UNIVERSITY OF OXFORD

Mathematical, Physical and Life Sciences Division
Computing Laboratory

in association with Worcester College

UNIVERSITY LECTURER IN
COMPUTING SCIENCE (PROGRAMMING LANGUAGES)

Description of Joint Appointment and Application Procedure

Applications are invited for a University Lecturership in Computing Science (Programming Languages). The successful candidate will be appointed initially to a non-stipendiary Senior Research Fellowship at Worcester College. It is intended that the appointee will become a Tutorial Fellow of the College with effect from 1 October 2011, when additional allowances from the College will become available. The salary will be on a scale up to £57,201 per annum. Details of the Department are given in Section II. Details of the College position including duties and allowances are given in Section III.

The lecturer will be a member of the Computing Laboratory. Applications are invited in any area of Computing Science but preference will be given to applicants whose research area is in programming languages and who will contribute to activities within the Programming Languages Research Theme. This is headed by Oege de Moor and currently includes refactoring, program analysis, aspect-oriented, functional, generic, and dependently typed programming, and the mathematics of program construction. The appointee will have the ability to teach effectively over a wide range of topics in the Computing Science syllabus at Oxford, not exclusively in the area of their research expertise. The post is available with a start date of 1 January 2011 or such other date not later than 1 October 2011 as is agreed.

Duties

- To engage and publish in research of an international standard of excellence.
- To secure research funding to support the research activities of the group.
- To participate in the teaching and administrative work of the Computing Laboratory in both term and vacation under the guidance of the Director of the Computing Laboratory. The lecturer may be asked to lecture to undergraduates and graduate students, to give instruction in the practical laboratories, and to lead classes. (See the end of Section IIA – The Department, on page 6.)
- To examine for the University when required to do so.
- To supervise, or assist in the supervision of graduate students as required.

In the period up to 1 October 2011 (when the post will become associated with a Tutorial Fellowship at Worcester College) the appointee will be expected to undertake additional duties which are broadly equivalent to the teaching stint of six hours per week during full term undertaken by those University Lecturers who are Tutorial Fellows of colleges. These duties which may, for example, be undergraduate or graduate teaching, will be under the

direction of the Director of the Computing Laboratory, who may in some cases assign some or all of them to Worcester or one or more colleges.

Details of the duties of a Tutorial Fellow are set out in Section III.

Selection Criteria

Applications are welcome from candidates working in any area of Computing Science but preference will given to applicants with a research area in Programming Languages. We have identified the following as possible areas for this appointment, but other areas are not excluded: program synthesis including model-driven engineering; languages and compilation techniques for concurrent e.g. multi-core systems; domain specific languages. In addition, the successful candidate will be expected to satisfy the following selection criteria:

- A doctorate in an appropriate field.
- Proven research ability of an international standard of excellence, as demonstrated by, for example,
    - o the number and quality of refereed publications;
    - o post-doctoral research experience;
    - o research grant awards;
    - o a strong research plan appropriate to the Laboratory's research standing.

Candidates must also possess

- an excellent standard and range of teaching skills at both undergraduate and graduate level;
- the ability to make an appropriate contribution to undergraduate and graduate teaching, including D.Phil. (doctoral) supervision;
- the ability to contribute to course development, including but not restricted to their area of specialisation
- good communication and organisational skills
- ability to undertake the pastoral care of undergraduate and postgraduate students.

Application Procedure

Applications should be in the form of a letter of application (clearly stating the post title) setting out how the candidate meets the selection criteria, and supported by a full curriculum vitae, a list of publications, details of teaching experience including a description of teaching approach, and a statement of research interests, together with the names and addresses of three referees (not more than two of whom should be from the same institution). These should preferably be emailed (most formats accepted) to Job17@comlab.ox.ac.uk or posted to: PA to the Director, Oxford University Computing Laboratory, Wolfson Building, Parks Road, Oxford, OX1 3QD to arrive no later than Friday 24 September 2010.

Candidates must ask their referees to consider the further particulars and write directly to the above address (fax +44 1865 273832 or email is sufficient) so that references arrive by the closing date.

It is hoped to hold interviews in the week beginning Monday 15 November, 2010. Candidates short-listed for the post will be interviewed by the selection committee and will

be invited to give a short lecture of about twenty-five minutes' duration on their research interests. The lecture should be designed for a general audience of computer scientists and should be based on some aspect of the candidate's own research. Candidates will be given an opportunity to visit the College during the selection period.

All reasonable interview expenses will be reimbursed.

