

I was a JSPS summer fellow primarily based in the Graduate School of Frontier Biosciences, University of Osaka, at the lab of Prof. Shigeru Kondo. During my time in Japan I visited many other universities including Chubu University and the lab of Prof. Toshio Sekimura and Meiji University where I visited the lab of Prof. Masayasu Mimura. With Prof. Kondo we are working on modeling bone morphogenesis. We have proposed a reaction-diffusion mechanism for the dynamics of growth factors promoting osteoclast and osteoblast differentiation that is coupled to an evolution law for the growth of the bone itself. Comparison with experimental observations of zebrafish vertebrae morphogenesis (using cutting edge microscopy genetic techniques and 3d printing) appears promising. We are also deriving non-standard reaction-diffusion systems for the purpose of explaining eel pigment patterns. In collaboration with Prof. Sekimura we are attempting to construct, to our knowledge, for the first time, a complete model for butterfly eyespot formation. The model we have derived is capable of providing a mechanism for focus point selection and the development of focus points into eyespot. During my fellowship, I attended the Osaka University Frontier Biosciences young researchers retreat in beautiful Kyoto, where I presented a poster. I also gave talks at Osaka University and Meiji University. In terms of the research environment, my advice is be prepared to work hard (12 hour days were standard in my lab). However the staff/colleagues I encountered were friendly and extremely helpful.

Throughout my time in Japan, I travelled around the country and it is without doubt the most beautiful place I have been to. Both in terms of research and culture I unreservedly recommend Japan to any prospective applicants.

In terms of advice to future fellows; be prepared to explain yourself in broken Japanese as English is in some areas not widely spoken and be aware if you are vegetarian that this is something not very much catered for in Japan. I would advise any fellows with special dietary requirements to try and go out with their colleagues/friends as much as possible at the start of their stay in Japan, they will be able to advise you as to what is suitable for a vegetarian. It is very difficult to work this out for yourself at the start if you can not understand much Japanese. If you are particularly strict about diet be prepared to cook a lot for yourself (although Tokyo caters better for vegetarians).

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