

School of Mathematical, Physical and Computational
Sciences



Research Student Handbook

2023 -2024

<https://www.reading.ac.uk/smpcs/>

DISCLAIMER

The Departmental information and the website addresses given in this section of the Handbook are correct at the time of printing. Some of this information may change during the course of your research programme at The University of Reading and you will find *the most up-to-date versions of the documents on the School and Departmental web pages*

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ABSTRACT

This Handbook has three main sections:

General Information: The nature of the School, its constituent components, and its relation to the rest of the University. This section gives details on the layout of the Departments, their facilities, and the responsibilities of the individual staff members. It also gives details of student representation within the School and University, travel funding, careers and professional societies.

Training: options available in the different departments and how training programmes are tailored to individual students.

Monitoring and Progression: The School procedure for monitoring research students to ensure that they are making satisfactory progress. The process is two-way and enables students to ensure that they are receiving appropriate levels of supervision and support. Information is given on the stages of formal progression of your PhD and on extension and suspension in PhD funding and registration.

In addition to this handbook you will find a wealth of information available on the School PhD webpage <https://www.reading.ac.uk/smpcs/> the University Doctoral & Research College webpages <https://www.reading.ac.uk/doctoral-researcher-college/> and the Examination Officer webpages - [Thesis submission and examination – Doctoral and Researcher College \(reading.ac.uk\)](#)

The Doctoral & Researcher College webpage includes a link to the University's Policies and Procedures for Research Students which outlines a minimum set of requirements for all parties involved in the awarding of postgraduate research degrees at the University of Reading and includes lists of the responsibilities of the student and supervisors in the PhD process: [Student policies and procedures – Doctoral and Researcher College \(reading.ac.uk\)](#)

For International students, there is a useful section on the student pages at [Student policies and procedures – Doctoral and Researcher College \(reading.ac.uk\)](#)

At the end of this handbook an annex describes how UK research councils use the data they hold on students funded by them (this comes from a briefing note provided by the research councils).

1. GENERAL INFORMATION

1.1 Overview of the School of Mathematical, Physical and Computational Sciences

The interdisciplinary School of Mathematics, Meteorology and Physics was formed on the 1 August 2004. This School consisted of the Department of Mathematics and Statistics, the Department of Meteorology and the Statistical Services Centre (SSC). The SSC is a self-financing unit which provides statistical training as well as statistical consultancy to clients from inside and outside the University. In August 2016, the new dedicated focused Department of Computer Science was created to support the current expansion and future growth of the University's popular Computer Science programmes and outstanding research activities. This Department joined the School which was then renamed to the School of Mathematical, Physical and Computational Sciences.

The *Natural Environment Research Council* (NERC) distributed centres include the *National Centre for Atmospheric Science* (NCAS) and *National Centre for Earth Observation* (NCEO). NCAS has three divisions: climate, atmospheric physics and composition. The Department of Meteorology hosts the NCAS Climate Directorate. Some NCAS-atmospheric physics and NCEO staff are also employed in the School (particularly in the Department of Meteorology). Meteorology also hosts several research groups from the Met Office, as part of the Met Office Academic Partnership (MOAP). The other MOAP universities are Leeds, Exeter and Oxford. Academic and senior research staff in the School are also affiliated to a (single) University Research Division. Meteorology staff are affiliated to one of the Weather, Climate, or Earth Observation and Space Research Divisions; Mathematics and Statistics and Computer Science staff are affiliated to the Mathematics Research Division.

All these Departments, Research Divisions and Research Centres have affiliated research students. Hence, students may be members of a department and be attached to NCAS or NCEO with supervisors affiliated to a particular Research Division. Although in general the guidance given to students is similar across the departments, some differences in procedure exist. The Research Division that your supervisor(s) are affiliated to will only rarely directly affect you.

The *Department of Mathematics and Statistics* (<http://www.reading.ac.uk/maths-and-stats/>) offers undergraduate BSc and MMath programmes in both pure and applied mathematics, statistics and applied statistics as well as joint degrees with economics, meteorology, computer science and psychology, and the Mathematics of Planet Earth Centre for Doctoral Training (MPE CDT) in conjunction with Imperial College London (<https://mpecdt.ac.uk/>). The Department has an active postgraduate research programme including a PhD in Mathematics and Statistics. The Department has a strong research record in Mathematical Analysis, Numerical Mathematics (including Conservation Laws and Data Assimilation), and Pure Mathematics. Research in Statistics focuses on biostatistics including clinical trials, meta-analysis, capture-recapture modelling, statistical genetics and Bayesian statistics. The Department is located on the Pepper Lane (west) side of the lake bisecting the main Whiteknights campus (building #4 on the University campus map), whereas the Mathematics of Planet Earth Centre for Doctoral Training resides in room 211 of the JJ Thomson building (#3).

The Department of Computer Science (<https://www.reading.ac.uk/computer-science/>) offers undergraduate BSc Computer Science, BSc with Industrial year, and MSc Advanced Computer Science. Its PhD programme includes research topics such as advanced computing and programming paradigms (Parallel and Distributed Computing, Cloud and mobile computing), computational intelligence, machine learning, data mining, predictive analytics, big data, and computer vision. The Department is located in building 28 on the Pepper Lane entrance.

The Meteorology Department (<http://www.met.reading.ac.uk>) is a world-leading centre of excellence in the atmospheric sciences. In 2006 Meteorology at Reading was awarded the Queen's Anniversary Prize for Higher and Further Education. It is the only UK Department to offer a full range of undergraduate and postgraduate courses in the atmospheric sciences. Meteorology runs MSc courses in *Applied Meteorology*, *Applied Meteorology and Climate with Management*, and *Atmosphere, Oceans & Climate*. The Meteorology Department is located within the following buildings: Meteorology Building (#58 on the campus map), Harry Pitt (#56), Agriculture (#59). Meteorology leads the SCENARIO (SCIENCE of the Environment: Natural and Anthropogenic pRocesses, Impacts and Opportunities) Doctoral Training Partnership (<http://www.reading.ac.uk/nercdtp>) which funds many of the UK students in the Department and across environmental sciences in Reading and Surrey.

1.2 Key people in the School and Departments

The following are key people with whom you're likely to interact initially (see local www pages or Blackboard site for more information).

School

Professor Andrew Charlton-Perez	<i>Head of School (office in Meteorology)</i>
Sukhi Sanghera	<i>School Administration Manager</i>
Debbie Turner	<i>PA and Executive assistant to Head of School</i>
Dr Calvin Smith	<i>School Director of Teaching and Learning</i>
Dr Sugata Mondal	<i>School Director of Postgraduate Research</i>
Professor Jennifer Scott	<i>Director at Reading of the Mathematics of Planet Earth Centre for Doctoral Training</i>
	<i>MPE CDT Centre Manager</i>
Dr Thorwald Stein	<i>Director of the SCENARIO Doctoral Training Partnership</i>
Wendy Neale	<i>SCENARIO CDT Administration Manager</i>
Rachel Blackmore	<i>School MSc Administrator</i>

Mathematics and Statistics

Professor Jani Virtanen	<i>Head of Department (Research, Teaching and Learning)</i>
Dr Sugata Mondal (tbc)	<i>Departmental Director of Postgraduate Research Studies: Mathematics</i>
Dr Fazil Baksh	<i>PhD in Statistics Coordinator</i>

Computer Science

Professor Shuang-Hua Yang	<i>Head of Department</i>
Prof Xia Hong	<i>Departmental Director of Postgraduate Research Studies: Computer Science</i>

Meteorology

Professor David Brayshaw	<i>Head of Department (Academic staff and External Affairs)</i>
Professor Joy Singarayer	<i>Head of Department (Finance and support staff)</i>
Debbie Turner	<i>PA to the Heads of Department</i>
Professor Chris Scot	<i>Departmental Director of Postgraduate Research Studies: Meteorology</i>
Dr Keri Nicoll	<i>PhD Admissions Tutor</i>
Dr Tom Frame	<i>Meteorology MSc Director</i>
Sharon Wang	<i>Executive support administrator providing administrative support with studentships, student travel and demonstrators.</i>
Neil Blanchonnet	<i>Senior IT Business Partner</i>
Catherine Turner	<i>Librarian</i>
Marimel Gler	<i>Chairs of Meteorology Postgraduate Research Forum</i>

Doctoral & Researcher College

Christine Macfarlane	<i>Postgraduate by Research Administrator: Meteorology</i>
Kristine Aldridge	<i>Postgraduate by Research Administrator: Mathematics and Statistics and Computer Science</i>

1.3 Facilities

The various school buildings are open between the normal working hours of 8 am and 6 pm each working day. All research students are issued with a Campus card that will enable them to gain access outside these hours and at weekends/holidays. If you are in a Department outside working hours then you must sign in (and sign out) in the *Building Occupants Register Book in the entrance lobby*. Please ensure that you also sign this book if you are in a Department, but continue working after 6 pm. The relevant Departmental safety code can be found in each office. You should read this as all staff and students are required to follow this code.

Mathematics and Statistics

General facilities

PhD students have their own allocated **desk space with their own computer facilities**. The Mathematics **Common Room**, Room M112, is available for use by all staff and students and visitors to the department. It has a selection of easy chairs and whiteboards and is the place for much informal contact and personal discussions that may disturb the people working in your shared office. Students may make their own tea/coffee in the kitchen on payment of the correct fee into the jar in the kitchen.

