

A Short Report about my JSPS fellowship experience

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Department: Earth Resources Engineering Department

And host's name: Prof. Keiko Sasaki

Research institution: Kyushu University, Fukuoka, Japan.

As a JSPS Fellow my research addresses the application of solar powered catalysts for the environmental depollution of contaminated wastewater. Catalysis offers an energy efficient and low cost solution to remove harmful organic molecules arising from industrial processes such as pharmaceutical, leather tanning, which are currently discharged into rivers and hazardous to both human and aquatic life. I am targeting nanomaterials whose properties can be precisely controlled at the atomic scale to improve their efficiency for operation under sunlight; these nanomaterials will unite graphene, which possesses unique electronic properties, with earth abundant metal oxides such as Cu_2O , which is able to capture visible light energy and transfer this to water and oxygen to rapidly destroy even trace organic pollutants.

During my JSPS fellowship, I have gained extensive new skillsets and attained a deeper understanding of my research field which would have been impossible without the generous and flexible support from my host. My JSPS host and lab members are so kind, respectful and honest in nature and have been extremely helpful throughout my interactions with them, responding quickly to any requests for information or assistance. Regarding analytical facility utilization in my host University, in principle “my machine and my analysis”; they provided full freedom to use these facilities (for example I have learned and operated highly sophisticated instruments like X-ray Photoelectron Spectroscopy, Synchrotron Techniques, and High-Resolution Transmission Electron Microscopy, etc..)

During my JSPS fellowship I also got an opportunity to participate in and deliver a lecture to school students through the JSPS Science Dialogue Program. I was so impressed and motivated to share knowledge to young minds that is proved to be an excellent opportunity.

Outside the host University, I got an opportunity to participate in Japanese tea ceremony and from this understood that tea is more than just a hot drink. It is a very important ritual that has a lot of meaning within the Japanese culture. The tea ceremony represents purity, tranquility, respect and harmony and a lot of preparation goes into this important event (see attached photo). For this aspect, the JSPS Fellowship provided the opportunity to explore and participate in many cultural events with Japanese peoples and to learn their culture and tradition.

Finally, Japanese people are very helpful especially when we need assistance in an emergency. It is possible to ask a random Japanese person on the streets for directions and I found not only will they show you where it is on Google Maps, but often they will actually take you there (based on importance). Experiences like these really make life in Japan as a foreigner a pleasure.

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