



Vitae researcher development international conference 2011

5-6 September 2011,
Midland Hotel, Manchester

www.vitae.ac.uk/conference2011

Conference report

Media partner



Vitae is supported by Research Councils UK (RCUK), managed by CRAC: The Career Development Organisation and delivered in partnership with regional Hub host universities



CRAC



Vitae leads the implementation of The Concordat to support the Career Development of Researchers



The Concordat to Support the Career Development of Researchers sets out the expectations and responsibilities of researchers, their managers, employers and funders. It aims to increase the attractiveness and sustainability of research careers in the UK and to improve the quantity, quality and impact of research for the benefit of UK society and the economy.

Since the first of April 2011 Vitae has been responsible for leading the implementation of the following aspects of the Concordat principles:

- Supporting the Concordat Strategy and Executive Groups
- Leading the work programme, including managing the Careers in Research Online Survey (CROS) and the Principal Investigators and Research Leaders Survey (PIRLS), and producing a review of the impact of the Concordat three years after its launch
- Managing the process for the European Commission HR Excellence in Research recognition awards.

Vitae provides leadership and a single point of contact for both research staff career development and the wider Concordat agenda. Vitae also works with Universities UK and the research funders at the strategic level, to enhance the benefits of good management and career development of research staff to the UK research base, society and the economy.

www.researchconcordat.ac.uk



HR EXCELLENCE IN RESEARCH

A UK-wide process enables UK HEIs to gain the European Commission's HR Excellence in Research award, which acknowledges their alignment with the principles of the European Charter for Researchers and Code of Conduct for their Recruitment. The UK process incorporates both the QAA Code of Practice for Research Degree Programmes and the Concordat to Support the Career Development of Researchers to enable institutions that have published Concordat implementation plans to gain the HR Excellence in Research award. The UK approach includes ongoing national evaluation and benchmarking.

We are delighted to be able to announce at the Vitae conference the latest UK HEIs to receive the HR Excellence in Research award.

Contents

5-6 September 2011, Midland Hotel, Manchester

Executive Summary	page 2
Welcome and introduction	page 4
Dr Janet Metcalfe, Chair and Head, Vitae and Ellen Pearce, Director, Vitae	
Day one plenary presentations	page 6
■ The role of researchers in Europe's economic recovery strategy	
Stefaan Hermans, Head of Unit, European Commission, DG Research and Innovation	
■ Funding council strategies for training and developing world-class researchers	
Professor Paul Hagan, Director of Research and Innovation, Scottish Funding Council	
■ Research Council strategies for training and developing world-class researchers	
Dr Iain Cameron, Head of Research Careers and Diversity, RCUK Strategy Unit	
■ Strategies and practice: an institutional perspective	
Professor Pam Denicolo, former director of the Graduate School in Arts, Humanities and Social Sciences, University of Reading, on behalf of Professor Dianne Berry, Director of Postgraduate Research Studies & Researcher Development, University of Reading	
■ Driving innovation and economic growth: the role of researchers	
Dr Filomena La Porta, Head of UK R&D Partnerships, EDF Energy	
■ Latest developments: researchers' careers and the Vitae Researcher Development Framework	
Dr Janet Metcalfe, Chair and Head, Vitae	
Day two plenary presentations	page 14
■ Doctoral education: employer engagement, employability and impact	
Chair: Professor Andrew George, Director, Graduate School of Life Sciences and Medicine, Imperial College London	
■ Employing researchers: achieving the vision of the Concordat	
Chair: Dr Odette Dewhurst, Senior Research Training and Development Officer, University of Leeds, Chair, ReSDAG	
■ A vision for the future: the role of leadership in research careers in a global research environment	
Ewart Wooldridge, CBE, Chief Executive, Leadership Foundation for Higher Education	
■ Closing remarks	
Dr Janet Metcalfe	
Workshop outcomes	page 24
■ Theme 1 Building and sustaining and capacity in UK HEIs for researchers' professional development	
■ Theme 2 Demonstrating the value of researcher development on research outputs, researcher careers, economic prosperity and society	
■ Theme 3 Policy developments relating to doctoral education and employing researchers	
■ Theme 4 Sustainable practice to support researcher skills, professional and career development	
■ Theme 5 Issues in researcher development	

Executive summary

5-6 September 2011, Midland Hotel, Manchester

Executive summary

The fourth Vitae annual conference for all those with a strategic and practical role in developing researchers attracted almost 400 participants from over a hundred UK and international institutions and organisations.

The conference addressed four key themes:

- Policy developments relating to doctoral education and employing researchers
- Demonstrating the value of researcher development on research outputs, researcher careers, economic prosperity and society
- Building and sustaining institutional capacity for researchers' professional development
- Sustainable practice to support researcher skills, professional and career development

Keynote speakers illustrated the continuing strength of the policy drivers for changing cultures in higher education institutions (HEIs). Innovation Union, the Research Excellence Framework, Research Councils UK strategy and the Concordat to Support the Career Development of Researchers (the Concordat) all highlight the importance of talented researchers, well equipped to work across sectors and contributing value.

At the European level, Stefaan Hermans, Director of Skills at the European Commission, focused on the Europe 2020 strategy, and the critical role that researchers play in addressing the grand challenges facing modern society and assisting recovery from the economic crisis. He called for improving working conditions for researchers and borderless research systems within Europe. Praising the UK's commitment to attractive research careers, Stefaan announced the latest 15 UK institutions to gain the HR Excellence in Research Award, bringing the UK total to 38 HEIs.

Professor Paul Hagan, Director, Research and Innovation, Scottish Funding Council, said that implementation of the Concordat was central to funding council strategies for training and developing world-class researchers. He also outlined developments in the Research Excellence Framework to better address equality and diversity issues. It was essential for higher education institutions not only to continue to provide very high quality research training, but also to engage in closer partnerships with business and industry.

Dr Iain Cameron, Head of Research Careers and Diversity, Research Councils UK (RCUK), echoed the theme of researcher contribution to the industrial economy. He cited a forthcoming study for the Engineering and Physical Sciences Research Council which found that the majority of employers in research-intensive organisations actively targeted doctoral holders, and did so to raise the capability of the organisation. Outlining the results of an RCUK survey of HEIs on post-Roberts ring-fenced funding plans and strategies, he urged institutions to continue to evaluate the impact of researcher development in order to secure its institutional future.

Dr Filomena La Porta, Head of UK R&D Partnerships, EDF Energy, gave an industry perspective on the role of researchers in meeting strategic global challenges. Higher education partnerships are central to EDF's strategy for sourcing the best researchers, anywhere in the world. Only by working together can institutions and researchers develop an understanding of how an industry works and what their requirements are. Key means were work placement schemes and collaborative research projects.

Institutions in the UK remain committed to embedding career and professional development in the research experience and ensuring the good management of research staff. Professor Pam Denicolo, speaking on behalf of Professor Dianne Berry, provided an example of how one institution, the University of Reading, aimed to maintain the excellent progress achieved over the period of ring-fenced Roberts funding. Among several recommendations she called upon funders to ensure funding is linked to good practice and HEI adherence to the Concordat.

Dr Janet Metcalfe briefed participants about major new Vitae publications and resources to support the career development of researchers. These included the latest publication in the 'What do researchers do?' series¹, 'Career paths of doctoral graduates', which provides unprecedented insights into the flows of doctoral graduates within and between occupational clusters. Janet also outlined the range of materials now available in the Vitae Researcher Development Framework resource pack. The Researcher Development Framework is being widely adopted by UK institutions and used to support researchers in a variety of ways. Moreover, two international validation projects are underway, one in Europe funded by the European Science Foundation (ESF), and one in the USA.

Discussion panel sessions explored the themes of 'Doctoral Education: employer engagement, employability and impact' and 'Employing Researchers: achieving the vision of the Concordat'. Both sessions offered perspectives from the UK and elsewhere in Europe.

For example, Ulrike Kohl described how Luxembourg is working to embed the HR Excellence in Research Award and European Charter and Code².

Ewart Wooldridge, Chief Executive, Leadership Foundation for Higher Education, offered a vision for the future where successful leaders would find creative ways to combine opposing forces – competition and collaboration, private and public, fragmentation and whole-system. Giving energy, hope and inspiration is the most important leadership quality. Good leaders combine intellectual and emotional leadership.

¹ www.vitae.ac.uk/wdrd

² www.vitae.ac.uk/hrexcellencebadge

Executive summary

5-6 September 2011, Midland Hotel, Manchester

Leadership was a strong conference theme, particularly the perceptions of research leaders towards people management and development. Influencing research leaders will be facilitated most successfully where local and national drivers are working in concert to increase the perceived importance of people management responsibilities.

Given the changes in funding (both Roberts funding and HE funding more broadly) and the competitive environment, collaborations and economies of scale and new models of delivery aligned with institutional strategies were strong themes discussed at the conference, both in plenary and across the many workshop and special interest sessions.

The Careers in Research Online Survey (CROS) results reveal very positive progress in implementing the principles of the Concordat to Support the Career Development of Researchers. The new Principal Investigator and Research Leader Survey (PIRLS) highlights the importance of promotion criteria, workload and performance management which takes into account principal investigators' wider responsibilities of managing and developing research staff as well as delivering research outputs.

Employer engagement for doctoral researchers with a focus on work placements as a way of supporting people and knowledge exchange was explored, along with the presentation of survey data on the career development and careers of doctoral graduates from both the UK and Belgium.

The changes to undergraduate fees in the UK were highlighted, together with a growing consumer culture in higher education. Ensuring the supply of researchers into doctoral programmes was a theme, along with embedding a passion for research at undergraduate level.

'Investing in the best' and the focus on excellence at European and UK levels brings challenges in ensuring that the system as a whole remains vibrant and is able to support the profession of researcher as well as the research leaders of the future.

The full conference report details the plenary presentations, panel discussions and main workshop outcomes. Workshop slides and full workshop outcomes are available on the Vitae website www.vitae.ac.uk/conference2011

Welcome and introduction

5-6 September 2011, Midland Hotel, Manchester

Introduction

The annual Vitae Researcher Development Conference is the largest event bringing together all those with a strategic and practical role in developing researchers. The 2011 conference attracted almost 400 participants from 81 UK HEIs and 24 international organisations.

Research and innovation are key to economic growth, a productive economy, healthy society, and a sustainable world. To build international competitiveness through research, innovation and knowledge exchange, we need to ensure the pipeline, employability and impact of researchers.

The conference explored strategies and practice to enhance the professional development of doctoral researchers and research staff, both in the UK and internationally. New features of this year's conference were:

- an employer reception that explored the value of researchers to business with an elevator pitch competition enabling researchers to present their added value
- a dedicated research strand, reflecting the growing scholarly endeavour into researcher development. Papers will feature in a special edition of the *International Journal for Researcher Development*³.

This report summarises the keynote plenary sessions and main topics from workshop discussions, and highlights themes that emerged over the two days. Presentation slides, podcasts and further materials are available at the [Vitae Conference website](#).

