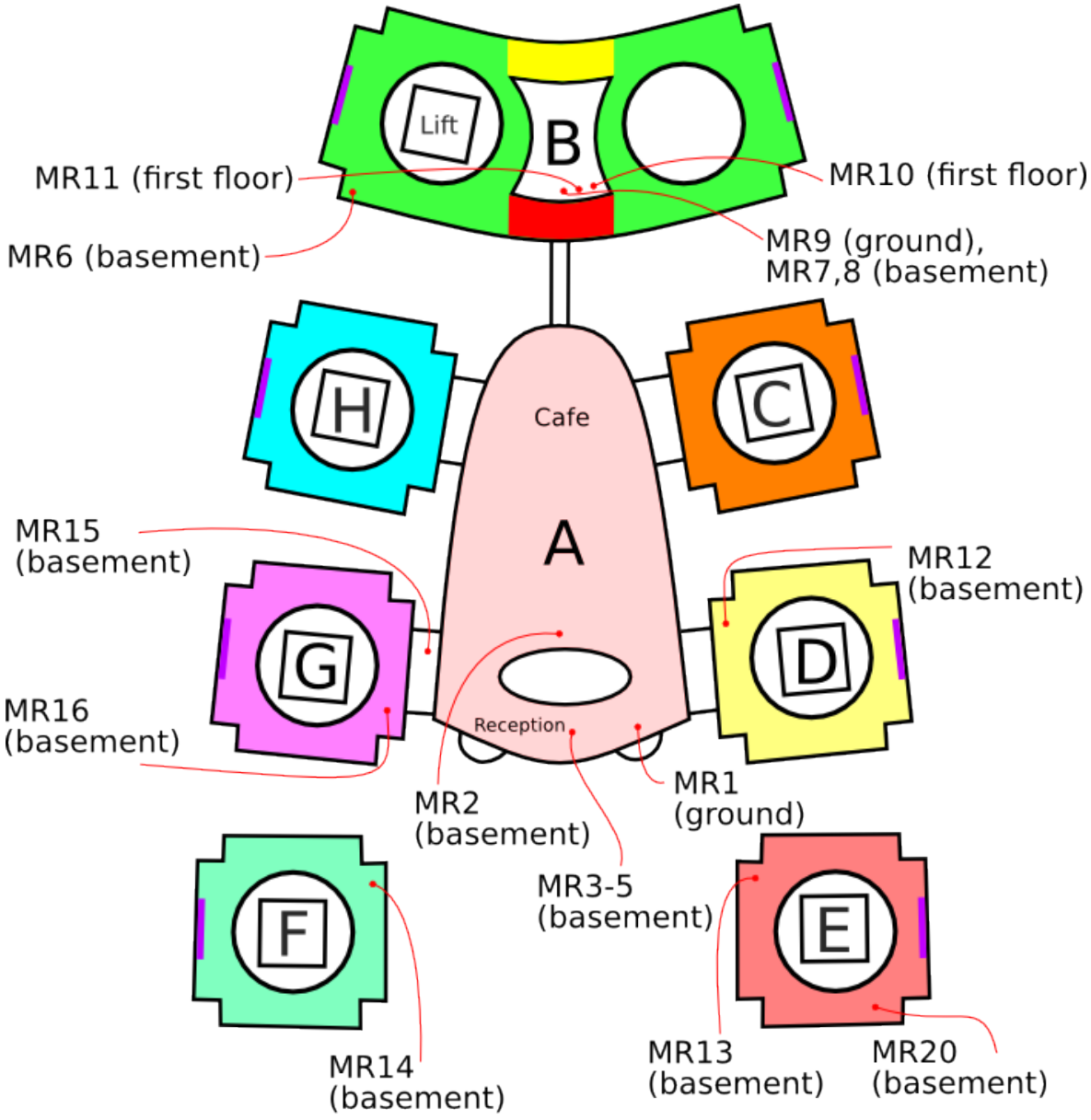
UNIVERSITY OF
CAMBRIDGE

Department of Applied Mathematics
and Theoretical Physics

Research Students' Handbook

October 2015

Centre for Mathematical Sciences
Wilberforce Road, Cambridge



Access to MR1-5, MR13-16 is via reception in Pavilion A; disabled access is via lift in Pavilion D.

All pavilions except A have one lift each, marked above with squares.

Issac Newton Institute

Betty & Gordon Moore Library

Gatehouse

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WELCOME!

You have become a part of one of the broadest, largest and most successful Mathematical Sciences Departments in Europe. Our research covers a multitude of subjects, from fundamental mathematical topics, such as numerical analysis and partial differential equations, to a whole host of applications of mathematics, ranging from quantum physics to galaxies, and from biological cells to climate change. The opportunity to learn daily about the breadth of new research from the people who are doing it is a truly stimulating experience.

At this stage you probably don't have much idea what research will be like – but we do, and we are here to help you. This booklet explains the details – both what we expect from you and what you can expect from us. I am sure you will find it useful, although I am equally sure you will learn much more from your supervisor, your fellow students and your other colleagues. Please do not hesitate to ask anyone for help whenever you need it.

I hope that you have a rewarding and enjoyable time in DAMTP.

With best wishes,

Nigel Peake
Head of Department October 2015

SECTION 1 – INTRODUCTION

As a research student in DAMTP, you should regard the department as the focal point of your working life. This handbook explains how a PhD in DAMTP is structured, including key procedures for assessing your progress. It describes what is expected of you, and of your Supervisor, and explains the roles of other members of the department who may also prove instrumental in helping you to succeed in your research. It contains advice on how to make the best of your time here, highlighting opportunities that will be available to you, but also giving guidance on how to deal with problems that may arise.

DAMTP does not exist in isolation, however: it belongs to a Faculty, and so do you, as one of its students. You are also a member of the University and of a College. This can seem rather bewildering, so here are a few additional words of explanation.

The Faculty and CMS

The Faculty of Mathematics (www.maths.cam.ac.uk) comprises both DAMTP and DPMMS (Department of Pure Mathematics and Mathematical Statistics). Both departments are housed under the same roof, at the Centre for Mathematical Sciences, or CMS. The CMS also hosts the Cambridge Centre for Analysis (CCA), a postgraduate training centre that covers work in DAMTP and DPMMS.

The Faculty Degree Committee (www.maths.cam.ac.uk/degreecommittee) has key statutory duties and responsibilities in relation to all research students in Mathematics (from appointing a supervisor to recommending the award of a PhD).
The administration of graduate affairs throughout the Faculty is handled by the Graduate Office, located in Pavilion C. They will be happy to give advice and answer questions, in person or by e-mail: damtpres@hermes.cam.ac.uk

As a member of DAMTP, you are encouraged to interact as much as possible with other members of the department and also colleagues at DPMMS. There are many joint ventures, seminars, lectures, social events, etc. Some researcher development sessions, and activities such as the Part III café, and Returner Conferences, are led by DPMMS but DAMTP graduate and Part III students are also encouraged to participate.

The Cambridge University Graduate Mathematics Society (CUGMS) promotes interaction, both social and academic, between PhD students studying mathematics in different departments. It organises social events such as pizza and film nights, "young researchers" conferences for PhD students to invite back friends they made during Part III, and Part III seminars and a Part III Café to provide help for current MMath/MASt students.

There is a regular CMS "Happy Hour" on Friday afternoons between 1700 and 1800.

All graduate student members of DAMTP and DPMMS are encouraged to get involved, and students from other departments can join the Society as well. See www.srcf.ucam.org/cugms

The University

The University has an over-arching role in administration and regulation, with rules that apply to research students in all subjects. The central University bodies for administrative matters relating to research students are the Student Registry and the Board of Graduate Studies: http://www.admin.cam.ac.uk/students/studentregistry/

The University issues a Code of Practice for graduate students:
http://www.admin.cam.ac.uk/students/studentregistry/current/graduate/policy/quality/cop/
The Code of Practice sets out the formalities of life as a research student in terms which are broad enough to apply to all PhD students in the University, whereas this handbook explains how the principles in the Code of Practice are implemented, in detail, within DAMTP.

