



Research Associate - Lab in a Bubble Project (3 posts)

Department	Physics (www.strath.ac.uk/physics/)		
Faculty	Faculty of Science (www.strath.ac.uk/science/)		
Staff Category	Research	Reference No	43595
Reports To	Professor Dino Jaroszynski	Grade:	7
Salary Range:	£30,738 - £37,768	Contract Type:	Fixed Term (Until 30/09/2019)
FTE:	I (35 hours/week)	Closing Date	Sunday, 18 September 2016

Job Advert

We are looking to recruit three experimental physicists with a strong background in plasma physics, or the interaction of intense laser fields with matter, to join an established research team at the University of Strathclyde, Glasgow. Research will involve the development and applications of plasma-based accelerators, a new generation of compact sources of relativistic particles and brilliant electromagnetic radiation, which rely on the excitation of evacuated plasma bubbles using both laser and particle beams.

The "Lab in a Bubble" project investigates the physics of these micron-sized bubbles using both experimental and theoretical methods. As part of the ongoing ALPHA-X project, it involves four institutes (Strathclyde, Lancaster, St Andrews and Glasgow Universities) and many international partners including ELI, CLPU, GSI, UNIST, Cockcroft Institute, and Tsinghua, Austin Texas, Edinburgh and Southampton Universities.

Research will include the development of ultra-compact incoherent and coherent X-ray sources, isotope production, medical imaging and radiotherapy. Experimental work will be carried out at SCAPA, the CLF and Partner laboratories such as CLPU, ELI etc. The new SCAPA facility at the University of Strathclyde comprises three independent shielded bunkers that are provided with high repetition rate 40 and 350 TW laser beams from state-of-the-art Ti:sapphire lasers. You will join a team of senior scientists, including Professors Dino Jaroszynski, Zheng-Ming Sheng, Paul McKenna and Bernhard Hidding and a team of postdoctoral and PhD theoreticians and experimentalists.

The initial appointment will be for three years, with possibility of extension. One fully funded PhD position may also available to EU resident students for research in this area, which could start as early as October 2016. For further information or to discuss the posts please contact either Professor Jaroszynski (dino@phys.strath.ac.uk), Dr. Gregory Vieux (g.vieux@strath.ac.uk) or Dr. Enrico Brunetti (<u>enrico.brunetti@strath.ac.uk</u>). Further details of our research can be found in our website (http://alpha-x.phys.strath.ac.uk/).

Job Description

Brief Outline of Job:

You will undertake high-quality research work in the area of laser-plasma particle acceleration, disseminating results via publications in peer-reviewed journals. You will establish a personal research portfolio and plan research proposals, with assistance from senior colleagues as required. You will guide PhD students and engage where required in relevant teaching, professional and knowledge exchange activities; and input to administrative activities.

Main Activities/Responsibilities:

١.	As part of a wider research group or programme, develop research objectives and proposals for own or joint research and play a lead role in relation to a specific project/s or part of a broader project, with guidance from senior colleagues as required.
2.	Conduct individual and collective research including determining appropriate research methods and contributing to the development of new research methods, in the development and application of laser-plasma accelerators.
3.	Write up research work for publication and disseminate results in peer-reviewed journals and presentations at conferences.
4.	Provide advice to postgraduates and undergraduate project students; contribute to teaching as required by, for example, running tutorials and supervising practical work.
5.	Plan and manage own workload, with guidance from colleagues as required.
6.	Identify sources of funding and contribute to the securing of funds for research, including drafting grant proposals and planning for future proposals.
7.	Engage in continuous professional development.
8.	Contribute in a developing capacity to Department/School, Faculty and/or University administrative and management functions and committees.

Person Specification

Educational and/or Professional Qualifications

(E=Essential, i.e. a candidate must meet all essential criteria to be considered for selection, D=Desirable)

EI Good honours degree or equivalent and PhD (awarded or expected imminently) in an appropriate discipline like Physics or Engineering.

Experience

E2 Suitable experimental research experience in plasma physics or the interaction of intense laser fields with matter.

- DI Experience working at large-scale laser facilities.
- D2 Experience with X-ray, plasma or electron diagnostics.
- D3 Experience with scientific computing and PIC codes.

Job Related Skills and Achievements

E3 Developing ability to conduct individual research work, to disseminate results and to prepare research proposals.

- E4 Sufficient breadth or depth of knowledge to contribute to the research programme and to the development of research activities.
- E5 Ability to plan and organise own workload effectively.

Personal Attributes

- E6 Excellent interpersonal and communication skills, with the ability to listen, engage and persuade, and to present complex information in an accessible way to a range of audiences.
- E7 Ability to work within a team environment.

Other Relevant Factors

E8 Willingness to travel both within the United Kingdom and abroad to conduct collaborative research and attend conferences.

Application Procedure

Applicants are required to complete an application form including the name of three referees who will be contacted before interview without further permission, unless you indicate you would prefer otherwise. Applicants should also submit a Curriculum Vitae and a covering letter detailing the knowledge, skills and experience you think make you the right candidate for the job as well as a Research Plan outlining your research strategy for the next 5 years. Applicants should also complete the Equal Opportunities Monitoring Form.

Other Information

Further information on the application process and working at Strathclyde can be found on our website (<u>http://www.strath.ac.uk/hr/workforus</u>).

Informal enquiries about the post can be directed to Professor Jaroszynski (dino@phys.strath.ac.uk)

Probation

Where applicable, the successful applicant will be required to serve a 9 month probationary period.

Pension

The successful applicant will be eligible to join the Universities' Superannuation Scheme. Further information regarding this scheme is available from <u>Payroll and Pensions</u>.

Relocation

Where applicable, the University offers a relocation package to support new employees who meet the eligibility criteria. The relocation package is offered as a contribution towards costs incurred, and is designed to be flexible, allowing staff to use the financial support available in the way that will be most helpful to them. Further details are outlined in the Relocation Policy.

Equality and Diversity

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

The University currently holds a Bronze Athena SWAN award, recognising our commitment to advancing women's careers in science, technology, engineering, maths and medicine (STEMM) employment in academia.

