



UNIVERSITY OF
BATH

POSTGRADUATE RESEARCH STUDENT HANDBOOK

2016/17

Department of Mathematical Sciences

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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

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

Professor Sue Wonnacott
Associate Dean for Graduate Studies
4 South 0.44

Simon Gane
Graduate School Manager
Wessex House 3.31

Student support

Ceri Dibble
Programmes Officer
Wessex House 3.33

Oversight of PGT and PGR student support.
Secretary to FRSC.

Chris Harrison

PG
Administrator
Wessex
House 3.33

*Current PGR support:
B&B,
Computer Science,
Maths*

Susan Alston

PG
Administrator
Wessex House
3.33

*Current PGR support:
Chemistry,
Physics,
Pharmacy &
Pharmacology*

Sophie Hill

PG Taught
Administrator
Wessex
House 3.33

*Current PGT support:
B&B,
Chemistry,
Computer Science,
Maths*

Student recruitment

TBC
Postgraduate Officer
Wessex House 3.33

Oversight of PG admissions, funding and recruitment activities.
PG admissions: Chemistry

Katie Coy

PG
Administrator
Wessex
House 3.33

*PG admissions:
B&B,
CompSci*

Visiting PG students

Tracey Brend

PG
Administrator
Wessex House
3.33

*PG admissions:
Computer Science,
Pharmacy &
Pharmacology.
Physics*

Rachael Ward

PG
Administrator
Wessex
House 3.33

*PG admissions:
Maths,
CompSci
PG conversion*

2. Welcome to the Department

2.1 Department of Mathematical Sciences

The Department of Mathematical Sciences is an integrated department, whose work in the three areas of Pure Mathematics, Applied Mathematics and Statistics has an international reputation. In 32% of our submitted research activity has achieved the highest possible Research Excellence Framework (REF) classification of **4***, defined as world-leading in terms of originality, significance and rigour. 87% was graded 4*/3*, defined as world-leading/internationally excellent. Our overall grade point average (GPA) is 3.17. Based on these results, we are placed **12th in the research quality ranking of UK universities**, excluding specialist institutions.

Staff in all three areas are involved in a very wide range of national and international research activities and several members of the Department have won prestigious prizes, medals and research fellowships for their work.

All parts of the Department welcome research students (both full-time and part-time) working towards the degrees of PhD, Integrated PhD and MPhil. With 24 Professors and 30 other academic staff, a wide range of research topics can be supported in depth and students with a good honours degree, or equivalent, will find much to enrich their scientific interests. Research in the Department covers a wide spectrum from the very pure to rather more applied aspects of Mathematics and Statistics. Some research is of a fundamental theoretical nature while much of the more applied work involves collaboration with other departments in the University, with industry and technology, and with government research departments. Each of the research groups within the Department runs regular seminar programmes.

3. Department Structure

The Mathematical Sciences Department is led by the Head of Department, Professor Peter Morters. 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/math-sci/contacts/> for a full list of Department staff. Some contacts most relevant to PG students are:

Head of Department	Prof Peter Morters
Director of Studies – Research students	Dr Adrian Hill
Department Coordinator	Myla Dixon

3.2 Research Areas of the Department

Research in the Department is based on teams focusing on particular research areas but with a strong culture of collaboration and mutual support.

The groups within Mathematics include work on:

- Algebra and Geometry
- Analysis and Differential Equations
- Continuum Mechanics and Waves
- Industrial Applied Mathematics
- Mathematical Biology
- Mathematical Control Theory
- Numerical Analysis

The Statistics group covers a range of work on:

- Statistics
- Probability

3.3 Doctoral College in Mathematical Sciences

The Doctoral College in Mathematical Sciences is an exciting opportunity designed to broaden and deepen the training given to PhD students, which involves taking six taught courses in the first 18 months. The aim of the Doctoral College is to provide students with a wide and thorough formal training in mathematics in areas not directly linked to their chosen research area, to generate a culture of continued learning and to produce students who are in the forefront of research. From 2007, we have been broadcasting and receiving live graduate taught courses with students in Oxford, Imperial, Warwick and Bristol.