³www.emeraldinsight.com/products/journals/journals.htm?id=ijrd

Welcome and introduction

Conference chairs: **Dr Janet Metcalfe**, Chair and Head, Vitae and **Ellen Pearce**, Director, Vitae

Janet warmly welcomed participants and handed over to Ellen Pearce to outline the conference themes and some ways in which these would be explored.

Theme one: Policy developments relating to doctoral education and employing researchers

The conference would explore strategies and practice that focused on:

- European developments, such as the European Commission's flagship initiative Innovation Union
- UK Government, Funding and Research Council strategies, priorities and delivery plans
- Implementation of the Researcher Development Framework, including international validation projects
- Aspects of the government response to the Smith Postgraduate Review – particularly those around meeting employer needs
- Building on success to date in implementing the Concordat to Support the Career Development of Researchers (the Concordat)
- Equality and diversity in researcher careers, given additional focus by the Equality Act of 2010
- Public engagement, building on the Concordat for Engaging the Public with Research

Theme two: Demonstrating the value of researcher development on research outputs, researcher careers, economic prosperity and society

Vitae was launching two major additions to the 'What do researchers do?' research series: 'Career paths of doctorate graduates' – further analysis of longitudinal employment data, providing new information on flows of doctoral graduates within and between occupational clusters and '[Labour market information](#)'

The conference would also preview and explore a new Engineering and Physical Sciences Research Council (EPSRC) research report 'The Value of PhDs: the Impact of Doctoral Education in Research Intensive Employers'.

UK aggregate reports on the outcomes from the 2011 Careers in Research Online Survey (CROS), Principal Investigators and Research Leaders Survey (PIRLS), and the Higher Education Academy's Postgraduate Researcher Experience Survey (PRES) would be presented. Take up and numbers of respondents had been good.

The conference also offered a new, dedicated research strand, in partnership with the 'International Journal for Researcher Development'.

Welcome and introduction

5-6 September 2011, Midland Hotel, Manchester

Theme three: Building and sustaining institutional capacity for researchers' professional development

In addition to the European and UK policy initiatives already highlighted, the conference would examine key themes from the recent analysis of institutions' reports to [Research Councils UK on the sustainability of career development and transferable skills training and changes in 2010/11](#). Among capacity-enhancing developments was the continuing growth of research staff associations and other researcher-led initiatives.

The conference would also present opportunities to compare and share international perspectives with conference colleagues from HEIs and organisations outside the UK.

Theme four: Sustainable practice to support researcher skills, professional and career development

As always, Vitae acknowledged those contributing to the wide-ranging and practical programme of workshops and special interest sessions. Strong themes across the 52 options included collaboration within and between institutions, leadership development, employer engagement and placements, the impact agenda (demonstrating research value), the digital, engaging, global and professional researcher and using the Researcher Development Framework to underpin all these developments.

Day one plenary presentations

5-6 September 2011, Midland Hotel, Manchester

The role of researchers in Europe's economic recovery strategy

Stefaan Hermans, Head of Unit, European Commission, DG Research and Innovation

Stefaan explained why researchers feature so prominently in European Commission strategy, why the EU needs to be an even more attractive destination for research and researchers, what the Innovation Union stands for, and some key issues targeted by European funding support.

Europe has long recognised that its knowledge base has a vital role in the EU's future prosperity. Both the Commission and HEIs are responding to the challenge of investing in the knowledge base. The economic crisis offers opportunities to rethink, restructure, and seek greater efficiencies. The Commission recognises that universities are not working in a vacuum. Pressures on them are both external, competition from China, India and so on, and internal – risks to be managed and system pressures.

The Europe 2020 strategy for growth is the European Union's response to global economic conditions. Its key concept is 'smart, sustainable, and more inclusive economic growth'. In the short term, the strategy is directed at overcoming the economic crisis, but over the longer term it aims to 'change the fundamentals of society and the economy'.

Research is a crucial ingredient in growing the knowledge economy of Europe 2020. Commission strategy is focusing on research and innovation more clearly than ever.

With an ageing population and strong competitive pressures from globalisation, Europe's future economic growth and jobs will increasingly have to come from innovation in products, services and business models. This is why innovation has been placed at the heart of the Europe 2020 strategy. The Innovation Union aims to improve conditions and access to finance for research and innovation in Europe, to ensure that innovative ideas can be turned into products and services that create growth and jobs. Among its action points are several that relate to the supply, development and employment of researchers. A key target is to have the systems in place by 2014, to achieve the European Research Area (ERA) – a borderless, attractive working environment with better translation of doctoral training systems to permit full researcher mobility.

Europe needs more researchers in order to achieve its growth strategy. Since 2000, real progress has been made, the numbers of researchers are increasing faster than in the US and Japan. Absolute numbers of researchers in Europe are relatively high – 1.6 million full-time equivalent researchers and 2.2 million in total – but Europe still lags behind other major economic powers in per capita terms. There are six researchers per 1,000 employees in Europe, compared with nine in the US and eleven in Japan. Moreover, participation of researchers in the European business sector (46%) is considerably lower (73% in Japan, 80% in the US). In short, Europe's employers (from all sectors) have to employ another million researchers to reach the headline target contained in Europe 2020: that 3% of GDP (gross domestic product) will be invested in innovation, research and development.

The potential for reaching this target is there. It is clear that Europe is an attractive destination for postgraduate researchers. Of the 600,000 doctoral candidates in Europe, 76% stay in their home country, 17% come from outside EU, while 7% move to another EU country to study. 110,000 doctoral degrees were awarded across Europe last year, nearly 30,000 more than in 2000. But many of these doctoral graduates did not go into research careers. Relatively little is known about the European labour market for researchers. The Commission would welcome more research like Vitae's valuable 'What do researchers do?' series to inform its policy-making.

It is clear that across Europe the profession of researcher is still perceived as a less attractive career option by many graduates. There remain challenges concerning employment conditions. Women in particular can experience unfavourable working conditions, such as lack of maternity leave. It was telling that while 59% of European university graduates and 45% of doctoral candidates are female, only 13% of heads of institutions are women. Mobility is also central to successful research careers; problems such as pension transfer, social security and other obstacles are continuing to be addressed at European level.

Future funding

The Commission is thus strengthening its support for research – the July 2011 Call for Proposals aimed to reach 16,000 funding recipients and impact on 175,000 research jobs. Funding will continue to include support for fundamental research as well as a strong focus on innovation and global grand challenges.

The Framework 8 programme, which is to be called Horizon 2020, is in development. The Commission has proposed a 46% increase in budget (2011 prices) compared with Framework 7 support for research.

For the first time, doctoral training activities will be supported by specific EU funding, via a forthcoming call for proposals. The Commission is working on a Communication⁴ stating what good quality doctoral training entails.

Across Europe as a whole, progress towards the ERA has been rather slow. The UK is taking the lead in showing commitment to an attractive research career – through the Concordat, the work of Vitae and of institutions. Many UK HEIs are aiming for the HR Excellence in Research Award and congratulations were warmly offered to the [15 universities which had achieved the award in the latest application round, making a total of 38 UK recipients](#). The Commissioner for Research, Innovation and Science, Máire Geoghegan-Quinn, added her congratulations and sent the following message: "The European Commission, through its Innovation Union flagship initiative, is committed to putting research and innovation at the top of the political agenda. We want to turn ideas into growth and jobs. UK universities play an important part in strengthening the excellent research base in Europe and ensure that our researchers have the right skills to maximise the value of innovation across all sectors."

⁴www.ec.europa.eu/euraxess/index.cfm/general/researchPolicies

Day one plenary presentations

5-6 September 2011, Midland Hotel, Manchester

Funding council strategies for training and developing world-class researchers

Professor Paul Hagan, Director of Research and Innovation, Scottish Funding Council

Paul outlined Funding Council strategies and expectations in relation to researcher development, focusing on the importance of researcher development, the Concordat, equality and diversity within the Research Excellence Framework (REF) criteria, the strategic implications of Doctoral Training Centres (DTCs) and pooling initiatives for training and developing world-class researchers, and priorities for institutions in the 'post-Roberts' era. Future funding resources will be focused on supporting the best, and collaborative training arrangements will bring greater efficiency and enhancement. Institutional priorities should include implementing the Concordat, maintaining the Roberts agenda and engaging with industry.

Drivers

Although the priorities and pressures of the UK funding councils diverge to some extent, there is much common ground, particularly in relation to researcher development. Funding Council expectations in relation to researcher development are enshrined in the [Concordat principles](#).

There is significant government pressure to see the economic benefit from research activity. What business value most from the research base is the quality of the researchers it produces. It is important to ensure that research training continues to be of a very high standard and that business and industry engagement is very strong. The Technology Strategy Board's Technology Innovation Centre⁵ model is an excellent, replicable model of developing partnerships in research.

Undergraduate fees

The impact of increases in undergraduate fees will vary across the sector. HEIs will see different levels of success in attracting students and managing funding. Budget pressures are different for each institution. It is difficult to predict the impact of the rise in undergraduate fees on the demand for postgraduate study. Funding councils will be keeping a close eye on developments.

Research Excellence Framework

The 2008 Research Assessment Exercise (RAE) was criticised for its shortcomings in implementing equality and diversity principles. There was inadequate monitoring of staff selected by institutions, inconsistency of approach across assessment panels (e.g. in the treatment of early career researchers) and also unsatisfactory processes for handling personal circumstances. To rectify this, the role of the Equality and Diversity (E&D) Advisory Group in the REF has been strengthened.

Consistency across panels will be improved by means of common templates and proformas as well as pre-submission guidance and case studies. Eligibility and staff categories have been reviewed and clarified. Sub-panels will consider routine personal circumstances cases only; with other cases considered by the central Equality and Diversity panel. This will assess on a case by case basis and advise the main panel chair on the recommended number of outputs for that individual. HEIs will get more guidance via the Equality Challenge Unit website on how to present cases and judge appropriate reduction in outputs needed. All HEIs will be required to draw up codes of practice, to enable all excellent researchers to be selected regardless of equality characteristics and staff circumstances. This will assist HEIs in fulfilling their duties under equalities legislation and also delivering robust REF outcomes. Codes of practice must be submitted in July 2012 and are subject to audit.

The research environment will be assessed via a template. Support for people will be important, with more emphasis on equality across the research career. The REF will also look for evidence of successful implementation of the Concordat within each submitting unit, going beyond institutional policy statements to examine the active steps being taken at unit level.

Strategic implications of Doctoral Training Centres (DTCs) and pooling initiatives

Multi-institutional pooling initiatives for the training and development of world-class researchers has been a Scottish Funding Council priority for a number of years. The research councils' DTC models follow similar principles and are designed to produce similar benefits:

- No need for any one institution to have the expertise to deliver all the elements of an excellent programme
- Efficiency – delivery of training on a broader scale
- Opportunities for joint/interdisciplinary research and supervision in leading institutions
- Quality enhancement through sharing of best practice. Researchers learnt much from exposure to different environments

Pooling is suited to the policy drive to focus on excellence – supporting the best researchers through the highest quality training. Dispersed models have proved their success and there is now the opportunity to broaden pooling across the UK.

