

**University of Oxford
Department of Engineering Science**

**University Lecturership in
Engineering Science (Solid or Structural Mechanics)
in association with a Tutorial Fellowship at Pembroke College**

FURTHER PARTICULARS

Applications are invited for a University Lecturership in Engineering Science (Solid or Structural Mechanics), tenable from 1st September 2008. The Lecturership is associated with a Tutorial Fellowship at Pembroke College. The combined University and College salary will be on a scale rising to £52628 per annum, plus allowances. The closing date for applications is 14th March 2008.

Description of the advertised post

A University Lecturership in Engineering Science is the major career grade post in the Department, appropriate to someone with experience in teaching and research and able to make a significant contribution to the Department and College. Proven academic distinction can be recognised by the University by the award of the title of Reader or Professor.

The successful candidate will assist in the teaching of her/his subject, which may include lectures and practical classes, and the supervision of undergraduate design and project work. Within the College, he/she will engage in tutorial teaching of 6 hours per week averaged over the 24-week academic year, undertake pastoral care of undergraduate and graduate students, and participate in College governance. Within Department and College, he or she will be expected to contribute to the teaching of structural analysis, solid mechanics, dynamics and materials engineering.

Candidates should have research interests in the field of solid mechanics or structural mechanics. Research interests may be in the context of civil or mechanical engineering. While applications are welcome from candidates working in any branch of structures or solid mechanics, the potential to build on the Department's existing research strengths in these areas would be an advantage. The Department has a particular interest in strengthening its activities in the areas of structural dynamics, high strain-rate mechanics, deployable structures and nanomechanics. (The activities of the relevant research groups are at: <http://www-civil.eng.ox.ac.uk/> and <http://www.eng.ox.ac.uk/solidmech/home/Home.html>.)

Selection Procedure

The Joint Selection Committee will consist of staff of the Department of Engineering Science and Pembroke College, chaired by the Head of Department or his nominee.

The Joint Selection Committee has agreed the following criteria for assessing candidates for this post.

Essential

1. High level of academic ability in a relevant area of engineering, as might be demonstrated for example by a good first degree and a doctorate in an appropriate topic, together with appropriate training or experience;
2. Significant research potential in the general area of solids/structures, as might be demonstrated by previous achievements, publications in recognised

- journals, and a good written research plan appropriate to the Department's research standing. The research plan, not more than a few pages in length, should outline the research that the candidate would envisage undertaking and must be submitted together with the application;
3. Ability to teach at University level (lecturing, taking classes and tutorials, supervising projects) taking account of the standard of Oxford undergraduates;
 4. Good communication skills;
 5. Ability to undertake the pastoral care of undergraduate and postgraduate students.

Desirable

1. Experience of supervising graduate students and research assistants.

The Selection Committee will apply these criteria bearing in mind the stage reached in a candidate's career.

The interviewing process for the final short-listed candidates is explained below.

Morning: Each candidate will be asked to present a 30-minute seminar in the Department of Engineering Science on a suitable topic from their current research (20 minutes presentation plus 5-10 minutes questions). The seminars will be attended by members of the Selection Committee, and other interested members of the Department and the College (only some of whom will be experts in the specialist field of the appointment).

During the time they are not giving their seminar, short-listed candidates will have an opportunity to visit the Department. Candidates will also be invited to visit the College either the day before the interviews or on the day of the interviews. Neither of these visits constitutes any part of the selection process.

Afternoon: The formal interview by the joint Selection Committee will be held in the Department of Engineering Science. This will last about 45 minutes, and will include discussion of research interests and directions, teaching interests and expertise and experience, undergraduate projects and other aspects of the job. It is expected that these interviews will be held on **15th April 2008**, so candidates are requested to keep this date free. Overnight accommodation will be arranged by the College, if desired.

The recommendation of the joint Selection Committee, which will be subject to ratification by the Mathematical, Physical and Life Sciences Divisional Board and the Governing Body of Pembroke College, will be made soon after the interviews.

