

Probationer Research Student

Course Handbook

2006–07 EDITION

Contents

1	Preface	1
2	Introduction	3
2.1	The Computing Laboratory, the University, the Division and the Colleges	3
2.2	Terminology	3
3	Supervision	4
4	First Year	6
4.1	Computer Science Students	6
4.2	Numerical Analysis Group Students	6
4.3	The Lecture List	7
5	Research	7
6	Transfer to D.Phil. Status	8
6.1	Application for Transfer	8
6.1.1	Qualifying Dissertation	9
6.1.2	Qualifying Examination	10
7	Second and Third Year	10
7.1	Graduate Activities	10
7.2	Computer Science Students	10
7.3	Numerical Analysis Group	11
8	Conference Funding	11
9	Confirmation of D.Phil. Status	12
10	Submission and Examination	12
11	Teaching	13
12	Cakes Seminars - Computer Science Students	13
12.1	What are Cakes Seminars?	13
12.2	Attending Cakes Seminars	13
12.3	Giving Cakes Seminars	14
12.4	References	14
13	Student Conference - Computer Science Students	14
14	University Skills Portal	15
15	Careers	15
16	Computing Laboratory - General Information	15
16.1	Room Numbering	16
16.2	Opening Hours	16
16.3	Access to The Computing Laboratory	16
16.3.1	Rules	16
16.4	Keys	17

16.5 Social Area	17
17 Computers	17
17.1 Using your own Computer	18
18 Laser Printing	18
19 Photocopying	19
20 Pigeon Holes	19
21 Safety	19
22 Communications	19
22.1 University Gazette and Oxford Blueprint	19
22.2 General Information	20
22.3 Publications	20
22.4 Seminars	20
23 The Examination Schools	21
24 Staff Members	21
25 Liaison with academic staff	21
26 Library	22
27 Harassment	22
28 University Club	22
A Safety Information	25
B Staff List	33
C Departmental Groups	35
D Notes on Application for Computer Resources on Computing Laboratory Facilities	37
E Regulations Relating to the Use of Information Technology Facilities	39
F Rules and Regulations Concerning use of OUCL Equipment	43
G University of Oxford - Code of Practice Relating to Harassment	45
H Rules and Regulations Concerning Use of Department of Engineering Science Premises	47
I University Policy on Intellectual Property Rights	49
J Equal Opportunities	51
K Memorandum of Guidance for Research Students and their Supervisors	53
L Plagiarism	57

1 Preface

Welcome to Oxford University Computing Laboratory.

This handbook is designed as a guide for Probationer Research Students in the Computing Laboratory. It also contains general information about the Department, people, facilities and safety. *Please pay particular attention to safety.*

Some of the information is specific to either students doing Computer Science or students in the Numerical Analysis Group and this is indicated in the handbook at the appropriate points.

These notes supplement the *Notes for the Guidance of Graduate Students in Mathematical Sciences under the Mathematical and Physical Sciences Divisional Board*, which are in your introductory pack. They should be read in conjunction with that booklet and information on the web, which can be found at www.comlab.ox.ac.uk.

The information here is designed to be general and relevant throughout your time at Oxford. Further information will be given to you at appropriate times. Whilst we have tried to make information about examinations as accurate as possible, the final authority on examinations and other academic regulations is *University of Oxford Examination Regulations* (the 'grey book').

Comments on the contents of this handbook would be much appreciated, so please do not hesitate to send a note to any of us if you can think of ways to improve the next issue.

Christine O'Connor
Academic Administrator

Tom Melham
Director of Graduate Studies

2 Introduction

Welcome! You have chosen to study at one of the world's leading centres for the development, application and teaching of computer science. You join an expanding group of researchers, lecturers, visitors and students who have been attracted to Oxford from all over the world.

The Laboratory's reputation ranges from its fundamental research into computing methods and languages through to practical solution of engineering and scientific problems on the latest highly parallel computer architectures. Our wide-ranging collaborative work with leading industries in this country has been twice recognised by the rare honour of a Queen's Award for Technological Achievement.

During your study at Oxford, we hope to share with you some of the understanding we have gained, both by our research into basic theory and by industrial collaboration. The development of computing at Oxford has been heavily supported by donations and sponsorship from our industrial partners. We have devoted our best efforts to the design of the courses you will take and to providing a stimulating research environment.

This handbook aims to save time by giving you a certain amount of basic information which you would otherwise have to ask for or learn by experience, but it cannot tell you all you need to know. Do not be afraid to ask for further information or advice.

2.1 The Computing Laboratory, the University, the Division and the Colleges

The University of Oxford is organised both by department and by college.

The colleges are the oldest components of the University, some dating back to the twelfth century. Traditionally, the admission of students to Oxford and their academic and personal well-being is the concern of individual colleges. In arts subjects much of the teaching is organised on college premises and there is little need for divisional buildings or departments. For science subjects on the other hand, expensive equipment is needed and the University has the responsibility for providing common facilities for use by all students, particularly at the graduate level, just as it has always organised central examinations on their behalf. Thus the Computing Laboratory, like other Oxford science departments, is run by the University to provide central teaching and research facilities for members of all colleges.

The departments are grouped into divisions, which have responsibility for resource allocation, for academic policy, examinations, lectures and graduate admissions within a group of related departments. The Computing Laboratory belongs to the Mathematical, Physical and Life Sciences Division.

Your college has allocated someone as your college advisor: this person should be your primary source of advice about collegiate matters. Your college advisor may be a computer scientist, a mathematician or an engineer and should meet you each term to hear about your progress. Information gained from a personal contact is far better than any handout from an impersonal and central organisation, and it is to your college that you should, in the first instance, direct your queries and difficulties of a non-technical nature.

Most Tutorial Fellows of the colleges are also employed by the University as lecturers. Consequently our relationship with the colleges is a very close one and you may meet your college advisor giving lectures and organising practical classes as part of his or her University duties.

2.2 Terminology

Matriculation. Matriculation is the formal University admission procedure and is organised by your college.

University Terms. The three University 'full' terms, called *Michaelmas* (October–December), *Hilary* (January–March) and *Trinity* (April–June) last eight weeks each. But terms simply set the periods during which formal instruction is given by way of lectures, seminars and tutorials. The University

functions throughout the year and as a research student you will need to work in vacation as well as in term time (apart from reasonable breaks).

Subfusc. The University Examination Regulations state that all members of the University are required to wear academic dress with *subfusc* clothing when attending formal university events such as matriculation and university examinations. It consists of:

- For women* A dark skirt or trousers, a white blouse, black tie, black stockings and shoes, and, if desired, a dark coat
- For men* A dark suit and socks, black shoes, a white bow tie and plain white shirt and collar

Candidates serving in HM Forces are permitted to wear uniform together with a gown. (The uniform cap is worn in the street and carried when indoors.)

3 Supervision

When you arrive in Oxford you should already know the name of the supervisor provisionally allocated to you (on the basis of interest and previous experience). It is up to you to make contact soon after you arrive.

As your first year progresses, if both you and your supervisor are content with it, the arrangement will become permanent; otherwise it will be changed. It will also be changed if it becomes clear that your interests are converging on a research topic which can be supervised more appropriately by another member of staff. In some cases joint supervision is arranged.

The close working relationship with your supervisor is likely to be the most important element during your research life in the department, and much of the first year will be spent on arriving at a good working relationship. The nature of this relationship will depend to a large extent on individual work patterns, but some useful guidelines can be found in the EPSRC booklet *Guide to Good Supervisory Practice*. In spite of the range of styles of interaction between supervisor and research student, it is important that you meet on a regular basis.

You have also have been allocated an *advisor*: a member of staff of the Computing Laboratory with whom you may talk, as an alternative to your supervisor, about research or problems unrelated to work. Your advisor will probably be involved in monitoring your progress and may stand in if your supervisor is absent (for instance on sabbatical leave). Thus you should keep your advisor informed of your interests and progress. Nearly everyone finds that the process of explaining their work clarifies it, and your explanation will benefit by your having to assume less background knowledge when explaining to your advisor.

If you find any aspect of your supervision unsatisfactory and you feel unable to discuss it with your supervisor, you should contact your advisor, the Director of Graduate Studies or the Head of Department.

The three university 'full' terms, Michaelmas, Hilary and Trinity, last eight weeks each. But terms simply set the periods during which formal instruction is given by way of lectures, seminars and tutorials. The university functions throughout the year: you will need to work in vacation as well as in term time (apart from reasonable breaks), when you are expected to remain in close contact with your supervisor.

You should try to meet with your supervisor *at least* 4 times per term. A more typical pattern is *weekly*, at least until you reach the stage of writing up your dissertation.

The following is an extract from the Graduate Studies Prospectus:

An academic supervisor is appointed for all graduate students, whether they are taking a taught course or diploma or studying for a research degree. The supervisor is there to guide

and advise throughout the course of the student's work. But it is an important part of the transition from undergraduate to postgraduate study that a student must learn to work independently as well as acquiring the professional skills and standards which a research degree demands. For students studying for higher degrees by course-work, seminars and classes are provided as well as individual supervision. The supervisor's role here is to assist with research training and to ensure that all parts of the course are properly covered. Although many graduate students work in research groups, and all graduates have opportunities to share in classes and seminars, the Oxford tradition of study often puts particular emphasis on individual endeavour and self-motivation. At graduate level, students are expected to take the initiative in exploring a line of research, acquiring a necessary skill, or remedying an area of weakness.

In all the University's graduate courses, students will often find the degree of detailed teaching less than that they have experienced in undertaking undergraduate or graduate courses elsewhere; and should be prepared, with the help of their supervisor, to construct a programme which enables them to gain maximum benefit from the intellectual resources available.

The supervisor is particularly important for students pursuing degrees by research (M.Sc., M.Litt., D.Phil.). These research students also take part in seminars and attend lectures as well as courses for specific research tools such as computer or statistical techniques, but for the main, independent work on their research topic the supervisor is expected to meet regularly with them and to be accessible at other times if particular problems or difficulties present themselves. The supervisor will give advice about the nature of research and the standards expected, about planning of research programmes (to ensure the student works within a proper framework) and about sources and techniques.

In the experimental sciences research students form part of a research team under their supervisor and members of that team will provide a valuable additional source of information and advice to supplement the formal support of the supervisor with whom the student can expect to be in regular contact through shared work in the laboratory.

The research student in the Arts, Social Sciences, and Theoretical Sciences may have fewer opportunities to meet his or her supervisor on an informal basis and will need to make (and keep) formal appointments to discuss progress. There is a particular need for supervision at the beginning of the course when the research topic and its treatment is being defined, and at the various stages when the student wishes to transfer from one formal status to another, for example, from probationary status to MLitt, MSc or D.Phil. status. These transfers are not automatic and a supervisor will need evidence of progress to support the case. The student may often need particularly close contact also with the supervisor when the thesis is in the final stages of preparation for submission.

It is important to recognise that Oxford has its own pattern of work for research degrees, and especially the doctorate. Award of these degrees is based only on the thesis submitted and oral examination on the thesis; no assessment of other work contributes to the award of the degree, and it is possibly more common than elsewhere for theses to be referred back for revision and resubmission.

More detailed guidelines for supervisor and student can be found in [Appendix K](#).

4 First Year

4.1 Computer Science Students

In order to ensure that you have a reasonably broad working knowledge of computer science, and reasonable depth surrounding your research topic, you are expected to attend courses and be assessed on their content. You will need to attain a satisfactory performance in these courses in order to proceed to D.Phil. status.

In consultation with your supervisor you should choose about four M.Sc. or advanced undergraduate courses during your first year. A specially designed reading course may provide an alternative to a lecture course. If your supervisor deems you to have adequate background already, you may take fewer courses. In the extreme case (for example if you have an M.Sc. already and your supervisor's support) you may apply for complete exemption from course-work.

One of the courses you may choose is called *Computers in Society*. It concerns ethical (as well as legal, managerial and social) issues not broached elsewhere in our courses and is of important and enduring relevance to IT professionals. It can, like any of the courses chosen by Probationer Research Students, be taken as either a lecture course or as a reading course. It is recommended that at least you take it as the latter and submit the end-of-lecture course assessment essays to indicate your proficiency in the topic. In some cases your supervisor may recommend this particular subject be followed in the second year, rather than as one of your first-year subjects.

Choice of courses should be made in consultation with your supervisor very soon after your arrival. By Friday of week 1 of your first term you must complete a form (headed 'PRS Course Selection') indicating which courses you wish to attend, with reasons to support any exemptions. The form is to be signed by your supervisor and submitted to the Secretary for Graduate Studies for approval by the Director of Graduate Studies.

You must register for each M.Sc. course chosen and you must seek permission from the lecturer to attend each undergraduate course chosen, because of space restrictions.

Changes to your course-work selection, as the year progresses and your interests focus, are dealt with by resubmitting the 'Course Selection' form (and seeking permission to attend the new courses).

The method of assessment for each course is to be decided in discussion with your supervisor; the default is that you complete the same work, for the same deadlines, as other course participants. A reading course may be assessed by essay, problem sheets, or examination. If you have difficulty in understanding a lecture, please discuss it with either your supervisor, the lecturer, or the demonstrator for the course, who will make an explanation suited to your needs. If you find the lectures unsatisfactory in any other way, please tell the lecturer or the demonstrator. They are naturally keen to make every improvement.

4.2 Numerical Analysis Group Students

As a PRS or D.Phil. student in the Numerical Analysis Group, you are expected to participate regularly in group seminars. Most terms, there are two regular activities scheduled: the internal group seminar in the Fox Room on *Tuesdays* at 2–3 and the more formal **Computational Mathematics and Applications** seminar in the Lecture Theatre on *Thursdays* at 2–3 (preceded by a group lunch in Balliol College). The nature of the internal seminar changes from term to term.

In addition, a very important part of your D.Phil. career is to acquire a strong foundation in numerical analysis/scientific computing, not just in your particular area of specialised research. The list available on the web at

<http://www.comlab.ox.ac.uk/oucl/courses/dphil/y1crswk-nag.html>

gives an outline of many of the principal topics of this field, with an indication of courses available at Oxford in many of the topics in question. A reading list is also available on the web at

and PRS students should study it closely.

D.Phil. students should aim to become knowledgeable in most of these areas. Specifically, the following is expected of first year (PRS) students during 2005–2006:

- attend the internal group seminar on Tuesdays 2–3 in the Fox room and give a presentation,
- attend the Computational Mathematics and Applications seminar each Thursday 2-3 in the Lecture Theatre,
- in Michaelmas Term, participate in the PRS Problem Solving Squad organized by Professor Trefethen, and
- complete three additional courses.

Let us clarify the last of these bullet points. You are expected to take at least three of the courses listed on the web page cited above, completing and getting marked all the usual classwork or other assignments associated with them (but not written exams). For some courses there may be no assigned work, in which case another method of assessment will be devised. You will be given a checklist to indicate what your three choices are and how they will be assessed, to be signed by your supervisor and by Professor Trefethen.

Some PRS students will have already done many of the courses above by completing an MSc at Oxford. If for this reason there are not three courses suitable for you to take this year, then you should design a special reading project with a supervisor of your choice among the NA Group academics.

