

HUBS Winter Meeting 2011

Biosciences in the UK: Challenges & Opportunities

November 10th 2011, Charles Darwin House, London

Organised by Prof. Peter Heathcote, Queen Mary University London, Beck Smith, Biochemical Society and Dr Eva Sharpe, Society of Biology.

Agenda

10.00 – 10.30 Registration and tea and coffee

MORNING SESSION

10.30 – 11.10 **Professor Robert Freedman**

Chair of the Society of Biology Education, Training and Policy Committee

11.10 – 11.50 **Dr Steven Hill**

Head of the Strategy Unit at Research Councils UK

12.00 – 12.30 **Professor Douglas Kell**

Chief Executive of the Biotechnology and Biological Sciences Research Council

12.30 – 13.30 Lunch

AFTERNOON SESSION

13.30 – 14.10 **Professor Ole Petersen**

Director of the Cardiff University School of Biosciences
Chair of the Biological Sciences REF Sub-panel

14.10 – 14.50 **Professor Stephen Curry**

Professor of Structural Biology at Imperial College

14.50 – 15.30 **Discussion Session**

Feedback for meeting with David Willetts MP

15.30 – 16.00 Meeting Close and Tea and Coffee

Prof. Robert Freedman

Chair of the Society of Biology Education, Training and Policy Committee

[How can the Society of Biology and HUBS work together?](#)

Prof. Freedman described the history of the Society of Biology, the previous involvement of HUBS as a Member Organisation of the Society and the Biosciences Federation, and its new involvement as a Special Interest Group (SIG). SIGs are autonomous groups within the Society, but benefit from the resources available from the Society, and support and standing of being part of a larger organisation.

Since its formation in 2009, the Society of Biology has had many achievements in policy and education. Policy achievements include setting up a series of SIGs, responding to a wide variety of consultations, working with the Institute of Physics and Royal Society of Chemistry on joint issues, and a series of meetings with Chief Scientific Advisers. Education achievements include promoting the importance of practical biology in schools, developing a programme of accreditation of UK bioscience degrees, promoting the professionalisation of the discipline through work on Continuing Professional Development and Chartered and Registered Status.

The formation of HUBS as a SIG provides opportunities for HUBS and the Society to work together for mutual benefit: HUBS can feed into the work of the Society through HUBS representation on the Society's Education, Training and Policy Committee (currently Prof Peter Heathcote) as well as acting as a source of expert opinion for the Society's policy work. HUBS should be taking a proactive role in identifying HE priorities for the Society.

The biggest challenges for the group are how to have maximum impact with limited resource, work in partnership with other organisations, make sure there is clarity of message and keep the biosciences on the agenda.

Group discussion

- The group discussed the Society of Biology's Degree Accreditation Programme. Discussions focused on the accreditation criteria which are not prescriptive about course content, but focus on outcomes and skills of graduates, and how the Society had chosen Biochemistry as a starting point for the pilot rather than a broad approach across the biosciences to allow a focused beginning to test the processes involved. The Society has carried out a recent consultation on the future of accreditation and will announce plans for expansion following a successful outcome from the pilot.
- Delegates asked whether the Society of Biology was working with the Royal Society of Chemistry to address the changes in the UK pharmaceutical industry landscape. Post meeting note: The Society of Biology, Royal Society of Chemistry and British Pharmaceutical Society have established a new working group to raise issues of support for the strategic research phase of drug development.

Dr Steven Hill

Head of the Strategy Unit at Research Councils UK (RCUK)

[RCUK Strategy 2011-14](#)

Dr Hill described the effects of the 2010 Comprehensive Spending Review on Research Council (RC) funding. The total RC budget was fixed and ring fenced (equating to a 10% real term decrease), but capital funding was cut by 44%. There was a 15% reduction in RC admin costs, and the Wakeham Review of full economic costing proposed 6-7% savings to be made and reinvested during the period to offset inflation. There will be little change in the ratio of funding between the RCs over the next four years, although there will be a slight increase in the proportion of MRC funding due to the real term protection of the MRC budget.

To improve efficiency, RCUK will fund research at 80% of full economic costs, implement changes proposed in the Wakeham Review, share equipment and facilities and reinvest any savings within the ring fenced budget.

There is a low success rate for applications for RCUK funding (16-26%). Demand management principles suggest decreasing the number of applications would make the system more efficient. An Economic and Social Research Council (ESRC) consultation found that most respondents favoured researcher sanctions as a method to implement this and this has been incorporated into ESRC policy where repeatedly unsuccessful applicants are banned from applying for further grants.

