and Japanese researchers.

Building on the success of SSP for the Thai and Malaysian students, Nagaoka University of Technology will continue to carry out active inter-university exchanges while promoting joint research in the fields where exchange programs have not yet been implemented.

University of Fukui (Course A)

Developing global human resources in nuclear power through Vietnam–Japan exchanges

September 21 – 28, 2014

To develop human resources in the field of nuclear power, the Vietnamese government is conceiving a scheme to provide nuclear engineering education at universities in the country. In particular, the government is focusing on nurturing young researchers who will try to obtain a doctoral degree in nuclear engineering.

Under an agreement with the Ministry of Education and Training of Vietnam, University of Fukui invited young faculty members and students from the Electric Power University of Vietnam (EPU) to develop global human resources in nuclear power.

Initially, the Vietnamese participants attended a special lecture by Professor Hideaki Niki on laser isotope separation. At an exchange meeting, EPU students introduced Vietnamese culture, and students from University of Fukui reported their projects.

On a company tour in Fukui, they visited the R&D Center of Seiren Co., Ltd. and received explanations about the company's global business projects and products. At Nicca Chemical Co., Ltd., they observed a production line for hair cosmetics while receiving explanation of the production process, and learned about the strict quality control the company implements.

First-ever visit to nuclear facilities for students

At the Tsuruga campus (the Research Institute of Nuclear Engineering, University of Fukui), the Vietnamese participants attended a special lecture by Vice-director Masayoshi Uno and Professor Yoichiro Shimazu on the current situation of Japan's nuclear electric power generation.

Meanwhile, at the Fukui Prefectural Environmental Radiation Research and Monitoring Center, they observed portable monitoring posts and monitoring cars. They also visited the Wakasa Wan Energy Research Center and gained knowledge about the multi-purpose synchrotron and tandem accelerators as well as nuclear application cases, including proton beam cancer treatment and plant breed improvement.

They also visited Mihama Nuclear Power Station, operated by the Kansai Electric Power Co., Inc. As it was the first time for them to visit a nuclear power station, they asked many questions and listened earnestly as Japan's security measures taken after the Fukushima nuclear accident were explained.

Through SSP, faculty members of the two universities expanded their interactions, and the University of Fukui faculty members were convinced that through cooperation with Vietnam, a structure for developing global human resources could be fortified.



Vietnamese students had exchanges with students of Fujishima Senior High School.



At the Fukui Prefectural Environmental Radiation Research and Monitoring Center

Day	Program	Venue
1	Arrival	
2	Special lecture Attend campus tour and student exchange meeting	University of Fukui
3	Visit Fukui Prefectural Dinosaur Museum and Eiheiji temple	Fukui Pref.
4	Visit two private companies Attend exchange meeting at Fujishima Senior High School	Fukui Pref.
5	Attend lectures at Tsuruga Campus Visit Fukui Prefectural Environmental Radiation Research and Monitoring Center	Research Institute of Nuclear Engineering of University of Fukui
6	Visit Wakasa Wan Energy Research Center and Mihama Nuclear Power Station	Fukui Pref.
7	Visit Osaka Science Museum	Osaka Pref.
8	Departure for home	

The University of Tokyo (Course A)

Joint student workshop held with Tsinghua University and Seoul National University

October 15 – 22, 2014



Students had active discussions at the workshop.



Winners of the Best Presentation Award

By inviting nine graduate students from Tsinghua University (China) and 10 from Seoul National University (South Korea), the School of Engineering at the University of Tokyo hosted a Joint Student Workshop on Materials Science of the three universities.

Following invitational lectures by faculty members of each university, graduate students from the three universities made presentations on 30 research projects and related results. During the workshop, participants had active discussions on a broad range of materials science, including high-strength metal, nanomaterials, electronic devices, and biological applications.

All arrangements for the workshop, such as program production, venue preparation, and preparing the MC for the workshop were made by the students. The Best Presentation Award was decided through votes cast by all the students, and the award was granted at a party after the workshop.

Networks strengthened among three universities

Aside from participating in the two-day workshop, the Chinese and Korean students took a study tour of various cultural sites and research facilities, which further deepened communications among them.

Guided by students from the University of Tokyo, the Chinese and Korean students visited Senso-ji Temple and other sightseeing spots in Tokyo, and the National Museum of Emerging Science and Innovation (Miraikan). To learn more about Japan's latest materials research studies, they also visited the National Institute for Materials Science (NIMS) in Tsukuba, Ibaraki Prefecture.

In addition, at the Kashiwa campus of the University of Tokyo, they paid a visit to the research laboratories of the Department of Advanced Materials Science, Graduate School of Frontier Sciences. At the university's Hongo campus, they looked over the research laboratories of the Department of Materials Engineering, School of Engineering.

Introducing students to such research fields as plasma science, quasicrystal materials, and nanobiotechnology through visits to related facilities and laboratories, the School of Engineering at the University of Tokyo provided the participants with important opportunities to obtain knowledge about materials science studies ongoing in various areas in Japan.

Though the three universities have continually conducted academic collaborations, their networks were further strengthened through SSP.

Day	Program	Venue
1	Arrival Welcome party	Komaba Campus, University of Tokyo
2	3-university joint student workshop Komaba Campus tour	Komaba Campus, University of Tokyo
3	3-university joint student workshop Komaba Campus tour of research facilities	Komaba Campus, University of Tokyo
4	Visit Miraikan, Tokyo Edo Museum, etc. Exchange meeting	Tokyo
5	Sightseeing in Tokyo Exchange meeting	Tokyo
6	Visit National Institute for Materials Science	Tsukuba
7	Visit labs of Kashiwa Campus/Hongo Campus	Kashiwa/Hongo campuses, University of Tokyo
8	Departure for home	

Nihon University (Course A)

Taiwanese students experience Japanese agriculture

July 2 – 15, 2014

Fifteen students and two faculty members of the Department of Horticulture, College of Agriculture and Natural Resources at National Chung Hsing University in Taiwan (NCHU) participated for the two-week SSP program. The program was hosted by the Department of Plant Science and Resources (renamed as the Department of Agricultural Bioscience in the 2015 fiscal year), College of Bioresource Sciences at Nihon University.

The two universities have close relationships; Professor Lin of NCHU, who led the Taiwanese SSP students, studied at the Department of Plant Science and Resources of Nihon University a few years ago, and Nihon University has signed international academic partnerships with NCHU.

As the objective of the program was to deepen technological exchanges in the field of agriculture, the program was composed of lectures, experiments, practice sessions, and on-site visits. First, the Taiwanese students took a lecture on the development of Japanese agriculture and the history of technological development.

At experimentation classes, students conducted projects under themes related to agricultural bioscience, such as DNA analyses of plant. They also attended a practical session in traditional rice-farming techniques.

Students visit farmers' houses and direct sales store for agricultural products

The Taiwanese students also paid on-site visits to understand how basic agricultural research is applied to production sites.

They visited the Kanagawa Agricultural Technology Center in Miura City and saw vegetable-related tests being conducted there. In addition, at direct sales shop "Sukanagosso" of JA Yokosuka Hayama, they listened to explanations about sales styles and how to price the products. They also had a first-hand opportunity to examine documents about traceability.

In addition, the Taiwanese students travelled to Nagano and Yamanashi prefectures to see the hands-on operations of highland vegetable cultivation and flower production, and they visited farmers' houses there.

Furthermore, after the completion of SSP in Japan, the Department of Plant Science and Resources of the College of Bioresource Sciences at Nihon University organized, for September, a short-term program at NCHU in Taiwan, where the Japanese students studied agriculture in tropical and subtropical areas. Though students in both countries already knew each other through SSP, the relationship between the two universities grew much deeper.



Taiwanese students eagerly took notes at the Kanagawa Agricultural Technology Center.



Students holding a Certificate of Achievement

Day	Program	Venue
1	Arrival Orientation	Shonan Campus, Nihon University
2	Orientation Practice session, Welcome party	Shonan Campus, Nihon University
3	Lecture Campus tour	Shonan Campus, Nihon University
4	Lecture Sightseeing in Yokohama	Shonan Campus, Nihon University Yokohama
5	Visit Japanese garden Study tour of vegetation	Kamakura Fujisawa
6	Experiments	Shonan Campus, Nihon University
7	Study tour of agriculture	Kanagawa
8	Study tour of highland vegetable cultivation	Karuizawa
9	Study tour of leisure farm	Yamanashi
10	Visit Yamanashi Agriculture Center	Kai City
11	Study tour on traditional foods Student exchange meeting	Shonan Campus, Nihon University
12	Sightseeing in Tokyo	Tokyo
13	Seminar	Shonan Campus, Nihon University
14	Departure for home	

Chiba University (Course A)

UESTC students from China experience Japan's advanced high-frequency and MEMS technologies

August 24 – 30, 2014



A seminar at Chiba University



Professor Shuji Tanaka (far right) at Tohoku University introducing MEMS-related facilities

Chiba University invited nine undergraduate students, one graduate student, and one accompanying faculty member from University of Electronic Science and Technology of China (UESTC) and implemented SSP projects on technologies for high-frequency and micro electro mechanical systems (MEMS) in cooperation with Tohoku University.

Through this program, Professor Kenya Hashimoto of the Chiba University Graduate School of Engineering hoped to encourage Chinese students to have aspirations for coming back to Japan in the future as graduate students or post-doctoral researchers, after having experienced Japanese educational and research environments related to high-frequency and MEMS technologies. With this intention, the professor prepared a program including not only a study tour of laboratories and lectures in Japanese, supported by interpreters, but also lectures and training in practical English.

At Chiba University, students attended seminars on biomechanics led by Professor Hiroshi Ryu and on high-frequency electronics engineering by Professor Hashimoto. They also attended a lecture on wave guide together with a visit to related laboratories, and received practical training for measuring the speed of electromagnetic waves in a high-frequency cable by using network analyzers.

Latter half of program implemented at Tohoku University

At Tohoku University, the Chinese students attended a seminar by Professor Shuji Tanaka, who is globally renowned for his studies in MEMS, and visited the professor's laboratory. In addition, they visited the Hands-on-Access Fab of Tohoku University, a shared facility for prototype development centering on MEMS. Industries can easily access and utilize the facility for their prototyping. Next, students visited MEMS Core Co., Ltd., which engages in development support and consignment of MEMS products in close collaboration with the Professor Tanaka's laboratory. The Chinese students were greatly inspired after observing the world's forefront MEMS research and development environments and a dynamic and collaborative business-academia scene.

UESTC was established for the purpose of developing radar technology and has a distinguished reputation for its high-frequency technology. UESTC students were quite familiar with such research environments, but they were highly inspired by the world's forefront research and development environments, which provided students with experiences beyond their imagination.

Day	Program	Venue
1	Arrival	
2	Lecture by Prof. Ryu Special lecture on high-frequency electronics measurement	Chiba University
3	Practical session on high-frequency electronics measurement Travel to Sendai	Chiba University
4	Lecture by Prof. Tanaka Visit Prof. Tanaka's laboratory, etc.	Tohoku University
5	Visit Prof. Suematsu's laboratory Visit MEMS Core Co., Ltd. Travel to Nishi Chiba	Tohoku University MEMS Core Co., Ltd.
6	Visit laboratories of Prof. Yu and Prof. Ryu Visit National Museum of Emerging Science and Innovation (Miraiikan)	Chiba University Miraiikan
7	Departure for home	

Waseda University (Course A)

Exchange programs developed, utilizing unique networks with industries, government, and local communities

November 23 – December 6, 2014 (of which, 10 days applicable to SSP)

Waseda University invited 10 students from the Biotechnology course and the Biomedical Science course of Singapore Polytechnic (SP).

Under the theme of “fostering intellectual curiosity of invited students through various experiences in science, technology, and industries, as well as exchanges with students,” the program aimed to encourage outstanding SP students to become interested in Japan and Waseda University. Accordingly, by taking advantage of its unique networks with industries, government, and local communities, Waseda University arranged science and technology exchanges and a study tour at industrial sites.

Waseda University and SP had already enjoyed a close relationship; for example, in December 2013, they concluded an agreement on research in bioscience studies. Moreover, collaborative research work of the two institutions had already started, with the establishment of a joint laboratory of SP and Waseda Bioscience Research Institute in Singapore (WABIOS), on the SP campus.

In SSP, starting with campus tour and a Japanese language lesson, Waseda University carried out various activities for SP students, holding classes in humanities and social sciences at the university and providing opportunities to exchange with Japanese students. As a result, the Singaporean students could experience different study fields and benefit from cross-cultural communication.

For a study tour of local industries, the Singaporean students visited Dowa Hightech Co., Ltd., a world leader in parts and materials manufacturing, and Akagi Nyugyo Co., Ltd., a food company.

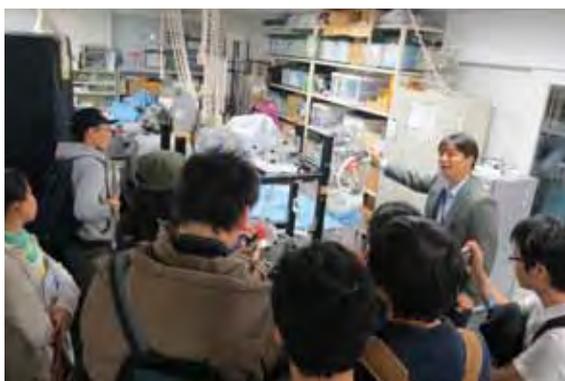
Students attend an international symposium on advanced materials

They also visited the Tokyo Women’s Medical University-Waseda University Joint Institution for Advanced Biomedical Sciences (TWIns), which is an educational base for integrating medicine, science, and engineering research of the two universities, and they received an introduction to advanced biomedical research.

On the final day of the program, the SSP students participated in the international symposium on advanced materials, jointly organized by Waseda University and SP. As a pre-session of the symposium, SP students made a presentation on what they had learned through SSP; moreover, they exchanged opinions with researchers attending the symposium, which was a significant experience for them.



SP students experienced a potato-digging at a farm.



Students received explanations about artificial hearts at TWIns.

Day	Program	Venue
1	Arrival, Orientation	Waseda Campus
2	Attend classes in different fields Exchange with overseas students	Waseda Campus
3	Attend classes in different fields Study tour of Japanese history and culture	Waseda Campus Edo-Tokyo Museum
4	Study tour of local companies	Saitama Prefecture
5	Study tour of Japanese history and culture	Kamakura City
6	Campus tour	Nishiwaseda Campus
7	Visit research facilities of Waseda University Attend classes in science and engineering	TWIns Nishiwaseda Campus
8	Visit an advanced research institution Attend classes in science and engineering	National Institute of Advanced Industrial Science and Technology Nishiwaseda Campus
9	Symposium, group presentations Farewell party	Nishiwaseda Campus
10	Departure for home	

Azabu University (Course A)

Human resource development for international network to combat livestock diseases and infectious diseases common to humans and animals

December 7 – 16, 2014



Diagnostic method for blood protozoans at Azabu University



Discussion session at Azabu University after an observation of external parasites

It has been a global concern that livestock diseases and infectious diseases common to human beings and animals, such as avian influenza, have spread across national borders. Although Japanese veterinary medicine has a long history, its leading-edge and unique diagnostic methods conducted in Japan for livestock diseases are not well known in Asia.

Azabu University, which has accomplished many academic achievements in the fields of veterinary medicine and applied animal sciences, invited 24 veterinary students from China, South Korea, Indonesia, Thailand, Taiwan, the Philippines, and Malaysia to implement a practice-based study program on diagnostic methods for livestock diseases.

The program was also attended by six Japanese students (from Azabu University, the University of Tokyo, Tokyo University of Agriculture and Technology, Nihon University, and Nippon Veterinary and Life Science University).

