

SENIOR LECTURER/READER IN INNOVATIVE LASER AND PHOTONIC SYSTEMS FOR LOW CARBON TECHNOLOGIES

DEPARTMENT OF ELECTRONIC AND ELECTRICAL 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.

The Centre for Microsystems and Photonics (CMP) (<http://www.strath.ac.uk/eee/research/cmp/>) within the Department of Electronic and Electrical Engineering undertakes research in the areas of photonics for sensing and instrumentation, MEMS and microsystems, and in passive and active fibre optic devices such as low and high power fibre lasers and their applications. The Centre has an international reputation for research excellence, and operates within the environment of one of the largest EEE Departments in the UK. CMP has received substantial funding and support from the Department, Faculty and University to invest in high-quality personnel and infrastructure, and is now seeking to make an academic appointment in the area of innovative laser and photonic systems to support low carbon technologies.

The initial focus for the research will be to address two themes, namely (i) advanced laser technologies and systems and (ii) photonic measurement and instrumentation. The emphasis will be on developing and applying these technologies in a wide range of engineering systems designed to help curb carbon emissions and support renewable generation. The research to be undertaken includes the application of compact, tunable laser sources (e.g. external cavity lasers, long wavelength VCSELs, QCLs, fibre and other solid state laser systems) for optical spectroscopy; MEMS lasers; optical systems for local or remote monitoring of emissions (e.g. gas concentration measurements using laser spectroscopy for process/efficiency control in fuels cells and in CO₂ sequestration; gas concentration measurements to optimise combustion processes in harsh environments such as in gas turbine engines and gas burning power generation equipment); photoacoustic trace gas detection technologies; the optical physics of gases confined in nanostructures; laser/optical sensing and instrumentation systems for condition monitoring of marine and off-shore structures used for energy generation.

The post will also include teaching, supervision and administration as specified by the Head of Department. Applicants will have a good honours degree in a relevant branch of Engineering or Physics and a PhD in laser and photonics based sensing and instrumentation.

2. APPLICATION PROCEDURE

- A letter of application telling us why you have the energy, skills, knowledge and understanding of Higher Education or other 'Not for profit' sectors to make a real difference in the post described.
- A completed application form to which a full curriculum vitae should be attached. In completing your application you should make it clear whether you wish to be considered for Reader, Senior Lecturer

or both. Please consider this matter carefully as it may impact on our decision to shortlist you for interview. 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.

Formal shortlisting for the post will be held on 27 January 2010.

Formal interviews for the post will be held on 15 February 2010.

Informal enquiries regarding the post can be directed to Professor D Uttamchandani, Director of Centre of Microsystems and Photonics (e-mail du@eee.strath.ac.uk OR telephone 0141 548 2211) or Professor Walter Johnstone (e-mail w.johnstone@eee.strath.ac.uk OR telephone 0141 548 2641).

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

To establish a world-class research programme in the area of laser and photonic systems to support low carbon and renewables technologies; to lead the design and delivery of a range of teaching materials and undertake student assessment activities; to engage in relevant professional and knowledge exchange activities; and to carry out senior administrative tasks assigned by the Head of Department.

Primary responsibilities/activities

- Lead and participate in national and international research activities, disseminating the research outputs through regular publications in high impact journals and conference proceedings.
- Submit, as Principal- or Co-Investigator, proposals to external bodies for research funding, and manage the grants and projects awarded.
- Provide leadership, support and supervision to research staff, postgraduate and undergraduate students.
- Lead the development of Knowledge Exchange activities by, for example, establishing research and/or educational links with industry
- Manage the design and delivery of a range of teaching materials at undergraduate and postgraduate levels in a manner that supports a research-led approach to student learning.
- Overseeing and undertaking student teaching, assessment and examination activities, including the provision of appropriate feedback to students.
- Carry out Departmental, Faculty and/or University administrative and management functions, for example by convening or participating in relevant Department/Faculty/University committees.
- Contribute to the strategic development of the Department through, for example, developing new research directions and/or educational courses.
- Engage in continuous professional development.

4. PERSON SPECIFICATION

The following criteria are considered essential:

- Good honours degree in a relevant branch of Engineering or Physics.
- PhD awarded in laser and photonics based sensing and instrumentation, or in a relevant area.
- A sustained track record of high quality publications and in securing research funding
- Evidence of an established national reputation.
- Research supervision experience of PhD students

- Teaching experience at undergraduate and postgraduate level
- Demonstrated ability to work within an academic team environment and to lead teams of less experienced staff and research students.
- Excellent interpersonal and communication skills.
- **Reader level only:** Evidence of a profile as an externally recognised authority with a national reputation and growing international reputation.

