



There are a wide variety of exchange programs for young people at different levels. TMDU students and young researchers improve their skills by participating in training programs abroad.

## Reports of TMDU Students in the World

### Report 01

#### Studying on the other side of the world



**Atsuna Matsumoto**  
5th year student, Faculty of Medicine  
Project Semester in Chile



**HOLA, ¿COMO ESTAN** ustedes? For my fourth-year Project Semester, I spent a half year in Chile conducting research and investigations. Although more than a year has passed since I came back to Japan, I still clearly remember my five months in Chile, which were some of the best days of my life.

I belonged to a laboratory in the Urology Department of Clinica Las Condes (CLC), the most prestigious

private hospital in Chile. Three students, including myself, studied in the hospital, while three others belonged to different laboratories at the University of Chile. My supervisor, who specializes in genetic polymorphism related to a marker for prostate cancer, suggested that I study the “detection of single nucleotide polymorphism (SNP) related to the serum level of prostate specific antigen (PSA) in Chilean patients.” By determining the effect of



Farewell party with laboratory members

the SNP on the PSA level, we may be able to avoid unnecessary biopsies. I extracted DNA out of serum samples from Chilean populations with high PSA levels, performed polymerase chain reaction (PCR), had the samples evaluated for SNP detection, and finally analyzed the results.

The laboratory environment at CLC was quite different from that of Japan in terms of facilities, availability of resources, and so on; further, I was told that the labs at Universidad de Chile were different from both CLC or Japanese laboratories. Overall I had a good time in the lab forming productive relationships with the lab members, and, as a result, at Urology Congress of Chile in 2015 my mentor won second prize for her poster presentation.

Another aim of mine in visiting Chile was to get to know Latin America, especially its medical and cultural aspects. Clinica Las Condes was somehow different from the normal Chilean hospital, so I personally asked my friends if there was a chance I could



Ceremony with Ms. Akie Abe

take a look at other hospitals. Eventually I was able to observe other medical settings: a medicine class in the university that included a bedside lecture and an outpatient setting in a diabetes hospital. I also went to several local hospitals to see what they were like. I met some Japanese who were dedicating themselves to the development of medicine in Chile, including doctors from TMDU, and I made friends with medical students from Universidad de Chile. The way the medical students work and study inspired me a lot. I always tried to communicate, stay aware, and grab every chance, which ultimately led to the wonderful opportunities I had in Chile.

The time I spent in Chile had a huge impact on my life. Life in Chile was totally different from what I knew in Japan, exceeding all expectations, and made me realize my own ignorance and arrogance. I am in debt to the many Chilean friends I made there for their assistance and generosity. Some of them didn't speak English well but we became close, trying to help each other, showing new things, and spending fun time together. I realized the importance of mutual efforts to understand one another.

When we work as doctors, either in or outside Japan, we have to communicate with people from a wide range of backgrounds. There are many things we can-



With friends at a Chilean festival

not learn in life if we never step outside our normal environment, and so my life in Chile meant a lot to me, showing me something important that I was missing. Finally I want to deeply thank everyone who supported me to make my stay such an unforgettable experience. ¡VI-VA CHILE!

### Report 02

#### Clinical clerkship at Canberra Hospital, Australia National University



**Kuniyo Sueyoshi**  
6th year student, Faculty of Medicine  
Project Semester in Australia



**ON A VISIT** to a sanctuary for injured animals, located an hour outside Canberra, I was warmly welcomed by a huge pig who showed me his belly while rolling around on the ground. The sanctuary, which is a safe harbor for injured chickens, kangaroos, sheep, and other animals, covers a large tract of land that includes several hilly areas. It is owned and run by an office lady in Canberra, and is well known as a place where academic research and politics meet together. The Canberra area is home to such interesting organizations, making me feel quite lucky to study medicine at Canberra Hospital at Australia National University (ANU).

The clinical clerkship at Canberra Hospital features long case and short case. In long case a student performs a full medical examination of a patient and then makes a presentation to a senior doctor within a limited time,

while in short-case he/she performs a physical examination and then receives feedback from a doctor AND the patient. In both cases, medical students can walk around the medical wards and freely choose patients to assess, often going beyond one's own department. The flexibility and elective nature of these two case systems seemed to be important for effective learning and effective communication among students.

