

Research Councils UK Research Careers and Diversity Strategy

RCUK investment in attracting, training and managing the next generation of world-class researchers will make a major contribution to improving the quantity, quality and impact of research to the benefit of UK society and the economy.

Background

The Research Councils exert a specific influence on the higher education (HE) sector through funding a major portion of the human research capital. They support over 30,000 researchers at any one time, including:

- 15,500 doctoral students;
- 10,000 research staff in universities;
- 4000 research staff in research institutes; and
- 2000 research fellows.

The UK's 10 year *Science and Innovation Investment Framework 2004-2014*¹ (2004) makes clear that science, engineering and technology (SET) skills are essential for the future of the UK. To ensure that the UK has access to these skills it is necessary to enthuse school pupils to achieve in SET, increase the participation in SET in HE, ensure women and ethnic minority groups are fully represented, and respond to the needs of employers and the UK economy.

In 2006, The Government set out the "Next Steps"² in achieving these aims and emphasised that all Research Councils will work through Research Councils UK in several key areas including careers in science and the diversity of the science work force.

The Government's strategy has built on several initiatives. The Roberts Report, *SET for Success*³ (2002), addressed the supply of people with SET skills, identifying a number of issues in schools, further and higher education, as well as in the labour market. The Roberts Report itself took forward the work of the Research Careers Initiative (which published its final report in 2002) and the 1996 Concordat on career management for postdoctoral researchers. The Greenfield Report, *SET Fair*⁴, published in 2002 addressed specific issues relating to the recruitment and retention of women in SET. These reports led to the creation of the UK Resource Centre for Women in SET and Government funding ("Roberts money") for a range of initiatives to implement the recommendations of the Roberts Report:

- RCUK Academic Fellowships to provide better career paths into academic positions;
- Increased Research Council stipends (to £12,000 pa by Oct 2005);
- Enhanced stipends for research students and enhanced salaries for postdoctoral researchers in priority areas;
- Longer PhD training (to 3.5 years on average); and
- Funding for generic skills training both for postgraduates and postdoctoral researchers.

¹ http://www.hm-treasury.gov.uk/spending_review/spend_sr04/associated_documents/spending_sr04_science.cfm

² http://www.hm-treasury.gov.uk/budget/budget_06/assoc_docs/bud_bud06_adscience.cfm

³ http://www.hm-treasury.gov.uk/documents/enterprise_and_productivity/research_and_enterprise/ent_res_roberts.cfm

⁴ <http://www.dti.gov.uk/science/science-and-society/science-workforce/women-in-set/page10491.html>

The Leitch Review of Skills⁵ is clear that the UK must become world class on skills stating: “One of the most powerful levers for improving productivity will be higher level skills”. The Worry Report⁶ on the economic impact of the research councils recommends that researchers should have access to enterprise training. Previously the Roberts Report stressed the importance of matching the research and transferable skills of doctoral graduates to the perceptions and expectations of employers both outside and within higher education. For highly skilled researchers to make a critical contribution to the economy of the UK, as envisaged by Government, continued innovation in the range and delivery of transferable skills, and their effective integration into research degree programmes, is needed.

The Strategy

RCUK’s Research Careers and Diversity Strategy addresses the goals of the Science and Innovation Investment Framework and takes forward key aims of the RCUK and Councils’ Delivery Plans. It has three overarching aims:

- To ensure that the best potential researchers are attracted into research careers;
- To help universities to improve the quality of their research training and improve the employability of early stage researchers; and
- To improve retention of the best researchers by promoting better career development and management of research staff in research organisations;

and two cross-cutting aims:

- To promote diversity within the research workforce at all levels and in the governance of research; and
- To enhance the attractiveness of the UK as a destination for the best researchers.

The Research Councils recognise that the ability of the UK to carry out the highest quality research of relevance to users and of benefit to the economy requires that the UK draws on the best researchers from all groups in UK society and from overseas. Recognising that the factors influencing participation are not fully understood, RCUK will work with stakeholders, including industry, who share an interest in the health and diversity of the UK research sector.