In general, the availability of office equipment and similar services should be checked with the Postgraduate Administrator in Room M209. Reproduction of printed matter may be carried out on the **photocopier** in the department (subject to the usual copyright restrictions). Each student will be given a code number for use of this facility. Although their use of the photocopier is monitored, PhD students are not charged for reasonable use of the facility.

Mail for students is placed in a named post-tray in the Post Room (room M214). **It is important that you regularly check for mail since urgent and often important information on course arrangements is to be found here.**

There is a large **departmental postgraduate library**, which contains many books of interest to postgraduate students. Books may be borrowed for unlimited periods but **must be signed for** and, for the convenience of others who may wish to consult them, they should normally be kept in the department.

Computing

The Department of Mathematics & Statistics owns restricted-access PCs, mainly for postgraduate use. Unlike the ITS facilities, these workstations have restricted login access. They may be used by all staff, research and postgraduate users in the department but not by undergraduates or other members of the University. The printing facilities connected to them are likewise restricted. In most other respects the departmental machines are identical to the ITS lab machines. The rooms containing these machines have combination locks (the combination may be obtained from Mrs Brigitte Calderon in M214) and for security reasons should be locked when unoccupied, even during normal working hours.

The department has new printers installed which are available in rooms JJT 222, JJT 206, Maths 114, the main photocopy room, Maths 316 & Maths 313. These are all accessible via your **campus card**. At the moment there is no charge for normal use of these printers; however, their use is recorded and monitored and quotas may be implemented if unreasonable use occurs.

The PCs use shared common file space for user's files. This has the advantage that user's files, emails etc. are available at any PC. However, file space is limited and so should not be used to excess – in particular users should not store large amounts of email messages or nonacademic material such as pictures, games or audio files. Consideration for other users should always be made. For example, users should not deny others access to a PC by leaving a console logged in but unattended for periods over 5 minutes or by using lockscreen programs. File space is short so users should compress files not in frequent use and remove executables which can easily be recompiled.

Most offices have a **phone** which can be used for local calls and calls to specified non-local numbers. Please note that the use of all phones in the Department is monitored and questions will be asked if use seems excessive.

Computer Science

General facilities

PhD students have their own allocated **desk space with their own computer facilities**. A Microwave and an expresso coffee machine are available for use in the kitchen (room 138), between the hours of 8am and 5 pm. The staff common room is located in room 130.

In general the availability of office equipment and similar services should be checked with the Postgraduate Administrator. Reproduction of printed matter may be carried out on the **photocopier/printer** in the department (subject to the usual copyright restrictions) in rooms G45, 56, 139 and 165. PhD students are not charged for reasonable use of the facility.

Mail for students is placed in a named post-tray in the Post Room (room 165).

Computing

We focus on computational vision (processing on visual data, for example, intelligent CCTV), big data and data analytics, computational biometrics and security, middleware and cloud computing. Our international research is supplemented with excellent facilities, *a virtual infrastructure*, a computer cluster dedicated to big data research, high-end GPU facilities and a CONDOR pool (Campus Grid). Additional facilities include a Power Wall and a walk-in virtual reality system (CAVE), both part of the Visualisation and Interactive Technology Centre (VIT-C).

The Department of Computer Science owns several PC labs for teaching activities (G56, G45). They may be used by all staff, graduate and undergraduate students in the department or other members of the University when there is no class booked. All students are provided with a computer on their arrival in the Department. This may take the form of a desktop or laptop machine. In the case of laptops, students need to be aware that these need to be returned to the Department at the end of their studies. Failure to do so, may mean incurring a financial penalty

The Departmental printers are accessible via [campus card](#) in rooms G45, 56, 139 and 165. At the moment there is no charge for normal use of these printers; however their use is recorded and monitored and quotas may be implemented if unreasonable use occurs.

Most offices have a **phone** which can be used for local calls and calls to specified non-local numbers. Please note that the use of all phones in the Department is monitored and questions will be asked if use seems excessive.

Meteorology

General facilities

The Meteorology Building has a large **common room** used by all students and staff. Coffee and tea can be obtained from the kitchen area on payment of a small fee. The money raised by the coffee fund in the Meteorology and Lyle buildings is used to support Departmental activities such as the annual Christmas party and summer barn dance and BBQ. Microwaves and an espresso coffee machine are also available for use. The kitchen area is maintained by research students. The Lyle Building also has kitchen areas to make coffee/tea etc. The Agriculture Building has its own café where lunch and snacks can be purchased. Harry Pitt first floor has three communal rooms: the conference room (176), the seminar room (175) and the Tap Room or kitchen. On the first floor there are toilets just outside the south entrance and along the Applied Statistics north corridors on both first and second floors.

The Meteorology Building has a well-stocked **library** from which books can be borrowed. Most of the journals commonly required are available online (other Meteorological journals are available at the *University library*). Journals *may not be removed* from the library and so you should photocopy any articles you wish to read away from the library area. Research students may use the photocopiers/printers in 1L37 and 1U24.

All students are allocated a desk and a computer (usually PCs which can be used to access multiple-use servers including the Meteorology computing cluster, the “Reading Academic Computing Cluster” (RACC) in one of the PhD offices in the Meteorology Building (each suitable for about six-ten students), or on the 3rd or 5th floors of the Lyle Building.

Each office has a **phone** which can be used for local calls and calls to specified non-local numbers (e.g. the Met Office in Exeter). Please note that the use of all phones in the Department is monitored and questions will be asked if use seems excessive.

Meeting and seminar rooms can be booked by students for meetings. Please check room availability on the internal department webpage (<https://research.reading.ac.uk/meteorology/intranet/room-bookings/> and then email met-roombookings@lists.reading.ac.uk to reserve the room. In Meteorology post is delivered to the pigeonholes on the lower ground floor. In the Lyle building the administrator will place mail in a pigeon hole (according to floor) in the Lyle building lobby.

Personal copies of periodicals are usually left in the coffee room for collection. Dana Allan is the member of Exec Support staff responsible for room moves so please contact her if you are planning to move desk. The School Postgraduate Office is located in room 1L35 of the Meteorology Building, near the coffee room.

Computing

Most research students use the UNIX/LINUX network facilities available in the Department (which includes your "home" disk space with back-up, laser printing and internet connection to the outside world). Windows-based PCs are also available in the computer rooms. For intensive processes students use the “Reading Academic Computing Cluster” (RACC) or remote access to supercomputers outside the University. Students receive an introduction to Departmental computing as part of their induction. If you have a computing problem then it is worth asking other students if they know how to fix it and looking at the itmet web pages at <http://www.met.reading.ac.uk/it/home> . If this doesn't help then the problem should be reported using the online Self Service Desk (<https://uor.topdesk.net/tas/public/>) or by email to it@reading.ac.uk.

The Department has a *met-social* e-mail alias to which all new students are subscribed. This is a good source of information about the various social and sporting activities that occur in the Department. There are also other e-mail lists to which you can subscribe, mainly specific to particular computer languages or software (e.g. python, matlab).

Much of the information you will require about the Departmental computing and library facilities (including a search facility for library books and journals) is available online: see <https://libguides.reading.ac.uk/meteorology-library> and <http://www.met.reading.ac.uk/it/home>

1.4 Student Representation

Mathematics and Statistics

The Department has a Postgraduate Forum consisting of one representative from each year of Research students, together with the Head of Department and the Director of Postgraduate students.

Computer Science

The Postgraduate Forum of Computer Science consists of one representative from each year of Research students, together with the Head of Department and the Director of Postgraduate students. The forum can be used to express feedback on aspects of your course. Please feel free to contact any of the representatives if you have an issue to raise.

Meteorology

The Postgraduate Research Forum consists of elected representatives from each current year of the Postgraduate Research student body with a chairperson and international student representative, together with the Department Head of Finance and the Departmental Director of Postgraduate Research studies. Its meetings are convened by a Student Chairperson and the minutes of its meetings are available for all Postgraduate Research students to read. The Forum considers all matters which affect the academic life of our Postgraduate Research by Research students, including administrative arrangements, training programmes, provision of Departmental facilities etc., and it is an important channel of communication between the students and academic staff. The Forum meets once each term. If you have any concerns that you think the Forum should consider, please discuss them with one of the Forum members.

University

A PhD student from each Department is nominated to represent postgraduate research students at a University level. Meetings of the representatives are coordinated by the Doctoral & Researcher College.

1.5 Travel and Conferences

You should discuss business travel to meetings and conferences with your supervisor(s) and together decide what meetings would be useful to participate in. Note that students are covered by the University's **business travel insurance policy** for overnight stays:

(<https://www.reading.ac.uk/procurement/insurance>). Before travel you are required to fill out a short **online risk management form** for students that is available on the web link above.

Expenses associated with fieldwork and travel need to be budgeted and agreed in advance using a travel approval form. You are also required to book most travel through the University's nominated travel agent (currently Gray Dawes, formerly known as CTM) which can be done in conjunction with Kristine Aldridge for Maths & Stats/Computer Science or one of the Administrative team in Meteorology, together with your supervisor's permission and a project code. Up-to-date information on the travel booking procedures for the school can be found on Blackboard under the "SMPCS PhD Research Students" Organisation.

You should ensure that all receipts from your trip are kept as you will need these to claim back money spent on food/travel etc. on your return. If necessary you can apply for a cash advance to cover subsistence and accommodation costs before you leave.

