

PROFESSOR IN NANOTECHNOLOGY FOR ENERGY SOLUTIONS

DEPARTMENT OF CHEMICAL AND PROCESS ENGINEERING

John Anderson Research Leadership Scheme (JARL2)

1. NATURE OF APPOINTMENT

The vision of the University of Strathclyde is bold and transformational, placing it among the leading international technological universities. This promises an institution that is vibrant and dynamic and internationally focused, with cutting-edge, multi-disciplinary research of global relevance. The John Anderson Research Leadership scheme is focused on recruiting the best academic talent to enhance both research intensity and leadership in areas of strategic importance.

An outstanding research leader is sought to lead the Department's nanostructured systems research theme with the specific focus on the interface between nanotechnology and energy. Relevant research areas include, but are not limited to, engineered photosynthesis, biomimetic catalysis or energy transformation, advanced materials for energy storage, solar energy or carbon capture. With the capacity to provide strategic vision and the ability to lead, manage and build strong collaborative research teams, the position offers a unique opportunity to build a leading European research team.

You will already have an outstanding track record in publishing leading research and a major portfolio of research funding and industrial engagement, and you will be expected to build on these strengths by developing collaborations within the Department as well as through collaboration with other leading research centres. The position offers a unique opportunity to work within a dynamic interdisciplinary environment exploiting two new advanced materials characterisation laboratories, following an investment of over £5M by the Department and Faculty, as well as a £0.5M High Performance Computing facility.

You will also be expected to contribute effectively to the teaching of chemical engineering on the Department's fulltime and unique distance learning undergraduate and postgraduate programmes, and to contribute to the development of an innovative chemical engineering curriculum suited to the challenges of the 21st century. You will also be expected to contribute to the strategic management of the Department.

The post-holder will have a first degree and PhD (or equivalent) in Chemical Engineering or a related subject. The energy and drive to achieve success and excellent management and communication skills are essential for this post.

Subject to the Charter, Statutes, Ordinances and Regulations of the University, as Professor you will be responsible to the Court of the University through the Principal for providing leadership in your academic area and will report annually on this. This is in addition to the responsibility which each Professor owes to his or her Head of Department.

2. APPLICATION PROCEDURE

- A letter of application telling us why we should appoint you, together with a research plan for nanotechnology providing innovative energy solutions.

- A completed application form to which a full curriculum vitae should be attached. The names and addresses of three referees should be given on the application form. The referees may be contacted by the University without further permission from the candidate unless you indicate to the contrary.

Applications should be lodged with Human Resources, University of Strathclyde, McCance Building, 16 Richmond Street, Glasgow, G1 1XQ by **14 December 2009**.

Applicants who wish an acknowledgement of their paper application should address and stamp the enclosed postcard. Online applications will be acknowledged electronically.

Informal inquiries are welcome to Dr Carl Schaschke, Head of Department, Chemical and Process Engineering on 0141-548 2371 or at carl.schaschke@strath.ac.uk.

Formal shortlisting for the post will be held on 1 February 2010.

Formal interviews for this post will be held on the afternoon of 10 March 2010 preceded by a presentation to the Department and informal meetings with the Principal, Dean and Human Resources in the morning of the same day.

The University operates a normal retirement age of 65 or the September following 65th birthday. Applications will only be accepted from people up to the age of 64 years and 6 months at the date of their application unless otherwise stated. This is in line with the Employment Equality (Age) Regulations 2006.

3. DUTIES OF THE POST

Job Purpose

To lead and grow the Department's research theme in nanostructured systems with the specific focus on Nanotechnology for Energy Solutions.

Primary Responsibilities/Activities

- To build an internationally leading research team in nanotechnology providing innovative energy solutions;
- To attract high quality researchers and collaborators from across Department, Faculty, University and beyond;
- To generate world-class publication outputs;
- To secure a portfolio of external funding from governmental and industrial sources in the UK and EU;
- To provide leadership for success of the University in the coming Research Excellence Framework;
- To promote excellence within the University and strengthen links across Faculties through collaboration as well as through involvement in recent energy related University-wide initiatives;
- To contribute to the teaching programmes in chemical engineering;
- To contribute to strategic management and administration of the Department.