The Research Councils need a skilled and motivated workforce to maintain a healthy and vibrant research sector and fulfil research grants. Prime responsibility for staff development lies with employers and where Councils are employers of research staff they will aim to set high standards as an exemplar for the sector. For researchers in HE institutions, full economic costing for grants and legislative changes to fixed term contracts will impact on the management of researchers, but the lack of clear career structures and uncertain career prospects identified in the Roberts’ Report remain significant factors influencing the career choices of researchers.

⁵ http://www.hm-treasury.gov.uk/independent_reviews/leitch_review/review_leitch_index.cfm

⁶ <http://www.dti.gov.uk/files/file32802.pdf>

Implementation

This strategy is not discipline specific and complements the research training and careers programmes delivered by individual Councils and described in their Delivery Plans⁷ and in the training and careers sections of the Councils' websites. It will be delivered by the RCUK Research Careers and Diversity Unit but working closely with individual councils. RCUK will also work with the Funders Forum and promote collaboration with other stakeholders in the HE sector.

RCUK has also published its Science in Society Strategy⁸ (April 2006) which includes the complementary aim to: "Engage young people with contemporary research to enhance their experience of science, encouraging more to pursue science studies beyond 16 and follow R&D careers, and enabling more to act as informed citizens." That strategy also addresses public attitudes to research; scientists' engagement with the public and increased awareness of the impact of Research Council-funded research. The Research Careers and Diversity Unit will work closely with the RCUK Science in Society Unit to deliver these aims.

⁷ <http://www.rcuk.ac.uk/aboutrcuk/deliveryplan.htm>

⁸ <http://www.rcuk.ac.uk/sis/strategy.htm>

Aim 1: To ensure that the best potential researchers are attracted into research careers

In achieving this aim, the Research Councils will:

- Promote the excellence of UK postgraduate research training.
- Engage with industry and other stakeholders to ensure relevance in training and to help early career researchers to understand the variety of career options open to them and the relevance of the skills gained through research.
- Maintain the high profile of transferable and generic skills in HE, their embedding in research degree programmes and their relevance to research career development.
- Identify the factors contributing to the successful completion of PhD training and the initiation of independent research careers.
- Improve our understanding of research career pathways, including the commissioning of a major longitudinal analysis based on a cohort of PhD candidates across all disciplines.

Recent achievements and ongoing activity

The Research Councils have:

- **Implemented key recommendations of the Roberts Report on postgraduate careers, by:**
 - making PhDs more financially attractive,
 - lengthening the period of PhD funding,
 - incorporating more transferable skills and
 - making enhanced stipends available to attract qualified candidates to shortage areas.
- **Established the RCUK Academic Fellowship scheme as an effective route into an academic career.** This co-funded scheme, arising from a recommendation in the Roberts Report, will have created 200 new fellowships a year by 2008/09. The quality of applicants has been high and the scheme is providing effective development of researchers and facilitating interdisciplinary research.
- **Worked to improve destination data for doctoral students.** RCUK will collaborate with UKGRAD and with Higher Education Statistics Agency, Wellcome Trust and others to explore destinations of doctoral students and synergies in data capture.
- **Addressed key supply and demand issues for early career researchers and the health of UK research disciplines through the Research Base Funders Forum. The Research Councils published their first annual report on the health of disciplines in March 2006.** RCUK has made representations to the Funding Councils for consistent treatment of early career research staff in the 2008 RAE.

Future Developments

The Research Councils will:

- **Initiate a wider debate on the attractiveness of the PhD and the structure of early stage career paths.** RCUK will:

- Analyse the state of knowledge on attractors to research and postgraduate study and on the intentions, career plans and destinations of researchers.
 - Analyse the factors that influence the decision to pursue a research career.
 - Commission a cohort-based longitudinal survey of research students across all disciplines covering at least the first 10 years of their career and examining socio-economic factors
 - Work with the RCUK Science in Society Unit and external stakeholders, including industry, to promote research as a career.
- **Promote the use of enhanced stipends and salaries to recruit and retain the best researchers in shortage areas.** RCUK commissioned a report to look at the impact of enhanced stipends and salaries on recruitment and retention of researchers. This was published with an RCUK commentary in July 2006.
 - **Identify additional factors contributing to the attractiveness of research training.**
 - **Maintain increases in minimum PhD stipends and enable longer average length PhD studentships.**
 - **Evaluate the impact of Council schemes for pre-PhD vacation bursaries in increasing the uptake PhD training.** Schemes launched in 2006 by the Biotechnology and Biological Sciences Research Council (BBSRC) and the Engineering and Physical Sciences Research Council (EPSRC) provide funding for undergraduate students to gain first-hand experience of research in a UK university to help them consider a research career.
 - **Report annually to the Research Base Funders Forum on supply and demand issues for researchers and discuss with the Department of Trade and Industry, the Office of Science and Innovation (OSI) and the Department for Education and Skills (DfES) and other interested parties.**
 - **Assess the use and impact of RCUK Academic Fellowship and their future funding.** This will include holding workshops with HE institutions.
 - **Make career paths in research more visible to early-career researchers.** A collaborative project with Wellcome Trust and Royal Society aims to develop a web-based tool primarily aimed at PhD and early post-doctoral researchers. The project will explore links with related projects such as that of the Science Council (aimed at schools) and the Engineering and Technology Board.

Targets

By March 2007, RCUK will have:

- Collated further evidence on the impact of the measures recommended by the Roberts Report to improve the attractiveness of PhD study.
- Launched the Careers in Research website demonstrating the range of careers available to researchers.
- Furthered the selective use of higher stipends to recruit students into shortage areas.
- Held a workshop (with the RCUK Science in Society unit), for RCUK Academic Fellows and institutional co-ordinators, to share sharing practice in outreach training and achievement.

By March 2008, the RCUK will have:

- Completed data collection for the first sweep for the longitudinal study of research students.
- Produced a report describing the implementation and impact of the Roberts Report on postgraduate training and the sustainability of the agenda, to mark the fifth anniversary of its publication.
- Reported on the extent of longer PhDs in both doctoral training account and quota allocation systems.
- Developed guidelines for Councils for initiatives to make research careers more attractive.

Published an assessment of progress in encouraging recruitment and retention of the best students into shortage areas.

Aim 2: To help universities to improve the quality of their research training and improve the employability of early stage researchers

In taking this forward the Research Councils will:

- Promote good practice in the delivery of skills training and enhance its delivery.
- Maintain the virtuous circle in skills provision by:
 - Maintaining the availability of Research Council funding;
 - Incorporating the provisions of the QAA Code of Practice for Research Programmes;
 - Building capacity in universities through the UKGRAD programme; and
 - Sharing practice through UKGRAD and other forums.
- Promote innovation in training provision.
- Assess the impact of skills training provided through the UKGRAD programme.
- Identify metrics that demonstrate the economic impact of research training.
- Identify quantifiable factors that enhance employability of researchers in the early stage of their careers.
- Promote awareness in higher education of the value of research skills to the economy and their impact on the productivity of researchers.
- Establish the skills needs of industry and business, promote collaborative training, placements and other types of workplace experience, and encourage the higher education sector to do the same.

Recent achievements and ongoing activity

The Research Councils have:

- **Ensured that skills funding is consolidated at a high level in institutions** to enable strategic and coordinated investments. A single RCUK statement detailing payments by individual councils is followed by co-ordinated payments.
- **Aligned the UKGRAD programme with the Roberts Report's recommendations on PhD skills training** to enhance the availability and delivery of transferable skills.
- **Assisted staff in universities in implementing the recommendations of the Roberts Report** through UKGRAD, policy forums, good practice events and visits by Research Council staff.
- **Provided up to a third of their doctoral students with research experience at an industrial or other non-academic partner organisation** and access to additional developmental opportunities through CASE, EngD and other collaborative awards.
- **Explored with the UK Science Forum skills working party** how the needs of industry and business can be better communicated to the providers of science education and training.