Three courses is a minimum! Students are encouraged to do more than this, and to continue attending courses in their later years of D.Phil. research to ensure that they have a strong background in numerical analysis.

By the end of the year, as discussed elsewhere, you should complete your Transfer Dissertation.

4.3 The Lecture List

The Division of Mathematical and Physical Sciences publishes a lecture list for Mathematical Sciences just before the beginning of each term, as do all other Divisions of the University. Copies of the Mathematics list are usually available from the Receptionist in the Computing Laboratory or the Mathematical Institute. A single bound copy of the lecture lists of all the Divisions is kept in the Laboratory Common Room. Lecture timetables for the courses given in the Laboratory are also published on the pigeon-hole-room notice board. Depending on your interests it may also be useful to attend other courses—for example those of Engineering, Psychology, Physiology, or Philosophy. All members of the University may attend any publicly announced University lectures or seminars.

5 Research

Some students arrive in Oxford knowing precisely what their research topic will be; others have little more idea than of its general area. Someone once described research as ‘Finding out something to find out, then finding it out’; the first part is often harder than the second. Consequently some students focus rapidly on their thesis work whilst others spend much of the first year before beginning to do so. However it is important for all research students—even those who know precisely what their field of research is going to be—to acquaint themselves with as much as possible of the work going on in the Laboratory. It is vital for life-after-graduation that you be able to relate different areas and views. There are many points in common between research fields and many useful ideas can be borrowed from fields

other than your own. The Laboratory's seminar series and advanced courses are held partly for this purpose.

Research is not easy! Sometimes long periods can pass without any progress seeming to take place; at other times everything seems to happen at once. You should not get too down hearted if the going appears to be hard at times—most of the lecturers and research staff have had a similar experience so there is always someone sympathetic to talk to. If for some reason you are finding discussion difficult with your supervisor or advisor you may find it useful to have a discussion with the Director of Graduate Studies.

The EPSRC booklet *Guide to Good Supervisory Practice* is included in your information pack and is also in the Laboratory Library and should be consulted to give you information about what to expect from your supervisor and what milestones you have to pass.

6 Transfer to D.Phil. Status

All D.Phil. students are initially registered as *Probationer Research Students*. Within a year you are expected to apply for transfer to advanced status by preparing a qualifying dissertation and by being examined on it by two assessors. One of the assessors is likely to be your departmental advisor; the other will be chosen based on suggestions from you and your supervisor. Your supervisor, however, is forbidden by University policy from being one of the assessors.

If the assessors so recommend then you may be registered as an *advanced student*, i.e. a student for the degree of D.Phil. Alternatively they may recommend that you be allowed to apply for transfer to the status of a student for the degree of M.Sc. by Research. Finally, they may refuse to grant your application, in which case you are given one opportunity to apply again.

It is important to ensure that you plan and carry out your work in the first year so that you will be ready to apply for transfer by the end of the year. Although the University regulations allow you to be a Probationer Research Student for up to six terms, it is department and division policy that all Probationer Research Students are expected to transfer status by the end of one year.

For details of the formal rules governing transfer, see *Examination Decrees and Regulations*, VI.VIII.B, *Regulations of Divisions (Mathematical and Physical Sciences)*.

6.1 Application for Transfer

When you are ready to submit a qualifying dissertation, you should acquire the appropriate forms (MAT.1 and GSO.2) from the Secretary for Graduate Studies, room 112. These forms must be signed by both your supervisor and your College Secretary. Once the forms are complete, you should return them to the Secretary for Graduate Studies.

There are two methods of applying for transfer from Probationer Research Student to advanced student status. These are known as 'Category A' and 'Category B'. Category B applications are rather rare.

- A: If you have come straight from an undergraduate degree, you should prepare for the qualifying examination during the first year of your research. This will involve both preparing a qualifying dissertation and attending a course of advanced instruction planned in collaboration with your supervisor and advisor (as explained above). Such applications must be submitted no later than the Wednesday of your first week of the fourth term as a Probationer Research Student. You can also apply *before* the start of your fourth term, if you are ready earlier.

Warning: Most funding bodies, including the Engineering and Physical Sciences Research Council, will discontinue a student's grant if the University does not provide a certificate of good progress each year. The provision of such a certificate by the University is contingent on success in the qualifying examination. *The Research Council's deadline for such certificates is*

very soon after the University's deadline for Category 'A' transfer applications. Since it is almost impossible to arrange qualifying examinations at short notice, such students are advised to submit their qualifying dissertations as early as possible in the summer vacation after their third term.

B: If you already hold an M.Sc. degree either from Oxford or elsewhere, you may make a 'Category B' application. In this case, the dissertation prepared for your M.Sc. examination may, with appropriate amendments, be used as your qualifying dissertation. Such applications should be submitted no later than the Wednesday of the fifth week of your first term as a Probationer Research Student.

If you are such a student and do not feel ready to transfer to D.Phil. status so early in your research you may submit a 'Category A' application instead. In this case you may either do further work on your M.Sc. dissertation or prepare a new qualifying dissertation. Such applications should be submitted no later than the Wednesday of the fifth week of your third term as a Probationer Research Student.

The following table summarises the categories, qualifications, deadlines, and dissertation requirements for transfer of status applications.

Category	Holds M.Sc.	Deadline		New Qualifying Dissertation
		Week	Term	
A	No	1st	4th	Yes
A	Yes	5th	3rd	Yes
B	Yes	5th	1st	No

Department policy is that students who fail to apply for a qualifying examination before their fifth term will not be eligible for transfer to D.Phil. status. They are expected, instead, to transfer to the status of a student for the degree of M.Sc. by Research.

The status of students who fail to transfer status before the end of their sixth term as a Probationer Research Student will lapse.

6.1.1 Qualifying Dissertation

Your qualifying dissertation should describe the motivation for and significance of the research that has been done so far, the theoretical background to the research, and the results obtained. It should also contain the conclusions drawn from the work.

It is expected that the qualifying dissertation will also include (or be accompanied by) a clear statement of the topic you have chosen for your D.Phil. research, together with details of how you propose to approach it. This statement is required for both Category A and Category B applications. Your research topic should be well-defined and specific. It should admit of novel treatment; and it must be significant enough to be worthy of a D.Phil. if competently investigated. Your proposals for how you are going to approach the topic should be concrete, clearly explained, and of justifiable promise.

Your qualifying dissertation may well be the first formal document you produce under guidance of your supervisor. It is important to realise that it will be assessed for style as well as technical content. Ability to write your ideas clearly and convincingly is an essential part of your training. For an excellent treatment of how to write such a report, including L^AT_EX tips, see N. J. Higham, *Handbook of Writing for the Mathematical Sciences* (2nd Edition), Siam, which can be found in the library.

No degree is awarded on the basis of the qualifying dissertation, so work described in it can (and normally will) form part of the final D.Phil. dissertation. If, however, you have made a Category B application and used your M.Sc. dissertation to qualify, this cannot be used as part of your final D.Phil. dissertation.

6.1.2 Qualifying Examination

The qualifying examination is informal (the regulations call it an ‘interview’) and so academic dress is not necessary.

Usually there are just two assessors, chosen as described above. The assessors must certify that they have considered both your course-work and your dissertation and, overall, are satisfied that they demonstrate you are capable of completing a D.Phil. in the time remaining (usually two further years). In making that decision they must be satisfied that the topic and approach proposed are suitable for study in the Laboratory, and that you have a good knowledge and understanding of the background needed, a clear and appropriate plan of work, and can describe your results clearly.

The assessors are likely to concentrate on the contents of the dissertation, and will want to be sure that you can explain what has been achieved and respond to questions based either on the theory or results of your work. But they will also have a record of your course-work performance and any essays you have written, and you may expect the assessors to ask questions about your first year’s work generally. In this process they will be guided by the course-work you have studied. They will also want to be satisfied that you can explain and justify the proposal for subsequent research. Although there is no *formal* commitment to carry out the proposed plan in detail, and you are free to exploit discoveries made later and to change direction, it is expected that by this stage you at least have a definite starting point. In summary, the assessors must be sure that you have a specific, unsolved, and worthy problem to work on, that you have some definite ideas for approaches to solving the problem, and that you have good chance of completing a D.Phil. in your remaining time (usually a further two years).

7 Second and Third Year

7.1 Graduate Activities

D.Phil. students are expected to demonstrate a range of communication skills by the time they graduate. Different departments go about developing such skills in different ways. In the Computing Laboratory such training is achieved by the following:

- Seminars - run weekly by the various groups within the Laboratory.
- Presentation Skills Seminar - this will cover the art of making verbal scientific presentations. All students are expected to attend, as this will provide you with an introduction to an essential research skill.
- Self Assessment - twice a year students are asked to complete a self-assessment form. This report helps to make you aware of, and evaluate, your progress. It will assist your management of information and may well provide your first record of project management. Such skills will ultimately benefit your career, so it is wise to acquire them early. The form is read by your supervisor, your college tutor and the Director of Graduate Studies.

7.2 Computer Science Students

- Cakes talks - which you are expected to attend every week in term and in which you are expected, once a year, to give a seminar on your work.
- Student Conference - usually held in Michaelmas Term. All second-year students are expected to submit a two-page abstract, and all newly arrived PRS students are required to attend. A programmes of abstracts and posters is selected for presentation and a prize given to the best presentation.

- Demonstrating and tuition - on the undergraduate and M.Sc. courses run by the Department. After discussion with your supervisor you should express your interest to Christine O'Connor, who will include your name and teaching preferences on a register. Your supervisor must give permission for you to undertake the amount of teaching work you propose to do.
- Class teaching seminar - Graduate Students are expected to attend the half-day training session run by the Laboratory in October. This was developed in collaboration with The Institute for the Advancement of University Learning and is devoted to teaching methods in computer science. It has been found useful in particular by those wishing to assist with the department's demonstrating and tuition.

7.3 Numerical Analysis Group

Numerical analysis PRS and D.Phil. students are expected to participate in at least the first two, and hopefully all three, of the following events held weekly each term:

- internal seminar Tuesday 2–3 in the Fox Room (usually Weeks 1–8)
- Computational Mathematics and Applications seminar Thursday 2–3 in the Lecture Theatre (usually Weeks 0–9)
- Group lunch in Balliol College, leaving from Room 206 at 12.45 on Thursday (usually Weeks 0–9)

In addition we hope that most D.Phil. students, each year, will

- attend one or two conferences, and if possible give a talk. (An event worthy of special note is the Dundee Conference on Numerical Analysis held at the end of June in each odd-numbered year.)
- submit an article for publication in a journal or conference proceedings.

8 Conference Funding

Presentation of papers and attendance at scientific conferences and workshops is an important—perhaps even essential—activity for the practising scientist. It enables you to communicate your results to the community, to keep up to date with the work being done by other researchers in the field and share ideas with them, and to get feedback on your research.

The Computing Laboratory is sometimes able to assist with funding to attend scientific conferences or workshops. Priority is given to students who are attending a conference in order to present a peer-refereed paper. Students who have other sources of travel funding, notably students supported by research project funds, are encouraged to seek support from those sources before applying to the Laboratory.

You can apply for funding by completing a form obtainable from the Secretary for Graduate Studies, room 112, or from the Numerical Analysis Group Secretary, room 209. You must get your supervisor's written support and you must apply *well in advance* of the conference you want funding for. Requests from research students in computer science will be considered by the Director of Graduate Study; requests from research students in Numerical Analysis will be considered by the head of the Numerical Analysis group.

If your request is approved, the Computing Laboratory will normally pay up to half of actual substantial costs (e.g. for international conferences) and all of actual small costs (e.g. less than £100 for local or short events).

Colleges are often able to make a contribution to the cost of presenting papers at conferences, so it is worth checking with your College.

9 Confirmation of D.Phil. Status

The University Regulations require that doctoral students have their status *confirmed* being permitted to submit a dissertation for examination. The Laboratory and the University take very seriously their duty to monitor the progress of research students, and confirmation of status is one way in which we do this. *Moreover, most funding bodies—including the Science and Engineering Research Council—will discontinue a student’s grant if the University cannot certify that progress has been acceptable each year.*

Confirmation of status is conditional on the preparation of a satisfactory research progress report and involvement in graduate activities such as attendance at seminars, giving cakes talks, and presenting papers at the student conference. Evaluation of applications for confirmation of status takes the form of an oral examination with two assessors, based on your written progress report.

The progress report does not have to be long. Its most important ingredients are a table of contents of your proposed D.Phil. dissertation, a clear plan for any research investigations that remain to be done, and a timetable for completing the writing. Its purpose is to ensure that, after having achieved the main body of results in your second year, you have a clear idea of how they constitute a D.Phil. dissertation (as distinct from conference or journal articles). The assessors will be looking for evidence that you are able to complete a dissertation of P.Dhil. standard with a modest amount of further work—no more than three more terms.

The Mathematical and Physical Sciences Division expects confirmation of status to have been completed by the end of your ninth term from admission as a Probationer Research Student. The Laboratory therefore recommends that you apply for confirmation no later than beginning of your ninth term. In order to allow enough time for your application to be assessed, your application, accompanied by a progress report, should reach the Graduate Studies Office by the end of 0th week of your ninth term.

To apply for confirmation of status you need to complete Form GSO.14 and Form MAT.3. These are available from the Secretary for Graduate Studies, room 112 or from Graduate Studies in the University Offices. Once the forms are complete, you should return them to the Secretary for Graduate Studies.

10 Submission and Examination

If you wish to change the title of your thesis (at any stage before appointment of examiners) you must complete the form ‘Application to Change Thesis Title’. This is obtainable from the Secretary for Graduate Studies, room 112. Once the form is complete, you should return it to the Secretary for Graduate Studies.

When you and your supervisor are agreed that your thesis is within one term (and the vacation which follows) of completion, you should obtain form GSO.3 from the Graduate Studies Office and arrange for its completion. The form has sections which should be completed by your supervisor, and by your College. Your supervisor must suggest the names of examiners on this form, after consulting you: one internal (to the Computing Laboratory) and one external—plus a reserve for each.

When the form has been handed in to the Secretary for Graduate Studies, room 112, two examiners will be formally appointed on the recommendation of the supervisor. Two copies of the thesis should be submitted no more than a term (and the vacation which follows) after this has happened. Once the thesis has been submitted, the examiners will arrange a date for the *viva voce* (i.e. oral) examination. This is formal, so you must wear *subfusc*. After the examination the examiners will submit their report and recommendation to the Mathematical and Physical Sciences Divisional Board. In many cases this decision is delegated to appropriate office holders under the aegis of the Board. It is because they can do no more than make a recommendation to the Board that the examiners are unable to comment to you on the outcome of the *viva*.

No matter how much attention your supervisor or advisor has given to the technical details of the work, the final responsibility for the thesis rests with its author. It would be unwise of a student to

expect the supervisor to *proof-read* a thesis; this is a task which can more properly be performed by friends.

