

KENGURO

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Focus on!!

13 University Students were Invited from China, Taiwan, and Colombia!!

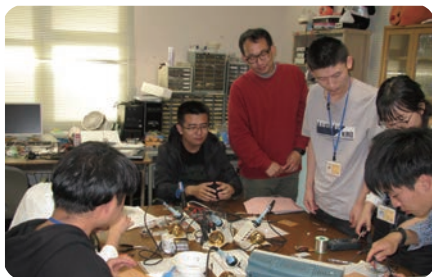
As a continuing effort from July 2019, Iwate University welcomed students from overseas with the support of the SAKURA SCIENCE Exchange Program (Sakura Science Plan) under the Japan Science and Technology Agency (JST). From October 14 (Mon) to 20 (Sun), 2019, 12 undergraduate and graduate students from the Dalian University of Technology in China, the National Chiayi University and the National Chung Hsing University in Taiwan, the Industrial University of Santander and University of Norte in Colombia and an administrative staff member from the Colombia Japan Returned Scholars Association were invited to participate in the Faculty of Science and Engineering lab activities under the theme, "Create sensing devices for application in biological sciences!"

Experiencing Front Line Research at Our Labs

The first day started with an orientation and was followed by lectures by three instructors on the PBL (project based learning) at our labs, and the lab tour. The program focused on three topics including (1) production of ZnO bulk and applied research on sensing devices, (2) development and applied clinical research of sensing devices for biomagnetism, and (3) biological sciences for intercellular transport.

Students that had been invited split into three groups and engaged in lab activities on the following day. Group 1 focused on the production of a UV ray measuring device using a photoconductive ZnO UV ray sensor and confirmed its performance with a control program. Group 2 made their own electrocardiograph and measured their cardiac electrogram after hearing an explanation about the cardiac signal measurement technologies. Group 3 conducted immunostaining experiments using cancer cells and observed them with a confocal microscope.

Group 2 in their research work (right). Producing an electrocardiograph while listening to an explanation given by a TA at the Kobayashi/Iwai Labs of the Electrical, Electronic, and Communication Engineering Course.



The first night networking event with Iwate University students, faculty members, and international students at a Faculty of Science and Engineering cafeteria (left).



Colombian students demonstrating a UV ray measurement device at a debriefing session (right). The device was made at the Osada/Abe Labs, the Electrical, Electronic, and Communication Engineering Course



After the two days of lab work, students closed the training at Iwate University with a debriefing session titled "My Country & My University" where they introduced their countries and universities and presented their themed research results. It was a short two-day program, but all of the participants showed creativity in their presentations. They moved to Tokyo on the following day and visited Miraikan, Akihabara, and Ameyoko among others. They enjoyed both cutting edge technologies and the commercial culture of Japan and headed back home in good spirits.



Group photo after a completion certificate awarding ceremony (top).

Participants' voice

Mr. Mario Alejandro Bastidas Ordonez, Machine Learning Course at University of Norte in Columbia, M1:



For me, it was a unique experience. I have known other countries, but in fact none compares to Japan. I am really impressed by the culture and the way of living. Being honest I feel a lot of peace in my heart after having shared with Japanese people. I really liked the way Iwate University investigates. They have very well equipped laboratories. My stay in Japan was sensational, I felt like family. All the people I met in Morioka left a mark on my life. I want to return one day as a student or researcher to the Iwate University.

Ms. Chieh-Yu Huang, Biochemical Science and Technology at National Chiayi University in Taiwan, B4:



The best harvest I have got from this program is that the works I learned in Prof. Shiba's lab. Her innovative research is a totally new to me. All the students in her lab were so kind and I was really thankful to that. They even stayed late in the lab to explain more about the research works to us. I really felt that life science is broad wide and deep. I have studied it for 4 years, but the works we learned were innovative and really new to me, and that gave me a motivation to learn it more for sure. I believe there is no limit for learning itself, so I should keep learning with humble attitude.

Two-way Student Exchange Took Place with the Hanbat National University in Korea!

Started in 2014 with an aim to promote the globalization of the Faculty of Science and Engineering students, our student exchange program with the Hanbat National University celebrated its 6th year this year. So far about 50 graduate and undergraduate students have participated from Iwate University to develop connection as a researcher as well as a student. This time, Iwate University hosted Korean students from August 25 to 29, 2019 and the Hanbat National University hosted our students from September 22 to 29, 2019 in Daejeon.

Ten Hanbat Students Invited to Iwate University!!

