

(Abroad • Domestic) Official trip report form (Student)

2016/03/23 (Year/Month/Day)

Name	Lesa Thompson
Laboratory	Toxicology
Year (Grade)	DC2
Destination	UCD, Dublin, Ireland
Period of trip	12 th – 20 th March 2016
Purpose of trip	“Advances in Infection Biology” course at UCD, Dublin

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Summary of activities (about 800 words, provide photos, tables and figures that clearly show the activities during the period)

Our group arrived in Dublin on Saturday 12th March in the evening. After a day to rest from our trip, we started the “Advances in Infection Biology” course at the Vet Sciences Centre in University College Dublin (UCD). The course was organized by Professor Stephen Gordon, who has previously visited Hokkaido University and was known to many of the visiting staff and students. The course was attended by a total of 31 students from UCD, Trinity College Dublin, Maynooth University and Hokkaido University. Professor Gordon arranged for course notes and background reading to be available via a Dropbox folder. Also as part of the module, we will receive one week of access to an online Nature Masterclass on scientific writing – this will guide us through writing a paper and the review process, which will be very useful for completion of the assessments we need to submit to complete the course.



Professor Gordon introduced the course outline on Monday 14th March, including an outline of the assessment process. The first session was on “**host-pathogen interaction**”, starting with Professor Gordon describing the importance of TB in both people and animals. Dr Noreen Sheehy then gave an overview of oncogenesis and viral infection, discussing examples of both animal and human oncogenic viruses, as well as giving an overview of the ongoing research at the Centre for Research in Infectious Diseases (CRID) at UCD. Dr Jennifer Mitchell’s research focusses on the factors that cause commensal bacteria to transition to opportunistic pathogens, working on bacterial interactions with platelets in endocarditis and sepsis.

The second session was on “**antimicrobials**”. Dr Kirsten Schaffer from the Department of Microbiology gave a concise overview of her research on the impact of hypoxia on *Pseudomonas aeruginosa* infection. Professor Shea Fanning then talked about antimicrobial resistance, eloquently describing what is known about the links between animals, people and environment. The final lecture of the day was given by Professor Kevin Devine of Trinity College Dublin, on the potential for the Gram positive bacterial cell wall as a target for antimicrobials.

Professor Gordon arranged for the students to eat at a local restaurant on Monday evening. We got to try Irish craft cider!



Tuesday 15th's morning session was on “**vaccines**”. Professor Grace Mulcahy (supervisor for Andres, who visited Sapporo last year for the first part of the exchange between UCD and Hokudai) gave a very interesting lecture about parasite vaccine development, targeting fasciolosis which is a major problem in cattle in Ireland. The next speaker, Professor Ed Lavelle, switched to human

medicine, with a presentation on novel technologies in vaccine development for meningitis. Then we returned to TB, with Dr Joe Cassidy's lecture on novel approaches to vaccination in this disease.

Professor Hirofumi Sawa was the first speaker in the “**global health**” session in the afternoon, talking about viral epidemiology research in Zambia. Dr Joe Gallagher and Chris Watson then talked about childhood pneumonia, including their successful application for a grant from the Gates Foundation. Remaining with the human theme, Dr Aoife Cotter gave an overview of HIV and current treatment options and successes.

The UCD students arranged for us to have pizza and watch a film in their student cinema on campus. Their student centre is very impressive.



On the final day of the course, Wednesday 16th March, we started with a session on “**zoonosis**”. Dr Marguerite Clyne described how *Campylobacter* is carried asymptotically by chickens but causes food poisoning in people, and how her research is investigating why this species difference exists. Professor Motohiro Horiuchi talked about recent discoveries in glial cell activation in prion diseases. Dr Gerald Barry then discussed various arbovirus interactions with the mammalian innate immune system.

The afternoon session was “**experimental design and grant writing**”. Dr Mark d’Alton gave an informative and philosophical talk on the ethics of animal experimentation, before Professor Gordon gave us more information about grant writing and an overview of our assessment for the course.

Our evening dinner at The Merry Ploughboy included entertainment from a traditional Irish folk band and Irish dancers.

As Thursday 17th was a public holiday, I had time to review the lectures and prepare for my presentation on Friday 18th. As the Irish students will also give a presentation in April, we were given the opportunity to instead make a presentation about our research on the final full day of our stay in Dublin. An interesting discussion followed the presentations.

Our final afternoon in Dublin was spent taking a tour of the veterinary hospital – both small and large animal. Although we didn't see many animals, it was interesting to see the facilities and ask our tour guide questions about the course and their work. The skills lab contains lots of materials for the students to practice.



On our return to Japan, we now have to submit two pieces of writing to complete the course module. The first is a one-page outline of our PhD project, and the second is a two-page grant application. This will give us the chance to practice writing a grant based on our research interest, using some of the knowledge and skills we have learned during the course at UCD.



Approval of supervisor	Institution・Official title・Name : Laboratory of Toxicology, Hokkaido University・ Professor・Mayumi Ishizuka 印
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