If your PhD involves **field or laboratory work** you will need to complete a **risk assessment form** for the activities in with your supervisor and submit it to the appropriate Safety Coordinator. School health and safety information can be found on the Blackboard under the "SMPCS PhD Research Students" Organisation.

Important note: Overseas students are **required by the UK Border Agency (UKBA) to notify the University when they plan to spend time away from Reading**. Please tell your Postgraduate Administrator the dates when you will be absent from the UK two weeks before you leave on a trip for any reason, not just work. Also, please tell us the dates of trips elsewhere in the UK for prolonged periods (more than a week). The University is responsible for recording this information for the UK Government during your stay in Britain and it is a condition of your visa for entry into the UK.

All students should notify their supervisor when they plan to spend prolonged periods (*more than a week*) away from Reading. Please note that if you are enrolled as a full-time student you are expected to be working all year (not just term time) as you would in a full-time job and you are entitled to the same duration of holiday as University employees. You are strongly advised to arrange your holidays to be out of term time since otherwise you are likely to miss useful seminars

or other events and supervisors are likely to be more available during term time (as they often travel to conferences or take their own holidays out of term time). **Failure to maintain contact with your supervisor**, and inform them of your absences, could lead the School instigating procedures for terminating your registration on the grounds of lack of academic engagement.

Mathematics and Statistics

It is expected that research students (PhD) attend one national and one international conference during their period of study. Students supported by EPSRC and industry have an allowance for this built into their funding (in addition to the stipend). The Department will usually contribute funding for limited conference attendance for other students. For statistics, a natural choice of the national conference would be the annual meeting of the Royal Statistical Society where there are several events available specifically tailored for early career statisticians.

Each Mathematics of Planet Earth (MPE) CDT student has travel budget of £3000 over the entire PhD. It may be spent on conference travel and accommodation, conference fees, summer schools etc. Students are expected to take responsibility for budgeting using a provided template spreadsheet. Conference attendance must be approved by supervisors as well as as well as the MPE CDT Director of PhD Studies (Dr Jochen Broecker). The MPE CDT Centre Manager is responsible for tracking the expenditure. If travel is required during the MRes year, this is considered on a case-by-case basis and may consume part of the PhD travel allowance.

Computer Science

It is expected that research students (PhD) attend at least one international conference during their period of study. Each student is allocated £1000 for travel and subsistence during the period of their research. This money is only available for travel to conferences and meetings and unused funds cannot be accessed for other purposes.

Meteorology

A few students (such as NERC-project students) have their own travel grant held by their supervisors. For these students, all travel and subsistence costs are obtained directly from their grant. Students funded by the SCENARIO NERC Doctoral Training Partnership should speak with the SCENARIO DTP Administrator regarding funding and expenses. All other students who do not have their own separate source of travel funding (including NERC funded Doctoral Training Grant, NERC Industrial CASE students and some overseas students) obtain funding for travel to meetings via the Department.

Students funded by the **SCENARIO NERC Doctoral Training Partnership** are allocated a default budget of £2000 for travel and subsistence related to conferences and meetings during the period of their research. Your funding will cover travel to day meetings in addition. When each studentship project is set up, the lead supervisor will draw up an outline budget to cover major project research costs that is agreed with the SCENARIO Director. This could include fieldwork, facilities costs, research-computing costs, project meetings, summer schools and so on. Students are expected to know about their project budget and to keep their own account of spending so that they do not overspend. Students may exceptionally exceed their budget if a case is made to the SCENARIO DTP Director. Please ask the SCENARIO Administrator for the guidelines on your Research Training and Support Grant (RTSG).

Students funded by other UK research council studentships (such as NERC Industrial CASE and NERC Large Grant) have a similar Research Training and Support Grant to DTP-funded students. However, a key difference is that the research project budget is overseen by their lead supervisor, rather than the SCENARIO Director. The finance is managed by the Department. Students are expected to know about their project budget and to keep their own account of spending so that they do not overspend. Queries on your budget should be go to the Departmental Director for PGRS.

Students who **do not have their own separate source of travel funding** obtain funding for travel to meetings involving an overnight stay in the UK or abroad via the Department. Each student is allocated £2000 for travel and subsistence during the period of their research. This money is only available for travel to conferences and meetings and unused funds cannot be accessed for other purposes. Students, in consultation with their supervisors, should draw from their allocation to pay for all meetings which involve an overnight stay. Students can obtain the balance remaining of their allocation from the Department finance administrator. In addition, the Department will additionally fund attendance at one-day meetings (e.g., RMetSoc Wednesday meetings). Students are encouraged to attend one UK meeting of more than one day in each year and one major international conference during their PhD (usually during the 3rd year of research). Students should also seek support for conference attendance from other sources where possible (this may allow you to attend more meetings than your Departmental allocation of funding would permit). For example, many major international conferences have funds available for students to attend and the Royal Meteorological Society also provides some funding for members.

Students are also encouraged to attend one summer school (usually at the end of the 1st year). In the case of students without studentship RTSG funding, Supervisors are encouraged to request funding for students to attend summer schools from the funding body prior to the arrival of the student. The Department recognises that this is not always possible,

therefore the Department has some monies for research student attendance at summer schools (up to £750 per student). Requests for this funding should also be made to the Departmental Director of Postgraduate Research Studies..

Note that research, training and support grants from UKRI (NERC, STFC, EPSRC) do not cover page charges or open access charges. You should seek advice from your supervisor on applying to the University open access fund to cover costs.

1.6 Getting a Job/Networking

Typical destinations of postgraduates leaving the School of MPCS are postdoctoral/teaching positions in universities, research positions in government institutes (e.g. Met Office), and science or computational positions in industry (e.g. environmental science, remote sensing, computing, and engineering). Relevant job opportunities are advertised on Departmental webpages occasionally (see also the *met-jobs* email list at <https://www.lists.rdg.ac.uk/mailman/listinfo/met-jobs> for meteorology-related positions). Your supervisor will be very willing to give advice and to provide references for jobs. It is a good idea to ask/forewarn beforehand. Part of the postgraduate experience involves getting to know who is working in your field and communicating with them. If your topic forms part of a wider project then you have an obvious means of developing such a network. Seminars and conferences are also good places to initiate professional relationships and get yourself known. We encourage this and, provided the result is positive, it can also help in getting jobs!

1.7 Professional Societies

Meteorology

We encourage you to become a student member of the Royal Meteorological Society and to attend the regular monthly meetings of the Society. Aside from other benefits, the Society has funds available for its members to support scientific visits, conferences etc.

Computer Science

The UK based professional body is the British Computer Society (<http://www.bcs.org/>). There are also a number of international societies that may be of interest in your research area. Talk to your supervisors about which ones he/she belongs to.

Mathematics and Statistics

There are societies available to join such as the London Mathematical Society and the Institute for Mathematics and its Applications or Royal Statistical Society. Students may also join the University of Reading SIAM Student Chapter (<http://www.reading.ac.uk/math/siamstudentchapter/>). Aside from other benefits like access to journals, societies often have funds available for its members to support scientific visits, conferences etc.

1.8 Welfare

We do our best to ensure that you will have a productive and enjoyable experience as a postgraduate student. If you need support, please don't just 'grin and bear it' as there is usually something we can do to help. You can talk to someone that you feel comfortable talking to. This might include fellow students, your supervisors, the postgraduate administrator, or your Departmental (or School) Director of Postgraduate Research Studies. There is a lot of support available through Student Services Centre and the Counselling and Wellbeing Service in the Carrington Building and the Student Union (RUSU). There is information on welfare available on the University web pages – see <http://student.reading.ac.uk/essentials/support-and-wellbeing/counselling-and-wellbeing/about-us.aspx> The University also has Medical Practice and Peer Support Service. Some issues will be appropriate to raise at your Departmental Postgraduate research forum (mainly if they affect several students); if so, please contact the Chair of this forum for your department.

1.9 Diversity and Inclusion

By joining the School of Mathematical, Physical and Computational Sciences you are becoming a member of a community which believes in the principles of equality and inclusion. We actively strive to become an ever more inclusive workplace and a learner community in which diversity is rightly recognised as an asset. As a key School in a research intensive University we value diversity because it enriches the pool of talent we can bring to our research and teaching endeavours as well as our day-to-day operational business. The School aims to ensure that all its working practices enable individuals to succeed independently of their gender, ethnicity, sexual orientation, disability or any other protected characteristic as defined in the Equality Act (2010).

The School is proud to hold an Athena SWAN Silver award for our work on promoting gender equality and the University itself holds an Athena SWAN bronze award and is a Stonewall Diversity Champion of LGBT+ rights. In addition, the

University participated in the pilot for the Equality Challenge Unit's Race Equality Charter. If you are interested in participating in our School's work on promoting equality then please contact our School Director of Wellbeing, Inclusion, Diversity and Equality (WIDE), Chris Scott (chris.scott@reading.ac.uk).

1.10 Disabilities

The University of Reading welcomes all students and has a dedicated Disability Advisory Service which offers advice and guidance to students with any disability, mental health condition, or specific learning difficulty (SpLD). For further information please visit <http://www.reading.ac.uk/do/disability-information-landing.aspx> web site.

