University of Oxford Department of Computer Science

Job description and selection criteria

Job title	Project Supervisor for Professional Masters Programme Students
Division	MPLS
Department	Department of Computer Science
Location	Wolfson Building, Parks Road, Oxford.
Grade and salary	Grade 7 (£36,024 - £44,263 p.a. (with a discretionary range to £48,350)
Hours	Part time 0.5 FTE (18.5 hours)
Contract type	Fixed-term for 2 years
Reporting to	Professor Jeremy Gibbons
Vacancy reference	166534

Overview of the role

Professional Masters Programme (PMP)

The Computer Science Department's highly successful Professional Masters Programme of part-time postgraduate education is aimed at software professionals working in industry. The programme has over 340 students working towards MSc degrees in Software Engineering and in Software & Systems Security. Students take three or four short modules a year, each based around a single week of intensive teaching. Students are all allocated a supervisor to provide technical guidance and feedback on academic progress and in relation to their projects.

For further details of PMP, see https://www.cs.ox.ac.uk/softeng/

The role

The Project Supervisor role is a relationship requiring trust and respect. Students have the right to expect regular, high quality advice, support and direction in their quest for academic excellence. Students on the Professional Masters Programme are typically industry experts; very often they are directors or CEOs of companies, or in-house experts who are attending the programme with a view to tackling real industry problems, through the learning acquired on their supervised projects. They therefore require supervision from those with the currency, skills, experience, and gravitas to install confidence and to enable the students to produce the most effective tangible results as a consequence of the learning acquired on the programme.

We are now seeking a Project Supervisor to be responsible for the supervision of Professional Masters students on the MSc in Software & Systems Security, as they work on their project and write up their dissertation. This will involve face-to-face (online or in-person) meetings with students and regular e-mail contact before they start their dissertation. During the project, the supervisor will provide guidance on research topics and check proposal revisions, which finally leads to a more intensive phase in which the supervisor provides feedback on dissertation revisions. It is anticipated that the post holder will supervise 18-20 students through this process, and will act as an assessor for dissertations.

Responsibilities

- To supervise part-time MSc students which includes regular communications with students to advise and provide feedback on academic writing, technical content, writing reports on academic progress using the Graduate Supervision System (GSS).
- To provide support and guidance for the students to:
  - analyse or research complex ideas, concepts, or extensive data from different perspectives and to identify research questions within a specific context to generate original ideas to build on existing concepts
  - apply knowledge and judgement to find solutions for security problems that may require the application of cryptography, risk analysis, security design, network security, human factors in security, and so on
  - review and refine working hypotheses according to project outcomes
  - make independent decisions relating to the programme material
  - agreeing clear task objectives to be achieved.
- To actively liaise with students in their choice of modules.
- To attend ‘project weeks’ and assist students with preparation of their project proposals; this will require current and in-depth knowledge and ability to discuss complex conceptual ideas of a highly specialist and technical nature in order to guide students to resolve real industry problems related to software engineering.
- To actively help students when they propose their dissertation topic which will involve discussions about students' work and professional interests, and using own experience and initiative to guide the student towards a suitable topic.
- To assess the vigour and robustness of student proposals in addressing the industry problem which they may be trying to address, following the project weeks.
- To provide preliminary approval of dissertation topics, to assess MSc dissertations and ensure that the marks are fair, consistent and that the University procedures on academic practice are observed.
- To provide detailed MSc assessment reports to the Chair of Examiners.
- To provide advice and recommendations to examiners and to relevant committees on matters relating to marking and suspected cases of plagiarism.
- To communicate information about new modules and regulations to students.

- To attend team meetings, collaborating with the other team members to ensure consistent marking and supervision.
- To sit on relevant departmental committees such as the Supervisory Committee.
- To provide new students with introduction to the university procedures and regulations.
- To engage with other academic staff and with administration when allocating and carrying out the above tasks.
- To coach and support students to meet the requirements of the programme, which not only includes the technical requirements, but also in planning for deadlines.

Selection criteria

Essential selection criteria

- Sufficient depth and breadth of knowledge in software and systems security to guide and assess MSc projects, which may have been acquired from experience in an academic research role, or equivalent industry experience.
- Experience of presenting complex conceptual ideas and information of a highly technical or specialist nature to a variety of audiences using appropriate methods
- Excellent communication skills, both orally and in writing in order to provide constructive and helpful academic and technical feedback on projects and academic progress
- Willingness to undertake training in supervision skills as defined by the University
  Previous experience of supervising detailed technical work, either of graduate students or software professionals

Desirable selection criteria

- Knowledge of the state-of-the-art techniques in software and systems security.
- Relevant Ph.D/D.Phil with post-qualification teaching and research experience in computer science.