Students acquire practical skills in veterinary medicine through practice and study tour

The SSP students, through practical training, learned the latest methods for prevention of infectious diseases in livestock. A venue with an atmosphere similar to an international conference was set up so that the students could exchange opinions about livestock diseases and infectious diseases common to human beings and animals in their home countries and regions.

The practical training included a broad range of content, such as trichinas infection tests on lab animals. The training also included detection and identification of larvae by the digestion method, and production of samples of muscle tissue infected with trichinas. The students also performed the identification of campylobacters by Multiplex PCR, quick detection of salmonellae by the LAMP method, and detection of babesia protozoa, which is parasitic on red blood cells, by blood smearing and by real-time PCR.

In addition, at the Yamanashi Prefectural Dairy Experiment Station, students attended lectures on improvement of pasture and on implantation rates of cows' in-vitro fertilized eggs. They also made several off-campus visits including JAXA's Sagamihara Campus and Sagamihara City Museum.

All the SSP participants were holders of veterinary licenses or were veterinary school students in the upper grades aiming to work in infectious disease control and prevention of epidemics in Asian. Therefore, the program was focused on the concepts for ensuring prevention of infectious diseases in livestock.

Day	Program	Venue
1	Arrival	
2	Orientation Tests for infectious trichinas in lab animals, production of specimens of muscles infected with trichinas, etc.	Azabu University
3	Detection of cytokine secreted from cultured macrophage by Sandwich ELISA, etc.	Azabu University
4	Lectures at Yamanashi Prefectural Dairy Experiment Station, etc.	Yamanashi Prefecture
5	Quantitative scotscopy to diagnose helminth infection, etc.	Azabu University
6	Visit Sagamihara City Museum, Meguro Parasitological Museum, etc.	Sagamihara Tokyo
7	Lectures on infectious diseases common to humans and animals, etc.	Azabu University
8	Virus inoculation, CPE observation, etc.	Azabu University
9	Detection of parasitic babesia protozoa in red blood cells by blood smearing and by real-time PCR Closing ceremony	Azabu University
10	Departure for home	

Kyoto University (Course B)

Students from University of Yangon in Myanmar study latest earthquake disaster prevention technology

October 11 – 31, 2014

The Disaster Prevention Research Institute (DPRI) of Kyoto University invited eight students and two faculty members from the Geology Department of University of Yangon, Myanmar, for a three-week study program.

The program adopted for SSP aimed for participants to master the techniques of “earthquake damage prediction technology using the non-destructive geological survey method,” on which Kyoto University and University of Yangon have carried out joint research. It also provided students with the opportunity to learn Japan’s latest earthquake disaster prevention technology.

Japan is recognized for its advanced earthquake engineering. It is also famous for its world-highest level of disaster prediction technology. Myanmar is located at the edge of a continent, and close to subduction zone, so its geological environment is quite similar to that of Japan; however, technologies in both earthquake prediction and earthquake damage prediction in Myanmar remain relatively undeveloped.

Students carry out microtremor observations and analyses

Myanmar students started the program by viewing traditional architecture in Kyoto and experiencing cultural and geological features unique to Japan. Later, at the DPRI of Kyoto University, they attended lectures on non-destructive geological survey methodology and earthquake damage prediction technology. The week following, they travelled to the Tokyo metropolitan area, where they visited science and technology facilities, including the National Museum of Emerging Science and Innovation (Miraikan) and the Institute of Technology at Shimizu Corporation, where they were briefed on the latest construction technologies, such as that for seismically isolated structures.

Next, upon their return to Kyoto, the students conducted microtremor observations at the Uji campus of Kyoto University to survey ground structures. In addition, they went on a study tour to observe outcrops of the Negoro Fault in the Wakayama Izumi Fault Zone. They also visited the New Kansai International Airport and the Nojima Fault Preservation Museum to study measures against earthquakes.

Throughout the study tour and in particular at the Nojima Fault Preservation Museum, the students gained valuable hands-on experience with actual surface faults created by the 1995 Great Hanshin-Awaji Earthquake.

Their closing ceremony on the last day of the program was broadcast on TV news.



Students from Myanmar carried out microtremor observation.



Analysis seminar to determine the characteristics of ground structures

Day	Program	Venue
1	Arrival, Orientation	DPRI
2-3	View historical architecture	Kyoto
4-5	Receive lecture on non-destructive geological survey method	DPRI
6-7	Lectures on earthquake damage prediction technology	DPRI
8	View historical architecture	Kyoto
9	Holiday	
10	Visit Miraikan	Tokyo
11	Visit Institute of Technology at Shimizu Corporation and other sites	Tokyo and Tsukuba
12	View architecture in Tokyo	Tokyo
13-14	Field study of non-destructive geological survey method	DPRI
15	Observe indoor damage test	DPRI
16	View historical architecture	Nara
17	Visit New Kansai International Airport, etc.	Osaka, Kobe
18	Visit Nojima Fault Preservation Museum, etc.	Awajishima, Kobe
19-20	Analysis and practice for non-destructive geological survey method, summary meeting	DPRI
21	Departure for home	

Osaka University (Course A)

Young Vietnamese researchers introduced to infectious disease research in Japan

November 5 – 25, 2014



A young researcher from Thaibinh Medical University conducted joint research at collaborative research institutes.



At the Osaka Prefectural Institute of Public Health

The Global Collaboration Center of Osaka University (GLOCOL) invited two graduate students and one young researcher from Thaibinh Medical University in Vietnam for a three-week study session of SSP. GLOCOL introduced the students to Japanese science and technology related to the program participants' respective research themes, and organized joint research and seminars with the participants.

Thaibinh Medical University is a member of the "Project for Determining Outbreak Mechanisms and Development of a Surveillance Model for Multi-Drug Resistant Bacteria," which GLOCOL implemented as part of the Science and Technology Research Partnership for Sustainable Development Program (SATREPS). The participants from Vietnam were able to further enhance their skills and gain knowledge about SATREPS, and comprehend the research circumstances and the significance of research studies in Japan through joint research with Japanese researchers.

The exchange program was conducted not only at GLOCOL's research facilities but also at other research facilities: the Graduate School of Medicine of Osaka University, the Graduate School of Pharmaceutical Sciences of Osaka University, the Graduate School of Life and Environment Sciences of Osaka Prefecture University, and the Osaka Prefectural Institute of Public Health.

Students learn the history and practical application of Japanese science and technology

It is true that Vietnam is facing a serious problem with drug-resistant bacteria. In response, Japan is carrying out top-level research into infectious diseases; moreover, it possesses effective research results for combating the issue. Through the SSP project, participants were provided with knowledge for solving such a medical problem in Vietnam. Moreover, by performing collaborative research with Japanese researchers, they advanced their understanding and interest in cutting-edge medical science and technology.

During breaks in such research activities, the program offered the students opportunities to visit the Osaka Science Museum, a rehabilitation facility for elderly, and the Museum of Osaka University, where they learned the history and status of Japanese science and technology and related practical applications.

The program also encouraged them to think about various subjects, such as their current ongoing projects, the future of Vietnam's science and technology, and future cooperation with Japanese researchers.

Day	Program	Venue
1	Arrival Orientation	
2	Introduction to current research Meeting to discuss joint research procedure	GLOCOL
3	Attend seminars at GLOCOL Move to individual research facilities	Rinku Campus, Osaka Prefecture University
4-18	Joint research	Various facilities
19	Report preparations for joint research results Presentations for joint research results	GLOCOL
20	Visit Research Institute for Microbial Diseases, Osaka University Osaka Science Museum	Suita Campus, Osaka University Osaka
21	Departure for home	

Kwansei Gakuin University (Course A)

Indonesian and Taiwanese students learn latest technology in Kobe

November 16 – 22, 2014

The School of Science and Technology of Kwansei Gakuin University (KGU) invited students from Indonesia and Taiwan to receive an introduction to the revolutionary scientific technology that Kobe City possesses.

Through SSP, KGU invited nine students from Padjadjaran University in Indonesia, and National Taiwan Normal University and Tunghai University in Taiwan.

The program focused on special lectures delivered by KGU faculty members in the Department of Chemistry, the Department of Informatics, and the Department of Bioscience at the School of Science and Technology. Through various lectures, students learned about solar power generation, computer programming, and genetic examination, and they earnestly carried out experiments and practical skills. KGU's faculty members and graduate students supported their endeavors by instructing them on how to use the latest research devices.

The students also did a study tour to the Nojima Fault at Hokudan Earthquake Memorial Park on Awaji Island. There, they observed a fault created by the Great Hanshin-Awaji Earthquake in 1995, to get a clear grasp of the tremendous power of earthquakes and their mechanisms.

Students show a keen interest in Japan's disaster prevention technology and waste disposal facilities

Students visited cutting-edge research facilities such as the RIKEN Center for Developmental Biology and the world's largest synchrotron radiation facility, SPring-8. They also visited Marukan Vinegar Co., Ltd.'s research institute and factories. At the company, which conducts joint research with KGU, students learned about fermentation and brewing technologies and also enjoyed making rolled sushi.

During the latter half of the program, the Indonesian and Taiwanese students visited the Great Hanshin-Awaji Earthquake Memorial Disaster Reduction and Human Renovation Institution and were informed of the damage caused by the great earthquake. They also examined current disaster prevention measures of the Hyogo prefectural government.

The students paid a visit to a waste disposal facility in Amagasaki City, where they were educated in such renewable energy initiatives as the use of heat generated by waste disposal to heat a swimming pool. As disaster prevention and waste disposal issues are problematic in their home countries, the Indonesian and Taiwanese students paid serious attention to explanations by the facility staff.



Students performed genetic diagnosis.



Students made their first rolled sushi at Marukan Vinegar

Day	Program	Venue
1	Arrival Orientation	Hotel
2	Visit RIKEN CDB Visit Marukan Vinegar Co., Ltd.	RIKEN CDB Marukan Vinegar
3	Special lecture and practice: Solar power generation Special lecture and practice: Computer programming	Kobe Mita Campus of KGU
4	Special lecture and practice: Genetic examination Visit Kirin Beer Park Kobe	Kobe Mita Campus of KGU Kirin Beer Park Kobe
5	Visit RIKEN SPring-8, etc. Special lectures and practice: visit Nojima Fault	RIKEN CDB Hokudan Earthquake Memorial Park
6	Visit Memorial Disaster Reduction and Human Renovation Institution (DRI) Visit Amagasaki waste disposal facility Farewell party	DRI Amagasaki waste disposal facility
7	Departure for home	

Hiroshima University (Course A)

Students from five Asian countries and regions try experiments and practice in the field of food production

July 28 – August 5, 2014



Practice at livestock immune system studies



Participants challenged their first jam making at the Aohata Corporation factory.

The Hiroshima University Graduate School of Biosphere Science implements an international summer school program every year for international academic exchanges of the university graduate students and faculty members. To the summer program, the Graduate School of Biosphere Science of Hiroshima University invited 11 people from Indonesia, Thailand, the Philippines, South Korea, and Taiwan as part of SSP and organized various programs.

These programs were managed by the “Steering Committee for International Summer School” consisting of faculty members, clerical staff, and graduate students. In particular, it was a good opportunity for Japanese students to communicate in English with participants from other Asian countries.

For the first half of the program, four courses (livestock immune system studies, functional food studies, food stock studies, and biochemistry of algae) were provided in relation to a food production field which draws much attention in the Asia. The participants chose their favorite courses and carried out experiments and practice with the support of Japanese graduate students after having received lectures from Japanese faculties.

Visit World Cultural Heritage sites and food companies

In the middle part of the program, the participants visited the Atomic Bomb Dome and the Hiroshima Peace Memorial Museum, which were designated as World Cultural Heritage. They tried to get suffering Hiroshima had previously undergone from the Atomic Bomb Dome and from exhibited items at the museum. They also visited the Itsukushima Shrine, which is another World Cultural Heritage. Such a visit was a good opportunity for them to learn Japanese history and culture.

Furthermore, the Asian participants visited two food companies. One is Aohata Corporation, a jam maker. After touring a factory, they worked on jam making at the factory. The other company they visited is Satake Corporation, a top rice-polishing machine maker. The company guide explained about the history of rice-polishing machine development and interesting story that the technology used for rice-polishing machine is applied to the elevators of high-rise buildings and also to the motors of bullet trains.

At the end of the program, the participants made presentations about their research subjects, while Japanese graduate students and students from abroad at Hiroshima University also made presentations about their research, which provided precious opportunities for both parties to inspire each other.

Day	Program	Venue
1	Arrival	
2	Welcome ceremony Tour to see production and sales of agricultural products	Hiroshima University Farmers at Higasi-Hiroshima
3-4	Program work	Hiroshima University
5	Visit World Cultural Heritage (Atomic Bomb Dome, Itsukushima Shrine, etc)	Hiroshima Hatsukaichi
6	Company tour, making jam practice Sightseeing	Aohata Corporation Takehara
7	Free at leisure	
8	Panel discussion Company tour Farewell ceremony	Hiroshima University Satake Corporation Hiroshima University
9	Departure for home	

Kochi University (Course A)

Pilipino and Taiwanese researchers study marine resources in the Kuroshio Current region

September 9 – 18, 2014

Kochi University, which carries out various research and development using marine resources in the sea of Kochi, invited 10 young researchers from the Philippines and Taiwan to participate in the 8th International Symposium on Kuroshio Science and to make matching for future joint research with Kochi University. Six researchers are from the Philippines: the University of the Philippines, Bicol University, Catanduanes State University, and the Bureau of Fisheries and Aquatic Resources of the Department of Agriculture. And four are from Taiwan: National Sun Yat-sen University and National Dong Hwa University. They experienced the leading-edge marine research at Kochi University and learned the significance of sustainable coastal management in the Kuroshio Current region.

In the first half of a ten-day program, faculty members introduced their laboratories and research studies to the Pilipino and Taiwanese researchers, and made a study tour of the university facilities. Following that, they were divided into groups, and visited different laboratories to find the matching possibility of joint research. On the fourth and fifth days, they participated in the 8th International Symposium on Kuroshio Science, where the symposium participants including SSP researchers examined and had discussions about challenges and future outlooks in terms of coastal management in the Kuroshio Current region.

Experience a rich marine environment in Kochi

In the latter half of the program, away from the Kochi University campus, the invitees made a study tour of Kochi Prefectural Makino Botanical Garden, a deep sea water facility Aqua Farm in Muroto, and geopark. In addition, they visited a seaweed cultivation facility using deep sea water and a salt-making factory. They learned the history of whaling at a museum of whaling and experienced washi (Japanese paper)-making at a museum of washi, a traditional handicraft in Kochi.

At the end of the program, the Pilipino and Taiwanese researchers visited the Usa Marine Biological Institute at Kochi University. After learning the outline of the institute, they cruised across the Tosa Bay by the institute's vessel and experienced a rich marine environment in the sea of Kochi.

Although the program was implemented in September, the participants promised to meet again in Japan in April when cherry blossoms are in full bloom as the program name of the "SAKURA" Exchange Program in Science shows.



The SSP participants attended the 8th International Symposium on Kuroshio Science.



They experienced a rich marine environment in Kochi by cruising.

Day	Program	Venue
1	Arrival	
2	Orientation Presentation	Asakura Campus of Kochi University
3	Visits laboratories (at Asakura, Mononobe, Okatoyo Campuses)	Each campus of Kochi University
4-5	Attend the 8th International Symposium on Kuroshio Science	Asakura Campus of Kochi University
6	Group discussion Move to Muroto	Asakura Campus of Kochi University
7	Visit a deep sea water facility Aqua Farm in Muroto Move to Kochi	Aqua Farm in Muroto
8	Visit laboratories Wrap-up meeting	Asakura Campus of Kochi University
9	Move to Tokyo Visit National Museum of Nature and Science	Tokyo
10	Departure for home	

University of Miyazaki (Course B)

Young researchers from Myanmar learn Japan's leading-edge medicine, and science and technology

January 18 – February 5, 2015



The program participants made a study tour of the University of Miyazaki Hospital.