You should also consult the University web pages on research integrity
http://www.research-integrity.admin.cam.ac.uk/

Your College

Your College is yet another institution that will be a key part of your life in Cambridge.
Each college is an academic community, governed by its own rules and regulations. It will give you the opportunity to meet students and academics outside Mathematics, through a range of intellectual, social and recreational activities. Very importantly, your College can also provide support and advice if you encounter difficulties, whether these are academic-related or personal in nature. A primary point of contact is your College Graduate Tutor, whom you should arrange to meet at the first opportunity.

Equality & Diversity

The Mathematics Faculty is committed to creating and maintaining an environment for work, learning and research which is free from discrimination. It is expected that all members of the Mathematics Faculty (staff and students) will treat each other with respect irrespective of, for example, race, disability, religion, gender or sexual orientation.

The Faculty of Mathematics has achieved a Bronze Athena SWAN Award
http://www.ecu.ac.uk/equality-charters/athena-swan/
The Faculty also supports the principles laid out in the London Mathematical Society Good Practise Scheme http://www.lms.ac.uk/women/good-practice-scheme

If you have concerns about any such matter, you are encouraged to approach, in confidence either one of the Faculty Equality and Diversity contacts: Stephen Eglen sje30@cam.ac.uk office G0.05, Orsola Rath Spivack or100@damtp.cam.ac.uk office G0.09 or your College Tutor.

SECTION 2 - GUIDELINES FOR STUDENTS AND SUPERVISORS

Research Groups

DAMTP is a very large department! There are about 90 research students, together with a comparable number of postdoctoral research staff, who carry out research in a wide variety of fields. Academic staff, research staff and research students are organised into a number of groups of different sizes, and as a new student you will join the group of your supervisor (see below). Groups hold specialist seminars and informal discussion sessions, and act as a social focus too. You can turn for informal advice to a second or third year student in your group, or to a postdoc.

Supervisors and Advisers

All research students carry out their work under the direction of a supervisor, who is normally a member of the DAMTP academic staff, but may occasionally be a member of the research staff. Most students (except for those at the CCA) arrive knowing the identity of their supervisor. If you do not yet have a supervisor, one will be assigned after discussions within your research group. In any absence of the supervisor, another senior member of the group will be asked to deputise.

The duty of your supervisor is to guide your research and to monitor progress towards successful completion of your dissertation. To achieve this, he or she will be available to meet you on a regular basis (see below).

Your supervisor will suggest preliminary reading and possible research projects, help you to get started, and be on hand to provide assistance and advice. Some students may work collaboratively with their supervisors on certain projects, while others may work more independently, though still relying on their supervisor for overall guidance. When the time comes to prepare results for publication, or to draft sections of your thesis, you should expect your supervisor to read and comment on what you produce. They will guide you on matters of good conduct and integrity in research and on the academic conventions for acknowledging the work of others. Over the course of your PhD, your supervisor will also advise you about attendance at courses and conferences. They can also give valuable advice on the next stage of your career, after your PhD.

Good communication is essential for a fruitful working relationship with your supervisor and it is most important that you keep in close contact. Supervisors are often very busy, so you must be proactive in your approach, especially if you are stuck or need help with a problem. Don't hesitate to send an e-mail to request a meeting if you find it difficult to track down your supervisor in person!

Individual supervisors will vary considerably in the detailed arrangements they make for seeing their students, but there are some general guidelines. In your first year you should expect to meet your supervisor at least once a week, on average, to review and discuss your progress at regular intervals. As time passes, your supervisor will still be available for weekly meetings if needed, but it may not always be necessary to meet so frequently, depending on your progress (if you need time to make headway with a complicated calculation, for example). At some stages you may also find it beneficial to have regular informal

conversations (over coffee or after seminars, for instance) rather than a more formal meeting. Nevertheless, you should normally meet your supervisor for a detailed discussion at least every two to three weeks during the course of your second year and into your third year. In the final stages of your PhD, as you are writing up, it may be best to arrange meetings simply as needed.

Your supervisor will keep a record of meetings and progress throughout your PhD. They will write regular reports on CGSRS (the Cambridge Graduate Supervision Reporting System) which you will be able to view on CamSIS (http://www.camsis.cam.ac.uk/cam-only/index.shtml). If you have difficulty finding your reports you should contact the Graduate Office (damtpres@hermes.cam.ac.uk).

Besides your supervisor, you will also be allocated an Adviser at DAMTP, who may be another senior member of your research group. This is someone you can contact for additional help and support. This person will also normally be one of your assessors for your first year report. It is expected that you will see your Adviser on a regular basis. If by the end of your first term you do not know who your Adviser is, then ask your Supervisor in the first instance, or the Graduate Office.

DAMTP Graduate Education Committee

The Graduate Education Committee (GEC) oversees all aspects of postgraduate (PhD) education in DAMTP, including admissions, research and other training, monitoring progress, and completion. The GEC is chaired by the Director of Graduate Education (Dr Jonathan Evans, J.M.Evans@damtp.cam.ac.uk). The Research Student Adviser (Dr Helen Mason, hm11@damtp.cam.ac.uk) deputises for the Director of Graduate Education and is responsible for Researcher Development. Other members of the Committee have specific responsibilities for graduate admissions and for coordinating the 3rd and 4th Term assessment processes (see below). The Committee has a graduate student representative, who can be contacted on: gradcom-rep@damtp.cam.ac.uk.

Attendance in the Department

Experience has shown that coming to the Department on a regular basis is extremely beneficial for the progress of a student's research. Accordingly, you are expected to keep regular hours, and to be present in the Department for a substantial part of each weekday, for example 0900 to 1730 or 1000 to 1830. Attendance is not expected at weekends or in the evenings (though you may, of course, come in if you wish). You are entitled to holidays (normally 6-8 weeks per year in total) and you are urged to take some holiday every few months to provide a proper break from study.

Please keep your supervisor informed if you are going to be away for an extended period, for whatever reason. Any planned absence of more than two weeks must be discussed with your supervisor in advance, and also with your College Tutor if you are an international (non-EU) student, since the immigration regulations require the University to keep track of students' movements more closely.

Seminars and Courses

As DAMTP is a large department, during term time there are many seminars every week. Each group has a weekly seminar, and there are other seminar series of more general interest (for example, the fluid dynamics and high energy physics seminars). In addition, there are talks at the Isaac Newton Institute, in particular the general lectures that are held on Monday afternoons. You will be expected to attend the specialist seminar related to your research area, and other more general seminars on offer (as displayed on the CMS screens and website). Your supervisor can advise you on which seminars to attend. You may also be asked to attend one or more MMath/MASt or graduate courses in your first year, as part of your training. (http://www.maths.cam.ac.uk/lecturelists)

Conferences

Going to scientific conferences is regarded as an important part of the training of research students (see below). Your first conference visit will usually be as an observer, but later you will be expected to present a poster or paper as appropriate.

The Department will normally provide support towards your attendance at three meetings (national or international) during your three years, although students whose funding awards include an allowance for conference travel will be expected to claim from those sources in the first instance. All students should also seek funding from alternative sources, e.g. conference organisers, wherever possible. If the total cost of your trip will exceed £200, then you must also apply for additional support, amounting to 50% of the total, from your College.

If you are considering attending a conference, please be sure to do the following BEFORE making any arrangements or committing to any expenditure:

(i) Discuss the matter with your supervisor; you will need their approval.

(ii) Contact your College (via your Graduate Tutor, if necessary) and any other possible sources to enquire about funding.

