Royal Holloway
University of London

DEPARTMENT OF PHYSICS

POSTGRADUATE RESEARCH STUDENT HANDBOOK

2012/2013

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Department of Physics
Royal Holloway, University of London
Egham Hill, Egham
Surrey TW20 0EX

Term Dates

Autumn Term

Monday 24 September 2012 – Friday 14 December 2012

New Students: Induction and Registration	24 September – 27 September
Returning Students: Registration	24 September – 27 September
First day of lecturing	Monday 24 September
Last day of lecturing	Friday 14 December

Spring Term

Monday 7 January 2013 – Friday 22 March 2013

First day of lecturing	Monday 7 January
Last day of lecturing	Friday 22 March

Summer Term

Monday 29 April 2013 – Friday 14 June 2013

Graduation Ceremonies	Monday 15 – Friday 19 July 2013
Postgraduate Graduation Ceremonies	Thursday 20 December 2012

Disclaimer

This document was published in September 2012 and was correct at that time. The Department* reserves the right to modify any statement if necessary, make variations to the content or methods of delivery of programmes of study, to discontinue programmes, or merge or combine programmes if such actions are reasonably considered to be necessary by the College. Every effort will be made to keep disruption to a minimum, and to give as much notice as possible.

* Please note, the term 'Department' is used to refer to both 'Departments' and 'Schools'. Students on joint or combined degree programmes will need to use two departmental handbooks.

An electronic copy of this handbook can be found on your departmental website
http://www.rhul.ac.uk/physics/home.aspx
where it will be possible to follow the hyperlinks to relevant webpages.

Contents

1 Introduction to the Department

1.1 Welcome

A warm welcome to the Department of Physics. The Postgraduate Research Student Handbook (this document) is the main source of information and advice provided by each department in the College to its own students. In the following pages you should find all of the essential information that a student studying for an MPhil/PhD degree in the Department of Physics should need. Web links to further sources are also listed.

The handbook should be read in full by every student of physics. You will find you need to become very familiar with some of the information for use on a day to day basis. Other information will not be needed anywhere near as frequently and you will simply need to recall that its source is the Postgraduate Research Student Handbook, referring back as and when questions arise, so please store this document in a safe place after you have read it. An up to date electronic version can be found on the Departmental web site. We are aware that the reading of this document will take some time so, without loss of accuracy or completeness, we have endeavoured to be as succinct as possible.

Please do not hesitate to ask questions of academic or departmental office staff, but first please ensure that you have referred to this handbook. If you spot any errors or there is any need for clarification please let the office staff know. While we have made every effort to ensure that such events are rare, we are not infallible.

I hope you very much enjoy the coming academic year, we aim to make it as fulfilling as possible.

Professor Jon Goff
Director of Graduate Studies

Postgraduate research students pursue independent research in academic departments, leading to the award of the degree of MPhil or PhD. Successful progress depends primarily on their own efforts, supported by those of their supervisors, but also on the research environment in the department and on the quality of their research training.

This Handbook deals with aspects of postgraduate study that specifically relate to research in the Department of Physics. Please read it in conjunction with the following College documents:

The College's **Code of Practice for the Academic Welfare of Postgraduate Research Students** http://www.rhul.ac.uk/forstudents/studying/academicregulations/pgrcop/codeofpracticefortheacademicwelfareofpostgraduateresearchstudents.aspx sets out the practices and procedures which underpin these efforts and outlines, amongst others, the responsibilities of student, supervisor, advisor and the student's department(s).

As a research student of the College you should ensure that you familiarize yourself with the content of the Code as well as with the:

College's **Research Degree Regulations**
http://www.rhul.ac.uk/forstudents/studying/academicregulations/home.aspx, which set out the regulations governing all aspects of MPhil/ PhD study from admission to completion. A range of useful information is also available through the **Current Research Students webpage's** http://www.rhul.ac.uk/pgr/newhome.aspx

Information regarding all sources of funding for postgraduate studies can be found on the college web
http://www.rhul.ac.uk/studyhere/researchdegrees/feesandfunding/sourcesoffunding.aspx

If you have difficulty obtaining or accessing any of the above, please contact your Director of Graduate Studies.

1.2 Initial Registration and Period of Registration

All students, other than those granted exemption from part of their studies, are initially registered for an MPhil degree on either a full-time or part-time basis. Those wishing to submit a thesis for the award of PhD will be required to successfully upgrade to a PhD within the first 20 months of full-time study or the first 40 months of part-time study.

Section 2 of the College's **Research Degree Regulations** http://www.rhul.ac.uk/forstudents/studying/academicregulations/home.aspx stipulates the maximum periods of registration permissible for MPhil and PhD study.

Section 2

Students first registered on Research Degree programmes in or after September 2006 must submit the thesis for examination within the following periods of study, otherwise their registration with the College may be terminated under the provisions of Section 10 of these regulations.

(a) For programmes of study leading to the award of MPhil, the thesis must be submitted within three years of full-time study, or five years of part-time study.

(b) For programmes of study leading to the award of PhD, the thesis must be submitted within four years of full-time study, or seven years of part-time study.

For further details relating to the period of study, arrangements for admission, exemptions from part of the programme of study, interruptions of study, registration and enrolment, you should consult Sections 1 – 8 of the **Research Degree Regulations** http://www.rhul.ac.uk/forstudents/studying/academicregulations/home.aspx .

Relevant forms for interruptions, change of mode of study (full-time to part-time or vice-versa), and withdrawal are available from the **changes to personal/study details** on the College website http://www.rhul.ac.uk/forstudents/studying/changedetails.aspx .

1.3 How to find us: the Department

The Physics Department is housed in the Tolansky (room numbers Txxx) and Wilson (Wxxx) Laboratories. Most of the academic, research, technical and administrative staff are based here. The first number of the room code denotes the floor level, 0, 1, or 2.

1.4 Map of the Egham campus

A map of the campus, enabling you to find the various lecture theatres and other locations, can be found at
http://www.rhul.ac.uk/aboutus/documents/pdf/locationmap/campusplan.pdf

1.5 Parking

Student parking is limited and a parking permit is required. This can be obtained via Security. You will need proof of insurance and ID before a permit will be issued.

1.6 How to find us: the Departmental office

The Departmental Office can be found in T116, Tolansky Building.

The principal departmental telephone number is 01784 443506

The generic departmental email address is physics@rhul.ac.uk

1.7 The Department: practical information

The following notes provide information of a general nature about security and safety within the Department.

Normal Hours. The Department is normally open Monday to Friday 08.30 to 17.00 and closed at weekends and public holidays. Outside normal hours all external doors are locked. Undergraduates are allowed in the Department outside normal hours only under supervision.

Fire Procedure. Fire Regulations are posted in the Department. Staff and students should familiarise themselves with these and with the fire alarm system, the evacuation procedure and assembly point 12 on the corner near the Physics Workshops. Fire Wardens are appointed for each floor and building. In the event of a bomb scare, evacuation procedures are as for a fire drill.

First Aid. First Aid Boxes are provided in the Department. Staff and students should be aware of their location. Qualified First Aiders are listed near these boxes and in Appendix 1. Outside normal hours dial 444 from any phone in the department and ask for assistance.

Smoking. The Department follows the College No Smoking Policy. Smoking is not allowed anywhere in the Department.

