



The Isaac Wolfson Professorship of Materials

Further particulars

The Isaac Wolfson Professorship is the most senior of the five statutory Professorships in the Oxford Materials Department. The University seeks to appoint a person with a record of outstanding international excellence in research in any field within the broad definition of the discipline of Metallurgy/Materials Science who, through leadership and the distinction of his or her contribution to the field, will ensure the pursuit of the highest standards in research and teaching at Oxford, and its wide recognition outside. The holder of the chair will be elected to a professorial fellowship at St Edmund Hall. This is a proleptic appointment in advance of the retirement of the current holder of this post, Professor David Pettifor, in 2010.

THE UNIVERSITY OF OXFORD

The University of Oxford enjoys an international reputation as a world-class centre of excellence in research and teaching. It employs over 8,000 academic, research and support staff across a wide range of academic disciplines. It aims to

- provide the facilities and support for its staff to pursue innovative research, by building upon Oxford's outstanding research record and by forging close links with the wider academic world, the professions, industry, and commerce;
- promote challenging and rigorous teaching which benefits from a fruitful interaction with the research environment, facilitating the exchange of ideas through tutorials and small-group learning;
- maintain and make best use of the advantages of its independent colleges, where members' intellectual and personal development is fostered within a stimulating, multidisciplinary academic community;
- attract students of the highest calibre, from the UK and internationally, to its undergraduate, graduate, and continuing education courses.

THE DEPARTMENT OF MATERIALS

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

The Department of Materials at Oxford University is a world leader in theory and modelling of materials, microstructural and nanoscale characterisation of materials, materials processing and engineering applications. The department was given the 'top rated' 5** mark in the national research assessment exercise in 2002, and was given an 'excellent' mark of 23/24 in the most recent national teaching quality assessment. In the *Times* and *Guardian* surveys, it is regularly ranked as the top Materials department in the

UK.

At the start of the academic year 2008/9, the department contained the following academic staff: 11 Professors, 4 Readers, 9 University Lecturers, more than 30 Senior Research Fellows, and about 50 Research Fellows. These are supported by 5 senior administration posts and 37 technical/secretarial staff. There are currently about 100 undergraduate students and 100 postgraduate students in the department. The total research budget, including funding from research councils and industrial sources, is approximately £6m per year.

The department's research philosophy is that the development of advanced materials systems is an enabling discipline that is intimately related to major breakthroughs in physics, chemistry, engineering, and nanotechnology. Materials engineering is holistic, and it is inappropriate to draw sharp dividing lines between the traditional categories of metals, semiconductors, ceramics, and polymers. The department's research is therefore organised around four areas of expertise; processing, modelling, properties and characterisation, for application across the whole range of materials problems. Flexible, interdisciplinary teams work together on major projects, often in collaboration with other laboratories in Oxford and beyond. The department's commitment is to carry out both fundamental and applied research of the highest international standard. We also have a strategy of seeking broad-based and long-standing strategic collaborations with selected, high-quality industrial partners, to provide a flexible mix of short- and long-term R&D as well as employment and secondment opportunities.

The faculty and department are committed to the teaching of undergraduate courses in Materials Science (MS) and Materials, Economics, and Management (MEM), both of which are of four years' duration. Parts of these courses are taught in collaboration with other faculties, but the majority of the student load from the combination of courses falls on the Department of Materials. Both courses are accredited by the Institute of Materials, Minerals and Mining at the M.Eng. level, and are therefore suitable to form the educational basis from which Chartered Engineer status may be obtained after a suitable period of professional training and experience. Full details of the syllabuses and teaching arrangements may be found on the department's website, <http://www.materials.ox.ac.uk>.

The total space occupied by the department is 11,072 sq.m. gross (8,748 sq.m. net), of which 7,804 sq.m. gross (5,559 sq.m. net) is distributed across five buildings in the Keble Road Triangle site close to the city centre, and 3,288 sq.m. gross (3,089 sq.m. net) is part of the Begbroke Business and Science Park, a new £50m academic and science park development owned by the University just north of the city.

