

Principal: Professor Jim McDonald

PROFESSOR IN LASER FUSION

DEPARTMENT OF PHYSICS

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.

Applications are invited for a Professor in Laser-Fusion Physics within the high power laser-plasma group in the Department of Physics at the University of Strathclyde, with backing and support from the Rutherford Appleton Laboratory (RAL). The position will extend and complement the Department's existing strong research programme in the physics of inertial fusion, including its role in the STFC-led European HiPER (High Power laser Energy Research, <http://www.hiper-laser.org/>) project. The Department is currently a partner in this project, through Dr. Paul McKenna and in addition is strongly represented at the lead partner RAL through Prof. Bob Bingham (Strathclyde & RAL). The department has a number of existing research activities in the area of laser-fusion plasmas, including EPSRC-supported projects relating to fast ignition physics (Dr. McKenna) and instabilities in fusion plasmas (Prof. Alan Phelps, Dr. Kevin Ronald and Prof. Bob Bingham). The department also has a strong research programme in the development and application of plasma-based accelerators (SCAPA, ALPHA-X and LIBRA projects) and is a partner in the European ELI (Extreme Light Infrastructure) project (Profs Ken Ledingham and Dino Jaroszynski). This range of complementary Strathclyde projects, expertise and investment provide an excellent environment for a high calibre researcher in Laser Fusion to enhance the work in the Department's Plasma Division.

We would particularly welcome applications from candidates with expertise in numerical modelling of high power laser plasma interactions, who will develop a programme of research to complement existing experimental activity in laser-fusion physics within the group and provide us with the necessary breadth of expertise to develop a leading role in the key science of the Fast Ignition approach to laser fusion.

You will be based in the Department of Physics at the University of Strathclyde, with the opportunity of a secondment at the Central Laser Facility at the Rutherford Appleton Laboratory. You will help develop the laser-fusion research theme in the Department of Physics and across the University and SUPA (Scottish Universities Physics Alliance), attracting significant funding, publishing in leading journals and contributing to teaching and to the strategic management of the Department.

With a PhD (or equivalent) in Physics or a related subject, you will have an excellent track record of publication in highly rated academic journals, of securing research funding and of delivering teaching at all levels.

Subject to the Charter, Statutes, Ordinances and Regulations of the University, as Professor you will be responsible to 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 (maximum 4 pages) outlining your research strategy for the next 5 years should you be appointed.
- 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.

Formal shortlisting for the post will be held on 3 February 2010.

Formal interviews for this post will be held on the afternoon of 5 March 2010 preceded by a presentation to the Department and informal meetings in the morning of the same day. Tours of the Department's research facilities and meetings with relevant staff can be arranged for the preceding day.

Informal enquiries regarding the post can be directed to:

Prof. Robert Martin,
Physics Department,
University of Strathclyde,
Glasgow,
G4 0NG
r.w.martin@strath.ac.uk
tel. 0141 548 3466.

Dr. Paul McKenna,
Physics Department,
University of Strathclyde,
Glasgow,
G4 0NG
p.mckenna@phys.strath.ac.uk
tel. 0141 548 5712.

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 enhance and complement the Department's work in Laser Fusion Science
- To conduct world leading research in Laser Fusion Science

- To further strengthen our excellent Plasma Division
- To contribute to the success and plans of the Department

Primary Responsibilities/Activities

- Research in an area relating to Laser Fusion Science
- Collaboration with other members of the Department's Plasma Division and with those outside the Department
- To actively engage with the Rutherford Appleton Laboratory, Central Laser Facility, etc.
- To contribute to research excellence and help us achieve a strong performance in forthcoming research assessments
- Teaching within our Physics degree portfolio
- To contribute to the life, vitality and success of the Department

You will be expected to attract significant funding, be capable of managing funded projects, supervise a growing population of postgraduate students, publish work in leading international journals and mentor junior academic staff. There is a requirement for you to contribute to the teaching of physics at undergraduate and postgraduate level and to contribute to the strategic management of the Department.

4. PERSON SPECIFICATION

The following criteria are considered essential:

- PhD and good honours degree in Physics or a related subject;
- Internationally leading research track record, consistent with the strategic direction of the Department, within an area with clear potential for high impact, with the proven ability to attract substantial research funding;
- An outstanding and inspiring record of achievement in research and publication, recognised internationally;
- International profile in the Physics of Laser Fusion Energy;
- Commitment to and experience of delivering high quality undergraduate and postgraduate teaching and supervision, particularly in Physics;
- 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;
- Evidence of successful collaborations and engagements with large scale scientific facilities or projects;

The following criteria are considered desirable:

- Experience of organisation and membership of research committees and bodies;
- Evidence of multidisciplinary collaborations.

5. THE DEPARTMENT OF PHYSICS

The Department of Physics is part of the Faculty of Science.

