



University of Oxford Department of Computer Science

Job description and selection criteria

Job title	Postdoctoral Research Assistant
Division	MPLS
Department	Computer Science
Location	Wolfson Building, Parks Road, Oxford.
Grade and salary	Grade 7: £29,249 - £35,938 p.a.
Hours	Full time
Duration	Fixed term contract for up to 2 years

Introduction

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 21,000.

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 5,900 'academic-related' staff (postgraduate research, computing, senior library, and administrative staff) and 2,820 '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 2009/10 was £879.8m. Oxford is one of Europe's most innovative and entrepreneurial universities: income from external research contracts exceeds £367m p.a., and more than 60 spin-off companies have been created.

For more information please visit www.ox.ac.uk

MPLS Division

The academic administration of the University is conducted through four divisions (Humanities, Social Sciences, Mathematical, Physical and Life Sciences, and Medical Sciences). The Mathematical, Physical and Life Sciences Division consists of ten constituent departments: the Department of Chemistry, Computing Laboratory, the Department of Earth Sciences, the Department of Engineering Science, the Department of Materials, Mathematical Institute, the Department of Physics, Department of Plant Sciences, Department of Zoology and Statistics. The division provides a framework for interdisciplinary teaching and research. There are also links with the Medical Sciences Division.

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

Department of Computer Science

The Department of Computer Science, University of Oxford has one of the longest-established Computer Science departments in the country. Formerly known as the Oxford University Computing Laboratory, it is home to a community of world-class research and teaching. Research activities encompass core Computer Science, as well as computational biology, quantum computing, computational linguistics, information systems, software verification and software engineering. The department is home to undergraduates, full-time and part-time Master's students, and has a strong doctoral programme.

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

Job description

Research topic	Resource Reasoning (EPSRC Programme Grant)
Principal Investigator / supervisor	Dr Hongseok Yang
Project team	Programming Language Group
Project web site	http://www.resourcereasoning.com/
Funding partner	EPSRC

Overview of the role

The Department of Computer Science of University of Oxford has a vacancy for a postdoctoral research assistant to work in the area of program analysis under the direction of Dr Hongseok Yang. The post is funded by the EPSRC Programme Grant "Resource Reasoning", which is split among Oxford, UCL, and Imperial (<http://www.resourcereasoning.com>). The post is available from October 2012, and will be of two years duration.

The successful applicant will join the on-going collaboration between the research group of Dr Yang at Oxford and that of Prof Mayur Naik at Georgia Institute of Technology, USA. In the past two years, these two groups have combined results and insights from a variety of disciplines (in particular, machine learning, systems, and testing) to address key challenges in static program analysis and automatic software verification. The successful candidate will be able to develop her or his own ideas building on the results of this collaboration, which include the analysis infrastructures Chord and SpaceInvader. Also, the candidate will interact with the other partners of the Programme Grant, such as Prof Peter O'Hearn and Prof Byron Cook at UCL and Prof Philippa Gardner at Imperial. The successful candidate would be expected to develop research questions within a specific context, to undertake original individual research, and to prepare research papers.

Applicants should have, or expect shortly to obtain, a PhD in computer science or some other relevant discipline, and should have experience in program analysis, testing, systems, decision procedures or machine learning. We especially encourage candidates to apply for this post if they have experiences of building real-world program analysis tools or have experience in machine learning and are interested in bringing data-driven statistical approaches of machine learning to the area of program analysis and automated software verification, where logic has played a crucial role so far.

For informal inquiries, please contact:

Hongseok Yang <hyang@cs.ox.ac.uk>

Responsibilities/duties

- To undertake research in the areas of program analysis.
- To develop research questions within a specific context, and to conduct original individual research.
- To analyse research findings theoretically and/or empirically by building a static analysis tool and experimenting it with benchmark programs.
- Preparation of research papers for publication in the scientific literature.
- To represent the research at workshops and conferences.
- Participation in regular meetings with colleagues at University of Oxford.
- Collaborate with other group members (including academics, postdocs, and doctoral students) who are associated with the project.

- Assistance in the supervision of MSc-level graduate students or post-graduate students working on related projects.
- The postholder will carry out any other duties as are within the scope, spirit and purpose of the job as requested by their line manager or the Principal Investigators.

Selection criteria

- The candidate should hold (or shortly expect to receive) a doctoral degree in computer science or a closely related discipline.
- A documented track record of the ability to conduct and complete research projects, as witnessed by published peer-reviewed work (according to the experience of the candidate).
- Evidence of research independence and creativity.
- A genuine interest in the aims of the research programme.
- Potential to provide scientific leadership and supervision within the programme.
- Ability to work in a team.
- Good verbal and written communication skills in English.

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, is funded by funded by EPSRC and is available for up to 2 years. The post has a salary on the University grade 07 scale (£29,249 - £35,938 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.

Candidates must also ask their referees to consider this job description and email their reference directly to job03@cs.ox.ac.uk or, alternatively, post or fax it to: The Administrator, Department of Computer Science, Wolfson Building, Parks Road, Oxford OX1 3QD, such that the reference arrives by, or shortly after, the advertised 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.