GRADUATE JOURNAL

Time to explore new worlds

As 2005 begins, it is gratifying but also disconcerting to say that this year, I will graduate. I'll complete a PhD in molecular biology at the University of California, Los Angeles. But despite this impending accomplishment, I can honestly say that at 30 years old I still don't know what I want to be when I grow up.

For the past eight years or so, I've studied aspects of mRNA in mammalian gene regulation. After taking some dead-end paths, I am quite happy with the stories that my dissertation research will tell. I began my graduate studies with the same fervour for RNA biology that I now possess. If I based my next career choice solely on following my scientific interest, I'd continue working with RNA and stagger down that well-worn path to postdoc and, if I'm lucky, professor.

But, life is not all about the lab and my love stretches beyond ribose chains. I'm a happily married man and my wife is a disturbingly brilliant public-policy researcher. Looking into how we'll solve our two-job dilemma, I'm exploring science writing and public policy. Should I test those waters or study a new problem at the bench? All have their appeal and I'll be learning about these paths as I finish my degree. This is going to be an interesting year. ■

Jason Underwood is a graduate student in microbiology at the University of California, Los Angeles.

SCIENTISTS & SOCIETIES

International Institute for Applied Systems Analysis, Austria

Hardly anyone could believe my summer plans. "You're going to work in an Austrian castle?" a fellow graduate student asked. "Well, it's more like a palace," I explained, somewhat sheepish about planning to research civil war in such luxurious surroundings.

The truth was I couldn't believe my luck. After completing my second year of graduate studies in demography at the University of California, Berkeley, I was accepted at the International Institute for Applied Systems Analysis (IIASA), a small, multilateral, autonomous research institution that runs a summer programme for PhD students. Located just outside Vienna, the IIASA allows scientists from all over the world to convene and collaborate to address issues within the institute's three theme areas: natural resources and environment; population and society; and energy and technology.

Each summer, about 60 graduate students work on their PhDs through IIASA's Young Scientists Summer Programme (YSSP). This offers the students a chance to explore the policy implications of their work. The IIASA's projects range from the technical — developing and applying mathematical modelling techniques — to the practical — integrating social and natural-science models and data in policy-relevant analyses.

I spent most of my time on my research into whether a young population and abundance of natural resources make civil wars more likely to start. My mentor gave me helpful input on how to model these processes over time. Seminars and focus-group discussions exposed me to the work of important worldwide scholars.

A midsummer workshop allowed us to share our current research. Many of my YSSP colleagues were environmental scientists, geographers, political scientists and biologists, so the interdisciplinary feedback I received was very helpful. Students and institute scholars suggested articles, techniques and data sets I might never have encountered otherwise.

The YSSP helped me look at my research from fresh angles. It offered the springboard I needed to move from coursework to productive independent research. I've returned with a potential dissertation chapter, lots of new ideas on how to proceed, and a new network of colleagues, friends and potential collaborators from around the world. ■

Sarah Elizabeth Staveteig is a graduate student at the University of California, Berkeley.

www.iiasa.ac.at/Admin/YSP/yssp2005/about-program.html

MOVERS

Iain Mattaj, director-general, European Molecular Biology Laboratory, Heidelberg, Germany

Frustrated by the slow progress of his work at the beginning of his postgraduate career, Iain Mattaj once considered joining a friend's retail business. But his desire to understand how the world functions at the molecular level won, thanks in part to an influential mentor. In May, the 52-year-old molecular biologist will take the reins of the European Molecular Biology Laboratory (EMBL) in Heidelberg, Germany, one of Europe's premier research institutes.

Mattaj's understanding of science was influenced by the enthusiasm and creativity of developmental biologist Eddy de Robertis, his supervisor at the Biocentre Basel in Switzerland: "He taught me to constantly think about the most important question one could ask."

In 1985, when de Robertis joined the University of California, Los Angeles, the Scotsman Mattaj took the opportunity to set up his own group at EMBL, where a new gene-expression programme had just been started. He never regretted the decision. His research in the late 1980s, one of his most productive periods, resulted in a solid understanding of how macromolecules are trafficked between the nucleus and the cytoplasm.

At the time, Mattaj recalls, things still moved slowly. "Nowadays, researchers live in a whirlwind of information," he says. He is well aware that the pace has increased pressure, in particular on young scientists in highly competitive fields. Graduates considering a scientific career should therefore think very well about the question they want to have answered, and then carefully chose the right place to go, he says. "It is crucial to learn in a top-quality environment."

When he starts as EMBL director, Mattaj can rely on long experience in science management. After chairing the gene-expression programme for ten years, he was promoted to be EMBL's scientific director in 1999.

Looking back, he appreciates most that as a young scientist he could do independent research with very little red tape. This was only possible, he says, because senior colleagues were looking after the administration. Now he wants to do the same for the next generation. "I find satisfaction in organizing things for the community," he says, "even though it is rarely so much fun as doing science."

But he is keen to stay as closely in touch with research as possible. "We're just beginning to understand how the nucleus is built and organized," he says. There is a good chance that the almost-retailer will know the answer soon. ■

CV

1999–2005: Scientific director of the European Molecular Biology Laboratory (EMBL), Heidelberg, Germany.
1990–99: Programme coordinator, gene-expression programme, EMBL, Heidelberg, Germany.
1985–90: Group leader, EMBL, Heidelberg, Germany.