



The
University
Of
Sheffield.

Department of Physics and Astronomy

**Handbook for Postgraduate Students
2011-12**

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Welcome to the Department of Physics and Astronomy. We hope that you find your time here as a PhD student enjoyable, rewarding and stimulating.

This handbook is intended to explain most of the academic and administrative details associated with your PhD programme and should be read in conjunction with the *Code of Practice and Guidebook 2011-12*.

1 General Information

1.1 Registration and Induction: Important Dates

23rd September: Registration for New Research Students, Sports hall 1, Goodwin Centre

Surnames: Time:

A-G 15:30-16:30

H-Q 14:45-15.30

R-Z 14:00-14:45

3rd October: Welcome Meeting. A Brief introduction to the Department to be given by Prof Mark Fox, Graduate Tutor.
12:00pm, Media Room (E39),
Department of Physics & Astronomy

5th October *Health & Safety Meeting* by Richard Nicholson
11.00, Media Room (E39),
Department of Physics & Astronomy

**** ALL STUDENTS MUST ATTEND THIS SESSION****

1.2 Key People

- Head of Department: Professor David Mowbray (E35)
- Postgraduate tutor: Prof Mark Fox (E14)
- Departmental Manager: Mrs Catherine Annabel (E29)
- Laboratory Superintendent: Mr Richard Nicholson (E24a)
- Postgraduate Secretary: Ms Ceit Cameron (E34)
- Health and Safety Officer: Mr Richard Nicholson (E24A)
- Postgraduate Representatives: See the postgraduate web site

A full list of members of staff (with their research interests), clerical and technical staff, postdoctoral research assistants, and research students is available at:

<http://www.shef.ac.uk/physics/contacts>

1.3 People to Contact if you have Problems or Queries

Financial Matters

- Cash advances and insurance
- Conference registration
- Purchase Orders

First point of contact: *Joanne Coates (E34)*

- Expense Claim Forms
- Purchase Orders
- Petty cash
- Demonstrating Forms
- Use of corporate card

First point of contact: *Rebecca Raynor (E34)*

Postgraduate Matters

- Registration
- Departmental Doctoral Development Programme
- Studentships
- Research Council Forms
- Graduate Research Office
- Inter-Library Loan Vouchers
- Photocopying
- Mentor Sessions

First point of contact: *Ceit Cameron (E34)*

- University card swipe access

First point of contact: *Ann Davies (E34)*

General Technical Matters

- Infrastructure (office, labs, etc.)
- Security

First point of contact: *Richard Nicholson (E24a)*

- I.T. Support
- Web manager

First point of contact: *Richard Webb (E30a)*

Research Topic

- Progress or understanding of research topic

First point of contact: *Your supervisor*

Grievances

First point of contact: *Your supervisor, mentor or the postgraduate tutor, as appropriate (see section 3.4)*

1.4 Health and Safety

Please refer to the *Health and Safety Handbook*.

- Health and Safety Lecture: Mr Richard Nicholson (5th October 11.00, Media Room)
Please ensure you are on the departmental telephone list as you will receive an email notification regarding dates

1.5 Student Timetable

The timetable shown below is a summary of dates of key activities in your PhD programme. The items shown in bold are necessary activities for student progression (see section 2). Mentor sessions and quarterly questionnaires are described in section 3.

Time (months)	Activity
0	Registration Complete Training Needs Analysis for year 1 Register for appropriate DDP modules Induction: Postgraduate Tutor's introduction, safety meetings, etc. Meet supervisory team: first & second Supervisors, Mentor
≤ 6 6	Literature review Mentor session
≤ 12 12	First year report and viva Mentor session Complete Training Needs Analysis for year 2
15	<i>Upgrade from MPhil to PhD</i>
18	Mentor session
≤ 24 24	Presentation at the departmental research day Second year report Mentor session Complete Training Needs Analysis for year 3
30	Mentor session
36	<i>Submit thesis</i>

1.6 Postgraduate Committee

The postgraduate committee consists of:

Prof. Mark Fox	(postgraduate tutor)
Dr Chris Booth	(particle physics representative)
Prof. Clive Tadhunter	(astronomy representative)
Dr Jamie Hobbs	(condensed matter physics representative)
Dr Luke Wilson	(recruitment)
Dr Martin Grell	(postgraduate course representative)
Ms Ceit Cameron	(postgraduate secretary)
<i>Vacant Positions</i>	(student representatives)

1.7 Student Representatives

Postgraduate student representatives play an important role in organising social events (see section 1.11), representing student views on the postgraduate committee, and helping to organise the departmental research day (see section 2.3).

