

ACADEMIC ASSEMBLY 2015

In this week of all weeks – with the Election Day looming – I hardly need to emphasise the uncertainties that surround universities currently.

The consistent success of our University in both teaching and research in the last few years means that we can face whatever the future brings with some degree of confidence. However, we will need to plot our course very carefully.

Today, I want to focus on research and the path that we can take.

Where are we now?

Our strong performance in the recent Research Excellent Framework 2014 has helped us in both reputational and financial terms.

87 per cent of our research was judged to be world-leading or internationally excellent (up from 60 per cent in 2008 and above the REF national average of 76 per cent). In terms of impact case studies, an exceptional 96 per cent was judged to be 4* (Outstanding) or 3* (Very considerable) and demonstrated the strength and breadth of our collaborations with companies, government departments and policymakers.

The University was joint 12th on Grade Point Average (GPA), excluding specialist institutions, with 6 of our 13 submissions in the top 10 and 11 in the top 20 in their Units of Assessment. This puts us firmly in the middle of the Russell Group universities in terms of GPA.

We cannot, however, currently compete in terms of research power. (This is calculated by multiplying the institution's overall rounded GPA by the exact total number of full-time equivalent staff it submitted to the REF and is an attempt to combine volume and quality. Using this measure, the Russell Group universities are ranked between 1 and 28. We are ranked at number 35. We do not fare as well as we should on research intensity either (an index of number of researchers

submitted to REF relative to the total number employed in the university by quality rating).

Already, other measures of research success in addition to the straightforward quality assessment are being included in league tables (e.g. Complete University Guide, 2015).

We need to be thinking about both power and intensity now.

We need to grow our critical mass.

The question is – how, in this economic climate?

One way is through collaboration. Collaboration can result in scale, which results in funding, which results in impact. Sometimes, of course, the sequencing of those four ingredients differs!

Very significant examples of how this works come from the very large research institutes that are now being established.

The Francis Crick Institute is one example. It is as an interdisciplinary medical research institute and a consortium of six of the UK's most successful scientific and academic organisations (the Medical Research Council, Cancer Research UK, the Wellcome Trust, University College London, Imperial College London and King's College London) and received an allocation of £30 million in the recent Budget.

As part of the GW4 Alliance, we are working with the universities of Bristol, Cardiff and Exeter. GW4 provides us with critical mass and puts us in a better position to compete in the research arena against major players. It gives us a more powerful voice with which to influence policy makers, greater leverage in funding terms (particularly where funding is targeted at multi-disciplinary and collaborative projects) and greater opportunity to be internationally competitive. We are hopeful that the findings of the Nurse Review of Research Councils will further encourage collaboration across disciplines, institutions and between countries.

Within the University, we have made some strides in promoting a multi-disciplinary approach to our research. To optimise this activity, we do need an appropriate organisational structure. This allows us to achieve greater

visibility for our research and enhance the clarity of the messaging it produces. We are ready to innovate to create the right structures. The institutes now being developed illustrate this.

The University's Institute for Policy Research (IPR), established in 2013, now directed by Prof Hugh Lauder and Chaired by Lord Eatwell, brings together many of the University's strengths to foster research of international excellence and impact. It bridges the worlds of research, policy and professional practice to enable us to address some of the major policy challenges we face on a local, national and global scale.

Following the model of the IPR, Council approved (on 26 February 2015) the establishment of a second multi-disciplinary institute. Led by Profs Tony Dooley and Jonathan Dawes, the Bath Institute for Mathematical Innovation (BIMI) will work to support projects across the University in the area of data science and will give us a distinctive presence in this area. The ability to understand vast data sets and use them to advantage will be crucial to the future. The use of mathematical models to achieve this will mean that the work undertaken by the new Institute will be of tremendous commercial value.

Collaboration and structure take us some way on the path to greater critical mass but they cannot take us the whole way.

We need a greater volume of research income (from whatever source) in order to bring researchers here and to provide them with the environment (labs or whatever) conducive to their work. We need large, long term projects that will bring researchers who can then through their own efforts build their research here. It is very notable how many individuals who come here as research fellows go on to win other prestigious fellowships (Wolfson, Royal Society, Royal Academy of Engineering, etc.) for themselves and built their own teams.