I was enrolled in the clinical clerkship in the Gastroenterology and Immunology Departments. The Gastroenterology Department at Canberra Hospital is especially strong in liver disease research. At the time new molecular target drugs for hepatitis were coming to the market, so I was lucky to witness how medical research saved people who would have died without the help of the drugs. Doctors in the department were passionate about teach-



With a big pig in a sanctuary

ing students; I cannot count how many times doctors said “For the sake of students, this means...” even in joint meetings with other departments. I especially appreciate Prof. Geoff and Narci who listened attentively to my long case presentations, made incisive comments, and repeatedly told me that “the best way to care for patients is to think what we would do if the patient is our own mother or father”. In the Immunology Department, I couldn't help but be surprised at the variety of rare diseases. In the outpatient clinic, there were people with rare immune-system conditions such as Vogt-Koyanagi-Harada disease, Sweet's disease, Autoimmune hemolytic anemia, Still disease, GPA and so on. Everyone told me to watch out for Prof. Matthew, who he is the smartest and the most terrifying person in the hospital because he is always posing puzzling questions to students with horrible smile. Honestly speak-

ing, I agree with them, he is terrifying; I also suffered from his riddles about IgG4-related diseases. At the same time, though, I learned a lot not only about autoimmune diseases, but also from his sincere attitude toward patients whose health condition needs to be managed over a long time span.

Overall, I love the idea that TMDU students can join ANU clerkship and vice versa. They gain a firm knowledge of common diseases and learn “what medicine to prescribe” or “how often follow up is needed.” We TMDU students know pathophysiology and can interpret test results about a wide range of diseases including relatively rare ones. Learning accelerates when we face a different thing in quality from

what we usually see. In that sense, I found discussing about patients in the wards with ANU students to be very

meaningful to both of us. I am sure a clinical clerkship in Canberra is an opportunity you won't want to miss.



With ANU students after clerkship (They love burgers and hot chocolate!)

Report 03

Seeing the best place is the best learning



Takayasu Mori

Part-time Assistant Professor, Department of Nephrology  
Research program in U.S.



IT'S TRUE WHAT they say about “Seeing is believing”. In these days when information resources are easily available using various devices such as the internet, we can share the same information wherever we are. Even in Ja-

pan, we can also obtain various kinds of equipment required for research, which are comparable to those found in other countries. Under these circumstances, what would be the advantages of studying abroad for scientific re-



Takayasu Mori

search?

I moved to Seattle with my family in October 2015 to learn more about the analysis method of next-generation DNA sequencing (NGS) under Dr. Michael Bamshad who is the professor of the Division of Genetic Medicine at the University of Washington. Although Seattle is called a “rainy city,” it is extremely nice here because it is not so cold in winter and is relatively cool in summer. Obviously, the University of Washington is one of the leading universities in the US, having produced seven Nobel Prize winners, and has strong ties to Harvard University and its affiliated institutes. The Bamshad Lab has adopted, ahead of other researchers in the world, the leading technology of genomic research aimed at the elucidation of the genetic disorders, and is vigorously performing genetic analysis. Here at the University of Washington, a

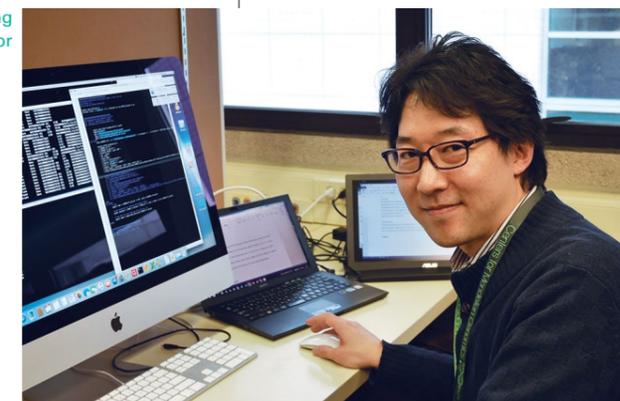


The lab members in Bamshad lab

major genetic disease analysis consortium called Centers for Mendelian Genomics (CMG) has been formed in conjunction with Yale University and Baylor-Johns Hopkins University. At CMG, researchers are analyzing a large number of DNA samples collected from all over the world and publishing many significant results. The lab I belong to is small in scale but includes many talented people with fine personalities. It is hard to believe that such a small number of people are capable of supporting large projects. I am devoting myself to studying computational skill while at the same time actually playing a part in the analysis work pipeline. I think this is a very favorable environment in terms of research skill training and also in the sense of cross-cultural communication.

