

JSPS report by Christa Kistenpfennig (christa.kistenpfennig@gmail.com)

Host Information

Institution: Graduate School of Natural Science and Technology

Department: Okayama University

Name: Prof. Kenji Tomioka

A JSPS short-term fellowship (September 2012 - August 2013) gave me the unique opportunity to carry out a research project based on my PhD thesis in Prof. Tomioka's insect chronobiology laboratory. My research interest focused on the light input into the circadian clock of the fruit fly *Drosophila melanogaster*. Using the on-site equipment for insect locomotor behavior monitoring and immunohistochemical analyses, I investigated the role of the blue-light photoreceptor Cryptochrome (CRY) in the adaptation to different photoperiods, especially long days. We found a yet undescribed phenotype of flies lacking CRY and differences in clock protein expression patterns in their brains that might underlay this behavior. In summary, our experiments showed for the first time that not only the compound eyes but also certain CRY-expressing subsets of clock neurons contribute to the adaptation to long photoperiods in wild-type flies.

The opportunity to study the neuronal network of the circadian clock in the fly brain and to further develop my knowledge and techniques in this field of research created the prerequisites for my future research. During my time as a visiting researcher in Japan, I could successfully apply for a 2-year PostDoc fellowship within a Marie-Curie Program in the UK. By attending laboratory and literature seminars of the host research group, I gained further insights into circadian and photoperiodic systems of other insect species, especially crickets.

In general, my time as a JSPS fellow at Okayama University did not benefit me solely for scientific learning; I also had a great personal experience. After a short settling-in period, I enjoyed the different culture, especially the Japanese food. I did not have the possibility or time to attend a language course but quickly picked up some useful phrases for daily life. My colleagues were very kind and offered their help as translators for bureaucratic issues, such as opening a bank account. However, I would recommend future fellows to read a little bit into the Japanese culture and to look up some basic phrases prior to their stay.



Hanami at Okayama University



Visit to Miyajima island (Hiroshima)