For more detailed information on the regulations (in particular, for information on standards of typesetting and binding) consult the *Notes for the Guidance of Graduate Students in Mathematical Sciences*, issued by the Mathematical and Physical Sciences Division, and the *University of Oxford Examination Decrees and Regulations*.

11 Teaching

All research students are permitted to teach for up to six hours a week during the course of their degree. This teaching may include demonstrating in one of the department's software laboratories, usually arranged by one of the Departmental Lecturers, or giving College tutorials, usually arranged through one of the tutors. In both cases you should ensure that you get your supervisor's permission in advance.

Many of you will have no previous teaching experience, but to give you some insight into what teaching at Oxford involves, a half-day training session on teaching methods is held at the beginning of each academic year. This is run by the Laboratory and was developed in collaboration with The Institute for the Advancement of University Learning. It is expected that all new D.Phil. students will attend this course.

12 Cakes Seminars - Computer Science Students

12.1 What are Cakes Seminars?

Cakes seminars are an informal seminar series for members of the Laboratory working in Computer Science. They take place at 3.00pm on Thursday afternoons in the Laboratory. Their purpose is to encourage discussion among members of different research groups, and to give an opportunity to research students to sharpen their presentation skills. As the name suggests, cakes are provided: this adds to the friendly informal atmosphere at these meetings.

What makes cakes seminars unique is that they provide an opportunity to cross boundaries between research groups. As a research student, you will have a small number of people with whom you interact on a daily basis. It is likely that in this small group you share the same beliefs and motivations for working on your particular subject. At cakes seminars, students present their work to a general audience, placing their own topic in the general context of computing science. This is often a refreshing experience, and in the past it has led to exciting interactions between seemingly disparate research fields.

12.2 Attending Cakes Seminars

Computer Science students are expected to attend all cakes seminars. This will widen your view of computing, and (at the negligible cost of half an hour a week) you can keep up with all that's new and exciting in the Laboratory. Who could resist such an opportunity, with the added incentive of a sticky cake?

Feel free to ask questions of the speaker if you don't follow her or his presentation: discussion is what these meetings are all about. Don't interrupt, however, if your question is of a general nature, and could wait until the end. If you are the speaker, yourself, it is perfectly all right to defer an answer until later if you feel that the flow of your presentation would be unduly interrupted by answering immediately.

12.3 Giving Cakes Seminars

Each Computer Science D.Phil. student is expected to present one cakes seminar each year although the first such presentation will usually be scheduled for sometime in the second year. Once the date of your talk is arranged, (the current organiser is Joe Hurd), it is a good idea to discuss the topic and contents with your supervisor at an early stage. He will also give you guidance on technical matters such as what to put on slides (if you wish to use them) and what is reasonable to assume as background knowledge.

The most important thing to keep in mind is that cakes seminars are meant to communicate your work to a general audience. A cakes talk should therefore start by setting the scene, posing the questions you attempt to answer, and explaining why these questions are relevant. It is much more important that you give an intuitive feel for the field you're working in rather than show the technical details of a solution. It follows from this that you don't need to have some shattering new result before you can give a cakes seminar. What you do need is a good understanding of where you are on the map of computing science, and why you're there.

Any talk, especially a short one, needs a lot of preparation. Unless you already have given dozens of seminars, you won't be able to tell whether your seminar fits the time limit simply by writing out some keypoints you intend to mention. The only solution is to practice for yourself, perhaps for an audience that consists of a friend and your supervisor. That will also help you to think of the right formulations for your thoughts.

Finally, it makes sense to study the text of some 'model lectures' to learn the fine tricks of the trade that make a truly captivating presentation. Two examples you may find useful are [1,2]. More good advice can be found in [3]. Good luck!

12.4 References

- 1 R.C. Backhouse. Making formality work for us. EATCS Bulletin, 38:219-249, 1989.
- 2 D.E. Knuth. Theory and practice. Theoretical Computer Science, 90:1-15, 1991.
- 3 S.L. Peyton-Jones, J. Hughes and J. Launchbury. How to give a good research talk. Available on John Hughes's home page at Chalmers, www.cs.chalmers.se.

13 Student Conference - Computer Science Students

The Computer Science Student Conference is usually held early in Michaelmas Term. It has been designed to be attended by all D.Phil. students, faculty and other interested students. It contains chaired sessions of talks, posters, a buffet lunch, and a reception with prize giving. The Conference is usually run by an organizing committee of DPhil students.

All D.Phil. and PRS students entering their second year are expected to submit an abstract of not more than 2 pages. D.Phil. students in later years are strongly encouraged to submit abstracts as well, and all newly-arrived PRS students should attend the conference. It is expected that students will submit an abstract of the work they have recently been doing. They may have given a cakes talk on the work (all to the good) or perhaps are summarising new results which have not yet been presented (even better). Students completing their first years may find themselves submitting an abstract arising from their transfer dissertation. In all cases students will gain from the experience.

The Organizing Committee will choose, from those abstracts, a programme of talks and posters. Chosen talkers will be notified in advance the conference, to give them time to prepare.

Lectures will be given in the OUCL Lecture Theatre. Tea, coffee and a sandwich lunch will be provided in the social area for attendees. The conference will end with a drinks reception, also in the social area, during which the prizes will be announced. Prizes will be awarded for the best presentation, best demonstration and best abstract.

Conference proceedings, containing all the abstracts, will be appear on a web site and will also be handed out to attendees.

14 University Skills Portal

The Skills Portal,

www.skillsportal.ox.ac.uk,

is a website for all research students, postdoctoral researchers and their supervisors at Oxford. It brings together a range of information about transferable skills development and has details of skills training courses, seminars and workshops offered throughout the University in a searchable database. There are links to online resources and tips on subjects such as project management and teaching skills. It also gives advice on getting the most from your time at Oxford and putting yourself in the best possible position to succeed in your career, whatever it might be. The Skills Portal Forum is the place to ask questions, discuss issues with other researchers and make your views known to the people who organise the training

15 Careers

We are approached by many companies who are interested in employing our students. The University has a Careers Service in Banbury Road which can offer you lots of help and advice and which provides information on jobs advertised. Additional information on jobs being advertised can be found at:

www.comlab.ox.ac.uk/internal/opportunities/recruitment.html

Please check this site regularly as information is constantly updated. Lots of information can also be found on the Notice Boards in the basement social area and in the common room.

16 Computing Laboratory - General Information

The following information about the building and access will be updated later this year when the new building is complete.

The Computing Laboratory is housed in a building specifically designed, constructed and equipped for it, largely funded through the generosity of the Wolfson Foundation and the Wolfson Family Trust. The Laboratory's postal address is:

Oxford University Computing Laboratory
Wolfson Building
Parks Road
Oxford, OX1 3QD
England

This building stands at the south-eastern angle of what is known as the Keble Road Triangle consisting of Keble Road, Banbury Road and Parks Road. The Lecture Theatre is on the lower ground floor and can be reached from the entrance to the left of the main Parks Road entrance (down the stone staircase), as can the seminar room 051 and the social area.

Rooms have a telephone which can receive calls directly from outside as well as internally. The number to give people is '01865 2****', where the *s represent the extension number.

Please do not give people the general enquiries number or the secretary's number.

16.1 Room Numbering

The number system for rooms is made up of a three digit number which designates the floor level in the building as well as the actual room number. Hence room numbers beginning with 0 are in the basement, room numbers beginning 1 are on the ground floor, room numbers beginning 2 are on the first floor, and so on up to room numbers beginning 5 which are in the attic.

Room numbers beginning with T are in the Thom Building which is the large glass sided tower block between Banbury Road and Parks Road. Entry is on level 1 from the walkway.

Please take note of any warning signs and ensure you know where the emergency escape routes are located.

Please note that various doors both in the Wolfson building and the Thom building have signs warning that the door is alarmed. These doors are only to be used in an emergency and not for any other reason.

16.2 Opening Hours

The Wolfson Building opens at 8:30 and the doors are locked at 17:15, Monday to Friday, excepting closed periods (i.e. Bank Holidays out of term time).

The Thom Building opens at 8:15. The doors are locked at 19:00 in term time and at 17:30 during vacations.

Detailed rules governing access to the Computing Laboratory are as follows:

16.3 Access to The Computing Laboratory

An entry-card system controls access to the Wolfson Building outside normal opening hours. You will also need a card to be able to access your pigeon hole.

This applies to the main Parks Road entrance and the 11 Keble Road entrance of the Wolfson Building. The front doors of No.8 and No.7 Keble Road and the rear door of No.7 Keble Road have been alarmed and should only be used in an emergency.

The cards also control access within the building from the basement teaching area and from the north staircase.

University cards, if you already have one, will be activated as the Laboratory's entry card, when you have signed the enclosed declaration (yellow sheet included in your information pack). Your university card will also be activated to enable you to access Level 6 of the Thom Building during normal office hours.

To activate your entry card you will need to take your University Card, to Wendy Adams (112). You will need to select a four digit pin number. Entry cards will only be issued to students who have completed the short first-aid course arranged in week 0 of Michaelmas Term.

16.3.1 Rules

The rules for using this system are:

1. A card and individual PIN will be issued to all staff and graduate students who require access to the Wolfson Building. In the case of graduate students, a University Card is required. Please complete the yellow form in your induction pack.
2. The PIN must be kept secret and under no circumstances should be written on the card or in the wallet where the card is kept. (Should an entry card be lost, access cannot be effected without knowledge of the PIN. The card can be also be barred when it is reported lost).
3. No deposit will be charged on the first card issued to each person. If a card is lost, then a new card will be issued for a non-refundable fee of £5.00.

4. Each card will be set to operate for the period of the student's stay in Oxford.
5. Cards will be issued on a personal basis and must not be loaned or passed on to another person.
6. No-one should allow access to another person unless they are prepared to 'escort' them throughout their stay in the building.
7. When a card is used to gain access to the building, the system keeps a record of that use for a period of approximately one month. This facility may be used to find out who was in the building at the time of an incident. The data will not be inspected or analysed other than in the event of an incident.
8. Cards must be returned when the user leaves the Computing Laboratory employment or on completion of the course of study.

16.4 Keys

Keys are required for DPhil Offices. These are issued by the Administrator's Secretary, Sue Baker (106).

A deposit of £10.00 per key is required. This is refunded in full when the key is returned. Keys for other departments are usually obtained from that department and with a similar deposit being required.

If you lose a key or entry card you should report it immediately to the Administrator, Sue Baker, or Jo Leggett who will advise on any further action and arrange for a replacement to be issued. There is usually a charge for a replacement.

16.5 Social Area

Although much of the social and domestic life of the University takes place in colleges, there is a social area on the lower ground floor of the Wolfson Building, and there are vending machines in the cloakroom opposite the Lecture Theatre (043) There are also vending machines on Level 1 of the Thom Building. The Common Room is located on the ground floor.

It is forbidden to take food or drinks into lecture rooms, seminar rooms or computer rooms.

17 Computers

The Laboratory supplies all PRS and DPhil students with IT provision in the form of a computer workstation or PC for their own use in their office. This is connected to the Laboratory's network and backed-up user directory file servers. This equipment is supplied in order to give you a basic provision in information technology for the purposes of preparation of reports, papers, and your DPhil dissertation. It is also intended to provide you with what might be called the basic 'IT tools' for research: word processing, email, connection to the World Wide Web, internet connectivity, and backed up filestore services.

For many students, their Laboratory-supplied workstation will also be sufficient to serve as their computing equipment for what might be called 'experimental use'—e.g. writing and testing computer programs, or running research software tools. Some students, however, will need access to more substantial computational resources or special software. There are several options. If you are working in a research group or are connected to a funded research project, then the group or project is likely to have experimental equipment that you can use. Consult your supervisor about this. There are also two dual-processor servers available for Computer Science research student use. They can be accessed by connecting using SSH to `jet@comlab.ox.ac.uk`. Students in the Numerical Analysis group also have access to two servers, which can be found by SSH at `henrici@comlab.ox.ac.uk`.

The Computing Laboratory's teaching network (used by undergraduates and MSc course students) comprises 76 Sun Blade 100 workstations. These machines all run the Solaris operating system, and all research students will have an account on these.

Students requiring fast parallel computation may be able to access the machine clusters at the Oxford Supercomputing Centre. See the Oxford Supercomputing Centre's website, www.osc.ox.ac.uk, for details of the resources available, contact information, and the process for gaining access.

Finally, if a student's research needs to use exotic or specialised equipment, expensive commercial software, stand-alone machines with root access for systems programming, or any other special provision, then this should have been discussed and agreed with their supervisor before undertaking doctoral work with these requirements. Special equipment like this must be funded through external research grants obtained by the supervisor or research group. The Laboratory is not routinely able to fund the unforeseen acquisition of specialised experimental equipment for individual student projects.

For more details of the Laboratory's computers and networks, see the web pages at

www.comlab.ox.ac.uk/internal/comp-net/

All computing equipment provision in the Laboratory is overseen by the Laboratory's Equipment Committee. See the Lab's internal web pages for details of the membership of this committee:

www.comlab.ox.ac.uk/internal/admin/committees.html

The graduate student representatives (see section 25) attend the Equipment Committee.

All students need to complete an application form to use Computing Laboratory computing facilities. A form is enclosed with your information pack (*see also Appendix D*).

Oxford University Computing Services (OUCS) runs introductory courses throughout the year. These courses will be helpful for those of you who have had less opportunity of hands-on experience with computers. They will also help you to explore facilities available at Oxford University which, although possibly not required for your research, may be of interest to you. OUCS is based at 13 Banbury Road—opposite the Department of Engineering Science. There you will find information on its courses and a shop.

17.1 Using your own Computer

You should not find it essential to have your own personal computer. On the other hand, the Laboratory does not normally supply computers for use at home or in your college, and you may find it convenient to have your own.

The Laboratory's computing facilities can be used remotely from personal computers attached to the University network or elsewhere on the internet, provided they have X server software and an SSH client. For Windows, the Exceed X server software is available from OUCS for a nominal charge and the PuTTY SSH client is available as a free download.

Before any personal computers may be used in the Laboratory they must be tested for electrical safety and then checked for security patching and anti-virus software. Only after these checks have been passed will they be authorised for connection. Machines running illegal copies of the Windows operating system or other software will not be connected to the Laboratory network and should not be brought into the building. Similar rules probably apply to network connections in college rooms.

18 Laser Printing

No restriction on the use of laser printer output is made, but we do monitor individual totals. Please make only single copies of output and use the photocopiers to duplicate them if required. Multiple copies of documents cause delays for other users, so please do not abuse the privilege. We reserve the right to charge for excessive use.

19 Photocopying

Photocopiers are available for use by staff and students on all floors of the Wolfson Building.

The copier in the Library is only available to copy articles etc. from journals (subject to copyright laws) and must not be used for general copying. The other copiers can be used by anyone, but please seek instruction from Ian Watts (Room 106) and always report any faults or problems to Ian or Jo Leggett so that we can get the machines repaired. Private copying is monitored and maybe chargeable.