They had practice at each laboratory for their specialties.

The Faculty of Medicine of University of Miyazaki carries out world-level research, such as “physiologically active peptide and biological system defense,” and at the same time, as a core medical organization in the region, it engages in regional medical activities such as building perinatal period medical networks. University of Miyazaki invited ten researchers, including young instructors of medical universities in Myanmar and researchers of the Department of Research of the Ministry of Health of Myanmar, for about 20-day study program.

The invitees visited Japan in the middle of winter directly from Myanmar in the tropical climate, but in spite of the cold weather in Japan they energetically participated in the program to learn Japanese medicine.

Divided into several groups based on their specialties, such as internal medicine, physiology, histocytochemistry, and forensics medicine, they experienced practice and lectures at each laboratory.

In the first half of the program, the participants made a study tour of the university's facilities, such as laboratories, a research center, and a university hospital and its emergency center, where they earnestly listened to explanations about the university's medical structures. From the side of participants, the current situation of medical education and research in Myanmar were explained.

SSP invitees from Myanmar report the results gained through the program and their future plans

From the middle of the program, the SSP invitees were divided into specialty groups and carried out laboratory research activities. Each of them worked hard on their own research subjects. During breaks of their research work, they visited regional medical organizations to study the hands-on operations in Japanese regional medicine.

In addition, the university provided them with the opportunity to learn Japan's cutting-edge science and technology in the areas outside of medicine, through these visits to the Miyazaki Science Center and in Tokyo, the National Museum of Emerging Science and Innovation and Meguro Parasitological Museum. At the end of the program, the SSP invitees made presentations of final reports about their program outcomes and future action plans.

For the request from the Burmese government, University of Miyazaki will continue to carry out a follow-up of the SSP participants and to promote exchange programs for students and researchers.

Day	Program	Venue
1	Arrival	
2	Orientation Campus tour and welcome party	Univ. of Miyazaki
3	Lecture Visit the University of Miyazaki Hospital	Univ. of Miyazaki
4-6	Lab research activities	Univ. of Miyazaki
7	Regional culture experience	Nichinan City
8	Interim report for lab research activities	Univ. of Miyazaki
9-11	Lab research activities	Univ. of Miyazaki
12	Visit Kyushu University of Health and Welfare	Nobeoka City
13	Regional visit	Takachiho Town
14-15	Work on report for the program	Univ. of Miyazaki
16	Final report for the program outcome Closing ceremony Farewell party	Univ. of Miyazaki
17	Visit Meguro Parasitological Museum	Tokyo
18	Visit Kamakura Visit Miraikan	Kamakura Tokyo
19	Departure for home	

National Institute of Radiological Sciences (Course B)

Conducting a joint experiment on the biological effect of heavy ion with young Chinese researchers

July 31 – August 20, 2014

It is said that there are a limited number of research facilities all over the world that can conduct research on the biological effect of high linear energy transfer (LET) radiation, such as heavy ion.

The Heavy Ion Medical Accelerator in Chiba (HIMAC) at the National Institute of Radiological Sciences (NIRS) aims to be used for medical and biological research, and is known as a very unique facility. NIRS's achievements in the field of heavy ion biology research are highly evaluated as those to lead the world.

As SSP, NIRS invited two young researchers from the Institute of Modern Physics (IMP) of the Chinese Academy of Sciences. IMP develops and operates the Heavy Ion Research Facility in Lanzhou (HIRFL), and works as a core base of heavy ion research in China.

On the other hand, NIRS has carried out heavy ion radiotherapy since 1994 by using HIMAC and has made many achievements as an advanced cancer treatment with fewer burdens to the body. At the same time NIRS has worked on research on the biological effect of heavy ion.

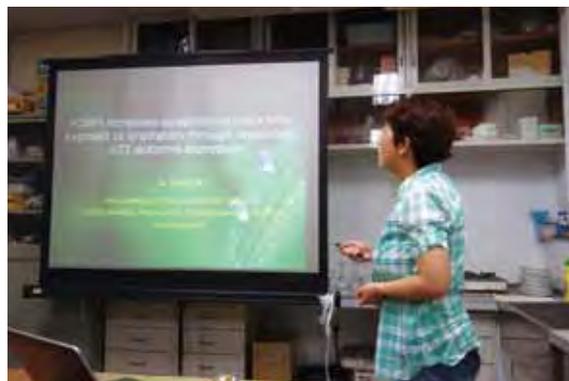
Joint experiments will lead to joint research in future between Japan and China

During their three-week stay in Japan, the young Chinese researchers made a study tour of HIMAC and also exchanged information on latest knowledge about research on the biological effect of heavy ion.

In addition, for about ten days, they participated in ongoing radiobiological experiments carried out by NIRS using latest devices. During the period of those experiments, they actively reported the progress of the experiments and earnest discussions were held among Chinese and Japanese researchers. Both IMP and NIRS expect that the experiment results of this time through the SSP program will lead to joint research in the future.

As the exchange program also aims to promote cultural exchanges between Japan and China as well as to carry out research and experiments, the institute held welcome and farewell parties to deepen mutual friendships among researchers. Also a sightseeing tour of Chiba City, where NIRS is located, was made.

Currently, as only a limited number of global research facilities can conduct research on the biological effect of heavy ion, it is globally expected that the cooperation between IMP and NIRS will greatly contribute to the future development of this research field.



Latest knowledge exchanges about research on the biological effect of heavy ion



Chinese and Japanese researchers built firmer trust through discussions.

Day	Program	Venue
1	Arrival Welcome party	NIRS
2	Tour of NIRS	NIRS
3	Discussion on research	NIRS
4	Holiday	
5	Introduction and discussion on research	NIRS
6-10	Experiments	NIRS
11	Holiday	
12	Discussion on research	NIRS
13-17	Experiments	NIRS
18	Holiday	
19	Summary of experiments Discussions on research	NIRS
20	Summary of experiment Farewell party	NIRS
21	Departure for home	

National Institute of Technology, Kurume College (Course A)

Thai students attend experiments and classes to learn basic technology of product manufacturing

July 6 – 12, 2014



Thai students keenly looked at a demonstration of a special prize awarded work at a contest



Students were interested in a picture drawing robot at the Fukuoka Prefectural Science Museum for Youth

The National Institute of Technology, Kurume College has promoted collaborative relationship with the King Mongkut’s Institute of Technology Ladkrabang (KMITL) in Thailand. The relationship of two institutes started in connection with Associate Professor Yoshimitsu Kuroki of the college who had once visited the institute. Since 2014, Kurume College has accepted seven third-year students from KMITL as special students, which is part of the Program for Promoting Inter-University Collaborative Education.

Kurume College applied for the 2014 SSP based on the idea that it was significant for the college to encourage KMITL students to understand and experience Japan’s science and technology as well as Kurume College to further promote exchanges between Japanese and Thai students. As SSP, the college invited five undergraduate students of the Faculty of Information Technology and five students in the master’s course of KMITL.

Attending a technical English class and holding questions-and-answer sessions with Japanese students

The SSP program at the college included the orientation by the KMITL students studying at Kurume College as special students, exchange meetings with Japanese students, and visits to observe experiment and practice classes. The Thai students also participated in the class of technical English and had a question-and-answer session about research report presented in English by the college students, while the KMITL students explained their ongoing projects and research subjects to Japanese students.

At the exchange meeting with the students of the Programming Laboratory Club, Japanese students introduced their work that had won the special prize at the Nationwide Programming Contest for National Colleges of Technology. The Thai students also observed the processing practice class for the Department of Mechanical Engineering, which was planned to encourage them to know the situation of basic technical education that supports the Japanese manufacturing industry. Other than the college, Thai students visited the Fukuoka Prefectural Science Museum for Youth and private companies and their plants.

To promote international exchange program, it is important for educational organizations to mutually send and accept students in the long term. Kurume College focused only on the KMITL’s Faculty of Information Technology this time, but the college plans to expand its exchange program to other KMITL faculties.

Day	Program	Venue
1	Arrival	Kurume College
2	Visit college facilities including labs of Departments of Materials Science and Engineering, Mechanical Engineering, etc.	Kurume College
3	Visit lab (Department of Control and Information Systems Engineering) Research presentation by KMITL’s student in a master course Exchange meeting with student of Dept. of Mechanical Engineering.	Kurume College
4	Visit Fukuoka Prefectural Science Museum for Youth Participate in technical English class Exchanges with Programming Laboratory Club	Kurume City Kurume College
5	Visit Kyushu Miyata Plant of Toyota Motor Corporation Visit Robot Plant of Yasukawa Electric Corporation	Miyawaka City Kitakyushu City
6	Exchanges with students in Advanced Engeneeing School Visit Monozukuri Education Center and Research Center for Technology	Kurume College
7	Departure for home	

Salesian Polytechnic (Course A)

Mongolian students from Institution of Engineering and Technology learn Japanese product manufacturing

January 12 – 19, 2015

For the 2014 SSP, Salesian Polytechnic invited to Japan ten students and four teachers from the Institution of Engineering and Technology (IET) in Mongolia. Established in 2014, IET is a new school that is introducing a Japanese-style school model named kosen (a technical college).

In preparing this exchange program and to promote Mongolian students' better understanding of Japan's science and technology, Salesian Polytechnic planned for the students to focus on three areas: (1) gain experience in product manufacturing that has adopted Japan's unique kosen education approach; (2) take on-site tours to meet a wide range of engineers who work at local factories that maintain Japan's leading-edge technology; and (3) visit the National Museum of Emerging Science and Innovation to see the latest Japanese technology exhibited and allow students to learn about related science communication methods.

In line with this program concept, IET students went about various activities. At a class in product manufacturing, they learned how to assemble solar car kits, and they entered their works in a car race tournament afterwards. They also challenged to make a four-foot walking robot from a kit originally developed by a faculty member of Salesian Polytechnic.

In addition, the students visited local factories in Kawasaki City and learned that Japanese leading-edge technologies were supported by a wide range of engineers in local factories.

Moreover, at the end of the program, a student symposium was held by connecting the IET and Salesian Polytechnic students on Web systems.

All participated students hope to visit Japan again

Except for Japanese science and technology, IET students experienced Japanese tradition and culture by enjoying a kyogen play and a tea ceremony, and visiting Asakusa and Meiji Jingu Shrine in Tokyo.

In a questionnaire survey conducted after the program, all participated students answered that they strongly desired to visit Japan again; particularly, to acquire greater knowledge of science and technology in Japan.

Not only for Mongolian students, but also for Japanese students who were involved in supporting the program, this SSP provided an important opportunity to acquire international knowledge and the ability to adjust to foreign cultures, both of which they will need as engineers in the future. Taking advantage of SSP, Salesian Polytechnic will further promote exchanges between the two schools.



Mongolian students assembled a solar car kit and adorned car with national flags of Japan and Mongolia.



A memorial photo taken with the Kyogen expression of "laughing"

Day	Program	Venue
1	Arrival Orientation	Salesian Polytechnic
2	Tour Salesian Polytechnic engineering facilities Visit laboratories	Salesian Polytechnic
3	Experience a kyogen play Product manufacturing class 1	Salesian Polytechnic
4	Experience a tea ceremony Product manufacturing class 2	Salesian Polytechnic
5	Poster session Study tour of local factories 1	Salesian Polytechnic Kanagawa Pref.
6	Study tour of local factories 2 Tour to experience Japanese culture	Central Tokyo
7	Visit National Museum of Emerging Science and Innovation (Miraikan) Web conference: a student symposium	Miraikan Salesian Polytechnic
8	Departure for home	

Aichi Prefecture (Course C)

Chinese and Japanese students enjoy exchange and homestay in Aichi

February 8 – 15, 2015



Chinese students participated in classes at Kariya Senior High School.



The students experienced magnetic levitation on maglev train Linimo.

In November 2013, Aichi Prefecture in Japan and Guangdong Province in China concluded an agreement on mutual cooperation. Subsequently, to promote international exchange through SSP, the Aichi prefectural government hosted 20 exceptional high school students from Guangdong Province. For this SSP, Aichi Prefecture arranged activities in the areas of science and technology. The participants visited research facilities at Nagoya University and the Aichi Prefectural Kariya Senior High School, which is designated as a super science high school (SSH). In addition, SSP provided Chinese students with the opportunity to stay at Japanese homes and experience the culture and atmosphere of Aichi.

In the first half of the program, the Chinese students made a study tour of research facilities related to super computers and 8K imaging technology at Nagoya University. They also visited Kariya Senior High School and experienced Japanese high school life by attending mathematics and chemistry classes and having lunch with Japanese students.

In a questionnaire survey conducted after the completion of the program, many Chinese students answered that their interaction with the Japanese high school students was the most impressive part of the program. This shows that the program provided them with a precious opportunity to expand friendships with Japanese students of the same generation.

Students visit manufacturing facilities unique to Aichi

In addition to their academic activities, the Chinese students experienced Japanese daily life during their homestays. The students also participated in a local festival and visited famous tourist spots, such as the Atsuta Jingu shrine. The students said they were impressed by their host families' passionate hospitality, which allowed them to gain new perspectives on regional culture and atmosphere.

In the latter half of the program, the Chinese students made a study tour of several of Aichi's characteristic manufacturing facilities: Toyota Ecoful Town, which introduces the latest technology for an environmentally friendly life; the automotive factory of Toyota Motor Corporation; and the Toyota Commemorative Museum of Industry and Technology. The students had another impressive experience: riding on the magnetic levitation (maglev) train Linimo, operated by Aichi Rapid Transit Co., Ltd.

During their stay in Aichi, it snowed and was particularly cold. However, the Chinese students, who came from warm Guangdong Province, had a very happy time, especially seeing snow for the first time.

Day	Program	Venue
1	Arrival	
2	Orientation Attend lectures	Aichi Prefectural Office Nagoya University
3	Attend classes, and exchange with Japanese students Experience a homestay	Kariya Senior High School Host family house
4	Experience a homestay	Host family house
5	Experience riding aboard Linimo Visit industry-academia-government cooperative research base, etc.	Aichi Rapid Transit Co., Ltd. Knowledge Hub Aichi
6	Visit model area for low-carbon society, and sports facilities with latest technology, etc.	Toyota Ecoful Town, other sites
7	Observe industrial machines, latest train technology, etc.	Toyota Commemorative Museum of Industry and Technology, SCMAGLEV and Railway Park
8	Departure for home	

Tokinohane (Wings of the Crested Ibis)(Course C)

Chinese students and researchers participate in wide-ranging environmental studies

November 6 – 12, 2014

Tokinohane, a general incorporated association, invited 20 Chinese students and researchers from Beijing, Shanghai, Anhui Province, Hubei Province, and Sichuan Province in China for SSP. Divided into two groups, the students participated in study visits and exchange activities.

At Nagoya International Exhibition Hall’s Messe Nagoya, Group A visited science- and environment-related booths to see science demonstrations and cutting-edge technologies such as nursing care robotics. Group B, comprised of teachers from three elementary schools in China, visited Ogawa Elementary School, which is designated as an open school by UNESCO.

Then, they all visited the Gifu World Fresh Water Aquarium, where they received explanations about the protection of freshwater fisheries and watershed habitats. At a visit to a showroom of Toho Gas Co., Ltd., where environmentally-friendly and energy-saving gas equipment is exhibited, they were impressed to learn about the company’s pursuit to develop products that satisfy eco-friendliness, safety, and usability.

They also attended a seminar organized by the Nagoya municipal government on “Nagoya’s 100-year history of water supply and drainage” and “environmental preservation and disaster damage control.”

