



UNIVERSITY OF  
**BATH**

# **POSTGRADUATE RESEARCH STUDENT HANDBOOK**

**2016/17**

Department of Physics

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This handbook is available in electronic format via your Moodle (virtual learning environment) pages. The online version includes live links to information sources. If you require a copy in large font or other format please contact the Programme Administrator.

Every effort is made to ensure that the information contained within this handbook is accurate and up-to-date.

# 1 Welcome to the Faculty of Science



*Welcome to the Faculty of Science at the University of Bath. I am delighted that you have chosen to pursue your postgraduate training with us. In some cases that means continuing from your previous studies at Bath, and you will be familiar with the campus and the staff. But for those of you electing to move to Bath from elsewhere, this will be an exciting new challenge. All of you will be embarking on a new phase in your lives and a move to a new style of thinking and learning inherent in postgraduate training; the Faculty of Science Graduate School is here to facilitate this transition. Above all, we want you all to succeed in your chosen course or research project, and that it should be an enriching and enjoyable experience. So do attend the induction events to meet the Graduate School team and to network with your peers. I look forward to meeting you all in the coming weeks.*

*Prof Sue Wonnacott, Associate Dean for Graduate Studies*

## 1.1 The Faculty of Science Graduate School

There are 6 departments within the Faculty of Science – Biology and Biochemistry, Chemistry, Computer Science, Mathematical Science, Pharmacy and Pharmacology, and Physics. The Graduate School is the home for all postgraduate students engaged in research or taking taught Masters courses within the life sciences, physical sciences and mathematics. The Faculty has several interdisciplinary Research Centres, including the Centre for Extremophile Research (CER); the Centre for Mathematical Biology (CMB), the Centre for Regenerative Medicine (CRM) and Bath Institute for Complex Systems (BICS). These Centres foster cross-discipline interactions, both within and beyond the Faculty of Science, and support interdisciplinary postgraduate training programmes.

## Role of the Graduate School

The Graduate School is responsible for supporting postgraduate students throughout their lifecycle at the University, from admission, through progression stages to submission and completion. It also provides a forum for formal and informal interdisciplinary exchanges, offering both academic and social activities. Generic skills training courses are provided by the Graduate Centre via the Graduate School.

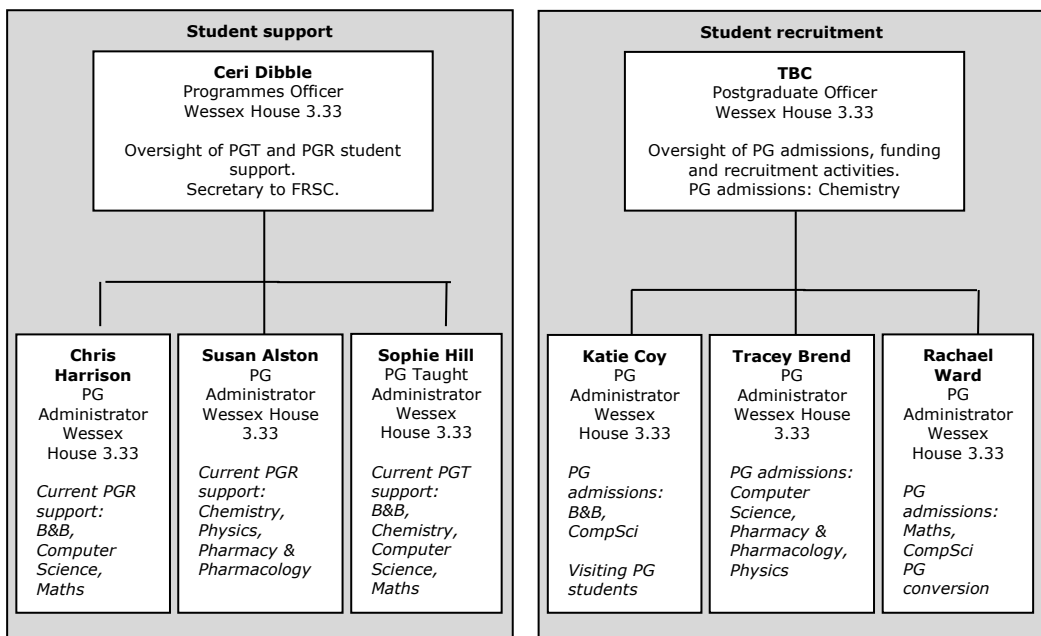
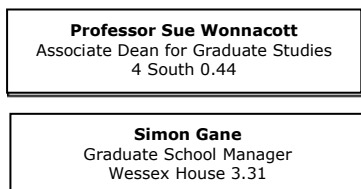
## Staff in the Graduate School