Strategic priorities for RCUK are: to address societal challenges, to promote impact, innovation and growth and to promote an efficient and effective research base. RCUK fund cross council research initiatives to promote a productive economy, healthy society, and sustainable world. The policy of the RCs is to “support excellent research as identified by peer review”. This results in the concentration of RCUK funding, more so than QR funding.

Two recent reports^{1,2} have been published on the performance of the UK research base. The UK is strong with a low level of investment by international standards, making us the most productive research base in the world. However, we are 5th in the EU for innovation and have less collaborations between firms and HE than many other countries.

The RCUK has an open data policy³, a concordat for public engagement⁴ and a strategy on RCUK presence in the US, China and India will be published shortly.

¹ Global Research Reports Great Britain, Thomson Reuters (2011)
<http://researchanalytics.thomsonreuters.com/grr/>

² International Comparative Performance of the UK Research Base – Department of Business, Innovation and Skills

³ RCUK Common Principles on data policy www.rcuk.ac.uk/research/Pages/DataPolicy.aspx

⁴ Concordat for Engaging the Public with Research www.rcuk.ac.uk/per/Pages/Concordat.aspx

Group discussion

- Delegates discussed open access publishing, how to meet the costs, gold-standards in this area and the different approaches of the different RCs.
- Translational research was discussed, particularly how business and universities can work together to encourage innovation in Research and Development. Mechanisms around Intellectual Property needed to be improved to facilitate this.

Prof. Doug Kell

Chief Executive of the BBSRC

Opportunities and Challenges for the biosciences in the UK

During 2011/12-14/15, the BBSRC will receive £1.6 bn of public funding from the Department for Business, Innovation and Skills. The CSR resulted in a the 40% cut to capital funding, a 20% decrease in admin costs and 3% cut to programme costs.

The BBSRC delivery plan 2011-15⁵ includes: the BBSRC vision for world class bioscience; three BBSRC priorities of food security, bioenergy and bioindustry, and basic bioscience underpinning health; and three enabling themes: knowledge exchange, innovation and skills, new ways of working, and partnerships. Themes throughout the strategy are maximising Impact, public dialogue and partnerships. The BBSRC promotes a joined up approach of collaboration rather than competition, both between HEIs, and between HEIs and industry. Efficiencies need to be made to ensure future sustainability and competitiveness of UK research.

The BBSRC had decreased overall capital but £70m is going to BBSRC campuses and £145m for e-infrastructure, although there is less request for capital from the BBSRC. In the future capital over £10,000 will be half funded by the BBSRC, and for capital over £121,000 it will have to go to committee for decisions. More expensive resources will have to be shared, although this has issues such as development of asset registers, feasibility of sharing beyond institutions and retention of skilled people.

Current projected research grant commitment for 2011-12) is that the BBSRC will fund £160M per annum across three grant rounds. Currently there is a 24% success rate for BBSRC funding applications and demand management is needed to maintain reasonable success rates.

Doctoral Training Partnerships will be announced in January. The vision is to provide excellent postgraduate training delivered through a number of key partnerships. The total number of BBSRC funded studentships will decrease but the quality of training will increase with a move to four year studentships.

The BBSRC Strategic Plan supports Advanced Training Partnerships – partnerships between public and private partners to support the uptake of industry relevant research to help businesses in key sectors increase innovation. Four partnerships have been funded approximately £12 m over the next five years.

⁵ BBSRC Delivery Plan 2011- 15 www.bbsrc.ac.uk/publications/planning/bbsrc-delivery-plan.aspx

There are many opportunities for the biosciences over the next five years. There has been an increased recognition that a combinatorial approach to big problems works best, using different levels of biology such as molecular, cellular and organismal biology. Massive advances are being made through new approaches using engineering and digital science, and technology is getting faster and cheaper.

Questions remaining for the biosciences include where the field should go in the coming years, how the role of informatics will develop, whether we can address the numeracy skills issues in UK bioscience graduates, and how higher education fees will impact on postgraduate student numbers.

Group discussion

- Delegates discussed the BBSRC's strategy to fund less PhD studentships, but to provide more funding per student, resulting in better training.
- The group discussed postgraduate funding, the consequences of a total market failure, and whether the BBSRC may fund taught Masters students in the future.

Prof. Ole Peterson

Chair of the Bioscience REF Panel

REF2014 and the biosciences

Prof Peterson discussed the development on the Research Excellence Framework (REF) criteria. Some sections of the assessment criteria are finalised whereas some were still at draft stage, and open to discussion.

There was some discussion around the criterion of significant author as defined by UoA 14 in the last RAE in 2008, and this requirement may be changed. Research indicators should only inform peer review panels, citations will not be the dominating feature of assessment.

