

## Impact of STFC Postgraduate Training Career destinations of STFC-funded PhD students 2011

### Key Findings

- Many of the patterns of employment of former students were similar to those found in the 2009 survey. However, the respondents to the 2011 survey had shorter careers on average than in the 2009 survey and this was reflected in terms of lower salaries and a higher proportion of postdoctoral research staff.
- 93% were in full- or part-time employment or self-employed (97% in 2009).
- 48% were employed in universities (46% in 2009), 30% in the private sector (27%) and 22% in the public sector (23%). 69% were still engaged in scientific research (71%).
- Within universities, 67% were working as postdoctoral research assistants (44% in 2009) and 21% as research fellows (13%).
- 71% of those in the private sector had jobs in financial or business services (74% in 2009).
- There is a trend for those working in universities to be increasingly located outside the UK: 46% were working outside the UK compared with 33% in 2009 and 30% in 2003. For the most recent PhD graduates in the survey the proportion working outside the UK was nearly 70%.
- 41% were earning a salary similar to or greater than the average for professional occupations in the UK (62% in 2009).
- The five most mentioned skills gained from the PhD and used in current roles were: problem solving, programming, knowledge of their subject area, quantitative data analysis and written skills.
- Five skills were identified as needing greater emphasis during the PhD training: career management/planning your career, project management, knowledge of the process for funding research, networking and programming.

### Background

In mid-2011 STFC contacted former-PhD students whose funding ended between 2004 and 2009 inclusive. Out of a potential total of 1150 students, contact details, in the form of parental address personal email, were available for 1125. The survey questionnaire was based on those used for previous surveys conducted by DTZ on behalf of STFC. It was distributed in hard copy by post and by email as a link to an on-line form.

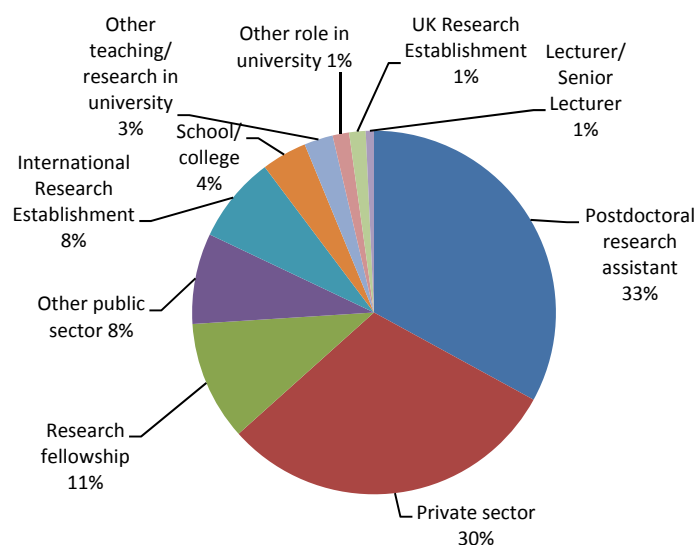
### Profile of Respondents

328 responses were received. 24% of respondents were women and 92% were aged 32 or under. 97% were UK nationals. The subject area split of PhDs was: 57% astronomy, astrophysics & cosmology, 31% particle physics and 12% planetary science & solar research including space science. The split of type of PhD was: 48% experiment/observation, 36% theory, 9% technology/ instrumentation and 7% an equal mixture of theory and experiment/observation. 94% had been awarded a PhD and 2% were still working towards submitting their thesis or completing corrections.