The recommendations of the selection committee will be subject to ratification by the MPLS (Mathematical, Physical and Life Sciences) Divisional Board and the Governing Body of Worcester College. The appointment will be subject to satisfactory completion of a medical questionnaire and the provision of proof of the right to work in the UK.

UNIVERSITY OF OXFORD

UNIVERSITY LECTURERSHIP IN COMPUTING SCIENCE (PROGRAMMING LANGUAGES)
FURTHER DETAILS CONCERNING THE UNIVERSITY POST

A. The Department

The University of Oxford employs around 9,000 academic, research and support staff across a wide range of academic disciplines. Its mission is to achieve and sustain excellence in every area of its teaching and research, maintaining and developing its historical position as a world-class university, and enriching the international, national, and regional communities through the fruits of its research and the skills of its graduates.

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, the Department of Statistics, Department of Plant Sciences and the Department of Zoology. The division provides a framework for inter-disciplinary teaching and research with strong links to the Medical Sciences Division.

The Computing Laboratory (OUCL) is the University's Department of Computer Science, established in 1957. It is one of the UK's leading Computer Science Departments (ranked first in a number of newspaper rankings, and third in terms of research power). In the RAE in 2008, 80% of the submitted research was found to be in the top two tiers, either 4* (world-leading) or 3* (internationally excellent). Many members of the Department are active in externally sponsored research, with both government and industrial funding. At present there are 48 members of academic staff and over 80 research staff.

OUCL has close links with government, industry, and other departments within the University. Among the latter are Mathematics, Engineering, Physics and a number of life sciences departments. It has a major role in the rapidly-developing field of e-Science, an essentially inter-disciplinary activity which is at present attracting major funding from a number of sources. At present it holds £37m in external research contracts.

At present, research in OUCL is managed in six themes following a recent realignment and expansion of previous groups. *Computational Biology* (led by Professor David Gavaghan) 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 (Abramsky and Dr Bob Coecke), game semantics and verification (Professor Luke Ong) and constraints (Professor Peter Jeavons); *Information Systems* (jointly led by Professors Georg Gottlob and Ian Horrocks) including Professor Stephen Pulman (Computational Linguistics); *Programming Languages* (led by Professor Oege de Moor and including Dr Jeremy Gibbons and Dr Ralf Hinze), *Software Engineering* (Professor Jim Davies), together with Computational Biology, provides the main focus of OUCL's work on e-Science; and *Verification* (leader Professor Marta Kwiatkowska) covering probabilistic and

software model checking (including Dr Joel Ouaknine and Dr James Worrell), with concurrency and security (Professor Bill Roscoe and Professor Gavin Lowe), and automated verification of hardware (Professor Tom Melham).

Allocation of duties to academic staff

Duties within the Computing Laboratory are assigned by the head of department. At present, we use a points scheme which attempts to achieve a fair distribution of work between members of the department. Credit is given for research, all teaching duties, performance of duties as a tutorial fellow (where appropriate), and administrative duties. Credit is given to new appointees on a sliding scale over three years to allow them to establish themselves in the department. Out of a total of 720 points worth of duties expected per academic year, the new appointees are given credit of 180, 120 and 60 per annum for the first three years.

Further details of the Laboratory, its research and its courses are to be found on its web-site: http://www.comlab.ox.ac.uk

B.   Standard Terms and Conditions

1.   Applications for this post will be considered by a selection committee containing representatives from the Computing Laboratory and Worcester College. The selection committee is responsible for conducting all aspects of the recruitment and selection process including making a recommendation to the Mathematics, Physical and Life Sciences Divisional Board and the Governing Body of Worcester College on who should be appointed to the post. The Divisional Board and the Governing Body of Worcester College make the final decision on the appointment. Therefore, an offer of appointment is only valid once the Divisional Board and the Governing Body have approved the recommendation of the selection committee and a formal contractual offer has been made.

2.   The successful candidate will be appointed on the Oxford lecturer scale £42,563-£57,201. Until 30 September 2011, this will be paid in full by the University but thereafter payment will be divided between the University and the College in accordance with normal arrangements. Lecturers appointed below the top of this range will receive annual increments until they reach the top point. There is also an annual 'cost-of-living' salary review. Departments may also, in wholly exceptional cases, propose the awarding within the scale of additional increments to lecturers at any time during their appointment. The successful candidate will have two separate contracts of employment, one with the University and, from 1 October 2011, one with the College.