Program participants attend 2014 UNESCO World Conference on ESD

During the main event of this SSP, participants officially attended an exchange seminar at the 2014 UNESCO World Conference on Education for Sustainable Development (ESD) held at Nagoya Congress Center. At the seminar, they learned of the achievements of collaborative environmental education projects between Japan and China and also exchanged opinions about the Children’s World Summit for the Environment to be held in 2015. Moreover, participants discussed collaboration between China and Japan focusing on the “sixth industrialization of agriculture.”

Tokinohane participants were also granted the opportunity to report on their activities at Expo Milano 2015; on May 19 and 20, 2015, they made a presentation about (1) the environmental initiatives of Japan, a country that has traditionally coexisted with nature, and (2) Japan’s role in international cooperation. The presentation was entitled “To the future from Milano: aiming for the enhancement of biodiversity preservation activities and civil collaboration continued from the Expo 2005 Aichi Japan, the Expo 2010 Shanghai China, COP10, and the 2014 UNESCO World Conference on ESD.”



Participants attended a seminar organized by the Nagoya municipal government on water administration systems.



SSP participants officially attended an exchange seminar of the 2014 UNESCO World Conference on ESD.

Day	Program	Venue
1	Arrival	
2	Visit governor of Aichi Pref. and other officials Group A: visit Messe Nagoya Group B: visit Ogawa Elementary School	Aichi Prefectural Office Nagoya Int'l Exhibition Hall and other sites
3	Visit Gifu World Fresh Water Aquarium, and other places	Various sites
4	Visit Showroom of Toho Gas Co., Ltd. Visit Koubei pottery	Nagoya Tajimi
5	Attend a seminar on water administration systems organized by the Nagoya municipal government	Nagoya
6	Attend seminar of 2014 UNESCO World Conference on ESD	Nagoya Congress Center
7	Departure for home	

Fuji Electric Co., Ltd. (Course A)

Promoting business-academia collaboration, from R&D to business creation, with Zhejiang University in China

August 29 – September 14, 2014



Program participants observed the production line at Suzuka Factory.



A wrap-up meeting on the study program at the Fuji Electric's head office

Day	Program	Venue
1	Arrival	
2	Sightseeing in Tokyo	Tokyo
3	Visit science- and technology-related facilities	Tokyo
4	Visit Tokyo Factory of Fuji Electric Attend seminar on personnel and educational systems	Hino
5	Visit Chiba Factory of Fuji Electric	Chiba
6	Visit Kawasaki Factory of Fuji Electric	Kawasaki
7	Visit Innovation Japan 2014	Tokyo
8	Visit head office of Fuji Electric	Tokyo
9	Sightseeing in Tokyo	Tokyo
10	Departure for home	

To expand its business in the Chinese market, Fuji Electric Co., Ltd. has been promoting business-academia collaboration with Zhejiang University in China since 2003. Over the years, collaborative endeavors have been carried out in joint research and development, technological and human exchanges, and new business creation.

In 2014, the Zhejiang University-Fuji Electric Cooperation Center was established for the promotion of integrated business-academia collaboration, from R&D to business creation, by leveraging strengths of the company and the university in their respective fields.

For the study program, the company hosted five young faculty members along with researchers possessing R&D and business knowledge, and 12 graduate school students in doctoral or other courses. These invitees were studying in the field of electricity, energy, control, the environment, and IT.

Of the graduate students, 10 attended study sessions at Fuji Electric's business bases including Kawasaki, Chiba, and Tokyo factories. Five teachers and researchers, and two graduate students in a doctoral course participated in study sessions focusing on world-leading technology of the company's Yamanashi, Kobe, and Suzuka factories.

Chinese participants eagerly attend study sessions at cutting-edge business sites

At a study tour related to earthquake disaster in Kobe, the participants acquired a fresh perspective of disaster-prone Japan and directly gained awareness of the Japanese people and their approach to disasters and disaster recovery.

Moreover, through study tours to factories in Kobe, Suzuka, and Yamanashi, they not only observed product manufacturing lines but received lectures on leading-edge technologies. They also had opportunities to exchange opinions with Fuji Electric directors and staff members working on the business and technology frontlines. The program participants were impressed by the study tour, stating: "Every factory is clean and tidy," and "The company has many highly innovative technologies, such as environmentally-friendly energy, semiconductors, and MEMS."

They also visited the Tokyo Factory in Hino City, where they experienced R&D of such cutting-edge technologies as MEMS and smart communities, and observed demonstration plants in operation. Through study tours to observe technologies and by visiting various spots in town, the students learned real Japan and Japanese people that were perhaps quite different from their earlier imaginings.

Sumitomo Chemical Company, Limited (Course A)

Chinese and Indonesian interns learn Japanese work style and business manners

July 21 – August 30, 2014

Sumitomo Chemical Company, Limited invited 16 interns from China and Indonesia, including SSP students, for a 40-day study program to encourage them to further their understanding of Japan and the business activities of Japanese companies.

In the orientation, the Chinese and Indonesian interns received instruction not only about Sumitomo Chemical but also the ways of living, work styles, and business manners in Japan. They first made a study tour of the company's Chiba Works and the Petrochemicals Research Laboratory. At the works, they were surprised at the scale of the ethylene plant. At the research laboratory, they learned that polyethylene bags for daily use, and car bumpers, were petrochemical products, and that such products are widely used in daily life and have many potentials.

Through presentations, interns share achievements of study program

After receiving specific training applicable to students' specialties at the head office, factories, and research laboratories of Sumitomo Chemical, the students participated in study programs in Aomori, Tokyo, Chiba, Osaka, Oita, and elsewhere. After the completion of approximate one-month study programs in these areas, the participants returned to the company's head office in Tokyo. Making presentations about the results of their study programs, they shared what they had learned during training.

Some interns said that they discovered that Japanese culture and ways of thinking were different from those of their own countries, and that they were able to learn Japanese business manners, such as punctuality and the rules of "report, communication, and consultation."

Some students stated that, "I had a real experience working at a Japanese company, and it was like a dream," and "I found that cultures, ways of thinking and business manners of Japanese companies contributed to developing and maintaining Japan's high technological levels."

Sumitomo Chemical has implemented internship programs since 2007, and in 2015 the company plans to accept students also from universities in Europe, the Middle East, and Africa.

The company believes that to expand its business into global markets, it is important to invite promising and excellent students from abroad and promote the students' deeper understanding about Japan. Sumitomo Chemical is expanding its exchanges with overseas universities and hoping SSP will grow from Asia to other regions.



Participants made presentations about study programs to share their achievements.



A study tour at Chiba Works with wearing helmets

Day	Program	Venue
1	Arrival	
2	Orientation	Tokyo head office
3	Visit Chiba Works and Petrochemicals Research Laboratory	Chiba Works
4	Start training at Tokyo head office Move to Ehime, Chiba, Osaka, Oita, and Misawa for those being trained at these sites	Tokyo head office
5	Education and training at individual assigned sites	Individual sites
6-7	Holiday	
8-38	Training at individual assigned sites	Individual sites
39	Return to Tokyo	
40	Presentations for study program Conferring of completion certificates	Tokyo head office
41	Departure for home	

J. F. Oberlin Gakuen (Course A)

Exchanges with Chinese students by sharing common educational philosophy of “Learning and serving people”

July 13 – 20, 2014



Chinese students undertook a wind power experiment.



They also worked on an experiment in water quality measurement.

J. F. Oberlin Gakuen shares a common educational philosophy with Beijing Chen Jing Lun High School in China, the sending organization for SSP. Before wartime, the founder of J. F. Oberlin Gakuen, the Reverend Yasuzo Shimizu, established Sutei Gakuen school in China for poor Chinese women. Both schools, in Japan and China, originated from this Sutei Gakuen, and Reverend Shimizu’s beliefs are infused in the schools’ shared mission of “Learning and serving people.”

Through such a relationship, J. F. Oberlin Gakuen invited nine students and one teacher from Beijing Chen Jing Lun High School. The invited students were the highest academic achievers and included a gold prize winner at the Beijing City Science and Technology Intelligence Competition.

Students tackle environmental problems in China through experiences in Japan

Through the program, students learned mainly about environment problems and eco-technologies as well as Japan’s latest science and technology. They attended lectures under such themes as “Japan’s history for improving air pollution,” “Air-polluting substances and measures to remove them,” “The earth viewed from the space,” and “What are the environmental problems? What should we do?” For experimentation, they attended practical sessions and investigated such topics as “environmental measurement: water quality measurement and atmospheric measurement,” “wind power generation,” and “making electronic cells by using familiar daily items.”

The Chinese students learned the importance of tackling environmental issues by studying Japan’s history of air pollution. Through these activities, they understood that environmental problems could be improved by taking active countermeasures, and everyone could do so in their daily efforts. Having undertaken experiments in wind power generation and making electric cells using familiar items in daily life, the students seemed to have grown increasingly interested in natural sources of energy.

Currently, PM2.5 is a serious environmental issue in China. However, Chinese students came to think that if China would implement countermeasures, its environment could be much improved.

Many of them had a positive experience, saying, “I want to be a good researcher to make the Beijing sky blue and beautiful someday,” and “I will fully utilize this experience in Japan for both my own growth and the development of my country.”

Day	Program	Venue
1	Arrival	
2	Lectures and experiments: Air-polluting substances and measures to remove Welcome party	J. F. Oberlin University
3	Lectures and experiments: Current situation of environmental problems and What should we do?, etc.	J. F. Oberlin junior and senior high schools
4	Visits and lectures: Environmentally-friendly city development	Machida Recycle Center and others
5	Lecture: Wind power generation Workshop: Japanese traditional eco-culture Visit: Earth viewed from space	Machida Campus, J. F. Oberlin University JAXA Sagami-hara Campus
6	Experiment: Let’s produce new energy	J. F. Oberlin University
7	Visit : Japan’s leading-edge science Farewell party	Miraikan
8	Departure for home	

Miyazaki Omiya High School (Course A)

Taiwanese students experience Japanese daily life through homestays

August 23 – 27, 2014

Miyazaki Prefectural Miyazaki Omiya High School invited seven students and one teacher from Kaohsiung Municipal Kaohsiung Senior High School in Taiwan for SSP. Established in 1922, Kaohsiung Senior High School is known for having the highest academic standards among schools in southern Taiwan. It has made many achievements in science education; furthermore, to promote international education, the school has proactively implemented international exchange programs with educational institutions in other countries.

Under the theme of “water and waste disposal,” Miyazaki Omiya High School aimed to encourage high school students in Japan and Taiwan to consider environmental problems through global perspectives. Related activities included participation in Japanese high school classes and a university workshop, visits to museums related to science and technology, and observation of waterworks.

Japanese students greatly inspired by high-level English of Taiwanese students

Moreover, through a homestay program, the Japanese host families received Taiwanese students, who were given the opportunity to realize that “different cultures exist.” On arrival in Japan, the students were unfamiliar with Japanese culture, but they gained a valuable introduction through SSP. Such exchanges between students and host families enabled all to mingle closely and expand mutual understanding.

Japanese students also obtained significant educational benefits from the program. As the English levels of the Taiwanese students were extremely high, Japanese students were greatly inspired, and their attitude towards studying English was greatly changed.

Moreover, the Japanese students increased their interest not only in Taiwan but other countries and regions, and they actively and regularly tried to follow international news affairs. Even after completion of the program, many of the students involved in SSP have kept contact with the Taiwanese students by e-mail and other means.

Having experienced communications with the Taiwanese students, the Japanese students realized that it was important to actively engage in communications, and this triggered them to reconsider their daily communications.

To implement SSP, Miyazaki Omiya High School launched the Students’ Steering Committee and entrusted the students with the greater part of its planning and management. Through trial and error, students learned the significance of the program and gained know-how in smooth management.



Taiwanese students visited the Tomiyoshi Waterworks in Miyazaki City.



A memorial photo with a host family

Day	Program	Venue
1	Arrival Exchange meeting with students of Miyazaki Omiya High School	Hotel
2	Introduction to Miyazaki Omiya High School and to research themes Visit Miyazaki Science Center	Miyazaki Omiya High School
3	Integrated exchange program of University of Miyazaki with Vietnamese students Lectures on Japanese water supply and systems by faculty of University of Miyazaki, and other lectures	University of Miyazaki
4	Visits: Miyazaki Kita High School (Super Science High School), Sadohara High School, and Tomiyoshi Waterworks	Miyazaki Kita High School, Sadohara High School, and Tomiyoshi Waterworks
5	Discussions Farewell party Departure for home	University of Miyazaki

Voice of Participants



Acquired basic-level specialized knowledge from the program

Guo Jia Ming, People's Republic of China

- Affiliation: Third-year student, School of Electronic Engineering, University of Electric Science and Technology of China (UESTC)
- Receiving organization: Chiba University
- Invitees: 10 students and 1 accompanying faculty member
- Period: August 24 – 30, 2014

Impressed with leading-edge facilities and outstanding research environment at laboratory

I spent a very meaningful time during my one-week stay in Japan: attending a lecture by Professor Hashimoto of Chiba University; visiting Professor Tanaka and Professor Suematsu's laboratories at Tohoku University; and visiting the National Museum of Emerging Science and Innovation (Miraikan).

The areas of SSP which I was especially happy about were as follows: I was able to learn about the research situation in the radio frequency (RF) and



Program related to advanced wireless information technology at Suematsu Laboratory, Tohoku University



After the closing ceremony (Prof. Kenya Hashimoto of Chiba University; fourth from right, back row)

microelectromechanical systems (MEMS) fields in Japan. One thing I remember clearly is the leading-edge facility and outstanding research environment in Professor Tanaka's laboratory at Tohoku University. In particular, the sanitary standards enforced prior to entry into the clean room were stricter than those in China. I think we should adopt such standards in China.

Acquired specialized knowledge during SSP

Most of the 10 participants in our group were first-year university students who had limited specialized knowledge. Through academic interaction, we were able to acquire basic-level specialized knowledge. Moreover, I was attracted to the research field of electrical and electronic engineering and became interested in this specialty area. Having participated in this program during my university days and then experiencing the culture shock in SSP will give an extra boost to my growth and capabilities.

This was the first visit to Japan for 8 out of 10 of us. I didn't know much about Japan before I actually visited there. During this program, we visited many places and briefly experienced Japanese society and the lifestyle in Japan with our own eyes. I thought the towns in Japan were very beautiful, and the food was delicious.

Learning Japanese for studying in Japan

I am very honored to have been able to attend Professor Hashimoto's lecture at Chiba University and become acquainted with him. Also, I believe that conducting research in a group setting is a brilliant research style. After Professor Hashimoto's lecture, I was greatly impressed with his sense of humor, depth of knowledge, and serious academic approach. His interpretation of technical terms was so graphic and full of humor. I was able to understand his explanations of specialized concepts.

I had never thought about studying in Japan before. However, after I returned to China, I started to think seriously about it and started to learn Japanese.



Learned detailed flow of cognitive algorithm and tracking

Wu Zheng Zheng, People's Republic of China

- Affiliation: Second-year master's degree student, Huazhong University of Science and Technology
- Receiving organization: Kobe University
- Invitees: 8 students and 2 accompanying faculty members
- Period: November 9 – 16, 2014

Research presentation given in free and vigorous atmosphere

On the first day at Kobe University, the students gave presentations about each research in a free and vigorous atmosphere, and they actively asked and answered questions. I learned a lot about subjects related to my particular research field.

In the laboratory program, each student from China was assigned to a laboratory based on the research theme of their interest and then conducted research with Japanese students, under the guidance of professors. I collaborated with a Japanese student as my research partner. He had been conducting research on recognition and tracking of facial expressions.