Eating and Drinking. The Department has a kitchen in T132 for the preparation of drinks. Food (small meals and snacks) and drink may be prepared and consumed in T132/T118. Food and drink are not allowed anywhere else in the building, especially in laboratories or workshops.

Safety. It is important that you are safe in the laboratory at all times. You must become familiar with safety procedures and safe working practices must be followed at all times. In particular you are not allowed into research laboratories unless supervised by a member of staff. Everyone, including you, has a legal duty to ensure the safety of yourself and others. The Head of Department has appointed a Safety Officer, a Deputy Safety Officer and a Radiation Supervisor to advise and assist him in safety matters. Risk Assessments will have been carried out for all work in teaching laboratories, research laboratories and workshops.

Ionising Radiation. Work with ionising radiation is only permitted when approved by the Departmental Radiation Protection Supervisor and the College Safety Officer. All work must conform to the RHUL Site Rules and the Physics Department Local Rules for Work with Ionising Radiation.

Accident Reports. All accidents involving injury must be reported to the College Safety Officer by the senior person on site within 24 hours of any occurrence *via* an Accident Report Form. First Aiders and the Departmental Safety Officer have these forms and will usually be required to complete them.

Out of Hours Working. Experimental work is not permitted outside normal hours if it involves working alone.

Dangerous Incidents. Events that give rise to a situation involving the possibility of an accident, even though no harm in fact occurs, must be reported to the Safety Officer.

Laser Pointers. Students must not use or keep their own laser equipment on College premises. If a student requires a laser pointer for use during a presentation, the Department can supply one.

1.8 College Contacts

The Research Training Officer is John Miles and is contactable at graduate-school@rhul.ac.uk or Tel: +44 (0) 1784 276463.

1.9 Staff research interests

Profile

Our research strengths range from explorations of the fundamental properties of matter at the lowest temperatures and on nanometre scales to elementary particles at the highest attainable energies. Experimental research is carried out in the Department's Tolansky and Wilson Laboratories, and at major international centres, including CERN and the Harwell Campus. The two largest research areas are in the Centres for Particle Physics and Condensed Matter Physics. The research is generously supported by the Engineering and Physical Sciences Research Council (EPSRC), by the Science and Technology Facilities Council (STFC), by the European Commission, the Royal Society, the National Physical Laboratory, CERN, the European Spallation Source, SNOLAB, and by industry. Much of the research is carried out in collaboration with other universities in Europe and worldwide, creating a vibrant international atmosphere in the Department.

Centre for Particle Physics

Current work is focused on four areas. At CERN, the ATLAS experiment is collecting data from the interactions produced by the Large Hadron Collider (LHC). One of the main goals is to detect the Higgs boson, which is believed to explain the origin of mass. Research is being conducted into new physics searches, such as supersymmetry and extra dimensions, as well as studies of the top quark. Work is also being carried out on the particle physics grid. The second area is centred on the physics of cutting edge particle accelerators, both for particle physics experiments including the LHC, and for light sources and neutron spectroscopy experiments. This work is being pursued in the John Adams Institute for Accelerator Science, a joint initiative between Royal Holloway, Oxford University, and Imperial College. Activities here include developing nanometer precision beam position monitors, RF simulation of accelerating cavities for the European Spallation Source, laser-wire systems for measurement of the properties of particle nanobeams, and advanced beam simulation for the LHC and its proposed luminosity upgrade. The third area of research is searching for dark matter with the DEAP/CLEAN and DMTPC direct detection experiments, located at underground laboratories in Canada and the United States respectively. A major goal of this activity is developing beyond state-of-art instrumentation for the next generation of dark matter searches in a new laboratory on campus. Our fourth major activity is research in particle physics theory and phenomenology focuses on the search for new physics at the Large Hadron Collider (LHC) and the study of dark matter in the universe.

Centre for Condensed Matter Physics

In the London Low Temperature Laboratory we study the emergent properties of Helium, which is a model quantum system. Research projects are available in our MilliKelvin Laboratory on 2D quantum fluids and solids, solid 3He and helium clusters, NMR using SQUIDs and current sensing noise thermometry. In the Quantum Matter Group we use neutron and synchrotron X-ray scattering at the nearby ISIS and Diamond facilities to study strongly correlated electron systems, and these provide an ideal test bed for theory. In our labs we study quantum criticality, superconductivity and thermoelectricity. PhD studentships are available in the recently established NEXT Doctoral Training Centre with colleagues from UCL and the Harwell Campus. The Hubbard Theory Institute offers strongly correlated theory projects in frustrated magnetism, mesoscopic superconductivity, and cold atoms. Projects available in the Nanophysics and Nanotechnology Group include exploration of metallic nanostructures; superconducting nanocircuits for quantum computation; study of spin-polarized electric currents; design of nanometre-scale devices; techniques for fabricating multilayer multicomponent nanostructures and creating very finely collimated beams of synchrotron X-rays; electrical and thermal properties of quantum wires fabricated out of GaAs. In the Experimental Quantum Computation Group we perform feasibility studies for a quantum computer, and we have projects to study 2D electrons on liquid helium, and quantum computing with 2D electrons.

Research facilities and partners

Major facilities in the Department include the University of London Low Temperature Laboratory and Ultra-low Temperature Facility; the Nanotechnology Laboratory and Clean Room; the Materials Discovery Laboratory; data analysis and extensive computer networking facilities; Accelerator Physics Laboratory, Dark Matter Laboratory, and High Power Laser Facility. Collaborative research is carried out at many major international centres, including CERN (Geneva), Stanford (California), ILL (Grenoble), ESRF (Grenoble), CEA Saclay (Paris), HZB (Berlin), FRMII (Munich), DESY (Hamburg), KEK (Tsukuba), ESS (Lund), SNOLAB (Canada), WIPP (USA) as well as ISIS and Diamond on the nearby Harwell Campus. Industrial collaborators include Oxford Instruments and the National Physical Laboratory.

2 Communication and Student Feedback

It is vital that the Department should know of any concerns you have about the progress of your work or of any suggestions for improving the research environment.

You have several ways of making your views known:

- by talking to your Supervisor, and perhaps by following up your discussion with a letter or e-mail, so that your comments can be forwarded if appropriate.
- by contacting the Director of Graduate Studies or the Head of Department, either to arrange a meeting or again by putting your ideas in writing.
- through the Departmental Postgraduate Forum.
- in the feedback questionnaire that you submit to the Director of Graduate Studies as part of the Annual Review (see Section on Annual Review and upgrade).
- through the Students' Union if your concerns or ideas relate to the College rather than to the Department .

2.1 Email

The College provides an email address for all students free of charge and stores the address in a College email directory (the Global Address List). Your account is easily accessed, both on and off campus, via the **student portal** https://campus-connect.rhul.ac.uk/ (Campus Connect) or direct via **Outlook.com** http://outlook.com/ **Email to this address will be used routinely for all communication with students.** Email may be used for urgent communication and by course tutors to give or confirm instructions or information related to teaching so it is important that you build into your routine that you **check your emails once a day**.

Email communications from academic staff and all the Faculty Administrators should be treated as important and read carefully.