Location: Wessex House 3.33

Website: <http://www.bath.ac.uk/science/graduate-school/contact/>

Email: [fac-sci-gs-admin@bath.ac.uk](mailto:fac-sci-gs-admin@bath.ac.uk)

Tel: +44 (0)1225 38 3410 (internal ext 3410)



## 2. Welcome to the Department

### 2.1 Department of Physics

Welcome to the Department of Physics at the University of Bath. This booklet is intended to introduce new postgraduates to the Department and to life as a research student. There are many differences between undergraduate and postgraduate life and we hope that the information contained in the following pages will provide a useful guide in your route to a higher degree.

We have tried to ensure that the information contained within this document is correct, but please note that the document has no official status and is in no way intended to take the place of official papers issued from time to time by the University.

## 3. Department Structure

The Physics Department is led by the Head of Department, Professor Simon Bending. The Head of Department directs all aspects of the Department, operating through a number of nominated role-holders and through the deliberations of a number of committees. The following sections introduce some of these roles and committees.

### 3.1. Who's Who in the Department

See <http://www.bath.ac.uk/physics/contacts/> for a full list of Department staff. Some contacts most relevant to PG students are:

Head of Department	Professor Simon Bending
Director for Postgraduate Studies	Dr Sergey Gordeev
Department Coordinator	Joanna Lucyszyn
Safety Coordinator	Dr Ashley Brewer
Technical Manager	Alan George
Library representative	Dr Sergey Gordeev
PG Staff-Student Liaison Committee	Dr Sergey Gordeev

The Departmental Office is in 3W 3.1. It is generally open during normal office hours every weekday.

Office telephone number: (01225) 383673  
Fax number: (01225) 386110  
Address: The Department of Physics  
University of Bath  
BATH BA2 7AY

### 3.2 Research Areas in the Department

The Department of Physics has a thriving research programme, with a research community of 35 academic staff and over 82 postdoctoral researchers, PhD students and research visitors, drawn from the UK and overseas. Our research has a high international profile, in keeping with the University's position as a leading research institution in the United Kingdom. The quality of our research and our research environment was recognised by the 2014 Research Excellence Framework: 91% of our physics research was rated as either **world-leading** or **internationally excellent**, placing our Department of Physics 13th amongst all UK departments for its research activities.

The real-world impact of our research – that is its influence on the economy, society, quality of life etc. - was judged to be particularly strong with 100% being **world-leading** or **internationally excellent**. Indeed we rank fourth amongst all UK physics departments for the impact of our research.

Our research covers a wide spectrum of activities, from fundamental physics to technological applications. Our activities are organised into four Research Groups and University Research Centres:

- Centre for Photonics and Photonic Materials
- Nanoscience Group
- Condensed Matter Theory Group
- Centre for Space, Atmospheric and Oceanic Science
- Centre for Networks and Collective Behaviour
- Astrophysics Group

## 4. Working in the Department

### 4.1 Department Website

Please regularly refer to the Department webpages as these contain the most recent and continually updated sources of information <http://www.bath.ac.uk/physics/>

### 4.2 Stationery

Items of stationery can be obtained through the Departmental Office.

### 4.3 Mail Pigeonholes

Any mail which arrives for you will be put into the postgraduate pigeon-holes (WH 3.8).

### 4.4 Finances

Many research students also undertake part-time teaching duties in the Department, particularly as demonstrators in the undergraduate laboratories. In addition to supplementing income, these activities can provide useful training for subsequent careers.

Financial matters are dealt with by the Faculty Science Finance Office located in Wessex House 3.50A.

#### Training Support Fund

Your supervisor may have access to a Training Support Fund (TSF) to support your research. With their approval, this can be used to purchase books, equipment, computing, travel to conferences, plus other expenditure that your supervisor believes will benefit your work. The amount available in this fund varies considerably depending on the source of your funding, and the programme of study you are on. Please check with your supervisor regarding arrangements for this.