Pre-employment screening

All offers of employment are made subject to standard pre-employment screening, as applicable to the post.

If you are offered the post, you will be asked to provide proof of your right-to-work, your identity, and we will contact the referees you have nominated. You will also be asked to complete a health declaration (so that you can tell us about any health conditions or disabilities so that we can discuss appropriate adjustments with you), and a declaration of any unspent criminal convictions.

We advise all applicants to read the candidate notes on the University's pre-employment screening procedures, found at: http://www.jobs.ox.ac.uk/pre-employment-checks

About the University of Oxford

Oxford's departments and colleges aim to lead the world in research and education for the benefit ofsociety both in the UK and globally. Oxford's researchers engage with academic, commercial and cultural partners across the world to stimulate high-quality research and enable innovation through a broad range of social, policy and economic impacts.

Oxford's self-governing community of international scholars includes Professors, Associate Professors, other college tutors, senior and junior research fellows and over 2,500 other University research staff. Research at Oxford combines disciplinary depth with an increasing focus on inter-disciplinary and multi-disciplinary activities addressing a rich and diverse range of issues.

Oxford's strengths lie both in empowering individuals and teams to address fundamental questions of global significance, and in providing all staff with a welcoming and inclusive workplace that supports everyone to develop and do their best work. Recognising that diversity is a great strength, and vital for innovation and creativity, Oxford aspires to build a truly inclusive community which values and respects every individual's unique contribution.

While Oxford has long traditions of scholarship, it is also forward-looking, creative and cutting-edge. Oxford is one of Europe's most entrepreneurial universities. It consistently has the highest external research income of any university in the UK (the most recent figures are available at www.ox.ac.uk/about/organisation/finance-and-funding), and is ranked first in the UK for university spin-outs, with more than 130 spin-off companies created to date. Oxford is also recognised as a leading supporter of social enterprise.

Oxford admits undergraduate students with the intellectual potential to benefit fully from the small group learning to which Oxford is deeply committed. Meeting in small groups with their tutor, undergraduates are exposed to rigorous scholarly challenge and learn to develop their critical thinking, their ability to articulate their views with clarity, and their personal and intellectual confidence. They receive a high level of personal attention from leading academics.

Oxford has a strong postgraduate student body which now numbers over 10,000. Postgraduates are attracted to Oxford by the international standing of the faculty, by the rigorous intellectual training on offer, by the excellent research and laboratory facilities available, and by the resources of the museums and libraries, including one of the world's greatest libraries, the Bodleian.

For more information please visit www.ox.ac.uk/about/organisation

Department of Computer Science

The Department of Computer Science was established in 1957, making it one of the longest-established Computer Science departments in the country. It is one of the UK's leading Computer Science Departments (ranked first in a number of international rankings). Our Computer Science and Informatics submission to the UK Research Excellence Framework (REF) in December 2021 resulted in 81% of research activity ranked as 4* (world-leading) and the rest ranked as 3* (internationally excellent). A significant majority of the Department are active in externally sponsored research, with both government and industrial funding. At present, there are 73 members of academic staff and 100 research staff.

The Department has close links with government, industry, and other departments within the University. Among the latter are Mathematics, Engineering, Physics, Statistics and life sciences. The Department is housed across multiple sites within the University's South Parks Road Science Area, facilitating strong collaborative links with research groups and institutes in closely allied areas (including the Oxford Internet Institute and the Oxford e-Research Centre). At present, the Department holds over £50m in external research contracts.

Research in the Department is currently managed in ten themes:

