International Symposium on Tracking Careers of Doctoral Graduates

Revealing the landscape and impact of researchers’ careers

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www.vitae.ac.uk

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Vitae

Why track researcher careers

Career motivations of researchers

Career destinations and pathways

Impact of doctoral training and doctoral graduates

Prospective researcher career projects

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Vitae vision and aims

‘to lead world-class professional and career development of researchers’

- **Build human capital** by influencing the development and implementation of effective policy relating to researcher development
- **Enhance higher education provision** to train and develop researchers
- **Empower researchers** to make an impact in their careers
- **Evidence the impact** of professional and career development support for researchers

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Why track careers?

- **Information**
  - Career paths and trends
  - Inform career choices
  - Attract potential researchers and promote institution

- **Evaluation and enhancement**
  - Inform provision of research degrees
  - Understand career choices and transitions
  - Employability and preparedness for careers

- **Value and impact of doctoral training**
  - Supply and demand
  - Review funding models
  - Role in innovation, knowledge exchange and organisations
UK researcher career data

- Destinations of leavers in higher education (DLHE)
  - Annual census 6 months after graduation
  - UK and EU domiciled
  - Surveyed by HEIs, collated on UK level
- Longitudinal DLHE
  - Annual 3 year follow-up of DLHE respondents
  - Surveyed at UK level
- RCUK cohort study
  - 3 year follow-up of L DLHE to explore impact further (6 years)
  - Gathering career stories
  - Employer and researcher interviews
Understanding researchers’ careers

- What do researchers do?
  - What do researchers want to do?
  - First destinations by subject
  - Career profiles and video narratives
  - Destinations and impact three years on
  - Career paths of doctoral graduates
  - Career and salary progression

- Researcher experience
  - Postgraduate Research Experience Survey (PRES)
  - Careers in Research Online Survey (CROS)

- Understanding employers’ needs
  - Employers’ views of researchers’ skills
  - targeting the postgraduate and researcher market
  - researchers’ skills and competencies
Career motivations: What do researchers want to do?

- One-off survey of current researchers: 4,500 responses
- Motivation for undertaking doctorate
- Strength of career ideas
- Occupational intentions
- Need for doctoral qualification

- Definite idea
- Considering several options
- Only vague idea
- No idea
Main motivation for research degree

- My interest in the subject: 36.9%
- Improving my career prospects for an academic/research career: 30.5%
- It felt like a natural step for me: 12.7%
- Improving my career prospects outside of an academic/research career: 8.4%
- I was encouraged by a former academic tutor/supervisor: 4.5%
- The funding was available: 3.1%
- Other: 2.6%
- I felt inspired to work with a particular academic: 1.4%
Anticipated career

- Academic career in higher education: 44.3%
- Research career outside higher education: 14.7%
- Research career in higher education: 13.4%
- Any other professional career: 10.7%
- Other: 7.9%
- Returning to or remaining with your employer who is sponsoring your degree: 4.2%
- Self-employment (including setting up own business): 3.5%
- Teaching (at a level below higher education): 1.2%
What do researchers do?
First destinations by subject

- 2003 - 2007 doctoral graduates
- 24,780 respondents
- 65-70% response rate
- 30 subjects and 6 combined ‘others’
Doctoral destinations by occupation

**Business and Financial Professionals** 5.0%

**Information Technology Professionals** 2.7%

**Arts, Design, Culture and Sports Professionals** 2.0%

**Education Professionals** 21.1%

**Health Professionals** 6.1%

**Engineering Professionals** 3.5%

**Scientific Professionals** 17.4%

**Commercial, Industrial and Public Sector Managers** 6.4%

**Social & Welfare Professionals** 8.6%

**Other Professionals** 23.7%

**Other Occupations** 3.3%
Employed in research roles: 35% overall

Varies from 7% (theology) to 71% (some biological subjects)
WDRD? Destinations and impact three years on

- 2004/05 doctoral graduates
- Surveyed Nov 2008
- UK and EU domiciled
- 51% female
- 45% response rate (L DLHE)
- 5 disciplinary groups

- Experience of research degree programme
- Employability
- Career satisfaction
- Value and impact of the doctorate
WDRD? Destinations and impact three years on

Employability

- Employment circumstances (2% unemployed)
- Value of the doctorate (82% requirement or important)
- Contract/mode of work (54% have changed jobs)
- Median annual salary (£34,000 cf £25,000 B)
- Satisfaction with career to date (93%)
- Unique doctoral occupations (86% in 5 clusters)
  - HE research
  - Research not in HE sector
  - Teaching and lecturing in HE
  - Other teaching occupations
  - Other common doctoral occupations
  - Other occupations
‘My doctorate changed my life. It opened doors, and it also opened my mind. I take on challenges now, in my life and my career, because I have faith in my own abilities.’

