Research, internationalization and the UK

Back in July, I attended the Euroscience Open Forum (ESOF), a biennial behemoth of a conference which moves around Europe. In 2014, Denmark will become the sixth country to host the event – an honour yet to be bestowed on the UK. This is perhaps a poor example (the inaugural conference was only held in 2004), but is it indicative of something wider? It did seem as though the number of UK delegates and speakers was lower than of Italy, France and our other major European neighbours, despite Dublin playing host on this occasion.

Perhaps we are busy playing our role in building a 'scientific Europe' in other ways. The UK is certainly successful when it comes to leveraging EU funding, with UK universities receiving more than any other nation's academy from the EU's Seventh Framework Programme (FP7) between 2007 and 2010. However, despite the €1.7 billion windfall during this period – in which more grant agreements were made with the University of Cambridge, Imperial College London and the University of Oxford than any other European university – the UK government has called for cuts to the budget for FP7's successor, Horizon 2020.

Open for business?

It sometimes seems as though the UK is unsure of what it wants from the international scientific arena. During the Olympics, I noticed a steady stream of press releases from the Department for Business, Innovation and Skills (BIS) touting the huge levels of inward investment being brought in. Off the back of the greatest festival of international relations on the planet, it was unsurprising that the Government wanted to emphasize the economic benefits of being in the global spotlight. But when it comes to the international movement of people, the Government is much more guarded, which leads to a lack of policy clarity. The consequence of this is that, although we are still a major player internationally, the UK does not always appear 'open for business', to borrow that much-used phrase. Even with concessions to the mobility and skills of scientists, promising to slash net migration is not conducive to looking welcoming – despite David Willetts, Minister for Universities and Science, continuing to make noises about the need to disaggregate student data from migration statistics. As Professor Athene Donald has written on her excellent blog, "the battle is with the Home Office.'

Compounding this problem are isolated moments of policy and PR meltdown, such as the debacle over London Metropolitan University (LMU) losing its 'highly trusted' status for sponsoring international students from the UK Border Agency. Not only were LMU told they were not allowed to take on new international students, but that those mid-study – including PhD students – would also have to find new institutions by Christmas, whether their visas were legitimate or not. At the time of writing, the appeal against this is ongoing, with the saga being described by The Economist as "xenophobic opportunism" by the Government. LMU may be just one university – one of over 20 in Greater London alone – but the impact of headlines in India, China and elsewhere should not be underestimated, and it is not just prospective students who will be disenfranchised.

"One of the UK's greatest assets"

The UK is still renowned as a key destination for international researchers wanting to increase their standing in the academic community, which is not surprising given the excellent reputation of our higher education and research institutes. We are fortunate that science actually did well out of the last clarifications of immigration policy, including particular concessions regarding the employment of highly skilled individuals holding PhDs'.
It is widely acknowledged that the UK punches above its weight in terms of scientific output (at least when traditional metrics, such as number of papers published and number of citations generated, are applied against GDP and research investment). This may also be one of the reasons outward mobility rates among researchers from the UK are not high, despite an increasing emphasis on international collaborations and that researchers who undertake extended working periods abroad publish more articles than those who do not leave the UK. On the other hand, it could also be that the research culture in the UK is a more inward-looking than it is abroad. However, with science as "one of the UK’s greatest assets", in the words of Lloyd Anderson (former Director of Science at the British Council) – who joined us for one of our Policy Lunchbox events in 2011 – surely we need to make our presence felt?

**International relations**

The rise of Brazil, India, and others means that the UK cannot afford to be complacent or reticent in embracing global science. Research output is becoming spread more widely across the globe, and we need to make sure that we use our excellent research base to remain a centre for activity. This means working as part of international teams, increasing the impact of UK research and maintaining our excellent reputation (for research, if not for mobility). As we enter 2013, the Biochemical Society is entering a new era of international collaboration in order to strengthen our ties with emerging regions. You can read about these in **Box 1** and elsewhere in this issue.

**How to be mobile**

In our recent survey of postdoctoral researchers, only two of the 32 responders to a question on what online resources they used mentioned Euraxess, despite the UK website – which is funded by BIS and managed by the British Council – being promoted as the key information portal for international and UK research staff looking to come to the UK or find positions abroad. Is the problem – among younger researchers at least – a lack of awareness? A web-chat hosted by the Guardian Higher Education Network in September, which explored researcher mobility initiatives seemed to draw the same conclusions, although it did also prove to be a very useful source of information. For example, among the schemes highlighted were the European Commission (EC) Marie Curie Actions, whose fellowships provide funding for mobility and training for researchers at all career stages. One of the conduits through which information about the Actions can be found is the UK Research Office (UKRO), the European office of the UK Research Councils. The UKRO aims to help UK researchers engage in European research, which will be key in the efforts to make the ‘open labour market for researchers’ – the European Research Area – a success. They are also the contact point for the European Research Council, which accounts for 15% of the FP7 budget. For exchanges with the USA, the Fulbright Commission makes awards for studying, lecturing and research. I also read that branch campuses of UK universities abroad are also starting to look more closely at research, which could provide a simpler way of gaining international experience in a more familiar environment. **Box 2** contains information and links to some of the other available schemes that facilitate international research and exchange.

