

Managing the Careers Expectations of STEMM PhD Students Roundtable

At a meeting on 14:00-16:00 on the 29th May 2014 at the Royal Society

Introduction

The Royal Society brought together a group of university research and careers services professionals representing a range of universities from across the UK to discuss the issue of managing STEMM PhD students' careers expectations.

There are more STEMM PhD students now in the UK than ever before and they go onto a diverse range of careers in and outside of academia and science. There is the perception that leaving academia is a failure but as only a minority can continue onto post-doctorate positions, students need to understand that they have achieved a good qualification and that they have the skills to go onto do a range of careers. It was also acknowledged that many HEIs already provide many aspects of the recommended responsibilities but that is not uniform across the sector.

The format of the meeting was break out groups followed by a plenary discussion. Each of the breakout groups saw wide-ranging and fascinating discussions, and this continued on into the plenary. The key points from which have been set out below thematically.

Overarching

The more overarching points that arose from discussion captured the circumstances around why students from different situations or domiciles may study a PhD at a UK university; that some may already be on an academic track, and some may have excelled at undergraduate and simply have found it an easy option.

It was agreed that a PhD should supply students with a wide-ranging skillset and that by completion they should be fully independent self led researchers. However, there is a difference between what universities and industry see as the purpose of a PhD and therefore depending upon the industry what skillset the PhD student should finish with. This mismatch has led to calls for closer collaboration between industry and academia to find a common middle ground, but it has not been comprehensively resolved yet.

The point was made that the perceived intense competition for academic careers was putting some students off even considering it as an option, and in a minority of cases PhD students did not want it disclosed to their supervisors that they had visited the careers service in fear of it affecting their work or prospects.

The prospect of the Royal Society bringing together information on this area and recommending ways to implement best practise, ideally supported or endorsed by organisations like Vitae, RCUK and UUK was welcomed.

1. PhD students

The following points relate to students and have been subdivided into information and training/skills.

- Information

It was thought by the groups that students needed to have access to clear information about what a PhD is, and what skills students gain throughout the qualification. That this information should be available from

before they embark on a PhD as this helps to manage what they expect from a PhD and what they might go on to do next. It was thought vital to utilise multiple opportunities to communicate this information with students throughout their PhD from both the universities and funders. Using annual milestone benchmarking was a good way to assist with setting aims and understanding expectations.

It was recognised that students have various motivations for doing a PhD and that there were huge differences between different STEMM disciplines as to what they expected or whether they even considered what they would go on to do. For example, there was the impression that more students in applied subjects such as medicine knew what they wanted to do afterwards. This was emphasised particularly if the student had not gone straight from their Masters to PhD or if they were being part funded by industry.

In other disciplines there was a fear that having worked in academia for longer than Undergraduate or Masters, meant that recruiters didn't understand or value their skills and that they could feel trapped in academia or have to enter work at the same level as graduates.

It was felt that one aspect this work must not lose sight of is that students are adults and should take some responsibility for their own careers.

- Training/skills

Information should be made available about what skillset a PhD would provide for students, including particularly if they will gain teaching experience and what transferable skills they will have. However, there are large variations between disciplines about the nature of their research and the expectations of their supervisors affecting how independent they are and what skills they receive.

To present and promote themselves and their research effectively students may need to receive training about using digital networks. There should be opportunities made available for students to interact with industry and be exposed to a wide range of careers options.

2. Supervisors

The following relate to PhD supervisors and have been divided into incentives and training.

- Incentives

Supervisors were seen as vital to managing student's expectations. However, they have many responsibilities as well as their own research and it needed to be clearly set out why it is in their interests to help tackle this issue. One suggestion was that departments recognising the supervisor's skills as a supervisor could play a key role, and that this may entail some training in the area on a regular basis.

- Training

It was thought that training should be regularly provided and required for supervisors as part of their professional development. They should not be expected to automatically have the skills to: understand their students concerns, support the student and be able to signpost careers advice; which may mean that supervisors themselves receive training about careers options for students and learn to work in a more coordinated fashion with careers services. This would include annually recording milestones for benchmarking and reminders to discuss careers with their students.

Training to be a Mentor to students who are not under their supervision would provide alternative avenues of advice for students.

3. HEI/funder/careers service

The following points relate to HEIs and have been subdivided into structures, information, and careers services and employers.

- **Structures**

It was thought that some structural adjustments may need to be made by universities in order to fully address concerns in this area. This could include ensuring that careers services are integrated PhD introductory talks and that they openly recognise supervisors for their skills as supervisors. Creating better links and flows of information between different departments and the careers services will help in signposting and providing tailored advice to students.

Some universities are beginning to try and utilise their alumni in pairing schemes with students, which provides excellent examples of a range of other careers options. There was also the concern that universities and industries should have a more open discussion about the skills that they both desire a student to attain during a PhD.