Priorities for institutions in the 'post-Roberts' era

Implementing the Concordat and maintaining and embedding the Roberts skills agenda are both critical. Producing researchers of the highest calibre able to work with enterprise is vital to higher education competitiveness as well as to the wider economy. The UK should look to become the preferred location for early career researchers. The lead achieved by UK institutions in attaining the HR Excellence Award helps give it a differentiating factor. All Scottish HEIs are aiming for the Award; the rest of the UK was urged to do likewise.

⁵ <http://www.innovateuk.org/deliveringinnovation/technology-and-innovation-centres.ashx>

Day one plenary presentations

5-6 September 2011, Midland Hotel, Manchester

Research Council strategies for training and developing world-class researchers

Dr Iain Cameron, Head of Research Careers and Diversity, RCUK Strategy Unit

Iain set out key priorities of the research councils' delivery plans, summarised messages from institutional responses to the recent survey on the impact of Roberts funding and future sustainability, and discussed the continuing importance of evaluation and impact evidence in maintaining the momentum of the researcher development agenda.

In the Comprehensive Spending Review research council budgets were frozen rather than reduced. The councils have common delivery plan priorities, such as a stronger emphasis on future UK research leaders, promoting the skills of early-career researchers for the wider economy and ensuring the continuing pipeline of excellent researchers. There will be continued emphasis on researcher development through the Concordat and Vitae, alongside increased devolution of the Roberts agenda to universities through doctoral training centres and partnerships. A key priority for fostering effective and fruitful partnerships with the users of research will be to develop a 'whole-system' approach (of which researcher development is one aspect) to maximise the impact of research council investments.

Survey of research organisations (ROs)

As planned, RCUK is monitoring the effects of the transition from ring-fenced funding to devolved funding mechanisms via postgraduate researcher fees and research grant indirect costs. Earlier this year RCUK invited research organisation (RO) input regarding the impact of RCUK investments. Its survey covered: impact of Roberts funding; response to changed funding arrangements; plans and targets for the near future; institutional strategy. In 2013 RCUK will review the impact of the revised funding arrangements and their operation. No decision has yet been taken on whether RCUK will seek reports from ROs at that time.

An [independent analysis](#) of the 83 survey responses was commissioned. Key findings included:

- Researcher development investment levels will fall, though around two-thirds of responses indicated that researcher development activity levels can be maintained
- There were signs that ROs are starting to remodel the researcher development agenda and extend its remit beyond postgraduate researchers and research staff
- New models such as Centres for Doctoral Training/Doctoral Training Centres are having influence
- Lower-cost delivery and the support and engagement of academic staff feature strongly in sustainability strategies
- Overall, responses about funding arrangements are more positive and detailed regarding postgraduate researchers than research staff

Some reports stressed the continued importance of evaluation and impact: "Continued attention to evaluation of impact is important to help secure RO management commitment to researcher development over the longer term."

Important national sources of evidence include the RCUK cohort study of researchers' views published in the 'What do researchers do?' series as well as CROS and PIRLS. An important source of evidence of employers' views will be the DTZ study for EPSRC to be published later this year. This sought views of researchers, research organisations and employers including HEIs. It addressed two crucial questions:

- What do employers gain from doctorate holders and how does this differ from the value gained from holders of other qualifications?
- In what ways do doctorate holders contribute to the competitiveness of the employer?

Eighty six organisations responded from four key sectors for EPSRC. The response shows that the majority of employers in research-intensive organisations actively target doctoral holders, and do so to raise the capability of the organisation. Doctoral holders are recruited because of the skills that they could bring, and generic competencies are rated most highly. Other important conclusions are:

- direct impacts were most highly valued but indirect impacts were also important
- doctorate holders generally adapted faster to new roles
- doctorate holders were pivotal in delivering commercial impact through research and development and fostering absorptive capacity.

Day one plenary presentations

5-6 September 2011, Midland Hotel, Manchester

Strategies and practice: an institutional perspective

Professor Pam Denicolo, former director of the Graduate School in Arts, Humanities and Social Sciences, University of Reading

On behalf of Professor Dianne Berry, Director of Postgraduate Research Studies & Researcher Development, University of Reading and Chair of Advisory Board & Chair REF E&D Advisory Panel, who was unable to attend the meeting due to illness.

Pam Denicolo discussed recent developments in higher education, particularly changes in funding, and the likely implications for institutions, particularly for the researcher development agenda. Given the overall shortage of funds in HEIs, there is a risk of benign neglect of areas perceived as worthy but less urgent. Concerted effort is needed to keep researcher development high on university agendas. Pam then outlined the University of Reading's strategic response before offering some take-away messages to funders and HEIs.

The University of Reading's approach to the development of its researchers is founded on four beliefs:

- Postgraduate and postdoctoral researchers are vital to the future success of the UK HE sector and knowledge-driven economy
- To realise success, we need to recruit the most promising researchers from the widest possible pool of talent
- We need to ensure that, once recruited, they develop skills they need to carry out their research productively and to support their future career development
- Our HEI policies and practices should not bias against early career researchers (ECRs) or subgroups within this population

The sector has made really good progress over the period of Roberts ring-fenced funding. Transferable skills training and career development are now routinely embedded in the policies and processes of most UK doctoral programmes. Vitae's support role has been very important in developing such initiatives as the [Researcher Development Framework](#), the [Database of Practice](#) and the [Every Researcher Counts project](#). The Concordat has been developed and implementation was making good progress. The improving evidence base, in particular the national surveys PRES, CROS and PIRLS, not only provide evidence of significant progress but also a spur to do better. Other initiatives, such as Athena Swan, helped the sector support previously under-represented groups. The REF's attention to and arrangements for handling equality and diversity issues will raise the profile of equality and diversity and help achieve further progress. In these difficult economic times, and with the end of ring-fenced Roberts funding, maintaining momentum will be a challenge. Those responsible for researcher development must keep reminding senior managers of its importance to the institution. Changes in the distribution of quality-related (QR) research funding and the increasing proportion of research council funding channelled through Doctoral Training Centres and similar models brings the risk that concentration of research funding would increase exclusion. HEIs' internationalisation agenda is also a very significant addition to the call on finances. All this is taking place in the unpredictable context of higher undergraduate fees and withdrawal of funding council

resource for teaching (T-funding). Given the overall economic downturn and nervous financial futures, it is vital to really focus and keep strong motivation.

Possible shifts in the HE landscape likely to impact on the researcher development agenda include:

- HEIs focusing more on customer driven undergraduate education
- the uncertain shape of the taught postgraduate sector
- a potential reduction in prospective doctoral candidates from the UK
- increasing overseas competition for international and UK postgraduate researchers (with more HEIs in Europe teaching in English)
- a risk to the UK lead on researcher training and development.

The University of Reading's strategic response is to focus on keeping researcher development high on the internal agenda by using Research Excellence Framework requirements to promote and embed it and by demonstrating the benefits of the agenda for achieving main corporate goals. Reading has established a new, university-wide Graduate School, which has gradually developed over several years to encompass all disciplines. The Graduate School leads an innovative training programme, based on the Researcher Development Framework, for postgraduate researchers and research staff and responsible for the management and administrative aspects of doctoral programmes. It is also establishing a development programme for supervisors and other staff with responsibility for researcher development.

Senior management expect that Graduate School activities will not increase cost to central funds. Funding for researcher development will be raised by increasing home and EU postgraduate researcher fees in line with the research councils' lead, and ring-fencing income for the Graduate School. To make the necessary financial savings, the training programme has been rationalised, and more is being delivered by Reading staff.

Central to Reading's strategy is to ask hard questions about policies, practices and local cultures in order to improve chances of progression for all staff (helped by the [Athena Swan initiative](#)). The university is building good supervision and staff management into career structures, progression and reward systems and workload models. For example, one promotion criterion is evidence of successful doctoral completions. Reading also works closely with its local Research Staff Association to support the development of research staff in line with its local Concordat.

Day one plenary presentations

5-6 September 2011, Midland Hotel, Manchester

On the postgraduate researcher front, the university is exploring new models of delivering doctorates, whilst maintaining quality standards. It is already part of an Economic and Social Research Council Doctoral Training Centre and is negotiating with consortia for other research council provision. There is more collaboration with other HEIs and external agencies and a greater openness to joint ventures and sharing of expertise.

Take-home messages

All sector stakeholders have vital roles to play:

- Funding councils must accept the REF's role in shaping the sector and use it to support researcher development and equality and diversity in research careers
- Research councils should protect funding for studentships and early career schemes and consider an increase in co-funding schemes (e.g. with HEIs)
- Funders should ensure funding is linked to good practice and HEI adherence to the Concordat
- In conjunction, HEIs must deliver on researcher development strategies and continue to produce strong evidence of good practice

Finally, researcher developers must not forget the value of collegiality, of supporting each other and sharing good practice. Not only influential champions, but also mentors and guides and trusted companions will be needed on the difficult road ahead; together retaining passion for the agenda and the ability to keep inspiring others.

Day one plenary presentations

5-6 September 2011, Midland Hotel, Manchester

Driving innovation and economic growth: the role of researchers

Dr Filomena La Porta, Head of UK R&D Partnerships, EDF Energy

Filomena gave an industry perspective on the role of researchers in meeting strategic global challenges, with insights into EDF's researcher recruitment and professional and career development support. HE partnerships, encompassing work placement and collaborative research, are central to EDF strategy.

EDF Energy is one of the UK's largest energy companies and its largest producer of low carbon electricity. Its activities cover the entire energy value chain. It employs 15,000 people in the UK, serving 5.5 million residential customers across three business units:

- operating eight nuclear power stations in the UK
- tasked with the delivery of the new generation of nuclear plants
- running power stations and wind farms, buying and selling power to meet future generation and customer needs and dealing with all energy customers.

The scale of EDF's activities, as well as their nature, bring strategic challenges. An 'energy revolution' is required, with everyone playing a part.

EDF employs people in around 400 types of job roles. It relies on commitment from very talented and skilled people, having focused skills (technical competencies) at the right time and right place is crucial. Research and development is bolstered both to optimise today's performance and to develop the solutions of the future. Anticipating future skills needs is a major challenge (for example, the nuclear new build programme will require new skills from today's 14-21 year-olds).

EDF's research and development business unit employs more than 2,000 people across 15 departments, in 12 research and development laboratories and three international centres. 80% of these are engineers, 220 hold doctorates. This unit is supported by the recently established research and development UK Centre Resources and Skills, a group of 26 employees, whose role is to advise, facilitate and coordinate across international research and development offices.

The company's strategy for sourcing the best researchers, anywhere in the world, is multi-faceted. EDF has the capability for worldwide recruitment. International partnerships are particularly important for recruiting doctoral graduates. Only by working together can researchers develop an understanding of how an industry works and what requirements are. EDF's partnership with the University of Manchester (The Modelling and Simulation Centre, based in the School of Mechanical, Aerospace and Civil Engineering) is a good example. EngDoc and Masters students undertake work placements and such schemes are good for identifying potential recruits. One particularly successful initiative is VIE⁶, a French government scheme whereby engineering graduates can spend up to two years on an EDF contract.