The department's traditional strength is in microstructural characterization, with outstanding expertise and superb facilities in electron, ion and scanning probe microscopy. There are more than 100 active electron microscopists, with 30 new users each year. Recent developments in Oxford in the characterisation field include aberration-corrected HREM and STEM, designing novel facilities for electron channelling contrast for strain field mapping, position sensitive atom probe for 3D atomic-scale chemical mapping, and NanoSIMS analysis of materials. Other research groups work on a wide variety of functional nanomaterials, polymers and biomaterials, polymer and Si photovoltaics, functional ceramics, semiconductor materials, corrosion and protection and the processing of materials, with particular strengths in structural alloys. Processing at an industrial scale is an especial strength of the department, based on a suite of advanced liquid metal fabrication facilities. The department is also the hub of the UK Interdisciplinary Research Centre in Quantum Information Processing. Further details about the research undertaken in the department can be found at <http://external.materials.ox.ac.uk/research/rip.php>.

The Materials Modelling Laboratory (MML) was set up in 1992 on the appointment of Professor David Pettifor as the current Isaac Wolfson Professor of Materials. It has established itself as a world-leading centre for modelling materials, with particular strengths in innovative modelling at the electronic, atomistic and microstructural levels. Much of the research activity is closely tied into experimental programmes within the Department of Materials and elsewhere. Recently, for example, the Engineering and Physical Sciences Research Council (EPSRC) and the United Kingdom Atomic Energy Authority (UKAEA) (Culham) funded a joint experimental/multiscale-modelling project on the mechanical properties of materials for fusion power

plants led by Professor Steve Roberts. There are also strong links with industries in the UK, the US and Japan. The modelling activities span all major types of material - metals and alloys, semiconductors, ceramics and polymers - primarily concerned with the development of conceptual frameworks and strategies needed to carry out meaningful simulations, often involving the development of new methodologies and techniques. Professor Nicola Marzari has recently been appointed to a new Chair of Materials Modelling, and 2 new university lecturers appointed in modelling.

THE POST ADVERTISED

The Isaac Wolfson Chair has had only 3 holders since 1957; Professor William Hume-Rothery OBE, FRS, 1957-1966, Professor Sir Hirsch, FRS 1966-1992 and Professor David Pettifor CBE, FRS 1992-present. All 3 of these distinguished scientists were, or are, world leaders in their respective fields, have brought great distinction to the post and made major contributions to the discipline of Materials. The department is seeking to appoint a candidate of similar stature.

SELECTION CRITERIA

Candidates will be considered for the post on the basis of selection criteria outlined below which they are asked to address in their application.

- An outstanding research record of international stature in any area of materials science or metallurgy.
- The vision, leadership, experience, and enthusiasm to build on current strengths in developing and maintaining a leading research presence in Oxford, and an established record in attracting research grant support to further this development.
- The ability to further the academic planning and strategic development of materials science at Oxford.
- The ability to manage and interact with staff and students at all levels
- An awareness of the importance of, and willingness to be involved in, the training of the next generation of researchers, for example undergraduates, research students, and postdoctoral fellows, and the ability to attract talented researchers into the field.

STANDARD DUTIES

Teaching and Research

The professor will be required to deliver lectures and give instruction in Materials, and in particular to perform the following duties:

- (i) to lecture, or hold classes, in two at least of the three university terms and to give at least thirty-six lectures or classes in all, and not less than twelve in each of two terms;
- (ii) to undertake original work and the general supervision of research and advanced work in his/her subject and department, and to assist students in their studies by advice or informal instruction.

Examining

The professor will be required to take part in university examining as and when requested to do so by a committee for the nomination of examiners, unless he or she can show reasonable cause, to the satisfaction of the Vice-Chancellor and Proctors, why on a particular occasion he or she should not do so. (This requirement does not apply to invitations from faculty boards to examine theses submitted for research degrees.)

Supervision

The professor will be required to act as the supervisor of a graduate student as and when requested to do so by a faculty board or other competent body, unless he or she can show reasonable cause, to the satisfaction of the body concerned, why on a particular occasion he or she should not do so.

Tutorial teaching

Professors may apply to the divisional board for leave to undertake paid tutorial teaching for up to four (or exceptionally up to six) hours per week.