In particular, the NGS is a state-of-the-art technology which is still evolving. The technology does not seem to have caught on in Japan yet. Even though my life studying abroad has just begun, I have already experienced ma-

This is me operating the UNIX system for NGS analysis



ny occasions on which I recalled the words “Seeing is believing.”

Unfortunately the number of people in Japan who are willing to study abroad seems to be steadily decreasing. One of the reasons may be due to the soaring costs required for living and studying in US due to the downturn in the domestic economy. Under these circumstances, “The JSPS Strategic Young Researcher Overseas Visits Program for Accelerating Brain Circulation” grant plays a very large role. As a researcher I realized that study experience at such a leading-edge institution would be abso-

lutely ideal for researchers such as myself. This grant enables us to participate in such critical opportunities. I believe that winning this grant through keen competition can lead to future promotion of basic research, especially in clinical departments in TMDU.

I am willing to bring a lot of new technology back to Japan, and I am proud to contribute to the future of advanced research. I would sincerely like to appreciate the many people who had supported me in studying abroad. Now I am enjoying this opportunity very much and am really excited.

Report 04

Similar but different, different but similar



Kana Sasai

3rd year student, School of nursing  
Study program in Finland



I STAYED IN the peaceful city of Seinäjoki, Finland, for 18 days this past summer, where I joined a program coordinated by Seinäjoki University of Applied Sciences (SeAMK). Our group of Japanese students visited SeAMK, local hospitals, a nursing home, a home care office, a health care center for maternity and children, and facilities for children with disabilities. Fortunately, I was able to have a homestay experience. In fact, one of the main reasons why I applied to TMDU was the exchange program in Finland as I had long had a strong desire to visit Northern Europe.

One of the reasons I had long wanted to visit Northern Europe was my interest in its state welfare program, commonly called a “cradle to grave” welfare state. I originally had been interested in the way Japanese society behaves toward people with disabilities. Then I wondered how disabled people were treated and studied in a welfare state. In high school, I decided to analyze the social background and circumstances of people with disabilities in Japan for my graduation research.

I had a great time during my stay, and learned that there are not only differences but also similarities between Fin-



With my host family.

land and Japan. Some people tend to think that Northern Europe has the perfect welfare system, but I heard that Finnish people also feel anxious about their economic situation and human resources in the near future due its super-aging society. Japan also struggles with the same challenges of a super-aging society, which potentially brings the two countries together in collaboration to overcome such challenges. As for the national insurance system, social welfare in Scandinavian countries, including Finland, features the so-called “high benefits for high burden” system,



With instructors after the workshop at a facility for children with disabilities.

which entails high consumption tax and near-free social services and benefits. By contrast, the Japanese system is more like a “high benefits for low burden” system, which is an interesting point of difference we Japanese should consider for future generations.

The most impressive experience I had in Finland was a workshop held by a Chilean instructor and his colleagues. Our group of Japanese students joined with students who study social services at SeAMK and children with disabilities. We had exciting exercises like dances, gymnastics, self-introductions, conversations, experiments, or improvised plays, and really enjoyed that. At the end of the workshop, the

teacher passed a red clown nose to each participant and then told us to wear it. His message was to notice that we are not so different from each other regardless of nationality, handicapped or non-handicapped. It was ex-



With a professor and students at SeAMK after making presentations about Finnish and Japanese systems for elderly care.

actly the same as my own feelings, and reminded me of my research in high school.

My study abroad trip to Finland made me think about my future career. My wish to study abroad, perhaps in Northern Europe, became stronger through this opportunity. I would like to understand how social systems affect local people, patients, and people with disabilities, which would help me to become a registered nurse who is able to imagine and support the lives of patients and their families after they go back home.

Finally, I would like to express my gratitude to teachers and all of the staff members who supported this exchange program. I also appreciate all of the people who have supported me in Finland. I will make use of this experience in order to deepen my study of nursing.