EDF supports the professional and career development of its researchers through a range of courses, programmes and tailored development. Growing and rewarding skills goes hand in hand with interesting and challenging research projects. Its partnerships with research organisations are genuinely collaborative; both sides working together on the shared problem. The company recognises the value in knowledge generation and supports research publication. EDF has created researcher career paths: it recruits researchers for the long term, as required by long research and development cycles in its business. The Vitae Researcher Development Framework is well aligned with the private sector's research and development needs and Vitae are to be congratulated for this development.

Filomena concluded by commenting on issues relating to employer/HE partnerships:

- Innovation is broader in scope than fundamental research
- It is not enough to be a great researcher doing great research. Researchers also need to be able to sell their talents at interview and their research in effective research proposals
- Employer needs vary considerably depending on the nature of their business, hence the importance of engaging broadly with employers across sectors

⁶ <http://vosdroits.service-public.fr/F10040.xhtml>

Day one plenary presentations

5-6 September 2011, Midland Hotel, Manchester

Latest developments: researchers' careers and the Vitae Researcher Development Framework

Dr Janet Metcalfe, Chair and Head, Vitae

Janet described two major new Vitae publications on researcher careers and resources for their career development, namely, two additions to the 'What do researchers do?' research series, and then updated participants on the Vitae Researcher Development Framework and the resources developed to support its implementation.

What do researchers do?

The latest publication in the 'What do researchers do?' series⁷ is 'Career paths of doctoral graduates'. This is the second analysis of longitudinal data, providing new information on flows of doctoral graduates within and between occupational clusters. It was based over 2,000 survey respondents, a sufficiently large sample to also permit analysis at broad discipline level. The analysis found six distinct doctoral occupational clusters based on density of doctoral qualifications in the labour force. Within these clusters there was both stability and considerable mobility. 60% of respondents had followed five individual career pathways, all within a unique occupational cluster. However, the analysis also found 196 different pathways in and out of those clusters, 52% of which were unique to one person.

For the first time 'What do researchers do?' (WDRD) had been able to illuminate the first four years of the career paths of research staff in higher education.

The analysis found that research staff employed in higher education:

- decreased over time from 23% to 18% of the total sample
- included 43% 'outflow' who moved into another occupation (one quarter into teaching and lecturing)
- included a 26% 'inflow' who had entered research staff positions, mainly from other occupations or research roles outside higher education
- included 5% who had moved out then back into postdoctoral research – either with intervening periods of unemployment or other occupations.

Around two thirds of research staff remained in the same role over the period, while the remainder was divided between making progress or moving to a similar research contract.

Alongside this publication Vitae has produced 'What do researchers do? Labour market information', a web-based resource covering 15 doctoral employment sectors, based on WDRD data, to help researchers make informed career decisions. This will be extended to include 60 common occupations by cluster. The sectoral information highlights workforce characteristics, future trends and major employers. In addition, it is cross-referenced by disciplinary information and to personal profiles (i.e. career stories of doctoral graduates).

⁷ www.vitae.ac.uk/wdrd

⁸ www.vitae.ac.uk/rdf

Vitae Researcher Development Framework

The Vitae Researcher Development Framework provides a framework of the knowledge, behaviours and attributes of successful researchers, enabling self assessment of strengths and areas for further development and providing a common language for researchers' capabilities. Vitae's 2011 survey shows that it is being widely adopted and used in a variety of ways. At policy level, the research councils BBSRC and EPSRC require doctoral training centres/centres for doctoral training to map to the Researcher Development Statement (RDS). Institutions are mapping their researcher development provision to the Researcher Development Framework, and it is being embedded in researcher development activities. The Researcher Development Framework planner produced by Vitae enables researchers to use the Researcher Development Framework for needs analysis and personal development planning.

The new Researcher Development Framework resource pack brings together all materials to date. Full copies of the Researcher Development Framework and Researcher Development Statement, stakeholder briefings for senior managers, researcher developers, research staff and postgraduate researchers, a methodology for mapping training and development materials to the Researcher Development Framework and Vitae resources to support the implementation of the framework (e.g. a Professional Development Planner and 'How to use' guides). All the latest resources are now available in the Researcher Development Framework section of the Vitae website⁸.

New developments

Currently, Vitae is focusing on developing a series of lenses on the Researcher Development Framework. These are designed to help researchers understand the group of key knowledge, skills and attributes for a particular focus. Lenses on public engagement, enterprise, intrapreneurship and leadership are going out to informal consultation. They will soon be joined by lenses for information literacy, and teaching and learning. Other resources in development included further stakeholder briefings to complete the series. A web-based Professional Development Planner is planned and the specification is currently being finalised.

The Researcher Development Framework has now been endorsed by over 30 organisations in the UK. In addition, international validation projects are underway. Funded by the European Science Foundation (ESF), a feasibility study is taking place across six European countries to assess the applicability across Europe of a generic framework for the professional development of researchers based on the Researcher Development Framework. A trial is also taking place in the USA.

Day one plenary presentations

5-6 September 2011, Midland Hotel, Manchester

In 2012 the 'What do researchers do?' series will be extended following the analysis of the new L DLHE dataset for the 2005-06 cohort of doctoral graduates. Existing L DLHE contacts will be followed up to explore their further career experiences and impact. Exploring career paths in more detail, particularly those of research staff, remains a constant aim.

Questions

Stefaan Hermans was asked what more could be done by the European Commission to support the researcher development agenda. He replied that the EC always aims to learn from exceptional practice and identify the factors conducive to replication elsewhere in Europe. The UK's exceptional achievement in researcher development is driven by people resource as well as financial resource. He noted huge commitment as well as the importance of the Concordat and its careful alignment with the European Charter and Code. Vitae has played a very important role and more could be made of its advisory capability at European level.

Paul Hagan was asked about equality and diversity implications in the research pooling model, which requires researchers to move between sometimes distant training centres. He replied that institutions work very hard to make suitable adjustments and provisions to ensure that no researchers are disadvantaged.

Day two plenary presentations

5-6 September 2011, Midland Hotel, Manchester

Doctoral education: employer engagement, employability and impact

Chair:

Professor Andrew George, Director, Graduate School of Life Sciences and Medicine, Imperial College London

Panel:

Dr Clare Bhunoo, Strategy and Policy Manager, Innovation and Skills Group, BBSRC

Dr Rachel Davis, Head of Student Development, University of Warwick

Alison Mitchell, Deputy Director, Vitae

Dr Karen Vandeveld, Senior Researcher, Ghent University

Dr Clare Bhunoo explained why BBSRC had developed its new 'Professional Internships for PhD Students' (PIPS) scheme, designed to be taken by all PhD students funded through a [Doctoral Training Partnership \(DTP\)](#), and outlined the scheme's main features.

Doctoral candidates who have little knowledge or experience of careers outside academia are ill-prepared for planning their future. Yet more than half of BBSRC funded doctoral postgraduate researchers will, on graduation, leave academic research. 2011 PRES results indicate that fewer than half of respondents are encouraged to think about the range of career opportunities open to them. The same survey shows that just 8% are doing a doctorate in order to improve their career prospects outside academia. Employer surveys show that work experience is a differentiator among graduates.⁹

Given this and other evidence of the potential value of work experience during the doctorate, BBSRC has set up its major new initiative as part of its DTP competition. Institutions were asked how they would manage a programme of professional internships. This should provide:

- a mechanism to provide BBSRC-funded postgraduate researchers with the opportunity to carry out a non-academic work experience placement during their doctorate
- a three-month placement not directly related to the doctoral project, e.g. to provide experience of teaching, policy-making, media or industry.

Internships are not intended to replace other generic or core skills training. They should be taken by all postgraduate researchers funded through a DTP, including those set on an academic career, and should be encouraged, though not made compulsory, for CASE¹⁰ postgraduate researchers. They can be taken at any time during the four-year doctorate.

Multiple beneficial outcomes are anticipated, for postgraduate researchers, research institutions and host organisations. These include:

- increased promotion of mobility across sectors, maximising research impact and economic benefit
- development of early career researchers' understanding of the potential impact of research and training on wider economy and society

⁹e.g. Society of Biology Industry Survey on Accreditation of UK Bioscience Degrees (June 2011)

¹⁰'Collaborative Awards in Science and Engineering' are four year doctoral training grants for top quality graduates to undertake research (leading to a doctorate) on a subject selected and supervised jointly by academic and industrial partners.

- personal and professional development for more fulfilling careers
- better identification of potential careers paths beyond academia.

Flexibility and student choice are vital. Internships should link research with policy and public engagement as well as with enterprise. BBSRC encourage institutions to be innovative and imaginative in their development plans.

The period of Roberts ring-fenced funding provided a marvellous opportunity to develop and to experiment. It is only recently that the University has focused on what its institutional approach should be.

Dr Rachel Davis described the results of the strategic review that the University of Warwick had undertaken in response to the end of Roberts ring-fenced funding. Warwick is implementing a complete change of delivery model to one where student ownership for the role individuals play in developing their employability is paramount. Rachel also gave an insight into how Warwick was managing the transition period.

Supporting the talent pipeline of researchers is critical. This core belief underpins Warwick's commitment to a research-led teaching philosophy and has resulted in an institutional strategy linking researcher support to the undergraduate student experience.

As Head of Student Development, Rachel oversees academic development for undergraduates, Masters students and postgraduate researchers. It is a period of intense change and activity, for example the introduction of Warwick's employability diploma for its 2012 intake of undergraduates.

Warwick's review of its postgraduate researcher programmes in summer 2010 revealed uneven engagement and opportunity across faculties. From a student perspective, provision is not sufficiently cohesive. The university has opted to retain a voluntary programme, but with a compulsory, central induction course (the Vitae Effective Researcher model) and other strengthened elements. The content of the new programme will be underpinned by the Researcher Development Framework.

Day two plenary presentations

6-7 September 2010, Midland Manchester Hotel

Warwick's approach is thus to develop student ownership for their development by instilling from the outset the university's expectations of their role, and providing them with the necessary tools – goal setting practice, self-assessment (using an online system) and allocation to an action learning set (peer-to-peer support). 2012 would see the launch of the Warwick portfolio, a wrap around of central and local provision. A new graduate space at the heart of the Warwick campus embodies the university's commitment to its postgraduate researchers.

The end of Roberts ring-fenced funding has brought challenges – reduction in resourcing, gaps in provision, and maintaining support and development for staff supporting researchers. Warwick's membership of the [Vitae Midlands Hub Training Exchange](#) has helped considerably to maximise resource. This collaboration of nine institutions exchanges trainers, brokers postgraduate researcher places on courses and provides professional development opportunities for staff (such as working alongside a trainer colleague with greater expertise in a particular area). Employer engagement will be increasingly important and will be introduced through a range of different methods (e.g. internships, work shadowing, and an enterprise education programme). Dialogue with employers is ongoing to better understand their postgraduate researcher skill needs. The renewed focus on enterprise education is beginning by redefining the spectrum of enterprise activity.