### Overview of Career Destinations

93% were in full or part-time work at the time of the survey. 3% were unemployed/seeking work, 2% undertaking further study or training, 1% were involved in family care and 1% were taking time out for

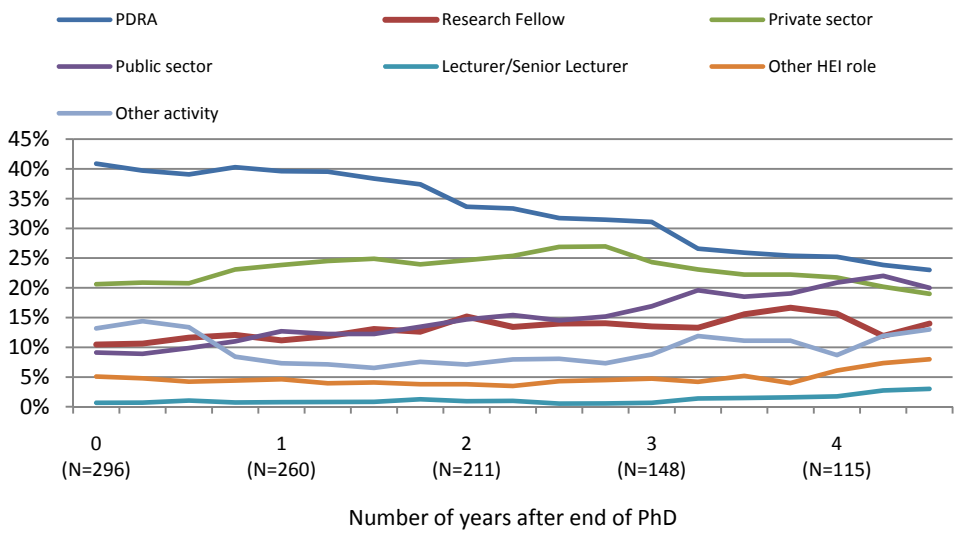
other reasons and not seeking work. Of those who were working, 97% were full-time, 2% self-employed and 1% part-time. 48% of those who were employed had jobs in higher education (compared with 46% in 2009), 30% in the private sector (27%) and 22% in the public sector (23%). 69% were still engaged in scientific research: 52% in a subject area within the remit of STFC. 32% worked outside the UK (compared with 29% in 2009, 19% in 2003 and 21% in 1995).



**Overview of career destinations**

**Time Series Analysis of Careers**

Respondents were asked to provide details of all their activities since the end of their PhD funding. Data are presented for up to 4.5 years after the end of the PhD since, after this point, the sample base drops below 100. The key trend in the pattern of employment over this period is the decline in the proportion of post doctoral research assistants from 41% as a first destination to 23% after 4.5 years. Over the same period the proportion working in the public sector increased from 9% to 20%. There were also modest increases in the proportion holding posts as research fellows, lecturer or senior lecturer posts as former students start to progress in their careers.