The College provides a number of PC Labs around Campus for student use, and you can also use your own laptop/smart phone etc, so the Department expects you to check your email regularly. It is also important that you regularly clear your College account of unwanted messages or your in-box may become full and unable to accept messages. **Just deleting messages is not sufficient; you must clear the 'Sent Items' and 'Deleted Items' folders regularly**. **It is your responsibility to make sure your College email account is kept in working order.** If you have any problems contact the **IT Service Desk** http://itservicedesk.rhul.ac.uk/

The Physics Department will only use the address in the College Global Address List and **does not** use private or commercial email addresses, such as hotmail or Gmail. You are also advised to send College related email from your College email address, partly because other email addresses often obscure the identity of the sender and may be spam filtered. Students who prefer to use commercial email services are responsible for making sure that their College email is diverted to the appropriate commercial address. Detailed instructions

on how to forward mail can be accessed by visiting http://help.outlook.com/ and searching for **forwarding**. This process is very easy, but you do have to maintain your College account. When you delete a forwarded message from, say, hotmail, it will not be deleted from the RHUL account. You **must** log on to your College account occasionally and conduct some account maintenance or your account may become full and therefore will not forward messages.

If you send an email to a member of staff in the Department during term time you should normally receive a reply within 3-4 working days of its receipt. Please remember that there are times when members of staff are away from College at conferences or undertaking research.

2.2 Post

All post addressed to students in Physics is delivered to the student pigeonholes (alphabetical by surname) in the Post Room T128. At the end of each term student pigeonholes are cleared of accumulated mail which is then destroyed. Important information from Registry is often sent by internal post and tutors sometimes return work to you via the pigeonholes so you are advised to check them regularly.

2.3 Telephone and postal address

It is **your responsibility** to ensure that your telephone number (mobile and landline) and postal address (term-time and forwarding) are kept up to date on the **student portal** (Campus Connect) https://campus-connect.rhul.ac.uk/. There are occasions when the Department needs to contact you urgently by telephone or send you a letter by post.

The Department does not disclose students' addresses and telephone numbers to anybody else (including relatives and fellow students) without the student's specific permission to do so.

2.4 Mobile phones.

As a common courtesy to both teaching staff and your fellow students, you should keep mobile phones turned off during formal teaching periods.

2.5 Alumni

The Department likes to keep in touch with you after you graduate and therefore has appointed an Alumni Officer to organise various events for alumni. When you leave make sure we have a contact address and your e-mail address.

2.6 Notice boards

Boards containing general notices can be found in the area outside the Tolansky Teaching Laboratory. Important information is posted on these noticeboards and you must check them regularly and note and act on such information.

Every effort is made to post notices relating to class times etc well in advance, but occasionally changes have to be made at short notice and in that case email will be used.

It is your responsibility to check the times and venues of all class meetings and of any requirements (eg. essay deadlines) relating to your courses, so, if in doubt, please ask!

2.7 Postgraduate Forum

The Department has a dual approach to feedback from postgraduates. At least once a year a general meeting will be held to which all postgraduates are invited in order to discuss

any issues of interest. This arrangement for obtaining feedback from postgraduates was preferred by the postgraduates themselves, rather than having a formal Postgraduate Student-Staff Committee. Postgraduates are also represented, via the Chair of the Postgraduate Forum on the Departmental Postgraduate Committee which feeds into the Departmental Board Meeting.

2.8 Students' Union

The Students' Union offers a wide range of services and support, from entertainment and clubs/societies to advice on welfare and academic issues. The Advice and Support Centre, situated on the first floor of the Students' Union, runs a confidential service that is independent from the College. Open 9.30am - 5pm, Monday – Friday, it operates an open door policy exclusively for students during term time. However, during vacation periods students should call to book an appointment. Full details can be found at www.su.rhul.ac.uk/support

3 Annual review and upgrade

Although you will meet regularly with your supervisor during the academic year, your academic progress is formally reviewed at least once every 12 months, unless you have interrupted your studies, in which case the review will take place not more than two months after you have formally resumed your studies.

Annual reviews and upgrades are conducted in a face-to face meeting between you and a panel consisting of your supervisor(s), adviser and at least one other academic from outside the supervisory team.

Supervisor, adviser and moderator

Every student has a *supervisor*, *adviser* and *moderator*. The *supervisor* directs the research project and looks after the student on a regular basis. The *adviser* is another academic staff member working in an area close to the project, who gives advice to the student when the supervisor is away. The *moderator* is a third academic, in an area more distant from the project, who may be consulted on general matters if/when the need arises. The adviser and moderator conduct the annual oral (*viva voce*) examinations of the student. These staff members are appointed early in the student's research programme: (advisers and moderators are nominated at the first meeting of the Postgraduate Committee after the commencement of their registration).

Three-month report

The student writes a report on his/her first three months (usually October - December) describing the training received to date and plans for the remainder of the academic year. The report is short: (one or two pages of A4): and is signed by supervisor, adviser and moderator. The Training Log is completed indicating training needs for the year and how they will be met. After signature by the supervisor, adviser and moderator, the Report and Training Log of each student is sent via the departmental office to the Director of Graduate Studies (DoGS) who presents them for discussion by the Postgraduate Committee.

Deadline for submission of report: 3 months after first registration

First-year report

The student writes a report (of approximately 3000-5000 words) describing the work carried out so far, how well the objectives set after three months have been met, and containing a plan for the second year and hands this, together with a copy of the Training Log, to the supervisor. The supervisor sends a single-page report on the student's progress during the year, together with copies of the Student Report and Training Log to the adviser and the

moderator. The adviser and moderator examine the student orally, write a report on the *viva* and send it to the supervisor. Between them, the supervisor, adviser and moderator come to an agreement as to whether they recommend the student to be transferred from MPhil to PhD or remain registered for the MPhil. The supervisor fills in the Research Degree Student Review Upgrade Form, obtains the signatures of the student, adviser and moderator, and sends copies of the Research Degree Student Review Upgrade Form, the Student Report, the Supervisor Report, the Adviser and Moderator Report and a copy of the Training Log to the Postgraduate Administrator.

Summary of Deadlines:
Fri 7 June 2013: *Student report and copy of training log to supervisor*
Fri 21 June 2013: *Signed Supervisor report & Student report & training log to Adviser and Moderator*
Mon 24 June – Fri 5 July 2013: *Viva with Adviser and Moderator*
Mon 15 July 2013: *Signed Advisor and Moderator report plus student paperwork to Supervisor*
Mon 22 July 2013: *Supervisor to submit ALL forms to the Postgraduate Administrator*
Mon 29 July 2013: *Completed reviews submitted to DoGS for final review*
Fri 23 Aug 2013: *Upgrade forms submitted to Exams Office*

Second-year report

This is a similar procedure to the first-year report and *viva*. Please note that the latest date for upgrade from MPhil to PhD status is two years after registration. The first upgrade meeting must be at least 3 months before this deadline. If the student has already upgraded, the Research Degree Student Review Annual Review Form is completed instead of the Upgrade Form.

Summary of Deadlines:
7 June 2013: Student report and training log to Supervisor
24 June 2013: Signed Supervisor report & Student report & training log to Adviser and Moderator
24 June – 12July 2013: Viva with adviser and moderator
19 July 2013: Signed Advisor and Moderator report plus student paperwork to Supervisor
26 July 2013: Supervisor to submit ALL forms to the Postgraduate Administrator

Third-year students

The student writes a much briefer report, describing the work carried out in the previous year and comparing with objectives set in the last annual review. The report must contain a detailed plan for the completion of the thesis. This should include a table of contents for the thesis indicating whether each subheading is complete or giving an estimate of the time required for completion. The rest of the process is similar to years one and two. However, in this case, the supervisor, adviser and moderator must estimate the completion date of the PhD.