4. PERSON SPECIFICATION

The following criteria are considered essential:

- PhD in Chemical Engineering or related discipline;
- Substantial experience of building and leading a research group in the field of nanotechnology for energy solutions, with proven success in attracting long-term grant income and funding as well as managing funded research;
- Experience in teaching chemical engineering at undergraduate and postgraduate level with the proven ability to supervise postgraduate students;
- Outstanding track record of publishing work in leading international journals;
- Considerable track record in successful industrial engagement;
- High level communication skills with the ability to listen, engage and persuade and to present complex information in an accessible way to a range of audiences;

- The qualities of an academic leader, mentor, team player and good citizen, with a proven track record of high motivation and activity.
- Willingness to develop and contribute to teaching programmes.

The following criteria are considered desirable:

- Experience of interacting with students with a wide range of levels of ability;
- Good organisational skills;
- Experience of teaching administration;
- Knowledge of current advances in chemical engineering;
- Experience of mentoring junior academics;
- Willingness for international travel.

5. THE DEPARTMENT OF CHEMICAL AND PROCESS ENGINEERING

The Department of Chemical & Process Engineering is part of the Faculty of Engineering and is one of the largest providers of chemical engineering graduates in the UK and the largest in Scotland. The Department has a unique reputation for the delivery of both undergraduate and postgraduate courses by distance learning. The Department also has a significant portfolio of vibrant research in the areas of biomolecular engineering, low carbon technology and nanostructured materials.

The Department currently has 14 academic staff and an undergraduate population of around 300 with over 20 researchers (doctoral students and research assistants). The Department has an international outlook for both teaching and research, with strong links with the European Community and elsewhere in the world. Entry standards to the undergraduate courses are among the highest in the UK. Since 2001, the Department has made a number of key research-focused academic appointments who have been active in developing research expertise in the areas of nanostructured materials, low carbon technology and biomolecular engineering. The department has recently invested over £2M in new materials characterisation laboratories, with an additional 700m² of laboratory space providing an important part of the department's research strategy. The faculty has also invested a further £3M in an advanced materials laboratory.

Teaching

The Department currently offers MEng, BEng and MSc study in Chemical Engineering as both full-time and by distance learning. Also provided, in conjunction with the Department of Pure & Applied Chemistry is a joint degree in Applied Chemistry and Chemical Engineering (ACCE) with an intake of around 20-30 on the ACCE course. A rising intake of around 100 students are admitted to the MEng course which involves advanced studies in chemical engineering providing both breadth and depth in chemical engineering education. Around 10 students each year study abroad for one or two semesters. Every MEng student receives an industrial placement of their choice in the final semester, the chance to study abroad or to work in the Department's laboratories.

Research

The core research objective has been to build and sustain the Department as an interdisciplinary centre of research excellence in nanoscale science and engineering establishing three research themes recognised as being of key strategic importance at both national and international level in the quest to meet the challenges of energy provision, advanced materials and healthcare.

1. Nanostructured Materials: development, characterisation, measurement and modelling of novel nanostructured materials applied to energy provision, separation methods and advanced nanocomposite materials.
2. Biomolecular Engineering: multidisciplinary team of well established researchers from several departments in the faculties of science and engineering with focus on biotherapeutics engineering and analytical technologies.
3. Low Carbon Technology: innovative solutions to global problem of energy provision and carbon dioxide emissions, including carbon capture, novel methods for storing and generating energy and efficient processing.

For further information on the Department, please visit <http://www.strath.ac.uk/Departments/ChemEng>.