Headship of departments

Every professor or reader who is employed by the University unless individually exempted has the obligation to accept the headship of the department in which his or her post is held if invited to do so by Council. This professorship is held in the Department of Materials and Professor Chris Grovenor has been appointed to the headship of the Department of Materials for five years from 1 October 2005. The successful candidate will be obliged to accept the headship of the department for a specified period of five years, if requested to do so by the divisional board. A superannuable schedule allowance is payable during any periods when the professor is head of department.

ST EDMUND HALL

(a) General

The Professor will be elected to a Professorial Fellowship at St Edmund Hall. St Edmund Hall is one of Oxford's oldest academic institutions although it did not receive full college status until 1957. The College teaches undergraduate students (approximately 380) in most of Oxford's disciplines but materials science is a particular strength. From October 2008 it will be one of only three Colleges with two Tutorial Fellows in this subject and will have an annual intake of approximately six undergraduates per year. These Fellows are Professor Steve Roberts whose research interests are in fundamentals of mechanical properties and Dr Jonathan Yates who researches in nuclear magnetic resonance and modelling of materials. The College also admits approximately 180 postgraduate students each year and usually some of these will be studying for doctorates in material sciences. The Professor may be asked to act as college adviser for postgraduates studying materials science. There is no requirement to teach undergraduates for the College.

Historically the College has been associated with the birth and growth of Materials within the University of Oxford; W. Hume-Rothery FRS, founder of Metallurgy Dept (as it then was) was a Fellow of St Edmund Hall as have been the other holders of this Chair. Two other Fellows of the College in Materials, Jack Christian and John Hunt, were elected Fellows of the Royal Society.

A Professorial Fellow is a member of the Governing Body which meets four times per term. Members of the Governing Body are expected to serve from time to time on various committees of the College and to participate in the wider life of the College, for example graduate seminars and social events

There is no stipend attached to a professorial fellowship but meals free of charge are available whenever the college kitchen is open. There is a shared room that is available for use by Professorial Fellows and the college guest room may be booked for use by a fellow or his/her guests.

Further information about St Edmund Hall is available at www.seh.ox.ac.uk/

GENERAL CONDITIONS OF SERVICE

The appointment is 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*.

Terms and conditions

Stipend

The salary of the appointee will be determined by the Vice-Chancellor, after appropriate consultation, in the light of the University's detailed arrangements for the reward of academic distinction and contribution among its professoriate. In addition, after taking up appointment, the professor will be eligible for consideration, in reviews which will take place from time to time, for one of a number of additional salary awards which may be made in recognition of outstanding academic distinction and/or contribution to the academic work of the University (e.g. in leadership in, or in the development of, some field of study).

Additional remuneration is currently paid to those undertaking examining and graduate supervision. Additional payments are also available for some tutorial teaching. Those holding administrative appointments within the faculty may be eligible for additional payments from the discretionary elements of national salary settlements although the continuation of these payments is under review.

A pensionable allowance will be added in respect of the duties as head of the Department of Materials for any period during which these are assigned to the professor (an allowance payable for a period of less than six months will not, however, be pensionable).

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

Retirement

Professors are required to retire not later than the 30 September immediately preceding the 66th birthday, except that for those who can establish a vested interest as defined in the University's statutes (details available on request) in retirement at age 67 or later, the date of retirement will be not later than the 30 September immediately preceding the 68th birthday.

Residence

The professor is required to reside within the University (i.e. within twenty-five miles of Carfax, the central point of Oxford) during six months at least in each academical year, between the first day of October and the ensuing first day of August, and in particular during not less than six weeks of each term.

Holding of other offices or appointments (including consultancies)

Except as expressly provided Council Regulations 24, Sect.I, § 5.A, cll. 10 and 11, no office or appointment may be accepted, or other activities or responsibilities undertaken, without the leave of the head of department (head of division in the case of a head of department). If leave is granted, the divisional board is empowered to determine what reduction in stipend (if any) shall be made.

The University encourages links with industry and other outside bodies. Although the holding of outside appointments such as consultancies must be approved by faculty boards and divisional boards, 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.