Physics at Strathclyde has a long tradition going back to 1796, the present Physics Department being formed in 1986 by the merger of the Departments of Natural Philosophy and Applied Physics. The Department is presently undergoing an exciting period of sustained expansion and consolidation born of out of its success in demonstrating internationally excellent research, competitively won funding, extensive choice of interesting degree programmes and growing undergraduate and postgraduate numbers. The Department has a strong record in both research and teaching and takes a holistic approach to the appointment of new academic staff such that all factors essential to the well-being of the Department are taken into account. The need for research excellence is mirrored in teaching innovation, course development, student recruitment and administration with successful staff appointees playing a full team-part in the operation of the Department. The successful applicant should be able to teach undergraduate physics.

Research in the Department is already benefiting from the investment and strategic planning platform brought about its founding membership of the Scottish Universities Physics Alliance (SUPA). Strathclyde plays a leading role in SUPA2, the £48M follow-on to the original project. Departmental research is structured in three divisions, Nanoscience, Optics and Plasmas. Within these divisions are research groups where common interests and goals can be nurtured. The Chair in Laser Fusion will be based within the Plasma Division, currently led by Prof Alan Phelps. Members of the Plasma Division include Prof Nigel Badnell, Prof Bob Bingham, Prof Dino Jaroszynski, Prof Alan Phelps, Prof Hugh Summers, Prof Ken Ledingham, Dr Adrian Cross, Dr Paul McKenna and Dr Kevin Ronald, who are principal investigators on a current portfolio of research grants totalling over £8.1M from a range of funding organisations including EPSRC, STFC and the EU. The Division's range of research projects includes the development and application of laser-plasma accelerators and radiation sources, laser fusion, the physics of high current relativistic electron beams and their interaction with electromagnetic fields and plasmas, and studies of reaction kinetics and dynamics of atoms, molecules and ions in fusion and astrophysical plasmas.

The Department of Physics consistently has a high EPSRC grant portfolio, currently standing at £12.5M and one of the largest among UK physics departments. The Department also holds significant STFC, CLRC, NERC and outwith RC funding from independent organisations and industry. As well as addressing fundamental areas of physics much of the Department's research involves knowledge transfer through spin-out companies, consultancy, industrial contracts, collaboration and outreach. The Department currently has about 35 academic staff, 40 research fellows and assistants, 20 support staff, and about 50 PhD, 8 MSc and about 300 undergraduate students. The whole Department works hard to maintain its brand as one which is very much "friendly physics".

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

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 SCIENCE

The Faculty comprises five academic (teaching and research) departments and three research units that together provide a balanced representation of exact, physical, molecular and biological sciences.

Academic Departments

- [Chemistry and Applied Chemistry](#) (including the [Centre for Forensic Science](#))
- [Computer & Information Sciences](#)
- [Mathematics & Statistics](#)
- [Pharmacy & Biomedical Sciences, Strathclyde Institute of \(SIPBS\)](#)
- [Physics](#)

Research Units

- [Biophotonics, Centre for](#)
- [Drug Research, Strathclyde Institute for](#)
- [Photonics, Institute of](#)

Flexible Courses

Degree courses can be based within one or more departments in the Faculty or run jointly with departments in other Faculties (for example, degrees with a Teaching Qualifications in Mathematics, Physics, Chemistry or the Biological Sciences are delivered by Science and the Faculty of Education). The list of undergraduate and postgraduate courses is constantly being updated, so please check [Courses](#) for current information.

Degree structures are designed to offer students as much flexibility as possible in choosing their degrees. A particular example of flexibility is the Faculty's [Natural Sciences degree](#) which allows students who are initially unsure of their preferred route to sample a combination of subjects before committing to a specialised course. Its broad scientific base is also available to students who do not meet the competitive entry standards for the principal degrees - they can shadow the curriculum of other degrees and good performance may allow transfer to a degree of their choice.

Facilities are excellent, with well-equipped, modern laboratories and teaching rooms, plus 24-hour access to an advanced computer information network. Teaching and Education are supported by the University's sophisticated virtual e-learning environments which enrich the learning experience for students across the Faculty.

Knowledge Exchange

The Faculty is involved in all aspects of Knowledge Exchange. The Faculty's departments and research units wish to learn from industry so that degree courses remain vibrant and relevant. They also contribute to Scotland's industrial and commercial potential through collaborative research, both pure and applied.

Employability of Graduates

The University has an award-winning [Careers Service](#) which will help students make the most of their career potential. Many science degrees emphasise the application of science so that graduates can 'hit the ground running' when starting employment. But science and technology are not the only options - examples abound of students who have found work in government or the private sector because their degree has equipped them with highly marketable transferable skills that employers everywhere are eager to use. A high percentage of our graduates walk straight into a quality job on graduation.

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. 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

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
WMS.CS

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