The postgraduate researcher strategy is still evolving and it will be informed by the ongoing review of the undergraduate student experience. The university is about to undertake a review of teaching and learning. Part of this will be to look at undergraduates' exposure to Warwick's research activities. Running alongside that review is the development of diplomas for employability and focusing on how undergraduates and postgraduates can be brought together constructively for a distinctive Warwick experience.

Alison Mitchell informed participants about Vitae's work to support employability, employer engagement and impact, and invited participation in forthcoming workshops and seminars. She discussed the value of work placements and how the 'invisible learning experience' contained therein might be recognised. Tools such as the European Framework for Work Experience and lenses on the Researcher Development Framework could be valuable in articulating researcher skills to employers.

Research and dialogue with employers has confirmed a growing recognition of the potential value that researchers can bring to their organisations. However, researcher skill deficits are commonly cited, particularly in leadership skills and work experience. HEIs are being urged to do more to work with business to develop those skills.¹¹ This is not a new agenda. The challenges of bringing people together from HE and other sectors is well known. Vitae is aiming to help the researcher development community breakthrough in employer

engagement. A parallel challenge is helping institutions bring the employability agenda from other parts of HE into researcher development.

Key actions and priorities from the 2011 Strategy Forum¹², attended by employers and funders, has informed Vitae's strategy. The Forum, on the future of research within the UK and the implications for the professional and career development of researchers emphasised the importance of:

- increasing the absorptive capacity of business for research, researchers and innovation – people transfer
- finding ways for HEIs to engage effectively with small and medium enterprises (SMEs)
- increasing awareness of the value and importance of cross-sector experience for knowledge exchange and innovation – placements and work experience
- improving understanding and knowledge of researcher career paths, capabilities and contribution across all sectors
- ensuring the supply of a highly-skilled workforce and sustainability of the UK research base
- maintaining and improving the international standing and attractiveness of the UK for researchers, research-led companies and international businesses.

Vitae's strategy for the engagement of employers in researcher development aims to:

- improve researchers' experience and readiness for work in other sectors
- inform researcher development with employers' points of view
- enable researchers to find suitable employment in a range of sectors
- ensure that employers recognise the added value researchers can bring
- evidence that researchers enhance the capability of employers.

Specifically, Vitae works to support:

- innovative and confident routes for staff supporting researchers to engage with employers
- researchers' understanding of their capabilities in terms of working successfully in other sectors
- employers' opportunities to understand the value of researchers
- opportunities for researchers and employers to come closer in understanding and experience.

To achieve these goals, it is important to disseminate and build on the considerable good practice that already exists. Hence, forthcoming activities include: an event to share examples of best practice from different regions, pilot activities by regional Hubs, an 'Open Space' event¹³ to look at issues and build momentum.

A further target is to increase the Vitae network of employers and increase active engagement levels, as well as updating the Vitae website.

¹¹ www.bis.gov.uk/assets/biscore/corporate/docs/p/10-704-one-step-beyond-postgraduate-education.pdf

¹² <http://www.vitae.ac.uk/CMS/files/upload/Vitae-Strategy-Forum-outcomes-June-2011.pdf>

¹³ <http://www.vitae.ac.uk/policy-practice/1390-305831/PhDs---how-to-add-value-to-your-business-outcomes-28-September-2010-.html>

Day two plenary presentations

5-6 September 2011, Midland Hotel, Manchester

Recent and ongoing research and development projects have included work on placements and internships (surveying employers, researchers and universities), mapping the landscape of employer engagement opportunities, boosting labour market information for researchers and increasing the bank of researcher careers stories¹⁴, and investigating work experience competency frameworks.

The challenge is not only one of engaging employers. Researchers also may not initially see the potential benefits of engaging in work placements; more work needs to be done to explore this. Vitae is therefore reviewing the relevance to researchers of frameworks that help internees recognise and articulate learning from work experience, looking in particular the [European Framework for Work Experience](#) (which CRAC was instrumental in developing). Relatively little work has been done on exploring the cost/time/value mapping of work placements.

Vitae has begun to investigate this and the results of an interview study with employers, researchers and universities are on the Vitae website. The benefits employers identified included, innovation and new ideas, developing solutions, getting the job done, new resources, recruiting new talent and increasing visibility.

For researchers, the benefits are working in a commercial environment, developing team working skills, increasing self-confidence, broadening horizons, problem solving by applying research out of academia, demonstrating impact, networking and informing career plans.

Universities also identified multiple benefits for the institution: working in a commercial environment, promoting postgraduate opportunities, offering a learning experience to present skills developed while gaining a doctorate, adding value to researchers' experience, bridging the gap, engaging with industry and demonstrating impact.

Vitae is also examining how best to communicate the skills of researchers to employers and what should be the role of the Researcher Development Framework in articulating those skills of researchers. It is exploring the feasibility of lenses for identifying the skills needed for different careers. Articulating knowledge, skills and attributes is an important part of a researcher's self-presentation to employers, but not the whole story. Feedback from employers at the conference's employer reception: 'don't forget yourselves in your presentations' was a timely reminder of the importance of being able to express themselves as well as their capabilities.

Dr Karen Vandeveldel asked: What do we train researchers for? Where does the university's responsibility end and the employer's begin? She outlined the results of recent research into the career experience of Belgian doctoral graduates, designed to inform government policy on doctoral funding and support. The analysis highlights that skills mismatches are not uniform but varied by employment sector. Karen suggested that universities and employers should share responsibility for researcher development.

Karen explained her dual role at Ghent University, both a university policy advisor and part of a research centre commissioned by the Belgian government to monitor doctorates and career paths of doctoral holders. Recent research focuses on doctoral graduates who move out of academia (around half of the cohort). Is the investment worthwhile if they do not pursue an academic career? Is the PhD degree 'just a piece of paper', or do the skills they have acquired have value in other workplaces?

This research forms part of the OECD Careers of Doctorate Holders survey designed to share and compare data on career tracks of doctoral holders. It encompassed PhD graduates in Belgium from 1990-2010 and received 4,000 responses. Only the more recent graduates in this cohort would have received skills training.

The value of the doctorate

More than 70% of respondents working outside academia agree with the statement 'My PhD allowed me to bring additional benefits into the company/organisation'. It is striking that researchers across all sectors (not only those working in industrial/technical sectors) feel that they contributed more than non-doctorate holders. Furthermore, two thirds of respondents believe that their doctorate is an asset in the labour market.

Preparation for careers outside higher education

Only just over half feel that they are sufficiently prepared for a career outside academia – they lack career focus and are unsure how to make the transition.

The survey reveals a great variety of career destinations, with industry taking a large share of doctoral holders in non-research related roles. The survey compares the skills acquired during the doctorate with skills required in the current job role. Respondents perceive a close match between the two with regard to research skills and personal effectiveness skills. However, there are major discrepancies in the areas of management skills, communication skills and team skills:

- Doctoral graduates employed in universities express a greater need for communication skills in their current job than those outside universities
- Industry and private non-profit employees report the greatest skills gap in the area of teamworking skills
- Industry and the service sector employers report the greatest gap in the area of management skills

Discipline differences are also analysed. These are not so marked as differences by sector of employment. The conclusion therefore is that universities did reasonably well in preparing doctoral graduates, as it would not be feasible to prepare doctoral graduates for every possible career. In future, universities might wish to target skills development more closely to graduates' career interests. Employers also have a responsibility for training researchers in areas where their skills fall short, and providing life-long training opportunities.

¹⁴ www.vitae.ac.uk/lmi

Day two plenary presentations

5-6 September 2011, Midland Hotel, Manchester

Panel discussion

Experiential learning

One set of participant questions concerned possible implementation challenges of the BBSRC 'Professional Internships for PhD Students' scheme. Participant concerns include: sourcing high quality placements and the resourcing implications of managing them at scale, optimum length of placements, mentoring and line-management arrangements, engagement of small and medium-sized enterprises (SMEs) and supervisors and the need to upskill those responsible for placements in HEIs.

In response, Clare Bhunoo replied that the BBSRC's Bioscience for Industry strategy panel has given positive feedback on the issue of placement supply and the length of placements. It should be remembered that the numbers of placements required would be spread across the UK and all sectors. In addition, the scheme is being introduced gradually. BBSRC will be monitoring this important investment closely. Clear plans for managed placements containing high level projects will be expected. It is hoped to encourage small business participation by putting together case studies, and that supervisors will see the benefits brought back by their returning students.

It was further noted that more joined up thinking across universities could identify further expertise and employer contacts (e.g. from the Graduate Internships 2010 scheme, a government-backed scheme to place graduates in SMEs). It is important to examine where employers engage with universities and how to mobilise and capitalise on relationships within departments, such as EngDocs.

Participants also discussed the difficulties sometimes experienced by researchers in transferring their skills. What research has been done on how employers manage this?

In response, the panel noted:

- the need to distinguish between employers who already employ doctoral holders and those who do not. Proactive recruitment and good talent management strategies already exist among current employers of doctoral graduates, both large companies and high tech SMEs
- researcher placements are not a deficit model. They are about drawing out skills and knowledge and applying them in new contexts
- much could be learned from the experience of non-traditional postgraduate researchers who already have much work experience, often completing a doctorate part-time
- there are also important experiential opportunities for researchers to develop management and leadership skills inside the university as well as outside it
- all researcher development activities should have reflective elements, and the Researcher Development Framework Professional Development Planner has been designed to enable reflection on experiences large and small.

The relationship between 'developing as a researcher' and 'developing employability'

It was suggested to the panel that skills development should be 'sold' to researchers on the basis that it would help them complete their doctorate more effectively, rather than as helping job prospects outside academia, given the high proportion of researchers intent on an academic career. Unrealistic expectations of academic careers could persist well into the doctorate. Supervisors are, for reasons good and bad, unlikely to discuss actual prospects until near the end of their doctoral training.

The panel debated the advantages and disadvantages of overtly encouraging researchers to develop employability for a wide range of careers. Rachel Davis explained that the University of Warwick is aiming from induction to encourage postgraduate researchers to maintain a broad perspective at the same time as attending to their development as a researcher. Development needs to be grounded in the context of their research and department, while feeding in broader influences.

Karen Vandevelde added that employability should be a natural outcome, not a label for activities. Activity should be geared towards increasing researcher choices and making them aware of the choices they have. In general, Belgian researchers have given little thought to different careers compared with international postgraduate researchers. Female researchers were particularly likely to undervalue their skills and opportunities, hence a need was identified for mentoring and other targeted programmes to raise awareness.

Participants further observed that:

- researchers without firm career aspirations could be influenced by employers
- the 'employability' tag could be dangerous if postgraduate researchers think that if they 'tick the box' (go on a course) they become 'employable'
- higher education needs to be better at helping researchers understand the broad range of high level skills required for a successful academic career. Careers outside academia do not have a monopoly on challenging roles!

