**LMS GRACE CHISHOLM YOUNG FELLOWSHIP – A CASE STUDY**

**By Ornella Cominetti Allende**

*Academic activities during the Fellowship*

During the last year I was able to undertake a number of academic activities which were facilitated by the Fellowship. In particular:

- I defended my thesis, "DifFUZZY: A novel clustering algorithm for systems biology", had only minor corrections and graduated.
- I attended two conferences (RECOMB 2012 in Barcelona, where I presented a poster on my results on the malaria project, and for which I obtained an ICSB Travel Fellowship to attend, and the Graduate Systems Biology Conference at the University of Oxford, where I won the Best Poster Award).
- With collaborators, we finished and submitted the main paper out of the malaria project, which is now under revision, and we are presently completing a second one. There are also possibilities to write a third paper on malaria, but it would require further work from us, so depending on our time constraints in the future months, we may be able to finish it.
- I had the opportunity to be a demonstrator for:
    - Mathematical Biology and Matlab and Computational Biology at the Life Science, Systems Biology and Interdisciplinary Bioscience Doctoral Training Centres;
    - MPLS Bridging Programme at the Mathematical, Physical and Life Sciences Division and Mathematics;
    - MuPAD at the Mathematical Institute.
- During the Fellowship I visited Dr. Nick Jones at the Department of Mathematics of Imperial College London to put together a Fellowship application for the Medical Research Council. Unfortunately this fellowship application was not successful but it gave me a good understanding of the process of applying for fellowships and some of the feedback was helpful for future applications.
- I have been involved in statistical analysis of legal data, so even though it is not directly related with my biological/clinical interests, it involved the use of similar techniques to the ones I used before. This work has allowed me to be a co-author on the paper entitled, "Relocation in English Law", as well as one or two additional papers.

*Non-academic activities during the Fellowship*

I have been involved in other non-academic activities:

- I have been a member of the Good Practice Steering Group at Oxford since August 2012. As an Athena SWAN Facilitator I have contributed towards the construction and maintenance of the Good Practice webpages, to help run surveys for graduate and undergraduate students, to try to identify some gender differences, and a number of other activities.
- The Fellowship also gave me the flexibility of being able to organise my wedding(s) and get married both in Chile and in Hungary, while keeping the contact with Oxford and my mentors. After the weddings I was able to return to Oxford for my husband to finish his research position and for us to focus on looking and applying to future job opportunities together.

The Fellowship funding has allowed me to acquire an external hard disk and a larger solid state hard disk, which has helped tremendously to make my research easier, by allowing me to save and protect the large datasets and documents, and to be able to run code without running out of

memory, as it was the case before. In particular, the malaria project has required additional free memory because the dataset is comprised of thousands of data points to be plotted a number of times in high resolution.

Additionally, being associated with the Mathematical Institute, thanks to the Grace Chisholm Young Fellowship, I could apply to the Heidelberg Graduate Forum.

Finally, I would like to thank the LMS for the Grace Chisholm Young Fellowship opportunity which allowed me to stay in Oxford during this time, to be in the same city and University as my now husband, and it opened me the doors to a number of other opportunities. Both my husband and I are now working in Lausanne, at the EPFL Innovation Park. I work for the Nestle Institute of Health Sciences as an omics data analyst and my husband works for a start-up, Sophia Genetics, as a bioinformatician. We were very lucky to get these jobs within weeks of each other and in the building next to each other too! They are both great fun and challenging, and in my case we have a number of collaborations with a wide range of universities and European consortiums so our Institute is a bridge between academia and industry. We are doing cutting edge research to better understand the pathogenesis of complex human diseases to ultimately deliver novel nutritional approaches and new treatment options. Here applied maths is key to analyse, model and integrate the complex, high dimensional, high-throughput and longitudinal data of different types such as metabonomics, proteomics, genomics, and clinical. I love the fact that the role is multi-disciplinary and highly collaborative.