The lecturer will have the option of becoming or remaining a member of the Universities Superannuation Scheme (USS). From 1 June 2008, the University introduced a salary exchange scheme for pension contributions (Salary Exchange) for members of the USS.

Salary Exchange involves a change to the way in which pension contributions are made, with employee pension contributions reduced to nil and the University increasing its pension contributions accordingly. The overall pension contribution for each individual employee (and associated pension benefits) will remain unchanged. However, reducing basic salary (and all other elements of pensionable pay) will mean that employees and the University will make lower National Insurance contributions.

From 1 June 2008 all new employees who become members of USS will be enrolled automatically into Salary Exchange three months after the date of joining the relevant pension scheme, unless they request to opt out. Please note that the College does not operate an exchange scheme for pension contributions associated with its share of the post's costs.

3.   Additional remuneration is currently paid to those undertaking examining and graduate supervision. Those holding administrative appointments within the department may be eligible for additional payments.

4.   Upon completion of an initial period of appointment (which is normally five years), a university lecturer is eligible for reappointment until retiring age, subject to the provisions of the Statutes and Regulations of the University. Evidence of lecturing competence and of substantial progress in research are prerequisites for reappointment to the retiring age.

The University's normal retirement date for university lecturers is 30 September immediately preceding the 66th birthday, except that, if the successful candidate can establish vested rights, as defined in the University's statutes (details available on request), in retirement at

age 67 or later, then the date of retirement will not normally be later than the 30 September immediately preceding the 68th birthday.

5. All appointments are subject to the relevant provisions of the Statutes and Regulations of the University in force from time to time, as published from time to time in the University Gazette.

All university lecturers, with other members of the academic staff and certain senior academic-related staff, are normally members of Congregation, which is the University's ultimate governing body. Congregation's approval is required for all university statutes or amendments to statutes, and for major policy decisions, and the members of Congregation constitute the electorate for ten of the members of the main executive body (the Council of the University) and for members of a number of other university committees. Twenty or more members of Congregation may initiate the discussion by Congregation of matters of university policy, and any two members may ask questions about the policy or administration of the University. The person appointed to this post will receive full details soon after he or she takes up the appointment.

6. The holder of this post is eligible to apply for sabbatical leave. In general, one term of sabbatical leave is available for each six terms of qualifying service: qualifying service is built up on a 'rolling' basis, so that leave which is not taken is not lost (although qualifying service does not accrue beyond the maximum of 18 terms). Further details are available on request.

7. The University encourages links with industry and other outside bodies. Although the holding of outside appointments such as consultancies must be approved by the head of department, no limit as such is set on the amount of money individuals may receive in this way. The criterion is the amount of time such appointments take up: a maximum of 30 days per annum may be spent on such activities before any deduction in stipend is considered.

8. The Statutes and Regulations of the University record the extent of the University's claims to intellectual property, and the proportions in which exploitation revenues are shared with researchers. Copies of the relevant extracts are available on request.

9. All staff participate in the University's appraisal scheme which is currently under review.

10. The University has generous maternity leave arrangements. Provided that they have at least 26 weeks' service with the University at the fifteenth week before the expected week of childbirth, women may take up to 26 weeks leave on full pay, plus 13 weeks SMP, plus a further 13 weeks unpaid leave. Arrangements are available to enable a phased return to full duties; for women to return to work on a part-time basis after the birth of their child; and for paternity leave. Requests for flexible working arrangements will be considered.

11. The University has three subsidised nurseries and also subsidises places at some local nurseries, although at present there is a waiting list. In addition, staff have access to a childminding network. There is also a salary sacrifice scheme whereby parents with children at university nurseries are able to save on income tax and national insurance contributions, and a virtual voucher scheme for parents with children not at university nurseries or placed with childminders through the network whereby a saving is made on national insurance contributions. There is also a holiday playscheme for school-age children. Further

information may be obtained from the childcare website (www.admin.ox.ac.uk/eop/child) or by e-mailing childcare@admin.ox.ac.uk, or writing to the Diversity and Equal Opportunities Unit, University of Oxford, University Offices, Wellington Square, Oxford OX1 2JD.

12. *Equality of opportunity*: The policy and practice of the University of Oxford require that all staff are offered equal opportunities within employment. 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. Subject to statutory provisions, no applicant or member of staff will be treated less favourably than another because of his or her gender, marital or civil partnership status, sexual orientation, religion or belief, racial group, age or disability.

Where suitably qualified individuals are available, selection committees will contain at least one member of each sex.