Copying in the Radcliffe Science Library or the Bodleian Library requires a special copy card. This can be obtained from Brian Morgan (room 240) and will require you to pay an initial fee of £5 (for which a receipt must be obtained) to put a 'credit' on the card during your first visit to the Radcliffe Science Library. Brian will refund this £5 on production of the receipt. When you leave the Laboratory you should return the card to Brian Morgan. If you lose your card, you will have to pay the cost of a replacement 'credit' so please look after it carefully.

20 Pigeon Holes

All students and staff are allocated a pigeon hole in room 157 (near Reception). All post will be put in your pigeon hole, together with any messages. **It is extremely important that you check them regularly.** Please note that the room can only be accessed with your entry card.

21 Safety

All students should read Appendix A carefully before the start of term. The Computing Laboratory is a very safe place but we need your full co-operation to keep it so.

22 Communications

We have two main ways of communicating with you:

(a) by email: Please read your email frequently as there may be an urgent/important message for you from one of us. This will go automatically to the address the Laboratory sets up for you. If you regularly use a different email address then you must ensure that your Comlab address is forwarded to it. Instructions on how to do this can be found at

www.comlab.ox.ac.uk/internal/comp-net/guides/email/forward.html

(b) by paper copy to your pigeon hole: You will be allocated a pigeon hole in the post room which is just inside the main door of reception. Again, please check your pigeon hole on a frequent basis as there may be important information waiting for you.

Messages for staff may be left with the receptionist of the Wolfson Building or in their pigeon hole (Room 157)

22.1 University Gazette and Oxford Blueprint

The Gazette is published weekly, in term time and is the official publication for University business, regulation changes, meetings etc. It is available in all the University and College Libraries and in the Common Room on the ground floor.

Oxford Blueprint, a newsletter for University and college staff and students, is published in 0th, 3rd, 6th and 9th weeks of term. It contains news, interviews and features reflecting the diversity of activity across the University, and an events diary will be included.

Any items for inclusion should be emailed to jleggett@comlab.ox.ac.uk.

22.2 General Information

Information about the Computing Laboratory, its staff and courses is also available on World-Wide Web from the Computing Laboratory's home page:

www.comlab.ox.ac.uk

Information about lectures, seminars, job vacancies, etc. will be placed on the relevant web pages and notice boards in the social area, in the common room and outside the Fox Room. Messages for students may be left on an adjacent noticeboard.

Announcements of seminars and talks are displayed on newsgroups. Do read the newsgroups:

- *ox.comlab.announce*
- *ox.comlab.misc*

You can read the newsgroups with the command 'trn'.

22.3 Publications

Each group publishes a series of either Research Reports or Technical Reports and a series of Monographs. These are distributed within the Laboratory and to the wider academic community, and provide a speedy way of publicising the work of the Laboratory. Publication in these series can lead (and has led) to fruitful contacts with fellow-researchers and organisations who may wish to apply the research.

Research students may be encouraged to publish results in the form of a Research Report before embodying them in their thesis or submitting them for journal publication. Feedback gained from members of the Laboratory can be very helpful indeed in guiding further work.

Guidelines for the typesetting of reports and monographs are available from the Librarian. Students wishing to publish their work in the form of a report should first show it to their supervisor, and obtain approval from the monograph editor.

22.4 Seminars

All Graduate Students are encouraged to attend the following series of seminars:

- The 'Cakes' Seminars are held on most Thursday afternoons at 15:00 in the common room, in term time.
- The Departmental Seminars are held in the Laboratory at 16:30 on most Tuesday afternoons in term time. They are frequently presented by distinguished speakers from outside the Laboratory, and they are well worth the time to attend.
- Numerical Analysis Tuesday and Friday 14:00 seminars—see Section 7.3.
- Computational Mathematics and Applications Seminars. These seminars are run jointly by the Numerical Analysis Group and the Rutherford Appleton Laboratory (RAL). The seminars will be held on Thursdays at 14:00 (except where noted), in the Laboratory.

In addition, there are many informal seminars and discussion groups in the Laboratory. Their meetings are usually publicised at relatively short notice on the notice-boards and electronic newsgroups and web pages. You should check www.comlab.ox.ac.uk/oucl/seminars/.

23 The Examination Schools

The Examination Schools are situated on High Street, to the east of University College.

24 Staff Members

The Head of Department is Professor Bill Roscoe. You will find a list of current academic members (and support staff you may come across) in Appendix B. To help you to identify us, photographs are displayed outside the common room on the ground floor and in the social area on the lower ground floor of the Wolfson Building.

Academic Staff offices are on levels 0, 1, 2, 3 and 4 of the Wolfson Building although they are sometimes away in their respective Colleges, and occasionally at conferences and study trips abroad.

25 Liaison with academic staff

There are graduate student representatives, currently Duncan Coutts and Christoph Ortner, on the Faculty of Computer Science which meets on the Thursday of sixth week. Please tell your representative of any matters or questions you would like raised at the subfaculty meetings.

The student representatives also attend the Joint Consultative Committee with Graduates, the remit of which is printed below:

STANDING ORDERS

Joint Consultative Committee with Graduates

There shall be a Joint Consultative Committee with Graduates comprising the Director of Graduate Studies and two members reading for research degrees, one doing research in Computer Science and one from the Numerical Analysis group.

Committee members shall be elected from amongst graduate students admitted by the Computing Laboratory. When a position becomes open it will be advertised by the current graduate members, who will invite graduate students to contact them indicating their interest in serving on the Committee. Elections may be held if more than one person steps forward for a position, in which case election shall be held by email and by done by a simple majority. If only one person steps forward, then three supporting votes will be required to appoint the said person to the Committee. The voting will be done by email and the results brought to the next meeting of the Committee. The Committee may operate, if necessary, without its full complement of places having been filled.

The committee shall be concerned with matters such as training, supervision, and research facilities for research degrees students.

The Director of Graduate Studies shall chair the committee. The Academic Administrator or another member of Computing Laboratory staff shall act as secretary to the committee. The minutes of the Committee shall be forwarded to the Graduate Studies Committee. The Committee shall be able as of right to address a communication direct to the Departmental Management Committee or the Research Committee of the Computing Laboratory depending on the matters involved.

Unless the Chairman shall order otherwise, the committee shall meet at 10:00 a.m. Tuesday in the sixth week of each Full Term.

Your representative will be happy to communicate to the committee any matters or questions you would like raised.

26 Library

The Computing Laboratory Library contains books, monographic series, journals, technical reports and past theses covering the main research interests of the Laboratory. It is situated on Level 2 of the building.

Opening hours: Library staff are normally available from 09:00–17:00 (except 13:00–14:00). The library remains unlocked at other times.

Registration: you will be pre-registered but you must confirm your registration by bringing your University Card to the library before you begin to borrow.

The Catalogue: books and journals are listed on OLIS (the University-wide online catalogue).

Borrowing: members are limited to 12 books at any one time. Books may be borrowed for 3 weeks at a time with possibility of renewal for a further three periods of three weeks unless a book has been recalled by another reader. Books are borrowed using the automated self-issue system. Please ask if you have problems using the machine. No journal or part of a journal may be borrowed.

Short-loan Collection: books in the short loan collection are held in the Library Office and may be borrowed for 5 days. The short loan collection is mainly composed of books listed on Reading Lists for the M.Sc. courses.

Web Pages: See www.comlab.ox.ac.uk/internal/library

Other Library resources: the most relevant libraries elsewhere in the University are the Radcliffe Science Library, the Whitehead Library (at the Mathematical Institute for numerical analysts and formal mathematicians), the Engineering Science Library (especially for those interested in robotics and machine vision) and the Hooke Library. Material that is not held in Oxford may be available on inter-library loan. Consult the Librarian about loans from outside Oxford.

Electronic Journals: see www.bodley.ox.ac.uk/elec-res.html

Other services: The library also contains copies of the MSc and DPhil theses submitted by students attached to the Laboratory and past examination papers.

Contact the Library: Brian Morgan (Librarian), Aza Stephenson (Library Assistant), telephone 73837, e-mail library@comlab.ox.ac.uk.

27 Harassment

By University legislation, it is an offence for any senior or junior member of the University to harass any other member or any person for whom the University is responsible. Sexual and racial harassment are among the forms of harassment covered by this rule, but it also covers any form of intentional or unintentional teasing, embarrassment or bullying which causes you inconvenience or unhappiness, particularly if persistent.

The University has a code of practice for dealing with any such cases which may arise and this is included in *Appendix G*. In addition, the Proctors have set up a panel of people with relevant expertise to act as advisers in particular cases. These arrangements complement the procedures which may exist in individual colleges.

28 University Club

The University Club provides a social and recreational venue intended to serve the University's academics, post-doctorates, staff, postgraduates, alumni and those who have retired from academic or staff

positions. To apply to become a member of the University Club, please visit the Club's web site: www.club.ox.ac.uk and fill out the on-line membership application form (accessible via the 'Membership' link). On-line applications are preferred, but if you do not have access to the Internet, please complete the application form in your graduate pack and hand in to the reception desk, or, send them to Reception at the University Club. Applications may take two weeks to process. Once processed your University card will admit you to the club.

A Safety Information

These notes give some information about the Laboratory's safety arrangements.

ACTION IN CASE OF EMERGENCY

To **summon the FIRE BRIGADE, AMBULANCE SERVICE and/or POLICE, DIAL 999**. Note that 999 can be dialled from any internal University telephone extension, even if it is otherwise barred from making outside calls.

For **SERIOUS ACCIDENTS or FIRES** on University premises, immediately after arranging for the emergency services, telephone again either the *University Safety Office* (ext 70810), or if the Safety Office is unmanned, the *Security Services* (ext 89999).

To summon the **SECURITY SERVICES**, dial 89999.

Remember that unless there is a continuing risk to others or to property, the law requires that in cases of serious accidents or fires the scene must remain undisturbed until it is examined by the Health and Safety Executive, the University Safety Office and Trade Union safety representatives. Some types of serious accident must be reported immediately. In those cases, the Safety Office is responsible for contacting the Health and Safety Executive.

First Aid

The department arranges in-house first aid training for new graduate students, normally through a two hour session in the week before Michaelmas Term. Any other member of the department interested in attending such a course should contact the Administrator's Secretary. Several members of staff have taken part in extended first aid training, and a list of Qualified First-Aiders is posted in the entrance hall of the Wolfson Building; their names are also marked on the departmental telephone list.

First Aid boxes are available to first aiders. In the Thom Building, there is a first aid box (maintained by the Department of Engineering Science) outside the Computation Laboratory (room 6.09).

Fire

There are blue **FIRE ACTION** notices in each building. Please read these *before* there is a fire!

If you discover a fire, immediately operate the nearest fire alarm call point (these are situated in the stairwells and at each emergency exit), and then attack the fire, if possible, with the fire extinguishers provided *but under no circumstances putting yourself or others at risk*. There is no need to call the fire brigade as the fire alarms are monitored remotely and the emergency services called automatically from there.

On hearing the fire alarm, leave the building **immediately**—use the nearest available exit, close all doors as you leave, do not stop to collect personal belongings. Do not use the lift—if you are unable to use the stairs, please wait inside the stairwell nearest the lift for the fire brigade to rescue you. Do not re-enter the building unless authorised to do so. Familiarise yourself with fire exit routes from the buildings, and relevant assembly points. The assembly point for the Wolfson Building is on the south side of Keble Road, near Keble College Chapel—do not cluster at the exits to the buildings.

Fire alarms in the Wolfson Building are sirens. It is occasionally necessary to test the alarms, but notices are always posted beforehand, and the alarm sounds only for a few seconds—assume that any fire alarm sounding for more than five seconds is a signal that you must leave the building.

In the Wolfson Building, there are several sets of Fire extinguishers on each floor—including a set near the lift, and one in the South West stairwell (8 Keble Road). Please take note of where the nearest fire extinguishers are to the rooms you normally use. Note that the red (water) extinguishers should not be used on electrical equipment; use the black (CO₂) extinguishers instead.

Escape routes

Please check that you know the **escape routes** from the buildings you use—again, *before* you actually need to use one in an emergency evacuation of the building. These are sign-posted in each building.

Corridors, stairwells and exits **must not be obstructed**. Anything left in corridors, stairwells or exits will be removed. Bicycles which obstruct any of the exits or emergency exits will be removed.

Smoking

Smoking is not permitted anywhere in the Computing Laboratory's buildings; this includes the terrace area. Smoke detectors linked to the fire alarm system are in operation in the Wolfson Building.

Electricity

All electrical equipment (including personal property) must be tested for safety before it is used in the Computing Laboratory buildings. Equipment must not be dismantled. If equipment is faulty, do not attempt to repair it—please fill in a Fault Report Form (available from the pigeon-holes in the Wolfson Building, or from a tray in the Thom Building Software Laboratory). Do not tamper with electrical supply equipment—please report any problems to the Laboratory's technicians.

Equipment rooms

Electrical power in the various equipment rooms (including the Software Laboratory in the Thom Building) can be cut by an 'emergency stop'. In the Thom Building, this is a white break-glass unit; in the Wolfson Building, it is a red button (either just inside or just outside the door to each equipment room); it is normally clearly labelled with a green 'Emergency stop' sign. Please note that it will usually need the support staff to restart circuits.

Lighting

Do not switch off any corridor lighting at any time. Please report any faulty corridor or staircase lighting to the technical staff. Please advise the Administrator if there are any other areas which are poorly lit.

Other Safety information

A red ring binder containing a Statement of the Department's Safety Organisation, a Statement of the University Safety Policy, and a collection of University and Departmental Guidance Notes, is available in the Library (room 140).

The University Safety Office has a library of safety publications and other material at 10 Parks Road. Safety Office Memo and Guidance Notes are also published on their web site www.admin.ox.ac.uk/safety.

Minutes of meetings of the Departmental Safety Advisory Committee are published, and are available on the department's notice boards.

*Geraint Jones
Departmental Safety Officer
2nd October 2006*

UNIVERSITY OF OXFORD HEALTH AND SAFETY POLICY

PART 2

STATEMENT OF HEALTH AND SAFETY ORGANISATION FOR THE COMPUTING LABORATORY

Statement by the Director of the Computing Laboratory

As Head of Department, I am responsible for ensuring compliance with the University Health and Safety Policy in the Computing Laboratory. I am responsible for the entire premises of the Wolfson Building, Parks Road, including the Ground and First floors of 7 Keble Road, part of the Thom Building Level 6 (the areas occupied by the Computing Laboratory) and 39A St Giles. Supervision of the University Health and Safety Policy in Engineering Science is the responsibility of the Head of Department of Engineering Science. Members of the Computing Laboratory who have rooms in, or use rooms in the Thom Building are required to familiarise themselves with the corresponding statements of safety organisation. My responsibilities are set out in Annex A. I have delegated some parts of these responsibilities to others and this document describes these and also describes the advisory arrangements within the Department.

1. EXECUTIVE RESPONSIBILITY FOR SAFETY

Every employee with a supervisory role is responsible for ensuring, in accordance with the law, the health and safety of staff, students and other persons in their area of responsibility and also anyone who may be affected by their work activities. In particular, the following responsibilities are delegated to such persons for their areas.