Volunteers are always welcome. Please see the postgraduate tutor, if you are interested.

1.8 Reporting Illness

If you are unable to come into the department due to illness, please make sure that you telephone Ms Ceit Cameron (postgraduate secretary) (direct line 222 3731) to let her know. She will then inform your supervisor and any other relevant people in your research group.

1.9 Departmental Colloquia and Seminars

As well as the specialised research seminars that your supervisor will require you to attend, the department also organises general research colloquia, held on Tuesday and Wednesday afternoons. (The Tuesday colloquia are organised under the auspices of the IoP.) You are strongly encouraged to attend as many of these colloquia as possible, as a good attendance helps to maintain a stimulating research atmosphere in the department.

1.10 Demonstrating and UCAS Activities

Research students often participate in demonstrating to undergraduates (in laboratory and problem class sessions), as well as in UCAS day activities. If you would like to help in these paid activities, please see the departmental office.

1.11 Social Activities

These are organised by the student representatives (see section 1.7), and usually include a welcome party early in semester 1, plus walks, meals and cinema trips. Please see the student representatives for more details.

1.12 Other Information

Please refer to the postgraduate web site at: <http://www.sheffield.ac.uk/physics> and the postgraduate notice board (near to E28) for the latest news and announcements. Also refer to the Graduate Research Office web site <http://www.shef.ac.uk/ris/pgr/negr>

2. Assessment and Progression

2.1 Literature review

The Department requires all research students to carry out a literature review within the first six months of starting. The literature review can be delivered either as a 3,000 word written report or as an oral presentation. Your supervisor will indicate which type of presentation is appropriate for you. The written report or oral presentation will be assessed by your primary supervisor and another member of staff (normally your second supervisor.)

2.2 First Year Report and Viva

First year reports are an essential component of the first year of your PhD programme. The report and viva will be used as an assessment for upgrading from MPhil status to PhD status (see section 2.5). The report, which should be less than 5000 words, should contain a summary of your work so far, a brief description of likely future directions in the next year, and a summary of your progress in the DDP. The report should be submitted to the postgraduate secretary within 12 months after starting your studies (ie. September for those who started in October). You will then be assessed by a *viva voce* examination with your supervisor and another member of staff, who will provide a written report on your progress.

2.3 Second Year Report

As for first year reports, second year reports are an essential component of the second year of your PhD programme. The report should contain a *brief summary* of your second year work, an outline plan of your thesis, a timetable for the successful completion of your PhD, a list of published or submitted papers, and a summary of your progress in the DDP. It should be submitted to the postgraduate secretary by the end of your second year.

2.4 Presentation at the Departmental Research Day

In your second year you will be expected to present your research via a short presentation (~15 minutes) at the departmental research day (scheduled at the end of September). A panel of academic staff and research students will judge these presentations, with the best two being awarded prizes.

2.5 Upgrading from MPhil to PhD

Upgrading from MPhil to PhD status usually occurs at the start of the second year of a PhD programme. This is determined by satisfactory performance in the previous 12 months, as judged by the first year report.

3. Supervision, Mentoring and Grievance Procedures

3.1 Supervisory Meetings

Meetings between your supervisor and yourself should occur frequently and informally. However, it is a university requirement (see the *Code of Practice and Guidebook*) that a formal record is kept of some (but not all) supervisor-student meetings. Thus, every 6-8 weeks a formal meeting should take place between you and your supervisor(s). This meeting should include a review of the previous period and a plan of work for the next period. Following the meeting it is your responsibility to make a written record of this meeting. A convenient way to do this is via the on-line form at:

<http://www.shef.ac.uk/pgresearch/uosonly/suprec.html>

The completed form should then be forwarded by email to your supervisor(s) and the postgraduate secretary. You should keep a copy of this report in your records.

Although apparently onerous, you will find that regular recorded meetings of this kind provide a useful structure and guidance to your PhD work.

