

JSPS Summer Program Report - Peter Martin

Research Institution: Kyoto University

Department: Graduate School of Advanced Integrated Studies in Human Survivability (GSAIS)

Host: Professor Yosuke Yamashiki

Research Plan: To further the work investigating the release of contaminant species into the environment as a result of the March 2011 Fukushima Daiichi Nuclear Power Plant (FDNPP) accident; looking specifically at how both the main pollutant (radiocesium) and the less well-studied species (actinides, such as uranium and plutonium) have evolved in the environment since the accident, their form and eventual fate.

Research Summary: During the summer of 2017 I was fortunate to spend a period working with Professor Yosuke Yamashiki of the GSAIS at Kyoto University. As a direct result of this visit, to incorporate our latest experimentally-derived results (obtained in the UK and from fieldwork within the Fukushima fallout zone) prior to the trip, we have been able to deduce valuable information regarding the rate of species migration from several of the waste stores that exist across Fukushima Prefecture. This has been performed with respect to the major contaminant (Cs*) and well as for newly-discovered uranium and plutonium-containing particles, which represent a significantly different set of challenges for the clean-up operations.

With these results, we have been able to discuss with those directly responsible for the construction and maintenance of such storage facilities better practices and design features to safeguard against contamination leakage in the future. I was also fortunate enough to attend a conference in Sendai to present our work. A subsequent trip back to Japan in October 2017 is planned alongside a newly-formed relationship with the Japan Atomic Energy Agency (JAEA).

Working in Japan: The working style of the Japanese is very different to that of the UK! To experience the most (and best) of Japan, work your normal working day and ensure you give yourself enough time to explore the country and its culture. Whilst

technologically advanced, much of Japanese society (and the workplace) is very paper-based – much more than many aspects of the UK.

Living in Japan: Make sure you give yourself enough time to experience Japan. In cities such as Kyoto there is so much to do - from the modern to the ancient, you' ll never do it all. Make sure you pay attention to the rubbish and recycling systems that are in place in the different areas! The Japanese are incredibly friendly, with many locals outside of academia possessing good English skills (often looking to practice on you) and always being willing to assist a lost-looking student.