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/math-sci/>

4.2 Stationery

The stationery supplies in the Department Stationery Room are available for your use, free of charge.

4.3 Telephones

Telephones in the postgraduate rooms are available for project-related local/UK calls only. If you need to make international calls for your project, contact the Director of Studies.

4.4 Mail Pigeonholes

Mail received for postgraduate students is put in the postgraduate pigeon holes on level 4. Students are responsible for checking their pigeon holes regularly as the Department cannot accept responsibility for any mail that is not collected. The Department Office will keep back any cheques that arrive and put a note in your pigeon hole. This also applies to any registered mail or parcels that arrive.

4.5 Technical Information

Computer Support

In the event of any problems, if you require further information, or more help on any subject, check the Computing Services webpages to see whether the information required is mentioned (<http://www.bath.ac.uk/bucs/>).

4.6 Finance

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 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). 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).

4.7 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.

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.

4.8 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.

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

All members of the Department have a responsibility for safety. As a Department we have a wide range of activities which, if not carried out properly, could pose safety risks. Therefore it is important that everyone is safety conscious. Although we have safety procedures in place, designed to pre-empt problems, we do depend on everyone being alert to these risks and bringing to the attention of colleagues any safety matters they are concerned about.

If you have visitors in the Department you should be responsible for their general safety and evacuation in case of an emergency.

Visitors with mobility issues should inform their host prior to arrival of their needs or requirements as soon as possible. If children are brought on to the campus they should be under constant supervision. Children should not be brought into the Department unless absolutely necessary. If they are in the Department they must not enter the laboratories.

5.2 First Aid

The services of a first aider are available from the Security Office. A *first aid box* is also available in the Department Office (4W 2.13) and in the Security Office.

5.3 Safety Contacts

Myla Dixon (Department Office) is the contact for Health and Safety within the Department.

5.4 Building Security

You will need to use your library card to access the Department out of hours. Please ensure that all restricted access doors are closed behind you.

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.

Doctoral College in Mathematical Sciences

The Doctoral College in Mathematical Sciences is an exciting opportunity designed to broaden and deepen the training given to PhD students, which involves taking six taught courses in the first 18 months. Each student's programme of study is decided early in the first semester after discussion between the student, supervisor and Postgraduate Director of Studies and approval by the Faculty Research Students Committee.

What Previous PhD Students Say About Us

"The department has always struck me as incredibly inclusive and supportive so a big Thank You to all who work and study there in contributing to this atmosphere. I would particularly like to mention the administrative and computer support staff who are invariably quick and eager to help and a pleasure to deal with." – Barrie Cooper

"Many thanks to the staff and postgraduate students in the Department of Mathematical Sciences for providing a friendly and supportive environment."- Lorina Varvaruca)

"I would like to thank (...) the computing support and administration for always being here for me." – Patrick Lechner

"I would also like to thank all the staff and postgraduate students in the Department of Mathematical Sciences for providing such a friendly and supporting environment."

"I am grateful to (...) the secretaries and computer support team who were always available to answer my queries." – Daniel J. Crispin

“Many thanks to my friends and colleagues from the University of Bath for all the good moments spent together! In particular, thanks to my office mates throughout the years [...] for making the time at work a pleasure, and to all those who work hard behind the scene to keep the Department ticking– Zhivko Stoyanov

“I would [...] like to thank the Department of Mathematical Sciences as a whole for providing a department which is both friendly and supportive whilst creating an excellent research atmosphere. [...] I would also like to give a large thanks of appreciation to the other PhD students in the Department for being such a friendly group of people and for the regular social events which have been organised.” – Stephen Pring

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.



The PhD/EngD lifecycle