2. TRAINING

2.1 Doctoral & Researcher College (RRDP) and Generic Training Courses

The University Doctoral & Researcher College coordinates postgraduate researcher training across the University. It is also host to the Doctoral Research Office (DRO) who deal with all matters regarding registration, funding and progression of PhD studentships - [Doctoral and Researcher College – University of Reading](#)

The Reading Researcher Development Programme (RRDP) has courses on, for example, how to write a thesis, publish papers, and interact successfully with your supervisor. It is *your responsibility to enrol on these courses*. **You are expected to participate in five of these courses (or similar generic training courses offered by the School/University) in your first year, three in the second year and three in your third year (adjusted as required for part time students)**. If you have a query as to whether a non-RRDP training course can count towards the fulfilment of your generic skills training requirement, please contact the School Director of Postgraduate Research Studies. Attendance at the courses is registered and treated as part of your progression requirement by the University and some funding bodies (e.g., all Research Councils UK).

The MPE CDT has separate requirements for attending RRDP courses since their students must also attend courses organised by the CDT. MPE CDT PhD students must participate in a minimum of two RRDP courses in their first year, one in the second year and one in the third year

2.2 Useful References

Some books and www sites on doing a PhD that students have found useful are given below:

Evans D (2011) *How to write a better thesis*, Melbourne University Press (378.242-EVA in University Library)

Greenfield T (2002) *Research Methods for Postgraduates* (2nd Edition)

Phillips EM and DS Pugh (2015) *How to get a PhD: a handbook for students and their supervisors* (6th Edition), Open University Press, Buckingham.

Wolfe J *How to write a PhD thesis*, <http://newt.phys.unsw.edu.au/~jw/thesis.html> (last accessed 23/07/2020)

2.3 Induction

During your first week at Reading (usually the week before the autumn term starts) you will be involved in registering for your course and supporting university services. The University Doctoral & Researcher College will also provides an induction meeting for new postgraduate research students several times per year at which students will receive **a welcome pack** and details of the Reading Researcher Development Programme (RRDP).

Departmental induction programmes:

Mathematics and Statistics

The Departmental Induction usually takes the form a gathering in the Common Room followed by a talk from the Director of Postgraduate Research Studies and a tour around the University and the Department. This gives you some guidance on your new role as a research student and addresses some of the issues which may arise. The Department introduces you to staff and other postgraduate students. We familiarize you with the facilities and opportunities available.

Computer Science

The Departmental Induction takes place during the week preceding the start of the autumn term. The Department arranges a gathering in the AI lab, with Staff and other postgraduate students. We familiarise you with the facilities and

opportunities available. You will also go on a tour of the Department and its facilities, including a Health and Safety briefing.

Meteorology

The Department arranges an Induction Programme during the week preceding the start of the autumn term for new research students. The programme complements the University's welcome programmes. It is intended to introduce you to the Department and to each other. An important component is to help you to make the transition to being a research student, and to raise some of the issues faced by those making this transition. You will also go on a tour of the Department and its facilities, including a Health and Safety briefing. Students who are in the cohort of the SCENARIO Doctoral Training Partnership (including all NERC and STFC students) will have additional induction sessions together with students from across the Environment Theme at Reading and from Surrey.

We also operate a *buddy system*, whereby each new research student is allocated a buddy from the 2nd or 3rd (or occasionally 4th) year research students. The student chair of the Postgraduate Research Forum allocates buddies for the new students. Your buddy provides a contact to answer questions about the Department, to help you to integrate with the rest of the student body and to help you find any advice you may need about any aspect of your Postgraduate Research studies. If you start in the autumn term then you will meet your buddy at lunch on the first day of 'Welcome week'. A 3rd year poster conference is also held during Welcome week and **all new PhD students are required to attend**. This is an opportunity for our current 3rd year PhD students to present a picture of the science that is being investigated within the Department.

2.4 Overview of Taught Training Courses

Different students have different needs for taught courses during their postgraduate career, depending largely on their competency to undertake their research topic and their intellectual motivation. You are encouraged to complete a Learning Needs Analysis with your supervisors to assess your current skillset and determine where there are gaps – a link to this can be found here: [Student policies and procedures – Doctoral and Researcher College \(reading.ac.uk\)](#). However, the School does not require you to send the completed form to a Departmental or School Director or Postgraduate Research Studies.

There are two main types of such courses:

Taught Courses at the University

In addition to generic training provided by the Reading Researcher Development Programme (RRDP), PhD students take subject-specific training in the form of MSc modules, mainly given within the School and other Schools. There are also courses given at different institutions with video link access, which can be followed from Reading and will count as internal courses. In particular, Reading is an associate member of SEPnet (the South East Physics Network <https://www.sepnet.ac.uk/>) which provides some of these courses.

Taught Courses outside the University

If the University of Reading does not provide the appropriate course then students may go to other universities, institutions, research councils, or commercial companies to be taught. Examples of this may be a short course on the use of a computer package, or a European or international scheme to provide mixed nation training. In particular there are short courses sponsored by NERC, every one or two years, that are often useful. The most relevant are

- *Vitae - UK Grad Schools Programme:* <https://www.vitae.ac.uk/vitae-publications/vitae-library-of-resources/about-vitae-researcher-development-programmes/gradschools>
- *NCAS training courses* <https://www.ncas.ac.uk/en/education-and-training-home>, which includes
 - [NCAS Introduction to Atmospheric Science](#)
 - [NCAS Atmospheric Measurement Summer School](#) - Isle of Arran, Scotland
 - [NCAS Introduction to Scientific Computing](#)
 - [NCAS Climate Modelling Summer School](#)
 - [NCAS Introduction to the UKCA](#)
 - [NCAS Introduction to the Unified Model](#)
 - [NCAS-NCAR WRF users tutorial](#)

Important note: It is in your best interests not to overburden yourself with too much coursework at the expense of getting your teeth into your own topic.

2.5 Subject-specific Training (MSc Modules)

The School runs several Masters-level Courses. PhD students are required to attend some modules depending upon their prior experience. *You need to discuss this with your supervisor* before or upon arrival.

Meteorology Department

PhD students registered in the Meteorology Department typically take modules from the MSc Atmosphere, Oceans and Climate (www.reading.ac.uk/progspeccs/programme.aspx?year=2022&ugpg=PG) programme. They can also access appropriate modules from other degree programmes run by the Department or, more rarely, by other Departments either within the University or, dependent on studentship funding, from partner Universities (e.g. students funded by the SCENARIO Doctoral Training Partnership can access modules from the University of Surrey – see <http://www.met.reading.ac.uk/nercdtp/home/training/>). There are also many short courses on focussed science topics from the NERC Short Course programme and other sources.

The key modules from the autumn term (see <http://www.reading.ac.uk/module/>) that PhD students in Meteorology often attend are

- *Introduction to weather systems (MTMG01)*
- *Atmospheric Physics (MTMG02)*
- *Fluid Dynamics of the Atmosphere and Oceans (MTMW98)*
- *Introduction to Numerical Modelling (MTMW12)*

There is a wide selection of modules for the spring term (see <http://www.reading.ac.uk/module/>). The core module, also attended jointly by students from Meteorology and Maths, is

- *Numerical Modelling of the Atmosphere and Oceans (MTMW14)*

Often students starting postgraduate research in Meteorology have little or no previous knowledge of fluid mechanics or meteorology. It is the expectation most students will take three modules in one of the Meteorology MSc courses in the autumn term and the three most appropriate advanced modules in the spring term (see <http://www.reading.ac.uk/module/>). Students who have a meteorological background probably only need to familiarize themselves with the course syllabus. Occasionally it may be more appropriate for students to attend courses from other departments or the MAGIC modules (see below). It is recommended that you take at least one MSc module or equivalent training course, even if you are starting from a relevant MSc to your PhD topic.

Students should discuss their training needs with their lead supervisor before they start their PhD degree. Together you devise a training plan with your supervisor and complete the Learning Agreement form (the SCENARIO Learning Agreement for SCENARIO students and the Meteorology Learning Agreement for all other students). Please read the guidelines that accompany the Learning Agreement and explain the things you should consider when choosing MSc modules and other training such as specialist short courses. In particular, guidelines are given on whether or not assessment would be advantageous, including the benefits of taking the assessment. Your learning agreement form will be considered by the Department PGR Board of Studies and they may specify assessment or recommend that no assessment is necessary. This decision will be made before the start of your first term.

Where you take assessment, it is expected that a good pass be achieved in the MSc exams. A good pass is frequently taken to be a mark of **around 60%** on written papers. Performance in training assessment is taken as a strong indication of academic ability and will be a major consideration in progression from year 1 into year 2 of the PhD programme. However, the Postgraduate Research Board of Studies reserves the right to exercise discretion in the interpretation of “good pass”. The other major factor in progression is development of your research project. This is in order to make due allowance for the very varied background of students who undertake research in our Department.

Although some students do not start their PhD at the beginning of the Academic Year, they are still required to complete their learning agreement and to attend the taught courses where thought appropriate by their supervisor or the PGR Board of Studies. This may mean sitting some examinations in the second year. If possible, it is better to gain a basic grounding in the subject early in your time at Reading, leaving you free to concentrate on your research later in your time. The Department reserves the right to postpone your registration until the following October, rather than a mid-year start, if it is appropriate to do so.