Summary of Deadlines:
7 June 2013: Student report and training log to Supervisor
24 June 2013: Signed Supervisor report & Student report & training log to Adviser and Moderator
24 June – 12July 2013: Viva with adviser and moderator
19 July 2013: Signed Advisor and Moderator report plus student paperwork to Supervisor
26 July 2013: Supervisor to submit ALL forms to the Postgraduate Administrator

Fourth-year students

The supervisor must assess whether there are likely to be any problems completing within four years. The supervisor must arrange appropriate meetings with the student, advisor and moderator before a **Completion Meeting**, which will take place during a one day review on

Thursday 24 January 2013. The Completion Meeting will be attended by the student, supervisor and DoGS and it will focus on the table of contents for the thesis. A plan of how to complete each subheading and address any issues raised by the supervisor/advisor/moderator team will be drawn up with the student with suitable deadlines.

Summary of Deadlines:
10 January 2013: Department sends all fourth-year students reminder letter to schedule a time slot for their Completion Meeting with the DoGS
24 January 2013: Completion Meeting
Final deadline for submission of thesis: within four calendar years of full time study

All reports are kept on file in the Departmental Office.

At the end of the annual review/ upgrade meeting the panel will fill in a **Research Degree Student Review Form**, which will be signed by panel members present at the review/upgrade, and will provide details of the outcome of this meeting http://www.rhul.ac.uk/forstudents/studying/examinations/researchdegrees/upgrades.aspx You will be given an opportunity to fill in comments at the end of the form, should you so wish.

In most cases the panel will indicate that they are satisfied with a student's progress and may also confirm that the student has successfully upgraded from MPhil to PhD, where relevant. However, in some cases the panel may feel that the work presented is not of the required standard. In the case of an upgrade, the panel may decide not to permit the student to upgrade at that time. Where work presented is unsatisfactory, details of the problems and the course of action to be taken will be noted in the **Research Degree Student Review Form**. Additionally, the panel may decide that it is necessary to issue a formal warning. Details of the formal warning process, which could lead to termination of registration, are outlined in the **Research Degree Regulations** in the section regarding Termination of registration. http://www.rhul.ac.uk/forstudents/studying/academicregulations/home.aspx

If you fail to upgrade from MPhil to PhD on the first attempt, the panel may permit you to have a second and final attempt, which must take place before the end of 24 months for full-time study or 48 months of part-time study. In the Department of Physics the first attempt at an upgrade will normally take place at the end of the first year. Please note that the first attempt at an upgrade must take place within the first 20 months of FT study and the first 40 months of PT study.

Full details of the regulations governing the annual review and upgrade process are outlined in the **Research Degree Regulations** in the section on Reviews of academic progress http://www.rhul.ac.uk/forstudents/studying/academicregulations/home.aspx.

4 Generic Skills Programme and Training Log

Research students are expected to undertake a programme of skills training for the first 3 years of full time study.

4.1 Training Requirements

The training requirements for research students are as follows:

- An average of **5 days of training per academic year for full-time self-funded students**, with a total of 15 days across three years of study.
- An average of **5 days of training per academic year for students funded by organisations other than UK Research Councils**, such as Royal Holloway itself or a Research Group, with a total of 15 days across 3 years of study.

- An average of **10 days per academic year for full-time students funded by UK Research Councils** (AHRC, NERC, ESRC, EPSRC, STFC, BBSRC, MRC) with a total of 30 days across three years of study.
- The training requirements are the same for part-time students, but operate on a pro-rata basis (minimum of 2.5 days per academic year)

You should discuss your training needs with your supervisor(s) and adviser soon after you start your research programme and fill out the **Research Student Training Log** with details of courses that you should attend during the year. This is then reviewed at least once a year as part of your annual review process.

4.2 Courses

Courses are identified as either highly recommended or optional. The required number of days of skills training can be made up of courses from Royal Holloway's Generic Skills Programme, Discipline Specific or Other:

Generic Skills Programme
Royal Holloway's **Generic Skills Programme (GSP)**
http://www.rhul.ac.uk/pgr/genericskillsprogramme/genericskillsprogramme.aspx is a series of generic or transferable skills courses designed for research students to help develop their skills alongside their research. Some of these courses are specifically designed to help students complete their degree, while others help develop more general skills and aid a student's employability. The programme includes courses that are face to face, online or at other institutions such as St Georges, University of London and Kingston University.

Discipline specific research skills training provided by the department.
Highly recommended
Departmental Computing Induction (1 day) – students trained in Pure by member of staff and they create their own departmental web site.
Workshop skills (2 days) – general introduction to workshop followed by specific training sessions.
Labview (3 days) – half a dozen afternoon classes on the use of labview.

Other skills such as teaching experience, presentations and publications.
Optional
INstil (teaching skills) (5 days)
Submission of conference paper abstract (0.5 day)
Presentation of poster at conference (0.5 day)
Presentation of conference paper (1.5 days)
Submission of paper or book chapter for publication (2 days)

4.3 Training Log

Please note that the Department of Physics has their own customized training log and this version rather than the College version must be used.

The training log is available on the physics website at:
http://www.rhul.ac.uk/physics/informationforcurrentstudents/postgraduateresearch.aspx
The Department of Physics training log is themed into areas which can be mapped to the generic skills programme courses as follows:

Area	Mapping to GSP
Research Management and Critical Thinking	Knowledge & intellectual ability
Written and Oral Communication	Engagement, influence and impact
Career Development	Personal effectiveness
Information Technology	N/A
Entrepreneurship & Ethics	Research governance and organisation

5 Submission and examination of the thesis

As the thesis is nearing completion you will need to submit a formal entry to the final examination to the Examinations and Research Degrees Office. Full details on entry for the examination (or re-entry in the case of resubmissions), submission and examination of the thesis are available on **MPhil/PhD Examinations** http://www.rhul.ac.uk/forstudents/studying/academicregulations/pgrregs/finalexaminationforaresearchdegree.aspx . Students should also consult the **Research Degree Regulations** for further details about, for example, the requirements of the thesis (word length), the conduct of the final examination, and possible outcomes of the examination http://www.rhul.ac.uk/forstudents/studying/academicregulations/home.aspx.

In terms of word length you should be aware that College regulations stipulate a maximum length for MPhil and PhD theses. If you exceed the word length stated in the Regulations or produce a thesis that is deemed to be too short, the examiners may refer the thesis for resubmission requiring it to be shortened to meet the word length requirement or extended to include more content, respectively.

6 Preparation for the final examination

The College offers viva training for research student's final examination as part of the **Generic Skills Programme**, with sessions run for students in Arts and Social Sciences, Science and Economics and Management. Full details of dates and times of such courses are available on the **Generic Skills Programme** webpage http://www.rhul.ac.uk/pgr/genericskillsprogramme/genericskillsprogramme.aspx. This training is compulsory for students.

In addition, the department provides more specific training throughout the degree. The annual viva with advisors and moderators is preparation for defending a written report in an oral exam. The supervisor offers more detailed practice at answering potential questions closer to the final examination.

