University of Oxford Department of Computer Science

Job description and selection criteria

Job title	Departmental Lecturer (Multi-Agent Systems)
Division	MPLS
Department	Computer Science
Location	Wolfson Building, Parks Road, Oxford.
Grade and salary	Grade 8: Salary £38,511 – £45,954 p.a.
Hours	Full Time
Contract type	Fixed Term for up to 5 years from 1 October 2015
Vacancy reference	118155

Introduction

The Department of Computer Science proposes to appoint a Departmental Lecturer in Computer Science (Multi-Agent Systems) with effect from 1 October 2015 or a mutually agreed date. This is a fixed term position for up to 5 years based at the Department of Computer Science, Wolfson Building, Parks Road, Oxford, OX1 3QD.

The University

The University of Oxford is a complex and stimulating organisation, which enjoys an international reputation as a world-class centre of excellence in research and teaching. It employs over 10,000 staff and has a student population of over 22,000.

Most staff are directly appointed and managed by one of the University's 130 departments or other units within a highly devolved operational structure - this includes over 6,500 'academic-related' staff (postgraduate research, computing, senior library, and administrative staff) and over 2,700 'support' staff (including clerical, library, technical, and manual staff). There are also over 1,600 academic staff (professors, readers, lecturers), whose appointments are in the main overseen by a combination of broader divisional and local faculty board/departmental structures. Academics are generally all also employed by one of the 38 constituent colleges of the University as well as by the central University itself.

Our annual income in 2012/13 was £1,086.9m. Oxford is one of Europe's most innovative and entrepreneurial universities: income from external research contracts exceeds £436.8m p.a., and more than 80 spin-off companies have been created.

For more information please visit www.ox.ac.uk/staff/about_the_university.html

MPLS Division

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. The disciplines within the MPLS Division regularly appear at the highest levels in world rankings. In the results of the six-yearly UK-wide assessment of university research, REF2014, the MPLS division received the highest overall grade point average (GPA) and the highest GPA for outputs. We received the highest proportion of 4* outputs, and the highest proportion of 4* activity overall. More than 50 per cent of MPLS activity was assessed as world leading.

The MPLS Division's 10 departments and 3 interdisciplinary units 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 addresses major societal and technological challenges and is increasingly focused on key interdisciplinary issues.

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 (including Nobel prizes and prestigious titles such as FRS and FR.Eng) and we have a strong tradition of attracting and nurturing the very best early career researchers who regularly secure prestigious fellowships. The Division is also the proud holder of eight Athena Swan Awards (4 Silver and 4 Bronze) illustrating our commitment to ensure good practice and to encourage women in science at all levels in the division.

We have around 6,000 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 major mathematical, scientific and engineering problems.

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

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). The Research Excellence Framework (REF) in December 2014 resulted in 74 members of the Department having 53% of their research activity ranked in the top category of 4* (world-leading). Overall, we received an average of 3.34 across the department (3* being internationally excellent). A significant majority of the Department are active in externally sponsored research, with both government and industrial funding. At present there are 69 members of academic staff and almost 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 a number of life sciences departments. 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). This is an essentially inter-disciplinary activity which is at present attracting major funding from a number of sources. At present the Department holds over £50m in external research contracts.

Research in the Department is currently managed in seven themes:

- *Information Systems* (led by Professor Ian Horrocks and including Professors Nando de Freitas, Georg Gottlob, Stephen Pulman, Mike Wooldridge, Michael Benedikt and Thomas Lukasiewicz) has groups working on databases, knowledge representation and reasoning, multi-agent systems, and computational linguistics;
- *Programming Languages and Software Engineering* (led by Professor Jeremy Gibbons, and including Professor Jim Davies) works on a wide variety of areas including model-driven development, functional programming, and static analysis;
- *Computational Biology* (led by Professor David Gavaghan, and including Professors Kevin Burrage, and Blanca Rodriguez) is one of the world's leading groups building computational models of biological systems, and is particularly well-known for its work on the heart.
- *Foundations, Logic and Structures*, (leader Professor Samson Abramsky) which includes groups working on quantum information and computation (Professors Samson Abramsky and Bob Coecke), game semantics and verification (Professor Luke Ong), and constraints (Professor Peter Jeavons);
- *Algorithms* (led by Professor Leslie Anne Goldberg), including Professors Georg Gottlob, Elias Koutsoupias and Paul Goldberg, and Peter Jeavons covering computational complexity, algorithmic game theory, and constraint satisfaction;
- *Automated Verification* (led by Professor Marta Kwiatkowska) covers probabilistic and software model checking (Professor Daniel Kroening), time and concurrency (Professor Joel Ouaknine, Professor James Worrell, and Professors Roscoe and Lowe), and hardware (Professor Tom Melham;
- *Security* (led by Professor Bill Roscoe) specialises in cybersecurity (Professor Sadie Creese leads a new Cybersecurity Centre), protocol analysis, trusted computing, networking, and human-centred computing

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

Job description

Overview of the role

The opportunity has arisen to appoint a full-time Departmental Lecturer in Computer Science (Multi-Agent Systems). This will be a fixed term appointment from 1 October 2015 or on a mutually agreed date. The salary will be on a scale up to £45,954.00 per annum.

