

Computing Laboratory

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How to apply for a Doctorate in the Computing Laboratory

Professor Marta Kwiatkowska



Oxford University Computing Laboratory

What is a Doctorate?

- **Doctor of Philosophy**
 - abbreviated D.Phil. at Oxford and Ph.D. elsewhere (well almost)
 - highest degree awarded by universities
 - a **requirement** for a career as a university professor or researcher in many fields
 - useful in many other professional careers: management, consultancy, government/service, etc
- **Qualifies you to become an equal to faculty**
 - BSc/BA – general education
 - Masters – licence to practice
 - Doctorate – licence to teach... and
 - ... to do research and examine for D.Phil.

Research

- Doctorate is a research degree
 - Apprenticeship in research
 - Awarded for a **significant and substantial piece of research**
 - Thesis, examined by experts and defended in a viva
- What is research?
 - *“Finding out something to find out, then finding it out”*
 - Freedom from tightly prescribed courses, textbooks, exams...
 - ... but more responsibility for organising own time and taking charge of investigation
- Why study for a Doctorate?
 - **Exciting** to carry out investigations into unknown
 - **Enriching** to learn and master new techniques
 - **Rewarding** to communicate results, teach, supervise, etc
 - **Great** to be a member of the international community

Life as a Research Student

- There are low points as well...
- But help is at hand!



- www.phdcomics.com

Selecting...

- **The topic**
 - Is this something that you have a genuine interest in?
 - and motivate yourself to succeed?
- **The institution**
 - Does it have a leading reputation in your chosen topic?
 - Publishing in leading journal
 - Thriving research culture
 - Research funding
 - Speakers/chairs of leading conferences
 - Editors of leading journals
 - Lab facilities (if relevant)
 - and commitment to doctoral training?
 - Opportunities to train, learn leading edge methods, etc
 - Processes and support, incl. welfare, available
 - Funding for travel, writing-up, postdoctoral opportunities

Selecting...

- The supervisor
 - An important step, so consider carefully and state your preference (but it is the department that allocates)
 - Does he/she have an **established research record** and **currently** contributing to your topic?
 - Recent publications in leading journals and conferences
 - Research grants funding
 - Invitations to speak at leading conferences
 - Does he/she have successful experience of supervision?
 - Check out webpages
 - Read theses of previous students, find out where they went
 - ... but someone has to be first
 - The type of supervisory relationship you want...
 - One to one, member of research group or supervisory team
 - Rapport and mutual trust are very important

Research Proposal

- What it should contain
 - Clear statement of **research topic** or **area**
 - Evidence that you have read and understood key material
 - Description of a **problem**, **why** it is worthy of investigation and ideas for **how it can be tackled**
 - Potential supervisor(s) – otherwise you risk rejection
- What is not needed
 - Detailed plan of work – your proposal is most likely to be too immature and will evolve during study
- Points to be aware of
 - There must be scope for **new** ideas and **originality**
 - There must be a **scientific method**
 - ... but writing a software system is not a research project in itself
 - there must be originality, a method of evaluation and potential for new insight

D.Phil. in Computer Science at Oxford?

- The Computing Laboratory
 - Aim to be one of the **world's best** Computer Science departments, at one of the world's best universities
 - Aim to provide **best quality** supervision and **research environment**
 - Growing number of D.Phil. Students, currently **over 100**
- Research overview
 - Both sophisticated theory **and** engagement with applications
 - New group structure, seven themes
 - Computational biology
 - Information systems
 - Programming languages
 - Software engineering
 - Theory
 - Verification
 - (Numerical analysis)

How to Apply

- First, consider your match against selection criteria
 - See next
- Second, find a research topic
 - Discuss with potential supervisor, perhaps DGS
 - Write a proposal
- Consider scholarship funding
 - Depends on subject and nationality – **strict deadlines!!!**
- Apply **online**
 - Provide documentation of e.g. **transcripts**, language certificates (if relevant)
 - Request **references**
- Attend **interview** if shortlisted
- Accept/reject offer (if successful)