7 Illness and other extenuating circumstances

The Instructions to Candidates issued by the Examinations and Research Degrees Office should be read in conjunction with Sections 9 and 16 of the Research Degree Regulations http://www.rhul.ac.uk/forstudents/documents/pdf/regulations/researchdegreeregulations2010-11.pdf and http://www.rhul.ac.uk/registry/Examinations/Essential-info.html**.**

If you are a Research Degree student, you may want the annual review or upgrade panel to be made aware of how your academic performance over the year has been affected by illness or extenuating circumstances. In such cases you should submit your statement and supporting evidence to the panel chair within the deadline set by the Department of Physics for the submission of material for the upgrade or review. Ideally you should have discussed any such issues with your supervisor or the Director of Graduate Studies before the meeting. The Department of Physics may recommend that you interrupt your studies until your personal circumstances are such that you are in a position to take up your studies again. A form requesting permission for an interruption of studies is available on the 'For students' page of the College website under **changes in enrolment status** http://www.rhul.ac.uk/forstudents/studying/changedetails.aspx).

In the case of circumstances relating only to your performance at an upgrade or review meeting, you should inform the panel members or examiners of the circumstances no later than the start of the upgrade/ review and submit the statement and supporting evidence not more than seven days later to your Department.

If you feel that your academic performance on the date of the oral examination may be substantially affected by unexpected medical or other personal circumstances, you should inform the examiners of your situation no later than the start of the oral examination so that they can make a decision on whether or not to proceed. The examiners may require you to submit evidence of these circumstances to the Examinations and Research Degrees Office within seven days.

8 Special arrangements for the annual review, upgrade or final examination

If you have a disability or specific learning difficulty impairment and wish to ask for reasonable adjustments to be made to the conduct of the final examination (viva) you should consult Section 16 of the **Research Degree Regulations** http://www.rhul.ac.uk/forstudents/studying/academicregulations/home.aspx how to make such a request. Should you need similar adjustments for your annual review/ upgrade meeting, these should be discussed with your supervisor ahead of the meeting so that appropriate arrangements can be made.

9 Academic writing skills

The College's offers courses on academic writing, which can count towards your annual research skills training requirement. Royal Holloway International (RHI) offers additional support for research students whose first language is not English. These courses do not, however, count towards your training requirements. Details of these courses and additional support are available on the **Generic Skills Programme** webpage http://www.rhul.ac.uk/pgr/genericskillsprogramme/genericskillsprogramme.aspx

10 Students in need of support (including disabled students)

Your first point of reference for advice within the Department is your Supervisor. Inevitably, problems will sometimes arise that the Supervisor is not qualified to deal with. The College

offers a high level of student welfare support which includes a comprehensive Health Centre, a highly regarded Counselling Service, dedicated educational and disability support, as well as a wealth of financial, career and other advice. Further details of each service can be found on the College web on the **Student Support** page: http://www.rhul.ac.uk/forstudents/home.aspx

If you have a disability or specific learning difficulty, it is important that you bring it to our attention as soon as possible. The Departmental Educational Support Office (ESO) representatives are the Senior Tutor and Faculty Administrator (Undergraduates). You must also contact the ESO (Founders East 151; tel: +44 (0)1784 443966; email: **educational-support@rhul.ac.uk**) who will arrange for an assessment of needs to be carried out and will advise on appropriate sources of help. Further information is available on the College web on the ESO **Support, health and welfare** page http://www.rhul.ac.uk/studentlife/supporthealthandwelfare/eso.aspx

11 Plagiarism and other academic offences

The College takes the issue of plagiarism and other assessment offences very seriously. Details of what constitutes an assessment offence (eg. plagiarism, collusion, falsification) as well as the procedures to be followed for the investigation of an alleged assessment offence and possible outcomes, etc are outlined in the College's **Regulations on Assessment Offences** http://www.rhul.ac.uk/Registry/academic_regulations/Examination_Assessment_Offences.html

12 Appeals procedures for students

If you wish to appeal against an academic decision, that is, the outcome of an upgrade or final (oral) examination, there is an academic appeals process. Please note that an academic appeal can only be submitted once you have received the result of your upgrade or final examination and your complaint must fall within the grounds for appeal to be considered. Details of the grounds on which you may appeal, the process to be followed to request an appeal pack, amongst others, can be found on the **Academic Appeals website** http://www.rhul.ac.uk/forstudents/studying/academicappeals/home.aspx or in Section 21 and 22 the **Research Degree Regulations** http://www.rhul.ac.uk/forstudents/studying/academicregulations/home.aspx

13 Complaints procedures for students

If you have a complaint relating to any aspect of the Department or its staff or to any academic or College matter, you should first discuss it informally with your Supervisor(s), Advisor, Director of Graduate Studies or another member of staff in the Department as soon as possible. In the majority of cases complaints can be resolved through such an informal route. In those cases where the complaint cannot be resolved in this way, you may want to submit a formal complaint. Full details of how to pursue complaints through both informal and formal routes are set out in the College's **Complaints Procedures for Students** http://www.rhul.ac.uk/forstudents/studying/complaintsprocedure.aspx .

14 Teaching experience and training

The Department of Physics may sometimes be in a position to offer research students demonstrating and/or marking opportunities. Students will be made aware of this via email from Dr Stuart Flockton in early August. Research students who are employed in a lead teaching role are required to register for the College's **inSTIL programme** (Programme in Skills of Teaching to Inspire Learning) http://www.rhul.ac.uk/registry/educational-

development/prof-dev/instil-overview.html . Those who are teaching as part of a team may choose to do this programme, but are not required to do so. Students must be teaching at the time they are participating in inSTIL, as teaching observations are an important part of the programme. The inSTIL programme is worth 15 M level credits and counts five days towards a student's annual research skills training requirements. Further details about the programme can be obtained from the inSTIL Programme Director by emailing edc@rhul.ac.uk

Each student receives training, from the academic staff responsible for the course, in the experimental details (and possible pit-falls) of each experiment. It is obligatory for postgraduates who are in charge of a class, in distinction from those working alongside an academic, to take the full course; those who are only marking or laboratory demonstrating under supervision need take only the introductory section of the inSTIL course.

Those not teaching, but with an interest in teaching in higher education, are encouraged to attend the 'Introduction to Teaching and Learning in Higher Education' workshops held each year as part of the College's **Generic Skills Programme** http://www.rhul.ac.uk/pgr/genericskillsprogramme/genericskillsprogramme.aspx

For details on how much teaching and other work is permitted during MPhil/ PhD studies, students should read Section 8 of the College's **Research Degree Regulations** http://www.rhul.ac.uk/forstudents/studying/academicregulations/home.aspx and the Section on 'Teaching and other paid work' in the **Code of Practice for the Academic Welfare of Postgraduate Research Students** http://www.rhul.ac.uk/forstudents/studying/academicregulations/pgrcop/codeofpracticefortheacademicwelfareofpostgraduateresearchstudents.aspx

The Department's research activity is undertaken by the various research groups and the subject-specific training offered to postgraduate research students is matched to their particular needs. Every student receives training in safety.