#### Purchasing Travel

Although you are able to purchase travel tickets yourself and claim the costs back with a receipt, the University can buy these tickets upfront on your behalf. This is charged directly to the University. The University's travel agent, Ian Allan Travel, is available to postgraduate students to book their own journeys



and accommodation online (see [uob.ianallantravel.com](http://uob.ianallantravel.com) to register). You will need to know your project code, so if you don't know this, please ask your supervisor.

Conference fees and associated costs can be arranged through the Faculty Finance Office ([fac-sci-finance-admin@bath.ac.uk](mailto:fac-sci-finance-admin@bath.ac.uk)). Please check with your supervisor before making any purchases for travel.

### Expense Claims

The process for claiming back research expenses you have paid yourself is the same for postgraduate students as for staff. This is done with the Agresso system online at <https://agresso.bath.ac.uk>. If you do not have access to Agresso, or require some help completing your claim, please speak to the BUCS helpdesk in the Library. Agresso web expenses enables you to enter the costs online and print out a summary to which you attach your receipts and hand in to the Faculty of Science Finance Office in Wessex House 3.50. Please check with your supervisor before claiming any expenses.

### Student Maintenance Payment (Stipend)

If your study is funded from a Studentship (i.e. URS, ORS, DTG) you will most likely be receiving a quarterly payment for living costs during your degree. This is not applicable for self-funded students. Maintenance is paid directly to your bank account in October, January, April and July. Please be aware though, that this payment will stop for periods of suspense, and status changes from full or part time study (i.e. Writing-Up, Thesis Submitted etc.) Any questions about maintenance can be directed to the Student Finance Office ([stufin-stipends@rt.bath.ac.uk](mailto:stufin-stipends@rt.bath.ac.uk)).

## 4.5 Technical Information

Certain materials (such as bottled gas, liquid nitrogen and liquid helium) are delivered only on certain days of the week, so please be aware of this so that you are not caught out.

Advice on computing matters can be obtained via the Computing Services help form at <http://www.bath.ac.uk/bucs/help/contact/index.html>.

Ordering items of equipment is a somewhat complicated task and should in any case be done through your supervisor, who will explain what is needed. Again, it is important to think ahead, since it sometimes takes a long time for equipment to be manufactured and delivered.

Room keys are issued by the Technical Manager. Details of Car Parking arrangements can be obtained from the University's Security Office.

## 4.6 You and your Supervisors

You should maintain close contact with your lead supervisor throughout your career as a research student. He/she will establish the directions of your research and will ensure that you receive the correct training in the different specialised techniques that are required and in the material that forms the background to your research. He/she will also arrange for the facilities necessary for your research to be available. You will also be assigned a second supervisor. In the Physics Department the second supervisor often has a less formal, pastoral, role.

Research is increasingly a strongly collaborative activity and you should make sure that you work closely not only with your supervisor but also with other members of the research group. They, and other students and staff in the Department, can often provide you with specialised knowledge or advice that can prove invaluable. Make sure, too, that you share *your* experience with others: this means learning to communicate your ideas well.

These are a few suggestions for students to consider:

- Full-time students are advised to meet their lead supervisor on a *formal* basis for supervision at least once a fortnight (it is expected that there will also be more frequent informal contact).
- Part-time students are advised to meet their supervisor on a formal basis for supervision about three times a semester.
- It is the responsibility of students to arrange meetings with their supervisors.
- The expertise of other staff is also available to all students, but again the student is responsible for making contact with the appropriate member of staff.
- Students must be prepared to go out and seek help and advice. They should not rely on other people approaching them.
- Any problems that arise that cannot be solved by direct student – supervisor discussion should be brought initially to the Director of Postgraduate Studies, who may refer the matter to the Head of Department.

## 4.7 Some differences between First and Higher Degrees

The nature of study for higher degrees by research is very different from that for first degrees. In undergraduate courses, students' activities are very well defined, with comprehensively timetabled formal commitments.

Postgraduate studies are far less structured and consequently students have a much greater responsibility for organisation of their work and for time management.