In universities formal structures of annual discussions between supervisor and PhD student there should be a reminder to discuss careers with the student, in order to ensure that it is something that both are aware of and can engender honest conversations about options. It was thought that the REF exercise will heighten the awareness of students and supervisors about what their research does and how it could apply in industry, and therefore raise awareness of careers options.

- **Information**

It needs to be made clear how the university sees a PhD qualification and what skills it provides students with. This would clarify with students and industry what they can expect from a PhD qualification. Ideally there should be information available about the range of destinations and careers which can be pursued once gaining that qualification. Among these should be the option of an academic career – which should be treated as one route and not the ultimate or default route.

- **Careers service and employers**

Careers services have a key role to play in signposting information, giving advice and assisting in providing examples of routes. There is a need to reinforce the view that careers services are for PhD students as well as Undergraduates and that can be a nuanced and tailored service, including for those who wish to have a career in academia.

Access to a Mentor should be a standard for PhD students and it was seen as vital that this was not the same person as anyone from the student's supervisory team.

Employers should aim to be able to set out at careers fairs why postgraduates should work for them and how a PhD qualification qualifies students. The opportunity to meet with industry on or off campus was seen as a good step in informing students of the range of careers available.

Managing the Careers Expectations of STEMM PhD Students roundtable

To be held at the Royal Society, 6-9 Carlton House Terrace, SW1Y 5AG, on 29 May 2014 at 14:00-16:00, Council Room. This meeting will be Chaired by Prof Dame Athene Donald FRS and Prof Matthew Freeman FRS.

This meeting will bring together around 20 people representing universities from a range of locations around the UK, and from different sizes and types of university.

Agenda

Time	Agenda Item	Aim
13:45-	Refreshments available	
14:00-14:10	Introduction to the topic	To introduce: <ul style="list-style-type: none"> the background to the Royal Society work that the aims of the meeting are to garner views from HEI professionals on how best to manage the careers expectations of STEMM PhD students, and how the outputs of the meetings will be used to inform Royal Society work in this area
14:10-14:20	Introductions of participants	The participants will be asked to introduce themselves: giving and their name, title, and research area if appropriate.
14:20-15:05	Breakout Group work Each group will be divided into groups of around ten people and facilitated by a Royal Society Steering Group member.	These breakout sessions will be smaller groups aimed to get all participants discussing the issues and contributing on: <ul style="list-style-type: none"> Do STEMM PhD students have realistic careers expectations? What services to assist in managing careers expectations does your HEI provide? What should best practise in this area look like? Divide the participants into group to discuss some of the issues in more depth (flipcharts will be available).
15:05-15:15	Refreshment break	
15:15-15:50	Plenary	A member from each breakout group will then feedback the key conclusions of their group's discussions in the plenary session, including any areas of contention or consensus. The groups back together to discuss the points raised in group discussions to see if there is consensus and to answer: <ul style="list-style-type: none"> What role should HEIs play in managing the careers expectations of STEMM PhD students?
15:50-16:00	Concluding remarks	These will be given by Athene and Matthew of the meeting summing up: <ul style="list-style-type: none"> the issues that came out of the meeting providing information to reiterate how the meeting will inform the RS' work, and thank the participants for their valuable contributions.

Participants

University	Name	Job Title
University of Cambridge	Gordon Chesterman	Director, Careers Service
Cardiff University	Josie Grindulis	Career Development Manager for Research Staff
University of Cranfield	Prof Clifford Friend	Pro-Vice-Chancellor
University of Cranfield	Theresa Smyth	Head of Careers Service
University of Edinburgh	Prof Jonathan Seckl	Vice Principal Planning, Resources and Research Policy
University of Edinburgh	Kirsten Roche	Careers Adviser
University of Glasgow	Prof Steve Beaumont	Vice-Principal (Research & Enterprise)
Imperial College London	Professor Sue Gibson	Director of Graduate School
Lancaster University	Elaine Davies	Careers Consultant
University of Leicester	Professor Sarah Hainsworth	Dean of Post Graduate studies
University of Manchester	Prof Matt Lambon-Ralph FRSLT (hons), FBPsS	Associate Vice-President (Research)
University of Manchester	Elizabeth Wilkinson	Research Student Careers Advisor
University of Newcastle	Dr. Lorna Dargan	Careers Adviser
University of Oxford	Dr Michael A J Moss FRSC	Careers Advisor for Chemistry and Engineering Science
Sheffield University	Kevin Mahoney	Careers Adviser for Researchers
University of Southampton	Prof James Vickers	Director of Graduate Studies
The Open University	Dorothy Faulkner	Academic Professional Development, Institute of Educational Technology

Chairs

University	Name	Job Title
University of Cambridge	Prof Dame Athene Donald FRS	Professor of Experimental Physics
University of Oxford	Prof Matthew Freeman FRS	Professor of Pathology and Head of Sir William Dunn School of Pathology

In Attendance

Institution	Name	Job Title
The Royal Society	Caroline Dynes	Policy Adviser