The **Centre for Particle Physics** has a comprehensive training programme for postgraduate students in **Particle Physics (PP) experiments and phenomenology**, and in **Accelerator Science**. Most of this programme has been operated for many years, but is continually reviewed and updated to take account of changing views on the training of postgraduate students. During their first year (from October to mid-January), students in the Experimental Particle Physics Group attend an inter-collegiate programme of about 140 lectures on particle physics given jointly by Royal Holloway, Queen Mary, University College and Brunel University (and including staff from the Rutherford Appleton Laboratory). The students travel to UCL twice a week, where this programme is being taught. Students learn a variety of computing skills during their first year and in recent years most have attended courses in Object Oriented Programming and C++. Postgraduate students in the Accelerator Science programme attend a subset of the above lectures, as well as additional lectures in accelerator physics topics taught by staff of the Oxford/RHUL John Adams Institute for Accelerator Science. It is planned that postgraduate students in Particle Physics Phenomenology will attend selected lectures from the above program, complemented with training in the area of phenomenology, taught by staff of the NExT Institute (New connections between Experiment and Theory). All students in the Experimental PP group and the Accelerator Science group attend the Rutherford Laboratory Summer School in their first year and another school (normally either the CERN or the SLAC School) in their second or third year. At the end of the first year of their studies the students in Particle Physics phenomenology attend the BUSSTEPP summer school in theoretical elementary particle physics. All students normally attend the Institute of Physics Annual Conference in their first and third years and give a talk in their third year. All students give several presentations of their work to meetings of the collaboration in which they are working during their studentships. Before any presentation to people external to the group, a practice session is held.

Postgraduate students in the **Strongly Correlated Electrons Group** take part in the Neutron

and X-ray Training (NEXT) Doctoral Training Centre (DTC) run in collaboration with University College London and ISIS on the Harwell Campus. In the first year there are opportunities to take courses on Strongly Correlated Theory, Nanophysics, Nanofabrication Techniques, Low Temperature Techniques, Vacuum Techniques, Neutron Scattering, Nuclear Magnetic Resonance, and other graduate courses through the South East Physics Network, SEPnet. Courses organised by the DTC at UCL, the Hubbard Theory Consortium, and SEPnet courses at the Universities of London, Kent, Southampton, Surrey and Sussex, can be attended in person or via video-conferencing. Students will obtain hands-on experience of materials synthesis, x-ray diffraction and physical properties measurement, and they will obtain extensive experience of computer modeling at Royal Holloway. They will have opportunities to attend the Neutron Training Course and other more specific training courses at ISIS, the Oxford Summer School on Neutron Scattering, a Synchrotron Summer School at Diamond, the Hercules Programme in Grenoble, and the EPSRC Theory of Condensed Matter Summer School. There will be regular meetings of the NEXT DTC, where students will discuss their work with each other in an informal atmosphere, debate hot topics in quantum matter research, and practice talks before conferences. Students will attend international conferences, such as the Strongly Correlated Electron Systems Conference and the International Conference on Magnetism, national conferences and workshops held by the IOP such as the Condensed Matter and Materials Physics conference, and User Meetings at ISIS, Diamond, ILL and ESRF.

Postgraduate research students of the **Low-Temperature Physics Group** all receive training in the handling of cryogenic liquids (helium and nitrogen) and the use of the large liquid nitrogen dewar. They are trained in temperature measurement and control (to sub-milliKelvin temperatures), the use of the cryostats and SQUIDs, in leak testing, in precision wiring, micro-soldering and spot welding, as well as in computer-aided design. They learn the relevant electronics and appropriate computer systems, as well as all the necessary data transfer skills, word-processing and spreadsheet techniques suited to a scientific environment. They take selected postgraduate lecture courses (eg NMR, Low-Temperature Techniques). They also attend a course in Low-Temperature Techniques, organised annually by the Institute of Physics. They participate in appropriate conferences and workshops, such the Institute of Physics Low-Temperature Group Annual General Meeting, the Condensed Matter and Materials Physics conference, and Quantum Fluids & Solids symposia. They all give poster presentations at these. Selected students attend the EPSRC Theory of Condensed Matter Summer School. They visit other laboratories (*e.g.* PTB and HZB in Berlin) to gain valuable further experience. They are able to take appropriate courses from the NEXT DTC and SEPnet.

Somewhat similar training in appropriate hardware and software is provided in the **Nanophysics Group**. Students are trained to work in the Clean Room and to use the electron beam and optical lithography systems, thin-film deposition, centrifuge, ion etching and low-temperature facilities. They use the scanning electron (SEM) and atomic-force (AFM) microscopes, learn to fabricate nanostructures, such as mesoscopic rings and Josephson junctions, and they acquire all the necessary skills to operate computer-controlled equipment. They attend appropriate lecture courses in nano-technology and condensed matter physics; and they give informal presentations to the regular Nanophysics Group meetings. They are able to take appropriate courses from the NEXT DTC and SEPnet.

15 Student Charter

We seek to bring all students into a close, harmonious relationship with the College and the wider community. We hope that all students will support us in achieving the goals set out in **this Charter** http://www.rhul.ac.uk/aboutus/governancematters/studentcharter.aspx and will act as effective ambassadors for the College, while as students and later as alumni. It is not intended that this Charter should constitute a binding agreement; it is offered as a framework of aspirations, designed to be of benefit to all of us in ensuring that we deliver an excellent student experience.
Detailed information about our **policies and regulations** may be found at

http://www.rhul.ac.uk/aboutus/governancematters/accesstoinformation/home.aspx and an array of helpful information about **student life** may be found at http://www.rhul.ac.uk/studentlife/home.aspx.

16 Departmental Facilities and Activities

16.1 Computers

There are a total of 14 open access PC Labs available on campus which you can use, including 6 in the Computer Centre. For security reasons access to these PC Labs is restricted at night and at weekends by a door entry system operated via your College card. Details of these PC Labs, including access times are available at http://www.rhul.ac.uk/information-services/Computer-Centre/.

The PCs in the teaching laboratory T231 are used for many courses. When not timetabled they are available for more general use but may not be used for playing games etc. Other PCs are available in the Common Room T118. If you are not networked to a stand-alone printer you will be given a code to use the photocopier to print. Please ask your supervisor or the Technical Operations Manager for your code.

16.2 Graduate Spaces

Physics Resources Room

The Physics Resources Room, T118, is available to all members of the Department. There are facilities for making hot drinks in the kitchen next door (T132). There is a soft drinks dispenser on the ground floor foyer of Wilson. Various periodicals including *New Scientist* and *Scientific American* are available to read in the Physics Resources Room. A small number of PCs is available for general use.

Royal Holloway offers a number of areas specifically for postgraduates. Below is a list of these spaces together with a brief description of what they offer

International Building Common Room, room IN030 (below Café Jules)
This room is conveniently placed on campus and within easy reach of most academic buildings and the Students' Union. IN030 offers good computer facilities with 17 PCs, a DVD/CD ROM burner and scanning/printing facilities. There are also some easy chairs. The room is available for use 24 hours a day with a card-swipe/code system for out-of-hour access (code provided by the Computer Centre). Please be aware that some sessions of the Research Skills Programme may be running in IN030 (dates are advertised).

Founders Common Room, Founders East, second floor, room FE241
Code to enter can be obtained at the Security desk, Founders reception, by showing the College Card (as a way of proving to be a PG student). The Common Room has tables, chairs and sofas. There is also one computer and printer and wireless internet access. The kitchen area includes a fridge, microwave, kettle and toaster with shared cutlery.

Arts Building, second floor, room AS17
15 online PCs DVD/CD ROM with burner Scanning/printing facilities. The room is open to all students (PG and UG) during normal office hours and to Postgraduates and Staff between 7pm and 7am (please obtain code from the Computer Centre).

