

JSPS Fellow's Experience

Fellow: Dr Awantha Dissanayake
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Host: Prof. Atsushi Ishimatsu
Host Institution: Institute for East China Sea Research, Nagasaki University
JSPS fellowship period: March 2010 – February 2011

My research involves elucidating the potential ecophysiological effects of anthropogenic climate change on decapod crustaceans. I was awarded a 12 month JSPS short-term Post-doctoral fellowship with Prof. Atsushi Ishimatsu at the Institute for East China Sea Research (ECSER), Nagasaki University in December 2009. As soon as I informed Prof. Ishimatsu regarding this successful outcome, he immediately offered a further one year extension via Nagasaki University funding to add to the fellowship, as part of a wider research program that ECSER was involved in. As such, I had the opportunity to live and work in Japan for two years, 2009-2011.

Japan is a place I have always wanted to visit and what a better opportunity to visit the country by being able to conduct my research, as well as see for myself the wonderful sights and food Japan has to offer. Although, I arrived in Japan with no Japanese language skills, I have managed to pick up some of the language and I also leave with very fond memories of a truly wonderful country. I have many memories, especially trying to catch a bus within my first few days of arrival, that's when a camera becomes handy, and a photo serves as a *aide memoir* in trying to remember Kanji.

Prof. Ishimatsu's lab members and all ECSER members have been very helpful, in particular, Rui Yin a PhD student in Prof. Ishimatsu's lab. I thank all ECSER members for their help and friendship and making my time in Japan memorable. Prof. Ishimatsu, in particular, was the perfect host, without whose help in terms of set-up of daily life, such as bank account, accommodation, etc would not have been possible. In terms of research, Prof. Ishimatsu also excels and we have had many a conversation regarding research ideas and scientific direction. I was also able, as part of a further JSPS grant, to visit Dr So Kawaguchi at the Australian Antarctic Division (AAD), Tasmania, for 3 months to apply my research on Antarctic krill. Nagasaki University has an ongoing collaborative project with AAD and as such, collectively, we will provide the first comprehensive evidence of climate change impacts on Antarctic krill. Although, my JSPS fellowship has come to an end, Prof. Ishimatsu and I maintain an ongoing collaboration along with Dr So Kawaguchi at AAD. I was sorry to leave Japan, especially at a time when the country suffered from the events of the March 11th earthquake and tsunami. My thoughts are with my Japanese friends and the Japanese people, but if I had the opportunity to return to Japan, I wouldn't hesitate. Finally, I thank JSPS trustees for the honour and benefits of the JSPS short-term Post-doctoral Fellowship.

Publication outcomes:

1. Ishimatsu, A. and **Dissanayake, A.** (2010). Life threatened in Acidic Coastal Waters In Coastal Environmental and Ecosystem Issues of the East China Sea: Nagasaki University Major Research Project: Restoration of Marine Environment and Resources in East Asia, eds. A. Ishimatsu and H. J. Lie), pp. 283-303. Tokyo: Nagasaki University/TERRAPUB.
2. **Dissanayake A.**, Ishimatsu A (2011). Osmoregulatory ability and salinity tolerance in several crustacean species of the East China Sea (Crustacea: Decapoda: Natantia). *Plank. Benthos. Res.* ***In press.***
3. **Dissanayake, A.** and A. Ishimatsu (2011). *Synergistic effects of elevated CO₂ and temperature on the metabolic scope and activity in a shallow-water coastal decapod (Metapenaeus joyneri) (Crustacea: Penaeidae).* ICES Journal of Marine Science, 2011. doi: 10.1093/icesjms/fsq188

4. **Dissanayake A**, Ishimatsu A. Impacts of climate change (ocean acidification) on osmoregulatory ability and salinity tolerance in a shallow-water coastal decapod (*Metapenaeus joyneri*) (Crustacea: Decapoda). (*In prep*).
5. **Dissanayake A**, King, R., Kawaguchi, S., Ishimatsu. A. Impacts of climate change (ocean acidification and increased temperature) on the physiology and growth of Antarctic Krill *Euphausia superba*. (*Submitted*).
6. **Dissanayake A**, King, R., Kawaguchi, S., Ishimatsu. Climate change (ocean acidification and increased temperature) affects the cardiac and swimming performance of Antarctic Krill, *Euphausia superba*. (*In prep*).



Plate 1. A) Visiting Fukuoka B) Prof. Ishimatsu's lab members and C) At Nagasaki Harbour.