Report 05

Fruitful experience in Thailand



Miyako Kakinuma  
3rd year student, School of Medical Technology  
Study program in Thailand



LAST SUMMER, I participated in the study abroad program in Thailand. Along with three other students, I visited a number of hospitals and the Faculty of Allied Health Science (AHS) of Chulalongkorn University, and spent time with AHS professors and students.

While observing major hospitals in Bangkok, I found that there is almost

no difference between medical standards in Thailand and in Japan. The citizens in Bangkok seemed healthy and appeared to have a high level of hygiene. However, on weekends, when we visited a rural area in Saraburee Prefecture located to the north of Bangkok, with medical technology students of AHS, I found that the situation was



With a student of AHS

completely different. Many residents suffered from certain kinds of physical pain or parasitic infection. It was obvious that those situations were caused by poor knowledge about hygiene and inadequate living environments. I was shocked to discover such a large medical disparity between the town and rural

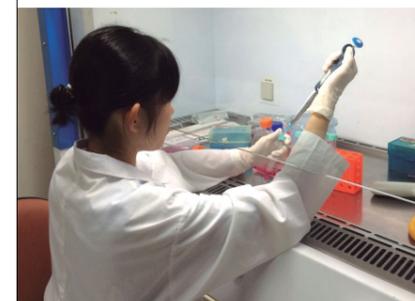


Interview with residents

areas in Thailand. This visit was a part of a community health class, so students interviewed residents about their health conditions and living environments, then performed medical examinations (blood pressure, blood sugar, hematocrit, urine, and stool test) manually as part of their practical training. The surprising thing was that the results of those examinations were officially sent to the community hospitals later, and doctors would visit residents if needed.

On weekdays, I visited two laboratories at AHS, one committed to research on Thai traditional medical herbs and the other to HIV. At the Thai herbs lab, researchers have found that an herb called *Acanthus ebracteatus* has a certain efficacy for neuroprotection. They allowed me to culture plant cells. In Japan, many medical technologists are engaged in medical research, but they rarely do experimental research on

plants, so it was new to me. At the HIV lab, they analyzed the specimens from the patients suspected of having HIV. This was my first time to see a large-scale laboratory dedicated solely to HIV. One student told me that there was a great pandemic of HIV/AIDS in the 1980s. In the 1990s, the government carried out a campaign to eradicate AIDS, which has reduced the morbidity rate to around 1%. Still, HIV/AIDS is a popular topic for medical research. Through visiting these two laboratories, I felt keenly that the research topics that



Culturing plant cells

Report 06

Study at the University of Michigan, School of Dentistry



Yukiko Takatsuna  
4th students, Faculty of Dentistry  
Study program in U.S.



I STUDIED FOR two weeks at the University of Michigan in the United States. The duties of dental hygienists

are different in Japan and the U.S. Dental hygienists in the U.S. mainly do periodontal treatment. They can both



University of Michigan, School of Dentistry

take an X-ray and administer local anesthesia. Also they can remove sutures.



My family in the U.S.

I heard some people say they plan to open their own clinical practice but that depends on the particular state they practice in; apparently, they wouldn't be able to open their own clinic in the state of Michigan.

During my stay, I took many classes such as local anesthesia, periodontal disease, sutures, social work, and scientific research. I also observed student's clinic, radiology, and periodontics at the University of Michigan (UM). I would like to note several things. First, I participated in training for senior students who were learning about how to remove sutures. In Japan, students are not allowed to remove sutures, so it was very interesting to me. Second, I observed student clinical practice. Though the students are in the same grade as me, they are good at using hand scalers since students start their clinical practice in their sophomore year at the University of Michigan. Dental hygiene

documentation at UM is different than at TMDU. While we use the acronym "SOAP" to indicate the following words—Subject, Object, Assessment, and Plan—UM uses "CHIPS" to refer to Calculus, Hygiene, Inflammation, Periodontal tissue, and stable or not. I believe that "CHIPS" is more systematic than the one we use at TMDU.

I also had the opportunity to observe the private dental office of Dr. Johns. He lived in Okinawa for 20 years before coming to Michigan. He works mainly at his dental office but also works at the University of Michigan twice a week. His clinic is organized for general dental practice. He is able to perform treatment of caries, tooth extraction, and dental implant.