Impact will be taken as a broad term and the panels will welcome case studies that show benefit to health, society, culture, public policy, the environment, international development, and quality of life (not an exhaustive list). The case studies will be useful to show the Government positive examples of research and will be a good opportunity for new institutions to highlight themselves and their research.

The research environment is more straightforward and has less emphasis on grant income than the 2008 Research Assessment Exercise (RAE).

Group discussion

- Delegates discussed how REF panel members would read the volume of papers involved in the assessments. In 2008 two panel members looked at each paper, and papers will be read to the extent necessary, focusing on figures and conclusions.

- Delegates expressed concern about how the environmental section will be judged. Additional positives such as institutions supporting open access can be included in this section.
- Delegates discussed cases where impact would be partly developed and that although this couldn't be formally taken into account, may play an unofficial role if future impact is apparent.
- Delegates discussed co-authored papers and how contribution will be judged from the statement. A tick box approach could work where authors declared if there were Principal Investigator, first author, wrote the paper, generated reagents etc.

Prof. Stephen Curry

Professor of Structural Biochemistry, Imperial College London

[What is the impact of REF?](#)

The UK has 1% of the world's scientists, produces 8% of the world's research papers and produces over 14% of the most highly cited research. Our main challenge is innovation in science. There has been some public misunderstanding of statistics surrounding research excellence, and subsequent reports and blogs on how to measure and assess impact, with many vocal speakers both for and against.

Scientists have a duty of responsibility; impact measurement is problematic but that is not an excuse for inaction. We need to understand the views of the Government and the public about science and we need to be instructive; the success of the science is vital campaign shows the benefits of this approach. The impact component of the REF may cause a positive culture change for scientists.

There is much confusion over how the panels will measure impact. Scientists have many questions such as does impact equate to money? How will panels rate submissions? Will the nature of evidence perturb the assessments? We need to take this chance to take challenge and set the agenda by engaging with the REF Panels, the Research Councils and beyond and remember that we are all on the same side.

Group discussion

- The Science is Vital campaign was influential; businesses should also be encouraged to influence the Government as the Treasury listens to the business community. Scientists should encourage industry contacts from the bioscience community to get involved.
- Impact statements are an important part of the REF and have weight as well as impact cases, allowing scientists to explain how they are trying to have impact through their work even if they have not achieved it yet.
- Delegates questioned whether money will be the main marker for impact. If a company changes working practices as a result of research, how can that be referenced? Example from the pilot will be useful.
- It gives a bad message if the community downplay the impact assessment before they have tried to engage with it. Impact is already embedded in the community and a large culture

change isn't necessary. It is an opportunity and we should try to engage with it. The results of the REF pilot showed that it was not as difficult as people expected.

Attendees

Name	Affiliation
Prof Douglas Kell	BBSRC
Mr James Lush	Biochemical Society
Prof Ole Petersen	Cardiff University
Prof Patrick Hussey	Durham University
Prof Stephen Curry	Imperial College London
Prof Tim Blackburn	Institute of Zoology, ZSL
Dr Alan Seddon	Kingston University
Prof Richard Brown	Liverpool John Moores University
Prof Christopher Branford-White	London Metropolitan University
Prof Ellen Billett	Nottingham Trent University
Dr Sandra Kirk	Nottingham Trent University
Prof David Evans	Oxford Brookes University
Prof Peter Heathcote	Queen Mary University of London
Prof Conrad Mullineaux	Queen Mary University of London
Dr Steven Hill	Research Councils UK
Prof Anne Robertson	Roehampton University
Dr Tom Smith	Sheffield Hallam University
Dr Eva Sharpe	Society of Biology
Dr Hilary MacQueen	The Open University
Dr Rosa Hoekstra	The Open University
Prof Judith Smith	University of Salford
Prof Xavier Lambin	University of Aberdeen
Prof David Coates	University of Dundee
Dr Areles Molleman	University of Hertfordshire
Prof Mick Tuite	University of Kent
Prof Martin Warren	University of Kent
Prof Darren Griffin	University of Kent
Prof Andrew Cossins	University of Liverpool
Prof Cay Kielty	University of Manchester

Prof Simon Langley-Evans	University of Nottingham
Dr Mark Fellowes	University of Reading
Prof Andrew Fleming	University of Sheffield
Prof Garry Taylor	University of St Andrews
Prof Robert Freedman	University of Warwick
Dr Peter Spencer-Phillips	University of the West of England
Prof Sabbir Ahmed	University of the West of Scotland
Dr Peter Watkins	University of Wales: Institute of Cardiff
Prof Jane Lewis	University of Westminster