(iii) Complete a DAMTP pre-travel application form, available at:
http://www.damtp.cam.ac.uk/internal/graduate/

Once your application is agreed with your supervisor, for overseas trips it is ESSENTIAL that you take out University travel insurance. This is free of charge and can be arranged by visiting the page https://www.admin.cam.ac.uk/offices/insurance/travel/students/bgs/index.html

When you return from your trip, you will need to complete a reimbursement form (also available at http://www.damtp.cam.ac.uk/internal/graduate/). You must submit this with details of your actual expenditure supported by receipts in order to receive support from the department.

Some financial support may also be obtained from the Cambridge Philosophical Society http://www.cambridgephilosophicalsociety.org, which all research students are urged to join. Application forms and information about the Cambridge Philosophical Society are also available from the Graduate Office damtpres@hermes.cam.ac.uk.

Further advice on travel expenses can be sought from John Turner, the DAMTP accountant (Room B1.27).

Progress towards your PhD: an outline

Most students' funding lasts for three years or three and a half years (e.g. for some students funded by UK Research Councils), and you are expected to complete your research and submit your dissertation no later than the end of your tenth term or very soon thereafter. A typical outline of progress would be as follows: the first year spent mostly reading the literature and attending courses while working on an initial 'starter problem'; the next 18 months spent carrying out the main calculations that will form the basis for your thesis; and the final 6-9 months spent writing up.

Your supervisor is required to post termly reports on your progress on CamSIS, which you may access via the page http://www.camsis.cam.ac.uk/cam-only/index.shtml. You are expected to read these reports, and to discuss them with your supervisor, as necessary. Other, independent, assessments of your progress are made before the end of your first year, and towards the end of your 4th Term of research (see below).

No PhD student on a standard 3-year course is liable for University fees once these have been paid for 9 terms of study, but additional help with maintenance may be needed if writing up requires a tenth term. You may need to seek such help from a number of sources: from your funding body; from your College; and also funds are available from the Cambridge Philosophical Society (see above).

It is essential that you submit your thesis before the end of your fourth year (at which point you will automatically be removed from the Register of Graduate Students). If you think that you may have difficulties in meeting this deadline, you must discuss this with your supervisor at the earliest possible opportunity.

While your supervisor is available for advice and direction, you have the final responsibility for writing and submitting the dissertation, and for checking that the work in it is free from error. The work presented must be your own; if some of the material has been produced in collaboration, this must be declared, on a form available from the Board of Graduate Studies. Your supervisor can advise you in doubtful cases.

Researcher Development (RD)

The purpose of graduate study is not just to develop into a brilliant mathematician or physicist who produces a first class thesis, but also to learn the skills which will allow you to have a successful career, whether in research and teaching, or beyond academia, for example in industry. Your supervisor, as well as helping you on the academic side, will be responsible for much of your training, by helping you to acquire the skills needed to survey the literature, show you how to organise your work and how to keep records, and to present your results in a clear and coherent way.

The policy within CMS has been to give students the opportunity of developing their skills through taking on real responsibilities within their research groups and CMS, supported appropriately by more formal training. Courses and opportunities are provided by DAMTP and DPMMS and the School of Physical Sciences, both at CMS, elsewhere in the University and nationally. These will be advertised by email and on the graduate student webpages http://www.damtp.cam.ac.uk/internal/graduate/.

Whatever your abilities, your effectiveness as a mathematician or physicist will also depend on other skills: these include the ability to give good talks, write clear papers, negotiate with other department members, teach, run a research project, interact with and encourage others. We have a responsibility to provide opportunities for you to develop these skills. You are expected to spend approximately two full working weeks each year in acquiring and developing these skills. In June you will be asked to complete and return a Researcher Development Log form giving the details of these activities, so please keep a record throughout the year of what you have done.

Aspects of Researcher Development are addressed as follows:

- *Presentation skills:*

  Your work must be communicated to be effective. You learn communication skills primarily by giving talks and using feedback to make improvements. Different research groups at DAMTP and DPMMS have different ways of organising this aspect of your training.

  In your first year, you should give a short talk either to your group or as part of one of the RD workshops.

  In your fourth term, at DAMTP, you are usually expected to give a talk on your work as part of your assessment. In most research areas, there will be a 'seminar' afternoon during your second year when all second year students will be expected to give a talk on their work to a broad audience. In summary, all second year students at DAMTP should expect to give a talk about their work internally.

  In the third year, it is expected that you will give a full-length seminar at DAMTP and/or a seminar at another institute and/or a talk at a conference.

  Courses on writing and presentation skills are provided by the School of Physical Sciences and by CMS. You are strongly encouraged to attend these.

- *Supervision Training:*

  All research students have the opportunity to give supervision (small group teaching) to undergraduates. This is normally arranged through Colleges, and can be a useful supplement to income. There is no requirement whatsoever to supervise, and students rarely do more than 3-4 hours per week. But even if you do not wish to supervise, it is an important part of your training to learn the skills required. We therefore expect all new graduate students to attend one of the RD sessions which are organised by the Staff Development Office in conjunction with the Faculty of Mathematics. Students' attendance will be recorded.

- *Writing Skills:*

  During the course of your training you will need to acquire writing skills, in particular for scientific writing (reports, papers and your dissertation). In addition you might wish to write more general articles. It is important to learn how to present your work clearly. Various workshops will be available to give you advice and practice. Please take advantage of these opportunities. If your first language is not English, the Language Centre and Graduate Union can advise you on additional help. Your first significant

challenge will probably come at the end of your first year, when you will need to write a report of your progress.

Second year students whose progress justifies it are recommended to submit an essay for the Smith-Knight and Rayleigh-Knight contests. The closing date will be advertised during the year. The essays are read by experts and graded by a panel consisting of all Professors in the Faculty. Although the essays are not part of the formal assessment process, they offer an excellent opportunity to present your work in a clear and coherent manner, gain a possible cash prize and, were your essay to be graded in a high category, a very useful entry on your CV.

Throughout the course of your graduate work, you will be expected to write or contribute towards research papers for publication in scientific journals. In your third year, you will have the biggest challenge of all - writing your dissertation. Start drafting chapters early, since writing your thesis always takes longer than expected.

- *Local RD Courses:*

  Details of courses and workshops organised by the Department will be circulated by email and advertised on http://www.damtp.cam.ac.uk/internal/graduate/ (the Graduate Students' web pages). Each graduate student is expected to learn skills in addition to those specifically targeted at their research. These could be communication skills, outreach activities (helping with open days, Millennium Maths Project), organisational (helping with seminars, workshops), teaching, computing, learning another language, etc. CMS also runs courses for PhD students and post-docs on applying for Grants and Fellowships.

- *Cambridge University Skills Portal*

  The University has a website dedicated to the provision of Transferable Skills Training or Researcher Development: www.skills.cam.ac.uk. You will be able to search for courses by subject, and enrol in courses online. You are strongly encouraged to have a browse and take advantage of the opportunities provided. Some of these courses are held at CMS, some elsewhere in the University. These courses fill up very quickly, so please register as soon as they are advertised, and please do let the organisers know if you subsequently find that you cannot attend, as there is often a waiting list.

- *Computational Skills:*

  The Computing Service has a very full programme of courses on offer, including courses on LATEX and MATLAB, for example. Please make good use of this opportunity to develop your computational skills. www.cam.ac.uk/cs/courses/

- *National Training:*

  The Research Councils organise both summer schools and courses on entrepreneurship, Researcher Development (UKGrad), etc. The summer schools are usually compulsory for EPSRC/STFC/NERC students, and such students will receive information directly. The other courses are highly recommended, since there has been good feedback from students who have attended. These opportunities will be advertised by email. Your supervisor or the RSA can advise you.

- *Career Development:*

  When you start your PhD, your immediate thoughts may not be focussed on your future career. However, there are many opportunities in Cambridge to explore possible future directions, either in academia or beyond, perhaps in Industry. Several workshop sessions will be hosted at CMS, for example on 'Applying for Grants and Fellowships'. In addition, there will be lectures and workshops led by Industry. Please take advantage of these.

