The mobility imperative

Changing labs is crucial for the next generation of European scientists. But mobility can be a mixed blessing.

BY QUIRIN SCHIERMEIER

Marine biologist Martin Pfannkuchen has been on the move for much of his young career. He realized early on that Swabia, the southwest region of Germany he came from, was not an ideal base for his work on the cell biology of marine sponges and algae. With two national borders and the European Alps between him and the nearest coast, he had limited access to water or a coastal lab. Already, as a research associate in the early stage of his career, he has had valuable experiences abroad. During his PhD at the University of Stuttgart in Germany, Pfannkuchen spent a month at the Natural History Museum in London. After his PhD, he considered continuing his research abroad at the University of Hawaii or Kyoto University in Japan, where he had been offered postdoctoral positions.

But wishing to be close to the sea and to his Croatian partner, nine months after finishing his PhD he resettled in Rovinj, a town on Croatia’s Adriatic coast that is home to a small marine research centre at the Rudjer Bošković Institute. Although not a major scientific player, Croatia has all that Pfannkuchen needs. “One has to know how to work self-sufficiently here, but the equipment and grant opportunities are fine, and my faculty prepared me well for this situation,” he says. “The best thing is that I can work at sea any day and I have fresh samples all the time.”

Motivating mantra

Changing countries has become a rite of passage for many young researchers, especially in Europe, where cross-border mobility is common. The call for mobility has become the motivating mantra of organizations such as the Marie Curie fellowship programme, which promotes and supports mobility across Europe. In Germany, for example, to avoid academic ‘inbreeding,’ in which universities hire their own graduates as professors, university tenure rules require scientists to change labs during the course of their postdoc or graduate education, and trips abroad to the United States or elsewhere are all but expected. In many countries, recruiters and funding agencies see international mobility as a mark of an applicant’s ability and dedication, making changing labs a key to scientists’ professional success almost everywhere.

Nevertheless, the practical professional outcome of mobility is hard to pin down—raising suspicions that it is sometimes undertaken for its own sake, as a means to boost a CV rather than to expand one’s knowledge base. Crossing borders is often a fruitful enterprise—an opportunity to experience different lab cultures, acquire new skills, learn new methods and establish personal contacts and networks that can be important for future career progressions. But moving for the sake of moving may have little effect on one’s capability or marketability. And there are other implications: for later-career postdocs and professors, pensions could be affected, for example. Graduate students and others should therefore consider their own long-term costs and benefits. Although supervisors may...
provide guidance, they also have their own research agenda and priorities.

Mobility numbers vary widely depending on region. At leading research universities such as the University of Cambridge, UK, more than 40% of researchers are from abroad. Across Europe as a whole, however, no more than about 7% of research-and-development personnel work outside their native country, according to figures compiled in 2007 by the European Commission (EC) Joint Research Centre in Seville, Spain.

Regardless, mobility is integral to the EC’s scientific workforce initiatives. The European Research Area Board, a consultative body that advises the commission, has set a target of 20% of European Union (EU) doctoral candidates working outside their home countries by 2020 — roughly a tripling of current figures. Outdated tenure, pension and social-security systems all hamper the scientific mobility of EU researchers, the group said in a report released in 2009.

And mobility issues will be freshly addressed as the EU moves towards its 2014–20 Framework programme for research, the priorities and budget of which are being negotiated at present. Under discussion are a European pension fund for mobile researchers (see Nature 467, 489–491; 2010), and the establishment of doctoral programmes that are specific for non-national PhD students at several universities across the EU. “Start encouraging mobility at the doctoral level and you’ll get a more international research environment in Europe,” says John Smith, deputy secretary-general of the European University Association (see Column, page 565).

In addition, 47 European countries participate in the Bologna process, which was launched in 1999 and aims to improve mobility by uniting education systems throughout the continent with common principles for training and the supervision of students, and reducing the time to a degree. All this suggests that, for fledging EU scientists, the pressure to be mobile may become even stronger in the future.

THE LANGUAGE BARRIER

Although career advisers advocate early-career mobility, some admit that there are downsides. Graduate students considering a period abroad should consider the effect of cultural differences, in an attempt to avoid stress and conflict. Those moving from Europe to places such as Japan (and vice versa) may benefit from cultural coaching to better understand unfamiliar hierarchies, conflict management and body language. And, of course, language is an issue. Working in a lab without knowing the local language may be feasible, but this is more difficult in the case of everyday life. “Let’s face it, some countries — especially those where there is little incoming mobility — embrace diversity less easily than others,” says András Dinnyés, a biomedical scientist who did post-doctoral research in Japan and China before starting the biotech company BioTalentum in Gödöllő, Hungary.

Students should seek advice, but be aware of its source. “Don’t be overly dependent on your supervisor,” says Karen Vandevelde, a research-policy adviser at Ghent University in Belgium, who studies mobility among Flemish researchers. “PhD students are in a vulnerable position, especially if their supervisors are not so good. There are lots of reasons why some might not encourage mobility, for example, because they don’t want to lose their students.”

Empirical data support the idea that the ‘mobility imperative’ restricts women in science and creates obstacles for academics, says Louise Ackers, chair in European Socio-Legal Studies at the University of Liverpool, UK, who has conducted several research studies on the relationship between mobility and internationalization. Vandevelde says that recruiters often unfairly think that researchers who are not mobile because of family restrictions are not passionate enough about research.

But Ackers — herself a mother of four — has been bit disillusioned. “I know where my home is and I love my family,” he says. “The best thing is that I can work at sea any day and I have fresh samples all the time.”

António Coutinho

“The best lab for the type of research you’re doing is normally not around the corner — it’s very likely to be somewhere else.”

António Coutinho

“The best lab for the type of research you’re doing is normally not around the corner — it’s very likely to be somewhere else.”

António Coutinho

“The best lab for the type of research you’re doing is normally not around the corner — it’s very likely to be somewhere else.”

António Coutinho

Quirin Schiermeier is Nature’s German correspondent.