Mathematics and Statistics

Students starting a Postgraduate Research in Mathematics or Statistics are usually required to take **5 modules in their first two years of studies**. These modules need to be agreed with the supervisor, and approved by the Director of Postgraduate Research Studies. The result from the first module that you take will be discussed at the first monitoring session.

The modules can be selected among the taught MSc courses, or the few specialized term- or week-courses offered every year by the Department. In addition, the Department of Mathematics is part of MAGIC, a UK-wide consortium of 18 universities, offering taught courses for student on a Postgraduate Research by Research programme. These courses are available to Reading PhD students in videolink. For the list of courses available in this academic year, please see <http://maths-magic.ac.uk/courses.php>

Please note: EPSRC funded PhD students are required to complete 100 h of assessed work in the first two years.

Possible other courses also include Communicating Mathematics, instruction in LaTeX, FORTRAN, C++, Matlab and Maple.

Computer Science

Students starting a Postgraduate Research in Computer Science are usually required to take research studies and two other modules at Master level in their first years of study. These modules need to be agreed with the supervisor, approved by the Departmental Director of Postgraduate Research Studies. For example, the key modules in MSc Data Science and Advanced Computing can be used:

Code	Module Title	Credits
CSMAD21	Applied Data Science with Python	20
CSMAI21	Artificial Intelligence and Machine Learning	20
CSMBD21	Big Data and Cloud Computing	20
CSMDE21	Data Security and Ethics	10
CSMDM21	Data Analytics and Mining	20
CSMMA21	Mathematics and Statistics for Data Science	20
CSMRS16	Research Studies	10

Students may also choose undergraduate modules in the school to complement their knowledge. Students are required submit a list of module choices and the basis for their choice before the autumn term starts.

It is expected that a good pass be achieved in the exams in order to permit you to proceed to the second year. It is expected that a good pass be achieved in the exams in order to permit you to proceed to the second year. A good pass is frequently taken to be a mark of around 60% on written papers. However, the Postgraduate Research Board of Studies reserves the right to exercise discretion in the interpretation of “good pass”.

Language skills

Students whose first language is not English may find themselves at a disadvantage. We may ask such students to attend additional English language classes if we conclude that their performance is being adversely affected by their language standard. More details on the *University’s English Language support programme* can be found here: <http://www.reading.ac.uk/ISLI/enhancing-studies/isli-aep.aspx>

2.6 Transferable skills

Oral Presentations

The ability to communicate the results of your research, both verbally and in written form, is an important skill that we aim to develop during your time in Reading. It is a University requirement that **students must give at least one oral presentation in each year**. The ways in which this is achieved vary between the different departments.

Mathematics and Statistics: In May of their first year students present a 40 minute **literature seminar** to staff and other first year postgraduates in the department. This will be in an area related to their research and may include some of their own work. If the student started at a date different from October, this seminar takes place at some appropriately shifted date.

During your second year you will also present a 50 minute seminar on your work, in the regular seminar series. During your 3rd third year you will give another presentation of your work. For students whose research is in the area of numerical analysis, this will usually take the form of a talk to an inter-University group at the Universities Joint Research Symposium. The Department will encourage you to present your work at appropriate scientific conferences and meetings. We also encourage students to write up their results for publication in international journals.

Computer Science: In the middle of autumn term, there is a PhD presentation day that each student is required to give a short presentation on their research project, or a literature review talk. The Department encourage you to present your

work at appropriate scientific conferences, and give internal talk for the accepted papers. Please make sure that your supervisors and assessors attend your talk.

Meteorology: We expect all *second year* students to participate in an annual mini-conference, *Quo Vadis*, in which they give a short presentation to members of the Department on their research. The students also run an informal weekly meeting, called *Research Student Club*, where you have the chance to practice presenting your research to an audience. Students entering their *third year* are expected to present in a *conference-style poster* session attended by staff and arriving first year students during Welcome week. Please note the dates of Quo Vadis and the poster session in your diaries as soon as they are announced as it is important that you attend these events. We also expect all students to give a *50 minute lunchtime seminar* later in their research studies, and the Department will encourage you to present your work at appropriate scientific conferences and meetings.

Publication of Research Results

We encourage students to publish their research results in quality journals. Sometimes this only happens after the thesis is complete. However, getting a paper published before the examination gives you the confidence that one of the criteria for awarding the degree, that your work is publishable, has been proven. It also improves the C.V. you submit for your next job. The process of organising, writing, submitting and revising a manuscript is an education in itself. Your supervisor should be able to give substantial help here. Many journals require you to pay publication charges (or 'page charges') to publish your work. Please ensure that you discuss the source of funding for these with your supervisor prior to submitting your paper (preferably before deciding on the journal for which your manuscript is targeted). Funding for open access publishing may be available from the University (particularly if your work is funded by a research council) - see <http://www.reading.ac.uk/library/contact/info-for/researchers/openaccess/lib-open-access.aspx>

Seminars and meetings

Students are required and expected to attend the *regular seminar series* in their Departments, together with any specially organised research events as advised by their supervisor, throughout their time at Reading. Although initially it is likely that students will not fully comprehend the whole of these seminars, which may not be in the specific area of their research, it is still *essential training for the communication of scientific ideas* and provides a broadening of experience. ***It is far too easy to become embroiled in the narrow area of one's own research and to be unaware of other areas.*** Students are expected to have a *general knowledge of their field* and this *can be assessed during the oral examination of the thesis*. Knowledge of other areas of research, outside your specialised area, will also help you to determine possible areas for your future career.

Mathematics and Statistics

There are several seminar series in Mathematics during term time, but all PhD students are expected to attend the weekly departmental seminars, regardless of their field of study. Some of these are given by staff, research assistants and research students in the Department, but the majority are given by outside speakers. Additional ad-hoc seminars and group meetings, related to individual research groups, also take place within the department. Further details can be found on the Mathematics & Statistics Departmental webpages under seminars.

In Statistics, there is an applied statistics seminar where people from outside are invited to present their research work. In addition, staff from statistics report about their research progress in this seminar. The seminar takes place on Wednesdays at 2pm. Research students in statistics are expected to join for this seminar. In addition, there is a seminar for statistics PhD students in which students present their progress regularly.

Computer Science

During term time, there are regular departmental seminars. Some of these are given by staff, research assistants and research students in the Department, but the majority are given by outside speakers. Additional ad-hoc seminars may also take place.

Meteorology

There are *two* types of *Departmental Seminars* that all research students are expected to attend. Seminars are given by *external* speakers at midday on Mondays during term times. Seminars are given by *internal* speakers (including Postgraduate Research students) at 1 pm on Tuesdays during term-time. *Weather and climate discussion* (WCD) runs at midday on Fridays and covers the latest events in the atmosphere and oceans as they unfold. Most of the *research groups* run their own group meetings (usually weekly) and you are encouraged to attend and participate in any relevant group meetings. Extra seminars with external speakers are often organized by the groups and are advertised by email.

2.7 Demonstrating

Many Postgraduate Research students act as paid demonstrators to support teaching activities within the School. ***You must be eligible to hold paid employment in the UK.*** Typically, all EU students are eligible, but non-EU students must check the terms of their entry visa to the UK.

Students receive payment for demonstrating modules at an hourly rate set by the University. The pay for demonstrating is determined by multiplying this hourly rate by the number of hours assigned to the module by the module convener. The rate includes some allowance for the additional time spent in preparation. Marking opportunities are also available for a limited number of modules. While demonstrating is, of course, optional it does give postgraduate students valuable experience in communication skills. Students undertaking demonstrating duties and all other student jobs at the University are recruited via “Campus jobs”: <https://www.reading.ac.uk/essentials/Campus-Jobs/Portal> The Doctoral & Researcher College runs a Preparing to Teach programme [Training and development – Doctoral and Researcher College \(reading.ac.uk\)](#) to support doctoral researchers who contribute to teaching and learning activities in the University. This includes laboratory or computer classes, demonstrating, running problem solving sessions, taking tutorial classes or seminars, giving lectures, performing assessments and providing feedback. Although it is not compulsory to attend this programme prior to demonstrating, you are advised to do so.

In *Mathematics and Statistics* demonstrating normally involves supervising undergraduate or MMath lectures or tutorial classes and marking and giving tutorials for groups of about ten second or third year students taking mathematics. Most PhD students will have the opportunity to be involved. For example, demonstrators in mathematics can expect to take at least one group and the usual load is one or two hours marking plus one hour tutorial per week. Interested students should contact the Director of Undergraduate Studies (currently Dr Peter Chamberlain for Mathematics and Statistics modules) at the beginning of the first term. It is mandatory for all mathematics and statistics PhD demonstrators to attend the Teaching Assistant course arranged by the Department which usually lasts for a couple of hours.

In *Computer Science* demonstrating normally involves supervising undergraduate practical labs, or tutorial classes and marking of lab works, or open day demonstrations. Most PhD students will have the opportunity to be involved.

In *Meteorology*, demonstrators are required for tutorial and problem classes and synoptic, instrument, fluids, and computing laboratory classes. A full load of demonstrating is currently around 60 hours per year. Demonstrating can provide a break from research and a useful addition to a C.V. It is **mandatory** for all demonstrators in labs, as well as for postgraduates doing lab/field work as part of their research project, to attend one of the Lab Safety Courses for Postgraduates. We **strongly** recommend that *all new Postgraduate Research students attend one of these courses as failure to do so will significantly limit the demonstrating available to them.* Students will be advised of the dates of these courses. Some non-module demonstrating roles are also on offer such as assistant librarian and coffee monitors. They are currently paid at less than the demonstrating rate because they do not require additional preparation time or MSc-level expertise.