1. To ensure adherence in all respects to the Health and Safety Policy of the University of Oxford and in particular to ensure that the Departmental Safety Advisory Committee is advised of resources necessary for implementation.
2. To plan, organise, control, monitor and review the arrangements for health and safety including the arrangements for any visitors.
3. To carry out general risk assessments and specific risk assessments as required by health and safety legislation.
4. To ensure that all work procedures under their control are safe and without risks to health.
5. To ensure that training and instruction have been given in all relevant procedures including emergency procedures.
6. To inform the Director of the Computing Laboratory, before any significant hazards are introduced or when significant hazards are identified.
7. To report immediately to the Administrator of the Computing Laboratory, all cases of ill health, accidents, hazardous incidents and fires, and to ensure that any serious or potentially serious accidents, incidents or fires are reported immediately to the University Safety Officer.

In all areas of the Computing Laboratory, the Administrator of the Computing Laboratory, (or Deputy) has overall executive authority for safety. All those with executive responsibility should notify me and the Departmental Safety Officer, of any planned, new or newly identified significant hazards in their areas and also of those control measures needed to avert any risks involved. As it is my duty to ensure adherence to the University Health and Safety Policy, I instruct every employee with a supervisory role and the Departmental Safety Officer, to report to me any breach of the Policy. Where supervisors or others in charge of areas or with specific duties are to be absent, Health and Safety responsibility is delegated to the senior member of academic staff available. The following employees have executive responsibility throughout the Department to ensure compliance with the University Policy as it applies to their special function:

VISITORS and CONTRACTORS

The Administrator, is responsible for making arrangements for visitors (including contractors). This will involve carrying out suitable risk assessments as appropriate.

ELECTRICITY

Work on the electrical distribution network can only be carried out on the authority of the University Electrical Engineer (see University Guidance Note S1/90 and Standing Orders). Requests for modifications should be made via the Administrator, who will make the necessary arrangements with the Surveyor's Office. See also section 2 for details of the Departmental Electrical Safety Supervisor.

COMPUTER SYSTEMS

The installation or hardware modification of computers and peripheral equipment may only be carried out by a Laboratory Technician, Research Support Officer or an authorised Service Engineer. Requests for such work should be made to the Computer Manager.

SOLVENTS

The person responsible for ensuring compliance with storage regulations of flammable and highly flammable liquids is the Administrator. Any requirement to introduce solvents to the Computing Laboratory must be discussed and approved before their introduction.

ABRASIVE WHEELS

No member of the department is permitted to change and dress abrasive wheels.

2. ADVISORY RESPONSIBILITY FOR SAFETY

I have appointed those listed below to advise me on matters of health and safety within the Department. If their advice is not taken by any member of the Department, I must be informed. Exceptionally, if they discover danger which requires immediate action, they are authorised to take the necessary action and inform me subsequently.

DEPARTMENTAL SAFETY OFFICER (DSO)

The Departmental Safety Officer is responsible for advising me on the measures needed to carry out the work of the Department without risks to health and safety; co-ordinating any safety advice given in the Department by specialist advisors and the University Safety Officer; monitoring health and safety within the Department and reporting any breaches of the Health and Safety Policy to me. To assist in this work, the Department has the following specialist advisors:

DEPARTMENTAL FIRE OFFICER

The Departmental Fire Officer is responsible for advice to the DSO on all matters relating to fire precautions and prevention to ensure compliance with the University Health and Safety Policy.

DEPARTMENTAL ELECTRICAL SAFETY SUPERVISOR

The senior technician, is responsible for advice to the DSO on all matters relating to electrical safety to ensure compliance with University Health and Safety Policy and in particular for the implementation of University Guidance Note S1/90.

DEPARTMENTAL SAFETY ADVISORY COMMITTEE

In addition to the above arrangements I have set up a Departmental Safety Advisory Committee. The members are:

- Departmental Safety Officer (Chairperson)
- Computing Laboratory Administrator
- Computing Laboratory Deputy Administrator

- Departmental Fire Officer
- Electrical Safety Supervisor
- Academic Staff representative
- Graduate Student representative
- Amicus Union Representative
- Unison Union Representative
- AUT Union Representative

The purpose of the Committee is to advise the Head of Department on all matters relating to health and safety within the Computing Laboratory. It will meet once a term.

3. TRADES UNIONS AND APPOINTED SAFETY REPRESENTATIVES

Employees in this Department who wish to consult their safety representatives should initially contact the senior safety representative of the appropriate trade union as listed in University Guidance Note S4/90, Appendix A. If you are unable to contact this person you should try to contact the nearest representative who will advise you further.

4. OTHER FUNCTIONS

i. First Aid

The following persons are responsible for first aid:
Wolfson Building

Name	Room No.	Tel. No.
Stephen Cameron	351	73850
Mike Field	105	73831
Gavin Lowe	343	73841
Peter Turner	017	73845

Thom Building: See the Engineering Science First Aiders list.
First Aid Boxes are located with each of the above qualified first aiders.

ii. Display Screen Equipment Assessors

The following have undertaken training to be display screen equipment assessors:

Name	Room No.	Tel. No.
Bette Byrne	305	73883
Christine O'Connor	107	73863
Malcolm Harper	115	73827
Mike Field	105	73831

5. INDIVIDUAL RESPONSIBILITY

All Departmental employees, students and all other persons entering onto the Department's premises or who are involved in Departmental activities are responsible for exercising care in relation to themselves and others who may be affected by their actions. Those in immediate charge of visitors (including contractors) should ensure that the visitors adhere to the requirements of the University Health and Safety Policy as appropriate. You must:

- Make sure that your work is carried out in the approved way and in accordance with University Policy.
- Protect yourself and others by wearing the personal protective equipment provided, and by using any guards or safety devices provided.
- Obey all instruction emanating from the Head of Department in respect of health and safety.
- Warn me [and/or the DSO] of any significant new hazards to be introduced or newly identified significant

risks found in present procedures.

- (e) Give your visitors (including contractors) a named contact within the Department with whom to liaise.
- (f) Offer any advice and suggestions that you think may improve health and safety.
- (g) Report all fires, incidents and accidents immediately to the Administrator or Assistant Administrator.
- (h) Familiarise yourself with the location of fire fighting equipment, alarm points and escape routes, together with the fire procedures.
- (i) If you are in doubt about any matter of health and safety consult your supervisor, the DSO or, if necessary, the Head of Department.

Note: The University Guidance Notes can be found in the library (Room 240) and in the Common Room (Room 104) and are available for your consultation. The University Safety Office has a small safety library that may be consulted during normal office hours (telephone extension 70811).

6. SPECIFIC ARRANGEMENTS

i. Mechanical Workshop

Only the following persons are authorised to enter the workshop (Room 016): M. J. Field, C. M. O'Connor, M. K. Harper, A. M. R. Newman, D. Oliver, A. Scragg and P. Turner.

ii. Lift

Under University rules no-one in the department is authorised to release anyone trapped in the lift. In the case of an emergency contact the University Security Services (Tel. 89999) using the telephone in the lift box next to the floor buttons and a lift engineer will be contacted to attend the site.

Please note that out of normal working hours there may be an extended delay if no engineer is available in Oxford.

iii. University Security Services

The emergency telephone number for the University Security Services is 89999 and is manned 24 hours per day.

iv. Adjacent Building Site

No member of staff or student may venture on to the building site without the express permission of the Site Manager.

Signed:

20th August 2005

Professor A W Roscoe,
Director of the Computing Laboratory.

Annex A

It is my responsibility, as Director of the Computing Laboratory, directly, or through delegation (which is detailed and in writing), in accordance with the law:

A To ensure adherence in all respects to the Health and Safety Policy of the University of Oxford and in particular to ensure that the necessary resources for implementation are available.

B To plan, organise, control, monitor and review the arrangements for health and safety including the arrangements for any visitors (including contractors).

C To carry out general risk assessments and specific risk assessments as required by health and safety legislation.

D To ensure that all work procedures under my control are safe and without risks to health.

E To ensure that training and instruction have been given in all relevant procedures including emergency procedures.

F To inform the University Safety Officer before any significant hazards are introduced or when significant hazards are identified.

G To investigate and keep a record of all cases of ill health, accidents, hazardous incidents and fires, and to report immediately to the University Safety Officer any serious or potentially serious accidents, incidents or fires.

B Staff List

Director of Oxford University Computing Laboratory

256 73859 Bill Roscoe *Bill.Roscoe@comlab*

Academic staff of the Computing Laboratory

Room	Telephone ¹		email address
254	83558	Samson Abramsky	<i>Samson.Abramsky@comlab</i>
449	73842	Alexandru Baltag	<i>Alexandru.Baltag@comlab</i>
250	73850	Richard Bird	<i>Richard.Bird@comlab</i>
351	73850	* Stephen Cameron	<i>Stephen.Cameron@comlab</i>
108	83527	Ani Calinescu	<i>Ani.Calinescu@comlab</i>
443	83666	Alessandro Cavarra	<i>Alessandro.Cavarra@comlab</i>
414	83520	Stephen Clark	<i>Stephen.Clark@comlab</i>
444	73835	Jim Davies	<i>Jim.Davies@comlab</i>
315	83574	David Gavaghan	<i>David.Gavaghan@comlab</i>
448	83508	Jeremy Gibbons	<i>Jeremy.Gibbons@comlab</i>
304	73862	Mike Giles	<i>Mike.Giles@comlab</i>
358	83504	Georg Gottlob	<i>Georg.Gottlob@comlab</i>
213	73864	Raphael Hauser	<i>Raphael.Hauser@comlab</i>
450	73853	Peter Jeavons	<i>Peter.Jeavons@comlab</i>
348	83515	Marina Jirotko	<i>Marina.Jirotko@comlab</i>
350	73851	Geraint Jones	<i>Geraint.Jones@comlab</i>
343	73841	Gavin Lowe	<i>Gavin.Lowe@comlab</i>
447	73846	Steve McKeever	<i>Steve.McKeever@comlab</i>
446	83605	Andrew Martin	<i>Andrew.Martin@comlab</i>
418	73824	Tom Melham	<i>Tom.Melham@comlab</i>
340	73878	Oege de Moor	<i>Oege.de.Moor@comlab</i>
115	83588	Hanno Nickau	<i>Hanno.Nikau@comlab</i>
349	83522	Luke Ong	<i>Luke.Ong@comlab</i>
417	73822	Joel Ouaknine	<i>Joel.Ouaknine@comlab</i>
113	83606	Vasile Palade	<i>Vasil.Palade@comlab</i>
		Stephen Pulman	<i>Stephen.Pulman@comlab</i>
252	73840	Jeff Sanders	<i>Jeff.Sanders@comlab</i>
444	83514	Andrew Simpson	<i>Andrew.Simpson@comlab</i>
323	83645	Nic Smith	<i>Nic.Smith@comlab</i>
215	73894	Ian Sobey	<i>Ian.Sobey@comlab</i>
355	73854	Mike Spivey	<i>Mike.Spivey@comlab</i>
354	73828	Bernard Sufrin	<i>Bernard.Sufrin@comlab</i>
218	73880	Endre Süli	<i>Endre.Suli@comlab</i>
206	73886	Nick Trefethen	<i>Nick.Trefethen@comlab</i>
108	83501	Irina Voiculescu	<i>Irina.Voiculescu@comlab</i>
409	83516	David Walker	<i>David.Walker@comlab</i>
210	73887	Andy Wathen	<i>Andy.Wathen@comlab</i>
352	73843	James Worrell	<i>James.Worrell@comlab</i>

Other Lecturers

416 73867 Bob Coecke *Bob.Coecke@comlab*
348 83530 Andrew Ker *Andrew.Ker@comlab*
Jotun Hein *hein@stats*
Geoff Nicholls
Roberto Lopez-Herejon *rloplex@comlab*

Support staff

Room	Telephone ¹		email address (all @comlab)	
112	83559	Wendy Adams	Wendy.Adams	Academic Administration
140	73861	Terry Brown	Terry.Brown	Computing Offi cer
305	73883	Bette Byrne	Bette.Byrne	ICFD Secretary
140	83589	Ian Collier	Ian.Collier	Computing Offi cer
T6.06	73004	Duncan Coutts	Duncan.Coutts	Teaching Assistant
209	73885	Shirley Day	Shirley.Day	Secretary to Professor Trefethen
154	73838	Shirley Dickson	Shirley.Dickson	Receptionist
105	73831	* Mike Field	Mike.Field	Senior Administrator
149	73827	Malcolm Harper	Malcolm.Harper	Computer Manager
106	83601	Jo Leggett	Jo.Leggett	Finance Assistant and Secretary to Academic Administrator
240	73837	Brian Morgan	Brian.Morgan	Librarian
142	73826	Andrew Newman	Andrew.Newman	Research Support Offi cer
107	73863	Christine O'Connor	Christine.OConnor	Academic Administrator
016	73832	Duncan Oliver	Duncan.Oliver	Senior Technician
112	73817	Julie Sheppard	Julie.Sheppard	Secretary for Graduate Studies
240	73837	Aza Stephenson	Asa Stephenson	Library Assistant
253	73840	Sue Taylor	Sue.Taylor	Computer Science Secretary
148	83567	Craig Tranfi eld	Craig.Tranfi eld	Computer Operations Manager
017	73845	* Peter Turner	Peter.Turner	Technician
253	83503	Elizabeth Walsh	Elizabeth.Walsh	PA to Professor Roscoe
106	73898	Ian Watts	Ian.Watts	Finance and Administration Offi cer

Subfaculty Graduate Student Representative 2006-07

T6.06	73004	Duncan Coutts	dcoutts@comlab
221	73856	Christoph Ortner	cortner@comlab

* before a name indicates a First-Aider

¹These are internal telephone numbers. If you are dialling from an outside telephone, dial 2 before the number listed.

¹These are internal telephone numbers. If you are dialling from an outside telephone, dial 2 before the number listed.

C Departmental Groups

Computing Science

Research in Computer Science at Oxford began with the *Programming Research Group* (PRG). The PRG obtained its early reputation for its pioneering research on programming languages, concentrating on their logical foundations, including Scott-Strachey denotational semantics, for its development of the CSP approach to concurrent processes, and for the Z specification language and algebraic theories of programming. Other research (often in collaboration with other organisations) has developed the occam language, methods to ensure the correct production of software and hardware, the functional programming language Orwell, and the 2OBJ and Jape logical frameworks for theorem proving, hardware compilers and optimisers, and game-theoretic models of higher-order programming.

Today, Computer Science research at the Laboratory continues in the spirit established by the PRG. Many of its research projects rely on a close interaction of mathematical theories with their experimental validation and evaluation. Others involve methods from other disciplines, such as the social sciences. All aim to achieve a high degree of intellectual rigour.

On the experimental side of Computer Science, the Laboratory has a long-established policy of subjecting its theories to practical tests. Early tests are often conducted as student projects; they range from significant case studies on paper to prototype implementations designed to answer specific questions of feasibility, to explore the range of application and to evaluate acceptability of interfaces. In many cases a project has been set up under the sponsorship of local industry or of another department of the University and the delivered programs have been of recognised benefit to their sponsors.