6. THE UNIVERSITY OF STRATHCLYDE

The University of Strathclyde, in the heart of Glasgow, is a vibrant, international, academic community of 16,000 full-time students from 100 countries, and over 3,000 full-time equivalent staff. With a turnover of £220m, we are the third-largest University in Scotland. While still honouring the 200 year old founding vision of Professor John Anderson to be a “place of useful learning”, today’s Strathclyde is a modern, outward-looking, research-led University with a distinctive reputation for innovation and enterprise. Known for our high entry standards, the quality of our student learning experience, our impressive record on graduate employability and business spin outs, we have led the UK trend by continuing to increase our undergraduate numbers in Science and Engineering.

Within the past two years we have embarked on an ambitious change programme - the Agenda for Excellence - further enhancing the quality of our Research, Education and Knowledge Exchange. This commitment to excellence is supported by major investment in high calibre staff and an ambitious, sustainable estate development programme. Already this [strategic focus](#) is bearing fruit. Last year we achieved consistent improvement in overall institutional rankings in all major league tables of up to 10 places. According to Research Fortnight, Strathclyde is the only University in the UK top 20 grant earners showing increases in awards in 2006/2007 from all 6 research councils. The Financial Times ranked our Business School’s MBA 30th best in the world and first anywhere for value for money.

Presently the University is located on two campuses, the John Anderson (Glasgow City Centre) and Jordanhill (Glasgow West). We are also organised into six main budget areas; our five Faculties (Science, Engineering, Business, Law, Arts and Social Sciences, and Education) and Central Administrative Services, although these structures are also being reviewed as part of our Agenda for Excellence.

7. JOHN ANDERSON RESEARCH LEADERSHIP APPOINTMENTS

The John Anderson Research Leadership (JARL2) scheme builds on the success of the earlier John Anderson Research Lectureship initiative as Strathclyde continues to recruit the best academic talent to enhance both research capacity and leadership in areas of strategic importance.

Around 25 posts will be advertised under this scheme during 2009-10. Those appointed will join the University at a particularly exciting time as we continue with a series of strategic change initiatives designed to develop the University so that it can compete on equal terms with the very best in the UK and internationally as a technologically-focused HEI, with a particularly strong reputation in science, engineering and business.

It is expected that during the first three years in post appointees will be able to accelerate the establishment of their research activities. They will have a reduced teaching and administrative load during that period so that they can concentrate on developing their research portfolio, including securing research funding, building collaborations and building a team of research assistants and postgraduate research students as appropriate. Nonetheless, JARL2 appointments are not solely research appointments and appointees will be expected to undertake an appropriate full range of academic duties by the end of their third year in post. Each post will come with an attractive start-up package.

8. FACULTY OF ENGINEERING

Engineering Research at Strathclyde is focused on excellence and the achievement of first class performance whilst delivering cutting edge technological solutions for the benefit of industry and society. There are over 500 postgraduate students and 115 research staff working with academic staff in the Faculty’s nine departments.

Multimillion pound investments in the Faculty by Research Councils, government Intermediate Technology Institutes and companies such as Rolls-Royce and British Energy ensure the Faculty’s researchers have access to the very best facilities.

Based on the results of the last Research Assessment Exercise (RAE2008), the Faculty is the first in Engineering in Scotland, and in the top ten within the UK in terms of Research Power.

Steered by a challenging Research Strategy allied to industrial and societal needs, the Faculty has five major interdisciplinary Institutes bringing together academic expertise from across Departments:

- Institute for Information and Communications Engineering

- Institute for Infrastructure and Transport Engineering (incorporating Aerospace)
- Institute for Energy & the Environment, Power and Energy Systems
- Institute for Health Engineering
- Strathclyde Institute for Operations Management
- Marine Institute

Cross-disciplinary research at Institute level is also supported by expert Knowledge Centres in underpinning key technology areas:

- Safety Engineering and Conditions Monitoring
- Environmental Impact Assessment
- Business and Manufacturing Processes
- Digital Electronics
- Design Concepts and Processes
- Computational Methods in Engineering
- Engineering Fundamentals
- Applied Nanoscience
- Biomolecular Engineering

