

Internship Experience Report (If you participated in an overseas internship, describe your internship experience in English.)

### **Lessons learned and problems faced while preparing for the internship**

The most difficult part of the preparation was the VISA procedure. Japanese nationals do not need a VISA to enter Switzerland for short- or long-term stays, but for stays longer than three months, they need to obtain a residence permit regardless of nationality. Instead of a VISA, Japanese nationals must apply to the canton in which they are staying for a long-term stay and obtain confirmation of residence permit before entering the country. It is common for the university or company where you are staying to obtain the confirmation of residence on your behalf, but it is sometimes tough to explain the situation to the person in charge at the university or company when making this request. This is because there are only a few countries that do not require a Swiss long-stay visa. It may be better to contact the embassy by e-mail and forward the e-mail to them for an explanation.

For preparation in advance of the research, it is better to record the online meetings if possible. If you have no difficulty at all in speaking English, this should not be a problem, but if you are not familiar with the local English, it is better to have the meeting recorded to avoid missing anything. For those who are not accustomed to listening to English, some English may be easy to understand, and some may be difficult to understand, depending on the person with whom you are speaking. By repeatedly listening to the recorded English, you can familiarize yourself with the other party's English in advance.

### **Purpose of internship and knowledge gained through the internship experience**

The purpose of this internship was to learn about the technology of the laboratory I visited and to work on a new research theme by combining the technology with my research theme. The laboratory I visited had a technology to make a robot by applying a folding structure, rather than hinges or other parts, to make a flat object that can move three-dimensionally. While learning from their technology, I worked on the theme of developing a foldable artificial wing. There was a weekly meeting to share progress with the entire laboratory, and it made me generate progress regularly in synchronization with the meeting. In addition to the general meetings, I could request a personal meeting with the professor if I had any problems so that I never had to stop working because I could not solve a problem on my own. I proposed the research theme and the major goals of the theme, and the professor gave me advice on how to make the theme successful. I learned the way of thinking that makes the research theme possible to succeed.

### **What you learned and realized through the internship concerning communications with colleagues, supervisors and/or academic staff**

What the speaker's first language is can make a big difference in his or her English pronunciation habits. Some English spoken by speakers of a particular language may be very difficult to understand. In my personal experience, the English of native English speakers is often very difficult to understand. Phrases that are not found in the dictionary may be used, so do not hesitate to ask what they mean. In any case, the best way to become familiar with their English is to simply increase the amount you listen to what they say. Even if you are not a good speaker, you can learn to speak yourself by sitting in on lunches and listening to other people's conversations. In the laboratory where I stayed, there were many non-native English speakers, and there were also people who joined the laboratory who did not speak English, so they were very friendly to people who were not good at English.

In research meetings, I often tried to repeat the same information in my own words to make sure that I could understand what the other person said. That way, if I misheard or misunderstood, I would be able to recognize it immediately.

### **Improvements you made and goals you failed to achieve, and how you will use the experience for your future career**

My communication skills, regardless of language, have grown dramatically. I sometimes communicated in English with people I had never met before and asked them for help. Since my stay was for six months, I felt that I had to produce results within that time, so it was important

**Internship Experience Report (continued from the previous page)**

for me to manage my schedule well. Whenever I had a problem in my research, I immediately discussed it with my colleagues and professors. I feel that my ability to think carefully, verbalize, and consult about problems grew more because I could not communicate in Japanese. The ability to manage schedules and discussion techniques will be of great use to me in Japan in the future. I would have been happy if I could have collaborated with other colleagues on research, but this was not possible this time. There is a big difference in the schedule between my colleagues who have multiple projects and myself who concentrated on one project during my stay, and it was difficult to plan and execute a collaboration in 6 months.

**What you learned from working in academia or industry outside of the laboratory (advantages and difficulties)**

It was a very good opportunity for me to directly feel the situation of non-Japanese laboratories. Although I did not undertake any work for the entire laboratory, I was surprised to learn that the difficulties of the laboratory and the work for the laboratory as a whole are not so different from those in Japan.

Unlike the laboratory I belonged to in Japan, I stayed in a laboratory that researches small robots. Therefore, the strength and rigidity of the parts that are considered when designing a large robot were rarely an issue. Rather, the problem of miniaturization of each component was a new perspective. The knowledge of motors and mechanisms that had been used in the past could not be used as is, so it was necessary to study materials and other new things. Because of the small size of the robots, experiments were conducted in separate rooms. In my laboratory in Japan, the size of the robots is large, so we share the same experimental space and naturally have opportunities to see each other's robots and exchange opinions. In Switzerland, when we wanted to see the other's robot, we had to ask them to show us theirs, which was very difficult.

**What you discovered about daily living in the country of the host organization, such as lodging, meals, safety, commodity prices and weekend activities**

Prices were very high. Switzerland is one of the most expensive countries in the world. Everything was expensive and combined with the depreciation of the yen, the situation was very difficult. For example, a 500ml bottle of soft drink costs about 2CHF in a regular supermarket, and even more in non-supermarket places. Eating out was also very expensive. Therefore, there is not much variation in eating out. Those who are particular about their meals will have to cook for themselves. In supermarkets, bread and vegetables were about the same price as in Japan, but the meat was expensive. Japanese foodstuffs such as soy sauce and rice are available, but they are four to five times more expensive than in Japan. Daily, I bought my lunch from a food truck and ate it with my colleagues.

Safety was very good. I did not feel afraid to go home alone late at night. However, I felt that more beggars were asking for money than in Japan. Unlike in Japan, they were not just sitting on the side of the road, but many of them approached me directly. Living in Japan is not very dangerous, even if you feel the same way as in Japan. However, unlike in Japan, no drunken people were sleeping on the street or the train. The possibility of being pickpocketed while sleeping may be higher than in Japan.

Almost all supermarkets and other stores close on Sundays, so if you want to do your shopping on weekends, you need to do it on Saturdays. Museums are often open on Sundays and close on Mondays, so I sometimes went to museums on weekends. Lausanne is a lakeside city, and many beaches are free to use, so I spent some days bathing in the lake.

I stayed in an apartment owned by the university. The rent price was high because it was in an urban area, but I decided to sign the contract because utilities, internet, and fire insurance were included, and the owner was a university. It is said that it is very difficult to find an apartment, especially for a short term (less than one year), and most of the good apartments are occupied at the beginning of the semester. Room-sharing is also common, but as the local language is French, French is often required. In any case, finding a good apartment is generally not easy.