  As a Cambridge student, you are entitled to use the Careers Service to help you with all aspects of career development: what to do after your PhD, improving your CV or writing cover letters, practicing interviews, to name but a few. Register with them and talk to them, well before you are thinking about applying to jobs. Quite apart from the fact that they are a friendly group of people, there may be more scope for your particular skills and interests in the working world than you imagine, and you may wish to shape your studies to take advantage of this.
  www.careers.cam.ac.uk

- *Knowledge Transfer*

  Collaboration with business and industry is an important way to deliver impact from mathematical research. Seminars from visiting industrial speakers, networking opportunities and other events are held to enable students to develop a deeper understanding of how mathematics is of benefit in a broad range of sectors. For more information, contact Dr Stephane North, knowledge Transfer Facilitator, sn468@cam.ac.uk.

- *Opportunities to work with Part III students (led by DPMMS & CUGMS for all students)*

  1) Part III seminar series

  These take place in the 8th week of the Michaelmas and Lent terms. The Part III students are given the opportunity to give talks (30 minutes in Michaelmas term, 45 minutes in Lent term). About 50 students take part in each series. The Part III students are grouped according to subject, and each group is led by a graduate student whose responsibilities include encouraging the students individually in their preparations, and running the session and encouraging discussion on the day. Two research students, one from DAMTP and one from DPMMS, act as joint Directors for each series. The logistics are challenging and the responsibility is considerable.

  2) Part III Drop-ins

  The purpose of the Part III Drop-ins is to ensure that incoming Part III students, particularly those coming from outside Cambridge, get the assistance they need when they need it (as soon as they arrive) to ensure that their year gets off to a good start. Graduate students make themselves available to help with questions about lecture material and background, as required. Where further help seems to be needed, you can help those unfamiliar with the Cambridge system to arrange supervisions through their colleges.

3) Catch-up Workshops

The incoming Part III students each year have very different backgrounds. To give those who need it the chance to catch up on necessary background material, we give several catch-up workshops on various subjects in the first week of lectures. These are given by PhD students, and are a good opportunity to practice lecturing. For those who may want to apply for academic positions in the USA, this is an essential experience. The series is organised by a PhD student, who finds the volunteers to give the lectures and makes the time-tables.

4) Graduate Studies Elsewhere Afternoon

During Michaelmas, the Part III students are told all about how to apply for PhDs. Part of this is an afternoon where students from other universities are given the opportunity to talk about their research groups and departments. The Cambridge research groups of course also get their chance to introduce themselves at a different point during term. This requires organisation, which is undertaken by research student Directors. It is also an excellent opportunity to network with colleagues at other universities.

5) Research Groups in Cambridge

At some point during the Michaelmas term there will be an occasion when your research group will encourage interested Part III students to come along and meet the members of the group and learn what projects they are working on. Please support and participate in these activities

Other Activities

There are many other activities which make life in the CMS interesting and exciting. These include the *Young Researchers in Mathematics* organisation which runs research student conferences, in the past in Cambridge, Bristol, Warwick and Glasgow; many other seminars; various parties for the research groups, CMS, CUGMS, Part III's.

Further Information or Help

For further information on Researcher Development or careers advice, please contact the RSA for DAMTP (Dr Helen Mason, hm11@damtp.cam.ac.uk), for DPMMS (Dr Julia Goedecke, jg352@cam.ac.uk), or the Researcher Development administrator (researcherdevelopment@maths.cam.ac.uk). We encourage you to use your initiative and be proactive in developing your skills; if you have a new idea for training or would like information on funding for researcher development, then please contact us.

Assessment and Registration

While obtaining your PhD depends on the submission of a successful dissertation, there is a continual process of assessment to make sure that your work is progressing satisfactorily.

It is important that you keep a record of all courses, lectures and seminars you have attended or given on the DAMTP Researcher Development Log form, which can be downloaded from www.damtp.cam.ac.uk/internal/graduate

During your first year as a research student in Cambridge you are registered on a probationary basis. Subject to satisfactory progress in the first year, you are formally confirmed with the Board of Graduate Studies as a candidate for the PhD. The way that progress is assessed varies a little from department to department.

As a DAMTP student you will be required to prepare a brief report (you will receive instructions in due course), of no more than 1500 words on the progress of your research, and submit it to the Graduate Office (damtpres@hermes.cam.ac.uk) by the end of Easter Full Term. As well as the report, you will also be asked to fill in the DAMTP Researcher Development Log describing the various academic courses (e.g. from MMath/MASt), training sessions, workshops and seminars which you have attended since starting research. It is particularly important for research students to attend research conferences and workshops during their PhD, so you should list those you have attended already, plus plans you have for attending any in the future. Two assessors (members of staff, neither of whom is your academic supervisor) will then make a recommendation regarding your registration for your PhD. You will not be interviewed by the assessors as part of this process. Following a positive recommendation, your supervisor will complete the on-line (CGSRS) form on CamSIS concerning your progress and formal confirmation that you should be registered. In some cases it may be decided that registration should be deferred until after your fourth term interview.

In addition to this registration procedure, in DAMTP we also conduct a thorough assessment of your progress in the fourth term of your research. (For students starting their PhD in October 2015, this would mean October to December 2016). The assessment will take the form of a lengthier report written by you, followed by an interview and discussion with two members of staff (usually those who assessed you for registration). You will be asked to hand in your report by the division of the Michaelmas Term (9th November 2016), so you should start thinking about it a couple of months earlier.

The 4th Term interviews are organised by Assessment Co-ordinators in DAMTP. In late August or early September you will receive a letter from the co-ordinators explaining the procedure in detail, but here are some important points to keep in mind. The report should be typeset, and should typically be between 15 and 20 pages long. It should describe clearly the general area and background of the problems you are working on, previous work by other people which is especially relevant to what you are doing, the progress you have made to date with your research, and (very importantly) the plans you have for how your research is going to develop over the next two years. When writing the report, you should bear in mind that the assessors will not necessarily be experts in the precise problem on which you are working, but will be able to follow the technical details of your work if clearly explained. You should also give prominence to any new results which you have been able to obtain.

It is important that you write this report yourself, although of course your supervisor will be able to give you advice. You should also feel free to contact one of the assessment co-ordinators at the appropriate time if you are unsure about what to put in the report. The interviews to discuss your report and progress will generally happen by the end of Michaelmas Full Term. Usually both assessors are members of staff in DAMTP, with perhaps one from your research group, but we do sometimes use people from other University departments or even researchers who are external to the University, as appropriate. Your Adviser is normally one of the people nominated as an assessor.

The 4th term interview typically lasts about one hour, and is really a fairly informal discussion between you and the assessors about the contents of your written report. Much of the discussion will be of a technical nature, but the assessors will also want to talk about more practical issues (such as supervision arrangements), and about the range of courses etc which you have attended. Students invariably find the interview a helpful and stimulating experience, and of course the assessors will definitely take a close interest in your subsequent work and be happy to offer further advice and help.

On the basis of your written report and the interview, the assessors will write a short report by the end of Michaelmas Term. Copies of the report are passed to your supervisor, the Director of Graduate Education, and if appropriate to the Degree Committee. Your supervisor will discuss its contents with you as soon as possible after s/he receives it. The report will usually contain a number of helpful suggestions about your research. If you were not registered following the June report, then it is likely that your registration for the PhD will now be formally confirmed. In a very few cases some other course of action may be recommended.

If your progress is not found to be satisfactory, there would usually be a period during which you and your supervisor would work together to address any problems, typically followed by a further interview. In the unlikely event that your progress is still not satisfactory, then it may be necessary to consider alternative options, for example submitting for an MSc by research.

You should be kept fully informed by your supervisor, and you should be able to view any report on your student record. The assessment co-ordinators are more than happy to discuss the process at any time. If you are concerned about the progress of your research and would like independent advice, you are encouraged to contact the DGE or RSA.

Submitting your PhD and the Examination

By the middle of the third year, the majority of your research work should be complete and several chapters of your thesis should be drafted.