Future Developments

The Research Councils will:

- **Maintain funding for skills training throughout the CSR2007 period** and aim to pay this as a single co-ordinated payment to each organisation. This will enable strategic use of the funds by institutions and facilitate planning, eg in the employment of staff to co-ordinate delivery.
- **Ensure that the UKGRAD programme meets its aim and objectives** and catalyses innovative practices in the delivery of career development and transferable skills training.
- **Promote sharing of practice in skills delivery** through annual policy forums, the UKGRAD database of practice, annual reporting and feedback and the use of tools such as training needs analysis and personal development planning.
- **Monitor the impact of skills training on employability** by surveying the perceptions of researchers, supervisors and employers on the benefits of additional skills training, and longer PhD studentships and by collaborating with the Higher Education Academy on the Postgraduate Research Experience Survey.
- **Identify employers' needs for additional skills for researchers.** These could include knowledge transfer, quantitative methods, entrepreneurship, participation in RCUK's Researchers in Residence scheme, engagement with the public and schools. Where appropriate, objectives will be incorporated into the UKGRAD workplan.
- **Promote the relevance of skills to the economy and explore metrics for the economic value of PhDs** in line with the Government's objectives to improve up-skilling of the workforce and the findings of the Leitch Review of Skills and the Warry report on economic impact.

Targets

By March 2007, RCUK will have:

- Awarded a new contract for the UKGRAD programme.
- Published an analysis of the impact of delivering enhanced skills for researchers.
- Determined the need – in consultation with the sector – for additional skills training, for example in knowledge transfer, entrepreneurship, exploitation processes and outreach to schools.
- Reported on the RCUK Academic Fellowships workshop on outreach activities and promote this area of skills development.
- Ensured that the agenda of the annual Roberts Policy Forum and other events address skills, career development and employability issues for both research students and research staff.

By March 2008, RCUK will have:

- Produced benchmark reports on the perceptions of students and other stakeholders on the impact of the additional transferable skills training.
- Identified actions resulting from the findings of the Higher Education Academy's Postgraduate Research Experience Survey.
- Established changes in employers' perceptions of the quality of researchers.

Aim 3: To increase the retention of researchers by promoting improved career development and management of research staff in research organisations.

In taking this forward, the Research Councils will:

- Work with the sector to replace the 1996 Concordat for contract research staff with a Code of Practice in order to make clear the expectations of research funding agencies in relation to the management of research-only staff.
- Establish a ‘virtuous circle’ for the career development of research staff within research organisations through:
 - Providing funds for career development training throughout the CSR2007 period.
 - Providing a guidance framework accessible to all through a new Concordat/Code of practice for researchers.
 - Raising the capacity of the sector to deliver effective career development and management for research staff.
 - Establish effective mechanisms for sharing of practice between HE institutions to inform better use of subsequent funding.
- Promote the use of surveys such as Careers in Research Online Survey to enable universities to assess the impact of their policies towards researchers.
- Encourage continuing professional development for researchers at all levels as a means of developing and updating research skills, facilitating knowledge transfer and raising standards of supervision of staff by principal investigators and research team leaders.
- Use advocates and role models from both academy and industry to promote the rewards of a research career.

Recent achievements and ongoing activity

The Research Councils have:

- **Agreed with the sector to retain a proportion of Roberts funding at UK level** in order to support projects of wide benefit to the HE sector.
- **Supported staff in research organisations with an interest in developing the careers of researchers.** RCUK has promoted the careers training needs of research staff in policy and good practice forums and given moral and financial support for the establishment of the Higher Education Researcher Development (UKHERD) group of staff-developers and human resource professionals.
- **Developed strategies for developing and promoting good practice in employment, management and training in Research Council institutes.** Programmes will embed the skills needed to lead and manage both science and people, and aim to build on best practice in the management and development of researchers.
- **Earmarked funds for career development of researchers throughout the CSR 2007 period.** This will enable medium term planning by institutions, for example in the recruitment of staff to deliver and co-ordinate career training for research-only staff .