One important characteristic of the Laboratory is the spirit of free interchange among its members working on different theories or on different applications. Problems of practical importance are often solved with the assistance of a theorist—or perhaps such problems reveal a gap or deficiency in the theory and the remedy leads to a yet more elegant and comprehensive theory. It continues to vindicate the wisdom of Christopher Strachey's remarks.

The Laboratory has more than fifty research partners throughout the world. One project, with INMOS Ltd., won the Queen's Award for Technological Achievement in 1990; a second Queen's Award was gained in 1992 on the basis of the Laboratory's long-term collaboration with IBM UK Ltd on the re-engineering of its CICS transaction processing system.

The Numerical Analysis Group

Numerical Analysis concerns the development of algorithms for solving all kinds of problems of continuous mathematics; thus it is a wide-ranging discipline having close connections with engineering, computer science, other sciences, and of course mathematics itself. The best algorithms in this field should be accurate, robust, and fast. Achieving these goals depends on a blend of algorithmic and mathematical creativity, rigorous error analysis, and a thorough knowledge of areas of application. Individual research projects range from production of software at the applied end to proofs of theorems in error analysis at the theoretical end, with plenty of mathematics, numerical experimentation, and study of application areas in-between.

In its early years the Numerical Analysis Group directed its efforts towards establishing numerical analysis as a coherent discipline, training many of the young people who then went on to introduce the subject in other universities in the UK. Research was concentrated on algebraic problems, especially numerical linear algebra, and on finite difference methods for ordinary and partial differential equations and integral equations. Great importance was attached to working with the Oxford Study Groups on problems arising from industrial applications, and the University Consortium for Industrial Numerical Analysis (UCINA) was set up in 1979.

The 1980s and early 1990s saw a greater emphasis on the development of finite element and finite volume methods for a wide range of partial differential equations. This brought with it increased use of the methods of functional analysis and the theory of differential equations. Applications of the methods concentrated on problems of fluid flow, and the Institute for Computational Fluid Dynamics (ICFD) played an important part in the development of the Group and its research.

Today the Numerical Analysis group is broader than ever, being active in research across most of the areas of numerical analysis and scientific computing. Particular strengths include numerical solution of partial differential equations, computational fluid dynamics, iterative methods in numerical linear algebra, analysis of finite element, finite volume and spectral discretisations, stability analysis, approximation theory, high-performance scientific computing, eigenvalue problems, Markov chains, numerical conformal mapping, and applications in

medicine, fluid mechanics, electromagnetics, and biology. The group maintains strong links with Oxford's engineering, mathematics and applied mathematics groups and with academic and industrial partners around Britain and abroad.

D Notes on Application for Computer Resources on Computing Laboratory Facilities

The Laboratory network connects several hundred workstations, various supercomputers, numerous servers and clusters and many other machines. Facilities elsewhere are accessed via the University network and the Joint Academic Network, to which the Laboratory network is connected by high-bandwidth links. Details of the facilities available on the network may be obtained from any of the Laboratory's Computing Officers or www.comlab.ox.ac.uk/internal/comp-r

The University has formal regulations and a code of conduct which govern the use and misuse of Computers and Networks. In addition to this, members of the Computing Laboratory are expected as a matter of honour to respect the privacy of other users of the networks to which they have access, and to refrain from actions which will cause others' work to be damaged or delayed. Any member of the Laboratory seeking to explore the letter, rather than the spirit, of the University regulations would be well advised to consult the Director of Graduate Studies beforehand.

For an account on the Laboratory's own network you should complete the Application for Computer Resources form included in this induction pack, and bring it to the first 'Practical Computing Session'. If this is not possible, please consult the Operations Manager, Craig Tranfield, Room 148.

If you experience difficulties in using any of the machines or networks, please send electronic mail to

support@comlab.

A Guide for New Users is included with this induction pack.

The following notes are to help you to complete your Application for Computer Resources.

The Data Protection Act

The Data Protection Act 1998 defines 'personal data' as data which "relate to a living individual who can be identified- (a) from those data, or (b) from those data and other information which is in the possession of, or is likely to come into the possession of, the data controller, and includes any expression of opinion about the individual and any indication of the intentions of the data controller or any other person in respect of the individual;"

The University has issued a statement on its Data Protection Policy, and you are requested to read and take note of this; a copy is appended. By signing the application form you are agreeing that you will not mis-use personal data. If you are in any doubt about this, or other aspects of data protection, you should contact the support staff.

Other Notes

These notes are to help you to interpret the Application for Computer Resources form. If you need any additional help or information, please contact the support staff at the Computing Laboratory, Wolfson Building, Parks Road, support@comlab.ox.ac.uk.

Nobody may use the resources of the Computing Laboratory without signing an application form, nor continue to do so once their account is past its expiry date.

Queries about the conditions imposed by particular software licence agreements should be addressed to the support staff.

Heads of University departments issue rules and regulations which apply to all whose use facilities in their departments. The use of Computing Laboratory facilities based in the Thom Building (eg the MSc workstations or the Software Laboratory) are governed by the rules of the Department of Engineering Science (as they apply to the Thom Building) and by the rules of the Computing Laboratory (as they apply to use of practical facilities). You must comply with any such rules which are brought to your attention. The University has issued a policy on data protection and computer misuse which you should read and take note of, copy attached. **By signing the application form you are agreeing that you will not mis-use any of the resources.**

Referenced documents are available at or based upon:

- www.ox.ac.uk/it/rules/proctors.html (Computer Misuse & Data Protection)
- www.ox.ac.uk/it/rules (Computer Usage and Etiquette)
- www.hms0.gov.uk/acts/acts1984/1984035.htm (Data Protection Act 1984)
- www.hms0.gov.uk/acts/acts1998/19980029.htm (Data Protection Act 1998)

Returning the application form

Please bring the completed form to one of the practical sessions arranged for your course during first week. You should hand it to one of the Departmental Lecturers in exchange for an envelope containing details of your username and password.

Declaration

This is a copy of the declaration which each student who requires computing facilities is asked by the Computing Laboratory to sign

I accept that all software systems and software packages used by me are to be regarded as covered by software licence agreement, with which I agree to abide, which unless specifically stating otherwise will prohibit me from making copies of the software or transferring copies of the software to anyone else, other than for security purposes, or from using the software or any of its components as the basis of a commercial product or in any other way for commercial gain. I indemnify the Chancellor, Masters and Scholars of the University of Oxford, and the Oxford University Computing Laboratory, for any liability resulting from my breach of any such software licence agreement.

I will not use personal data as defined by the Data Protection Act on computing facilities made available to me in respect of this application other than in the course of my work as per the University's registration. I accept that the Oxford University Computing Laboratory reserve the right to examine material on or connected to any of their facilities when it becomes necessary for the proper conduct of those facilities or to meet legal requirements and to dispose of any material associated with this application for access to its resources upon termination or expiry of that authorisation.

I agree to abide by any code of conduct relating to the systems I use and the University policy on data protection and computer misuse. In particular, I will not (by any wilful or deliberate act) jeopardise or corrupt, or attempt to jeopardise or corrupt, the integrity of the computing equipment, its system programs or other stored information, nor act in any way which leads to or could be expected to lead to the disruption of the approved work of other authorised users.

E Regulations Relating to the Use of Information Technology Facilities

ICTC Regulations 1 of 2002

REGULATIONS RELATING TO THE USE OF INFORMATION TECHNOLOGY FACILITIES

Made by the ICTC on 6 June 2002

Approved by Council on 24 July 2002

Amended 2nd October 2003, 23rd October 2003 and 16th February, 2006

1. In these regulations, unless the context requires otherwise, 'college' means any college, society, or Permanent Private Hall or any other institution designated by Council by regulation as being permitted to present candidates for matriculation.
2. University IT and network facilities are provided for use in accordance with the following policy set by Council:
 1. The University provides computer facilities and access to its computer networks only for purposes directly connected with the work of the University and the colleges and with the normal academic activities of their members.
 2. Individuals have no right to use university facilities for any other purpose.
 3. The University reserves the right to exercise control over all activities employing its computer facilities, including examining the content of users' data, such as e-mail, where that is necessary:
 - (a) for the proper regulation of the University's facilities;
 - (b) in connection with properly authorised investigations in relation to breaches or alleged breaches of provisions in the University's statutes and regulations, including these regulations; or
 - (c) to meet legal requirements.
 4. Such action will be undertaken only in accordance with these regulations.
3. These regulations govern all use of university IT and network facilities, whether accessed by university property or otherwise.
4. Use is subject at all times to such monitoring as may be necessary for the proper management of the network, or as may be specifically authorised in accordance with these regulations.
5.
 1. Persons may make use of university facilities only with proper authorisation.
 2. 'Proper authorisation' in this context means prior authorisation by the appropriate officer, who shall be the Director of Oxford University Computing Services ('OUCS') or his or her nominated deputy in the case of services under the supervision of OUCS, or the nominated college or departmental officer in the case of services provided by a college or department.
 3. Any authorisation is subject to compliance with the University's statutes and regulations, including these regulations, and will be considered to be terminated by any breach or attempted breach of these regulations.
6.
 1. Authorisation will be specific to an individual.
 2. Any password, authorisation code, etc. given to a user will be for his or her use only, and must be kept secure and not disclosed to or used by any other person.
7. Users are not permitted to use university IT or network facilities for any of the following:
 1. any unlawful activity;
 2. the creation, transmission, storage, downloading, or display of any offensive, obscene, indecent, or menacing images, data, or other material, or any data capable of being resolved into such images or material, except in the case of the use of the facilities for properly supervised research purposes when that use is lawful and when the user has obtained prior written authority for the particular

- activity from the head of his or her department or the chairman of his or her faculty board (or, if the user is the head of a department or the chairman of a faculty board, from the head of his or her division);
3. the creation, transmission, or display of material which is designed or likely to harass another person in breach of the University's Code of Practice on Harassment;
 4. the creation or transmission of defamatory material about any individual or organisation;
 5. the sending of any e-mail that does not correctly identify the sender of that e-mail or attempts to disguise the identity of the computer from which it was sent;
 6. the sending of any message appearing to originate from another person, or otherwise attempting to impersonate another person;
 7. the transmission, without proper authorisation, of e-mail to a large number of recipients, unless those recipients have indicated an interest in receiving such e-mail, or the sending or forwarding of e-mail which is intended to encourage the propagation of copies of itself;
 8. the creation or transmission of or access to material in such a way as to infringe a copyright, moral right, trade mark, or other intellectual property right;
 9. private profit, except to the extent authorised under the user's conditions of employment or other agreement with the University or a college; or commercial purposes without specific authorisation;
 10. gaining or attempting to gain unauthorised access to any facility or service within or outside the University, or making any attempt to disrupt or impair such a service;
 11. the deliberate or reckless undertaking of activities such as may result in any of the following:
 - (a) the waste of staff effort or network resources, including time on any system accessible via the university network;
 - (b) the corruption or disruption of other users' data;
 - (c) the violation of the privacy of other users;
 - (d) the disruption of the work of other users;
 - (e) the introduction or transmission of a virus into the network;
 12. activities not directly connected with employment, study, or research in the University or the colleges (excluding reasonable and limited use for social and recreational purposes where not in breach of these regulations or otherwise forbidden) without proper authorisation.
8. Software and computer-readable datasets made available on the university network may be used only subject to the relevant licensing conditions, and, where applicable, to the Code of Conduct published by the Combined Higher Education Software Team ('CHEST').
 9. Users shall treat as confidential any information which may become available to them through the use of such facilities and which is not clearly intended for unrestricted dissemination; such information shall not be copied, modified, disseminated, or used either in whole or in part without the permission of the person or body entitled to give it.
 10.
 1. No user may use IT facilities to hold or process data relating to a living individual save in accordance with the provisions of current data protection legislation (which in most cases will require the prior consent of the individual or individuals whose data are to be processed).
 2. Any person wishing to use IT facilities for such processing is required to inform the University Data Protection Officer in advance and to comply with any guidance given concerning the manner in which the processing may be carried out.
 11. Any person responsible for the administration of any university or college computer or network system, or otherwise having access to data on such a system, shall comply with the provisions of the 'Statement of IT Security and Privacy Policy', as published by the ICT Committee from time to time.
 12. Users shall at all times endeavour to comply with guidance issued from time to time by OUCS to assist with the management and efficient use of the network.
 13. Connection of computers, whether college, departmental, or privately owned, to the university network is subject to the following additional conditions:

- (1a) Computers connected to the university network may use only network identifiers which follow the University's naming convention, and are registered with OUCS.
 - (b) In particular all such names must be within the domain .ox.ac.uk.
 - (c) Any exception to this must be authorised by the Director of OUCS, and may be subject to payment of a licence fee.
 - (2a) The administrators of computers connected to the university network are responsible for ensuring their security against unauthorised access, participation in 'denial of service' attacks, etc.
 - (b) The University may temporarily bar access to any computer or sub-network that appears to pose a danger to the security or integrity of any system or network, either within or outside Oxford, or which, through a security breach, may bring disrepute to the University.
 - (3a) Providers of any service must take all reasonable steps to ensure that that service does not cause an excessive amount of traffic on the University's internal network or its external network links.
 - (b) The University may bar access at any time to computers which appear to cause unreasonable consumption of network resources.
 - (4a) Hosting Web pages on computers connected to the university network is permitted subject to the knowledge and consent of the department or college responsible for the local resources, but providers of any such Web pages must endeavour to comply with guidelines published by OUCS or other relevant authorities.
 - (b) It is not permitted to offer commercial services through Web pages supported through the university network, or to provide 'home-page' facilities for any commercial organisation, except with the permission of the Director of OUCS; this permission may require the payment of a licence fee.
 - (5) Participation in distributed file-sharing networks is not permitted, except in the case of the use of the facilities for properly authorised academic purposes when that use is lawful and when the user:
 - (a) in the case of services under the supervision of OUCS, has demonstrated to the satisfaction of the Director of OUCS or his or her nominated deputy that the user has obtained prior written authority for the particular activity from the head of his or her department or the chairman of his or her faculty board; or
 - (b) in the case of services provided by a college or department, has demonstrated to the satisfaction of the nominated college or departmental officer that the user has obtained prior written authority for the particular activity from the head of that college or department.
 - (6a) No computer connected to the university network may be used to give any person who is not a member or employee of the University or its colleges access to any network services outside the department or college where that computer is situated.
 - (b) Certain exceptions may be made, for example, for members of other UK universities, official visitors to a department or college, or those paying a licence fee.
 - (c) Areas of doubt should be discussed with the Registration Manager at OUCS.
 - (7) Providing external access to University network resources for use as part of any shared activity or project is permitted only if authorised by the ICTC, and will be subject to any conditions that the ICTC may specify.
 - (8) If any computer connected to the network or a sub-network does not comply with the requirements of this section, it may be disconnected immediately by the Network Administrator or any other member of staff duly authorised by the head of the college, section or department concerned.
- 14a** If a user is thought to be in breach of any of the University's statutes or regulations, including these regulations, he or she shall be reported to the appropriate officer who may recommend to the appropriate university or college authority that proceedings be instituted under either or both of university and college disciplinary procedures.
- (b) Access to facilities may be withdrawn under section 46 of Statute XI pending a determination, or may be made subject to such conditions as the Proctors or the Registrar (as the case may be) shall think proper in the circumstances.