When you and the supervisor judge the dissertation finally ready to go forward to examiners, you send in an Appointment of Examiners Application Form, calling for examiners to be appointed, and giving the date of submission. You can download the form from: http://www.maths.cam.ac.uk/degreecommittee/. The names of two examiners (one usually from your or a related group, one from outside the Department) are suggested by your supervisor, and formally appointed by the Faculty Degree Committee. You usually do not know their identity until after you have submitted the thesis. The actual process of getting the thesis bound and submitted must be done in accordance with University guidelines.(See

https://www.admin.cam.ac.uk/students/studentregistry/exams/submission/phd/and the links in the next section).

Please ensure that you read the University statement on plagiarism.
www.admin.cam.ac.uk/univ/plagiarism/students/statement.html

The examiners will contact you to arrange for the oral examination. Your supervisor will not be present at this, and it may well last 2 to 4 hours. There will be two examiners, normally one internal to the University (usually in DAMTP) and one external to the University. The oral examination can take several forms, but typically you might be asked to give a short presentation and then be asked detailed questions on your dissertation. Your supervisor can normally offer you advice as to how to prepare, and you will also have the opportunity to attend a "Completing your PhD" course if you require more information. At the end of the oral exam you will normally receive some (purely unofficial) indication of the recommendation that the examiners will make to the Degree Committee.

The possible outcomes of the examination are given at the Board of Graduate Studies website http://www.admin.cam.ac.uk/offices/gradstud/current/examination/. Briefly, the possible recommendations are:

a) the thesis is satisfactory for the award of the degree sought (pass); or

b) the thesis should be approved subject only to correction (i.e. the thesis is essentially of a standard for the degree sought providing certain matters are put right to the satisfaction of one or both Examiners) (conditional pass)*(this is the most common outcome)*; or

c) the thesis requires revision such that the Examiners are unable to recommend the award of the degree sought without a fresh examination of a revised thesis. If the revision required is very substantial, the Examiners may indicate that a lower degree might be offered in lieu of revision for the degree sought. ('referral'); or

d) the thesis can be approved for a lesser degree only or for no degree (failure).

When approval is deferred until more work has been done, a second oral examination is sometimes necessary. With all the safeguards and assessment that has preceded the examination, it is most unlikely that a thesis will be rejected outright at this stage.

SECTION 3 – SUPPORT AND DEALING WITH PROBLEMS

Although in the vast majority of cases a student's time passes in a trouble-free manner, there can be occasional problems. These might be personal in nature, or stem from failure to make progress with research. DAMTP is committed to the welfare of students and there are various people you can turn to for help and advice. The first, of course, is your Supervisor; a second is your Adviser. In addition, the Director of Graduate Education (DGE) and the Research Student Adviser (RSA) are available to offer help and guidance to research students in difficulties, and to act as moderators in case of any complaint or disciplinary matter.

Students with personal difficulties may also turn to their College Tutor, or the University Counselling Service: www.counselling.cam.ac.uk

The current DGE is **Dr Jonathan Evans** (J.M.Evans@damtp.cam.ac.uk), and the RSA is **Dr Helen Mason** (hm11@damtp.cam.ac.uk). Please contact one of them as soon as possible if there is a problem that is hindering your progress.

Dealing with Difficulties

It is the intention to resolve problems or disputes within DAMTP, as far as possible.

(a) *Academic problems*

1. Informal Procedure

   If any serious academic problem (including lack of progress) becomes apparent, or any serious dispute between a student and a supervisor should arise, then the DGE or RSA should be consulted. The DGE or RSA will discuss the problems with the student in confidence and offer advice. If the problem is not resolved after a reasonable time, then the next step would normally be for the DGE or RSA to arrange an informal meeting with both student and supervisor to try to sort out any misunderstanding or disputes. The aim is to improve the relationship and communication between them so that a fruitful working relationship can be resumed. The DGE or RSA may on occasions find it necessary to consult the Head of Department.

If the informal procedure does not work, it may be necessary to follow a more formal procedure.

2. Formal Complaints Procedure

   For students who wish to make a formal complaint against their supervisor or to complain that they have not been permitted to continue on to a PhD, the procedure below will be followed:

- the student will be asked to prepare a written complaint and the DGE will ask the supervisor to prepare a response.

- the DGE will then review all the documents, including the reports made by the supervisor on the student, and vice versa.

- the DGE will meet with the student and a friend (to be another student or Graduate Union Representative) and meet separately with the supervisor. The DGE will then provide a judgement on the case to both parties.

- if the student or supervisor is not satisfied with the result, then the DGE will pass the paperwork, together with his written judgement (giving reasons), to the Head of Department, who will convene an *ad hoc* panel to consider the matter. The panel would consist of the Head of Department and three members of staff not in the group concerned but in cognate subjects (this may include a member of staff in a cognate subject from another department). The panel would be supported by one of the Departmental Administrators.

- the panel would have all the documentation available and would have the obligation to speak to the student (who might be accompanied by a friend or an Officer of the Graduate Union) and to the supervisor. The panel could, at its discretion, also call the DGE.

- the panel's decision, which - for the Department - will be final, will then be transmitted to the student, the supervisor, the Degree Committee, College and Board of Graduate Studies.

(b) *Disciplinary Problems*

Any complaint about a student's conduct will initially be referred to the DGE. If a *prima facie* disciplinary case is found, and if the matter cannot be resolved by negotiation between the parties (first trying an informal approach), then the complaint will be referred to an *ad hoc* panel as in (a) above.

In either of these cases, if a student does not accept the judgement of the DGE or the panel, then there is normally a right of appeal to University disciplinary bodies. The DGE and/or the student's Tutor can advise about the options available; see also the University web page http://www.admin.cam.ac.uk/students/gateway/appeals/.

It is very rare for a PhD student at DAMTP to encounter serious difficulties. When he or she does, it is the policy at DAMTP to offer help and support, to enable the PhD student to successfully complete his or her studies.

SECTION 4 - DEPARTMENTAL INFORMATION

Bicycles
There are cycle racks at several points around the CMS site - please use these. A good lock is a necessity! Please take care **not** to lock your cycle to neighbouring cycles. *Cycles are not allowed inside the buildings or inside the courtyard between the Gatehouse and Pavilion A.*

Cars
Unless you are registered disabled (and even then a place cannot be guaranteed) you will not be allocated parking.

Catering Facilities and Common Rooms
The central dining facility is open from 0900 to 1600 for snacks, light lunches and coffee and tea. Outside these hours there are coffee machines in the common room in each pavilion and vending machines in Pavilion A. Each pavilion has its own common room with fridge, kettle, microwave and coffee machine, which can be used as long as they are left clean. Please wash and clear away any crockery and cutlery after use. The refrigerators should not be used for long-term storage of food as space is limited. Milk and sugar are provided.

Children
The university offers some help with childcare; you can find details here:
www.admin.cam.ac.uk/univ/children

Children brought onto the site should never be left unaccompanied. Children under the age of 12 are not allowed on the roof. Children should not be brought into the site routinely; the buildings are not designed and above all not used with their safety in mind (e.g. building work, doors with automatic closers, congested car park, etc.). Anybody bringing a child into the site is responsible for that child's safety whilst her/she is on the premises.

Computing
For information about your departmental computing services please check the computing web pages http://www.maths.cam.ac.uk/computing

For help and support with computing please email help@maths.cam.ac.uk / Ext. 66100

Health and Safety – It is important that your computer monitor is running at the correct resolution for you. Please contact help@maths.cam.ac.uk if there is a problem.

Please contact the Computer Officers about moving computers.

Disabled Students
The building was designed for universal access but please contact Mick Young (66915) for advice on your detailed access requirements. For the full range of support available via the Disability Resource Centre, please see their web page at http://www.admin.cam.ac.uk/univ/disability or contact Hannah Fox (37863).

Electrical Equipment
All portable electrical equipment that is brought into the Department must be checked by the Facilities Team before it is used. Please email facilities@maths.cam.ac.uk.