13. All data supplied by applicants will be used only for the purposes of determining their suitability for the post and will be held in accordance with the principles of the Data Protection Act 1998 and the University's Data Protection Policy, but if the person appointed to the post is a migrant sponsored under the UK's new points-based migration system, we are required to retain all applications for the duration of the sponsorship.

14. Applicants who would need a work visa if appointed to the post are asked to note that under the UK's new points-based migration system they will need to demonstrate that they have sufficient points, and in particular that:

(i) they have sufficient English language skills (evidenced by having passed a test in basic English,
or
coming from a majority English-speaking country,
or
having taken a degree taught in English)

and

(ii) that they have sufficient funds to maintain themselves and any dependants until they receive their first salary payment.

Further information is available at:

http://www.ukba.homeoffice.gov.uk/workingintheuk/tier2/generalarrangements/eligibility/

15. The appointment will be subject to satisfactory completion of a medical questionnaire and the provision of proof of the right to work in the UK.

16. Applications are particularly welcome from women and black and minority ethnic candidates, who are under-represented in academic posts in Oxford.

17. All reasonable interview expenses will be reimbursed. Removal expenses and travelling expenses in connection with the move to Oxford of the successful candidate are generally paid in full in appropriate cases. Professional expenses of up to £6,500 also are available

where appropriate to cover solicitors' and other costs in connection with a move. Further details are available on request.

PAY SCALE FOR UNIVERSITY LECTURERS
WITH NON-TUTORIAL FELLOWSHIPS

£

57,201

55,535

53,918

52,347

50,822

49,342

47,905

46,510

45,155

43,840

42,563

The appointee will be placed on this scale from the start date. Until 30 September 2011, the University will pay the whole salary; from 1 October it will be shared between the University and College. From that date, additional allowances may be payable by the College as set out in Section III.

UNIVERSITY OF OXFORD

WORCESTER COLLEGE

**UNIVERSITY LECTURERSHIP
IN COMPUTING SCIENCE (PROGRAMMING LANGUAGES)**

A. The College

Worcester College is one of the 38 constituent colleges of the University of Oxford. Founded in 1714, it occupies the 26 acre site on the western side of the city where the Benedictines first founded Gloucester College in 1283. Some of the buildings of the earlier college survive, and the resulting mixture of architectural styles, together with the wooded grounds, lake and playing fields, make Worcester one of the most attractive places in Oxford. Currently the College has 403 undergraduates (49% women) and 232 graduates (45% women) in residence. There are also 16 American Junior Year Abroad students, who, like their undergraduate contemporaries, live in College.

Detailed information about Worcester College may be found at: www.worc.ox.ac.uk

B. College Duties

The College admits 5 students each year for the 3 or 4-year degrees in Computer Science, and Mathematics and Computer Science. Teaching in Mathematics for students studying the joint degree is overseen by three Tutorial Fellows in the subject, Dr Richard Earl, Professor Endre Süli and Dr David Steinsaltz.

Initially the new Fellow will be appointed as a non-teaching Non-Stipendiary Senior Research Fellow, with membership of the College's Governing Body. As of 1 October 2011 the Fellowship will be converted to a Tutorial Fellowship with the following duties:

(i)　to organize teaching, to teach undergraduates in tutorials and small classes, and to share the responsibility of acting as "moral tutor" to some of them (that is, the person responsible for the students' academic and personal welfare);

(ii)　to undertake up to six weighted[1] hours of teaching per week, averaged over the three 8-week terms which constitute the academic teaching year;

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[1] Hours are weighted according to group size as shown below.

Group size	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Weight	1	1.25	1.5	1.59	1.68	1.77	1.86	1.96	2.05	2.14	2.23	2.32	2.41	2.5	2.59

(iii) as a member of the Governing Body of Worcester College, to attend Governing Body meetings (normally two per term) and, from the start of the Tutorial Fellowship, also to attend Tutors' Committee meetings (normally three per term). In addition to take an appropriate share in the other committee and administrative work of the College;

(iv) to take part in the annual admissions procedures for the selection of undergraduates in Computer Science and the joint degree;

(vi) to act as College Adviser to some of the graduate members of the College reading for higher degrees in Computer Science and other related subjects.

C. Terms and Conditions

1. The Fellow will have the following entitlements:-

(a) During the initial period as a Senior Research Fellow (up to 1 October 2011)

   (i) free lunches in the Senior Common Room (of which the Fellow will be a full member) in term and vacation (when the kitchens are open);

   (ii) free dinners at the Common Table in term and vacation (when the kitchens are open).