2.8 Supervision

You will have at least two supervisors. The general role of the supervisor can be found in the “The Student Journey” at [What to expect during your PhD – Doctoral and Researcher College \(reading.ac.uk\)](#)

The success of this relationship can be very important to the success of the degree and is explained in [Guides - Doctoral and Researcher College \(reading.ac.uk\)](#) You need to find a working relationship that is mutually acceptable. A regular meeting schedule is a good idea - *weekly* is about right for many students. Your supervisor not only guides your work, but also recommends training and travel.

Students who are on a CASE studentship or who have other industrial support will usually meet with their industrial supervisor within the first month. This practice will be continued with regular meetings throughout all three years of research. In addition, it is usual that such students will spend periods of time (3-12 months over the PhD) at the industrial sponsor's establishment.

In the spring term of each academic year you will be required to complete an ‘Evaluation of supervisory arrangements’ form. The purpose of this form is to ensure that progress is satisfactory, that you have no concerns regarding supervision or the facilities for research. Students will receive a request to complete this form from the Doctoral & Researcher College. The Dean of the Doctoral & Researcher College will review the forms and take appropriate action.

2.9 Media Engagement Policy

The ability to ‘communicate one’s science’ in a professional, persuasive and articulate manner is more important than ever in today’s media-driven world. Media engagement directly includes activities such as giving interviews on local

radio, television interviews, and discussing recent weather/climate events with journalists. Related interactions are any in which your opinions are identified by your name and affiliation in an arena typically accessed by the wider public, such as blogs.

The Department of Meteorology has the highest media presence of any department within the University, and recognises that media engagement by PhD students can be a benefit to both the student and the Department/University as well as providing a service to society. However, we also recognise that students often have little or no media experience or training, and as a result can be especially vulnerable to unintended consequences of media interactions. These can lead to an adverse impact on both the reputation of the student and University.

Atmospheric and climate science can attract external interest, for example from the press and wider public. If you are approached directly by the media for comment on your work, your supervisor and the University Press Office should be informed. Before commenting, seek advice and, if appropriate, attend media coaching beforehand. (The Department runs a training series associated with media engagement.) However, media engagement is rarely required as part of a PhD, and students are entitled to refuse media requests by the University Press Office, and are strongly advised to do so on subjects where they feel ill-qualified to contribute. This is important as the reputations of the University and Department, as well as supervisors and students as individuals, can be inextricably linked to such comments.

3. MONITORING AND PROGRESSION

3.1 School Monitoring Procedure

Monitoring is carried out on a regular basis during your PhD studies. It is one way of ensuring that research students are making satisfactory progress, are receiving appropriate levels of supervision and support and any issues which arise are promptly dealt with and resolved.

Monitoring forms the basis of the decision at the end of the second year that **a student's registration be confirmed as PhD or, exceptionally, changed to MPhil registration**. This decision is passed on to the Faculty for ratification by the Postgraduate Committee. An MPhil thesis should contain results expected of two years research while a PhD thesis must reflect three years of research. Both are expected to make an original contribution to knowledge, but at a higher level in the case of PhD.

The School Director of Postgraduate Research Studies has overall responsibility for the monitoring process. The School monitoring procedure is outlined below. Local practices may differ slightly within these guidelines.

Full-time students: All full-time research students should have their progress monitored biannually, in May/June and November/December/January for full-time students first registering in September/October. For students registering at other times, meetings should be at least 6-monthly following the initial meeting, which should normally take place within the first 4 months. However, it is often easiest for staff and students if monitoring still occurs during the regular autumn and summer periods and allowance is made in the meeting for the different start date.

Part-time students: Part-time students should aim to follow the same schedules as full-time students if possible. If this becomes inconvenient, they should seek support from supervisor to be monitored less frequently (see also [section 3.7](#) for adjustments for part-time students, timings below are given for full-time students).

Intermediate monitoring points may occur routinely or exceptionally on the recommendation of the supervisor(s), monitoring committee or at the instigation of the assessors. An increase in the rate of monitoring may be appropriate for students whose submission is delayed into their fourth year.

At the end of each academic year the School Postgraduate Office must inform the University Doctoral Research office whether progress is satisfactory for each student. At the end of the second year the list will include a recommendation that a student's registration be confirmed as PhD or transferred to MPhil.

The monitoring of each research student will be carried out by a Monitoring Committee consisting of two assessors, at least one of whom is familiar wherever possible with the relevant research area appointed by the Director of Postgraduate Research, having knowledge of the subject area. For students whose research topic bridges two subject areas there will normally be one assessor from each area; in such cases, the relevant Directors of Postgraduate Research Studies will collaborate in the appointment of the Monitoring Committee. Students will be informed of the composition of their Monitoring Committee and the timing of the first monitoring meeting shortly after registering for their PhD. The School Postgraduate Office will be informed of the composition of each Monitoring Committee.

Supervisors may attend the monitoring meetings at the invitation of the assessors; however, **they must not be present for the whole of each monitoring meeting.** In particular, they **must not be present when the monitoring report is completed** and when the **decision is made by the assessors to recommend that a student's registration is confirmed as PhD or transferred to MPhil.** The student must be given the opportunity to comment on supervisory arrangements in the absence of his or her supervisors.

It is the student's responsibility to arrange a suitable meeting time and room with all the committee members. Schedule an hour for the meeting, plus 30 minutes for the monitoring committee members afterwards. It can be difficult to arrange a date with the whole committee so please start arranging several months in advance.

A week before each monitoring meeting you must circulate a report to all committee members. This is **usually 6 sides of A4 in length.** This report describes your work to date (updating on the previous report and so concentrating on the previous six months), its relation to research in the literature, the aims of your PhD project and plans for its continuation. You should end with a section on the development of your generic and subject specific research skills (often entitled 'transferable skills') and your references list. It is useful to focus on both immediate aims following the meeting (the next few months) and your ambitions for the longer term.

The *first* monitoring committee meeting will typically occur within a few months of the start of the PhD: this is a "light" discussion to check that your work has started and there are no major problems in the interaction between student and supervisor. Students typically submit a shorter report (perhaps only a couple of sides) to this meeting detailing their academic background, what they know of their project and first directions. In the *second year* you should start to include thesis plans (i.e. descriptions of chapters and their contents); many students also include time plans. In the first meeting in your second year you must discuss the material that you propose present for confirmation of registration (see below) to ensure that the committee agrees that this is suitable. The second meeting in your second year is normally the confirmation of registration meeting. In your *third year* you should include an up-to-date plan of the contents of the thesis and a time-plan for its completion (additional to the 6-page limit). Students in their *fourth year* who are within a few (typically less than 3) months of expected submission need not necessarily produce a full 6-page report as this can distract from thesis writing. However, they should produce a general timetable of various stages they need to reach before their submission date and can take the opportunity to discuss any problems that may have arisen. This could be discussed either via a meeting (or via email/skype if the Chair agrees that progress towards submission is satisfactory): a report form or a statement from the Chair needs to be produced and kept on file to confirm that progress is on target and submission can be achieved.

During your *first year* many of the ideas or directions may have been prompted by your supervisor, but as you progress the committee will be looking for evidence that you are developing independence in your research. Don't be afraid to put forward speculative ideas for the longer term – the meeting is a chance to get some feedback from the committee members on which directions might yield more fruitful results. Ask second or third year students to see their previous reports to gauge report content and format. You must also include an updated training record as an appendix (additional to the 6-page limit) to each report – this list will grow with time through the PhD. RRDP courses attended can be downloaded from RISIS and you should supplement this list with any other courses attended. The list should simply include the date, title and type or provider of the course (e.g. RRDP ECWMF etc.). The list will enable the committee to spot training gaps and should also be useful to you both during your PhD and for your CV writing. This training record is designed to supplement, but not replace, the 'transferable skills' section of the monitoring committee report since this section will also include other items such as conference attendance, self-study etc.

Confirmation of registration

Confirmation of registration is an important stage of your PhD when then the decision is made about whether you will continue to submit a PhD thesis or transfer to submit a MPhil thesis. By this stage, most students who are on track to complete a PhD will be well advanced with at least one piece of their research. **Two documents** will be expected at the formal confirmation meeting (normally the 4th monitoring committee meeting for full time students): the normal 6-page report and an additional document which is either a draft (or submitted/accepted) version of a journal article or an expanded thesis-style report. The report should contain an introduction, literature review, section describing original work and conclusion and so resemble a skeleton thesis (suggested length 20-40 pages in thesis format). The type and research area of the additional document to be submitted for your confirmation of registration meeting should be discussed at the preceding monitoring committee meeting. You must submit your documents **2 weeks** before your confirmation of registration meeting instead of the usual **1 week.** Due to the varying nature of research progress in different research fields, occasionally students may not be able to present any well-advanced research at this stage. If this applies to you then you should discuss this with your monitoring committee prior to the confirmation meeting and approval must be sought by the Chair of your monitoring committee from the Dept. Director of PGRS for consideration of alternative documents at your confirmation of registration meeting.

If you do not receive official confirmation of PhD status by the end of the second year (or equivalent for part time students), please discuss the situation with the appropriate Director of Postgraduate Studies.