My partner explained the research subject to me, taught me the algorithm used, evaluated research outcomes, compiled references, and so on. Through this practical experience, I was able not only to understand the subject matter of the research that was undertaken at the laboratory, but also to obtain significant benefits from it.

Deeply moved by poem written by Zhou Enlai; and devoted myself further to the program

We had an opportunity to visit the historic city of Kyoto. What impressed me most during that visit was

the poem *Uchu Ranzan* by Zhou Enlai inscribed on his stone monument. Seeing his poem written in a foreign country deeply moved me — as if former Chinese Premier Zhou Enlai was present and encouraging us to “pursue the academic path at the top international level.”

During the program at the laboratory, we learned the detailed flow of a cognitive algorithm and tracking, and we then gave presentations on the outcome of our learning.

We visited the Kobe Maritime Museum and the Disaster Reduction Museum in Kobe City to get first-hand experience in Japanese culture. At the Earthquake Disaster Library of Kobe University, I redefined my perception of earthquakes in Japan.

We were able to learn a wide range of subjects in SSP. It included academic research, Japanese culture, and Japanese everyday life. In the area of academic research, we learned the mentality to devote ourselves to research.

On Japanese culture side, we learned to respect good manners and other people, and to abide by the rules. In terms of everyday life of Japanese people, we learned to sort out recyclables, not to waste food, and to value environmental sanitation. I think people in China should adopt all those ideas.



Deeply moved by Zhou Enlai poem inscribed on a stone monument



Visit to the Disaster Reduction Museum



Shared ideas with friends of different cultural backgrounds

Natthapat Wongcharoenyong, Kingdom of Thailand

- Affiliation: Third-year student, King Mongkut's Institute of Technology Ladkrabang
- Receiving organization: International Exchange Center, Faculty of Engineering, Yamagata University
- Invitees: 12 students from Thailand, Malaysia, China, and Taiwan
- Period: July 28 – August 9, 2014

Amazed by 3D-printer laboratory at Yamagata University

I participated in SSP at Yamagata University, since I wanted to learn about new engineering fields such as biochemical engineering and organic electroluminescence (EL) as well as Japanese culture.

Yamagata University has a large number of advanced facilities and technologies that are highly regarded internationally. One of the facilities that greatly impressed me was the laboratory for 3D-printer research. It has three excellent characteristics — speed, accuracy, and amazing precision in every detail — that



Engaged in discussions on various themes with participating students



Received Excellent Poster Presentation Award (author on far left)

enabled us to finish the smooth surface. Moreover, we visited the Innovation Center for Organic Electronics and observed next-generation display technologies with organic light-emitting diodes. These facilities will be really beneficial in the future. On top of that, I thought that not only the technologies but also the research environment and the professors there were truly wonderful.

Learned about continuous improvement and Just-in-Time process

During the company-visit portion of the program, we visited a global-scale company, Fujikura Automotive Asia Ltd. At its factory, we observed an operating manufacturing process for wiring harnesses. What I was interested most was the manufacturing process for wire, and for automotive parts produced at the factory. This company visit gave me a truly wonderful experience for my career development.

Through the program, I gained not only technical knowledge but also an opportunity to meet various people from different backgrounds.

Representative experiences I gained through the program are as follows:

First, I gained exposure to Japanese culture and language. I think that is very important, because when people are placed in a multicultural environment, they can see the world from a different perspective; second, I became more cooperative by sharing different ideas with friends of different cultural backgrounds; and third, while staying in Japan I made global connections with people from Japan and many other countries. Lastly, we were able to learn the working style of continuous improvement and the “just-in-time” process.

I would like to continue to learn more in Japan, because they have such great cultural heritage, customs, and advanced technologies. I also hope to continue my engineering research and obtain a master’s degree or doctorate overseas. Japan, which has the state-of-the-art technology, will be my first choice.



Learned about diagnosis of contagious diseases in animals, and viral isolation

Randy Pradina Putra, Republic of Indonesia

- Affiliation: Fifth-year student, Faculty of Veterinary Medicine, Gadjah Mada University
- Receiving organization: Azabu University
- Invitees: Total of 24 students: 6 from Taiwan, 6 from Thailand, 4 from China, 2 from Indonesia, 2 from Korea, 2 from the Philippines, and 2 from Malaysia
- Period: December 7 – 16, 2014

Studied in Japan on my first trip abroad

It was my first time to get on a plane and to go overseas. I had a wonderful time — it felt like a dream. Through this program, I realized how deep the field of veterinary medicine is. I was able to broaden my perspective and deepen my knowledge.

At Azabu University, we learned about the diagnosis of contagious diseases in animals. We were divided into six groups and attended lectures and laboratory programs. Each group consisted of students of various nationalities including one Japanese student.

Wonderful experiences in lectures and laboratory programs

The activities in the program were all unique and exciting. We not only attended lectures and laboratory sessions, also had various experiences, including visits to the Azabu University Veterinary Teaching Hospital, the Dairy Experiment Station in Yamanashi Prefecture, Dr. Sugiura's Memorial Museum, and the Meguro Parasitological Museum.

In the laboratory programs, we learned the techniques and technologies I had never tried in Indonesia, such as isolation of contagious disease viruses using the dot blot method. I thought the research environment at Azabu University was superb, and I would like to use

the technologies and the environment that I learned in Japan as reference for future research at Gadjah Mada University.

Hoping to contribute to Indonesia's development in the future

Participating in SSP was a truly meaningful experience. I would like to apply what I learned from this program to my future research and contribute to the development of Indonesia in the future. I hope SSP will continue to be offered to future exchange students and contribute to raising consciousness among Asian youth for international cooperation through cross-border interactions of participants.



Visit to the Azabu University Veterinary Teaching Hospital



Visit to the Dairy Experiment Station in Yamanashi Prefecture



Laboratory program in bacteria diagnosis using molecular biology techniques



Learned about Japanese cutting-edge science, targeting a low carbon society

Anis Afiqah Binti Ab Aziz, **Malaysia**

- Affiliation: Fourth-year student, University of Malaysia, Sarawak
- Receiving organization: The University of Electro-Communications
- Invitees: 10 students from Malaysia, Thailand, Indonesia, and Vietnam
- Period: November 16 – 21, 2014

Fascinated by next-generation wireless communication system

The theme of the exchange program at the University of Electro-Communications, which was planned and implemented based on the basic policy developed by Japan Science and Technology Agency (JST), was to learn the latest scientific technologies for developing a fuel cell and to actualize a low-carbon society in the future. Ten students from six universities in ASEAN countries participated in this program.

We learned much about the advanced scientific technologies in Japan, aiming for a low carbon

society. At the University of Electro-Communications, we studied three technologies: the latest fuel-cell technology, advanced laser technology, and advanced wireless communication technology.

In the lecture on wireless communication, we learned about sophisticated technologies related to internet connections. I was really impressed with a next-generation wireless communication system. The latest laser technology, which I haven't seen in Malaysia, really struck me. Moreover, in the lecture on fuel cells, we learned about their developmental status as well as the fact that research into improving fuel-cell vehicles' energy efficiency and the reduction of air pollution continues to be important pursuits.

Visit to the third-generation synchrotron radiation facility: SPring-8

We visited Toshiba R&D center and observed technological development related to energy efficiency improvements in transportation. At the Toshiba Science Museum, we learned about the history of Toshiba's technological improvements. We also visited SPring-8, the third-generation synchrotron radiation facility, and observed various research studies using X-irradiation. We also observed a fuel-cell experiment using X-irradiation carried out by researchers from the University of Electro-Communications. I thought the immense size of facility and first-class research equipment at SPring-8 were magnificent and impressive.

At the National Institute of Advanced Industrial Science and Technology (AIST), we learned about research into fuel-cell materials and evaluation technologies. We also visited the TEPIA Advanced Technology Gallery to learn about advanced technologies, such as 3D printers and robot hands. In addition to gaining knowledge of and practical experience with scientific technologies, we also gained exposure to Japan's unique culture and food. As the only Muslim in the group, I appreciate very much for providing me with Halal food as well as the time and place for salat (prayer).



Visit to the Fuel Cell Material Laboratory at the National Institute of Advanced Industrial Science and Technology



At TEPIA Advanced Technology Gallery



Robot production and laboratory programs broadened my horizon

He Hao Yun, Taiwan

- Affiliation: Second-year master's degree student, Mechanical and Electrical Technology Laboratory, National Taipei University of Technology
- Receiving organization: Chiba Institute of Technology
- Invitees: 10 students and 1 accompanying faculty member
- Period: August 3 – 11, 2014

Experienced cross-border teamwork

At Chiba Institute of Technology, I was able to obtain many benefits by pursuing interactions and study with the Japanese students. In this program, we experienced cross-border teamwork. Our team consisted of two Taiwanese students and four Japanese students. We produced a robot and entered it in a robot tournament. It was an experience I would never have been able to have elsewhere.

Moreover, there were many things to learn in Japan; particularly, the meticulous operation of facilities and fine maintenance of equipment, both of which inspired me deeply. The spirit of “good work is done with good tools” reflected in everything there; the facilities at Chiba Institute of Technology were excellent, particularly in terms of convenience. Furthermore, all the Japanese students were thoroughly familiar with the method of equipment usage. I was greatly impressed and became aware that Japanese students were receiving the highest level of laboratory education on a regular basis.

Braved fierce competition and won first prize

The robot tournament was thrilling and exciting. Our team ruled over fierce competition to win the first prize; the result of collaborative work with my Japanese team members. The production of the robot, to which all

my team members devoted their utmost efforts, was a very memorable experience. Through this cross-border teamwork, I can confidently say that I gained valuable insights.

We also learned about the progress of scientific technologies in Japan at the National Museum of Emerging Science and Innovation; in particular, the flexible movement of the two-legged walking robot ASIMO truly amazed me, since my major field of study at my university is in the similar area.

Furthermore, sightseeing was included in our program in addition to research and learning activities. We saw the stately structure of Tokyo Sky Tree and visited Kaminarimon Gate, which embodies an eternal history. Thanks to the cordial hospitality extended by the Japanese students, we could further deepen our understanding of Japanese culture.

Knew I would never forget this study tour

On the last day of the program, we visited Tokyo Disneyland. I am extremely glad that such fun activities were included as complements to SSP's academic exercises and historical/cultural approaches.

SSP included studies related to the field of my major, supplemented by activities that allowed all of us to experience foreign culture. This helped me to expand my horizons through cross-border interactions.



Divided into teams and produced robots



Competed in robot soccer tournament



Deeply moved by valuable experiences and friendship

Lee Min-Cheul, Republic of Korea

- Affiliation: Second-year master's degree student, Dept. of New Chemical Material Engineering, Chonnam National University
- Receiving organization: Tokyo University of Science
- Period: October 26 – November 1, 2014

The building of the Tokyo University of Science (TUS) Photocatalysis International Research Center, where we performed experiments, was still very new. I came to realize how lucky the faculty, staff, and students of TUS are to have such a facility, with its clean and well-maintained laboratories and analyzers such as SEM.

I conducted an experiment to control the microstructure of photocatalytic sheets by electrospinning using different solutions. Although I have had experiences with electrospinning experiments in Korea, it was my first time to use a spinning method that covers a planar plate with aluminum foil. It was impressive for me.

We also participated in a TUS forum organized by the university. I was again impressed: the administration's awareness of the importance of scientific technologies, their efforts to invite overseas students in cooperation

with the Japanese government, their continuous investment in research, and so on. The presentation by IBM staff was also amazing. It introduced technology that recognizes which product a user wants by analyzing the user's pupil movement.



Visit to the Photocatalyst Museum at KSP Techno Plaza (Kawasaki, Japan)



Exciting student workshop expanded my knowledge

Kanghoon Yim, Republic of Korea

- Affiliation: Ph.D. student, Dept. of Materials Science and Engineering, University of Seoul
- Receiving organization: The University of Tokyo
- Period: October 15 – 22, 2014

My research theme is high-throughput screening using data from the first principle calculation. I also perform research on the material characteristics displayed by certain oxides, mainly the transparent conductive oxides (TCO).

This program was very exciting and gave me an opportunity to have new experiences. The student workshop was truly beneficial, and was also a wonderful opportunity to share ideas and make new friends. In addition, we enjoyed Japanese food every night.

Since I study mainly theories, I have not had many chances to see laboratory instruments being used in my daily student life; therefore, visiting the laboratory was especially beneficial to me. Since students participating in this program had different research themes and interests, I thought it would be very beneficial if

students were divided into several groups based on broader categories and then had group discussions after receiving the main lecture.



Excellent Presentation Award chosen by student vote at workshop



Obtained wealth of knowledge about welding processing technologies

Diana Mae Calde, Republic of the Philippines

- Affiliation: De La Salle University (Manila)
- Receiving organization: Joining and Welding Research Institute (JWRI), Osaka University
- Period: November 16 – 22, 2014

I participated in SSP at Osaka University's Joining and Welding Research Institute (JWRI), the only research institute in Japan specializing in the fields of joining and welding. Also, I visited laboratories both inside and outside the university. As a group, we visited a company that manufactures welding robots and welding equipment. I obtained a wealth of knowledge about welding processing technologies.

Moreover, the tour of Osaka, Kobe, and Kyoto expanded my views of Japanese culture. Impressing me most were the punctuality of Japanese people and the fact that leading scientific technologies were broadly applied in the Japanese people's lives and culture.

I think joining SSP was a valuable experience. The only comment I might have was that each of the participants (excluding myself and another student) had a master's degrees or Ph.D. Therefore, there were

gaps between us in the degree of understanding of technologies and other knowledge; so, it was difficult for me to catch up to the level of presentations and Q&As on some occasions.



Visit to the experimental installation for laser welding at JWRI



Astonished by high-performance nursing care support robot

Nguyen Vu Nhat Phat, Socialist Republic of Viet Nam

- Affiliation: Ho Chi Minh City University of Medicine and Pharmacy
- Receiving organization: Takasaki University of Health and Welfare
- Period: October 22 – 31, 2014

I participated in SSP at Takasaki University of Health and Welfare, where I learned about Japan's latest technologies related to medical care and welfare, especially technologies for robot development in those fields.

We were able to obtain specialized knowledge and comprehend theories thanks to university and company staff involved in the development of world-class life-aid robots. It was exciting to see how those robots are used in professional clinical practice. I was really impressed and astonished by the high performance of the robots operating in this area.

We also visited the university laboratories, had discussions with students, attended lectures on the Japanese medical sector and disability-related education, and visited JAXA's Tsukuba Space Center. It was a very brief but highly concentrated program.

My experience in SSP was invaluable. I was able to learn advanced technologies and experience Japanese culture. I hope that many Asian students will get the opportunity to study in Japan through SSP.



Observed demonstration of Robot Suit HAL



Vinaithong Nagavong
Lao People's Democratic Republic (28, Researcher)

- Affiliation: National Agriculture and Forestry Research Institute (Laos)
- Receiving organization: Center for Southeast Asian Studies at Kyoto University
- Period: October 20 – 29, 2014

I participated in this exchange program at Kyoto University, which conducts top-level agriculture and forestry research, hoping to gain a better understanding of the latest agriculture and forestry technologies in Japan. In the program, we studied the theories of agriculture and forestry, and we stayed at a farm for three days and two nights, which enabled us to experience practical farm management.

We were shown Japan's diversified farm management, such as the "sixth sector industrialization of agriculture,"

which is a coherent system from production to processing to sales. I was interested in the entire process, particularly the cultivation of vegetables focusing on organic production and sending the products to market.

We also visited the YANMAR Museum. I thought the museum was valuable for learning about the environment as well as to experience actual technologies.

Through this program, I felt I should work harder than ever to increase my experience, technique, and skills to improve and develop agriculture in Laos in the future.