Highfield Common Room
The room is for those living in postgraduate accommodation on the Highfield site. It can be booked through the warden of the North A30 properties. The room offers easy chairs, TV and video, and food- and drink-vending machines. The room must be vacated by 11pm.

16.3 Libraries

All Royal Holloway research students have access to the unrivalled library facilities of the University of London. These include:

ROYAL HOLLOWAY Libraries http://www.rhul.ac.uk/library/home.aspx
Royal Holloway's campus is well equipped with facilities that support teaching, learning and research across the College. As well as department specific facilities, which include industry standard studios and editing facilities for Media students and an MRI scanner in the Department of Psychology, the College provides a range of **library and IT facilities** http://www.rhul.ac.uk/studyhere/libraryresourcesandit/home.aspx which are available to all students.

SENATE HOUSE LIBRARY, Malet Street, London, WC1E 7HU. Tel: 020 7862 8461; http://www.ull.ac.uk. This is the central library of the University of London. Up to twelve books can be borrowed. **To be issued with a library ticket** http://www.ull.ac.uk/library/uol.shtml you will need to take your Royal Holloway ID card to the Membership Desk on the 4th floor.

THE BRITISH LIBRARY, 96 Euston Road, London, NW1 2DB. Tel: 020 7412 7000; http://www.bl.uk. Because it is the national collection, the British Library possesses copies of all books published in the UK and Ireland, and many from other countries too. It also has an impressive collection of medieval and modern manuscripts. Books must be ordered at least an hour in advance and cannot be borrowed. A **Reader Pass** http://www.bl.uk/reshelp/inrrooms/stp/register/howreg/howtoregister.html will be issued subject to your need to see specific items in the collections. Other libraries or sources may be more appropriate to your research and **British Library staff will advise you accordingly**.

16.4 Inter-Library Loan (ILL)

http://www.rhul.ac.uk/library/usingourlibraries/interlibraryloans.aspx

Inter-library loans (ILL) are used to acquire items for study and research purposes that we do not hold in our collections. They are available to all students and staff.

16.5 Lockers

Lockers are provided for your use on the second floor of the Tolansky Building opposite the lift. These lockers are intended for daily use and not for overnight storage. To use a locker, open one with a key in the door, insert £1 in the slot inside the door, close the door and remove the key. The £1 is returned when the key is returned to the locker. For the sake of subsequent users, please ensure that lockers are left clean and dry.

No guarantee of security or insurance is provided and the Department retains the right to open any locker and remove the contents.

Contact the technical staff in the Tolansky Laboratory if you lose a locker key or if the Department has removed the contents. Proof of ownership of the contents will be required in either case and it is, therefore, strongly recommended that your name or other means of identification be stored with the contents.

16.6 Mathematica

Extensive use is made of *Mathematica* in several of our courses. *Mathematica* is available on the College PC network, including the PCs in Tolansky, for you to use. As a Royal Holloway student it is possible for you to purchase a copy of *Mathematica* to use on your own computer at about 10% of the normal cost. It is available for a number of different systems and there are conditions related to its use. However there are no functional differences

between this version and the professional version. Details can be obtained from Professor Brian Cowan.

16.7 Photocopying

You can make photocopies of notes, papers *etc*. using the copier in room T127. Copying is charged to a code; ask your supervisor about a code for your work. Photocopiers are also available in the Library. These use cards available from the Library. Make sure you read the note about copyright beside the copier.

16.8 Telescopes

The four-metre dome on top of the Wilson Building houses the Department's telescope – a 12-inch Schmidt-Cassegrain computerised f/10 telescope. It is in the charge of Professor Glen Cowan. Depending on weather conditions, regular sessions are organised by the Physics Society to observe objects such as planets, multiple star systems, galaxies, galactic clusters, and globular clusters. Students wishing to use the telescope should, in the first instance, consult Professor Glen Cowan.

16.9 Colloquia

The Department organises a regular programme of colloquia - talks given about topics in Physics outside the normal degree programmes and intended to broaden the knowledge of us all. Staff in the Department (including postdoctoral fellows and PhD students) give some, external speakers give others. The level varies but most should be intelligible to final year undergraduate students. They are frequently an excellent source of careers information. They are normally accompanied by tea and biscuits in the Common Room. Details are emailed and advertised on noticeboards. All research students are expected to attend all Departmental Colloquia.

16.10 Community Action Volunteering Programme

The Royal Holloway Community Action Volunteering Programme exists to connect, train and support students seeking to volunteer in the local community. There is a whole range of opportunities from sports coaching children, youth workshops, tutoring and mentoring pupils, engaging with the elderly, carrying out conservation or preservation work and so much more. Volunteering enhances your transferable skills and employability, builds a healthy community spirit, and is loads of fun whilst meeting new people: 80% of student volunteers continue their community involvement in later life.

The Community Action Volunteer Co-ordinator and the Student Union Volunteering Officer can support your volunteering work with accreditation and training through the student development scheme. During the year one off events such as Make A Difference Day, the BIG spring clean and Volunteering Week take place with the slogan 'serving the community, students in action' where volunteers get involved in a range of projects.

To find out more about Community Action come to the Freshers' Fair, drop by the office **Founders' East 115**, call **01784 414078**, e-mail volunteering@rhul.ac.uk or go online to the volunteering website at www.rhul.ac.uk/services/volunteering.

16.11 Careers information

The College has a **careers advisory service,** housed in the Horton Building, which is open to any student during normal College hours. http://www.rhul.ac.uk/careers/home.aspx

16.12 Non-academic policies

Please see the **Codes and Regulations** webpage http://www.rhul.ac.uk/forstudents/regulations/home.aspx which includes information on non-academic policies, regulations, and codes of practice as well as the **Student Charter.** http://www.rhul.ac.uk/aboutus/governancematters/studentcharter.aspx

17 Health and Safety Information

The Department operates within the College's Health and Safety Policy as set out in http://www.rhul.ac.uk/iquad/collegepolicies/documents/pdf/healthandsafety/healthandsafetypolicy.pdf. There is a corresponding *Departmental Statement of Safety Policy* and *Departmental Risk Assessment*. A copy of each of these can be found on the Health and Safety notice board in the kitchen (T132).

17.1 Code of practice on harassment for students

This can be found on the student home pages under codes and regulations http://www.rhul.ac.uk/forstudents/documents/pdf/codesandregulations/studentharassment.pdf

17.2 Lone working policy and procedures

The College has a 'Lone Working Policy and Procedure' that can be found on the **Health and Safety Web pages** http://www.rhul.ac.uk/iquad/collegepolicies/documents/pdf/healthandsafety/loneworkingpolicy.pdf

Lone working is defined as working during either normal working hours at an isolated location within the normal workplace or when working outside of normal hours. The type of work conducted by students in the department may be classified from low to high risk activity and the following advice is relevant:

Any health and safety concerns should be brought to the attention of the Departmental Health and Safety Co-ordinator, Mr Francis Greenough or the College Health and Safety Office.

It is likely that most activities will take place on College premises. However, the principles contained in the above section will apply to **students undertaking duties off campus**.

18 Equal Opportunities Statement and College Codes of Practice

18.1 Equal opportunities statement

The University of London was established to provide education on the basis of merit above and without regard to race, creed or political belief and was the first university in the United Kingdom to admit women to its degrees.

Royal Holloway, University of London (hereafter 'the College') is proud to continue this tradition, and to commit itself to equality of opportunity in employment, admissions and in its teaching, learning and research activities.