Cora Beth Knowles (Latin literature), Open University
What do researchers do? Career pathways of doctoral graduates

- 2008 L DLHE data
- Career progression over 3 years
- Mobility within and between occupational clusters
- Common career paths by discipline
- Typical occupations
Overall cluster movement

Figure 2.1 Occupational clusters over time for all employed respondents (N=1855)
Doctoral graduate career pathways

Mobility of researchers in higher education

40% move out; 26% move in
Value and impact of the doctorate

- Impact of the doctorate
  - Use of knowledge, skills and experience (research skills 82%; generic skills 91%)
  - Make a difference in the workplace / innovation (94%)
  - Access to, and progress, towards long term career aspirations (87%)
  - Enhance social and intellectual capabilities and quality of life (89%)

- Undertaking research (40% most of the time)
- Use of research (82%) and generic skills (91%)
- Impact on employment (94%) and beyond (89%)
- Unique doctoral occupations
Importance of doctorate, skills and competencies for current employment
Conducting research and use of generic skills
Use of knowledge, skills and experience

- Conduct research
- Interpret research data
- Critically evaluate research findings
- Use the research skills developed
- Draw on detailed research degree knowledge
- Use general disciplinary knowledge
- Use the generic skills developed
- Work autonomously
- Work as part of a team
- Work under close supervision
- Have responsibility for others

- Most of the time
- Some of the time
- Occasionally
- Not at all

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Benefits and wider impact of doctoral experience in work and lives

In the workplace
Innovative in the workplace
Make a difference in the workplace
In careers
Access short-term job opportunities
progress to long term aims
In wider life
Enhance social and intellectual capabilities beyond work
Enhance the quality of life generally

Most of the time
Some of the time
Occasionally
Not at all

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What do researchers do? 2013
Early career progression and salaries compared to other degree qualifications

- Comparison of 2008 and 2010 L DLHE
- Comparison of doctoral, masters and good first degrees

- Doctoral graduates more recession proof than masters and first degree
- Arts and humanities most affected
- HE research better paid than non-HE research
- Strong consistent evidence of impact of the doctorate
RCUK Cohort study
Doctoral impact and career tracking study

- **Objectives**
  - Difference doctoral graduates are making to the workplace
  - Extent doctoral graduates drive innovation and growth, particularly outside academia
  - Career information for researchers

- **Methodology**
  - Three cohorts ~7 years after graduation (2004 - 2006)
  - Link back to Student Record, DLHE and L DLHE
  - Track through institutional alumni offices and supervisors
  - Survey in 2013
  - 200 qualitative interviews with doctoral graduates and employers
  - Develop impact framework
  - Maintain researcher panel for future tracking
EPSRC impact model

86 research-intensive organisations
Improved competitiveness: 83%
Integral to commercial success: 60%

Impact on organisation
- Individuals’ skills 87%
- Technical expertise 83%
- Innovative/creative thinking 75%
- Problem solving/trouble shooting 68%

Most highly rated skills
- Problem solving 75%
- Research skills/methods 63%
- Communication 59%
- Data analysis 56%
### Employers’ expectation of researchers’ performance (high and very high)