The following criteria are considered desirable:

- Experience of interdisciplinary and collaborative research and its management.
- Experience of optical gas sensing or sensing relevant to low carbon technologies
- Track record in industrial research/Knowledge Exchange activities.
- Membership of IET or IoP or similar professional body.

5. THE DEPARTMENT

The Department of Electronic and Electrical Engineering is part of the Faculty of Engineering. For further information on the Department, please visit <http://www.strath.ac.uk/eee>.

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. THE 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 academics 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 2008 Research Assessment Exercise (RAE), the Faculty ranked first for Engineering "Research Power" in Scotland with all departments judged to be internationally or nationally leading.

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
- 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
- Doctorial Training Centre in Medical Devices
- Glasgow Research Partnership in Engineering
- Advanced Forming Research Centre
- Centre for Intelligent Dynamic Communications
- Centre for Excellence in Signal and Image Processing
- Centre for Microsystems and Photonics
- Industrial Control centre
- Centre for Ultrasonic Engineering

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

- The Ship Stability Research Centre
- Marine Structures and Reliability Centre
- Centre for Marine Hydrodynamics
- Medical Diagnostic Devices and Instrumentation

- Rehabilitation Engineering
- Cell, Tissue and Organ Engineering
- Engineering Materials and Metallurgy
- David Livingstone Centre for Sustainability
- Infrastructure Research Group
- Environment research Group
- CAD Centre
- Engineering Science
- Engineering Mechanics
- Engineering Systems

Links with industry are a particular strength of the Faculty and ensure that research fields are relevant to the needs of society and that 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

The appointment will be made at an appropriate point on the Academic Salary Scales (currently £46,278 - £52,086 for Senior Lecturers and £53,650 - £56,917 for Readers (Appendix 1)), depending on the qualifications and experience of the successful candidate. The conditions of service applicable to the post are attached (Appendix 2).

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. 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).

12. 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.

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

SALARY SCALES FOR ACADEMIC STAFF

		1 May 2008	1 October 2008
<u>Lecturer A</u>	Grade 7	£30,912	£32,458
		£31,840	£33,432
		£32,795	£34,435
		£33,780	£35,469
		£34,793**	£36,532**
		£35,858**	£37,651**
		£36,912**	£38,757**
<u>Lecturer B</u>	Grade 8	£34,793	£36,532
		£35,858	£37,651
		£36,912	£38,757
		£38,019	£39,920
		£39,160	£41,118
		£40,334	£42,351
		£41,545	£43,622
		£42,791	£44,930
		£44,074**	£46,278**
		£45,397**	£47,666**
		£46,759**	£49,096**
<u>Senior Lecturer</u>	Grade 9	£44,074	£46,278
		£45,397	£47,666
		£46,759	£49,096
		£48,161	£50,569
		£49,606	£52,086
		£51,095**	£53,650**
		£52,628**	£55,259**
<u>Reader</u>	Grade 10	£51,095	£53,650
		£52,628	£55,259
		£54,207	£56,917
		£55,833**	£58,625**
		£57,508**	£60,383**

Note:- ** Contribution Points

October 2008

**CONDITIONS OF EMPLOYMENT
NON-PROFESSORIAL ACADEMIC STAFF**

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 has concluded an agreement with the Strathclyde University and Colleges Union (SUCU) by which it recognises this body 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 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 member of staff is responsible for the proper performance of allocated duties to the Head of the Department or area to which the member of staff's post has been allocated. 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 appointments are as set out in regulation 1.3, and a separate letter of appointment.

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 at commencement of absence from work	Full Pay	Half Pay
Less than 1 year	1 month	1 month
1 year but less than 2 years	2 months	2 months
2 years but less than 3 years	4 months	4 months
3 years but less than 5 years	5 months	5 months
5 years or more	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 salary point on the University's agreed salary structure for Academic staff; placing on the scale is according to qualifications and experience. 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. USS requires a contribution from the member (currently 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 (7.35 per cent), apply. Such 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. PROBATIONARY PERIOD

Members of staff may be appointed for a probationary period of up to three years in the first instance. Any such appointment is reviewed under the University's review procedure and is subject to confirmation by the appropriate Review Panel, which receives an annual report on progress from the Chairman or Head of Department or area concerned. Confirmation of appointment will be dependent on staff attending the in service course run by the Centre for Academic Practice or a relevant teacher training course. Salary increments are paid during the probationary period.

11. 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.

12. NOTICE AND TERMINATION

The employment of a member of staff is terminable by at least three months' notice, in writing, on either side; termination dates are normally 31 March, 30 June, 30 September and 31 December. If notice is being given by a member of staff earlier release may be granted if this can be arranged without detriment to the work of the department or area. 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 three months notice in writing. The University is not obliged to continue a fixed term appointment beyond the employment period.

Revised November 2006

Service Commitment to Applicants for Employment

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

Human Resources
University of Strathclyde
John Anderson Campus
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