In addition, Departments have a number of specialist Institutes and research groups including:

- The Ship Stability Research Centre
- Medical Diagnostics and Instrumentation
- Rehabilitation Engineering
- Cell, Tissue and Organ Engineering
- Engineering Materials and Metallurgy
- David Livingstone Centre for Sustainability

Links with industry, a particular strength of the Faculty, ensure that research fields are relevant to the needs of society and that the Faculty's staff, and industry, remain at the forefront of technology. Large-scale laboratories, wireless networks, regular seminar programmes and specialist research centres ensure the quality of research.

For further information on the Faculty of Engineering, please visit <http://www.strath.ac.uk/engineering/>.

9. THE CITY OF GLASGOW

[Glasgow](#) is the industrial and commercial capital of Scotland and the various groups that have contributed to its population over the centuries have given it a cosmopolitan feel. It has a lively cultural life as home of the national orchestra, opera and ballet and several theatre companies and it possesses a number of fine art galleries; it is the headquarters of the national press and broadcasting media. Its numerous higher and further education establishments have made it a major educational centre.

The Scottish countryside and its splendid recreation and sporting facilities are easily reached from Glasgow.

10. SALARY, CONDITIONS OF SERVICE AND BENEFITS

Appointment will be made in terms of the enclosed conditions of service (Appendix 1). The salary offered will be appropriate to the qualifications, standing and experience of the successful candidate and commensurate with the seniority of the appointment.

We also offer staff a range of other outstanding benefits, including:

- Membership of a [Final Salary Pension Scheme](#).
- Training and Development opportunities underpinned by a 10 year commitment to the [Investors in People](#) Standard.
- Reduced or remitted fees for vocational and non-vocational study.

- Sports, Recreation and [Wellbeing](#) facilities, including Ross Priory, a stunning 17th century house situated in 200 acres of land on the south shore of Loch Lomond, just 40 minutes drive from Glasgow.
- [Childcare](#) facilities and [voucher scheme](#).

11. REMOVAL AND RESETTLEMENT

The University will cover the cost of reasonable removal expenses within the UK on the basis of the lower of at least two estimates. A further contribution towards costs involved in moving to Glasgow may be made at the discretion of the University.

It is the University's custom to agree a fixed sum (indicated at the time of offer of contract) to cover removal and resettlement for new members of staff who reside outwith the UK.

12. POSITIVE ABOUT DISABLED PEOPLE

The University is accredited as a "Positive about Disabled People" employer and operates a guaranteed interview scheme for disabled candidates who meet all of the essential criteria for the post that they are applying for. On the appropriate section of the application form please indicate if you consider yourself to have a disability **and** wish to be considered under the scheme.

The Disability Discrimination Act 1995 defines disability as "a physical or mental impairment which has a substantial and long term adverse effect on a person's ability to carry out normal day to day activities".

Please note that if you indicate that you have a disability then you may be asked to provide information on this at interview. The University needs this information to consider the likely impact of your disability on the duties of the position you are applying for and what reasonable adjustments can be made to the position. This allows the University to comply with the Disability Discrimination Act (1995).

13. CHILD PROTECTION (SCOTLAND) ACT 2003

It may be a requirement for this post that an Enhanced Disclosure Scotland Check is undertaken prior to commencement of employment. Please note that if a Disclosure check is required then any offer of employment will be subject to the outcome being satisfactory. Further information is available at <http://www.disclosurescotland.co.uk/>.

We value diversity and welcome applications from all sections of the community.

The University of Strathclyde is a Registered Scottish Charity, No SCO15263

CONDITIONS OF EMPLOYMENT OF PROFESSORS

1. GENERAL CONDITIONS

Members of staff are subject to the Charter and Statutes and the Ordinances and Regulations of the University, published in the Calendar, and to any amendments or additions thereto approved by the University Court and, in the case of the Charter and Statutes, the Privy Council.

