

*Visiting Programs for researchers at Earthquake Research Institute*

We offer unique opportunities for researchers worldwide to stay for collaborative research, from a few weeks to one year at the Earthquake Research Institute, the University of Tokyo. On Jan 20<sup>h</sup> 2023, Masa Kinoshita, head of the international office had a talk with Dr. Ruben Boroschek, visiting professor at ERI for six months from August 2022. He talked to us about his experiences at ERI.

Prof. Ruben Boroschek (Professor, University of Chile)

Interviewer: Masa Kinoshita, Head of the International Office, ERI

**Q. Why did you choose ERI?**

I have been working on structural health monitoring and early damage detection of civil infrastructure. The group of Dr. Kusunoki in ERI is working on this topic for many years. It is a large research group of almost 20 people. They have a lot of publications, practical examples, and a lot of data. I thought it would be a good opportunity to be able to join this group and understand what and how they are doing. I also wanted to introduce computer vision, which I have been working on, as a tool for structural health monitoring.

**Q. What is your impression of the research environment here?**

The Kusunoki lab offers a very rich research environment. There are a lot of interactions, conversations, and discussions in the group. However, outside of the group, they tend to work independently. Sometimes communication between groups seems difficult, particularly for non-Japanese speaking foreigners. Some interactions are made all in Japanese. However, technology helps in such a case.

Other than doing research, I had opportunities to teach master and PhD students here in the Kusunoki lab. I was asked to teach computer vision and special techniques on a health monitoring system. I had a benefit from this a lot because I think teaching is the best way to understand the theory. I have also had a chance to visit other universities in Japan and shared ideas with other professors.

**Q. Do you expect outcomes/research products from the joint research?**

We are expecting to publish at least two articles based on the data I already processed, and maybe develop joint articles with both of our students. Our main goal for this is to understand, what we are doing with different tools. Prof. Kusunoki did some tests during

my stay, then mix the methods using the conventional sensor and the computer vision methods.

**Q: Living in Japan**

As a country, Japan is a fantastic place to visit. Various opportunities to explore around on weekends, very fast communication, very easy to move around, very clear instructions using translation technology. ERI is a great place also for self-study, very organize, the University of Tokyo is beautiful place.

For everyday life in Japan, all the information necessary for living is given before coming to Japan. With the support of ERI, we can deal with legal and administrative tasks easily. To enjoy traveling more in Japan, you need to bring a little more money, that provided by the exchange program.

**Q: Any advice for success in doing joint research at ERI?**

It is a great opportunity. Scientifically speaking, Japan has a lot of resources. A lot of information can be shared. However, not always you can get the information if you do not have a good relationship with the researcher/research group you will work with. Not only knowing the person, but you also must have a clear, realistic work plan before coming to Japan. Researchers at ERI are very busy. We need an agreement on how to work together, if the research is conducted in a closed group or not, if the information can be shared, and how to work with other groups, etc. It must be discussed and presented well in a proper way. You may think it is common sense, but it is better to put it on the table. It must be really clear what you will need from ERI, and from the research group in ERI.

**Q: Coming to ERI to do research, what does it mean to you?**

The time I was able to locate to get new knowledge and to formalize the knowledge was precious. I plan to develop a course to teach on this topic in Chile. It was great for me to have time to think without all the administrative work and all the teaching at my university. Personally, it has been very important and for my institution, it will benefit from my research and from the courses that I will be teaching.