Applications

Letters of application may be sent by post, fax (number given below), or email to head@eng.ox.ac.uk and must be accompanied by:

- a *curriculum vitae*,
- a written research plan not more than a few pages in length, outlining the research that the candidate would envisage undertaking, if appointed,
- and the names and addresses of three referees.

Of the 3 referees, not more than two should be from the same institution. We will assume that we are free to approach referees at any stage, unless you indicate

otherwise. The application should quote reference DF/08/002, and arrive no later than **14th March 2008**. It should be addressed to:

Professor R. C. Darton FREng
Head of Department
Department of Engineering Science
University of Oxford
Parks Road, Oxford, OX1 3PJ

(Fax 01865 283310)

Further information about application procedures may be obtained from head@eng.ox.ac.uk

Details on the Department of Engineering Science are attached as **Appendix A**

Further details concerning the post are attached as **Appendix B**

The Pembroke College details are attached as **Appendix C**

The combined University and College salary scale is at **Appendix D**. Appointment will be made on this scale according to experience.

Appendix A

Engineering at Oxford

Engineering teaching and research takes place at Oxford in a unified Department of Engineering Science whose academic staff are committed to a common engineering foundation as well as to advanced work in their own specialities which include most branches of the subject. We have especially strong links with computing, materials science, medicine and also with economics and management studies. The Department employs 75 academic staff (this number includes eleven statutory Professors appointed in the main branches of the discipline); in addition there are nine Visiting Professors. Some 25 departmental teaching support staff assist in projects, design, student laboratories and computing, and there are 100 technicians and clerical staff. The Department has well-equipped laboratories and workshops, which together with offices, lecture theatres, library and other facilities have a net floor area of about 14,000 square metres.

Research is particularly strong. We have approximately 240 research students and about 75 Research Fellows and Post-Doctoral researchers, and funding from a large number of research grants and contracts - from a variety of sources - with an annual turnover of some £10M. The Department has received the highest grade in all of the Research Assessment Exercises (5*A in both 1996 and 2001).

We admit 160-180 undergraduates per year, all of whom take 4-year courses leading to the MEng degree. Around 70% of the undergraduates read the broadly based Engineering Science course. The remainder are divided between two other degrees: Engineering, Economics and Management, and Engineering and Computing Science (which is being phased out). The courses are accredited at MEng level by the major Institutions. The syllabus has a common core, and the examination taken at the end of the first year is the same for all. Specialist options are introduced in the third year, and the fourth year includes further specialist options and a major project. In the last HEFCE Teaching Quality Assessment the Department was awarded 23 out of a possible 24 points.

Further details of all the Department's research, research sponsors, and our undergraduate programme are at www.eng.ox.ac.uk

Working in the Department of Engineering Science

Those holding academic posts have considerable flexibility to adjust working patterns to facilitate combining work with responsibilities at home. For childcare, the University has several nurseries, and is planning to expand these facilities. The University has generous maternity, paternity and adoption leave schemes to help the new parents on the staff.

Staff of the Department, in common with the rest of the University, generally make full use of the rules for sabbatical leave. Broadly, these rules permit the taking of one term of leave for every six terms worked, and such leave is commonly used to develop research ideas and collaborations, visit other Universities or research establishments, write books or papers, or for similar activities.

Newly appointed academic staff are assigned a mentor who is an experienced member of the Department, who will provide help and advice during the initial period of the appointment. At University level, the Oxford Learning Institute offers a Diploma in Learning and Teaching in Higher Education, short courses on teaching and other

aspects of academic practice, and one-to-one consultations. Staff are encouraged to make use of these provisions, so as to develop their teaching and research skills.

Many staff of the Department undertake consultancy activity, and University rules permit 30 days each year to be so used with permission of the Head of Department, and more in certain circumstances. Oxford University's technology transfer company, Isis Innovation, was founded in 1988 to exploit know-how arising from University research. Many spin-out companies have resulted from research done in Engineering Science, and from which our staff have benefited, including Powderject Pharmaceuticals (now Chiron), Oxford Biosignals, and Mirada Solutions (now part of CTI Molecular Imaging).

