2023. 9. 29
Seismology Lab, Department of Geophysics, Kyoto University
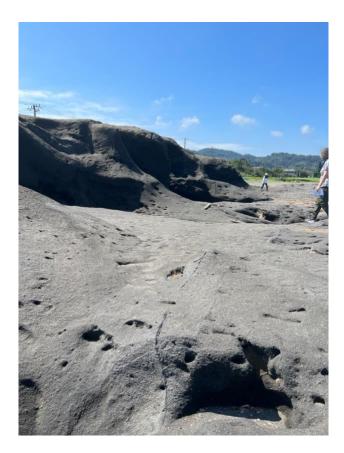4th year undergraduate student Reiju Norisugi

International joint workshop on slow-to-fast earthquakes 2023

I am Reiju Norisugi, 4th year undergraduate student at Kyoto University. I am interested in the earthquake predictability and I have just started my research to investigate the predictability of synthetic earthquakes by using machine learning technics, which is derived from the recent research on laboratory earthquake prediction by using machine learning. I gave a poster presentation in this workshop to share the current results.

This workshop was the first time for me to participate in a research conference, and it was really impressive and productive moment. The best thing during the workshop was that I could share my research results with many people and get the ideas of collaboration. In addition, I could also get the insights which parts of my research are more important and worth discussing by talking with people from different backgrounds. This will help me write the first paper I am working on. One thing that can be updated in the poster session is the creation of short time slots as mentioned in the last general discussion. I think it will help to share the scientific knowledge easily with all the participants, and it will be a great opportunity to learn many different things from the authors especially for early career students.

The field trip was also fascinating experience. As shown bellow, we visited the southern coastal area of the Boso Peninsula, where traces of crustal deformation caused by past earthquakes remain. We identify the 1703 event terrace and 1923 event terrace at the Kenbutsu coast.

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There was a systematic crack line with a sense perpendicular to the direction of the uplift. I am not sure when these cracks are formed and whether they are related to the uplift event or not. But I could feel some stress field in the area. My current research topic is always related to numerical data, so looking at the natural deformation field was a nice experience to feel the earthquakes in nature.

We also visited the Shirahama coast to see the accretionary prism, which has a very characteristic appearance. We learned that past sea level can be estimated by identifying traces of organisms living in rock pits near the sea surface. And, there are also systematic rock fractures as shown below, which seem to have the same stress field or erosion processes are imposed on the rocks.