Day two plenary presentations

5-6 September 2011, Midland Hotel, Manchester

Employing researchers: achieving the vision of the Concordat

Chair:

Dr Odette Dewhurst, Senior Research Training and Development Officer, University of Leeds, Chair, ReSDAG

Panel:

Dr Brendan Barker, Head of International Development, University of Dundee

Ulrike Kohl, Programme Manager, National Research Fund Luxembourg

Dr Robin Mellors-Bourne, Director, Research and Intelligence, CRAC: The Career Development Organisation

Paula Shelley, Senior Human Resources Adviser, Universities and Colleges Employers' Association (UCEA)

Dr Dimitrina Spencer, Postdoctoral Researcher, University of Oxford, UKRSA

Dr Brendan Barker focused on the role of researcher development in HEIs' international competitiveness. He outlined the University of Dundee's strategic institutional response to developing research leaders and managers of the future, emphasising the importance of the HR Excellence in Research Award, both for its external value in promoting the university and as an 'internal marker'.

The University of Dundee has a distinguished academic tradition, providing university education for men and women since 1881. It is a world top-200 university¹⁵ and consistently rated in the top ten best places in the world to do research by Scientist Magazine. Dundee has particular research strengths in medicine, life sciences, art and design, law and engineering. Yet it is not as well known as it deserved to be, and has problems attracting researchers to north-east Scotland.

Such is the success of Dundee's research in the life sciences and medicine that it forms the basis of a multi-million pound biotechnology sector in the east of Scotland, which now accounts for 16% of the local economy. Twenty spin-outs are directly attributable to the university.

Dundee's strategy also reflects its position as a Scottish university. There are historical differences between Scottish and English higher education. The establishment of the Scottish Parliament introduced a partially devolved system of higher education, science and research, with some divergence between funding council policies as a result. The relatively small number of HEIs in Scotland – 15 in all – is more a strength than a weakness. Very effective collaborative arrangements operate through the research pooling initiative¹⁶. However, while some powers related to science and innovation policy are devolved, UK and European policies remain important (e.g. UK Research Councils and Framework Programme 7). Immigration policy is reserved to the UK Government and this is an especial problem as Scotland wishes to attract more researchers.

International researchers make an increasingly important contribution to Dundee: 36% of its research staff are from outside the UK. It is also important to prepare UK research staff for international careers (whether in research or otherwise).

Researcher career development at Dundee is set within the context of the Concordat. Alongside this, Dundee's role as a EURAXESS local contact point for European researchers provides a wider international framework. Generic skills training provision is supported by an individual objective setting and review framework. Following a gap analysis, a Concordat action plan has been put into place. As elsewhere, Dundee has pockets of excellence and areas where departmental good practice is uneven. The College of Life Science takes a strong lead.

Attaining the HR Excellence in Research Award¹⁷ has been central to Dundee's strategy.

The HR Excellence in Research Award has brought several benefits. It:

- increases Dundee's visibility across Europe and beyond
- demonstrates the university's commitment to supporting researchers, thus aiding in recruitment and grant applications
- supports the implementation of the Concordat action plan across the university
- helps ensure senior management 'buy-in'
- positions Dundee as part of a pan-European network of researchers and research organisations (e.g. using the HR Excellence in Research award when advertising vacancies on the EURAXESS Jobs website).

Not least, the award makes visible the benefits for research staff at the University – the recognition and enhancement of their rights as a professional, valuing of their mobility experience, respect for their work-life balance, a transparent recruitment process and the opportunity to join a pan-European network.

¹⁵ Times Higher Education World University Rankings and QS World University Rankings

¹⁶ www.sfc.ac.uk/research/researchpools/researchpools.aspx

¹⁷ A UK-wide process enables UK HEIs to gain the European Commission's 'HR Excellence in Research' award, which acknowledges their alignment with the principles of the European Charter for Researchers and Code of Conduct for their Recruitment. The UK process incorporates both the QAA Code of Practice for Research Degree Programmes and the Concordat to Support the Career Development of Researchers to enable institutions that have published Concordat implementation plans to gain the HR Excellence in Research badge. The UK approach includes ongoing national evaluation and benchmarking

Day two plenary presentations

5-6 September 2011, Midland Hotel, Manchester

Ulrike Kohl described how Luxembourg, a small country with a developing research infrastructure, was learning from European good practice in the recruitment and development of researchers and contributing to European networks.

Luxembourg's National Research Fund has a coordinating role similar to Vitae's in the UK, but on a different scale. Luxembourg has a total population of 0.5m and around 2,500 researchers. The research environment is increasingly dynamic. Four public research centres were established between 1987 and 1989. These are applied research centres targeted at industry needs. The Luxembourg research landscape continues to develop; a new City of Science (Cité des Sciences) is currently under construction in the south of the country.

The National Research Fund was established in 2000, three years before the foundation of the University of Luxembourg (UL). Before 2003, Luxembourgers went abroad to complete their higher education. UL instituted doctorate degree regulations in 2006: by 2010, just under 100 researchers had achieved a UL doctorate. A national grant scheme was established in 2008, sponsoring around 120 postgraduate and 60 postdoctoral researchers per annum. Both groups received employment contracts and social security. 80% of Luxembourg's researchers are foreign nationals, (often from nearby French- or German-speaking countries), attracted by multilingual programmes, high salaries and quality of life.

The National Research Fund's HR strategy was tasked with promoting quality and excellence, from the outset, by applying international standards. Seeking to learn from other European countries, it has drawn on Vitae's unique experience within Europe. A gap analysis of programmes and funding structures is taking place with university, government and the four research centres. By the end of 2011 an action plan agenda will have been defined, to include national coordination of strategic issues identified for implementation of the European 'Charter and Code'.¹⁸ A submission to the EU for the HR Excellence in Research Award is planned for early 2012. One priority of the national strategy already identified is researcher training, in particular, non-scientific training. European Regional Development Fund allocations will help carry through this strategy.

Luxembourg is also an active participant in the European Science Foundation (ESF) Member Organisation Forum on Research Careers. Two major themes are of interest for the National Research Fund: the working group on skills, where Luxembourg is participating in the ESF feasibility study validating the Vitae Researcher Development Framework; and the working group on research careers, coordinated by Iain Cameron. Luxembourg is soon to host the joint ESF-National Research Fund Workshop on Career Tracking. This event aims to offer a platform for European Science Foundation MOs interested in setting up career tracking for their funding schemes to learn from other international projects and exchange good practice in career tracking.

Dr Robin Mellors-Bourne outlined the latest evidence from the Careers in Research Online Survey (CROS) and Principal Investigators and Research Leaders Survey (PIRLS). These surveys are deployed by HEIs to help gauge their progress in implementing Concordat principles. They also yield very substantial national data sets. Vitae had analysed aggregate data from 2011 surveys, showing positive progress in Concordat implementation as well as clear areas for development.

The surveys were conducted by HEIs using common question sets. Forty six HEIs chose to run CROS, and achieved 5,585 responses from individual members of research staff. Thirty three HEIs opted to run PIRLS, gaining 2,588 responses.

CROS questions are closely tied to Concordat principles, thus of direct help in judging the extent to which Concordat principles are perceived to be achieved. Run for the first time in 2011, PIRLS data established a baseline of the views of research leaders.

CROS results show significant positive progress towards Concordat implementation, but the extent varies across principles. In particular, although there are fewer fixed-term contracts in use, there appears to be a trend towards shorter contracts. Researchers would also benefit from more encouragement to engage in professional development. Meanwhile, PIRLS identifies that research leaders would benefit from support most with regard to their human resource management and employment functions.

Some of the strongest evidence of progress concern recruitment and selection:

- 67% of research staff were offered an institutional induction (CROS 2011) compared with 40% in 2009. 31% found it useful compared with 16% in 2009
- 39% of candidates were offered job information detailing skills/competencies (CROS 2011) compared with 32% (2009)
- 72% of research leaders/principal investigators were confident about recruitment/selection.

Other highlights were found in the area of recognition and value:

- 82% of research leaders/PIs were appraised and 57% felt recognised for their role in supervision (PIRLS)
- 55% of research staff undertook appraisal compared with 50% in 2009 (CROS)
- 38% of research staff were recognised for their role in supervision compared with 28% in 2009 (CROS).

However, the PIRLS survey also found that 31% of research leaders/PIs would like to be more confident on appraisal or probation issues.

In the area of skills support and career development the picture is more mixed. PIRLS found that 33% of research leaders/PIs would like to be more confident in providing career support. There was a slight increase in research staff participation in career management training (from 16% in 2009 to 20% in 2011). Yet considerably more research staff reported being encouraged to participate in CPD, 77% in 2011 compared with 64% in 2009. Participation may therefore have levelled off since 2009.

¹⁸ http://ec.europa.eu/eracareers/pdf/am509774CEE_EN_E4.pdf

Day two plenary presentations

5-6 September 2011, Midland Hotel, Manchester

Of most concern was the PIRLS finding that 41% of research leaders/PIs thought that CPD was not very important in the formation of future research leaders. It was thought important for HEIs to look at their institutional data and free text comments to understand respondents' interpretation of the term CPD.

An analysis was then done of PIRLS respondents' perceptions of the importance of activities and functions for the development of researcher leaders, against their own confidence in those activities. Unsurprisingly, research leaders considered research-related functions most important and were most confident in undertaking them. Among various people management functions, many were rated very low on both perceived importance and confidence scales.

The recommendation to HEIs is to 'keep up the good work' in implementing the Concordat, but explore:

- why shorter fixed-term contracts are being used
- how research leader and research staff participation in CPD could be encouraged
- the particular areas identified where PIs would benefit from greater management support.

Paula Shelley argued that good people management was central to successful implementation of the Concordat, and by extension, to the success of the HEI. Paula focused on what good management looks like in practice, and explained the role of performance management in particular.

Performance management is 'a process which contributes to the effective management of individuals and teams in order to achieve high levels of organisational performance'¹⁹.

It is about achieving mutual benefit; a continuous process of open and shared communication about what was to be achieved, not something 'done to' the researcher at appraisal time. It is certainly not a topdown exercise or a tick box exercise to fulfil the needs of a training budget or a performance pay policy

Institutional performance management approaches should have a structured framework aligned with the organisation's mission, values and policies. For the Concordat to succeed, the approach must be holistic – a consistent and fair system applied across the HEI.

Ultimately, Concordat success depends upon individual behaviour. For example, Principle 2, Recognition and Value: 'Researchers are recognised and valued by their employing organisation as an essential part of their organisation's human resources and a key component of their overall strategy to develop and deliver world-class research.'

The PI/researcher relationship is at the heart of achieving this. The essence of good people management is about the behaviours and feelings that should arise from an effective relationship. This means, for example, the manager enabling, empowering, directing, steering, supporting, monitoring, delegating and developing. The researcher should feel valued, motivated, challenged, focused, involved, learning, engaged, supported, trusted and respected. To achieve this, PIs need to be supported – their development needs are critical.

This is not to ignore the hard issues in management when things go wrong – such as poor performance, misconduct, absence, disengagement, coasting, and ethical issues. Swift action is all important, to avoid problems escalating, together with a firm awareness of contractual obligations.

Dr Dimitrina Spencer praised the dynamic research environment in the UK and offered three points on behalf of the UK Research Staff Association (UKRSA), concerning

- equality and diversity
- research leadership
- the role of research staff associations. Research staff 'ownership' of the Concordat had improved significantly since 2010.