Equality and Diversity
The Mathematics Faculty is committed to creating and maintaining an environment for work, learning and research which is free from discrimination. It is expected that all members of the Mathematics Faculty (staff and students) will treat each other with respect irrespective of, for example, race, disability, religion, gender or sexual orientation. If you have concerns about any such matter, you are encouraged to approach, in confidence either one of the Faculty Equality and Diversity contacts: Stephen Eglen sje30@cam.ac.uk office G0.05, Orsola Rath Spivack or100@damtp.cam.ac.uk office G0.09 or your College Tutor.

Expenses
Standard expenses (such as postage, phone, photocopying, fax, stationery, etc) are not normally charged for but must be work related. This policy is possible only because it is not abused, e.g. people do not make long national or international phone calls (note that phone calls are automatically logged). For unusual expenses, please contact David Page-Croft (37842) if it involves laboratory materials or John Turner (37854) for anything else.

Faults
Report faults in your room (radiator or lights not working) to the Facilities Team by emailing facilities@maths.cam.ac.uk. Serious faults that may affect the safety of occupants or security of buildings should be notified immediately during office hours to Reception (65000) or, if out of hours, to Security (31818).

Fire Safety
In the event of the fire alarm sounding, leave the building by the nearest exit. ***Do not re-enter the building, even if the alarm has been silenced, until advised to do so.***

The external doors do not open automatically for security reasons; exit in the normal way. Assembly points are shown on posted site plans and Fire Wardens will direct you. Do not attempt to enter another building if the alarm is sounding there also.

In an emergency, and in the event of doors failing to open, break the glass in the **green** break glass boxes located alongside each door. Please report this to Reception/Security, as the doors will remain unlocked until the glass is replaced.

Fire alarms are tested in each building every Wednesday morning between 0830 and 0900. The alarm will sound for only a few seconds and for this brief period only it can be ignored; if the alarm continues to sound please evacuate the building.

First Aid
First Aiders may be summoned via Reception (65000).

If an accident occurs outside normal office hours, telephone Security on 31818. The emergency number for FIRE, POLICE or AMBULANCE is **via Security on 101, or 1999 on any network phone**. If you do have an accident, please ensure that you complete an accident form (see Accidents).

The University is not insured for *theft* of, or damage to, your personal property while you are on University premises, so if you bring a computer with you, you should take out insurance for it. The University is insured for *accidental personal injury* to staff, students and visitors while they are on University premises, *but only where the accident was due to fault on the University's part.*

Keys
A key to your office is obtainable from John Turner (Room B1.27) on payment of a returnable deposit of £10. ***Keep your office door locked at all times when the room is unoccupied. Do not leave any valuables unattended.***

Laboratory
The GK Batchelor Laboratory occupies the basement of Pavilions A, C and H. Members who wish to carry out experimental work there should contact the Laboratory Director **Dr Stuart Dalziel** (37911, S.B.Dalziel@damtp.cam.ac.uk). New arrivals should always make themselves known to the Laboratory Safety Officer, **Dr Mark Hallworth**, (37841, mah14@cam.ac.uk) who will provide a laboratory induction and Risk Assessment advice.

Mail and Fax Services
Long-term members of the Department have their own pigeonholes; others (including research students) have shared pigeonholes allocated by first letter of surname. The pigeonholes are on the ground floor of Pavilion A, near to Reception.

Outgoing mail should be placed in the trays in Reception, before 1600 on weekdays. A University Messenger Service circulates between the University's departments and Colleges. Mail is collected by the UMS daily, and needs to be in the trays in Reception by 1100. There are no mail services at weekends. Please ask Reception if you have any queries. Faxes can also be sent from your computer via the Internet, which avoids queuing for the fax machine at busy times - instructions are available on the DAMTP web page.

Phone
Dial 9 before the number to obtain an outside line. Student phones are restricted for outgoing calls to local calls only. University numbers are mainly 3*nnnn*, and outside callers have to prefix another 3 to the number. For those numbers starting with 6*nnnn*, callers from outside need to prefix with a 7. If you need access to a telephone directory, please contact your Group Secretary.

Photocopying
One copier is generally available in each pavilion. Codes may be required - please ask your Group/Pavilion Secretary.

Safety
The Site Safety Officers are:
- For the Laboratory: Dr Mark Hallworth (37841)
- For the rest of the CMS site: Mr Mick Young (66915).
- For DAMTP: Hannah Fox (37863).

It is important that all members of the Department staff observe safe working practices and inform the Departmental Safety Officer or the Departmental Administrator, Hannah Fox (37863), if they see anything giving cause for concern. Please also note the CMS safety document in Appendix 2.

Reports of Accidents and Incidents should be made to Reception in the first instance, where suitable forms for the purpose can be obtained.

Security
Individual pavilions are usually locked but visitors and undergraduate students may enter via Reception (open from 0820 to 1730 weekdays and 0830 to 1330 on Saturdays in term time). Doors should not be held open, or the alarm will sound.

You need a *University Card* to unlock exterior doors and interior doors outside core hours. ***Keep your card on you at all times.***

Your College is responsible for providing you with a *University Card*, but it will need activating to work at CMS. Ask at Reception for activation of your card; normally these can be programmed while you wait. If you wish to have out-of-hours access to the Betty and Gordon Moore Library, you will also need to take your card there for programming.

If you lose your card report it immediately to Reception (65000) reception@maths.cam.ac.uk

Do not let strangers without keys or entry cards into the buildings and ***do not*** move computers without contacting the Computer Officers.

Seminars
Lists of forthcoming seminars within DAMTP, DPMMS and the nearby Isaac Newton Institute for Mathematical Sciences are displayed on the large CMS screens and on the relevant web pages. See also www.talks.cam.ac.uk

Smoking
There is a 'No Smoking policy' applied to all buildings at CMS. Please do not smoke near entrances to buildings or near to windows and vents; use the ashtrays provided.

Stationery
A key for the stationery store can be obtained from Reception, your Group Secretary or the Undergraduate Office (Room B1.28). The Department provides blank CD-ROMs for data backup; please consult the Computer Officers.

Travel Expenses
Travel expense forms are available on-line and should be signed by your supervisor and returned to John Turner (B1.27). If you claim travel expenses, you are required to produce receipts for all items.

Travel Insurance
If you are travelling abroad on University business, for example attending a conference or workshop, you must take out the University's travel insurance policy. This is a single trip policy and can be obtained on-line at http://www.admin.cam.ac.uk/offices/insurance/travel. Hannah Fox (37863) can provide further information.

Women in Maths
The women mathematicians at all levels, from Part III students to University Officers, meet in an informal group several times a year, usually at lunchtime. For support, advice or just a chat, contact Helen Mason (hm11), Julia Goedecke (jg352), Carola Schoenlieb (cbs31) or Marj Batchelor (mb139). You may also want to look at the Faculty's Women in Maths pages which link on to the Athena Swan pages: www.maths.cam.ac.uk/womeninmaths.html

SECTION 5 - USEFUL INFORMATION AND LINKS

The DAMTP graduate students' web pages can be found at:

http://www.damtp.cam.ac.uk/internal/graduate/

Your formal relationship with the University, as opposed to your College, is mediated through the:

> **Student Registry** (Board of Graduate Studies),
> Academic Division,
> 4 Mill Lane,
> Cambridge CB2 1RZ
> Tel: 01223 (7)66302
> http://www.admin.cam.ac.uk/students/studentregistry/current/

The Student Registry publishes a **Code of Practice**, which is authoritative as regards to the regulations:
http://www.admin.cam.ac.uk/students/studentregistry/current/graduate/policy/quality/cop/

You should have been sent a copy of this document, and you should study the parts relating to PhD students carefully. Your supervisor will be able to advise you on aspects of the regulations; and your College Tutor or the RSA can also be consulted.