The University Court recognises the Strathclyde University and College Union (SUCU) as the sole body with which it will negotiate and consult on all collective issues concerned with the terms and conditions of employment of academic and related staff. Such terms and conditions may be varied by the University Court after negotiation and consultation with SUCU.

Further information on the terms and conditions specified in this document is contained in the Staff Handbook, which also includes further details of such conditions as provision for sick/injury leave and pay, leave of absence, holidays and holiday pay, individual grievance procedures, review and disciplinary procedures and collective agreements. Should you not receive a copy of the handbook on appointment a reference copy is accessible by visiting Human Resources.

2. CONTINUOUS SERVICE

In the case of new appointments, unless otherwise stated in the letter of appointment, the date of continuous employment for the purposes of statutory employment rights will be taken to be the date of appointment contained therein. In the case of promotions, regradings or transfers, previous service is continuous.

3. ALLOCATION OF POST

The post to which each member of staff is appointed is allocated to the department or other area named in the member of staff's letter of appointment and any accompanying papers. Should the University Court deem it necessary, in the furtherance of the objectives of the University specified in its Charter, it shall, having consulted with the parties concerned and having received the advice of the Senate, re-allocate the post and/or duties pertaining partially or wholly to it to another department or area. Any such re-allocation will be without prejudice to the other conditions of employment of the holder.

If the need arises during the course of employment for members of staff to work outside the U.K. for a period (or periods) of more than one month then such arrangements will be subject to mutual agreement. Members of staff, would then be provided with a statement in advance setting out the terms covering such periods of employment.

4. RESPONSIBILITY AND SERVICE

Each professor is responsible to the Court of the University through the Principal for the fulfilment of the normal professorial duties. Unless otherwise indicated members of staff are appointed for full time service.

Heads of Departments are responsible to the Court of the University through the Principal for that department as a whole. The conditions of such appointment are as set out in Regulation 1.13, and a separate letter of appointment. Each professor is ex-officio a member of the Board of Study for the Faculty in which the professor's department or area is located.

5. WORKING TIME

Working time is that required to fulfil the duties of the post. The duties are: teaching, research, administrative and professional activities organised by agreement with the Head of Department to produce a reasonable balance of commitment between these duties. The University Court recognises that academics carry out these duties in a wide variety of ways, but expects student contact to take place on the campuses during normal working hours on week days. There are exceptions to this pattern which may involve student contact at other locations or in the evenings, or at the weekends, but these arrangements will be made with the agreement of the member of staff concerned and may involve additional payment.

6. HOLIDAYS

Annual leave entitlement is 31 week days per year to be taken by arrangement with the Head of Department. For calculation of entitlement, annual leave accrues on the basis of 2.5 days per calendar month to be taken within the leave year which begins on 1st October. In addition to annual leave there is an entitlement to eleven public holidays per year which should be taken on the days that the University is closed for this purpose. The University presently closes for four additional days over the Christmas and New Year period. These additional days count against the Annual Leave entitlement.

7. CONSULTANCY/FURTHER ACTIVITIES

For professional development purposes the University Court encourages full time academic staff to undertake in addition to the teaching, research and other duties required of them as staff of the University further activities of their own choice in the field for which they are appointed. Such further activities may occupy no more than twenty-five normal working days in total per University financial year (i.e. during the period 1 August to 31 July inclusive). Such further activities require to be registered and authorised in terms of the University's regulations, the details of which are set out in the staff handbook.

8. SICK LEAVE

During any period of absence through illness or injury provided the appropriate medical certificates are received the University will pay a member of staff (having taken account of the aggregate of all periods of absence due to illness during the twelve months immediately preceding the first day of the current absence) as follows:

Period of Continuous Employment	Full Pay	Half Pay
During first year	1 month	1 month
During second year	2 months	2 months
During third year	4 months	4 months
During fourth and fifth year	5 months	5 months
After five years	6 months	6 months

In order to manage the University's sick pay scheme the University requires to maintain sickness absence records on individual members of staff.