The UK is an extremely attractive destination for international researchers, giving them opportunities to take ownership and control of their careers, with a lack of hierarchical barriers experienced in some countries. UKRSA benefitted from the very international profile of its members.

UKRSA takes a very active stance on diversity issues, aiming to further improve the research environment. It has concerns relating to:

- mobility (national and international) in relation to dual careers. There is a need to develop improved mechanisms for partners so that they could both develop careers and undertake family responsibilities
- government and research council policy to focus support on star researchers. Although this is very important, there is a need to also ensure that all good researchers have access to resources, support and equal opportunities for career development. After all, star researchers need support teams too.

Developing leadership skills should be a priority. Institutional approaches to nurturing leadership skills in practice should include encouraging research staff to lead on research grant applications. Leadership development should encompass not only preparation for academic research careers but also teaching careers and those in industry and the third sector.

Research staff also develop leadership skills (and other skills across the Researcher Development Framework) by being active members of UK Research Staff Associations (RSAs). There is already tangible evidence of this in the RSA impact study.

RSAs' strengths lie in their flexibility and diversity: they take the character of their local members. This ensures the achievement of immediate as well as long-term goals locally and nationally. Active participation of RSAs equates to acting out the Concordat in practice.

¹⁹*Armstrong M. and Baron A (2004) 'Managing performance: performance management in action, PER'

Day two plenary presentations

5-6 September 2011, Midland Hotel, Manchester

Panel discussion

Discussion focused on the challenges of altering research leader perceptions regarding the importance of their management functions and both research leaders' and research staff's perceptions of the value of CPD.

Robin Mellors-Bourne commented on conflicting drivers. What is the incentive for research leaders to put some effort into the less glamorous sides of their role when they are principally rewarded by their research outputs? More creative use of the appraisal process is vital so that all aspects of the role are embedded. The appraisal system has to be driven from the top of the HEI down, incentivised, and made a cultural expectation. Paula Shelley added that the challenge is broader than influencing research leaders. Many academics still do not see their role as managers. Dimitrina Spencer pointed out useful research on supervisory practice and felt that the Funding Councils/Vitae diversity project 'Every Researcher Counts'²⁰ would prove a useful starting point for working with PIs.

Participants commented that those present were trying to change a culture that had grown up over many years. Senior staff and HR had to take a strong lead, but everyone needed to examine their own performance. Language was very important (e.g. translating management jargon into academic terms) and would need to vary by discipline. Also important were informal spaces (such as lunch meetings) where academics and administrators could meet and develop understanding by working within each others' frames of reference.

The merits of carrot versus stick measures were then debated. Robin Mellors-Bourne commented on research leaders' unfamiliarity with achieving through others and the satisfaction as well as value of developing as a manager of people. Brendan Barker highlighted the important role of universities' 'islands of excellence'. When financially successful departments were embodying Concordat principles, other parts of the institution took notice. He was asked how sceptics could be convinced that good management bred research success, rather than the university's ability to attract the top researchers. In response, Brendan said that both are proving important in Dundee's success – having the status to attract world-class researchers, but also having mechanisms in place to develop early career researchers.

Participants agreed that, although the UK is starting from a good baseline, more published evidence was needed to show that engaging with researcher development has a positive effect on research outputs. Several examples of research projects²¹ were cited, including the UKRSA impact study.²² Participants were urged to make the Impact and Evaluation Group aware of all such evidence.

One participant comment resonated particularly strongly with the audience. Justin Hut hence, University of Reading said: "We can throw incentives and statistics at senior managers and research leaders, but we must also not be afraid to voice our fundamental belief that researchers should be properly managed because it is the right thing to do".

²⁰ www.vitae.ac.uk/everyresearchercounts

²¹ url [Employee engagement – Uni of Leeds / Bristol – measures of employee 'Well being and engagement project' (broader than research). Dimitrina Spencer, Oxford – writing a paper 'Pedagogical structures of care' – PIs and students – semi formal structure of care that enhances research output - insights from social anthropology]

²² www.ukrsa.org.uk

Day two plenary presentations

5-6 September 2011, Midland Hotel, Manchester

A vision for the future: the role of leadership in research careers in a global research environment

Ewart Wooldridge, CBE, Chief Executive, Leadership Foundation for Higher Education

Ewart focused on some of the preconditions for more agile universities, including the ability to combine opposites such as competition and collaboration. Successful research leaders will keep in tension the external agenda and maintaining relationships across the institution. Leadership has emotional as much as intellectual aspects and researcher developers have a role to play in harnessing the positive energy of leaders at all levels.

The growth of more targeted, outcomes-focused HE funding, and the government's erosion of core funding principles have prompted some bleak visions of the future of UK academic research²³. But much can be done by open and collaborative processes of leadership to counter and cope with the forces of government hypothecation and impact.

The Leadership Foundation for Higher Education (LF) was committed to developing and improving the management and leadership skills of existing and future leaders of higher education. It aims to enable leaders to maintain a balance between working with external agendas and maintaining the integrity and values of the sector.

LF's traditional focus has been on leadership of institutions and teaching rather than leadership of research, although it has a successful research team leadership programme. This is about to change with the appointment of Teresa (Terry) Rees, formerly PVC Research at Cardiff University, to lead a new project on leadership of research.

Universities are showing a huge interest in internationalisation, which brings its own challenges. LF has also identified strategic financial management as a major development need in the sector.

A vision for HEIs will include ways to be more creative and innovative, not just in the research they do but in how the institutions are organised and led. Universities will be more agile and attempt new business models. LF has encouraged new ways of thinking with such initiatives as 'Strategy and Jazz'. Skill in leadership, like in jazz, involves continual improvisation within a controlled context. It is timely to challenge beliefs about distinctiveness and collaboration. Is it feasible to have 160 distinctive institutions in the UK? Should universities aim towards distinctive clusters instead?

Collaboration is growing within organisations²⁴ but universities still find collaboration difficult to put into practice, even if, intellectually, its importance is acknowledged. Yet much of the private sector combines competition with collaboration. HEIs need a deeper understanding of reconciling and combining opposites. Cross-boundary experiences can help, for example, the LF's Strategic Exchange programme organises three-day consultancies in different sectors, with new perspectives brought back into HEIs as a result.

A vision for research leadership is to be able to respond, in their combination of core skills and competencies, to the more focused and outcome-driven research agenda, while making sure that research is led in a way that is connected throughout the institution, including international aspects.

There are many models of leadership. Performance management demands learning to challenge as well as support. One of issues facing the sector is that cultures and practices will need to be challenged. One helpful model is sense-making or interpretative leadership – interpreting a complex world and integrating that into the whole.

So the sector will reshape, and successful institutions (or organisations, or providers) will find creative ways to combine opposing forces: private and public; fragmentation and whole-system; competition and collaboration. Everyone has a role in encouraging debate about these issues, supporting collaboration across boundaries and countering the negativity that can grow in institutions in difficult times. It is a shared responsibility to (borrowing Janet Metcalfe's phrase) impassion others by stimulating the positive energy in institutions. Giving energy, hope and inspiration is the most important quality for leaders and managers at all levels. Leadership is an emotional process: being able to combine intellectual and emotional leadership is crucial.

²³ For example www.guardian.co.uk/education/2011/sep/05/he-white-paper-damage-research

²⁴ Research by Dr Celia Whitchurch of the Institute of Education found a 'growing shared space of collaboration' between professional support staff and academic staff [url]

Day two plenary presentations

5-6 September 2011, Midland Hotel, Manchester

Closing remarks

Dr Janet Metcalfe summarised the conference's emerging themes.

Leadership

Ewart identified the importance of passion in leadership. Senior management support for the researcher development agenda is perhaps not enough – their passion is needed to ensure support for the researchers of the future.

The conference had been much concerned with the challenges of people management. Principal investigators and research leaders have been rewarded throughout their careers for their intellectual intelligence. It is a significant change to ask them also to be comfortable with, and reward them for, their emotional intelligence so that they accept and acknowledged the responsibility they have for the leading, managing and supporting the career development of all their researchers.

Influencing research leaders would be facilitated where local and national drivers are also helping them move in new directions. Speakers had discussed the importance of using strategic and institutional tools such as performance criteria, workload models (with management and supervision an automatic inclusion) and appraisal systems to reward research leaders for their support of researchers as well as research outputs. It will be important to examine the drivers within institutions in response to messages emerging from the CROS and PIRLS surveys.

The conference was also reminded that research leaders should respond to the Concordat because it was 'the right thing to do'. The Concordat will have succeeded when research leaders believe it is self-evidently good practice to support researchers in these ways.

Policy developments

Realising researcher potential is more crucial than ever. Plenary speakers had emphasised UK government and European focus on the economic importance of research in revitalising economies and addressing society's grand challenges. Stefaan Hermans had described an Innovation Union future of borderless research systems across Europe. Several speakers had focused on the growing emphasis on investing in the best researchers – the research leaders of the future. Striving for excellence is clearly of great importance, but it is also crucial to retain system support. How otherwise will equality of access be maintained? With reduced resources it will be a considerable challenge to ensure support for the underpinning system so that the best could thrive and become research leaders.

Realising researcher potential also depends on a broader cultural shift. Those who manage researchers are still motivated and rewarded primarily by their research outputs. The REF is clearly a key driver. The REF has made some improvements over its predecessor, the Research Assessment Exercise, but Vitae is keen to ensure that the new research environment element and equality and diversity aspects of the REF sufficiently recognise the importance of the development of researchers. Institutions are urged to input to the REF consultation.

Building and sustaining institutional capacity

The level of commitment to the researcher development agenda shown at the conference is just as high as when institutions were receiving ring-fenced Roberts funding.

The RCUK analysis of responses to its survey of June 2011 indicates that the majority of institutions are committed to maintaining researcher development activity levels, in spite of falling investment. Strategies for achieving this depend upon economies of scale, efficiencies, online learning, embedding delivery at more local level, and increasing academic involvement.

Collaborations are going to be important in sustaining capacity, though it is recognised that a more competitive environment will bring challenges. The Midlands Hub Training Exchange provides one good example of ways to maximise resources across a region.

The Vitae Researcher Development Framework will be important in underpinning Vitae's support for the sector. Vitae is looking at a specification for a web-based tool and at how it might best develop this to support both institutions and individual researchers.

A key theme was the supply of the next generation of researchers. Paul Hagan had said that the UK funding bodies have little idea of the impact of undergraduate fees on postgraduate supply. There is a collective nervousness with a 'wait and see' approach, particularly about the implications for recruitment of UK-domiciled postgraduate researchers into research degrees. Research has shown that most young people make the decision to go into research quite late in their undergraduate course. How can a passion for research be instilled at an earlier stage so that the prospect of long-term student debt becomes less of a deterrent?

The increase in undergraduate fees might also have implications for future research degree programmes. Will the forthcoming generations have a more consumerist approach to their doctorate? How will postgraduate provision need to adapt?