D.Phil. Admission Criteria

- **Academic ability**
 - Typically upper second class degree, or approx. GPA 3.5/4.0
 - Masters or 4th year not essential, but increasingly common
 - Strong support from referees
 - Prizes, high overall position in the cohort (say 2nd out of 120)
 - For (Clarendon) scholarships: typically 1st, GPA 3.7 or outstanding achievement in Masters
- **Motivation (new criterion this year)**
 - Desire to accomplish something, to keep on going
- **Commitment to pursue the chosen programme to a successful conclusion within the required time limits**
 - Ability to stick with something even if it is not working
- **How is the decision made?**
 - Review application and interview
 - Consider **match to criteria and topic**, in competition

D.Phil. Admissions for 2009

- **Three application deadlines**
 - 21 Nov 2008
 - 23 Jan 2009 – **latest deadline for scholarship applications**
 - 13 Mar 2009
 - The “gathered field” terminology is being abandoned
 - “Open field” until 17 July (online) – not publicised to candidates
 - If places still available
 - For project studentships
- **All applications processed online (Embark)**
 - Paper applications **digitised** and entered into the OSS system
 - Decisions recorded on OSS
 - College clearing house
- **Application fee**

D.Phil. Admissions for 2009

- Different treatment of readmission candidates
 - i.e. students currently doing MSc at Oxford
 - GSO4 form discontinued
 - Pre-populated for from OSS (available from Nov)
 - Must apply by the same deadline, same paperwork as external students
 - ... but **no fee**

Scholarships for 2009

- **University- and college allocated**
 - See University pages and Graduate Finance Guide
 - http://www.ox.ac.uk/admissions/postgraduate_courses/finance/index.html
 - e.g Rhodes, Scatchered European, and many more
- **University-wide, nominated by Computing Laboratory**
 - ORS (to be discontinued), KC Wong, AXA awards, etc
- **Departmental, allocated by Computing Laboratory**
 - EPSRC DTA award:
 - Full for home students (plus some EU students, see regs)
 - Fees-only for EU students
 - Departmental: competitive, no restrictions, typically top-up
 - Clarendon: 2pa, no nationality restrictions, competitive
- **Ad hoc project studentships**
 - To work on specific project, as available, see webpages

Milestones in the life as a D.Phil.

- Life begins...
 - PRS: **Probationary** Research Student, 1st year
 - Start research, take courses, participate in research activities
 - **Transfer** to D.Phil. (or M.Sc. by research) Status, **within 4 terms**
 - Submit qualifying dissertation (research report and thesis proposal)
 - Be examined by 2 assessors (not supervisor)
 - **Confirmation** of Status, within 9 terms
 - Submit progress report, incl. thesis contents and timetable
 - Be examined by 2 assessors
 - **Submission** of thesis and Examination
 - External and internal examiners
 - Viva voce, in subfusc
- What's next?
 - Career as a researcher, lecturer, in IT, management, etc

More on 1st year

- Supervision and year pattern
 - Term-time and vacation, apart from reasonable breaks
 - Meet with supervisor regularly, **weekly/fortnightly**
- Courses
 - Take **and** be examined on **4 courses**, normally in the 1st year
 - An exciting selection available in Comlab and other MPLS departments
- Research activities
 - Begin research (“finding out something to find out”)
 - Reading (lots of!), literature survey, small case study...
 - Attending seminars, giving first talks, contributing to research papers...
- Training
 - Class teaching and demonstrator training available
 - Leadership, team work, time management, etc
 - See MPLS website, University Skills Portal

Sources of information

- How to find out about
 - **Being a D.Phil. student**: your fellow students, friends, demonstrators, tutors, current D.Phil. students...
 - **Research topics** to study: departmental webpages
 - <http://www.comlab.ox.ac.uk/research/>
 - ... and your lecturers, supervisors/advisors, DGS
 - **Potential supervision**: your lecturers, supervisors/advisors, DGS, ...
 - <http://www.comlab.ox.ac.uk/research/people.html>
 - **Application process and scholarships**, see departmental webpages
 - <http://www.comlab.ox.ac.uk/admissions/dphil/>
- Contact Graduate Studies office
 - Julie Sheppard, Graduate Admissions Secretary (112)
 - Marta Kwiatkowska, DGS (453), arrange appointment through Elizabeth Walsh