In conclusion, I studied a lot of things on my visit to the US. Dental hygienists and dental hygienist students at the University of Michigan have a lot of knowledge and are highly motivated.



Senior Students at the University of Michigan

That really excited me. I could study positive points both in Japan and in the U.S. In the U.S. dental hygienists mainly perform periodontal treatment. On the other hand, dental hygienists in Japan can practice oral health care under the guidance of a dentist in a patient's home or at a hospital. (In Michigan, dental hygienists must obtain a special permit to practice oral health care.) I think dental hygienists in Japan have much better opportunities in regards to really helping patients. The medical expense in the U.S. is not covered by insurance. It is the same as the oral treatment. This is because of not only the differences between the Japanese medical system and the U.S. medical system, but also because the dental care needs are different. My visit to the US greatly influenced my views of being a dental hygienist. I am very grateful to all those who supported me in this program.



With my teacher

overseas training program, two years after being accepted into the Course

for Oral Health Engineering.

In recent years, digital dentistry (CAD/CAM) has developed rapidly, and Implantology in particular has gained deeper traction in Europe than in Japan. The University of Gothenburg is the birthplace of implant technology developed by Dr. Branemark who is a pioneer of osseointegration. Furthermore, Sweden is famous for its advanced studies of odontopathy, and for its government-provided services for preventive dentistry starting from childhood. For these reasons, I chose University of Gothenburg in Sweden as a visiting university and I participated in the dental laboratory program at the Institute of Odontology for a month in March of 2015.

During my time in the Dental Technology Course, I undertook mainly dental laboratory training and attended classes for manufacturing metal ceramics and implant prosthesis. In the beginning, I encountered difficulties fabricating the ceramics and prosthesis because the fabrication methods were different from those used at TMDU. The teacher asked me if this was the best I could do, which made me depressed. But his words also kin-

dled a fire in me to do better. After that, I constantly asked my classmates and teachers about laboratory techniques in order to improve my skills and performance. Consequently, when I showed my teacher the finished prostheses, he praised me and said that they were of a superior quality and could be used on patients. I was extremely glad to hear that. Through this training, I realized that I am getting a high-level education at TMDU and I felt grateful to my teachers there.

Regarding Swedish customs, I was strongly impressed by "fika," which is a coffee break taken frequently. During fika, the teachers enjoy chatting with their friends and taking a break from their work in the classroom. I think this custom should be introduced into the workplaces of Japanese dental technicians because they hardly take a break and need time to relax and communicate with each other.

In addition to the dental laboratory training, I visited private dental clinics and dental laboratories in Gothenburg. I observed dental treatments at Branemark Clinic where mainly im-



The prostheses which I fabricated

plant treatment was performed in a very clean treatment room. Being interested in maxillofacial prosthesis, I also visited a dental hospital where I saw a nasal prosthesis fabricated by Dr. Kerstin. Though facial prosthesis is not popular in Japan because Japanese people do not prefer artificial things, the prosthetic products of Dr. Kerstin looked surprisingly real. I was really impressed with the high quality of her facial prosthesis technique.

During the last week, I gave a presentation to the students and teachers about Japanese culture, including an outline of TMDU and the situation of Japanese dental technicians. It was really hard for me to make a long presentation in English, but it was a great opportunity to challenge myself. Before this study abroad, I was not confident about myself, but I noticed that my own actions changed my way of thinking.

As mentioned above, I was able to have a great time and learned lots of things such as dental laboratory work and education in Sweden, as well as the Swedish work style. The time I spent at Gothenburg made my mind stronger and cultivated a desire to challenge myself even more.

Finally, I would like to express my sincere gratitude to my teachers at TMDU and GU for giving me this wonderful opportunity and to my friends for supporting me and frequently staying in touch with me via email during my study abroad.



With dentists at Branemark Clinic and a dental student

Report 07

Report of overseas study in Sweden



Yukina Ono  
4th year students, Faculty of Dentistry  
Study program in Sweden

**STUDYING ABROAD AT** an overseas dental institution has long been one of my dreams, and has motivated

my daily study of English. Fortunately, last year my dream came true when I was selected as an awardee for