***Other useful links are**:*

http://www.admin.cam.ac.uk/students/gateway/	Lots of information and links to other CU Web pages
http://www.admin.cam.ac.uk/offices/accommodation	Accommodation office
http://www.admin.cam.ac.uk/offices/safety/	Health and Safety
http://www.admin.cam.ac.uk/offices/students/	Student Records

Appendix 1: The Betty and Gordon Moore Library

Library Information

The Betty and Gordon Moore Library, located on the CMS site, is the main mathematical, physical and biological sciences library of the University. Detailed information is available from the library website http://www.lib.cam.ac.uk/BGML/, with the maths information resource guide at http://www.lib.cam.ac.uk/BGML/moorematsguide.html perhaps especially relevant. Please note that you must register when you first use the Moore and that, having done so, you may also apply for 24-hour reference access.

Other libraries in Cambridge may also be relevant to research students. For example, the University Library in West Road holds a large collection of older mathematical material. Reference access to the Isaac Newton Institute Library (also on the CMS site) may be granted to non-Institute personnel at the discretion of the Institute Librarian.

A complete listing of Cambridge libraries may be found at:
http://www.lib.cam.ac.uk/libraries_directory/libraries_directory.cgi

The library catalogue, Newton http://ul-newton.lib.cam.ac.uk/, allows you to search for Moore Library books and journals, or you can search across all Cambridge libraries (plus the DSpace@cambridge repository) using the Library Search service http://search.lib.cam.ac.uk/.

The DAMTP photocopiers (one of which is located on the ground floor of the Moore) may be used for copying books or journals borrowed from the Moore (or elsewhere). Note that photocopying regulations allow the photocopying of one chapter or 5% of a book (whichever is the larger) or, for journals, one article from each issue (not volume) of the journal.

Access and Passwords

Many networked electronic services are made available within the "cam" domain via IP address recognition, and for these no password is required. Most of the remainder are accessible using a Raven password.

Information on Raven passwords and how to obtain one is available on the Computing Service website: http://www.ucs.cam.ac.uk/docs/faq/raven/n5

Retrospective Literature Searching

Mathematics-specific Databases

If you are interested in finding out what books and articles from journals and conference proceedings exist on a particular subject or by a given author (say), the most important electronic resource available in mathematics is:

MATHSCINET VIA WEB
(http://ams.math.uni-bielefeld.de/mathscinet) - the online version of Mathematical Reviews and Current Mathematical Publications, published by the American Mathematical Society. Updated daily, the database contains full text reviews from 1940 onwards. This database works on IP address recognition.

General Databases

Possibly the most valuable of the general databases available to you are:

Web of Knowledge (http://wok.mimas.ac.uk)
This platform provides access to a variety of valuable resources, including Web of Science and Inspec.

Web of Science is the online version of the ISI Citation Indexes and ISI Proceedings. Updated weekly, the databases contain abstracts and indexes for journal articles and a small selection of monographic series volumes in all subject areas from at least 1970 onwards (from 1899 for science subjects); along with articles in conference proceedings from 1990 onwards. Since each record contains a list of all references cited in the corresponding article, it is possible to search for all articles that cite a known author or work.

Inspec is the online version of Science Abstracts. Updated weekly, the database contains abstracts of journal articles and conference papers (as well as significant books, technical reports, and dissertations) from 1969 onwards in the areas of physics, electrical engineering, electronics, computers, control, and information technology.

It is also possible to cross-search all these products. You need a Raven password to make use of this package of resources.

Scopus (http://www.scopus.com/)
Scopus is the largest abstract and citation database of research literature (journals, book series, conference proceedings and patent records) and quality web sources across all subject areas. It contains records for selected material dating back to 1823, and is updated daily.

Databases of Dissertations and Theses
Dissertations and theses are generally indexed separately from other types of literature. The two databases available (which cover all subject areas) are:

EThOS (Electronic Theses Online Service) (http://ethos.bl.uk/)

This is a database provided by the British Library which aims to offer a unified access point for all theses produced by UK Higher Education. Of the theses listed, some will be available in electronic form for immediate free download, while others will only be represented by a summary 'catalogue-style' record. This database is completely free to search, and only requires you to register (which is also free) if you wish to download any of the theses. Once registered, you are also able to request digitisation of any of the theses not yet available for download, but a charge does apply for this service.

ProQuest Dissertations and Theses (http://search.proquest.com/)

This is a database of references to doctoral and masters dissertations from 1861 onwards. Although the main focus is on the US, dissertations from universities in Europe and the rest of the world are also included. This database works on IP address recognition.

All University of Cambridge theses (for the degrees Doctor of Philosophy, two-year Master of Philosophy, Master of Science and Master of Letters) accepted since 1921 are held in the Manuscripts Reading Room at the University Library. Such theses from 1970 onwards have records on the Newton Manuscripts and Theses catalogue (http://ulmss-newton.lib.cam.ac.uk/).

A small but increasing number of Cambridge theses are available for immediate download from DSpace@Cambridge (https://www.repository.cam.ac.uk/).

The Moore Library thesis collection holds selected PhD theses from DAMTP and DPMMS, which are searchable via the usual Newton catalogue (http://ul-newton.lib.cam.ac.uk/).

Current Awareness

It is possible to sign up for services that will send you emails alerting you as new material is published in a given journal or on a particular subject. Many are provided by publishers themselves, but a good place to start would be:

ZETOC Alert (http://zetoc.mimas.ac.uk)
ZETOC itself is another useful general database of references to journal articles and conference papers maintained by the British Library. By signing up to ZETOC Alert you can be emailed the table of contents from particular journals or receive details of articles which match your predefined search criteria.

Ejournals
The University Library subscribes to a large number of electronic journals.
These can be accessed from the 'ejournals@cambridge' page (http://tf5lu9ym5n.search.serialssolutions.com/), which provides title and ISSN searches that return information on which years are included in the subscription and how access to the titles is controlled.

Ebooks
The University is also building up a collection of ebooks, which can be accessed from the 'ebooks@cambridge' page http://www.lib.cam.ac.uk/ebooks/

The packages of especial interest to mathematicians include those published by SIAM (http://www.igpublish.com/siam-ebook/), Springer (http://link.springer.com/search?facet-discipline=%22Mathematics%22&facet-content-type=%22Book%22) and selected titles from CUP (http://ebooks.cambridge.org/subject_landing.jsf?searchType=allSubjectBook&subjectId=CH&subjectName=Mathematics&subjectPath=;C;CH).

Appendix 2: CMS Site Safety Policy

GENERAL

1. a) **Site**. The site is the Centre for Mathematical Sciences, including the surrounds and the Betty and Gordon Moore Library, but excluding the Newton Institute and the Gatehouse.

b) **Policy**. It is the policy of the Departments (deemed to include the Moore Library) that share the site to adhere to the University Safety Policy, and to ensure, so far as reasonably practicable, the health, safety and welfare at work of staff, students, and visitors.

2. Responsibility.

Matters of safety may be referred to the Head of DAMTP, the Head of DPMMS, and the Head of Science Information Services at the Betty and Gordon Moore Library. Implementation of responsibility has been delegated as follows (details of personnel are given in Appendix A):

a) The Site Safety Officer oversees Health and Safety in the buildings, the fire alarm system, annual fire drill practices, the provision of First Aid services throughout the buildings, and training.

b) The Director of the G.K. Batchelor Laboratory oversees safe working practices, equipment and environment in the G.K. Batchelor Laboratory and Workshops.

c) The Moore Library Safety Officer oversees Health and Safety in the Library, subject to a) above.

d) The Site Safety Officer has also delegated particular aspects of the implementation of his/her duties to others, as listed in Appendix A.

e) A Site Safety Committee exists to assist the Site Safety Officer and the Moore Library Safety Officer. This Committee meets three times a year.

Members of the Site Safety Committee should include current holders of the positions of: Head of Department, Head of Betty and Gordon Moore Library, Site Safety Officer, Library Safety Officer, Director of the G.K. Batchelor Laboratory, Secretaries of the Departments, Chief Technician and Chief Computer Officers. Current members of the Committee are listed in the Appendix B.