## 4.8 How to get things done

As your research progresses, especially if your area of work is experimental, you will need to make the best use of the University's technical resources.

Your supervisor will advise you about the ways in which equipment and other items can be ordered and who to see when you need items manufactured. The University has its own mechanical workshop in the basement of 4E for the making of equipment and there is also a glass-blowing workshop. The personnel are highly skilled and produce excellent items of apparatus: however, there is a high demand for their services which are not cheap or available on instant demand. Remember also that there will be a waiting time of around 3-4 weeks (and sometimes longer) so think well ahead so that your research is not delayed. Simple pieces of apparatus and electronics can sometimes be made in the Department's own workshops, perhaps with the help of our own technical staff. Again, discuss your needs with your supervisor before committing technical staff to major tasks. If you wish to make small items yourself, you can obtain the necessary training and clearance from the Department's technical staff. When using communal research areas such as the workshop or clean room, please keep everything as tidy as possible!

## 5. Health and Safety

*Please note that the summary given below is for guidance: you should familiarise yourself with the University statement of Safety Policy and the local regulations given in the Departmental Safety Manual.*

## 5.1 Safety Policy

### **Responsibilities**

Summary of Health and Safety at Work Act, 1974

- (i) Each employee of the University and each student working in the University has responsibility to take care of his or her own safety and the safety of others.
- (ii) By good example and training, staff and students should be encouraged to adopt high safety standards in their work as a routine.
- (iii) The University is to ensure so far as is reasonably practical the safety of its employees and other people working in or visiting the University.
- (iv) The Act places the duty on all persons that they shall not intentionally or recklessly interfere with or misuse anything provided for health and safety.

### **Regulations**

1. All laboratory work must be carried out in accordance with the Health and Safety at Work Act and follow the local codes of practice. Details of any special hazards will have been given in the risk assessment for your project (and in some cases your work areas). Your project risk assessment will normally have been made by your supervisor. It should be discussed with your supervisor and signed before any work is carried out. Some specialized work (e.g. with lasers or chemicals) requires prior training as detailed in the department safety manual.
2. Eating and drinking are not permitted in laboratories.
3. Postgraduates may work in laboratories outside normal working hours but should inform their supervisor. Hazardous activities such as working with chemicals should not normally be carried out outside normal working hours and should not be performed whilst alone under any circumstances.
4. Report all injuries, however minor, to Dr Ashley Brewer and fill in an accident report form.
5. No Smoking

## 5.2 First Aid

Lists of the nearest qualified first aiders and internal telephones can be found by the main stair well on every level.

## 5.3 Safety Contacts

Any accident resulting in personal injury requires an accident report form to be completed and returned to the Department Safety Coordinator (Dr Ashley

Brewer). Other incidents, near misses, dangerous occurrences, serious property damage, or hazards likely to endanger people should be reported using the same form. The Department Safety Coordinator will initiate an investigation following an accident or incident, and will report to the Head of Department and the University Safety, Health and Environment Unit as appropriate.

## 5.4 Building Security

### **Summoning Emergency Assistance**

If you start or discover a fire, break the glass in the nearest fire alarm point which will sound the alarm in the building.

If trapped in a room, close the door, open the window and summon assistance using the internal phone (**dial 666**) or otherwise attract attention.

In case of an accident requiring urgent medical attention, **dial 666** from any University telephone. One is located on the landing of each floor. Give the operator your name, extension number, the location of the injured person and the nature of the injury if possible.

## **EMERGENCY ALARMS**

### **1) Evacuation alarm**

On hearing the constant tone evacuation alarm, leave the building promptly but calmly by the **nearest** fire exit. In 3West, the nearest accessible exit will usually be the fire escape at the rear of the building, or the main stairwell leading to the Parade. Assembly points during an emergency are on the grass by service road at the back of 3WN or by the university lake. In 1West, 4West, and 5West, follow the local procedures. **Do not use a lift.** Any disabled person unable to exit through a normal staircase should wait in a safe fire protected area such as a lobby area adjacent to a staircase, where they will be assisted by fire wardens and Security Officers. Evacuation alarms are tested every Wednesday morning and will be activated for a few seconds in each test.

