

Doctoral students' career expectations

principles and responsibilities

Introduction

There are now more PhD students in the UK than at any time in the past, of whom only a small fraction are likely to pursue traditional academic careers. The vast majority of science, technology, engineering, medicine and mathematics (STEMM) PhD students will follow careers outside academia, but the increasing pressures they face mean that they often do not have sufficient time or opportunity to explore aspects relevant to their future career options.

Aims

This document has three aims: (i) to raise awareness among students and higher education institutions (HEIs) of existing issues in managing PhD students' career expectations; (ii) to offer possible solutions to these challenges; and (iii) to encourage HEIs to implement these solutions.

Background

This document sets out a code of overarching principles and responsibilities that students, supervisory teams, careers and training services and HEIs should adopt to help ensure that PhD students' career expectations are clearly understood by all concerned and effectively managed. It recognises that different laboratories, disciplines and HEIs have different structures and systems for administering their research, and operate under varying degrees of financial constraint. While circumstances may affect the level of service HEIs can provide, the provision of careers information, advice and guidance should be treated as a key priority.

Although many HEIs already follow some aspects of this recommended practice, the Royal Society is concerned to ensure that they are all applied more comprehensively across the sector with respect to STEMM.

Overarching principles




- **Aspiration:** a PhD is an advanced and respected research qualification. Students should understand the skills they gain during a PhD and consider the wide range of careers open to them upon completion.
- **Purpose:** a STEMM PhD is concerned with developing generic skills of independent, creative and critical thinking, team-working, communication, personal organisation and self-awareness to enable students to contribute at a high level across all sectors of employment. Students will be expected to carry out innovative and original research and be exposed to challenging problems that may have no straightforward answers.
- **Advice and guidance:** these should be available to all students, and suitably tailored to their individual needs by experts.
- **Information:** there should be easily accessible and understandable information on the range of career options available to PhD students, and what they could expect from them.
- **Assessment:** identification of absences or weaknesses in students' skills sets should play a key role in helping them strengthen and understand their skills and develop achievable aspirations and goals.
- **Training and skills:** both should play a role in students' development (including, for instance, presentation skills workshops, CV writing, interview preparation and practise) and be clearly linked to their research and career goals.
- **Interaction and experience:** there should be opportunities for students to interact with a range of employers and be exposed to a variety of research and other working environments, to help them make better-informed decisions about their future careers.

Expectations and responsibilities

Students should:

- have access to information so that they are well informed of the broad benefits of undertaking a PhD before commencing a PhD;
- consider and take responsibility for managing their own career expectations;
- seek advice and information from funders and careers services on the sorts of careers that are open to them upon successfully completing their PhD;
- seek a mentor who is not their supervisor and who may be from another faculty or outside their HEI to provide regular impartial advice and guidance throughout a PhD;
- assess their own understanding of their skills and achievements every six months and discuss their aspirations with supervisors;
- keep a record of training they have undertaken, both formally and informally, and review this regularly with their supervisors and mentor to identify any further training needs; and
- obtain advice and guidance to enable them to assume a high degree of independence and control over their work.

Supervisory teams should:

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- be able to suggest places where careers information is available to students;
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- assist students in arranging appropriate training for developing both subject-specific and transferable skills;
 - provide opportunities for students to take on appropriate responsibilities in their research groups/labs (such as overseeing equipment or organising group meetings);
 - treat management of students as part of their own career development;
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- complete annual appraisals of their students to assist with managing their academic career expectations; and
 - allow students reasonable time away from their studies to explore careers options and to take up training opportunities.

Careers and training services should:

- understand and be able to advise on the training opportunities available to PhD students from their HEI and from their funding body, eg teaching, outreach, placements;
- work closely with departments and labs to provide a service tailored to the needs of and opportunities for their students;
- work with supervisory teams and students to ensure the latter have a clear understanding and appreciation of the generic as well as the specific technical skills they are developing (such as solving complex problems, team-working, working independently, communication skills, time-management);
- maintain close links with alumni services and industry to provide useful and timely information on career options and work experience opportunities available to PhD students; and
- exemplify best practice and publicise the successful impact of the training and development they offer.

HEIs should:

- be able to explain clearly the benefits of doing a PhD to students prior to enrolment, including explicitly recognising the tremendous range of careers open to them within and outside academia;
- incorporate consideration of career options into the introductory and transferable skills training of PhD students throughout their programme of study;
- organise visits to companies and from scientifically trained professionals across a range of sectors;
- maintain supervisory/monitoring panels that include external chairs and members to monitor students' progress;
- provide training for supervisors to conduct appraisals, and have oversight of the appraisals process;
- recognise management skills in supervisors and consider these skills as contributing to their career development;
- train their academic staff to be mentors and recognise mentoring as an important form of career development; and
- ensure that mentors are identified and assigned to PhD students early in their course of study.