Chuluun Buyan
Mongolia (37, Ph.D. Student and Researcher)

- Affiliation: National University of Mongolia
- Receiving organization: Engineering educational research section, University of Miyazaki
- Period: August 19 – September 6, 2014

In Mongolia, environmental pollution due to mine development and industrial development has been a serious issue. Research on pollution status and pollution countermeasures are urgently needed. I visited Japan to learn about pollutant analysis technologies and environmental conservation technologies.

During SSP, we visited various facilities related to topics surrounding earth and water resources, as well as water purification, treatment of drainage and waste, and mining pollution and the treatment of mining waste. As a joint exercise with the Faculty of Engineering at University of Miyazaki, we conducted collaborative research using the latest devices.

Japanese environmental analysis and conservation

technologies are among the world's best. While the treatment of sewage and waste is required to maintain the urban environment, there are many areas that remain undeveloped, in terms of such treatment, in Mongolia.

Also, I had the opportunity to be exposed to Japan's latest technologies and systems related to environmental conservation in the vicinity of a mine. In addition, I learned about environmental pollution around a closed mine, which enhanced my desire to pursue research in Japan after I obtain a doctorate.

I would like to contribute to the education of the younger generation regarding development in Mongolia, using the knowledge and experiences obtained through SSP in Japan.



Siti Norrasidah Haji Zahiri
Brunei Darussalam (27, Graduate student)

- Affiliation: Universiti Brunei Darussalam
- Receiving organization: Faculty of Medicine, Kagawa University
- Period: December 14 – 23, 2014

Non-communicable diseases (NCDs) such as diabetes have been a major issue in Brunei Darussalam, as in other countries. Even before this program, Universiti Brunei Darussalam and Kagawa University jointly worked on research into diabetes and obesity, as well as improvement of patients' symptoms, through an international exchange agreement.

At SSP, I learned in depth about "rare sugars," which are sweeteners effective in conquering diabetes and obesity, and the process of telemedicine in working with

diabetes patients.

Kagawa University's facilities play a leadership role in rare sugar research, and the university has worked on product commercialization through collaboration between industry, government, and academia. The faculty has also worked on the computerization of telemedicine and conducted medical treatments using advanced approaches. I think I learned a lot from Japan's advanced technologies and systems, and realize I was given the best opportunities and experiences through SSP.



Vincent Yong Wei Jie
Republic of Singapore (17, High school student)

- Affiliation: Anderson Junior College
- Receiving organization: Research Foundation for Opto-Science and Technology
- Period: November 9 – 15, 2014

The western region of Shizuoka Prefecture, centered on Hamamatsu City, is an active area for optic research and related industries.

In particular, four facilities that we visited through this program — Shizuoka University, Hamamatsu University School of Medicine, the Graduate School for the Creation of New Photonics Industries, and Hamamatsu Photonics K.K. — have worked to spread, worldwide, technologies that fully utilize optic characteristics, through their joint work. The staff at the receiving organization of this program kindly planned a fulfilling program for participants, allowing us to experience leading-edge

optic technologies.

During the visits, we were able to see and learn how to operate equipment and devices that do not even exist in my country. Particularly, Hamamatsu University School of Medicine is one of the few universities in the world that has a history of more than 20 years performing medical treatment and research utilizing optics. I was extremely interested in the ICU and operating rooms in the university hospital.

Through this program, I learned that Japan has superior infrastructure and research opportunities. I hope to visit again in the future as a researcher.



Kyi Thar Ko
Republic of the Union of Myanmar (31, Teacher)

- Affiliation: Yangon Technological University
- Receiving organization: Graduate School of Science and Technology, Kumamoto University
- Period: November 3 – 8, 2014

One of the main purposes of visiting Japan through this program was to pursue educational research activities at the Graduate School of Science and Technology, Kumamoto University. Since the majority of our group consisted of school teachers, we learned everything from a teacher's perspective through facility visits, utilization of e-learning on campus, and development of information infrastructure.

Moreover, it was interesting for us to visit a former machine experiment factory located on the property of

the Faculty of Engineering, Kumamoto University. The factory was given Mechanical Engineering Heritage status in 2007. We also visited the Fukuoka Science Museum for Youth. In the future, I would like to encourage interactions among students and promote the development of new relationships, through which we can create various new programs and exchange opinions and future vision with the cooperation of SSP participants, home universities, and receiving universities.



Layheang Song
Kingdom of Cambodia (26, Researcher)

- Affiliation: Institute of Technology of Cambodia
- Receiving organization: R&D Center, Technology Headquarters, Nippon Koei Co., Ltd.
- Period: November 16 – December 6, 2014

At the R&D Center of Nippon Koei Co., Ltd., in Tsukuba City, Ibaraki Prefecture, we learned about treatment methods for flood-control and irrigation systems, using water circulation analysis and geographic information system (GIS).

The purpose of my visit was for further improvement in the GIS software and the water circulation system developed by Nippon Koei by conducting a case study with sample data collected in Cambodia, and by pointing out applicability and improvements to the system. Although simulation using data didn't go smoothly due to my lack of understanding, I think I was able to achieve my initial purpose in the end.

Water circulation analysis is a research field that has been led by Japan, and it will become an essential technology in Cambodia in the future. I think it will be important for Cambodia to establish a system of cooperation with Japanese organizations for realizing effective use of water resources and appropriate development of urban infrastructure.

This three-week program was very beneficial to me. I was able to conduct research in my field of interest at a well-equipped research center. The program also stimulated my desire to visit Japan again and conduct research at Nippon Koei.

The University of Tokyo



Significant results achieved through international research exchange in radiation physics and chemistry

Lin Mingzhang

Professor, University of Science and Technology of China

Various study programs implemented at several research sites

In cooperation with Professor Yang Jie and Professor Li Yuan, who specialize in International Exchange Studies at the University of Tokyo, the School of Engineering at the University of Tokyo, and the Institute for Innovation in International Engineering Education, nine students selected from Chinese universities and the Chinese Academy of Sciences participated in SSP for 10 days from September 1 to 10, 2014. With cooperation from Professor Yousuke Katsumura at the Faculty of Engineering, the University of Tokyo, and students of his laboratory, we visited research facilities and factories, and also attended the Fifth Asia Pacific Symposium on Radiation Chemistry (APSRC 2014), in which about 150 researchers from more than 20 countries participated.

Starting on September 1, and with the guidance of Katsumura Laboratory members, we visited laboratories in the Faculty of Agriculture and the Faculty of Engineering at the University of Tokyo, and held technical exchanges at Katsumura Laboratory while reporting on our research studies and achievements. Professor Katsumura also joined in our discussions and provided us with important comments and advice.

A visit to the “Nuclear Village”

On September 3, we visited the “Nuclear Village” in the village of Tokai, Ibaraki Prefecture and were able

to see a group of organizations that engage in nuclear research studies, including the Japan Atomic Energy Agency (JAEA), which studies nuclear fission, nuclear fusion, and nuclear fuel recycling.

We also visited the office of Associate Professor Hisaaki Kudou, who explained to us the Nuclear Professional School at the University of Tokyo.

Then, we observed JAEA sites with guidance from Professor Katsumura. We had valuable experiences there while making a tour of nuclear reactors for research (JRR-1 to 3) at radiation protection facilities and the world’s first high-intensity proton accelerator facilities, the Japan Proton Accelerator Research Complex (J-PARC).

On top of that, we had the opportunity to visit Hitachi, Ltd.’s plant and research laboratory located in Ibaraki Prefecture. We saw the research and development scene of the sodium-cooled fast reactor, a fourth-generation nuclear reactor, and listened to researchers’ explanations of the history and management philosophy of Hitachi and the production of the components of nuclear power plants. We also received an explanation about the research and development of the advanced boiling water reactor (ABWR) as well as the experimental boiling water reactor (EBWR).

Later, with guidance by researchers, we visited the experiment rooms of related facilities, including those for fuel rods, control rods, and control rod drivers. In the experiment rooms we examined the hardware on display,



Students visited JRR-1 at JAEA



Students visited J-PARC at JAEA

Program details	
Receiving organization	The University of Tokyo
Sending organization (country/region)	University of Science and Technology of China (China)
Number of invited students	9 students from the Chinese Academy of Sciences
Number of invited faculty members/others	1
Period	September 1 – 10, 2014

such as ultrasonic testing devices and underwater robots created from the latest research results. The researchers gave detailed answers to our questions, and we were deeply impressed with Hitachi's product quality and production facilities.

At the Nuclear Professional School of the University of Tokyo, we looked over an ion accelerator, a picosecond pulse radiolysis device, and related research results. We also visited the Second Tokai Nuclear Power Plant and received explanations about the principle of power plants, how to cope with sudden disasters, and fuel supply facilities.

Following that, we observed nuclear reactors, steam generators, air cooling and water cooling equipment, and reprocessing facilities for radioactive waste and spent nuclear fuel. The area around nuclear power plants is equipped with facilities for coping with sudden disasters, such as a tsunami, and this visit gave us the impression that nuclear power plants were operated in a well-ordered and strict way.

Participating in APSRC 2014 with the attendance of 150 researchers

We participated in APSRC 2014, hosted by the University of Tokyo on September 8 and 9. The symposium was attended by about 150 specialists and other related people from more than 20 Asia-Pacific countries.

At the symposium, academic reports were presented along with poster sessions covering various fields, such as biomolecular studies, physics, process engineering, nanoparticles, emulsions, radiolysis of organic materials, and research on pulse radiolysis and inorganic materials. Question-and-answer sessions were held on various subjects and in an academic atmosphere. From this, students were able to learn a lot, and I believe APSRC 2014 was an unforgettable experience for them.

Students were granted certificates of achievement by Professor Katsumura at the University of Tokyo's Yayoi Auditorium on September 9. He encouraged the students to make continued efforts to learn new things and take on challenges in the future.

The opportunity to know the realities of on-site Japanese research

SSP also provided Chinese students with the opportunity to have exchanges with Japanese researchers and to learn about achievements in Japanese science and technology. These exchanges represented precious experiences for the students, in that the students could learn from knowledgeable individuals, not just from written materials.

Through these 10 days, we not only experienced the advanced technology of Japan's nuclear research, but also were impressed with Japanese researchers' serious approach to their studies, as well as their sincere and friendly attitude toward us.

We are wholeheartedly grateful to Professor Katsumura for his continual assistance to us in spite of his busy schedule prior to APSRC 2014. Although it was a short visit, I am sure that this experience through SSP helped students grow and expand their perspectives, and that it will remain with them as lifelong memories.



Members of Katsumura Laboratory (Professor Katsumura, third from right, front row)



Research Associate Shinichi Yamashita of Katsumura Laboratory explained a picosecond pulse radiolysis device.



Commemorative photo holding certificates of achievement

University of Tsukuba



Chinese high school students impressed by latest Japanese technology, environment, and culture

Tadashi Tanaka

Director of China Office, Department of International Affairs, University of Tsukuba
Emeritus Professor, University of Tsukuba

Objective of SSP

By inviting advanced-level Chinese high school students to Japan in SAKURA Exchange Program in Science (SSP), we aimed to help them experience and understand the latest Japanese science and technology. We also wanted to offer these students an opportunity to visit two senior high schools (affiliates of University of Tsukuba) to deepen international exchanges with Japanese high school students of the same generation.

We formulated programs focusing on a broad range of science fields, such as physics, biology, earth science, space science, sports medical science, and cybernics research. In addition, we provided an opportunity for Chinese students to hold group discussions and attend classes with Japanese students at two senior high schools (affiliates of University of Tsukuba). Each of these senior high schools is designated as a Super Science High School (SSH) and a Super Global High School (SGH) by the Japanese government.

For the exchange program, 12 students were invited from Shanghai High School, which was established in 1865 and marks its 150th anniversary in 2015. The school is under the direct supervision of the Shanghai Board of Education and is known as one of the prestigious schools in China. The school has conducted various exchange programs with University of Tsukuba, one of which comprised special overseas classes offered by the university.

Details of the program

In Japan, Chinese students first visited the Sport Performance and Clinic Lab (SPEC) of the University of Tsukuba, where they saw a major wind tunnel test device for sports. Then, they visited the Cyberdyne Studio to join a demonstration of the principles of Robot Suit HAL, the leading-edge robot technology that originated from cybernics research.

The students were surprised by the mechanisms of the robot, which can understand human messages (brain function) and move its hands together with human hands. The students seemed to understand the principles of the mechanisms and marveled at Japanese robot technology, which was more highly developed than they expected.

At the High Energy Accelerator Research Organization (KEK), the students experienced the world's most advanced large facilities for experiments. At JAXA's Tsukuba Space Center, they experienced conditions similar to those of astronauts in a space capsule, at a full-scale model of the Japanese Experimental Module "Kibou(Hope)." They also visited the National Museum of Emerging Science and Innovation (Miraikan) and the National Museum of Nature and Science.

For exchange programs with Japanese students, the Chinese students visited the Senior High School at Otsuka, University of Tsukuba, and the Senior High School at Komaba, University of Tsukuba. At each school, students were divided into groups to discuss the



Students experienced the robot suit HAL.



Students listened to an explanation at KEK.



Group discussion at senior high schools

Program details	
Receiving organization	International Office of University of Tsukuba
Sending organization (country/region)	Shanghai High School (China)
Number of invited students	12
Number of invited faculty members/others	4
Period	October 5 – 11, 2014

themes of “environmental issues” and “science for the future” using English. Just the night before the day of discussions, there was a news report that three Japanese scientists had won the Nobel Prize in Physics; so it was perfect timing for discussing “science for the future.”

Specifically, at the Senior High School at Komaba, Chinese students joined classes in classical Japanese, Japanese history, physics, chemistry, and earth sciences. Then, the Chinese and Japanese students were divided into groups to hold discussions in English about “the differences in teaching methods and curriculum between Japan and China” and “expectations for the progress of Asian science and technology through exchanges of Asian youth.”

On the final day, the Chinese students went on a tour to Mt. Tsukuba and attended an on-site lecture by Professor Kenichiro Hisada of the University of Tsukuba and other experts. They learned about the formation of Mt. Tsukuba, the factors in its formation, as well as the types and characteristics of rocks found on the mountain.

Effects of the program

What impressed the Chinese students most was not only learning about Japan’s latest science and technology, but also experiencing and learning about beautiful and valued Japanese environments (nature, society, and research environments) and Japanese virtues (softness, kindness, politeness, and hospitality).

In addition, many Chinese students emphasized that they had the opportunity to enjoy Japanese culture through visits to Senso-ji Temple in Asakusa, Tokyo and to Mt. Tsukuba, and also had come to realize the attractiveness of Japanese food culture in daily meals that they enjoyed during their stay in Japan.

I believe that these experiences, although gained during a short stay in Japan, will greatly contribute to the improvement of the bilateral relationship going forward. Many students were also impressed by group discussions with Japanese students at two senior high schools, saying that their participation in classes at the Japanese senior high schools enabled them to identify the bilateral differences in teaching methods and education systems.

The interaction among students of the same generation provided significant experiences for the students of both countries. Some teachers at the senior high schools, University of Tsukuba said, “I have the impression that Japanese students were also inspired and gained wider perspectives,” and “I strongly felt that the accumulation through such exchanges will lead to development of global human resources.”

Future international exchange and SSP

A program to invite high school students from Asia is effective for promoting the “bright future of science and technology in Asia.” To achieve this, it is important to promote a wider range of collaborative programs for high schools and universities. I strongly hope that new programs related to such collaboration will be established and budgets for them will be secured.

I hope that SSP will last for a long time. For that, it is important to build a follow-up structure for students and researchers who were invited to join the program as well as receiving organizations.



Class with Japanese students at the Senior High School at Komaba



Students attended a lecture by Professor Hisada at Mt. Tsukuba.



Students were interviewed by an Ibaraki Shimbun reporter.

