JAMES RENNIE BEQUEST

REPORT ON EXPEDITION/PROJECT/CONFERENCE

Expedition/Project/Conference Title: 2nd FEMS Congress of European Microbiologists.....

Travel Dates: 4-8 July 2006.....

Location: Madrid, Spain .....

Group Member(s): Matylda Sczaniecka.....

Aims: Presenting a Poster .....

OUTCOME (not less than 300 words):-

The 2nd FEMS Congress of European Microbiologists in Madrid was organised by the Federation of European Microbiological Societies. The main idea of the conference was integrating microbial knowledge into life. Consistent with that, the subjects discussed at the meeting ranged from the use of bacteria and fungi in biotechnology and industry to various aspects of infection, immunity and pathogenesis.

The conference started with a plenary EMBO lecture from Aaron Ciehanover, on the ubiquitin proteolytic system and its implication in targeting human diseases and drug design. Having spent a lot of my PhD studying proteins acting on the ubiquitin ligase APC, I found this talk very interesting and it helped me to put the information I already had in order and into wider perspective.

In the first day I attended selected symposia on bacterial multiresistance and immune evasion, some of which I found a bit too general. However, I was very ineterested in the talk on mechanisms of resistance, presented by Patrice Courvalin from Pasteur Institute in Paris. Also a talk on the role of intestinal barrier in bacterial invasion, by Philippe Sansonetti, from the same institute was very good. I spent the rest of the day exploring the beautiful city of Madrid.

On the next day I attended the Andre Lwoff prize lecture on evolution of microbial pathogens, where I learned a lot about pathogenicity islands. I was planning to learn more about host-pathogen interactions, however at the same time a seminar from Jeff Errington, who studies the bacterial cell cycle, was held. Coming from a cell cycle background, I thought it would be good to attend this lecture and see wheteher I was interested in studying bacterial cell division in the future. The lecture was indeed quite interesting, however it brought me to a conclusion that if I wanted to study the cell cycle I might consider staying in the eukaryotic field.

Next I attended another couple of lectures on bacterial invasion, infection, resistance, viruses (avian influenza, SARS...), a few lectures on food microbiology and probiotics and towards the end of third day I felt overwhelmed by the broad spectrum of very interesting, however all new to me subjects, the amount of people, as well as the enormous amount and variety of posters. Luckily I had another day and another couple of sessions to look forward to.

One of them, on bacterial toxins, to my surprise turned out to combine studies of the eukaryotic cell cycle (which I am currently involved in) with studies of pathogenicity. Eric Oswald, from the INRA-ENVT (Toulouse, France) presented his work on colibactin, a genotoxin produced by *E. coli*. This toxin belongs to a novel class of bacterial protein toxins, called by Oswald, cyclomodulines. These proteins act by interfering with the host cell cycle; in the case of colibactin, this results in DNA damage, activation of the DNA damage checkpoint and slowing down the S-phase. Oswald presented quite advanced studies of the molecular basis of action of this toxin. This encouraged me

to speak to him afterwards and ask about this field of study. I found out that there were several labs in Europe involved in related subjects. Having studied the mechanisms governing the eukaryotic cell cycle for the past few years, I would like to use my knowledge in future studies, but ideally I would like to combine it with more applied science. That is why I found this subject very exciting and I am planning to investigate it further and possibly send applications to a few labs.
As for other contacts, I have met Sheila Patrick, from Queens University, Belfast, who I have a publication with. She is studying *Bacteroides fragilis* and has a number of interesting projects undergo in the lab. I have also met a few people from my home country, Poland. We talked about the science we do, working environment, chances for development and in general I had been adviced to continue my studies abroad...
My poster, unfortunately, did not attract a lot of attention. Presumably around 90% of the conference participants worked on prokaryotic systems and had never heard of the spindle checkpoint. I was however expecting this and presenting was a good experience anyway.
I would like to thank the James Rennie Bequest for providing me with financial help, which allowed me to attend this congress.

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Madrid