



### **T15 - Dr. Lesa THOMPSON, PhD Candidate, British & Irish Hokkaido University, Grad. Sch. of Veterinary Medicine**

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#### **My research project:**

Malaria kills almost half a million people annually. The insecticide DDT is still used (under WHO guidelines) to control its insect vector in many countries, although it is classified as carcinogenic to people. We collected samples from free-ranging chickens living in a region in South Africa which routinely sprays DDT in homes. Contamination levels in both chicken meat and eggs result in an increased risk of cancer to people consuming the products. Analysis of genes in liver samples (high throughput-screening of 44,000 genes using microarray chip analysis, followed by quantitation of individual gene expression using qPCR) has identified a significant correlation between DDTs and down-regulation of several genes involved in the chicken's innate immune system. Current work on laboratory-exposed chickens is using metabolomics (assessing the "chemical fingerprint" of cellular processes) to further ascertain the toxic effects of DDTs. It is hoped that results from this research may be used to aid policy makers in decisions regarding pesticide use.<sup>1</sup>

#### **My career path:**

After graduating from the University of Edinburgh, I worked in veterinary practice before returning for intern, resident and lecturer positions. During my MSc, I met staff and students visiting from Hokkaido University, through whom I secured a "Leading Program" scholarship and started a PhD course at Hokkaido University, for which I obtained a JSPS scholarship. I needed guidance from Japanese professors for application preparation. Working in a Japanese laboratory has difficulties, for example presenteeism, and it has helped to discuss expectations with other international students. Although my experience would be well-recognised in Europe, I intend to remain in Japan. I realise that my age and gender make it more difficult to find my niche here so I am flexible about my future, be that in academia or industry. I'll first focus on Japanese language studies.

#### **My relation to Europe:**

I have maintained close ties with my alma mater. Currently, this is simplified by the annual student exchange with Hokkaido University, and my previous mentor has a major role in postgraduate programmes globally. I have engaged on a one-to-one basis with UK institutions through JSPS funding, including a research collaboration with another PhD student. This was possible through JSPS funding, because it is generous and it allowed me to have some autonomy. There is a close relationship with Hokkaido University and University College Dublin. I have participated for two years in the PhD student exchange program (in Sapporo and Dublin). I've also assisted in a collaboration with UK and US institutions running training workshops in Indonesia, facilitated by my UK and Japanese experience, contacts and knowledge.

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<sup>1</sup> Thompson, LA et al., Food Add Contam 34-11, 2017, 1959-1969



## European Research Day 2017

4 December | Delegation of the European Union to Japan, Tokyo

As mentioned above, I hope to remain in Japan after graduation from the PhD program, but am keen to strengthen and encourage links with European and Japanese institutions and people.