We have had some major successes in terms of research awards in recent months, a number of which involve interdisciplinary working. A few examples are as follows:

- Darren Cosker and others (Comp Sci & Health) - £4 million funding (full cost = £5 million) - Centre for the Analysis of Motion, Entertainment, Research & Applications (CAMERA)
- Janet Scott & Phil Willis (Chemistry & Comp Sci) – €2 million (Fellowships for Industrial Research Enhancement)
- Dr Philip Shields (Electronic and Electrical Engineering) – just over £1million (Manufacturing Nano-engineered Semiconductors)
- Professor Tina Düren and Dr Darrell Patterson (Department of Chemical Engineering) - grants worth over £3 million (research in metal-organic frameworks and membrane reactors).
- Dr John Orr (ACE) - prestigious five-year, £1.2 million EPSRC Early Career Fellowship (Concrete modelling using random elements).
- Prof Lawrence Hurst (Biology and Biochemistry) – ERC Senior Research Fellowship for five years £1.8m. I should like to add my congratulations to Prof Hurst who was elected a fellow of the Royal Society last week.

These projects are all absolutely the sort of thing we should be trying to do. It is vital for us now to accelerate this process.

The traditional way to grow the academic base has been to grow income via student numbers. We have been doing this. Typically there has been a lag between student number growth and staff growth but they have been tracking each other.

In one sense, we are currently in a strong position to grow UG student numbers. Applications for our undergraduate places increased by 14% last year. This year, the picture is even better. 27,475 applications were received by the January

deadline, representing an increase of 15.9% (against a national increase of only 2.3%). We have increased the overall undergraduate population by 539 students in the last year (due to an increased intake but also the pipeline filling effects of the increases in previous years). However, continuing to grow UG numbers may not be sensible – leave aside the vagaries of government funding policy and the possibility of renewed capping of numbers for one moment – we have a limited capacity on campus if we wish to maintain the quality of student experience that results in us being number 1 in the league tables of student satisfaction. Growth through tuition fee funding seems to offer some but limited possibilities.

Looking more closely at how we organise teaching and learning in order to maintain the student experience and optimise the time available for research does seem to be necessary. The consultation on the shape of the academic year, undertaken by Prof Morley recently, has suggested that there are some improvements we could make and that work will continue under the working group he is chairing.

The route to growth does not seem to lie through PGT activity. Postgraduate taught student numbers have been challenging to maintain in the current climate. However, we may be hopeful that the Postgraduate Support Scheme, announced in December 2014, will remove one key barrier for potential students. The scheme will provide individual scholarships of £5,000 to contribute to the costs of study in any subject but the funding has to be matched by institutions. We have been allocated 97 awards for 2015/16. On the whole, we should do more to grow our PGT base. The recruitment is currently focussed in too few areas. I have been heartened to see that some departments are seriously trying to grow their PGT activity.

In fact, PGR numbers have been relatively static over the last few years and we also need to do more in this area. Being a centre of excellence for the development of postgraduate, post-doctoral and early career researchers is a key aspect of our research strategy. The 8th March Budget proposed a systems of loans of up to £25,000 for postgraduate research students (at PhD and research Masters level). This would be an extremely welcome step and we hope that the future

government will be able to implement such a scheme. Meanwhile, the University of Bath has Research Council funding for 13 doctoral training centres and we will be contributing around £2 million per annum in studentships over the next four years from University reserves. 157 doctoral students are currently involved, with 65 new students expected each year going forward. We are involved in collaborations with 17 other institutions as part of these centres. While the doctoral training centres are of tremendous importance, it is worth emphasising that they may tend to act as a substitute for rather than as an addition to previously ongoing activity. We will need not to let that happen.

Again, we need to be looking at how we organise our efforts in PGR provision both to enhance the experience of our students and to optimise their impact on our research critical mass. This will be a task for the incoming PVC (R).

Closing Comments

Higher Education is becoming increasingly competitive and we need to maintain our place in the league tables in order to continue to attract the best staff and students. We also need to ensure that our education and research has a global impact in order to raise our international profile. You all have an important part to play in ensuring that our success continues. In research terms, we need to increase the number of 4* publications and also respond to the challenge of increasing the scale of our projects and our international recognition. I know, it is simple to say; hard to do. Yet we have achieved a great deal, and, while we should not underestimate the scale of the task ahead of us, I suspect we are up to it.

GMB

May 4th 2015