<Preparation>
In this internship, we had very short time for preparation because we started discussing this internship in early June and I departed from Japan in early July. Therefore, I was helped a lot by many people in Japan and UK. Especially, obtaining the visa required a lot of process and time. Since this internship is short-term, visiting UK itself was not require the visa. However, University of Glasgow required the short-term study visa for procedure about the insurance, so I had to obtain the visa very quickly. UK serves the official premium visa issue service, so if you pay more money you can get visa more quickly. In this internship preparation, I used this service and was able to get visa 5 days before departure. However, many countries don’t serve services like this, so we should be careful for the visa regardless of the length of internship term.

In addition, because the law amendment occurred in UK 5 days before departure, I was requested some additional procedure. Many teachers in Japan and UK asked the UK visa office “is this procedure really necessary?”.
As result, we found that the procedure is not necessary several hours before departure. Since the internship overseas may be affected by the law amendment in Japan and destination country, we should pay attention to the related news.

<The purpose of this internship and the obtained knowledge from it>
In this internship, as I mentioned above, I implemented the one part of the system for automatic investigation of the microbial communities. This project has the biological side (considering about the microbial) and the engineering side (constructing the hardware and software system). I’m usually considering both side in my research (Analyzing the response property of the neurons in visual cortex by electrophysiological method), but I could learn about more engineering approach in this internship. For example, it is relatively difficult to adopt the approach like “Let’s make it first!” in my research project, but in this internship project, I could learn about the approach like that. (I was told that “If you start constructing some product after a few weeks and some trouble occurs after that, there are no product as a result.”)

In addition, I also learned about the safety initiatives for electricity. In the building in University of Glasgow, some supervisors finally administrate products which uses electricity. I think that because of many products made by students and researchers, some supervisors administrate these products for safety. (In our laboratory, products made by students are checked by our boss because he is familiar with analog/digital circuits.)

Furthermore, I think I could get used to English a little during this internship in UK.

<Communication>
During this internship period, there were at least one meeting per one weeks. Because the member of this project is a few (only 4 people) and the period of this project is very short, almost all project member usually attended this meeting and all students reported their progress every time. Even at our laboratory, there is the weekly laboratory seminar (progress report and explaining journal articles), but only 1 or 2 students report their progress every week. (Of course, the contents of one progress report in our laboratory are many.) I realized that in order to steadily advance a specific project in a short period of time, a brief confirmation with such a short span is also necessary.
Also, during the internship period, I was invited to lunch or dinner at weekend frequently, so I felt that they care about communication in private time. I think I will try to introduce this culture to our laboratory. (Currently, communication between students in our laboratory is relatively less.)

>Daily life in UK>

- Security
I feel that the security is pretty good, especially near the University of Glasgow. However, there are some problems with traffic safety. Almost all the pedestrians ignore traffic lights because traffic lights for pedestrian switch too quickly. To ensure our safety, we should take care to see not only traffic lights but also the cars when we cross the street.

- Prices and meals
I felt that current prices in UK are about 1.2 to 1.4 times that of Japan, however these prices contain the 20% VAT. Thus, I can conclude that current prices in UK are not very high. Of course, this is due to the decline in pound (during this internship, £1 = ¥140~143), so if you visit UK another time, you may feel that prices of products are high. Even very easy level cooking, if you cook your own meals, your food expenses will be cheap. On the other hand, if you eat out, its cost is nearly three times. (Of course this relationship is same in Japan) Therefore, I think if we buy some processed foods at supermarkets (ex. TESCO) and cook simple meals, you can reduce food expenses.

Regarding the taste of meals, I think that the taste of meals in UK are generally tasteless, so you should adjust it using some seasonings. Even the instant noodles which are sold at supermarkets feel that the salt is insufficient. Tastes of pizza and hamburger are not much different from those of Japan. In addition, there are various restaurants for Japanese food and there are Japanese food corner at supermarket for Chinese food (ex. Seewoo).
Thus, you can purchase some Japanese foods and seasonings.

- Accommodation and infrastructure
In this internship, I stayed in a student accommodation mainly. (I stayed at a hotel and hostel for only a few days.) There was not any trouble at hotel/hostel, there were some troubles at the student accommodation. The facilities of the accommodation are substantial, its appearance and its room are beautiful, but its infrastructure for water supply is vulnerable. For example, its boiler was broken down and we could not use the hot water about one week. (Fig4)

Fig4: Notification of the breakdown of the boiler in the student accommodation