Examining Users' Data

- 15.** All staff of an IT facility who are given privileged access to information available through that facility must respect the privacy and security of any information, not clearly intended for unrestricted dissemination, that becomes known to them by any means, deliberate or accidental.
- 16**
 1. System Administrators (i.e. those responsible for the management, operation, or maintenance of computer systems) have the right to access users' files and examine network traffic, but only if necessary in pursuit of their role as System Administrators.
 2. They must endeavour to avoid specifically examining the contents of users' files without proper authorisation.
- 17**
 1. If it is necessary for a System Administrator to inspect the contents of a user's files, the procedure set out in paragraphs (2)-(5) below must be followed.
 2. Normally, the user's permission should be sought.
 3. Should such access be necessary without seeking the user's permission, it should, wherever possible, be approved by an appropriate authority prior to inspection.
 4. If it has not been possible to obtain prior permission, any access should be reported to the user or to an appropriate authority as soon as possible.
 5. For the purposes of these regulations 'appropriate authority' is defined as follows:
 - (a) in the case of any university-owned system, whether central or departmental: if the files belong to a student member, the Proctors; if the files belong to any member of the University other than a student member, the Registrar or his or her nominee; or, if the files belong to an employee who is not a member of the University, the head of the department, college, or other unit to which the employee is responsible, or the head's delegated representative;
 - (b) in the case of a departmental system, either those named in (a) above, or, in all circumstances, the head of department or his or her delegated representative;
 - (c) in the case of a college system, the head of the college or his or her delegated representative.

WD196-052

16.01.04

F Rules and Regulations Concerning use of OUCL Equipment

These are the formal conditions under which use may be made of OUCL equipment on level 6 of the Engineering Thom building. Users *must* abide by the rules; anyone wishing to use the facilities of the Computing Laboratory must sign a declaration to do so. *See Appendix D.*

Copies of the rules are displayed in Computing Laboratory buildings and in the Software Laboratory on level 6 of the Engineering Thom building.

Definitions:

In these rules, 'users' are students of the University who have been given accounts on the Computing Laboratory workstation network. The authorisation permits those involved to use the facilities of OUCL only for the subject of their course. Authorisation lapses on the completion of that course. A 'remote terminal' is any device that may be used to make a connection with the network. Any reference to equipment is assumed to include any Computing Laboratory or Engineering equipment on level 6 of the Engineering Thom building. A 'remote site' is any equipment, or building containing equipment, that is not covered by these rules. The 'Director' is the Director of the Computing Laboratory, the Head of the Engineering Department or their agents.

1. The submission of a completed registration form to OUCL implies that the user has read, understood and has agreed to comply with these rules.
2. No work of direct commercial application may be carried out without the written authorisation of the Director who shall specify any conditions to be observed. In particular, a charge may be made for the use of some or all of the facilities (such as external mail) and restrictions may be made on the use of certain items of software.
3. The University will not be liable for any loss or damage sustained by any user in any involvement with OUCL.
4. It is the responsibility of a user to comply with the '*Data Protection Act 1984*', and, in general, with all statutory and other provisions and regulations for the time being in force in the field of data protection and information privacy. Those whose work involves or may involve the storage of personal data as defined in the '*Data Protection Act 1984*' are required to notify the Computing Laboratory in advance.
5. Equipment in the Software Laboratory on level 6 of Engineering's Thom building is available to all users 9am to 6pm, Monday to Friday of Full Term. It may also be used at other times as determined from time to time by the Director, but at these times undergraduates may only use the facilities under supervision by an authorised graduate or member of the Computing Laboratory staff. Equipment is available at all times from remote terminals (such as college PCs).

If at any time any student is requested by an authorised member of the Computing Laboratory staff or graduate supervisor to leave the Software Laboratory, he or she must do so immediately.

6. The periods that the Computing Laboratory equipment is available may vary from time to time at the discretion of the Director. In particular, users should note that at certain times, certain equipment is booked for practicals and the like. At these times, such equipment may not be used by other users.

Users must comply with local rules of any building they use or that contains equipment that they use. In particular, users accessing the network through remote terminals must comply with the rules of the Computing Service and users accessing remote sites must comply with the rules of the site that they are connected to as well as the Computing Service rules.

7. Children under the age of 12 years and animals are not allowed in the Software Laboratory without prior written permission of the Director.
8. Meetings of any kind, other than authorised classes and practicals, may not be held in the Software Laboratory without the written permission of the Director, who shall specify any conditions to be observed.
9. Notices or posters may only be displayed if they are clearly marked with the name of the person posting and are placed on an appropriate board according to content. The Director reserves the right to remove any notice or poster without advance warning.
10. In the interests of safety and to prevent damage to the equipment, eating and drinking are prohibited in all equipment areas. Smoking is also prohibited in all rooms and corridors except those places designated as 'Smoking Areas'.

11. Fire alarms and fire extinguishers may only be used in case of emergency. Any tampering with fire alarms, fire extinguishers, locks, key boxes or cabinets will be regarded as an offence against the rules.
12. Students are not permitted to use departmental telephone extensions for external calls on the British Telecom network except with permission or in case of emergency. There is a pay phone in the reception area of the Thom building.
13. No person may make use of OUCL facilities other than for an authorised academic purpose unless written permission is obtained from the Director.
14. No person may, by any wilful or deliberate act, jeopardise or corrupt, or attempt to jeopardise or corrupt, the integrity of the computing equipment, its system programs or other stored information. In particular, no user may:
 - (a) subscribe to any external mailing lists, info-servers, list-servers or the like or request or receive mail from such without the written permission of the Director;
 - (b) attempt to store files in any manner whatsoever that could be considered an attempt to evade file quotas;
 - (c) allow their password to become known to any other person (if a user suspects that some other person may know their password, they should change it immediately);
 - (d) log in, or attempt to log in, to any computer as another user;
 - (e) take on, or to appear to take on, the identity of another user or for their username to appear changed according to any process or piece of software;
 - (f) send unwarranted unsolicited e-mail to others;
 - (g) post inappropriate messages to newsgroups;
 - (h) knowingly send, or facilitate the sending of, offensive material or knowingly download or store or facilitate the downloading or storing of offensive material;
 - (i) send or propagate 'chain e-mail'.
15. No person may act in any way which leads to, or could be expected to lead to, the disruption of the approved work of any other user.
16. The Director may suspend any person who is believed to be in breach of these rules from use of all or specified OUCL facilities. The Director may also make subsequent use of the equipment and/or facilities subject to such conditions as he thinks fit. The Director may, at his discretion, report the matter to the University Proctors with recommendations for further action. If a suspension of greater than two weeks is imposed, the matter shall be reported to the University Proctors.

In the case of the user being a member of a University other than Oxford, or of some other such institution, the matter will be reported to the Director of computing facilities at that University or institution.
17. Failure to discharge a debt to OUCL shall be a cause for suspension from use of the facilities.
18. The Director may make such general conditions on the use of Computing Laboratory equipment as he thinks fit from time to time.
19. Appeal against the actions of the Director under rules 16, 17 and 18 shall be made to the University Proctors.

G University of Oxford - Code of Practice Relating to Harassment

The University's Code of Practice Relating to Harassment can be found at:

<http://www.admin.ox.ac.uk/eop/har/harcode1.shtml>
and

<http://www.admin.ox.ac.uk/eop/har/index.shtml>

The following are extracts from these web pages.

Part I - Policy on Harassment including Bullying

The University of Oxford is committed to equal opportunities and to providing an environment in which all employees and contractors ("staff"), students and those for whom the University has a special responsibility (for example visiting academics and students - henceforth referred to as "visitors") are treated with dignity and respect, and in which they can work and study free from any type of discrimination, harassment, or victimisation.

All staff and students are responsible for upholding this policy and should act in accordance with the policy guidance in the course of their day-to-day work or study, ensuring an environment in which the dignity of other staff, students, and visitors is respected. Offensive behaviour will not be tolerated.

Harassment is a serious offence which is punishable under the University's disciplinary procedures.

Heads of department and their equivalents, those with significant supervisory duties, and others in positions of responsibility or seniority, including students who fall into these categories, have specific responsibilities. These include setting a good personal example, making it clear that harassment will not be tolerated, being familiar with, explaining, and offering guidance on this policy and the consequences of breaching it, investigating reports of harassment, taking corrective action if appropriate, and ensuring that victimisation does not occur as a result of a complaint. Instances of harassment should be brought to the attention of an appropriate person in authority, such as a head of department or a senior college officer.

The University is committed to making all staff and students aware of this policy and the accompanying guidance and to providing effective guidance and briefing on it. The University will take steps to ensure that both the policy and guidance are fully understood and implemented. The policy and guidance will be brought to the attention of all staff and students and are available on the website. The policy will form a part of every employment, and student contract, or relationship, or contract for services. The University will encourage a culture of non-tolerance of any form of harassment.

This policy and the accompanying guidance, which should be read in conjunction with the University's Equal Opportunity Policy and Race Equality Policy, will be the subject of regular review by the General Purposes Committee of Council in consultation with other appropriate committees, including the Personnel Committee.

Information concerning allegations of harassment should be treated in the strictest confidence. Breaches of confidentiality may give rise to disciplinary action. Further information about confidentiality is set out in Part IV of this code - available on the website.

Definition of harassment

A person subjects another to harassment where he or she engages in unwanted and unwarranted conduct which has the purpose or effect of:

- a violating that other's dignity, or
- b creating an intimidating, hostile, degrading, humiliating or offensive environment for that other.

Harassment may involve repeated forms of unwanted and unwarranted behaviour, but a one-off incident can also amount to harassment.

Acts of harassment may be unlawful. Harassment on grounds of sex, race, religion, disability, sexual orientation or age may amount to unlawful discrimination. Harassment may also breach other legislation and may in some circumstances be a criminal offence e.g. under the provisions of the Protection from Harassment Act 1998.

Reasonable and proper management instructions administered in a fair and proper way, or reasonable and proper review of a member of staff's or a student's work and/or performance will not constitute harassment. Behaviour will not amount to harassment if the conduct complained of could not reasonably be perceived as offensive.

Guidance on taking action if you believe you have been harassed

Informal or formal resolution?

If possible, you should attempt to resolve the matter informally; it may be that the alleged harasser does not know what effect his or her behaviour is having on you. If an informal resolution can be effectively achieved, this will in many cases be advantageous to you. It is however recognised that, in some cases, only a formal procedure would be appropriate.

Regardless of whether you succeed in resolving the matter informally, or decide to bring a formal complaint, try to keep a factual record of the offending behaviour. It is easy to forget details after the event and such a record will help you when seeking advice, in deciding whether to make a complaint, in formulating the complaint and in giving evidence at any subsequent hearing.

The harassment adviser will discuss with you what steps you can take to try to reach an informal resolution. The first step may be to speak with the alleged harasser and let him or her know that you object to his or her behaviour, explain why you object and ask that they stop. You should keep a factual record of what is said and done and of any witnesses present. Alternatively, or as a second step, you could put your objections and a request to stop in a letter addressed to the alleged harasser. Again, keep a copy. It is not advisable to communicate with the alleged harasser by email as these are easily copied and all too quickly sent without proper consideration of the wording.

The harassment adviser cannot tell you what you should say, or write a letter for you, but he or she can guide you, discuss the steps to take and review the outcomes with you.

If the behaviour continues regardless of your requests to stop, or, if attempting an informal resolution is not appropriate in the first place, the next stage will be to make a formal complaint.

The Harassment Advisors for the Computing Laboratory are:

Christine O'Connor - Tel. 73863

and

Nick Trefethen - Tel 73886

and you should contact them in the first instance.

H Rules and Regulations Concerning Use of Department of Engineering Science Premises

In addition to the rules of the University and of the Computing Laboratory, students using the facilities in the Thom Building should be aware of, and comply with, the following extracts from the Rules of the Department of Engineering Science:

5. Normal working hours of the department are:

Monday to Thursday;	08.15 – 13.00 and 14.00 – 17.15
Friday	08.15 – 13.00 and 14.00 – 16.45.

10. Except by permission of the staff member responsible, junior members may not remove tools or equipment from any part of the buildings.
12. Except by permission of the member of staff responsible, junior members of the department are not permitted to enter research laboratories, staff offices, stores, workshops (other than the staff/student workshop), roof areas, service areas, photographic darkrooms, the enquiry office and rooms carrying notices of special hazards. Except in the case of fire, junior members must not use the walk way round the outside of the Thom Building at 7th floor level.
16. Permission must be obtained from the Head of Department before photographs or articles concerning the work of the department are communicated to the press.
17. Junior members of the department are not allowed to bring cars into the departmental car parks.
18. Motor cycles should be parked in the spaces provided and pedal cycles should be left in the racks, including those adjacent to the Department of Metallurgy and Science of Materials.
19. Those entrusted with a key to any departmental building are responsible for ensuring that the building is properly locked if they leave outside normal working hours. The loss of a key must be reported immediately. The copying of keys is forbidden.

I University Policy on Intellectual Property Rights

The University in its statutes claims ownership of certain forms of intellectual property which students may create in the course of, or incidentally to, their studies: the full text of the relevant Statute is set out below. In return, the University pays students a proportion of the revenue received from the exploitation of the intellectual property, following procedures set out in decrees published by the University from time to time, and available on request or from the University website at www.admin.ox.ac.uk/rso/policy/.

INTELLECTUAL PROPERTY

- 5 (1) The University claims ownership of all intellectual property specified in section 6 of this statute which is devised, made, or created:
 - (a) by persons employed by the University in the course of their employment;
 - (b) by student members in the course of or incidentally to their studies;
 - (c) by other persons engaged in study or research in the University who, as a condition of their being granted access to the University's premises or facilities, have agreed in writing that this Part shall apply to them; and
 - (d) by persons engaged by the University under contracts for services during the course of or incidentally to that engagement.
- 5 (2) The University's rights under sub-section (1) above in relation to any particular piece of intellectual property may be waived or modified by agreement in writing with the person concerned.
- 6 The intellectual property of which ownership is claimed under section 5 (1) of this statute comprises:
 - (1) works generated by computer hardware or software owned or operated by the University;
 - (2) films, videos, multimedia works, typographical arrangements, field and laboratory notebooks, and other works created with the aid of university facilities;
 - (3) patentable and non-patentable inventions;
 - (4) registered and unregistered designs, plant varieties, and topographies;
 - (5) university-commissioned works not within (1), (2), (3), or (4);
 - (6) databases, computer software, firmware, courseware, and related material not within (1), (2), (3), (4), or (5), but only if they may reasonably be considered to possess commercial potential; and
 - (7) know-how and information associated with the above.
- 7 Notwithstanding section 6 of this statute, the University will not assert any claim to the ownership of copyright in:
 - (1) artistic works, books, articles, plays, lyrics, scores, or lectures, apart from those specifically commissioned by the University;
 - (2) audio or visual aids to the giving of lectures; or
 - (3) computer-related works other than those specified in section 6 of this statute.
- 8 For the purpose of sections 6 and 7 of this statute, 'commissioned works' are works which the University has specifically employed or requested the person concerned to produce, whether in return for special payment or not, but, save as may be separately agreed between the University Press and the person concerned, works commissioned by the University Press in the course of its publishing business shall not be regarded as 'works commissioned by the University'.
- 9 Council may make regulations:
 - (1) defining the classes of persons or naming individuals to whom section 5 (1) (c) of this statute shall apply;
 - (2) requiring student members and such other persons as may be specified in regulations to sign any documents necessary in order to give effect to the claim made by the University in this Part and to waive any rights in respect of the subject-matter of the claim which may be conferred on them by Chapter IV of Part 1 of the Copyright, Designs and Patents Act 1988; and

(3) generally for the purposes of this Part.