Joint PBL (problem-based learning) by Korea-Japan mixed teams is one of the main events at our student exchange program. This time, it was Iwate University students' turn to propose PBL themes and as a result of their discussion they decided on the following five themes:

- (1) Approach to eco-friendly material,
- (2) Development of infrastructure for life on celestial bodies excluding the earth,
- (3) Solutions to the problem: Proceeding lack of food,
- (4) Suppression of desertification, and
- (5) Application of IT Technology to education.

The first day of exchange started with mini lectures by six Japanese and Korean instructors, followed by the introduction of participants in English, and the introduction to joint PBL themes. The presentation in English went well for students as a result of two prior rehearsals. Then, they split into five Korea-Japan mixed groups to discuss solutions for each of the themes from the science and engineering perspective.



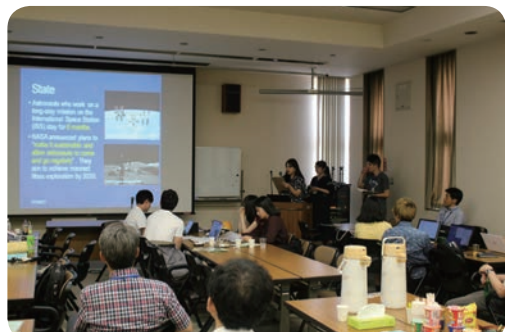
Joint PBL in the morning of Day 2 (right). Students formed groups of two Iwate students and two Hanbat students to collaborate on tasks.

The joint PBL continued on the second day and an interim debriefing was held on each teams' discussion in the afternoon. Based on the matters pointed out by Korean and Japanese instructors during the Q&A session, students continued to engage in discussion within each team. A completion ceremony was held after that where a certificate of completion was handed to each of the students.

On the next day, students visited Oshu, home of Nambu cast ironware, to have Korean students experience Iwate's local industry. Oshu is famous for the traditional craftsmanship featuring over 900 years of Nambu cast ironware history and about 60 workshops and factories. After they were introduced to history and recent research on casting at the Casting Technology Exchange Center, they had a tour on an actual manufacturing site at Oigen Foundry located nearby. The tour became a special opportunity for both Korean and Japanese students as many Iwate University students were new to actual casting work as well. Next, they went to Hiraizumi, a UNESCO World Heritage Site, and visited Chusonji temple and Motsuji temple. Iwate students often struggled in explaining history and sites of Hiraizumi to Hanbat students in English. After that, they returned to the university to close the program and said a brief farewell until they saw each other a month later in Korea.



Listening to explanation on the casting process at the Casting Technology Exchange Center (left).



Interim presentation held in the afternoon of Day 2 (left). Presenting ideas for theme (2).

A guide explaining in front of the Chusonji temple sutra repository building in Hiraizumi (right). Choi from the International Office interpreted for Hanbat students.



Enjoying wankosoba at Azumaya on the first night of exchange (right). Hanbat students ate a lot despite it being their first try.



Group photo with Iwate and Hanbat students and faculty members after the completion ceremony (left).

Training Exchange at Hanbat National Univ. in Korea!!

The first two days of the training was dedicated to a joint PBL and debriefing session. Students were able to create a presentation that expanded beyond the discussion in the past process through creating new ideas and discussing quantitative capabilities. The joint PBL with Korean students involved English communication. Although it was not easy for the students, they had a meaningful experience as they were able to develop stronger ties beyond academic aspect.

Students took a tour around a museum and library on campus on the next day. What caught students' attention were their IT-based lecture system including special equipment and a studio for filming web classes. The afternoon was spent on Korean cultural experiences in Jeonju where the Joseon dynasty was founded. Students explored ancient Han-Ok Village and enjoyed traditional clothes. At the Traditional Hanji Center, students learned traditional paper-making techniques through first-hand experience.

The remaining two days were dedicated to lab work including making and analyzing organic light emitting diodes at the organic material lab, studying the energy efficiency of solar panels and experimenting on air pollution sensors at the architecture engineering lab, and engaging in metal surface polishing and microscopic observation at the material engineering lab. The research environment and attitude in Korea seemed to have enhanced Iwate University students' motivation toward their research. All of them moved to Seoul the next day for cultural experiences, and Iwate students departed for Japan after a lingering farewell.

Last meal in Seoul (right). During the training in Korea, students enjoyed a wide range of Korean food including bibimbap, samgyeopsal, seolleongtang, dak galbi, and regional specialties.



Joint PBL final debriefing session (left). The team that focused on Theme (2) received Best Presentation Award.



Filming studio in the library (right). What's being written on the transparent board?



At the Traditional Hanji Center (left). All were surprised to learn that hanji was used for various purposes including clothing and floors in addition to its normal usage as paper.