- *Algorithms & Complexity Theory, led by Professor Leslie Ann Goldberg,* focusses on determining the inherent difficulty of computational problems, classifying problems according to this inherent difficulty, and designing and analysing algorithms that use computational resources as efficiently as possible;
- *Artificial Intelligence & Machine Learning, led by Professor Michael Wooldridge,* focuses on theoretical foundations of AI, multiagent systems, deep learning, reinforcement learning ,and computational linguistics;
- *Automated Verification, led by Professor Marta Kwiatkowska,* investigates theory and practice of formal verification and correct-by-construction synthesis for software and hardware systems;
- *Computational Biology & Health Informatics, led by Professor Blanca Rodriquez ,* is concerned with computational approaches for biomedical research and healthcare innovation;
- *Human-Centred Computing, led by Professor Nigel Shadbolt,* includes human-computer interaction, social computing, and the worldwide web;
- *Data and Knowledge, led by Professor Ian Horrocks,* includes databases, knowledge representation and reasoning;
- *Programming Languages, led by Professor Sam Staton,* includes functional programming, program analysis, and programming language foundations;
- *Quantum, led by Professor Jonathan Barrett,* focusses on quantum computing including quantum software, causality in quantum theory, quantum cryptography and foundations of quantum computing;
- *Security, led by Professor Ivan Martinovic,* specialises in cybersecurity, protocol analysis, systems security, trusted computing, and networking.
- *Systems, led by Professor Niki Trigoni,* focusses especially on cyber physical systems. We plan to substantially broaden our research in systems to complement our existing research areas.

For more information, please visit: http://www.cs.ox.ac.uk/.

The Mathematical, Physical, and Life Sciences Division (MPLS)

The Mathematical, Physical, and Life Sciences (MPLS) Division is one of the four academic divisions of the University. Oxford is widely recognised as one of the world's leading science universities and the MPLS Division is home to our non-medical sciences, with 10 academic departments that span the full spectrum of the mathematical, computational, physical, engineering and life sciences, and undertake both fundamental research and cutting-edge applied work. Our research tackles major societal and technological challenges – whether developing new energy solutions or improved cancer treatments, understanding climate change processes, or helping to preserve biodiversity, and is increasingly focused on key interdisciplinary issues. We collaborate closely with colleagues in Oxford across the medical sciences, social sciences and humanities, and with other universities, research organisations and industrial partners across the globe in pursuit of innovative research geared to address critical and fundamental scientific questions.

MPLS is proud to be the home of some of the most creative and innovative scientific thinkers and leaders working in academe. Our senior researchers have been awarded some of the most significant scientific honours and we have a strong tradition of attracting and nurturing the very best early career researchers who regularly secure prestigious fellowships and faculty positions. MPLS continues in its work to support diversity in its staffing, seeing that it will bring benefits to all, and we are pleased to note that all academic departments in the Division hold Athena Swan Awards.

We have around 7,000 full and part-time students (including approximately 3,500 graduate students) and play a major role in training the next generation of leading scientists. Oxford's international reputation for excellence in teaching is reflected in its position at the top of the major league tables and subject assessments. MPLS academics educate students of high academic merit and potential from all over the world. Through a mixture of lectures, practical work and the distinctive college tutorial system, students develop their ability to solve diverse mathematical, scientific and engineering problems.

MPLS is dedicated to bringing the wonder and potential of science to the attention of audiences far beyond the world of academia. We have a strong commitment to supporting public engagement in science through initiatives including the Oxford Sparks portal (www.oxfordsparks.ox.ac.uk) and a large variety of outreach activities; these are crucial activities given so many societal and technological issues demand an understanding of the science that underpins them. We also bring the potential of our scientific efforts forward for practical and beneficial application to the real world and our desire, aided by the work of Oxford University Innovation and Oxford Sciences Innovation, is to link our best scientific minds with industry and public policy makers.

For more information about the MPLS division, please visit: www.mpls.ox.ac.uk

How to Apply

Before submitting an application, you may find it helpful to read the 'Tips on applying for a job at the University of Oxford' document, at https://www.jobs.ox.ac.uk/how-to-apply

If you would like to apply, click on the **Apply Now** button on the 'Job Details' page and follow the on-screen instructions to register as a new user or log-in if you have applied previously. Please provide details of two referees and indicate whether we can contact them now.

You will also be asked to upload a CV and a supporting statement. The supporting statement should explain how you meet the selection criteria for the post using examples of your skills and experience. This may include experience gained in employment, education, or during career breaks (such as time out to care for dependants).

Your application will be judged solely on the basis of how you demonstrate that you meet the selection criteria stated in the job description.

Please upload all documents **as PDF files** with your name and the document type in the filename.

All applications must be received by **midday** on the closing date stated in the online advertisement.

Information for priority candidates

A priority candidate is a University employee who is seeking redeployment because they have been advised that they are at risk of redundancy, or on grounds of ill-health/disability. Priority candidates are issued with a redeployment letter by their employing departments.

If you are a priority candidate, please ensure that you attach your redeployment letter to your application (or email it to the contact address on the advert if the application form used for the vacancy does not allow attachments)

Should you experience any difficulties using the online application system, please email recruitment.support@admin.ox.ac.uk.
Further help and support is available from
https://hrsystems.admin.ox.ac.uk/recruitment-support.
To return to the online application at any stage, please go to: www.recruit.ox.ac.uk.