The College is committed to ensure that;

- all staff, students, applicants for employment or study, visitors and other persons in contact with the College are treated fairly, have equality of opportunity and do not suffer disadvantage on the basis of race, nationality, ethnic origin, gender, age, marital

or parental status, dependants, disability, sexual orientation, religion, political belief or social origins

- both existing staff and students, as well as, applicants for employment or admission are treated fairly and individuals are judged solely on merit and by reference to their skills, abilities qualifications, aptitude and potential
- it puts in place appropriate measures to eliminate discrimination and to promote equality of opportunity
- teaching, learning and research are free from all forms of discrimination and continually provide equality of opportunity
- all staff, students and visitors are aware of the Equal Opportunities Statement through College publicity material
- it creates a positive, inclusive atmosphere, based on respect for diversity within the College
- it conforms to all provisions as laid out in legislation promoting equality of opportunity.

18.2 College codes of practice

Royal Holloway lays down firm codes of practice for its staff and students on the Academic Welfare of Students, on Freedom of Speech, on Sexual and Racial Harassment, and on Safety, Security and Parking. You will find these codes of practice in the *College Student Handbook*. Of particular relevance to MPhil/PhD students is the *Code of Practice for the Academic Welfare of Postgraduate Research Students*. If you feel you are the victim of an infringement of any of these codes, or of any legal right, take the matter up with any of the following, as you see fit:

- your Supervisor;
- your Adviser;
- your Moderator;
- the Director of Graduate Studies
- the Head of Department;
- any other member of Department teaching staff you prefer to deal with;
- the Head of Student Services (tel. 3395);
- the Student Counselling Service (tel. 3128);
- any Students' Union officer.

Appendix 1: Members of staff and their areas of responsibility

Posts within the department	Responsible person(s)	Room	Tel	email
Head of Department	Prof Brian Cowan	T114	3491	b.cowan
Senior Faculty Administrator	Tim Simmons	T115	3448	tim.simmons
Faculty Administrator (Undergraduate)	Gill Green	T116	3506	gill.green
Faculty Administrator (Research Support & Postgraduate)	Carmela Froggatt	T116	6265	carmela.froggatt
SEPnet Administrator	Claire Porter	W155	6464	claire.porter
Undergraduate Programme Directors				
Director of Undergraduate Studies	Dr James Nicholls	W160	3444	james.nicholls
MSci programmes	Dr Chris Lusher	W052	3492	c.lusher
BSc programmes	Dr Chris Lusher	W052	3492	c.lusher
Study Abroad	Prof Glen Cowan	W262	3452	g.cowan
Socrates/Erasmus	Prof Glen Cowan	W262	3452	g.cowan
Year Tutors				
Senior Tutor	Dr Veronique Boisvert	W259	3456	veronique.boisvert
First Year Tutor	Dr Tracey Berry	W153	3497	tracey.berry
Second Year Tutor	Prof Glen Cowan	W262	3452	g.cowan
Third Year Tutor	Dr James Nicholls	W160	3444	james.nicholls
Fourth Year Tutor	Dr Andrew Casey	W054	4351	a.casey
Laboratory Organisers				
Departmental Technical Operations Manager	Andy Alway	T113	3470	a.alway
Lab & Stores Technician	Ian Murray	T232	3483	ian.murray
Teaching Lab Assistant	Dr Michele Piscitelli	T232	3483	michele.piscitelli
First Year Laboratory	Dr Vladimir Antonov	T117	3462	v.antonov
Second Year Laboratory	Dr Veronique Boisvert	W259	3456	veronique.boisvert
Third Year BSc project	Dr Chris Lusher	W052	3492	c.lusher
Third year MSci Laboratory	Dr Gregoire Ithier	W059	3459	gregoire.ithier
Fourth Year MSci projects	Dr Andrew Casey	W054	4351	a.casey
Postgraduate Programme Directors				
Director of Graduate Studies	Prof Jon Goff	W051	3485	jon.goff
Postgraduate Admissions	Prof Jon Goff	W051	3485	jon.goff
MSc Physics Research	Prof Jon Goff	W051	3485	jon.goff
MSc EuroMasters	Prof Jon Goff	W051	3485	jon.goff

Student Facilities	Responsible person(s)	Room	Tel	email
IoP Representative	Dr Philipp Niklowitz	W152	3499	philipp.niklowitz
Educational Support Network Representatives	Dr Veronique Boisvert	W259	3456	veronique.boisvert
	Gill Green	T116	3506	gill.green
Colloquia	Dr Andrew Ho	W151	3196	andrew.ho
Special lectures	Dr Chris Lusher	W052	3492	c.lusher
Library Representative	Dr Philipp Niklowitz	W152	3499	philipp.niklowitz
Careers				
Careers Liaison Officer	Dr Chris Lusher	W052	3492	c.lusher
Alumni Officer	Prof John Saunders	W055	3486	j.saunders
Safety				
Safety Officer	Francis Greenough	W155	3487	f.greenough
Deputy Safety Officer	Andy Alway	T113	3470	a.alway
Radiation Protection Officer	Andy Alway	T113	3470	a.alway
First Aiders				
	Gary Boorman	T245	6311	g.boorman
	Gill Green	T116	3506	gill.green
	Ian Murray	T232	3483	ian.murray
	Michele Piscitelli	T232	3483	michele.piscitelli

Appendix 2: Physics Academic Staff and their contact details

To call from outside the College dial +44 (0)1784 44xxxx for extensions 3xxx
+44 (0)1784 41xxxx for extensions 4xxx
+44 (0)1784 27xxxx for extensions 6xxx

Email addresses are of the form <name>@rhul.ac.uk

		Research area	Tel	Room	email
Dr Vladimir Antonov	VA	Nanophysics	3462	T117	v.antonov
Dr Tracey Berry	TSB	Particle physics	3497	W153	tracey.berry
Prof Grahame Blair	GAB	Particle physics	3513	W254	g.blair
Dr Veronique Boisvert	VB	Particle physics	3456	W259	veronique.boisvert
Dr Stewart Boogert	STB	Particle physics	4062	W251	stewart.boogert
Dr Andrew Casey	AC	Low-temp physics	4351	W054	a.casey
Prof Brian Cowan	BPC	Low-temp physics	3491	T114	b.cowan
Prof Glen Cowan	GDC	Particle physics	3452	W262	g.cowan
Prof Matthias Eschrig	ME	Theory	4972	T104	mathias.eschrig
Dr Stuart Flockton	SJF	Signal processing	3510	T131	s.flockton
Prof Jon Goff	JPG	Condensed matter	3485	W051	jon.goff
Dr John Hargreaves	JCH	Cosmology	3501	T131	j.hargreaves
Prof David Heyes	DH	Soft condensed matter	3984	T106	david.heyes
Dr Andrew Ho	AFH	Theory	3196	W151	andrew.ho
Dr Gregoire Ithier	GI	Quantum Informatics/ Low-temp physics	3459	W059	gregoire.ithier
Dr Pavel Karataev	PK	Particle physics	3451	W253	pavel.karataev
Dr Nikolas Kauer	NK	Particle physics	3500	W154	n.kauer
Dr Chris Lusher	CPL	Low-temp physics	3492	W052	c.lusher
Dr Phil Meeson	PJM	Quantum Informatics/ Low-temp physics	4646	W058	phil.meeson
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