Participants' voice

Mr. Hidenobu Sato, Chemistry B4:



We were only able to spend two weeks with Korean students. But during those two weeks, we built the strongest possible relationship through the PBL training and field trips to facilities and cultural assets. It wasn't easy for me to have technical conversations in English but the more I spoke the more words gradually started coming out of my mouth naturally.

No matter what you do in everyday life or what you discuss, speed matters. In that sense, this exchange training at Hanbat National University gave me an invaluable experience that I have never been able to have in a classroom environment. Korean students are more proactive than Japanese students. I felt that strongly during our PBL and lab-activities. This certainly stimulated my motivation toward my own study and research work. I would like to keep studying on my own and visit Korea again someday.

Mr. Kye InSeok, Advanced Materials Engineering B3:



When I first received an international capstone offer from my professor, I was more afraid than expected. But when started, it became increasingly interesting and I wanted to meet and discuss with Japanese students as soon as possible. Contrary to what I was worried about, the discussion was smooth enough to make students feel no language barrier. Later, when they visited Korea, I was able to have a good time and finish

the capstone as if I had met them yesterday. The only thing I felt was that it was the ultimate goal of this international capstone that the team was able to build a good relationship by feeling and interacting with each other rather than playing the PBL.

Ms. Nanami Miyauchi, Chemistry M1:



Although we only had three days in Japan and a week in Korea together, I never imagined that I could have such deep friendships with Korean students. It wasn't easy to make myself understood in English which I wasn't used to speaking but when they actually understood what I tried to say, that gave me so much joy and communication became much more fun. Even though we are from different countries, we shared the same excitement of conversations during sightseeing and social gatherings, and we interacted as good friends as we do in Japan. Struggling together to prepare presentations desperately on the day before the presentation day is now a great memory. I can never forget the taste of Korean barbecue after that! This training program certainly made me grow.

Ms. Jung Yae-jin, Urban Engineering M1:



When I met my friends in Japan, ate together, came up with ideas about the topic, and talked about questions about different countries, I felt more affectionate than the strange feeling of talking to foreign friends. In the process of thinking about each other and preparing for the presentation, we felt responsibility and motivated to come up with better ideas towards our common goal. It was an unusual big opportunity to think about and solve various phenomena. For each other's majors, it was also an unusual opportunity to share what kind of research each university does. I think the power to learn about Japanese culture in Japan and to communicate with each other and the world has grown.

Research Internship at University of Saskatchewan in Canada!!

The three-week research internship at the University of Saskatchewan is a training program started at the Faculty of Science and Engineering in 2013 and is designed to develop students' international research skills. Science and Engineering graduate students stay independently in relevant laboratories and conduct research with overseas staff and students. This year, two interns were on this training from October 28 to November 16, 2019.

Mr. Nobuhiko Hirano, M1

Materials Science and Engineering

I did my three-week research internship at Prof. Szpunar's lab in the Department of Mechanical Engineering, College of Engineering. I was worried about communicating in English in a foreign land, but I was able to conduct research with the help of Prof. Szpunar and other members of the lab. It was my first time to spend three weeks without using Japanese, but I realized that my conversation skills gradually improved and my English got a little better. The students in the lab were very kind and helped me with the experiments and my school life. Also, the host family who assisted the internship was very supportive in an unfamiliar land and treated me warmly. Canada actively accepts immigrants and hosts people of various races. It was very interesting as I was able to see a world that I could not have ever known in Japan. It was a very meaningful internship to learn how to approach overseas research and to motivate my own research.



With students from the lab who took care of me (left)



Filipino Canadian host family (right)

Mr. Hiromasa Yamazaki, M2

Electrical, Electronic, and Communication Engineering

Last year, I participated in an international research internship at the University of Saskatchewan under the same program, and learned the research know-how directly linked to my master's thesis. I was glad to have the opportunity to participate in this program again this year, but on the other hand, I was under the pressure of having to acquire even deeper knowledge. However, because I prepared and emailed the materials that reinforced the content from last year in advance, I was able to have more in-depth discussions once I was there. In addition, Dr. Gupta gave me a phone call every day and visited the lab for me. Thanks to him I was able to gain various knowledge on nonlinear control. Also, on weekday nights and holidays, I enjoyed various board games with my host family, watched movies together, went to see children's hockey practice, etc. This program was full of satisfying experiences for me.



With the host family child at a hockey pitch (right).



A large bridge near the university (left). The river sometime ices up on a freezing day.

Bulletin Board

We are planning to carry out some international programs next year as usual

- Internship to University of Saskatchewan, Canada.
- Internship to King Mongkut's Univ. of Technology Thonburi, Thailand.
- PBL Training Program with Hanbat National University, Korea.

Please check out the advertising notice on the hall way or on emails.
You can also check out on us directly. We'll be waiting for you to apply!!



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