The postholder will be a full member of the team responsible for teaching in a variety of subjects within the Department of Computer Science. They should have a track record of research in the area of multi-agent systems.

The main purpose of the job is to engage in advanced study and primarily lecture and teach undergraduate and graduate students, and to conduct independent research.

Responsibilities/duties

The main duties of the successful candidate are to include:

- Plan and organise specific areas of the syllabus and contribute to syllabus development
- To participate in the teaching and administrative work of the Department.
- Undertake advanced academic study to underpin lectures and class teaching.
- Lecture, tutor, conduct practical classes using laboratory or workshop equipment, and supervise undergraduate and postgraduate students.
- Produce lecture notes, course materials, reading lists, and reference guides.
- Engage in assessment and university examining.
- Write research articles for prestigious peer-reviewed journals, conferences, book chapters, and reviews, and give presentations or briefings to disseminate research findings at conferences and other similar academic events.
- First contact for student matters relating to attendance, conduct, coursework, performance, and welfare (referring matters to appropriate others).
- Participate in the undergraduate and graduate student admissions processes.
- Gather and analyse feedback from students, colleagues, and examiners, and modify course design, content, or delivery as appropriate.
- Allocate tasks and provide day-to-day supervision to demonstrators/teaching assistants, technical or academic support staff, junior research assistants, and masters and doctoral students working on the research project(s)
- Liaise with examiners and academic staff regarding teaching arrangements and student performance, and with funding bodies, stakeholders, and researchers in related fields to share information and expertise.
- Identify sources of research income, develop proposals, and make funding applications to secure it
- Contribute to collaborative projects with colleagues in partner institutions and research groups.
- Share in the work of departmental committees developing academic strategies and policies
- Manage independent research projects or specific areas of research within a broad programme, to include: developing research questions within a specific context; conducting original research; analysing qualitative and/or quantitative data from a

variety of sources, and developing appropriate analytical protocols and techniques to support research

Selection Criteria

Applicants should have, or be just about to complete, a doctoral degree in computer science. They should have a track record of research in the area of multi-agent systems. They must be able to demonstrate excellence in teaching in a sufficient variety of subjects.

The selection committee will consider the extent to which each candidate meets the following selection criteria:

- Relevant Ph.D/D.Phil with post-qualification teaching and research experience
- An aptitude for, or experienced in teaching at an excellent standard and awareness of pedagogic methods
- Sufficient depth and breadth of knowledge in the subject of multi-agent systems to develop course units
- Strong publication record of an international standard of excellence* and familiarity with the existing literature and research in the area of multi-agent systems.
- Sufficient specialist knowledge in multi-agent systems to develop research projects and methodologies
- Experience of qualitative/quantitative research and analytical techniques
- Evidence of ability to write research proposals
- Demonstrates ability and willingness to participate in the full range of administrative and organisational duties in the department.

***Research**
We expect the successful candidate to be submittable for future REF exercises. Note that academics at the start of their career may get dispensation to submit less than the usual 4 outputs. Details of the REF may be found at http://www.ref.ac.uk/. If candidates have questions about this, we will be pleased to answer them.

Working at the University of Oxford

For further information about working at Oxford, please see:

http://www.ox.ac.uk/about_the_university/jobs/research

Salary and Benefits

The post, which is a full time appointment, has a salary on the University grade 08S scale (currently £38,511 - £45,954 p.a.). This includes membership of the University Superannuation Scheme (USS) and has an annual leave entitlement of 38 days per year (inclusive of all public holidays and university closed periods).

How to apply

If you consider that you meet the selection criteria, click on the **Apply Now** button on the 'Job Details' page and follow the on-screen instructions to register as a user. You will then be required to complete a number of screens with your application details, relating to your skills and experience. When prompted, please provide details of two referees and indicate whether we can contact them at this stage. You will also be required to upload a CV and supporting statement. The supporting statement should describe what you have been doing over at least the last 10 years. This may have been employment, education, or you may have taken time away from these activities in order to raise a family, care for a dependant, or travel for example. Your application will be judged solely on the basis of how you demonstrate that that you meet the selection criteria outlined above and we are happy to consider evidence of transferable skills or experience which you may have gained outside the context of paid employment or education.

Please save all uploaded documents to show your name and the document type.

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

You will also be asked to provide reference details as part of the online application process and will be asked to indicate whether you are happy for us to contact your referees directly should you be short listed for interview, which will take place shortly after the stated closing date.
Should you experience any difficulties using the online application system, please email recruitment.support@admin.ox.ac.uk

To return to the online application at any stage, please click on the following link www.recruit.ox.ac.uk

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

All applications will be considered by the selection committee as soon as possible after the closing date. All shortlisted candidates will be asked to give a short lecture to an audience of general computer scientists and will then be interviewed by the committee later in the day. Interviews for this position are likely to be held during week commencing 8th June 2015.