3. MONITORING

Health and Safety issues are subject to continual review and monitoring. Additionally, safety inspections of all parts of the site are conducted annually to review, highlight and assess potential risks.

MEMBERS OF THE DEPARTMENT

4. Responsibility.

While it is the Departments' responsibility to ensure, so far as possible, a safe working environment, safe working practices and adequate training, it is the responsibility of all staff, students and visitors to care for their own safety and the safety of others. This includes, but is not limited to:

a) Maintaining safe working practices.

b) Identifying possible hazards and bringing these promptly to the attention of those responsible.

c) Undertaking any necessary safety precautions.

d) Being familiar with appropriate emergency procedures including knowledge of:

i) appropriate escape routes;
ii) location of fire extinguishers;
iii) the University EMERGENCY number (currently 101);
iv) the University security number (currently 31818);
v) how to summon a first aider (via Reception - 65000).

5. Accidents.

All accidents or "near misses" should be reported, whether or not they involve personal injury. Accident report forms are available from Reception, from the Moore Library and online at http://www.safety.admin.cam.ac.uk/publications/hsd020e-accident-dangerous-occurrence-and-report-form. They should be submitted to the Site Safety Officer or the Library Safety Officer as appropriate.

RESEARCH GROUPS

6. Responsibility.

Heads of research groups and those in charge of other members of staff or students are responsible for ensuring adequate supervision and training of those personnel. Help or advice in fulfilling this duty should be sought from other sources, where appropriate. They should also ensure, as far as possible, the compliance of their staff and students, and that each of these receive copies of the appropriate safety documentation (including a copy of this policy) and takes note of the University Safety Policy.

VISITORS

7. Visitors.

Members of the Departments hosting visitors should ensure, as far as possible, the compliance of their visitors with the site and University Safety Policies.

8. Children.

Children brought onto the site should never be left unaccompanied. Children should never be allowed into hazardous areas such as the laboratory (except under the special conditions of Open Day, when they should be supervised). Children under secondary school age are not allowed on the roof. Children should not be brought into the site routinely - the

buildings are not designed and above all are not used with their safety in mind (e.g. building work, doors with automatic closers, congested car park, etc). Anybody bringing a child into the site is responsible for that child's safety whilst he/she is on the premises. At parties to which parents/guardians may bring their children, the organiser of the party should consider this issue carefully.

USE OF BUILDINGS

9. Fire alarm.

On hearing the fire alarm, you must immediately evacuate the building by the nearest designated safe exit, closing (but not locking) any doors. You should proceed to the designated assembly point, making sure that the access route for the fire brigade is not blocked. Do not re-enter the building until the Fire Brigade or Site/Library Safety Officer give the `all clear'. The fire alarm is tested in every building between 8.30am and 9.00am every Wednesday.

10. Finding fire.

In case of fire, the alarm should be activated using the nearest accessible fire call point. Once clear of the building, you should check to see whether the Fire Brigade has been summoned.

11. Security.

Access doors are locked after hours and at weekends. The site is monitored by the University Security Service, and many areas are fitted with alarm systems. Any problems should be notified to Reception (65000) during normal working hours, or to Library Reception (65670) in the case of the Library; after hours, urgent problems should be notified to the University Security Service (phone 101).

12. Smoking.

Smoking is banned in all buildings on the site. People are asked to smoke only in the designated areas having appropriate facilities.

13. After hours.

It is not possible to provide support services for work out of hours. If an emergency arises, you should contact the University Security Service (telephone 101 from within the University network). Routine matters should be reported to the appropriate personnel the next working day.

OFFICES AND EQUIPMENT

14. Portable electrical equipment.

Equipment is tested throughout the CMS site at least once every two years. All portable mains-operated electrical equipment used on the site should display a valid test sticker unless it has been purchased or brought to the CMS site after the last round of testing.

Users should regularly inspect equipment before use for signs of damage, especially equipment that is often being moved, such as laptop chargers. Requests for repairs should be directed in the first instance to the CMS Facilities Team.

15. Appliances.

Kettles, heaters and other similar appliances must not be used in offices without first obtaining consent from the Site Safety Officer.

16. Computers.

Users of video display units and workstations should comply with the University's guidelines, available at:
http://www.admin.cam.ac.uk/cam-only/offices/safety/workplace/dse.html.

Footrests, document holders or other additional items will be provided on request where the need exists; please contact Departmental Administrators for further information.

17. Plugs and cables.

Access to plugs and network ports must be kept free. Cables should be kept neat and routed so as to prevent entanglement. Double adapters should not be used and the use of plug boards should be avoided whenever possible. All power cables should be fully unwound when in use.

18. Offices.

Offices must be kept reasonably tidy and uncluttered to allow cleaning and easy egress in the case of emergency.

19. Storage.

Shelves must not be overloaded, and care should be taken to prevent heavy items falling on occupants. A ladder or 'step stool' should be used to gain access to high shelves: you must not climb on desks or chairs. Rubbish, loose paper and other combustible material must not be allowed to accumulate due to the fire risk. All ladders should have a valid test sticker.

G.K. BATCHELOR LABORATORY

20. Use of Laboratory.

Members and their visitors should consult with the Director of the Laboratory before undertaking any work within the laboratory or workshop. They will be issued with, and should familiarise themselves with, separate guidelines for use of the laboratory.

21. Risk assessment.

Risk assessment and COSHH documentation must be completed before any work is undertaken in the Laboratory. Where appropriate, training should be sought.

Other safety information may be found in the Safety Office online information and manuals (including the University Safety Policy).

Appendix A: Delegated Responsibilities

Responsibility	Name	Position	Telephone
Site Safety Officer	Mr M.L. Young	*Facilities Manager*	66915
Moore Library Safety Officer	Miss S.V. Lambert	*Librarian*	65677
G.K. Batchelor Laboratory	Dr M. Hallworth	*Senior Technical Officer*	37841
Safety Adviser (DAMTP)	Ms H. Fox	*Departmental Secretary*	37863
Safety Adviser (DPMMS)	Ms E. Roberts	*Departmental Secretary*	37996
Computers (DAMTP)	Dr M. Rose	*Computing and IT Manager*	37850
Computers (DPMMS)	Dr M. Rose	*Computing and IT Manager*	37850
Fire Safety Manager	Mr M.L. Young	*Facilities Manager*	66915
Fire Alarm System	Mr M.L. Young	*Facilities Manager*	66915
Contractors	Mr M.L. Young	*Facilities Manager*	66915
Laser Safety Officer	Dr M. Hallworth	*Senior Technical Officer*	37841
Biological Safety Office	Dr S.B. Dalziel	*Director of Laboratory*	37911
Security Information	Mr M.L. Young	*Facilities Manager*	66915

Appendix B: CMS Safety Committee

Format

Meetings are held at least once each term.
Minutes are distributed to members of the Committee and the University Safety Office.
The University Safety Office sends an observer to meetings, currently Mr W. Hudson.

Committee Members

CMS

- Mr M.L. Young *Facilities Manager and Site Safety Officer*

DAMTP

- Prof. N. Peake *Head of Department*
- Dr S.B. Dalziel *Director of Laboratory*
- Mr D. Page-Croft *Chief Technician*
- Dr M. Hallworth *Senior Technical Officer*
- Dr M. Rose *Computing and IT Manager*
- Ms H. Fox *Departmental Administrator*

DPMMS

- Prof. G. Paternain *Head of Department* **(chairman)**
- Ms E. Roberts *Departmental Administrator* **(secretary)**
- Dr A.C. Aitchison *Computer Officer*

Betty and Gordon Moore Library

- Miss S.V. Lambert *Library Safety Officer*

Isaac Newton Institute

- Ms S. Skehel *Institute Administrator*

Appendix C: Emergency Telephone numbers from within the University network

- Fire, Police, Ambulance: 1999
- University Security Patrol: 101
- CMS Reception: 65000