

Home thoughts from abroad

Some personal views of microbiology education overseas

Sun, sea and science on California's Biotech' Beach

Keith Stephenson

Keith Stephenson discovers the pros and cons of postdocing in the USA.

My scientific research career started in my home town at the University of Newcastle upon Tyne where, after a PhD and postdoc with Dr Colin Harwood, investigating protein secretion from *Bacillus subtilis*, I was offered a research position at The Scripps Research Institute, commencing June 1999. Scripps is located in La Jolla on the Pacific coast just north of San Diego in southern California and is surrounded by numerous research institutes and biotechnology companies (hence San Diego's suitably tacky nickname of 'Biotech' Beach'). My new lab was to be that of Prof. James A. Hoch who is a world renowned scientist in the field of bacterial signal transduction. The international reputation of Scripps combined with that of my potential boss meant that the job offer was hard to turn down and a move to the USA would, I hoped, facilitate my scientific education and my long-term goal of a good academic position back in the UK.

As might be expected the labs within Scripps are very well funded and the institute provides a great platform to conduct stimulating research. Since there is no formal teaching, Scripps is organized for pure research and supported by on-site core facilities that take care of every scientific service that might possibly be required.

I went to the States with the intention of working hard but the major difference between being a postdoc at a UK university and at an institution in the USA is the high level of work that is demanded in the latter. This was reinforced on my first encounter with my new boss

when it was politely (not!) pointed out to me that 'postdocs work six days a week in my lab'. A typical work day for a postdoc in the lab starts at 8am and finishes after 7pm with a brief period somewhere in the middle to inhale lunch (no long lunches in the pub for me anymore!). Furthermore, with two lab meetings per week there is constant pressure to generate new data to present to the boss and the rest of the research group.

A postdoctoral position in the USA is regarded as a training position and consequently the salary can often be less than that of a technician with significantly less experience and qualifications. However, this aside, the salary is still better than the

UK (in my experience at least) and as a consequence trips south of the border to Mexico and to the bright lights of Las Vegas are regular events.

In general, the day-to-day operation of the labs at Scripps seems to proceed in a similar manner to those in the UK, complete with the usual minor problems and petty annoyances of a busy lab environment. From a purely academic point of view I have learnt a tremendous amount from my time in the USA and I have been able to build on my knowledge of molecular microbiology and extend it into the previously unknown realms of biochemistry and structural biology. The attitude towards research in the USA centres around working hard and efficiently in an independent manner and accumulating publication quality data in the shortest possible time. I firmly believe that this attitude is one of the most important things that I will take away from Scripps. Furthermore, the education I have gained has broadened my scientific horizons and prepared me for future phases of my research career.

These are my personal thoughts and experiences and they are limited to the research environment of The Scripps Research Institute. To anybody considering a postdoc in the States I can honestly recommend it for the experience and the education, but go prepared to work hard. There seem to be a lot more opportunities for biological scientists in the States and particularly in San Diego. These opportunities, combined with the better salary, the weather and the great Scuba diving, make the decision to return to the UK a difficult one for me. I wait in hope of a shake up in the British educational system which would allow better salaries and contracts for academic research scientists in the UK. This would help reduce the brain drain and ultimately make my decision to return to home soil a lot easier. After all, San Diego is a long way away from the bars of the Newcastle Quayside and the sacred turf of St James' Park.

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Keith's career path

BSc (Hons) Microbiology, 1992
University of Newcastle upon Tyne, UK
PhD Molecular Microbiology, 1996
University of Newcastle upon Tyne, UK
Postdoctoral Research Associate, 1996–1999
University of Newcastle upon Tyne, UK
Postdoctoral Research Associate, 1999–Present
The Scripps Research Institute, CA, USA

BELOW:
Keith tuna fishing off the coast of Mexico.




The Marseille contract

Tracey Duncombe

Those who are still interested in continuing their studies after their third year would go on to take a Masters-type course.'

'What I liked about studying in France was the attitude of the French to studying. It is a lot more relaxed compared to the UK. There was less pressure on me also as I only had to get 20 credits to pass the year. However, things didn't always run smoothly. There is generally a lot more bureaucracy under the French system and this made it difficult, for example when I

Gradline Editor Tracey Duncombe relates the experiences of a student from the School of Biosciences, University of Birmingham, who spent time abroad as part of her studies.

 Stephanie Hunter, a fourth year sandwich student, spent last year at Marseille University, France.

One of the primary concerns of anyone contemplating study abroad must be their ability to cope with the language, and the British with our stereotypical ineptitude for languages epitomize this. However, Stephanie Hunter is one of a growing number of UK students who have chosen to include a placement abroad as part of their biological science degree. 'I already had A/S level French and took extra French units as part of my degree course in Birmingham so I wasn't too worried about making myself understood. I did find the lectures hard going. Not only were they 4 hours long, with a short break after 2 hours, but also the tutors dictated notes. Luckily, I was able to borrow notes from a friend to make sure that I didn't miss anything. The days themselves were long too; we studied from 8 in the morning to 6 at night.'

'The course in Marseille was lecture-based and there was no laboratory project. There wasn't much course work either as most of the marks went on exams. I was a little disappointed with the content of the programme because it contained more general biology than my course in Birmingham.'

The structure of the French university system is very different from that of the UK. It is a tiered system whereby almost everyone entering university at 18 years old spends 2 years studying for a 'first level degree'. This is a general qualification in which students select a major field, e.g. sciences, and a minor field, e.g. classics. The curriculum is divided into required and elective units of instruction. 'Students who go onto their third year face the equivalent of our BSc but really it is a level lower.

wanted to change certain modules.'

'Marseille was a great place to study. There weren't many Brits there so I was forced to get on with everyday life in France, but I was glad to do this, my French and my confidence have improved because of it. I'd definitely recommend this experience to other students both to experience living in another country and the different culture. It has also opened up a number of opportunities to me as employers frequently ask for fluency in a second language. I might also consider returning to study for a PhD in France.'

Time abroad

The University of Birmingham participates in the SOCRATES scheme which allows students to spend a year studying biology, language and culture in a European university – thereby extending their biological science degree to 4 years.

Many other UK universities offer biological science courses which include either a period of full-time study in an overseas institution or work experience abroad. For details see *The Official UCAS Guide* or the *CRAC Degree Course Guide: Microbiology, Immunology and Biotechnology* (Hobsons, 2001).