Future Developments

The Research Councils will:

- **Manage a fund to pump-prime and support projects of benefit across the whole HE sector.** RCUK will jointly identify priorities and will agree suitable routes for the delivery of the projects working with UKHERD, UKGRAD and other groups as appropriate.
- **Develop a Code of Practice for Researchers to replace the 1996 Concordat** working with stakeholders across the sector. The code will be a single reference source consistent with the EU Charter and Code for Researchers and the expectations of funders in relation to management of researchers. It will be available for all funders to incorporate into their terms and conditions of grant, and will be promoted to individual principal investigators and researchers.
- **Challenge the sector to place greater emphasis on the career development training of research staff.** UKGRAD will continue to address the career development needs of research staff in the period 2008-2012. Sharing of practice at national level will be promoted through the annual Roberts Policy Forum, the UKGRAD and UKHERD annual conferences, and meetings with Council-supported researchers and fellows.
- **Engage with Funding Council-funded projects on research leadership and principal investigator training.** This will ensure that stakeholders are aware of the RCUK's objectives and that Councils can raise the standard of the management of researchers.
- **Continue to report analyses of researcher and research career issues to the Research Base Funders Forum and report on the use of fixed term contracts for research staff annually from 2008.** The effective management of research staff across the sector is of critical importance to the ability of the councils to support excellent research and to ensure its exploitation. RCUK will work with partners in the sector, in particular the Funding Councils. The analyses will be informed by data from the Higher Education Statistics Agency and from information obtained directly from HE institutions.

Targets

By March 2007, RCUK will have:

- Published the new Code of Practice for Researchers for sector wide consultation.
- Sponsored a good practice conference on staff-management in the wake of legislation on use of fixed-term contracts.
- Shown increased evidence of innovative support for career development drawing on evidence from the UKGRAD database of skills practice and annual reporting from the HE sector on the use of skills funding..

By March 2008, RCUK will have:

- Incorporated the new Code of Practice for Researchers into the terms and conditions of Council grants.
- Established a strategy for engagement with Research Council institutes and units for sharing good practice on career development and training.

- Held a conference with those Councils which operate institutes, and research-intensive HE institutions to share good practice in management, leadership and career development for researchers.

Aim 4: To promote diversity within the research workforce at all levels and in the governance of science

In taking this forward, the Research Councils will:

- Work with other organisations in the sector to promote diversity.
- Work across the Research Councils to encourage women's participation in science, in particular after career breaks.
- Promote diversity within the Councils' own workforce, both research and administrative.
- Promote greater understanding of the participation of minority groups in postgraduate training and research.
- Promote the participation of under-represented groups.
- Through the work of the RCUK Research Careers & Diversity and Science in Society Units, increase opportunities for people of all ages and from all sectors of society to engage with research and researchers and encourage more young people to pursue science studies beyond 16 and follow research careers.

Recent achievements and ongoing activity:

The Research Councils have:

- **Co-ordinated their diversity activities to in relation to their role as research employers and funders.**
- **Agreed a memorandum of understanding with the UK Resource Centre for Women in SET and undertaken joint programme of activities with professional institutions.**
- **Monitored gender participation in peer review and career progression in Research Council institutes.**
- **Provided funding to the Daphne Jackson Trust fellowship scheme to enable women to return to research work after career breaks**
- **Developed a joint system for supporting disabled postgraduate students. This has been informed by the PREMIA project at University of Newcastle, funded by the Higher Education Funding Council for England.**

Future Developments

The Research Councils will:

- **Implement their legal obligations under the positive duty provisions of equality legislation.**

- **Develop the partnership with the UK Resource Centre for Women in SET and the professional institutions** to address the issues affecting women in re-entering and progressing in a research career.
- **Commission or participate in a study of ethnic participation in postgraduate (primarily research) training.** The Councils will seek involvement of partners, including Universities UK, the Equality Challenge Unit, Department for Education and Skills and the Wellcome Trust.
- **Encourage the participation of ethnic minority groups in research training** and in specific schemes such as the pre-doctoral vacation bursaries.
- **Develop a future strategy for women returner schemes,** including possible new RCUK schemes and further work with the Daphne Jackson Trust.
- **Develop a cross-Council policy to remove perceived and real barriers to funding part-time students.**
- **Monitor applications and outcomes of Research Council funding disaggregated by gender, ethnicity, age and other diversity indicators.**

Targets

By March 2007, the RCUK will have:

- Prepared a position paper on the promotion of diversity in postgraduate research. This will extend work already being done through the Research Base Funders Forum on the health of disciplines.
- Encouraged participation by researchers from under-represented groups in the Research Councils' Researchers in Residence scheme, which brings researchers into schools to quality science experiences for pupils.
- Improved the awareness of fellowship opportunities for researchers returning after a career break.

