

Year of selection: FY 2020

Fellow's name: Kanako Watanabe

Period of overseas visit: 19 July 2020–18 July 2022

Fields of research: Engineering Science/Nanomaterials Science

Destination: Netherlands

Receiving institution: Utrecht University

Receiving department: Soft Condensed Matter Group, Debye Institute for Nanomaterials Science

My research

The objective of the research is to develop new types of particle assemblies (colloidal crystals) of which crystal structures can be reversibly controlled using an external electric field. Hollow spheres containing a particle are employed as building blocks of the colloidal crystals. The contained particles' motion is controlled by switching the electrical field on/off states or by adjusting the electric field conditions (field strength and/or frequency), which varies with their crystal structures. The multiple physical properties of the colloidal crystals can be obtained from their various crystal structures.

Advice on preparing to go abroad

To obtain a citizen service number (BSN), you must submit a copy of your Japanese family register along with an English translation to the city office where you will live in Holland. After entering Holland, you will need to ask the Japanese Consulate to do this translation. (Then, don't forget to go to the Ministry of Foreign Affairs to get your status legalized.) I had a document which was translated by a company in Japan, but it wasn't accepted by the city office. I could not obtain a BSN without an official translation, so I had to go back to the city office again with the new translation. As it is difficult to get an appointment with the city office, I would suggest that you check its appointment procedure and do any needed preparation before leaving Japan.

Finding a place to live in Utrecht and also other big cities in the Netherlands is getting more difficult these days. Because some local people helped me, I didn't have any problem finding an apartment; however, it normally takes several months to do so. So as to be able to stay in the university's dorm during the interim, it's a good idea to secure a place in the dorm in advance.

Advice on problems that may arise when living abroad

Having arrived in the Netherlands in July 2020 in the middle of the corona pandemic, I experienced strict lockdown during my first several months in the country. During the lockdown, I was not isolated because I had some friends here. I think I would have been quite lonely without them. The protection measures at Japanese airports made it very difficult for me to consider temporarily returning to Japan. If you would like to temporarily return to Japan, you should check in advance the PCR testing and other complex procedures which will be required in order to enter Japan.

As almost everybody in Holland speaks English fluently, I have no language problems at all. However, many documents sent by the government are written in Dutch. Particularly the instructions for filing a tax return, I needed to ask my Dutch colleagues to translate them.

What is it like living abroad?

It is comfortable for me to live in Holland since public order is good and the local people are very kind. As Holland is a multi-ethnic country, people are familiar with Asians. Most Asian foods are sold in supermarkets, so you can eat Japanese meals every day if you do your own cooking. Delivery services are also relatively reliable. The one drawback when you live in Holland could be the weather, which is not too bad if you get used to it.

This spring, the coronavirus restrictions were gradually relaxed, so life has mostly returned to what it was before the pandemic. I am enjoying communicating with colleagues and friends in a less-restricted environment.

What is good about your receiving a Postdoctoral Fellowship for Research Abroad?

The most beneficial thing of this JSPS fellowship is that we are able to conduct our collaborative research over a long term. We can carry out more complex experiments and deeper discussions than are possible with a shorter stay. I believe that living in a country without other Japanese people surrounding me can be very helpful in getting used to using English on a daily basis. By giving presentations and having discussions regularly in English, Japanese researchers can quickly get used to communicating with others in English. If you talk with many colleagues from other countries, you can even learn various English “accents.”

Finally, I would like to thank JSPS for this fellowship which gives me a wonderful opportunity to concentrate on my research without any inconvenience for two years. This long-term research experience in Holland will be an enduring memory in both my personal life and my life as a researcher.