

# Plenary 2

**Professor Nick Petford, BSc, MA, PhD, FGS, FRAS**  
**University Alliance**  
**Pro-Vice Chancellor Research and Enterprise, University of Bournemouth**

## Abstract

Future policy on research concentration has seemed a little uncertain since the Research Assessment Exercise (RAE) 2008 results demonstrated that peaks of world-leading research excellence were distributed more widely than had been anticipated. In fact, the UK already has one of the most highly selective research funding methods in the world – in 2009/10, four institutions received 32% of QR funding and 25 received around 75%.

There is clear evidence to demonstrate that it is a policy of selectivity, funding research based on quality, not concentration that has driven up the quality of UK research since the introduction of the RAE. Selectivity has resulted in concentration of research funding where quality exists. This is fully supported by University Alliance.

Equally, there is no evidence which suggests that a policy of funding critical mass would be beneficial as there is no direct interconnection between volume and excellence outside some of the physical sciences. Even in the small number of science-based disciplines where there is a correlation between volume and quality, there is no identifiable 'threshold' or 'critical mass' - volume is evidently not the only factor, the increasing capacity for both interdisciplinary and international collaboration can redefine what counts as critical mass.

Nick will use his talk to demonstrate these points based on the evidence outlined in the University Alliance publication *Concentration and diversity: understanding the relationship between excellence, concentration and critical mass in UK research*, published at the end of 2009.

## Biography

Nick joined Bournemouth University as Pro-Vice Chancellor for Research and Enterprise in 2006.

He is widely known for his expertise in magmatic systems and volcanology, and his research work embraces field investigations and mathematical modelling in the flow of molten rock, or magma slurries, on earth and other planets, and the mechanical stability of volcanoes. He is currently working with colleagues at NASA on the physics of ice magma. He is a former Royal Society University Research Fellow and Fellow of Churchill College, Cambridge, as well as a highly cited author having published over 60 peer review papers and over 200 conference abstracts, book reviews and other articles. Most recently he has begun research work on the fluid dynamics of blood flow and 3D structure of drainage apparatus in the human eye with colleagues in the Centre of

Postgraduate Medical Research and Education (CoPMRE) at Bournemouth.

Nick has been actively involved in the work of University Alliance relating to research policy and particularly their publication *Concentration and diversity: understanding the relationship between excellence, concentration and critical mass in UK research*, which was published at the end of 2009. University Alliance represents 22 major, dynamic, business-like universities at the heart of the sector that deliver world-leading research with impact and are actively business-focused. Alliance universities educate over 27% of all UK students and achieve some of the highest graduate-level employment rates. These universities offer a research informed, academic learning environment and a culture of entrepreneurialism, equipping graduates for the 21st century.

**Professor Dame Nancy Rothwell, BSc, PhD, DSc, FMedSci, FRS  
Acting President and Vice Chancellor, University of Manchester**

**Abstract**

Research excellence is the goal of any research active University. Otherwise why bother to do research? An argument against this could of course be that it needs to feed in to teaching, but the link between research and teaching is a subject of great debate. Indeed with the review of student fees, likely harsh cuts in public spending and ever increasing pressures on universities, it is probably timely for a radical review of the UK HE sector - of who it serves, what it does and how it is funded - but most controversially, whether we need greater differentiation in the sector.

Assuming that we accept the importance of conducting internationally excellent research, at whatever scale, this raises questions of how we measure it locally and nationally, how we fund it and deal with external economic pressures. The Research Assessment Exercise (RAE) has had much value and much criticism, in its execution and funding, but is being emulated in many other countries. The change in funding after 2008 has proven controversial. Perhaps not because of its admirable approach of "funding of research excellence wherever it is found", but rather because this led to level funding or cuts to excellent units, even when they had improved significantly. The Research Excellence Framework (REF) is now under debate and raises the key issue of "impact".

These issues will all be discussed, together with the Manchester research profiling exercise - a university-wide RAE/REF exercise.

**Biography**

Nancy obtained a first class degree in physiology in 1976, a PhD in 1978 and a DSc in 1987 from the University of London. Her early research identified mechanisms of energy balance regulation, obesity and cachexia. In 1984 she was awarded a Royal Society Research Fellowship and relocated to Manchester in 1987. Nancy was awarded a Chair in physiology in 1994, then a prestigious Medical Research Council Research Chair in 1998. Her scientific studies focus on the role of inflammation in brain disease and have identified the role of the cytokine interleukin-1 (IL-1) in diverse forms of brain injury. Her recent studies have begun to elucidate the mechanisms regulating IL-1 release and its action, and her group has conducted the first early clinical trial of an IL-1 inhibitor in stroke. She has recently served as president of the British Neuroscience Association, a council member of MRC, BBSRC and Cancer Research UK.

Nancy is currently Acting President and Vice-Chancellor at the University of Manchester. She is a member of the Royal Society Council, Vice President of the Royal Society, Chair of the Royal Society Education Committee, President of the Society of Biology and a non-executive director of AstraZeneca. In 2003 she won the prestigious Pfizer Research Prize, in 2004 was elected a Fellow of the Royal Society and in 2005 was honoured with a DBE.

Nancy takes a strong and active interest in public communication of science and regularly gives talks to schools and the public and contributes to television, radio and press, particularly on sensitive issues in science. In 1998 she delivered the Royal Institution Christmas Lectures, televised by the BBC.