Monitoring committee meetings following confirmation of registration.

The following questions may help to focus discussion during meetings in year 3.

1. Does the student have a clear idea about the amount of work which remains to be done, excluding writing up? Has the student been advised by his/her supervisor on this issue? Can the projected work and writing up be completed by the end of December? If not, what is the likely completion date? Does the student believe that this is realistic?
2. Has the student started to write up and, if not, when will it be started. Has the student an estimate of how long writing up is likely to take?
3. Is there a firm plan for the thesis, agreed between the student and the supervisor? If not, when will such a plan be put in place?
4. Is the survey of the literature complete?
5. What is the time-table for completing the thesis?

The following questions may help to focus discussion during meetings in year 4:

1. Does the student have a clear idea about the amount of work that remains to be done? Has the student been advised by his/her supervisor on this issue? What is the likely completion date? Is this realistic?
2. How is writing up progressing? Is the plan for carrying this out still appropriate? Are the estimates of how long it is likely to take realistic?
3. Are there any particular factors that are getting in the way of completion?

The student should bring to the meetings the current draft of the thesis.

Your supervisor must also circulate a report before the meeting, about half a page in length, giving an assessment of your progress and capabilities – you will receive this report.

At the start of each meeting, the Chair will remind everyone of the purpose of monitoring and run through your previous committee report and actions arising from it. Then you can expect to be asked to lead the committee through your report responding to questions along the way. Also don't be taken aback if you are asked more general questions about your discipline. You can regard a PhD as an apprenticeship in research in which you develop a wider view of your subject and its relation to others to the level where you can identify unexplored territory and formulate research questions with proposed routes to attempt to answer them. The goal is not just a narrow focus on answering specific research questions: questioning in the viva examination and monitoring committees will reflect this. The monitoring meeting is very much two-way: use it to get advice from the committee members or to raise any issues with supervision and the research environment of the School or University.

At the end of each monitoring meeting, a Report of the student's progress will be summarised on a *proforma*. The student should take the opportunity to discuss any points for clarification before **signing the Report** (you may also include your own comments on the form if you wish) and delivering copies of it to all committee members and the **original to the School Postgraduate Office**, together with copies of the student and supervisor reports. The Report will state the timing of the next monitoring meeting. **A record of your monitoring will be kept in your personal electronic file and entered on RISIS.**

If students are concerned at any stage about their monitoring then they should contact the Postgraduate Research Administrator in the first instance.

Where progress is unsatisfactory, copies of the monitoring Report and the reports provided by the student and supervisor(s) will also be given to the relevant Director of Postgraduate Research Studies, who is responsible for taking any action that may be required. Issues that cannot be resolved at local level will be brought to the attention of the School Director of Postgraduate Research.

3.2 Local Variations and Interpretations:

Meteorology

The first meeting (typically December) report for students registered in October that have taken three MSc modules in the autumn term may be shorter than 6 pages. Students taking assessment on fewer than two MSc modules will be asked to produce a more detailed report of up to 10 sides for the 2nd committee meeting at the end of their first year. It is expected that the time afforded by not attending modules will have been used to advance your PhD research significantly and the extra space can be used to expand on your research and proposal for its continuation. Note that the report is not a dissertation and a complete literature review and description of your research is not achievable in the space. Its purpose is to demonstrate that you have the capability to complete your PhD, that you are developing research ideas and ways of following them through in a scientifically rigorous manner.

Progress to second year registration will be subject to satisfactory assessment in the MSc modules (if you took any) and on the basis of your research progress, as evidenced from your monitoring report and your supervisor's report. You must also have attended sufficient generic training courses (see Training section).

Computer Science

Further information about monitoring process, e.g. allocation of assessors will be communicated through exchange of emails. The department has a style guide for research reports and academic paper which can be used for your 6-page report (available in blackboard).

Mathematics and Statistics

Students are NOT required to produce a report for their first meeting in their first year. Students should have completed the assessment for at least one module by the time of this meeting (students should discuss this with the module convenor) if they commenced their studies at the start of the Academic Session. Students commencing their studies at other times of the year should consult with the Postgraduate Research Administrator and their Monitoring Committee as to when such a result will be available. The second meeting in year one takes place 9 months after the first (September for those students who commenced their studies at the start of the Academic Session) where the standard 6 page report detailed above is required. For the first meeting in year 2, the supervisor and the student need to present a one-page update summary of the research project updating progress since the last meeting to the committee – this meeting is a “light” discussion with the Committee to check that there are no major problems in the interaction between student and supervisor, or discuss these if, there are concerns.

3.3 Timeout e.g. Suspension, Maternity leave

Illness, financial problems or planned periods of study distinct from your normal research work may necessitate that you arrange for a formal suspension of your studentship. This means that, for a specific period, payment of your studentship may be suspended, and restarted when you begin work again such that you still get at least 3 full years of financial support. The end date of your registration is changed by the same period. Note that for UK Research Council funded studentships (including those funded through the SCENARIO DTP and MPE CDT) the UKRI training grant guide ([Meeting terms and conditions for funding – UKRI](#)) states that award payments can continue during absences covered by medical certificates for up to 13 weeks, within any 12-month period. Beyond 13 weeks, studentships should be put into abeyance. Medical absences beyond the 13 weeks are not funded by the Research Councils. Suspensions must be agreed formally with the University (through submission of a form signed by the School Director for Postgraduate Research Studies to the Doctoral Research Office) and funding body and a supporting case made with, for example, Doctor's certificates. Short periods of illness of less than, say, one month do not necessitate such action but cumulative short periods may do so. If you are advised not to work for a substantial period (several weeks or more) please obtain a Doctor's certificate to this effect and file a copy of this with the relevant Departmental Postgraduate Office. Keeping your supervisor informed as soon as you become ill is important.

Your studentship will also be suspended to cover parental leave. Arrangements for support vary with funding body. For example, studentships funded by UK Research Councils provide 26 weeks maternity leave at the full stipend plus the option of 26 weeks additional leave without pay. The end date of registration will be extended accordingly. The University matches these terms in the studentships that it funds directly.

3.4 Troubleshooting

Pursuing a PhD is rarely a smooth passage to your goal, though we try hard to make it so. Sustained self-motivation when, as it sometimes may seem, nobody understands or cares what you are doing can be a struggle. Your Supervisor, Monitoring Committee and Departmental and School Directors of Postgraduate Research Studies are all there to help so make use of them. If your relationship with your Supervisor(s) breaks down, let the Departmental or School Director of Postgraduate Research Studies know as soon as possible so that solutions can be sought. It is possible to have a new Supervisor assigned in exceptional circumstances. Similarly if you have any serious grievance about the way you are being treated in your department approach either of them and, if necessary, your complaint will be referred to the School or Faculty level (see section 9 of The University Code of Practice on Research Students at <https://www.reading.ac.uk/doctoral-research-college/student-policies-procedures>)

3.5 Thesis submission

At the end of each year the department reports on your progress to the University and some details to the relevant research council or funding body. This should give you a good means of judging how close you are to completion. Most full-time PhD studentships are for three or three and a half years and you should focus your energies on submitting your thesis in this time. Often students run over into a fourth year. Please see the section on extensions. **There is a hard deadline at the end of 4 years for full time students** i.e. your registration as a full-time PhD student expires at the end of 4 years

with a minimum registration of 3 years. For part-time PhD students there is a minimum registration of 4 years, expected registration of 5 years and maximum of 6 years. For MPhil students the minimum registration is 2 year for full-time students and 3 years for part-time students with a maximum registration of 3 years for full-time students and 4 years for part-time students. Furthermore, the research councils impose penalties restricting further studentships for departments whose students take over four years for submission of their thesis.

As stated in the University's leaflet *Guidelines for the Submission of Theses for Higher Degrees* [Thesis submission and examination – Doctoral and Researcher College \(reading.ac.uk\)](#) you must send a letter giving notice of intention to submit the thesis to the /Doctorial Examinations Officer, Sean Semple (s.semple@reading.ac.uk). This must be done at least four months prior to your intended submission date. The thesis should be submitted soft-bound and in triplicate. The *oral examination* (also known as the *viva*) will ordinarily take place within 3 months after submission. The *viva* is a closed meeting lasting several hours involving three people: yourself, the internal examiner (from the University of Reading) and external examiner. Occasionally an Independent Chairperson is also present. The outcome of the *viva* may involve corrections that have to be made to the thesis before it is acceptable. Once the examiners have agreed that the corrected thesis is acceptable, it is submitted finally hard-bound. Making and approving the corrections and binding the thesis can take some time and you should not book flights home, etc., before these matters are completed.

For doctoral researchers at the University of Reading, it is now a requirement that an **electronic copy of your thesis** be deposited via an approved, secure method. You will be required to deposit an electronic copy of the final version of your thesis into the University's digital Institutional Repository, **CentAUR**. A compulsory training module ('Creating your electronic thesis') has been developed to help guide you through the process of electronic deposition of theses. For more details on electronic deposition and the training course see [Electronic deposition of doctoral theses – Doctoral and Researcher College \(reading.ac.uk\)](#)

Mathematics and Statistics

The financial obligation of students submitting their thesis is as follows: *Students are responsible for the cost of preparing and binding their own thesis. This includes copies produced by laser printer and subsequent photocopies.*

Computer Science

Students are responsible for all the costs of preparing and binding their own thesis.