Except when they are earned by the professor as the supervisor of graduate students, as an academic adviser under the regulations for Recognised Students, or in respect of paid tutorial teaching approved by the divisional board, any fees received for lectures or instruction given by the professor in the University shall be paid to the University Finance Division for the credit of the University General Revenue Account.

Leave of absence

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.

Notice of termination of appointment

The professorship is tenable until retirement.

The length of notice required to resign an appointment shall (a) be at least three months and (b) include one complete Full Term. The conditions under which the University may in certain circumstances terminate an appointment are laid down in Statute XII Part C or Statute XII Part D of the Statutes of the University.

Appraisal

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

Intellectual Property Policy

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.

Conflict of Interest Policy

The holder of this post is required to abide by the terms and conditions of the University's Conflict of Interest policy, a copy of which is available on request. Professors who fall into the category of:

- (a) Heads of department
- (b) Chairmen of bodies which govern the University's affairs
- (c) Directors of wholly owned subsidiary companies of the University

are required to make a personal declaration on an annual basis to the University's Conflict of Interest Committee about any potential conflict of interest they may have within their area of responsibility.

General information

Equal Opportunities statement

The policy and practice of the University of Oxford require that all staff are afforded equal opportunities within employment and that 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 sex, marital status, sexual orientation, racial group, disability, or sexual orientation.

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

Membership of Congregation

All professors of the University, with other members of the academic staff and certain senior academic-related staff, are 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 University's 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 chair will receive fuller details soon after he or she takes up the appointment.

Maternity leave and childcare facilities

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, or at the fifteenth week before the expected week of childbirth have had two years' continuous service with any employer in the past, or were at any stage entitled to the benefits of a previous employer's paid maternity leave scheme, women may take up to 26 weeks leave on full pay, plus a further 26 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.

The University has three subsidised nurseries and also subsidises places at some local nurseries, although at present there is a waiting list. 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 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, Wellington Square, Oxford OX1 2JD.

Relocation expenses

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

Assistance with house purchase

Where exceptional difficulty arises in regard to housing for a professor moving to the Oxford area to take up appointment (e.g. as may sometimes be the case where the move is from an area in which housing costs are substantially lower than in Oxford), the University may in certain circumstances be able to facilitate arrangements to assist house purchase.

Medical questionnaire and the right to work in the UK

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

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 dependents until they receive their first salary payment.

Further information is available at: <http://www.ukba.homeoffice.gov.uk/workingintheuk/tier1/general/eligibility/>.

Data Protection

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.

Further information

Further information may be obtained on a strictly confidential basis, from Professor Chris Grovenor (tel. +44 (0)1865 273737, e-mail chris.grovenor@materials.ox.ac.uk).

HOW TO APPLY

Applications should be sent by e-mail to professorships@admin.ox.ac.uk or by post (ten copies, or only one from overseas applicants) to Dr Gwen Booth, Personnel Officer, Senior Appointments, University Offices, Wellington Square, Oxford OX1 2JD, to arrive no later than 30 March 2009.

Applications should be made in the form of a detailed CV and publication list, a covering letter indicating clearly how the candidate meets the selection criteria for the post outlined above, and the names, addresses and contact details of three referees who have agreed to act on this occasion (at least one of whom should be a representative of the candidate's current or most recent employer). Candidates who name as a referee a member of the electoral board need not supply the name of a substitute referee. However, shortlisted candidates for whom only Oxford references are available will be asked to provide the name of an additional referee from outside Oxford. The University will assume that it is free to approach referees at any stage unless the candidate's application stipulates otherwise (i.e. candidates who wish a referee or referees to be approached only with their specific permission and/or if they are being called for interview on the final short list or are in receipt of a conditional offer, are asked to state such requirements explicitly alongside the details of the relevant referee(s)).

All applications will be acknowledged as soon as possible after receipt and will be considered by the board of electors after the closing date.

Maintained by:  [Further particulars webmaster](mailto:Further_particulars_webmaster) (web.support@admin.ox.ac.uk)

Last modified: 13 January 2009

Originating URL: <http://www.admin.ox.ac.uk/fp/wd9-019.shtml>

© 2009, University of Oxford. Enquiries to Webmaster (webmaster@admin.ox.ac.uk)