

My research experience as a JSPS Fellow

Dr Oliver Harriman 2014/12/05

I carried out my research in the Noji Laboratory of the Department of Applied Chemistry at the University of Tokyo. My host, Professor Hiroyuki Noji, is particularly well known for an experiment in which he was the first to observe that a highly important biomolecule, ATPase, operates through rotary motion.

My work made use of a microfluidic device (developed in the lab) that enables multiple chemical reactions to be carried out in isolation, in parallel, and in very small volumes. Initially I explored integrating into the device a novel optical detection architecture, with the purpose of simplifying an assay to characterise single-cell antimicrobial resistance. I ultimately focused on developing a theoretical framework and biochemical assay using the same device, to increase the sensitivity for the detection of viruses.

I had an exciting and rewarding time in Japan. My laboratory happened to have a good balance of hard work, collaboration, and humour, for which I feel fortunate. My colleagues were friendly and willing to help my research, and we all enjoyed regular sporting fixtures with rival labs. In my time I was able to visit a conference in Okinawa where I could interact with leading scientists in my field.

Regarding living and working in Japan, I would say that one should respect and have faith in the people and system. While the attention to protocol may seem over the top, the cumulative effect is a remarkably reliable, efficient, safe, and beautiful society.

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