Please note that you will be notified of the progress of your application by automatic emails from our e-recruitment system. **Please check your spam/junk mail** regularly to ensure that you receive all emails.

Important information for Candidates

Pre-employment screening

Please note that the appointment of the successful candidate will be subject to standard pre-employment screening, as applicable to the post. This will include right-to-work, proof of identity and references. We advise all applicants to read the candidate notes on the University's pre-employment screening procedures, found at:

www.ox.ac.uk/about/jobs/preemploymentscreening/.

Data Privacy

Please note that any personal data submitted to the University as part of the job application process will be processed in accordance with the GDPR and related UK data protection legislation. For further information, please see the University's Privacy Notice for Job Applicants at: https://compliance.admin.ox.ac.uk/job-applicant-privacy-policy

The University's Policy on Data Protection is available at:

https://compliance.admin.ox.ac.uk/data-protection-policy

The University's policy on retirement

The University operates an Employer Justified Retirement Age (EJRA) for all academic posts and some academic-related posts. From 1 October 2017, the University has adopted an EJRA of 30 September before the 69th birthday for all academic and academic-related staff in posts at **grade 8 and above**. The justification for this is explained at: https://hr.admin.ox.ac.uk/the-ejra

For **existing** employees, any employment beyond the retirement age is subject to approval through the procedures: https://hr.admin.ox.ac.uk/the-ejra.

There is no normal or fixed age at which staff in posts at **grades 1–7** have to retire. Staff at these grades may elect to retire in accordance with the rules of the applicable pension scheme, as may be amended from time to time.

Equality of Opportunity

Entry into employment with the University and progression within employment will be determined only by personal merit and the application of criteria which are related to the duties of each particular post and the relevant salary structure. In all cases, ability to perform the job will be the primary consideration. No applicant or member of staff shall be discriminated against because of age, disability, gender reassignment, marriage or civil partnership, pregnancy or maternity, race, religion or belief, sex, or sexual orientation.

Benefits of working at the University

Employee Benefits

University employees enjoy 38 days' paid holiday, generous pension schemes, travel discounts, and a variety of professional development opportunities. Our range of other employee benefits and discounts also includes free entry to the Botanic Gardens and University colleges, and discounts at University museums. See https://hr.admin.ox.ac.uk/staff-benefits

University Club and sports facilities

Membership of the University Club is free for all University staff. The University Club offers social, sporting, and hospitality facilities. Staff can also use the University Sports Centre on Iffley Road at discounted rates, including a fitness centre, powerlifting room, and swimming pool. See www.club.ox.ac.uk and https://www.sport.ox.ac.uk/.

Information for staff new to Oxford

If you are relocating to Oxfordshire from overseas or elsewhere in the UK, the University's Welcome Service website includes practical information about settling in the area, including advice on relocation, accommodation, and local schools. See https://welcome.ox.ac.uk/

There is also a visa loan scheme to cover the costs of UK visa applications for staff and their dependents. See https://staffimmigration.admin.ox.ac.uk/visa-loan-scheme

Family-friendly benefits

With one of the most generous family leave schemes in the Higher Education sector, and a range of flexible working options, Oxford aims to be a family-friendly employer. We also subscribe to the Work+Family Space, a service that provides practical advice and support for employees who have caring responsibilities. The service offers a free telephone advice line, and the ability to book emergency back-up care for children, adult dependents and elderly relatives. See https://hr.admin.ox.ac.uk/my-family-care

Childcare The University has excellent childcare services, including five University nurseries as well as University-supported places at many other private nurseries. For full details, including how to apply and the costs, see https://childcare.admin.ox.ac.uk/

Disabled staff

We are committed to supporting members of staff with disabilities or long-term health conditions. For further details, including information about how to make contact, in confidence, with the University's Staff Disability Advisor, see https://edu.admin.ox.ac.uk/disability-support

Staff networks

The University has a number of staff networks including the Oxford Research Staff Society, BME staff network, LGBT+ staff network and a disabled staff network. You can find more information at https://edu.admin.ox.ac.uk/networks

The University of Oxford Newcomers' Club

The University of Oxford Newcomers' Club is an organisation run by volunteers that aims to assist the partners of new staff settle into Oxford, and provides them with an opportunity to meet people and make connections in the local area. See www.newcomers.ox.ac.uk.