**Mutual benefits**

"British HE – you may kick it, you may hate it, but, by God, it brings in the best and the brightest from around the world to their, and our, benefit."


‘DrzBa’ makes a good point: attracting international talent is beneficial not only to the UK, as many researchers return to their host countries (or elsewhere) with new skills and new perspectives. Furthermore, the benefit to the UK does not end when this occurs, as the many UK-trained scientists abroad then assist in the building of international collaborative networks and the spreading of British ‘soft power’. The Royal Society’s ‘Knowledge, Networks and Nations: Global Scientific Collaboration in the 21st Century’ report showed a correlation between

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**Box 1: Global activities at the Biochemical Society**

During the last 12 months, the Biochemical Society has continued to strengthen links across the globe. Of the Society’s 6000 members, 27% are from overseas and we now have Local Ambassadors representing the Society in two universities in Australia, as well as in Canada, Europe and Africa. International Associate Membership Agreements are in place with our counterpart societies in Australia and New Zealand, and we hope that similar agreements can be formed with Brazil and China in the near future. The main aim of these agreements is to enable further collaboration between scientists in partnering countries and to support the attendance of members at our respective conferences.

The Society and Portland Press have a strong presence at international events, as well as organizing a number of our own events overseas. The Biochemical Journal has Editorial Offices in the USA (La Jolla, CA) and China (Beijing), which continue to support the development of the Society’s flagship journal overseas. In March 2013, the Journal will be hosting a one-day symposium, entitled ‘Cellular Processes: the Life and Death Decisions of a Cell’ at Tsinghua University in Beijing. The programme will feature speakers from the Journal’s internationally renowned Editorial Board and eminent guest speakers from local institutes. The symposium will celebrate the growth of research in the biosciences in China, and key opinion makers from the Biochemical Society will be present to meet with counterparts from societies in China, with a view to building on important and mutually beneficial connections.
citations per article and the number of collaborating countries, indicating a real benefit to such networks beyond increasing the number of professional connections individuals may have. This is before we consider the rise of emerging nations in research, including India and China, in which Research Councils UK maintains offices.

Science has always been global, but now funding is too, and we need to play an important participatory role in the international flow of knowledge and people to tackle global challenges as well as curiosity-driven research. The UK Government recognizes this and funds a Science and Innovation Network of officers through BIS and the Foreign and Commonwealth Office, operating in 25 countries to engage with the local science and innovation community, and promote UK scientific expertise internationally. The USA and France are among two other countries engaged in similar efforts.

In summary, it is not enough for the UK to rely on its strengths in research and training without getting out there ourselves. As we move towards a new age of collaborative and networked science, we must show that we are embracing the imperative for science to be truly global. That’s what we and many others are trying to do, and you can be too.

Box 2: Funding for international research and exchange

Of those not already mentioned in the article, here are some of the specific schemes:

- BBSRC. There are number of BBSRC international funding schemes, two of which have rolling deadlines (the Brazil Scheme and the International Scientific Interchange Scheme, which funds collaboration with any country) and aid the preparation of relationships ahead of applications to larger funding calls, of which the Partnering Awards (currently offered with Japan, China, India, Brazil and the USA) are the flagship. www.bbsrc.ac.uk/funding/internationalfunding/international-funding-index.aspx
- Royal Society. There are three main schemes offered by the Royal Society. The International Exchanges Scheme is for scientists based in the UK who want to undertake a collaboration with scientists overseas, through either a one-off visit or bilateral travel. The Royal Society–DFID Africa Capacity Building Initiative is for scientists who want to develop collaborative research consortia between scientists in sub-Saharan Africa and a research institution in the UK. The Leverhulme–Royal Society Africa Award scheme is for scientists who want to develop a collaborative research project between the UK and research institutions in either Ghana or Tanzania. http://royalsociety.org/grants/schemes/international-exchanges/, http://royalsociety.org/grants/schemes/africa-capacity-building/, http://royalsociety.org/grants/schemes/leverhulme-africa/
- British Council. The British Council runs five schemes to facilitate research partnerships. You can find details of INSPIRE, BIRAX, KORANET, UKIERI and Opening Doors on their website, www.britishcouncil.org/science-research-and-collaboration-research-links.htm

This is not an exhaustive list and further opportunities can be found via the following directories:

- ACCESS4EU. The ACCESS4EU Research, Technology Development and Innovation database provides information about funding for programmes in Australia, Brazil, Canada, China, India, Mexico, New Zealand, Russia, South Africa, South Korea and the USA. www.access4.eu/
- Research Professional funding opportunities database. This resource is subscription only (but many UK institutions will subscribe) and is one of the services provided by the group that also publishes Research Fortnight. www.researchprofessional.com
- Bioscience Careers: Career Resources. This comprehensive compendium of resources contains links for finding jobs and funding, as well as how to make strong applications. www.biosciencecareers.org/p/career-resources.html

References

3. www.economist.com/node/21562203
5. International Comparative Performance of the UK and Commonwealth Office, operating in 25 countries to engage with the local science and innovation community, and promote UK scientific expertise internationally. The USA and France are among two other countries engaged in similar efforts.

In summary, it is not enough for the UK to rely on its strengths in research and training without getting out there ourselves. As we move towards a new age of collaborative and networked science, we must show that we are embracing the imperative for science to be truly global. That’s what we and many others are trying to do, and you can be too.