Tokyo University of Science



Announcing to Asia our attractive research achievements, and promoting mutual exchanges

Akira Fujishima
President, Tokyo University of Science

Objective of SSP

Focusing on the remarkable development of Asian countries and the dynamic people living there, Tokyo University of Science (TUS) has continued to facilitate educational exchanges with Asian countries. For example, taking advantage of fire science and technology research, one of the unique research programs of the university, TUS has conducted exchanges with the East Asian region through educational activities in fire safety engineering.

In addition, in the study of photocatalysis, which is my specialty, we have conducted research works together with students from China, South Korea, Indonesia, Thailand, and India for more than 30 years and still keep good relationships with them. In 2013, TUS established the Photocatalysis International Research Center at the Noda campus with the aim to become a center of photocatalysis studies and to transmit attractive research achievements to the world.

SSP corresponds to such TUS policy; moreover, we find it significant for young Asian people and Japanese students to engage in productive exchanges in their studies. To publicize TUS as an attractive educational institution to the world and to invite excellent students from abroad, we actively called throughout the university for faculty and staff to apply to the program. As a result, seven application proposals were successfully accepted for the 2014 SSP.

Details of the exchange program

Not only implementing SSP-selected TUS programs, but also cooperating with SSP programs of other organizations, we received many Chinese high school and university students at our university, where our enrolled foreign students played an active part in supporting them. For the SSP Special Course for Senior High School Students, 80 high school students from China visited our university's Laboratory for Experiencing Mathematics and attended a lecture by Professor Jin Akiyama.

Moreover, as I was serving as a visiting professor at Shanghai University, when Shanghai University students, hosted by the Kazankai Foundation, visited Japan in August 2014 as the SSP exchange program, I gave the students a lecture on, and led a study tour of, the Photocatalysis International Research Center.

In my lecture, I introduced the history and development of photocatalysis and its application to agriculture. Students from Shanghai University showed a keen interest in cutting-edge research studies of photocatalysis. Furthermore, on December 22, 2014, I was invited to Shanghai University to give a special lecture, which was a very good opportunity to promote exchanges between the two universities. For our SSP programs, I tried my utmost to meet delegates who had visited Japan and had sometimes given lectures.

For the program with Chonnam National University in South Korea, which was selected as an SSP, the



Professor Jin Akiyama giving a lecture (left) and joining a group photo (right)

Program details	
Receiving organization	Tokyo University of Science
Sending organization (country/region)	Zhejiang University (China), Xi'an Jiaotong University (China), National University of Civil Engineering (Vietnam), Kunming University of Science and Technology (China), Chonnam National University (South Korea), Chiang Mai Rajabhat University (Thailand), and Northeast Normal University (China)
Number of invited students	Total of 54 students (including postdoctoral researchers and other researchers)
Number of invited faculty members/others	Total of 10 persons
Period	Total of 56 days

Photocatalysis International Research Center played a central role in organizing the program. We had already signed a memorandum on academic exchange with the Catalysis Research Institute of Chonnam National University, and TUS faculty members visited that university in South Korea in May 2014.

As the primary objective of the memorandum is to promote exchanges of faculty members and joint research studies, we were able to launch programs for SSP immediately. The visit of students from Chonnam National University to Japan in SSP was an opportunity for them to deepen their understanding of photocatalysis studies. We also provided them with the opportunity to visit the Photocatalyst Museum of the Kanagawa Academy of Science and Technology and the National Museum of Emerging Science and Innovation.

Students from Chonnam National University had active communications during the joint photocatalyst experiment with Japanese students of the Photocatalysis International Research Center and gained valuable experience in a joint activity.

Hoping to carry out and develop interactive exchanges

The SSP students' schedule in Japan was pretty full. In particular, the exchange program targeted students who would be visiting Japan for the first time, so we were concerned that they might have a tough time with the busy study tour and joint experiments, in addition to their staying overseas in an unfamiliar place.

In spite of that, and in response to the questionnaire for invited students, they later wrote that they had an indescribable feeling of gratitude toward the program.

To further develop SSP, we decided to send mainly Japanese students who supported foreign students in the program to the universities that had sent their students to Japan. In fact, in December 2014 and January 2015, we sent our students to the universities involved in the exchange program: Chonnam National University in South Korea and Northeast Normal University in China.

I believed that such an action would be a genuine international exchange. We carried out our initiatives in interactive international exchanges; that is, Japanese students spent time with students from other Asian countries, and then they visited the universities that had sent students to Japan.

This experience has taught us the significance of hospitality. We will continue to promote international academic exchanges with the aim of developing interactive programs.



Shanghai University delegates visited the Photocatalysis International Research Center.



Northeast Normal University students made a study tour of the Photocatalysis International Research Center.



Northeast Normal University students were pleased to receive certificates of completion.



A memorial photo taken after a special lecture at Shanghai University

Kyoto University



Young researchers deeply impressed with knowledge and experiences gained from SSP

Bounthong Bouahom

Director-General

Laos National Agriculture and Forestry Research Institute (NAFRI), Laos

The year 2014 marked the 15th anniversary of the establishment of the Laos National Agriculture and Forestry Research Institute (NAFRI). On April 19, 1999, NAFRI was founded by integrating the research center it operated at that time and its regional headquarters, and incorporating multiple research fields, such as agriculture, stockbreeding, fisheries, and forestry. The institute was established with the objective of implementing comprehensive academic initiatives for the effective and sustainable development of agriculture and forestry.

NAFRI contributes to the development of agriculture and forestry in Laos

For 15 years since its establishment, NAFRI researchers and staff members have contributed to the development of agriculture and forestry in Laos by carrying out various studies, including agriculture, biological diversity, breeding of plants and livestock, and the improvement of productivity. Carrying out international cooperation projects, NAFRI has made great contributions to agriculture and fishery studies through cooperation with the Center for Southeast Asian Studies of Kyoto University and the Graduate School of Environmental Studies of Nagoya University.

NAFRI has conducted a wide range of exchange activities with Kyoto University and Nagoya University, including joint research and participation in academic conferences, joint use of research materials, and promotion of partnerships. The two universities have agreed to accept Laotian professors and researchers.

After we signed a memorandum of understanding (MOU) with Kyoto University, I asked Professor Yasuyuki Kono of Kyoto University and Professor Satoshi Yokoyama of Nagoya University how they would contribute to fostering young researchers from NAFRI. Both professors answered that they would be pleased to cooperate, and one of their projects was SSP.

Young researchers experience Japanese agriculture

SSP provided 10 young researchers from NAFRI with the opportunity to visit Nagoya University and Kyoto University as well as other interesting places. Specifically, in a homestay at a farmer's house, they learned about Japanese culture and agriculture. I hope that the experiences the researchers gained through SSP will be beneficial to their future work and will enhance the cooperative relationship with Japanese colleagues.



Students received hands-on knowledge about a low-carbon horticulture facility.



Japanese agricultural experience



Homestay experience at a farmer's home

Program details	
Receiving organization	Center for Southeast Asian Studies, Kyoto University
Sending organization (country/region)	Laos National Agriculture and Forestry Research Institute (NAFRI) (Laos)
Number of invited students	10 researchers
Number of invited faculty members/others	None
Period	October 20 – 29, 2014



Japanese agricultural experience engraved in the hearts of Laos' young people

Yasuyuki Kono

Professor, Kyoto University

Director of the Center for Southeast Asian Studies, Kyoto University

When I visited the Laos National Agriculture and Forestry Research Institute (NAFRI) in June 1999, I had the impression that the institute was filled with enthusiasm. However, its facilities, including basic equipment, were lacking. In addition, there was shortage of human resources in terms of both skill and experience.

Fifteen years have passed since that visit. During that period of time, I have visited Laos dozens of times and conducted fieldwork with NAFRI members. Under the direction of current Director-General Dr. Bounthong, NAFRI has steadily grown, increased its experimental facilities, and fostered excellent young researchers.

I have often discussed with Dr. Bounthong the future of agriculture and forestry in Laos and the future direction for NAFRI to pursue. He always said that although young staff members have great potential, they do not know the world.

A homestay program at a farmer's house

SSP provided a perfect opportunity for these young researchers. I found it attractive that the program focused on young people who had never visited Japan. I wanted the young NAFRI members to know not only the latest technology in Japanese agriculture and forestry, but also the fact that Japanese farmers make daily efforts — the same as farmers in Laos. So we included a homestay plan at a farmer's house as well as the experience of observing leading-edge agricultural projects, such as a horticultural project at a low-carbon facility.

Young researchers from Laos were able to understand from this experience that just like farmers in their home country, Japanese farmers also earnestly engage in agriculture, love their crops, and value their family circles. The researchers also learned that Japanese farmers raised profits by processing their crops by themselves and labeling the farm products for sale with their individual names. The development of agriculture and forestry does not exist only in remote places. A little bit of ingenuity and effort is the beginning of progress, and can be further accomplished in Laos, as well.

The development of the world is not supported solely by the latest technological development by a small num-

ber of scientists. The accumulation of constant effort by countless people is also an engine of the world's development and an endeavor in which people in Laos can equally participate. I think that the most significant result of the program was that young people from Laos gained confidence in believing that they can do it.



Group picture taken after the workshop.



Report presentation by each group



Comprehensive discussions were held.

University of Toyama



Studies of the history and tradition of pharmacy enhance motivation toward academic knowledge and research

Subehan Ambo Lallo

Lecturer, Pharmaceutical Faculty, Hasanuddin University, Indonesia

Together with 10 students, I participated in SSP at the Faculty of Pharmacy and Pharmaceutical Sciences of University of Toyama under coordination by the Graduate School of Medicine and Pharmaceutical Science of University of Toyama. The objectives of the program were to (1) learn about research in pharmaceutical sciences at university laboratories and at pharmaceutical companies; (2) gain further knowledge about traditional drugs; and (3) deepen understanding of Japanese cultural and research environments.

On the first day of the program, we were invited to a welcome party attended by professors, researchers, students, and staff members of University of Toyama, and received a heartfelt welcome and deepened our friendships.

Students attend skill development training

At the start of the program, we received lectures from five professors in different research fields at the graduate school and the institute, and learned about their recent research in their respective specialized fields. Students actively asked questions to get more knowledge about their individual research subjects.

In the next part of the program, students were divided into five groups to get experience in the specific research area that each of them was interested in, and they also participated in skill development training.

At each laboratory, students could broaden their knowledge and develop their abilities. Also, they learned about advanced technology and analysis of analytical

equipment data by using the latest devices. To expand our knowledge about traditional drugs, we made study tours to the Museum of Materia Medica of the Institute of Natural Medicine at University of Toyama and to the Museum of Kaneoka House.

Through these tours, we obtained knowledge about the history of drugs in Toyama, which is well-known as a place where traditional Japanese drugs are developed, and felt the spirit of the Japanese people who devoted themselves to distributing Japanese and Chinese drugs throughout Japan. Then, we visited Kokando, a pharmaceutical company. At the company's modern factory, we viewed the production process of traditional drugs, from raw materials to packaging. Also, we observed the production of traditional Japanese pills at a well-established pharmaceutical company.

Challenge to develop new drugs through cooperative research between two countries

Visiting a Japanese university through SSP provided us with an important opportunity to develop skills related to our respective research fields. We achieved very significant results, though it will take more time to gain further knowledge and skills about pharmaceutical sciences.

Japan is proud of its advanced technology and excellent research studies in pharmaceutical sciences. On the other hand, Indonesia has abundant natural resources. As these two countries cooperate with each other in developing new drugs to fight diseases, I believe that great results will be achieved.



Students attended lectures in pharmaceutical research.



Study tour at the Museum of Materia Medica, Institute of Natural Medicine

Program details	
Receiving organization	Graduate School of Medicine and Pharmaceutical Science, University of Toyama
Sending organization (country/region)	Hasanuddin University (Indonesia)
Number of invited students	10
Number of invited faculty members/others	1
Period	October 19 – 25, 2014



Students learn advanced technology and analysis of analytical equipment data

Kenichi Hosoya

Dean, Graduate School of Medicine and Pharmaceutical Science, University of Toyama
Dean, Faculty of Pharmacy and Pharmaceutical Sciences, University of Toyama

Hasanuddin University and University of Toyama signed an agreement on inter-collegiate exchange; in particular, the Graduate School of Medicine and Pharmaceutical Science of University of Toyama has accepted many students and researchers from abroad for academic exchanges. For the Project for Developing Highly-Skilled Professionals now underway, we have accepted faculty members from Hasanuddin University as graduate school students of our university. In SSP, we aimed to provide Indonesian students with the opportunity to directly observe the education and research methods undertaken at University of Toyama. We also hope to inspire them to become interested in traditional pharmaceutical research studies in Toyama Prefecture.

Academic exchange through lectures on pharmaceutical research and experiments

To encourage Indonesian students to learn of the similarities and differences between Japanese and Indonesian research studies, I delivered a lecture outlining Japanese pharmaceutical studies. Moreover, through a visit to the Museum of Materia Medica at the university, students likely recognized that there are a large number of traditional drugs in the world.

In a laboratory visit at the university, students were divided into several groups depending on their research area and carried out experiments using related equipment. Japanese students from each laboratory also joined the experiments and deepened exchanges with Indonesian students.



Each group of students carried out experiments at different laboratories.

As a study tour, Indonesian students visited long-established pharmaceutical company Kokando. At the company, they received an explanation about the history of Japanese and Chinese pharmaceuticals in Japan and observed the exacting production process and stringent quality control management at the factory. Students were impressed by the automated production line and rigorous pharmaceutical examinations, and they recognized that pharmaceutical research is a very profound field to pursue.

Nurturing awareness of globalization in Japanese students

When Indonesian students completed SSP, all of them said that they definitely wanted to study in Japan. I felt that the program provided Indonesian students with the opportunity to think about the next steps to be taken in their careers. SSP also was an opportunity for Japanese students to conduct experiments together with Indonesian students, thus inspiring an awareness of globalization.

An Indonesian faculty member who received a doctoral degree at our university led the Indonesian students as a coordinator, and his continual support helped us to smoothly carry out the program and obtain beneficial results.

Because Japan is different from other countries in its religion and lifestyle, I felt that it would be better for us to implement SSP by focusing on one particular country, thereby leading toward achievement of continued positive results.



The students visited a factory to gain practical knowledge about pharmacy.

Reference 1

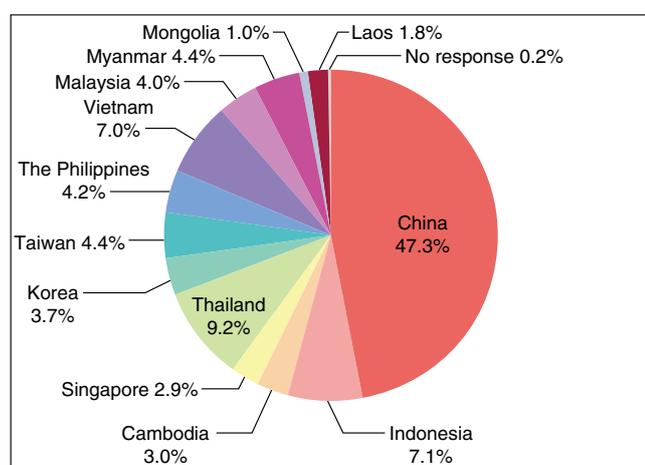
Results of Survey Questionnaire on Participants in Open Application Course in SAKURA Exchange Program in Science FY 2014

Targeted survey respondents	SSP participants in the 2014 Open Application Course
Survey method	Conducted on participants after completion of each course in SSP
Number of invitees	2,599
Number of valid responses	1,252 (all valid responses to questionnaire collected by February 28, 2015)
Average age of respondents	24.5 years
Gender composition	80% male; 20% female

From a total of 2,945 SSP participants, 294 students in the Special Course for Senior High School Students and 52 administrative and other officials invited from China are not included in the targeted survey respondents.