Demonstrating the value of researcher development

The evidence base is still as important, even though there is no longer a requirement for UK institutions to report to RCUK. The Impact and Evaluation Group is still keen to collect and disseminate HEI studies and case study examples.

The new research strand at the conference was a reminder that a researcher development scholarly community now exists: it was a phenomenal achievement in so short a time-frame.

CROS and PIRLS have established themselves as valuable survey instruments. CROS 2011 shows significant progress in Concordat implementation, possibly even faster progress than expected. The PIRLS findings require reflection on how best to support PIs and research leaders to achieve their roles in the Concordat. One form of support would be the materials for PIs produced by the 'Every Researcher Counts' equality and diversity project, to be published in the autumn. DTZ's forthcoming report for EPSRC will provide an important model for identifying the different impacts doctoral graduates make in employment.

Finally, institutions were urged to reply to the current worldwide survey, organised by the OECD's working group on research institutions and human resources, into transferable skills for researchers. The OECD welcomed HEI case studies; an excellent opportunity for institutions to showcase their researcher development practice internationally.

Workshop outcomes

5-6 September 2011, Midland Hotel, Manchester

The conference's 52 workshops developed the main themes of the conference in varied ways. Some explored the practical implications of research or survey findings, others discussed policy developments, and many shared institutional case studies and other examples of successful, innovative and exemplary practice. Several workshops sought participant feedback or input specifically to inform the development of new resources, such as lenses on the Researcher Development Framework. Major topics and themes are shown below. Individual workshop outcomes are available by following the links below or via the Vitae 2011 conference website.

Theme 1

Building and sustaining institutional capacity for researchers' professional development

- [Sustainability of Roberts: key messages from the 2011 survey](#)
- [Researcher development in centres for doctoral training: an institutional perspective](#)
- [What about us? Professional and career development for researcher developers](#)
- [Creating researcher communities: a sustainable model for post-Roberts researcher development](#)
- [Helping researchers take the driving seat in their own career development](#)

With the end of ring-fenced funding and the full transfer of ownership of researcher development to HEIs, new models to sustain researcher development capacity in ways more closely aligned to university strategy are being established. The introduction of centres for doctoral training/doctoral training centres also engenders new approaches. These workshops included case studies of institutional responses, as well as discussion of the implications of the changing landscape for researchers, their managers and those who support researcher development.

- [Collaboration and the researcher development agenda](#)
- [Online information handling skills for researchers: a collaborative approach](#)
- [Vitae Hubs: strength through collaboration](#)
- [Perspectives on collaboration](#)

Much good practice exists in collaborative models of researcher development provision within and between institutions. These workshops looked at the risks and benefits of collaboration and how to increase successful collaboration to sustain institutional capacity, including the role of Vitae Hubs as focal points for cross-institution collaboration.

- [UNiWiND / GUAT: German university association of advanced graduate training](#)
- [Sharing practice internationally: examples and opportunities](#)

These workshops presented examples of sharing practice in researcher development across international boundaries and prompted reflections from both strategic and practical perspectives of the opportunities and potential challenges for institutions of sharing practice internationally.

Theme 2

Demonstrating the value of researcher development on research outputs, researcher careers, economic prosperity and society

- [Using CROS to measure progress at a national level: comparing CROS 2011 and 2009 aggregate results](#)
- [PIRLS of wisdom – what the new PIRLS survey tells us about principal investigators and research leaders](#)
- [What do researchers do? Career activity landscape and labour market information for doctoral graduates](#)
- [The Postgraduate Research Experience Survey \(PRES\): 2011 results, implications and practical uses](#)
- [Demonstrating value in research staff associations \(RSA\)](#)

Among the major achievements of the Roberts era was the growing attention to evaluation and impact of researcher development during research training and in subsequent careers. These workshops brought participants up to date with the latest findings from both established and new national surveys and discussed the implications for Concordat implementation and enhancement of doctoral training programmes.

Workshop outcomes

5-6 September 2011, Midland Hotel, Manchester

Theme 3

Policy developments relating to doctoral education and employing researchers

Engagement, influence and impact

- [Research in the spotlight: supporting researchers to maximise the impact of their work](#)
- [Using applied theatre to enhance a researcher's ability to engage with professional users in management and business: progress update and feedback](#)
- [Knowledge exchange and impact – nurturing the entrepreneurial researcher](#)
- [Supporting public engagement as a pathway to impact](#)
- [Lenses on the Researcher Development Framework: a focus on public engagement](#)
- [The engaging researcher – public engagement training resources](#)

These workshops explored the issues involved in turning 'impact' policy into practice, particularly in the areas of public engagement and knowledge exchange. Participants were able to reflect on the extent to which their institution met the principles of the new (2010) Concordat for Engaging the Public with Research, learn about case studies and new resources to support public engagement activities and discuss good practice in knowledge exchange offered from both research-based and experiential perspectives.

Employer engagement for employability

- [The current and changing landscape of researcher-business interactions](#)
- [From policy to practice: employer engagement in the arts, social sciences and humanities – an ASHPIT approach](#)
- [Work placements and internships: developing a competency framework](#)
- [The skilled researcher: applying the Researcher Development Framework to different careers](#)
- [Developing the ideal researcher profile for non-academic employers' needs and the interface between academia and business](#)
- [Training competitive researchers for the future with industry](#)

A greater engagement with employers is increasingly prominent in higher education policy. A common theme of these workshops was the need for conceptual frameworks to support communication and engagement between HE, employers, and researchers themselves. These workshops combined mapping initiatives with practical examples, and included international perspectives from the European Commission and from France.

Excellence and diversity

- [Every Researcher Counts: equality and diversity in researcher careers in HEIs](#)
- [Leadership: resources to inspire researchers to develop their leadership potential](#)
- [Never the twain shall meet: bringing research leaders and early career researchers together to discuss career development](#)

UK funders are increasingly focusing support on the research leaders of the future. The Research Excellence Framework is also strengthening its equality and diversity provisions. These workshops looked at the realities and implications of these policies within institutions and showed a range of possible approaches to working with research leaders and researchers.

- [EURAXESS – some university perspectives](#)
- [The UK HE sector and developments in the doctoral cycle of the Bologna Process](#)
- [Developing international inter-disciplinary research](#)
- [Developing the global researcher – The 'what', 'so what' and 'now what?'](#)
- [Exploring international differences in doctorates and doctoral supervisory practice](#)
- [Supporting the 'global researcher' – in Europe and beyond](#)

The globalisation of research had brought a new landscape in which UK HE research seeks to maintain its world-leading strengths and capitalise on partnership opportunities with HEIs internationally. At the individual level, the Concordat requires researchers to be 'equipped and supported to be adaptable and flexible in an increasingly diverse, mobile, global research environment'. These workshops explored some opportunities and challenges associated with developing and supporting researchers in international contexts.

Workshop outcomes

5-6 September 2011, Midland Hotel, Manchester

Theme 4

Sustainable practice to support researcher skills, professional and career development

- [HR Excellence in Research Award](#)
- [Using Vitae training and development materials in your researcher development programme](#)
- [The Researcher Development Framework: update on resources and implementation](#)
- [The Researcher Development Framework Planner: an evaluation in a career development course for research staff](#)
- [NonZeroSum: collaboration for researchers, Creative Commons for resources](#)
- [Helping researchers to take the driving seat in their own career development](#)
- [‘Gown to town’ – alternatives to an academic career](#)

These workshops included a strong emphasis on tried and tested approaches and resources, and lessons from successful practice, to assist HEIs maintain researcher development activity in a more difficult funding environment.

Theme 5

Issues in researcher development

- [Career planning by researchers](#)
- [Creative environments for STEM research](#)
- [The role of emotions in interdisciplinary scientific learning, teaching and practice](#)
- [Go digital: an introduction to digital technologies for research dialogues](#)
- [Embedding post-doc career mentoring and exploring coaching in researcher development](#)
- [The professional researcher](#)

These workshops stimulated thinking about some complex issues associated with the development of researchers. Researcher development is increasingly research-informed and several of these sessions explored the practical implications of enquiries into researcher creativity, emotional intelligence, and career planning.

Research Strand

5-6 September 2011, Midland Hotel, Manchester

The dedicated research strand was new to the 2011 conference. It was organised in partnership with the 'International Journal for Researcher Development' and chaired by Dr Tony Bromley, Yorkshire and North East Hub Coordinator, Vitae, IEG

Keynote: The scholarship of researcher development: mapping the terrain and pushing back boundaries, Dr Linda Evans, University of Leeds

The launch of the 'International Journal for Researcher Development' in 2008 marked the emergence of researcher development as a new field of study. Linda Evans argued that it is now "time to widen the field's investigatory foci to include a more introspectively-directed dimension." Linda proposed a way forward: a research and scholarship agenda that maps out the terrain still to be explored and employs the kind of analyticism that underpins and facilitates conceptual clarity and definitional precision. Drawing upon her own original conceptual and processual models, her paper illustrates the potential of theory and theoretical perspectives for enriching what we know about researcher development, for enhancing the status of this new field of study, and for informing the practice of developing researchers.

Facilitators of creativity in the science and engineering research context,

Elaine Walsh, Imperial College London discussed the findings of a qualitative research project to discover the facilitators and barriers of creativity within the science, technology, engineering and mathematics disciplines of a research-intensive UK university.

Revelation or irrelevant: researchers' perspectives on educational theory

Dr Ian Finlay, University of Oxford, explored the engagement of early career researchers on a teaching development programme in a British, research-intensive university. The paper focuses on the tension between participants' needs for immediate survival skills and their exposure to theories of learning and teaching.

The 'Big Bang' of researcher development: where did it all come from?

Dr Ruth Garbutt, University of Leeds, put forward a conceptual model to show how policies, processes and professionalism have initiated and driven researcher development. She focused on the employability agenda, the postgraduate researcher as 'consumer' and the developing culture of continuing professional development.

Not just another statistic! A qualitative approach to understanding research staff issues!

Elena Golovushkina, Glasgow Caledonian University contributed in-depth qualitative data covering the views of research staff as well as those of other key stakeholders on the central issues surrounding continuing professional development, gathered through 20 semi structured interviews at a UK higher education institution.

A postdoc: what is it worth outside academia?

Annik Leyman, Ghent University (Expert Centre R&D Monitoring), presented the results of an investigation into the added value of the postdoctoral training period for those who leave the academic world, which showed wide variations by discipline.

Outcomes of Entrepreneurial Training and how to improve them,

Dr Kevin Parker, KKI Associates, drew on statistics collected by KKI in presenting commercial skills and entrepreneurship training to over 2,000 postgraduate researchers over the last 15 years, and discussed findings about the ratio of successful entrepreneurs to course participants.

CREATE: Development of global research management skills

Thale Kvernberg Andersen, SINTE, examined the impact of an international multidisciplinary training programme on the development of global management skills, and the key aspects for the successful organisation of these. Based on a European Marie Curie project, the training programme's goal was to strengthen young and inexperienced researchers' competencies in research management on a European level.

Proceedings from the research strand will be published in a special edition of the 'International Journal for Researcher Development' subject to the normal peer review processes of the journal.
www.emeraldinsight.com/ijrd.html