Meteorology

It is generally recognized that the *costs incurred in the production of the thesis must be covered by the student (except 1 hardbound copy that will be printed and bound by the Department and stored in the Meteorology library)*; those involving the research will be met by the Department. A digital copy of the thesis must be sent to the Doctoral Examinations Office. Information on this will be sent to you via the Doctoral Examinations Officer.

3.6 Extensions beyond three years

Any student who has not submitted by the end of their funding (either after 3 years (4 years for part-time students) or following the end of their funding extension) must pay a **Continuation Fee** to the University (£618 in 2023/24 for students who are continuing to receive supervision, but who are no longer using University facilities). If you submit before the 1st day of the second term, a *partial refund* of this fee can be obtained following submission. See [Fees for continuing doctoral students – Doctoral and Researcher College \(reading.ac.uk\)](#) for more details.

Meteorology

NERC offers funding for PhD students to an average of 3.5 years (but there is variation between 3 and 4 years). The extra funding covers stipend and tuition fees. Students are **not automatically entitled** to the extra funding beyond 3 years associated with their studentship and this can't be awarded if the end date of your grant has been reached. To allocate the extra funding Departments apply the following procedure:

In the May/June monitoring committee meeting, monitoring committees are asked to consider whether a 3rd year NERC funded student should be considered for the extra funding. The Chair of the committee should submit a case for extension upon the grounds explained on the back of the monitoring committee form (and additional guidelines will be given to the student to circulate to the monitoring committee). In the case of SCENARIO DTP-funded students the case for extension should be sent to the Director of SCENARIO stating clearly the grounds and relation to additional months requested. In all other cases, the Chair should submit the form which can be found here - <https://www.reading.ac.uk/smpcs-secure/smpcs-intranet/meteorology-specific-materials> indicating the case for

additional funds based on the criteria set out by NERC and the number of months requested (etc.) to the appropriate Director of Postgraduate Research Studies. The Director will consider the cases and make the final decision.

Note that the extension funding can cover time to write journal papers from the PhD research before the viva examination has occurred. Students should discuss with their supervisors early in their third year whether they will try to write papers before submitting their thesis or complete papers afterwards. There are pros and cons either way and the best route depends on the nature of the research being conducted (e.g., whether some parts are self-contained and lend themselves to a stand-alone paper). When making this decision it is important to remember that the **thesis must be submitted within 4 years** for fulltime students so you must make a detailed and realistic time plan to be discussed by the monitoring committee. It may not be possible to obtain funding for paper writing after submission of your thesis as if you have already submitted your thesis it is hard to argue that the completion of the paper is an essential component of the PhD work as opposed to work for the University (for which you would need to be paid a salary rather than a studentship).

Note that the Meteorology Department may be able to provide some extension funding for non-NERC students. You should discuss the grounds for extension in the last monitoring committee meeting of your third year and the Chair should write a case for extension (using the same form for as for NERC-funded students – see above) to the Director of Postgraduate Research Studies, referring to the same criteria as for NERC. The request will be considered by the Postgraduate Research Board of Studies and an extension granted if the criteria are met and Department funds are available.

3.7 Part-time and PhD by distance students

Postgraduate research students can be registered as either full or part time. For part-time students the minimum & expected registration length is 3 years for an MPhil degree with a maximum of 6 years. For a PhD degree the minimum length is 4 years, expected length is 5 years and maximum length is 6 years (see section 2h of the University Code of Practice on research students [Student policies and procedures – Doctoral and Researcher College \(reading.ac.uk\)](#)). Monitoring of the progress of part-time and PhD by Distance students will follow similar procedures to those for full-time students. Recognising the slower progress made by part-time students, following the 1st committee meeting (within 3 or 4 months of starting your PhD), the School requires monitoring to take place with a maximum interval of 9 months (instead of the approximately 6-month interval for full-time students). However, it is also recognised that part-time students may need more support than full-time students as they are often balancing their studies with other substantial time commitments. Hence, students are encouraged to maintain the same monitoring committee schedule as full-time students if they and their supervisors think this would be beneficial.

Following the University Code of Practice, Part-time students are also be expected to give an annual oral presentation on their work, while PhD by Distance students are not necessarily be expected to give an annual presentation (unless in Reading at the appropriate time).

4. ANNEX: Use, publication and submission of information and outcomes provided to UKRI on UKRI funded Studentships

4.1 PhD project information displayed on the Gateway to Research

The Gateway to Research (GtR) is a web-based portal <https://gtr.ukri.org/> where information about funded research is published. The aim is to assist businesses and other interested parties to identify potential partners in research organisations to develop and commercialise knowledge, and thereby increase the impact of publicly funded research. It provides better access for the research community, business and the public to information on research funded by the seven Research Councils and the Innovate UK.

The PhD project information which the Research Councils will publish on the GtR website is given below. Note that the project summary (abstract) is a key piece of content for display in GtR and it must be suitable for publication and not contain sensitive or confidential information.

Item of data	Notes
Student Name	For students starting from 2015 onwards
Training Grants	The grant(s) from which the student is funded. A student may be funded by more than one grant. These are already published on GtR
Organisation	The organisation that holds the training grant.
Project Title	This should be as informative as possible, even if final title not yet confirmed

Summary	Sensitive or confidential information should NOT be included in this summary
Supervisor	The academic supervisor(s)
Organisation	This will be the Organisation where the student is registered
Department	The Department of the Organisation at which the student is registered
Project Partner Organisation	This will be displayed to highlight collaborative working
Registration Date	The date on which the student started their studies
Expected Submission Date	The date by which the thesis is due to be submitted

4.2 Other use of information provided to UKRI

Use of submitted data may include:

- Registration and processing of proposals;
- Operation of grants processing and management information systems;
- Preparation of material for use by reviewers and peer review panels;
- Administration, investigation and review of grant proposals;
- Sharing proposal information on a strictly confidential basis with other funding organisations;
- To seek contributions to the funding of proposals ;
- Statistical analysis in relation to the evaluation of postgraduate training trends;
- Policy and strategy studies;
- Meeting the Research Councils' obligations for public accountability and the dissemination of information;
- Making it available on the Research Council's web site and other publicly available databases, and in reports, documents and mailing lists.

The following information about training grants and funded students will routinely be made publicly available:

- Student name (for students starting from 2015 onwards)
- Aggregated information regarding student numbers, stipend levels, qualifications, age at start, migration levels (from first degree university to another) etc.
- Name(s) of project partner organisations and supervisors
- Project titles and topics
- Project summaries
- Numbers of students in particular regions, universities or departments in context of the Training Grant funding announced.
- Registration and expected submission dates and rates

Information may be retained, after completion of the Masters or PhD, for policy studies involving analyses of trends in postgraduate training and reporting on these to government bodies such as DBIS. Students should always have been informed that the university is releasing personal details to AHRC, BBSRC, EPSRC, ESRC, MRC, NERC or STFC for the above purposes.

4.3 Je-S Student Details Functionality

The Research Organisation provides standard information on the details of students and the student research projects funded by the Research Councils' through the web-based data collection functionality 'Je-S Student Details' which Research Organisations use to return details of the students and student research projects funded from the Training Grant.

The information that is required is available in the Je-S system help text: Go to the following web address. select Studentship Details and then select Data Protection

<https://je-s.rcuk.ac.uk/Handbook/Index.htm>

4.4 Researchfish

From this year onwards, the Research Councils will be recording 'research outcomes' of all UKRI funded studentships via an online portal, **Researchfish** (<https://www.researchfish.com/>). This is vital for the Research Councils to show the impact of their funding to the government.

Please read these guidelines on the use of Researchfish.

How to use Researchfish

Information can be entered all year round, and you are encouraged to use this tool on a regular basis. A submission, however, can only be made in a specific time window (you'll be informed of this). You will be asked to make a submission

annually, continuing for 3 years after graduation. **You must make a submission each year, even if it is a nil return.** You should ensure that information submitted via Researchfish is not confidential or personal and can be published.

Researchfish is quite self-explanatory, but there is a short *youtube* video that we recommend you watch <https://www.youtube.com/watch?v=UG40dHIewKY&feature=youtu.be> and a FAQ sheet to refer to [Question Set Download | Researchfish](#)

- 1) Register an account with Researchfish using the link in the email sent to you (this should be in early autumn). If you did not receive this email, please contact support@researchfish.com
- 2) Click on the orange 'view portfolio' button on the 'enter outputs' line.
- 3) Outputs are listed as categories on the left-hand side of the page. Click on the relevant category and complete the information.

The most likely relevant submissions to studentships are:

- a. Publications –any papers you have published as part of your PhD
 - b. Collaborations – any work you have completed in collaboration, for example with an industrial partner or another academic group
 - c. Engagement activities – any instances where you communicated your research to a non-academic audience, e.g. presentations at science fairs or schools
 - d. Other outputs and knowledge/future steps – a section to allow you to tell us about anything else you think is an important outcome from your research
 - e. Secondments, placements, and internships – an opportunity to report any time spent at other organisations.
- 4) The output will then appear in your 'My Portfolio', drag and drop the item to your award on the right-hand side of the page.
 - 5) Once you have finished adding all relevant outcomes, click the red 'submit' button on the top right-hand side of the page.
 - 6) Researchfish also provides the useful tool of automatically transferring your outcomes into a CV. Have a look at the 'CV builder' tool.

The Researchfish portal