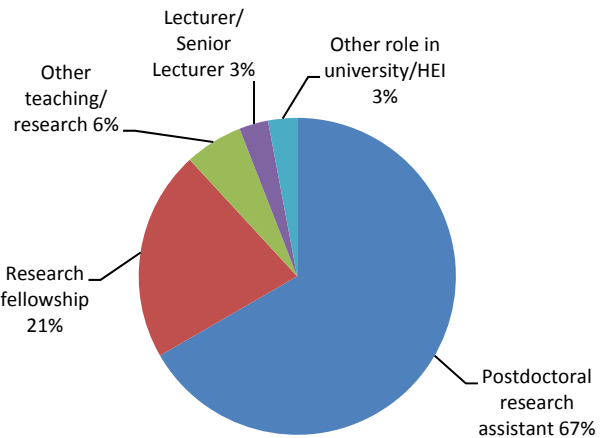


**Time series analysis of employment**

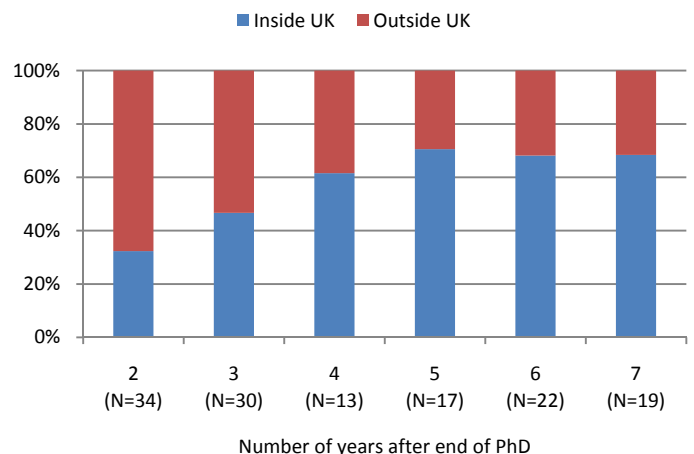
**Academic Careers**

Of those employed in universities, two thirds were working as postdoctoral research assistants and one fifth as research fellows. These were higher proportions than in the 2009 study which were 44% and 13% respectively. This probably reflects the shorter elapsed time since the end of respondents' PhDs in the 2011 survey: 1.5 to 7.5 years compared with 6 to 9 years. Men and women were equally likely to be working in this sector. 99% were involved in scientific research: 92% in a subject within the STFC remit.

90% were on fixed-term contracts. Overall 46% were working outside the UK (compared with 33% in 2009 and 30% in 2003) and there were marked differences depending on the length of post-PhD career. Those who completed their PhDs most recently, were twice as likely to be working outside the UK as those who had been working for five or more years. 95% were happy or very happy with their current job. 88% intended to continue pursuing a career in this sector.



**Employment in universities**

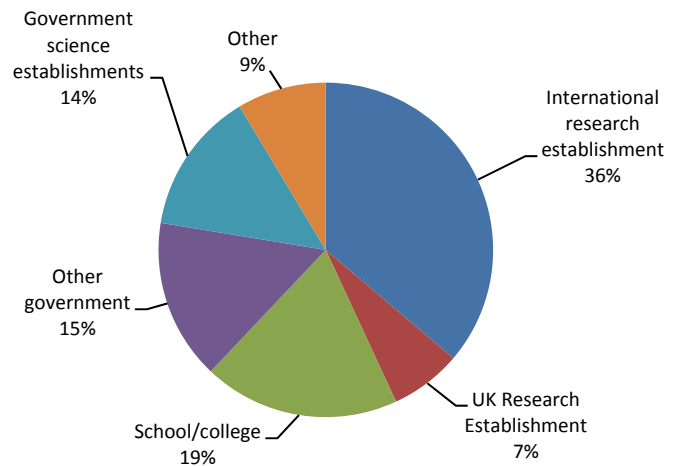


**Location of employment in universities by length of career**

### Public Sector Careers

43% of respondents working in this sector had jobs in research establishments or observatories compared with 52% in 2009. A further 14% worked in government science establishments such as DSTL or the Met Office. Only those in international research establishments were working outside the UK. 67% were still engaged in scientific research: 38% in a subject within the STFC remit. As in the 2009 survey, a greater proportion of women (33%) were employed in this sector than men (19%).

40% were employed on fixed term contracts the majority of whom were employed in international research establishments. 95% were happy or very happy with this current job. 89% intended to continue pursuing a career in this sector.