By March 2008, the RCUK will have:

- Evaluated the impact of Research Council-funded vacation bursary schemes as a means of increasing the number of postgraduate researchers from under-represented groups. This will focus particularly on participation from ethnic groups.
- Increased the level of female representation on committees and peer review panels.

Aim 5: To enhance the attractiveness of the UK as a destination for the best researchers

In taking this forward, the Research Councils will:

- Work with the sector to ensure that the views and needs of the UK research community are represented in European forums.
- Ensure that the UK incorporates the principles of the European Charter and Code for researchers into relevant guidance from UK HE funders so that the UK is seen to be fully engaged in the European Higher Education Area and European Research Area.
- Support and develop schemes that enhance the ability of the UK to attract the best researchers from abroad.
- Act on the findings of international reviews of disciplines in the UK HE sector.
- Learn lessons from other countries to enhance existing mechanisms used by Councils.

Recent achievements and ongoing activity

The Research Councils have:

- **Contributed to doctoral developments in Europe** through co-operation with the Europe Unit, membership of the European Commission's Research Directorate-General's Steering Group on Human Resources and Mobility and participation at conferences on the EU Charter and Code, the development of European Higher Education Area (Bologna process) and the European Universities Association doctoral projects.
- **Worked with the Research Councils' UK Research Office in Brussels in order to improve the synergy between UK and Marie Curie actions and understanding of the EU Framework Programmes.**
- **Operated the Dorothy Hodgkin Postgraduate Award Scheme, in partnership with industry**, to attract the best doctoral candidates from the developing world.
- **Raised the profile of the EU Charter and Code for Researchers in the UK** and developed strategies for its effective incorporation into UK practice whilst maintaining the momentum to develop UK practice (e.g. through a new Code of Practice for Researchers).
- **Worked with the Office of National Statistics and the Higher Education Statistic Agency in contributing to the Organisation for Economic Co-operation and Development Careers of Doctoral Holders Project.** This will deliver greater understanding of the distribution and roles of doctoral holders in the UK economy and enable comparisons with other countries.
- **Published a gap analysis of the provisions of the EU Charter and Code against UK practice and guidance** - developed jointly by RCUK and Universities UK and with wide co-operation from stakeholders.

Future Developments

The Research Councils will:

- **Seek agreement from the Department for Education and Skills and the Office of Science and Innovation to widen eligibility for RCUK studentships to allow the best students to be recruited**, to allow more effective promotion of studentships within the EU and overseas and to build on schemes piloted or operated by the Councils (e.g. Dorothy Hodgkin Postgraduate Award scheme for students from the developing world).
- **Raise awareness of schemes and methods by which UK researchers can gain valuable experience overseas** by working with other stakeholders such as the EU, Universities UK and those working on RCUK international programmes.

Targets

By March 2007, RCUK will have:

- Worked with professional institutions, other Government Departments and other organisations to understand perceptions of the UK as a place to undertake research and how this has changed over time.
- Provided input to the Department for Education and Skills and the Europe Unit to ensure that postgraduate training is adequately represented in briefing for the London Ministerial Conference on the Bologna Process.
- Incorporated the principles of the European Charter for Researchers and Code for recruitment of researchers into a Code of Practice for researchers.

By March 2008, RCUK will have:

- Reviewed, jointly with the Office of Science and Innovation, the extent to which the Dorothy Hodgkin Postgraduate Awards scheme has met its aims.
- Widened the eligibility of non-UK residents for Research Council studentships where Councils identify a strategic need.
- Identified the extent to which PhD students and researchers in the UK gain experience of working abroad during the course of their training and employment.