When making payments after the expiry of statutory sick pay the University will deduct an amount equivalent to any benefit normally payable by the Department of Health and Social Security. For this and other details see staff handbook.

9. SALARY AND SUPERANNUATION

Appointments are made at an appropriate level above the nationally agreed minimum for professorial staff; salaries are reviewed annually. Salaries are payable monthly in arrears by means of credit transfer to a specified bank account.

New members of staff, under age 60, will be admitted to membership of the Universities' Superannuation Scheme on taking up appointment unless they notify the University in advance that they do not wish to be admitted to membership of USS, or have opted against USS in previous university employment. USS requires a contribution from the member of 6.35 per cent of salary, to which a contribution of salary is added by the University as required by USS. New members of staff over age 60 are not admitted automatically as special terms and a higher contribution rate (12 per cent) apply. Staff should contact the Pensions Section if they wish to join the scheme.

New members of staff may opt out of USS within three months of taking up appointment when they will be treated as if they had never been members. After three months members of Staff who wish to withdraw from USS during their employment will be required to give a minimum of 28 days' notice in writing to the University. Any member of staff who wishes to opt out should contact the Pensions Section in the first instance.

Full details of the Scheme are available for reference purposes at the Pensions Section of Finance Office, John Anderson Campus and from Human Resources, Jordanhill Campus.

10. PLACE OF RESIDENCE

The University does not normally place specified restrictions upon the place of residence of members of staff. They are, however, expected to reside in a location which is compatible with the satisfactory fulfilment of all the duties associated with their appointment and with membership of the academic community.

11. NOTICE AND TERMINATION

The employment of a professor is terminable by at least six months' notice, in writing, by either party. If notice is being given by a professor, earlier release may be granted if this can be arranged without detriment to the work of the department.

If the appointment is for a fixed term it will expire at the end of the period without the necessity for notice unless it is renewed. Staff whose appointment has so terminated shall not normally be regarded as having been dismissed or removed from office in circumstances to which the terms of Statute XXIII Part III shall apply. Fixed term contracts may be terminated by either party short of the expiry date by the serving of six months notice in writing.

The University is not obliged to continue a fixed term appointment beyond the employment period.

Revised November 2006
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APPENDIX 2



Our commitment to you as the applicant is:

- Your application will be acknowledged *unless stated otherwise in the advertisement* within five working days of receipt. To enable us to meet this, acknowledgement postcards, where enclosed with further particulars, should be completed and returned with your application. Unless otherwise stated in the advertisement, you will also be informed of the outcome of your application as soon as possible.
- If called for interview you will be advised promptly and clearly of the interview arrangements. Your interview will be conducted in a businesslike and friendly manner and will comply with recognised good employment practice. To assist us in meeting our standards we ask that you promptly confirm your attendance (or otherwise) at interview and advise us of any change in your address or Curriculum Vitae.
- You will also be advised of any major delays in the appointment procedure. We will only approach referees nominated by you.
- You will be informed of the outcome of interview as soon as possible. If you are being offered a post you will be written to within 2 working days of the decision being taken. The offer will normally include a duplicate copy which you are required to sign and return to conclude the contract. **Payment of an appropriate salary is dependent on this.**
- We are committed to achieving the standards we have set and to receiving and acting upon constructive feedback from our clients.
- If you are not satisfied with the service you have received, please raise the matter in the first instance with the person with whom you have been dealing. This person will either deal with the complaint to your satisfaction or else advise you how to proceed next. If you feel that dealing with the matter in this way is inappropriate, then write to me at Human Resources, University of Strathclyde, McCance Building, 16 Richmond Street, Glasgow G1 1XQ, and I will respond.

Sandra Heidinger
Acting Director of Human Resources