3.2 Mentor Sessions

At the beginning of your first year you will be assigned a member of staff outside your research group as a Mentor. Mentor sessions occur every 6 months and typically take up to 30 minutes. These will be scheduled for you by the postgraduate secretary.

The aim of the mentoring session is that you should be given the opportunity to discuss the progress of your research project, the quality of supervision, and the adequacy of your research environment with a member of academic staff who is outside your research group. You are encouraged to raise any worries that you might have and discuss what action, if any, needs to be taken to address them. Your Mentor will ensure that you are progressing as expected, and that you have a clear idea of where your research is going. Reports from mentoring sessions will provide documentary evidence of your progress, identify any problems, and highlight areas where action needs to be taken.

At the end of the mentoring session, your Mentor should be satisfied:

- 1) That you meet regularly with your supervisors and that you are satisfied with the outcome of these meetings.
- 2) If more than one research supervisor is involved, that you are receiving coherent supervision.

- 3) That you have a clear idea of what you are doing and where it is going, and that you have made adequate progress since the last session.
- 4) That you are happy that you have the facilities necessary to undertake the work.

3.3 Grievance Procedures

We hope that you will find your experience as a PhD student in Sheffield an enjoyable, satisfying and stimulating experience. However, it is possible that circumstances occur that are not satisfactory, for example, problems with your research environment (e.g. office or laboratory space), problems with equipment or your supervision, etc. In the first instance, if appropriate, you should raise these issues with your supervisor. If this is not appropriate, or if the issue is not resolved, you should then raise it with your Mentor or the Postgraduate Tutor.

4 The Doctoral Development Programme (DDP)

4.1 Overview of the DDP

You will automatically be enrolled in the Doctoral Development Programme (DDP) when you register as a research student. It is the task of your second supervisor to monitor your progress in the DDP. At the start of each year of study, you will be required to complete a Training Needs Analysis (TNA). In this form, you will identify your training needs for the year ahead, and the actions that you should take to acquire (or improve in) the skills you need for your work. This might involve taking DDP modules. The TNA form should be signed by both of your supervisors, and by the Postgraduate Tutor. Your progress in the DDP will be monitored at the end of your first and second years, usually at the time of the assessment of first and second year reports, respectively. Further information about the DDP can be found at the following [www](http://www.shef.ac.uk/ris/pgr/development_team/ddp) page:

http://www.shef.ac.uk/ris/pgr/development_team/ddp.

4.2 Departmental DDP Modules

The Department runs a number of taught modules that can form part of the DDP for research students in physics and astronomy. These include: the Particle Physics Graduate Course, Nanofolio MSc modules, and Level 4 Master of Physics modules. Further details are given below.

Particle Physics Graduate Course

This course aims to provide, through lectures, tutorials, and projects, the theoretical and practical skills required to conduct research in high energy particle physics. Theoretical topics include quantum electrodynamics and Feynman diagrams, electroweak theory and quantum chromodynamics. These subjects are assessed through sets of problems for each topic.

Experimental techniques are introduced in courses on particle detectors and computing skills, again with exercises provided for the students. Part of the course draws on joint inter-university training material such as the Warwick Flavour Week. A computing or hardware project may be assigned, with students developing a substantial analysis or simulation program, or building a detector or associated electronics (as appropriate to their personal research field).

Staff contact: Dr Davide Costanzo

Nanofolio MSc Modules

- PHY6002 Inorganic Semiconductor Nanostructures
- PHY6006 Macromolecules at Interfaces and Structured Organic Films
- PHY6007 Molecular electronics and Photonics

See <http://www.nanofolio.org/> for full descriptions of these modules, and details of Nanofolio modules offered by other Departments

Level 4 Master of Physics Modules

- PHY401 Cosmic Origins
- PHY410 Physics of Semiconductors
- PHY411 Aspects of Modern Physics
- PHY461 High Energy Astrophysics
- PHY466 The Development of Particle Physics
- PHY469 The Physics of Soft Condensed Matter
- PHY472 Advanced Quantum Mechanics
- PHY475 Optical Properties of Solids
- PHY476 Galactic Dynamics

See <http://www.sheffield.ac.uk/physics/teaching/modules> for further details of these modules.