10 This Part shall apply to all intellectual property devised, made, or created on or after 1 October 2000 and is subject to the provisions of the Patents Act 1977.

J Equal Opportunities

EQUAL OPPORTUNITIES STATEMENT : STUDENTS

The University of Oxford and its colleges aim to provide education of excellent quality at undergraduate and postgraduate level for able students, whatever their background. In pursuit of this aim, the University is committed to using its best endeavours to ensure that all of its activities are governed by principles of equality of opportunity, and that all students are helped to achieve their full academic potential. This statement applies to recruitment and admissions, to the curriculum, teaching and assessment, to welfare and support services, and to staff development and training.

Recruitment and admissions

Decisions on admissions are based solely on the individual merits of each candidate, their suitability for the course they have applied to study (bearing in mind any requirements laid down by any professional body), assessed by the application of selection criteria appropriate to the course of study. Admissions procedures are kept under regular review to ensure compliance with this policy.

We seek to admit students of the highest academic potential. Except in respect of the college admitting women only, all selection for admission takes place without reference to the sex of the candidate. All colleges select students for admission without regard to marital status, race, ethnic origin, colour, religion, sexual orientation, social background or other irrelevant distinction.

Applications from students with disabilities are considered on exactly the same academic grounds as those from other candidates. We are committed to making arrangements whenever practicable to enable such students to participate as fully as possible in student life. Details of these arrangements can be found in the University's Disability Statement, and information will be provided on request by colleges or by the University Disability Co-ordinator.

In order to widen access to Oxford, the University and colleges support schemes which work to encourage applicants from groups that are currently under-represented. The undergraduate Admissions Office can provide details of current schemes.

None of the above shall be taken to invalidate the need for financial guarantees where appropriate.

The curriculum, teaching and assessment

Unfair discrimination based on individual characteristics (listed in the statement on recruitment and admissions above) will not be tolerated. University departments, faculties, colleges and the central quality assurance bodies monitor the curriculum, teaching practice and assessment methods. Teaching and support staff have regard to the diverse needs, interests and backgrounds of their students in all their dealings with them.

Welfare and support services

Colleges have the lead responsibility for student welfare and can provide details of arrangements made to support their students. The University, in addition, provides for all students who require such support:

- a counselling service,
- childcare advice,
- disability assessment and advice, and
- a harassment advisory service

Further details of these services are included in the Proctors' and Assessor's handbook 'Essential information for students', which is updated annually.

Staff development and training

The University, through its Institute for the Advancement of University Learning, will provide appropriate training programmes to support this statement.

Complaints

A candidate for admission who considers that he or she has not been treated in accordance with this policy, should raise this with the college concerned (or department in the case of graduate admission). Students in the course of their studies may use the student complaints procedure, and should, in the first instance, lodge their complaint with the Proctors, who will advise on the procedure to be followed thereafter. The Committee on Diversity and Equal Opportunity monitors complaints made by students.

Departmental Disability Co-ordinator

Christine O'Connor - tel. 73863, email cmoc@comlab.ox.ac.uk

JS/JS
EQUAL OPPORTUNITIES/ORIGINAL DOCUMENTS/STATEMENT STUDENTS
January 2001

K Memorandum of Guidance for Research Students and their Supervisors

[This is an extract from the Examination Regulations 2004, pp. 900-903 If this note should differ from the Examination Regulations in any respect then the Examination Regulations take precedence.]

Responsibilities of the student

1. The student must accept his or her obligation to act as a responsible member of the University's academic community.
2. The student should take ultimate responsibility for his or her research programme and endeavour to develop an appropriate working pattern, including an agreed and professional relationship with the supervisor(s). The student should discuss with the supervisor the type of guidance and comment which he or she finds most helpful, and agree a schedule of meetings.
3. He or she should make appropriate use of the teaching and learning facilities available within the University.
4. It is the student's responsibility to seek out and follow the regulations relevant to his or her course, including faculty/departmental handbooks/notes of guidance, and to seek clarification from supervisors and elsewhere if this is necessary.
5. The student should not hesitate to take the initiative in raising problems or difficulties, however elementary they may seem. He or she should ensure that any problems regarding the project are drawn to the attention of the supervisor so that appropriate guidance may be offered.
6. The student should seek to maintain progress in accordance with the plan of work agreed with the supervisor, including in particular the presentation of the required written material in sufficient time for comment and discussion before proceeding to the next stage. As groundwork for the thesis, the student should as soon as possible write rough drafts of possible chapters. Students in the sciences should keep a systematic record of all that has been attempted and accomplished. Both the student and the supervisor will want to keep a record of all formal, scheduled meetings. They may well want to agree a record of what has been discussed and decided.
7. The student should recognise that a supervisor may have many competing demands on his or her time. The student should hand in work in good time to the supervisor and give adequate notice of unscheduled meetings. The need for adequate notice also applies to requests for references from the supervisor.
8. The student should be aware that the provision of constructive criticism is central to a satisfactory supervisory relationship, and should always seek a full assessment of the strengths and weaknesses of his or her work.
9. If the student feels that there are good enough grounds for contemplating a change of supervision arrangements, this should first be discussed with the supervisor or, if this seems difficult, with the appropriate head of department, director of graduate studies or their deputies, or the college adviser.
10. Where problems arise, it is essential that a student gives full weight to any guidance and corrective action proposed by the supervisor.
11. The student should provide regular reports on his or her progress to the board in accordance with any requirements of the Educational Policy and Standards Committee. The student must satisfy the supervisor on his or her progress at least once a year and should inform the supervisor at once of any circumstances that might require his or her mode of study to be modified or his or her registration as a graduate student to be extended, suspended or withdrawn.
12. The student should ensure that the standard of his or her English is sufficient for the presentation of a thesis. Students whose first language is not English should take advice on this.
13. The student should make full use of the facilities for career guidance and development, and should consult their supervisor for advice and encouragement where appropriate.

14. The student should ensure that he or she allows adequate time for writing up the thesis, taking the advice of the supervisor. Particular attention should be paid to final proof-reading.
15. It is the student's responsibility to decide when he or she wishes to submit the thesis for examination, after taking due account of the supervisor's opinion, though this is only advisory. It is in the student's interests to ensure that the final version has been made available to the supervisor in good time before the intended date of submission.

Responsibilities of the supervisor

1. In considering an invitation to supervise a research student, the supervisor must recognise and accept the responsibilities both to the student and to the relevant board or committee implicit in the supervisory relationship.
2. Where practicable, the supervisor should assign the student some directed reading before arrival. This might be of a general background nature so as to put the student in a position to discuss the topic with the supervisor soon after arrival, or it might form the start of a survey of current literature. The supervisor is required to meet with the new student not later than the second week of Full Term.
3. The supervisor is responsible for giving early advice about the nature of research and the standard expected, and about the planning of the research programme. The supervisor should ensure that, where the student's research forms part of a funded research programme, sufficient financial support will be available for the duration of the student's period of study; if there is any doubt, he or she should agree with the student an alternative fallback project at an early stage. The supervisor is also responsible for advising the student about literature and sources, attendance at classes, and requisite techniques (including helping to arrange instruction where necessary). The supervisor should discuss with the student the lecture list for his or her subject and related lecture lists. The supervisor should identify with the student any subject specific skills necessary for the proposed research.
4. Where during his or her first year of research a student wishes, in addition to contact with his or her supervisor(s), to have limited consultation with one or two other academics the supervisor should try to identify (in conjunction with the Director of Graduate Studies) such colleagues and to arrange for an approach to them by the student.
5. Where a supervisor operates as a co-supervisor or as a part of a supervisory team, it is important to clarify the responsibilities of each supervisor and to coordinate advice and guidance.
6. Where the thesis is likely to involve statistical analysis or tabulation of numerical results, the supervisor should arrange for the student to obtain advice, at an early stage, about the design of any experiment or the collection and storage; of data, and about its subsequent analysis.
7. The supervisor should ensure that the student works within a planned framework which marks out the stages which the student should be expected to have completed at various points in his or her period of study. The nature of the framework will of course vary widely from subject to subject, but in all subjects the formulation of the topic, planning and management of time should begin at an early stage. Particular attention should be given to the selection and refinement of the research topic, which in the case of the D.Phil. should be one which a diligent student may reasonably be expected to complete within three (or at most four) years of full-time study.
8. The supervisor should meet with the student regularly. Supervisor and student should agree a formal schedule of meetings on a termly or annual basis. The supervisor should also be accessible to the student at other appropriate times when advice is needed. The supervisor should also request written work as appropriate and in accordance with the plan discussed with the student. Such work should be returned with constructive criticism and in reasonable time.
9. The supervisor should tell the student from time to time how well, in the supervisor's opinion, work is getting on, and try to ensure that the student feels properly directed and able to communicate with the supervisor. It is essential that when problems arise, corrective action is clearly identified and full guidance and assistance are given to the student.

10. The supervisor is required to report to the board on the student's work three times a year, once at the end of each term. Each report should state the nature and extent of recent contact with the student, and, if there has been none, state why this is so. The report should also make clear whether the student is making satisfactory progress, bearing in mind that a D.Phil. thesis should normally be completed within three (or at most four) years of full-time research. Any student who has not satisfied his or her supervisor on at least one occasion in an academic year that he or she is making progress will be liable to have his or her name removed from the register.
11. The supervisor should aim to ensure that by the end of the first year the topic or goal of the student's research is clearly defined, that the student has the necessary background knowledge, and that the required resources are available. The supervisor must have ascertained by then that the student can write a coherent account of his or her work in good English.
12. The supervisor should try to ensure that unnecessary delays do not occur. These have been known to arise, for example, for reasons such as:
 - (a) insufficient effort at the outset in choosing and formulating the research topic;
 - (b) a slow start because of the time taken to adjust to research work;
 - (c) distractions from the main line of inquiry;
 - (d) superfluous attempts to tie up every loose end; (and mainly in the sciences)
 - (e) inadequate and delayed planning and assembly of apparatus and equipment;
 - (f) insufficient collection or recording of data at an early stage, so that work has to be repeated in the later stages.
13. The supervisor should arrange for students to have the opportunity to discuss their research with other staff and students in their subject area (see also (4) above) and to communicate to others in the wider academic community, both orally and in writing, his or her research findings.
14. Where a student undertakes research as part of a team or group the supervisor should ensure that this is in full awareness of the way in which the student's own contribution fits into the work of the remainder of the group.
15. The supervisor should not be absent on leave unless he or she has ensured that appropriate temporary supervision has been arranged for the student.

Responsibilities of departments

1. Departments should provide information about:
 - (i) any induction provided on a departmental, divisional or University basis;
 - (ii) welfare arrangements within the University, e.g. the Counselling Service, Student Hardship and Access funds, the provisions for support offered by the Proctors and the Assessor.
 - (iii) any general transferable skills from which the student is likely to profit during the course of his or her research, and the available provision at departmental, divisional and university level;
2. Departments should ensure that there is appropriate monitoring of a student's work and progress and that reports are submitted on a termly basis in accordance with the University's requirements.
3. Departments should endeavour to provide opportunities for a student to:
 - (i) defend his or her findings to appropriate research seminars and respond to potentially critical questioning;
 - (ii) at an appropriate stage to present his or her findings to national, and if appropriate, international conferences;
4. Departments should
 - (i) help the student to present work in a clear and professional manner;
 - (ii) help the student to develop his or her communication skills, especially for different audiences;
 - (iii) provide some guidance in oral examination techniques.

Safety and Health

Supervisors of all students, whether in the arts or in the sciences, should consider carefully the safety implications of their students' research. Those supervising students (particularly those in the sciences) are responsible for all aspects of safety under their control, and in particular for the safe conduct of all experiments carried out in the course of their students' research. In the event of an accident, inadequate supervision may render the supervisor liable to prosecution. Supervisors should also ensure that their students are made aware that in the event of injury to other persons as a result of their negligence, the student could be subject to civil claims for damages. Advice on the legal responsibilities for safety may be obtained from the University Safety Officer. For their part, students must carry out research with proper regard to good health and safety practices. Supervisors and students should be aware of the need for adequate health insurance and health precautions when travelling abroad. In case of doubt, reference should be made to the University Medical Officer.

L Plagiarism

Academic integrity: good practice in citation, and the avoidance of plagiarism

Note for graduate students

The University's code of conduct concerning academic integrity is set out on the website at

<http://www.admin.ox.ac.uk/ps/staff/codes/air.shtml>

and, while the code's principles relate specifically to the conduct of research, all graduate students are advised to make themselves aware of the document's contents.

The code of conduct mentions plagiarism, and in this context it is important for all taught course and research students within the division's subject areas, to be aware of, and to follow, good practice in the use of sources and making appropriate reference. You will need to exercise judgement in determining when reference is required, and when material may be taken to be so much a part of the 'general knowledge' of your subject that formal citation would not be expected. The basis on which such judgements are made is likely to vary slightly between subject areas, as may also the style and format of making references, and your supervisor, or course organiser where appropriate, will be in the best position to advise you on such matters; in addition, these may be covered, along with other aspects of academic writing, in your induction training.

By following the citation principles and practices in place in your subject area, you will develop a rigorous approach to academic referencing, and avoid inadvertent plagiarism. Cases of apparently deliberate plagiarism, while happily infrequent in the University, are taken extremely seriously, and where examiners suspect that this has occurred, they bring the matter to the attention of the Proctors. Your attention is drawn to the Proctors' and Assessor's Memorandum, Section 9.5, 'Conduct in Examinations', and in particular to sections 4 and 5 and the concluding paragraph of the section:

- 4 No candidate shall present for an examination as his or her own work any part or the substance of any part of another person's work.
- 5 In any written work (whether thesis, dissertation, essay, coursework, or written examinations) passages quoted or closely paraphrased from another person's work must be identified as quotations or paraphrases, and the source of the quoted or paraphrased material must be clearly acknowledged.

The University employs a series of sophisticated software applications to detect plagiarism in submitted examination work, both in terms of copying and collusion. It regularly monitors on-line essay banks, essay-writing services, and other potential sources of material. It reserves the right to check samples of submitted essays for plagiarism. Although the University strongly encourages the use of electronic resources by students in their academic work, any attempt to draw on third-party material without proper attribution may well attract severe disciplinary sanctions. ”