### **2) Invacuation alarm**

A warbling alarm has been fitted around the campus which alerts people to an environmental hazard, e.g. a toxic gas leak. People should stay indoors, or move into the nearest building if they are outside. Information on immediate action to be taken will be sent to all Active Directory computers on the University network.

## **Safety Equipment**

No safety equipment should be removed or tampered with. Fire doors should be kept shut except for those which close automatically when the alarm sounds.

# **6. Training and Seminars**

## 6.1 PG Skills Training

In addition to the specialised training that you will need for your particular project, the University and Department also provide training in a number of more generic skills. There are also external training courses, operated for example by EPSRC.

At the end of your postgraduate studies you will be expert in a highly specialised field, but to be successful in your future career a number of 'generic skills' are required. Developing generic skills will help to make you a more effective researcher, produce better research, be more aware of your skills, make informed career choices and be more employable. Such skills are provided by the Researcher Development Unit <http://www.bath.ac.uk/learningandteaching/rdu/>

Generic skills will be developed in the normal course of your studies, and by attendance at some of the courses offered by the University's PG Skills Programme. An important first step in developing generic skills is to carry out a self-assessment of your strengths and weaknesses, and for you to develop a plan to strengthen the weaker areas. It is very useful to think about how the 'generic' skills are embedded in your everyday work, and to record these in the training log too.

You should NOT attempt to attend everything in the first few months. Instead, discuss your priorities with your supervisor, and determine the development activities that you need to do now for the next 6-12 months of your project, and also to prepare you for your future career. You should be planning and reviewing your development all the way through your research project, and discussing this regularly with your supervisor.

The University PG Skills Programme runs training sessions throughout the year that address all aspects of the Joint Statement of Skills Training. These courses

are free to research students. To browse courses and book online, see: <http://www.bath.ac.uk/learningandteaching/rdu/courses/pgskills/index.html>

The PG Skills Programme includes sessions delivered by Computing Services and the Library. However, you may also wish to visit their websites to look for other opportunities they may offer.

### **External activities**

A range of courses are also run on a national level by organisations such as "Vitae" to support the personal development and teamwork skills of postgraduate schools. For details, see the link at the PG Skills Homepage. Other opportunities may also be offered by specific funding bodies. You should take the initiative in finding such courses and you should discuss possible funding with your supervisor.

### **Physics Postgraduate Conference**

In the past the Department has organised a Postgraduate Seminar series in the summer, for presentations by PGR students to their peers, and a Postgraduate Poster Evening in the winter, where 3<sup>rd</sup> year students show off their work. Following an open meeting in January last year it was decided that we would instead move towards a Physics PGR conference, with a mixture of poster and oral presentations. More details will be given later.

### **Departmental & Group Seminars**

Each of the Research Groups and Centres holds regular seminars and meetings, which form an important part of your PGR student experience. Some of the speakers will be external, some internal, including PGR students themselves. In addition there may be more broadly-aimed Departmental Colloquia, which you will be expected to attend as often as possible.

### **Centre for Doctoral Training in Condensed Matter Physics**

A joint Centre for Doctoral Training in Condensed Matter Physics at the Universities of Bath and Bristol has recently received £4.1 million funding from the Engineering and Physical Sciences Research Council (EPSRC) to train physicists of the future. The first cohort arrived in October 2014. Much of their first year is taken up with training, part in Bristol and part in Bath. Some of the CDT activities may be useful, relevant and available to non-CDT students.

## **6.2 Societies and clubs**

Membership of the **Students' Union** is open to all postgraduate students. The **Postgraduate Association (PGA)** aims to promote the voice of the postgraduate community in the university.

**The Institute of Physics (IOP)** is the national professional organisation for physicists and postgraduate are encouraged to join. Membership is free for students funded by the Engineering and Physical Sciences Research Council.

The **Students' Physics Society**, which is supported in part by the IOP, welcomes postgraduate members. Details of meetings are posted in the Physics Square. Recently PGR students have founded a **PG society** with events aimed more specifically at our cohort of research students. Join in!

## 7. The PhD / EngD lifecycle

The diagram below illustrates the typical lifecycle for standard PhD or integrated PhD/EngD students and includes details of the key progression milestones and when they occur. Further details about these progression milestones can be found in the *University Handbook for Research Students*, which will be included in your welcome pack.