To assist in setting up new research activities, the Department will provide an equipment dowry of £9k, a computer and an annual support fund of £500, and access to Departmental and University research support funds (which must be bid for). You will be helped in seeking and acquiring grants from research councils (e.g. through the EPSRC First Grant Scheme) and industry.

Appendix B Standard Terms and Conditions

A. The University

The University of Oxford employs over 8,100 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, 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.

B. Standard Terms and Conditions

1. Applications for this post will be considered by a selection committee containing representatives from both the Department of Engineering Science and Pembroke College. The selection committee is responsible for conducting all aspects of the recruitment and selection process, including recommending who should be appointed to the MPLS divisional board and the governing body of Pembroke College. The divisional board and the governing body of Pembroke 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 (£32,841 - £44,137). 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. The Department may also, in wholly exceptional cases, propose the awarding within the scale of additional increments to lecturers at any time during their appointment.

The combined university and college salary will be on a scale up to £52,628 (as at 1 August 2007) per annum.

The lecturer will have the option of becoming or remaining a member of the Universities Superannuation Scheme (USS).

3. Additional remuneration is currently paid to those undertaking examining and graduate supervision.

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.

14. All reasonable interview expenses will be reimbursed. 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.

15. 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.

Appendix C Pembroke College



PEMBROKE COLLEGE, OXFORD

Richard and Ester Lee Tutorial Fellowship in Engineering

Further Particulars

The College invites applications from men and women for appointment to the Richard and Ester Lee Official Tutorial Fellowship in Engineering Science with effect from 1 October 2008. The Fellowship will be held in conjunction with the University Lecturership in Engineering Science (Solid or Structural mechanics) advertised concurrently with this post. Applicants for the University Lecturership will be deemed to have made an application for the Tutorial Fellowship.

Pembroke College

Pembroke College is a constituent college of Oxford University. It has a Governing Body of 40, made up of the Master, the Bursar, Tutorial Fellows, Professorial Fellows, Fellows by Special Election, and Advisory Fellows.

The College was founded in 1624. Well-known alumni include Samuel Johnson, Sir William Blackstone, James Smithson, Senator William Fulbright Jr, Senator Richard Lugar, The Rt. Hon. the Lord Heseltine, PC.

The College has an undergraduate body of about 390, about 90 graduates and between 30 and 40 Visiting Students under a special programme with American Universities. It receives students in most subjects taught at Oxford University. Its academic strategy includes maintaining a special emphasis on Economics and Management, joint Honours Schools (including History and Economics), Oriental Studies (especially Arabic, Chinese and Japanese), Psychology and Theology, and reducing undergraduate numbers to around 340 so as to enhance the quality of its educational provision.

For further information about the College, see www.pmb.ox.ac.uk

Pembroke College and Engineering Science

Pembroke has an establishment of two Tutorial Fellows in Engineering Science, assisted by a Stipendiary Lecturer. The College normally admits six undergraduates a year to read Engineering. The person appointed will work with Dr Paul Smith, the senior Fellow in Engineering Science.

Research, Teaching and Other Duties

The Fellow appointed will be expected to engage in research in the area of Engineering Science and to take responsibility, along with Dr. Paul Smith, for the teaching of Engineering Science within the College. Teaching is done by the Fellow together with such additional teaching assistance as the College may have in place. The responsibilities include interviewing and selecting undergraduates to read Engineering through the Admissions process, and the general pastoral care of undergraduates reading this subject as directed by the Academic Director and the Governing Body. Teaching duties involve providing six hours per week of tutorial and class work in Engineering Science and arranging tuition in areas which he or she

does not normally cover. Undergraduates from other Colleges may also be taught on an exchange basis or otherwise to the financial advantage of the College. The Fellow will also be expected to act as Advisor to graduate students in the College who are taking degrees in the area of Engineering Science.

The Fellow will be a member of the Governing Body of the College and accordingly will be expected to participate, as appropriate, in the administration of the College.