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<thead>
<tr>
<th></th>
<th>Group 1</th>
<th>Group 2</th>
<th>Group 3</th>
<th>Group 4</th>
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</thead>
<tbody>
<tr>
<td>Data analysis</td>
<td>100%</td>
<td>100%</td>
<td>91%</td>
<td>91%</td>
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<tr>
<td>Problem Solving</td>
<td>100%</td>
<td>88%</td>
<td>89%</td>
<td>83%</td>
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<td>Drive and Motivation</td>
<td>100%</td>
<td>84%</td>
<td>59%</td>
<td>74%</td>
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<tr>
<td>Project Management</td>
<td>83%</td>
<td>36%</td>
<td>70%</td>
<td>39%</td>
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<tr>
<td>Interpersonal Skills</td>
<td>67%</td>
<td>56%</td>
<td>39%</td>
<td>26%</td>
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<tr>
<td>Leadership</td>
<td>67%</td>
<td>28%</td>
<td>24%</td>
<td>17%</td>
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<tr>
<td>Commercial awareness</td>
<td>50%</td>
<td>20%</td>
<td>28%</td>
<td>22%</td>
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<tr>
<td>Overall</td>
<td><strong>81%</strong></td>
<td><strong>59%</strong></td>
<td><strong>57%</strong></td>
<td><strong>50%</strong></td>
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### Employer categories

- **Group 1**: actively target doctorates
- **Group 2**: strong interest
- **Group 3**: some interest, occasionally recruit
- **Group 4**: no interest

Recruiting researchers, Vitae 2009,
104 employers

[www.vitae.ac.uk](http://www.vitae.ac.uk)
Labour market information and career stories

Researchers: Careers section: www.vitae.ac.uk/lmi

Labour market information and career stories

Sector information

These profiles examine the main industries where doctoral graduates work. Each sector profile examines the career destinations of researcher. However, for most people,

Using labour market information

What do researchers do? Labour market information presents a wide range of information about the career destinations of researcher. However, for most people, this information only starts to become truly relevant when they relate it to their own life and career and use it to aid decision making and taking action for career development.

The information in this section can be used to examine the many options that are available to

Discipline information

Information for doctoral graduates in this section will highlight the career paths and destinations where other researchers from their discipline have followed.

Occupational information

This section will provide researchers with information about occupations that they may be interested in working in. It also provides guidelines to help researchers make decisions about their future career.

Scientific, technical and manufacturing

- Scientific research and development
- Engineering, manufacturing, technology and construction
- Pharmaceutical industry
- Chemicals manufacturing

Database of career stories

The Database of career stories (DoCOS) is a resource for postgraduate researchers, research staff and researcher developers to inform career decisions and career planning. The database provides access to the career stories of hundreds of people with a doctorate or research background, illustrating the range and variety of careers that people with a research training go on to do and demonstrating the wider impact of research careers on society and the economy.

To enrich and expand the resource we encourage you to upload your own career story.
Framework of the knowledge, behaviour and attributes of successful researchers

Enables self-assessment of strengths and areas for further development

Common language for researchers capabilities

Endorsed by 33 UK organisations

Trialled in US, Europe
Employability lens on the RDF

Subject knowledge
Research methods
Languages

Analysing
Critical thinking
Problem solving

Inquiring mind
Intellectual insight
Innovation

Time management
Responsiveness to change

Enthusiasm
Perseverance
Self confidence
Responsibility

Continuing professional development
Networking

Team working
People management
Influence and leadership
Collaboration

Communication

Enterprise

Project planning and delivery

Financial management

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Understanding researcher careers

What do researchers want to do?

What do researchers do?

Career profiles and impact three years later

First destinations of doctoral graduates by subject

Labour market information

What do researchers do? Labour market information

Employability lens on the Researcher Development Framework

At a glance

More than 60% of doctoral graduates work outside the education sector or are not employed at all. Among researchers, the higher education sector is the most common employer, followed by the public administration sector and then the private sector. The skills and competencies that researchers develop are often transferable to other sectors, but there is a need for researchers to develop the skills needed for other employment sectors.

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Useful links

Vitae: [www.vitae.ac.uk](http://www.vitae.ac.uk)
What do researchers do? [www.vitae.ac.uk/wdrd](http://www.vitae.ac.uk/wdrd)
Labour market information [www.vitae.ac.uk/lmi](http://www.vitae.ac.uk/lmi)
Impact and evaluation [www.vitae.ac.uk/impact](http://www.vitae.ac.uk/impact)
Courses for researchers [www.vitae.ac.uk/courses](http://www.vitae.ac.uk/courses)
Researcher Development Framework [www.vitae.ac.uk/rdf](http://www.vitae.ac.uk/rdf)
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