1. Participants

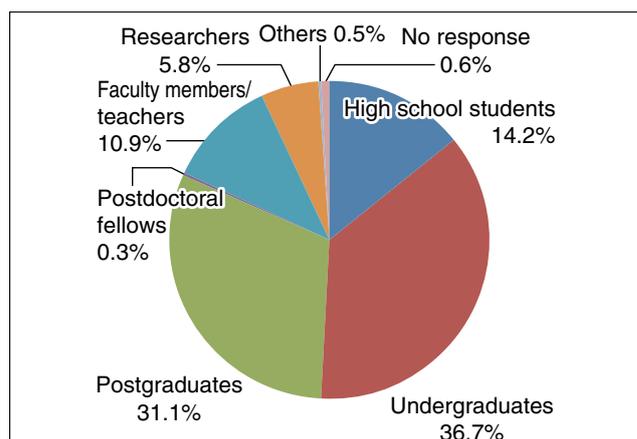
Q1: Where do you come from?



The 2014 SSP was implemented with 14 countries and regions under its coverage. About half of the participants in the program came from China. The overwhelming size of China's population can be cited as a main reason for this result. Another contributor is the active exchanges and camaraderie that receiving organizations in Japan had with Chinese universities and research institutions prior to the launch of the SSP. The composition ratio of program participants is predicted to change substantially in 2015 with the addition of India. The total number of countries and regions covered under SSP will be 15 upon India's entry.

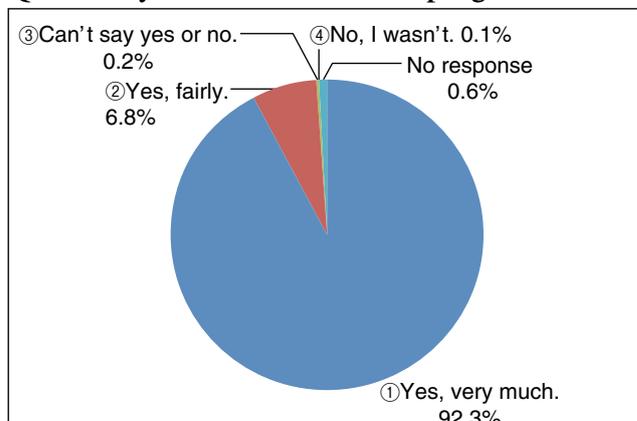
Q2: What is your attribute (occupation)?

Undergraduate and graduate students comprised an overwhelming majority (68%) of total respondents in the Open Application Course. When high schools are included, students (high school, university, and graduate school) comprised the great majority (82.0%). On the other hand, working adults (including postdoctoral fellows, faculty members and teachers, and researchers) comprised 17.5% of total respondents.

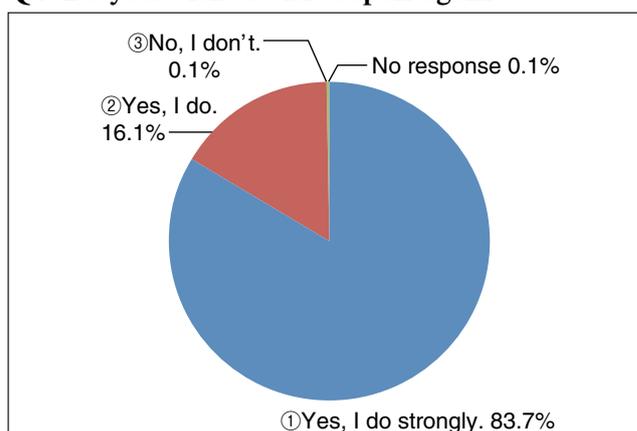


2. Satisfaction with the program

Q3: Were you satisfied with the program?



Q4: Do you wish to visit Japan again?



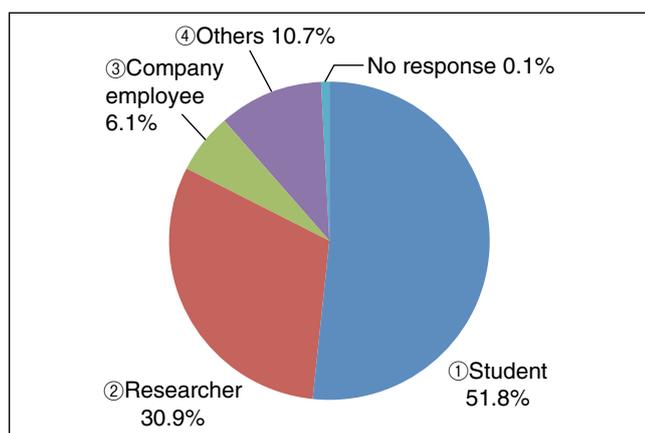
Asked the level of satisfaction with the program, 99.1% of the respondents chose “Yes, very much” or “Yes, fairly.” Respondents replying that they wish to visit Japan again was 99.8%, including those who picked “Yes, strongly” and “Yes.” The program satisfied almost all participants and could be attached to them wishing to visit Japan again.

Comments by participants:

- Our Japanese escorting staff displayed both a sense of humor and sincerity. Also, professors and university staff members gave us scrupulous lectures and explanations. Japan is totally different from the country I had imagined (a 16-year-old male from China).
- I learned many things through this SSP. It gave me an eye-opening experience and raised my motivation for research (a 19-year-old male from the Philippines).
- All things I saw through this program excited me. Japan is a country definitely worth visiting, particularly for seeing new and different things. I think I should have learned about many more things during my stay in Japan; especially, its science, technologies, high-quality products, and unique traditions. I believe education has played a role in all the successes Japan has achieved (a 17-year-old male from Thailand).
- Scientific and technological research in Japan differs from such research in China. Those of us in China should learn the Japanese attitude of attaching importance to study points by focusing on everything in detail. Our host organization’s consideration for us was also excellent (a 27-year-old male from China).

3. Hopes for the Future

Q5: If your answer to Q4 was “Yes, strongly” or “Yes,” in what capacity would you like to visit Japan again?

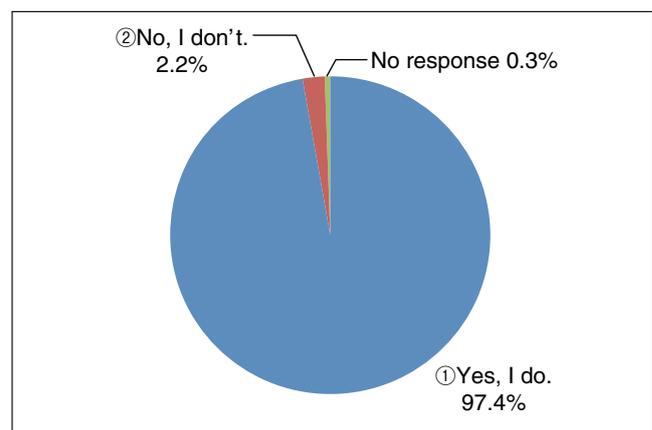


More than 50% of respondents expressed their desire to visit Japan again as students.

Comments by participants:

- I’d like to visit Japan again as a student to study Japanese culture and deepen my knowledge. I’d like to work hard to make China a first-class country (a 16-year-old female from China).
- I want to visit Japan again as a student, because Japan focuses on science and technology education. Japanese universities teach applied science and use it in everyday life (a 16-year-old male from Thailand).
- I’d like to attend future lectures in Japan, which is an advanced country. Thereafter, I wish to become a teacher in Indonesia and teach what I learned in Japan to my students (an 18-year-old male from Indonesia).
- Japan is constantly working to develop new technologies. The Japanese government invests abundantly in research. There can be no happier environment for researchers (a 21-year-old male from Vietnam).
- The program gave me chances to witness world-class expertise in practice at advanced facilities. SSP strengthened my desire to do postdoctoral research in Japan. I think the knowledge and experience I gained through the program will help me educate young people and support the future development of my country (a 37-year-old male from Mongolia).

Q6: Do you want to receive further information about science, technologies, and study opportunities in Japan after returning to your country?



Almost all respondents in the questionnaire replied that they wanted to receive more such information. Their answers highlight the need for, and the importance of, developing a post-program follow-up system for participants. It is necessary to respond meticulously to the requests of participants, both during SSP implementation and after completion of each program.

Reference 2

List of Receiving Organizations in SAKURA Exchange Program in Science FY 2014

Universities / Technical Colleges / High Schools

	Organization name	No. of programs in FY2014
1	Aoyama Gakuin University	1
2	Azabu University	1
3	Chiba Institute of Technology	2
4	Chiba University	4
5	Chubu University	1
6	Chuo University	1
7	Daido University	1
8	Fukuoka Institute of Technology	1
9	Fukuoka University	1
10	Fukuyama University	1
11	Gunma University	1
12	Hiroshima University	4
13	Hokkaido Information University	1
14	Hokkaido University	6
15	Iwate University	1
16	J. F. Oberlin University	1
17	Japan Advanced Institute of Science and Technology	3
18	Josai International University	1
19	Kagawa University	2
20	Kagoshima National College of Technology	1
21	Kanazawa Institute of Technology	1
22	Kanazawa University	3
23	Kansai University	1
24	Keio University	1
25	Kitakyushu National College of Technology	1
26	Kitasato University	1
27	Kobe University	4
28	Kobe Women's University	1
29	Kochi University	3
30	Kochi University of Technology	1
31	Kumamoto University	7
32	Kurume College (National Institute of Technology)	1
33	Kwansei Gakuin University	1
34	Kyoto Sangyo University	2
35	Kyoto University	9
36	Kyushu Institute of Technology	3
37	Kyushu University	9
38	Mie University	2
39	Miyazaki Omiya High School	1
40	Nagaoka University of Technology	1
41	Nagoya Institute of Technology	2
42	Nagoya University	4
43	Nara Institute of Science and Technology	1
44	Nihon University	1
45	Obihiro University of Agriculture and Veterinary Medicine	1
46	Oita National College of Technology	1
47	Oita University	2
48	Okayama University	6

	Organization name	No. of programs in FY2014
49	Okinawa National College of Technology	2
50	Osaka Dental University	1
51	Osaka Electro-Communication University	1
52	Osaka Kyoiku University	1
53	Osaka Prefecture University	5
54	Osaka University	10
55	Ritsumeikan Junior and Senior High School	1
56	Ritsumeikan University	1
57	Saitama Institute of Technology	1
58	Saitama Medical University	1
59	Salesian Polytechnic	1
60	Shibaura Institute of Technology	1
61	Shimane University	2
62	Shizuoka University	1
63	Soka University	1
64	Sophia University	2
65	Takasaki University of Health and Welfare	1
66	Toho University	1
67	Tohoku Institute of Technology	1
68	Tohoku Pharmaceutical University	1
69	Tohoku University	3
70	Tokai University	4
71	Tokyo City University	5
72	Tokyo Institute of Technology	2
73	Tokyo Metropolitan University	4
74	Tokyo University of Agriculture and Technology	2
75	Tokyo University of Marine Science and Technology	1
76	Tokyo University of Science	7
77	Tokyo University of Technology	1
78	Tokyo University of the Arts	1
79	Tottori University	2
80	Toyama Prefectural University	1
81	Toyohashi University of Technology	1
82	The University of Electro-Communications	4
83	University of Fukui	3
84	The University of Kitakyushu	7
85	University of Miyazaki	7
86	University of Occupational and Environmental Health	1
87	University of the Ryukyus	1
88	The University of Tokushima	1
89	The University of Tokyo	8
90	University of Toyama	2
91	University of Tsukuba	6
92	Wakayama University	1
93	Waseda University	1
94	Yamagata University	2
95	Yamaguchi University	1
96	Yokohama National University	5
Total		226

Incorporated associations

	Organization name	No. of programs in FY2014
1	Advanced Scientific Technology & Management Research Institute of KYOTO (ASTEM)	1
2	Asian Peace Making Center	1
3	Foundation for Advancement of International Science	1
4	Hiroshima International Center	1
5	Institute for Global Environmental Strategies	1
6	Institute of Energy Environment Science Education Promotion	1
7	International Center for Environmental Technology Transfer	1
8	Japan Agency for Marine-Earth Science and Technology (JAMSTEC)	2
9	Japan China Medical Association	1
10	Japan China Science, Technology and Culture Center	1
11	Japan-China Economic Association	1
12	Japan-China Friendship Association	1
13	Japan-Malaysia Association	1
14	Kanagawa International Foundation	1
15	The Kazankai Foundation	1
16	the High Energy Accelerator Research Organization (KEK)	1
17	Mie International Exchange Foundation	1
18	National Institute for Environmental Studies	2
19	National Institute of Advanced Industrial Science and Technology (AIST)	5
20	National Institute of Radiological Sciences Research Center for Radiation Protection	1
21	Osaka Medical Center and Research Institute for Maternal Child Health	1
22	Remote Sensing Technology Center of Japan	1
23	Research Foundation for Opto-Science and Technology	1
24	Research Institute for Humanity and Nature	2
25	RIKEN	3
26	Suita International Friendship Association	1
27	Tohoku Tabunka Academy Foundation	1
28	Tokinohane (Wings of the Crested Ibis)	1
Total		37

Private Companies

	Organization name	No. of programs in FY2014
1	Cathay Tri-Tech., Inc.	1
2	Daikin Industries, Ltd.	1
3	Fuji Electric Co., Ltd.	2
4	Hitachi, Limited	1
5	Horiba, Ltd.	1
6	IPFront Inc.	1
7	JobTessio, Inc.	1
8	Kirin Holdings Company, Limited	1
9	Mitsubishi Electric Corporation	3
10	Napson Corporation	1
11	Nippon Koei Co., Ltd.	1
12	Omron Corporation	1
13	Sumitomo Chemical Company, Limited	2
14	Yamashita Sekkei, Inc.	1
Total		18

Municipalities and Others

	Organization name	No. of programs in FY2014
1	Aichi Prefecture	1
2	Ishikawa Prefecture	1
Total		2

Grand total

Application call	1st	2nd	3rd	Total
Proposing organizations	131	93	33	178
Proposed programs	316	211	47	574
Application call	1st	2nd	3rd	Total
Chosen organizations	97	68	29	140
Chosen programs	155	88	40	283

Note 1: The grand totals of respective proposing and chosen organizations are reduced for redundant applications in the 1st, 2nd, and 3rd calls.

Note 2: Sending organizations of the 2014 Open Application Course amounted to 330. When 121 organizations for the Special Course for Senior High School Students and 37 organizations for invited administrative and other officials from China are added, the total number of sending organizations amounted to 488.



Acknowledgements

Regarding the Open Application Program in SAKURA Exchange Program in Science (SSP), we received many proposals from various organizations across Japan. At this point, we would like to express our heartfelt appreciation for their contributions. In implementing selected exchange plans, respective receiving organizations did their utmost to receive young people from other parts of Asia. We would like to extend our sincerest thanks to them, as well.

SSP cannot succeed without the cooperation of each sending organization. We would also like to take this opportunity to convey our deep appreciation to many sending organizations in Asia that took part in the Open Application Program in SSP.

In this report, we could include only small contents of the completed exchange programs. We took into consideration a regional balance throughout Japan while remaining within the volume guideline of the manuscript.

However, we became convinced, after reading submitted implementation reports, that individual receiving organizations across Japan cooperated closely with all sending organizations in other parts of Asia and satisfactorily promoted exchanges of young people in Asia.

Fiscal 2014 was the first year for SSP. We are committed to enhancing this program based on guidance and opinions provided by people from various fields. We ask for your continued support and assistance.

December 2015

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China Research and Communication Center (CRCC)
Japan Science and Technology Agency (JST)

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(SAKURA Exchange Program in Science)
Report of Open Application Course

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