Nature of appointment

Tutorial Fellowship

The person appointed will be elected to a Tutorial Fellowship, which includes membership of the Governing Body and of the Senior Common Room.

Appointment to retiring age, subject to probationary period and septennial renewal

The appointment is subject to an initial probationary period of five years. Satisfactory completion of this period, through demonstration of competence in teaching and research, and reasonable participation in College administration, will result in appointment to retiring age under the College statutes, currently at 30 September immediately preceding the 66th birthday, except that, if the Fellow can establish a vested interest, as defined by the University's statutes, in retirement at age 67 or later, then the date of retirement will be not later than the 30 September immediately preceding the 68th birthday, subject to legislation in place at the time. The appointment is subject to septennial renewal under the terms of the College statutes.

College Salary

The college salary will be on the Oxford Lecturer scale (£6,318-£8,492 p.a.) depending on experience. The combined university and college salary will be on a scale up to £52,628 p.a. (as at 1 August 2007).

Pension and benefits

The person appointed will be entitled to be a member of the Universities Superannuation Scheme (USS) or he or she may arrange their own pension in which case the College will make no contribution. Additional benefits are currently as follows:

- (i) a taxable and pensionable housing allowance (currently £5,000 per annum) for a non-residential Fellow;
- (ii) assistance with house purchase (details can be provided from the Bursar on request);
- (iii) free lunches and dinners when the kitchens are open (they are at present closed for about 5 days at Christmas);
- (iv) membership of a private health care plan including dependants up to the age of 21;
- (v) an entertainment allowance of £200;
- (vi) funds from the Fellows Allowance (incorporating the Nuffield research Find) of up to £985 per annum for business related expenses. Assistance with travel expenses may also be available from the Damon Wells Travel Fund.

Free accommodation may be available within the College for single occupancy. For a non-residential Fellow, a teaching room will be provided in the College free of charge.

Sabbatical leave

The Fellow will be eligible for sabbatical leave from College duties, without deduction of stipend, at a rate of one term's leave for every six term's service.

Maternity and Paternity Leave

The College provides maternity and paternity leave on the same basis as the University. Full details are on the website at:

<http://www.admin.ox.ac.uk/ps/staff/academic/matleave.shtml>

Trustee

In common with other Fellows on the Governing Body, the Fellow will be a trustee of the College, and responsible to discharge the duties of a trustee by acting lawfully and prudently in the interests of the College.

Membership of Congregation

The Fellow will be a member of Congregation, the ultimate governing body of the University of Oxford.

Outside appointments

The holding of any outside appointment must be approved by the Governing Body. A maximum of 30 days per annum may be spent on such activities before any deduction of stipend is considered.

Sick Pay:

The Fellow will be entitled to be paid at his or her normal basic remuneration, less the amount of statutory sick pay (SSP) or Social Security Sickness Benefits (SSSB) to which he or she may be entitled, for the following periods in any one sick pay year, which runs from 1 October to 30 September:

Service*	Full Pay*	Half Pay*
First three months	2 weeks	2 weeks
Remaining nine months of first year	2 months	2 months
Second and third years	3 months	3 months
Fourth and fifth year	5 months	5 months
After fifth year	6 months	6 months
(*) Inclusive of any university sick pay given in the 12 months preceding the latest period of such leave.		

“Service” means the total period of employment by the College. The College may at any time request a doctor’s certificate.

Equal opportunities

The College policy is that entry into employment and progression within employment is decided solely on the basis of personal merit and the application of criteria related to the post in question 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 or civil partnership status, sexual orientation, religion or belief, racial group, ethnic or national origin, colour or disability.

Appendix D Salary scale (combined University and College)

Main Lecturer Grade		
Pay spine for joint salary	Joint annual salary	Scale point
52	£52,628	11
51	£51,095	10
50	£49,607	9
49	£48,161	8
48	£46,759	7
47	£45,397	6
46	£44,074	5
45	£42,791	4
44	£41,545	3
43	£40,335	2
42	£39,159	1