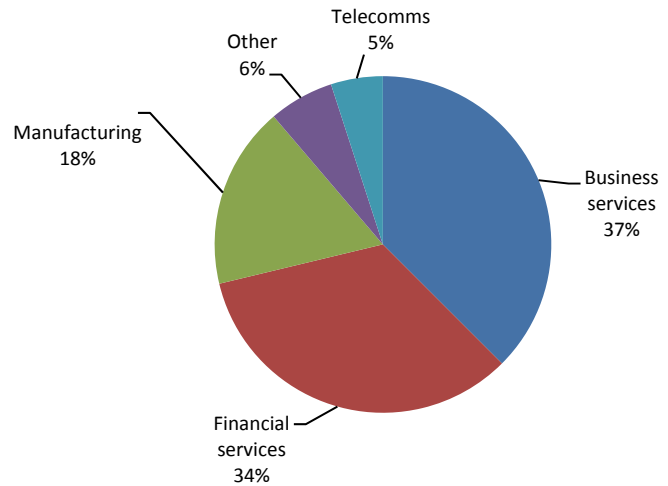


**Public sector employment**

### Private Sector Careers

As in previous surveys the majority of respondents (71%) in the private sector worked in financial and business services. As in the 2009 survey, a greater proportion of men (33%) were employed in the private sector than women (25%) but the difference was not statistically significant. 24% were still engaged in scientific research: 3% in a subject within the STFC remit.

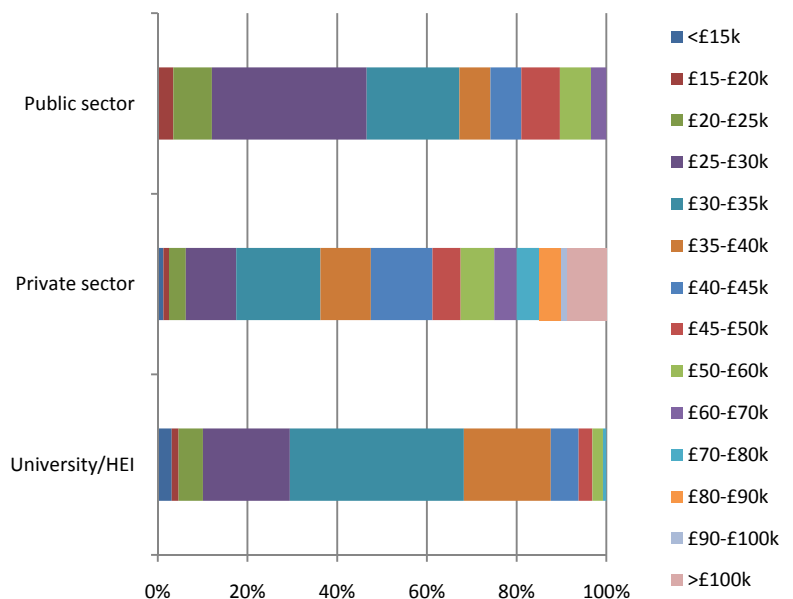
Only 10% were employed on fixed term contracts. 93% were happy or very happy with their current job. However, a smaller proportion of those working in the private sector were very happy (35%) than in the public sector (56%) or universities (53%). 66% intended to stay in their current area of work. 31% felt that they had a good job but intended to pursue a different career in future.



**Private sector employment**

### Earnings

In 2010 the average full-time salaries for professional occupations in the UK was £36, 507. Therefore, £35k has been used as an approximate benchmark for salaries of former PhD students. Overall, 41% of former students earned more than £35k. In the private sector, 64% earned over this amount and a fifth earned more than double this. In universities and the public sector just under one third earned more than £35k. Overall, men were more likely to earn more than £35k (47%) compared with women (28%). Some of this difference is attributable to the higher proportion of men who work in the private sector. However, it was also the case that, in each of the three sectors, a lower proportion of women earned more than £35k, although the sample sizes were small and the differences were not statistically significant: universities 28% vs 36%, private sector 43% vs 70% and public sector 21% vs 39%.



**Salary levels by employment sector**

## Skills development

The five skills that former students had found most useful in their subsequent careers were problem solving, programming, knowledge of their subject area, quantitative data analysis and written skills. For those working in universities subject knowledge was the most mentioned (74%). In the private sector, team working and communication replaced subject knowledge in the top five. In the public sector, presentation skills replaced programming skills.

Five skills stood out amongst those that former students felt should have been given more emphasis in their training: career management/planning your career (selected by 45%), project management (30%), knowledge of the process for funding research (28%), networking (25%) and programming (24%). In the private sector, knowledge of the process for funding research was less important than team working and communication.