(b) Additionally, from the start of the Tutorial Fellowship (1 October 2011)

   (i) a teaching room in College;

   (ii) a tax-free entertainment allowance (currently £419 p.a.) and an allowance (currently £1,211 p.a.) for the purchase of books or other research items for the Fellow's own use (such items remain the property of the College). There is a fund to which Fellows may apply for assistance with travel;

   (iii) assistance with housing – see Annexe I.

2. At present Worcester College can provide health insurance by enrolling Tutorial Fellows in BUPA if requested: the subscription paid by the College is a taxable benefit. Their families may be enrolled at an additional extra cost payable in full by the Tutorial Fellow.

   The College conforms to the University policy over maternity leave and participation in the University's nursery scheme.

3. The College and the University have a sabbatical leave scheme for Tutorial Fellows which normally allows one term's absence after 6 terms, two terms after 12 terms, or three terms after 18 terms' service. The College will not normally reduce its contribution to a Fellow's stipend during sabbatical leave, but will do so if a salary is being received from another institution.

4. The tenure of the Senior Research Fellowship/Tutorial Fellowship is initially five years and thereafter is renewable every seven years up to the retiring age (currently 65).

5. The appointment of the nominated candidate will be subject to the satisfactory completion of a medical questionnaire.

6.   The policy and practice of Worcester College require that entry into employment 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. Subject to statutory provisions, no applicant or member of staff will be treated less favourably than another because of his or her sex, marital status, racial group, or disability. In all cases, ability to perform the job will be the primary consideration.

Annexe I

WORCESTER COLLEGE, OXFORD
HOUSING ASSISTANCE

In addition to a teaching room in College, Tutorial Fellows, as members of the Governing Body, can receive assistance with housing.   This can take a number of forms.

1. LIVING IN

It is sometimes possible to provide single living-in accommodation in College: this incorporates the Fellow's teaching room.   The number of such sets of rooms in College is very small, and they become available (through retirement or because the previous Fellow decides to move out of College) rarely.

2. HOUSING ALLOWANCE

In all cases other than (3) and (4) below, Tutorial Fellows who do not live in are entitled to a housing allowance. This is revised annually. The housing allowance is pensionable; it attracts income tax, and National Insurance and USS pension contributions from both the Fellow and the College.   Its current value is £7,233 p.a.

3. OTHER TYPES OF ASSISTANCE

The Colleges of Oxford and Cambridge were brought under the responsibility of the Charity Commission by the Charities Act 2006. The arrangements (3a, 3b and 3c) below may have to be altered to comply with the requirements of the Commission.

(a) College Houses

To assist new Tutorial Fellows to locate themselves in Oxford, it is sometimes possible to offer them use of a College-owned house or flat. These are generally small, largely furnished, houses in the vicinity of the College.   If available such houses may be occupied by the Fellow for not more than six years (ie: the normal five-year probation period plus one further year). No housing allowance is payable by the College to the Fellow in such cases.   The Fellow pays Council Tax and utility bills, and any insurance of personal contents; the College insures the building and its own furniture, and is responsible for routine maintenance.

(b) Joint Equity Schemes

Worcester College currently operates a joint equity scheme according to which it will consider requests by Tutorial Fellows for financial assistance towards the cost of purchasing a home in Oxford. There are limits to the sums available for this scheme and all requests are scrutinised by the Investment Sub-committee of the College's Finance Committee; final decisions are made by the Governing Body. As in the case of occupation of a house wholly owned by the College (3 above) no housing allowance is paid to participating Fellows.

(c) Personal Loans

The College is sometimes able to make a bridging loan available to a Fellow. The terms of any such loans are determined by the Investment Sub-committee.

4. GENERAL

In all cases of housing provision, the College acts in the furtherance of its academic aims: it is in the interests of the College to recruit the best academic staff and to enable them to live within reasonable distance of the College so that they can be available for teaching and administrative duties in College.   Housing assistance of any kind is therefore normally available only to those living within 15 miles of the centre of Oxford. It is possible for newly appointed staff to move from wholly-owned College housing (paragraph 3) to a house jointly owned (paragraph 4).   But it is not permitted for a Fellow to "trade up" from a first joint equity house to another.   The College will, however, consider selling its share in a joint equity house to the occupying Fellow at any time, at the current market value as assessed by the College's Land Agents.   The College must be bought out of its share, or the whole house sold, if the Fellow ceases to be an employee of the College.