UNIVERSITY OF LIVERPOOL

Faculty of Science and Engineering

RESEARCH SOFTWARE ENGINEER AT THE XMaS BEAMLINE

Area: School of Physical Sciences, Department of Physics

Job Ref: 075586

Location: European Synchrotron Radiation Facility, Grenoble, France

Grade: 7

Salary: £38,205 - £44,264 pa (+ Overseas allowance)

Working Hours: Full-Time

Tenure: Fixed term for 18 months

Online application> Shortlisting > Interview Process> Job Offer

About the Role

Role overview and University context:

Applications are invited for a Software Engineer to work with the EPSRC National Research Facility XMaS, the UK Collaborating Research Group synchrotron beamline at the European Synchrotron Radiation Facility in Grenoble, France. The principal role is to implement the recently-developed Python-based control software BLISS at the XMaS beamline. BLISS was developed with an object-oriented and plug-in based scanning and sequencing engine written in Python and using Tango as the high-level distributed system. This new system is already operational at most ESRF beamlines but still needs to be deployed at XMaS/BM28.

You will be responsible for the planning, implementation and commissioning of BLISS on the XMaS beamline, the development of new control system features required and the development and installation of data acquisition protocols. You will join a team of four permanent XMaS staff members and will collaborate with the ESRF Beamline Control Unit (BCU), contributing to these developments. The BCU is responsible for the control system of 42 beamlines at the ESRF, as well as the maintenance, development and deployment of BLISS on all these beamlines.

Your missions will be the following:

- Planning, installation and commissioning of the BLISS control system on XMaS;
- Development and documentation of new required features in the control system;
- Development and documentation of modules to integrate new hardware;
- Development and commissioning of high-speed data acquisition systems for new experiments;
- Beamline automation to hide complexity from users;
- Software support for experiments: coordination with scientists, project follow-up, improvements and trouble shooting.

This position provides an exciting opportunity to develop computational skills, in collaboration with expert programming groups (BCU, ADU, ADA …). You must be an excellent communicator, capable of working effectively both independently and as part of collaborative research teams (scientific, computational …). You will possess excellent planning and time management skills to ensure your programming and development objectives are achieved effectively.

In addition to the above, all University of Liverpool staff are required to:

- Adhere to all University policies and procedures, completing all obligatory training and induction modules, including Equality & Diversity and Health & Safety.

- Respect confidentiality: all confidential information should be kept in confidence and not released to unauthorised persons.

- Participate in the University's Professional Development Review scheme and take a proactive approach to own professional development.
- Demonstrate customer service excellence in dealing with all stakeholders.
- Embody and uphold the University's Vision and Values.

THE DEPARTMENT OF PHYSICS

The Physics Department, part of the School of Physical Sciences, was one of the first departments established in the University in 1881 and has a long tradition of excellence in physics research. The Department has scored highly in three consecutive reviews by HEFCE - the national Research Assessment Exercise (RAE). This considerable achievement reflects the Department's international reputation in the fields of particle physics, nuclear physics condensed matter physics and accelerator science.

The first Professor of Physics at Liverpool was Sir Oliver Lodge, who made the world's first public radio transmission in 1894. Two years later, Lodge demonstrated the use of X-ray photography by taking an image of a bullet in a boy's wrist. It was the first time an X-ray had been used for surgical purposes. Professor Charles Glover Barkla's research into X-Rays won him the Nobel Prize for Physics in 1917, and Sir James Chadwick was awarded the Nobel Prize for Physics in 1935 for discovering the neutron. More recently, Sir Joseph Rotblat was awarded the Nobel Peace Prize in 1995 for his work on reducing the threat posed by nuclear weapons.

The Department is very well funded for research. There are currently approximately 44 academic staff who are responsible for the teaching and supervision of around 360 undergraduate and 170 postgraduate students. Over 40 full time research and computer physicists, professional, technical and electronic support staff together with extensive laboratory, workshop and design office facilities, support the research groups. Much of our research is carried out in the leading international centres for physics research: ILL (Grenoble), ESRF (Grenoble), ELETTRA (Trieste), CERN (Geneva), DESY (Hamburg), SLAC (Stanford), FNAL (Chicago), PSI (Villigen), JYFL (Jyväskylä), GANIL (Caen), GSI (Darmstadt) and ATLAS (Argonne).

The Department performs extremely well in both teaching and research as evidenced by excellent scores in teaching quality assessment, research assessment exercises and the national student survey. Further details of the department can be found on the web site: **http://www.liverpool.ac.uk/physics**

Condensed Matter Physics Group:
The academic group members are Dr Jon Alaria, Prof Vin Dhanak, Prof Ken Durose, Dr Frank Jaeckel, Dr Yvonne Grunder, Prof Chris Lucas, Dr Jon Major, Dr David Martin, Prof Ronan McGrath, Dr Liam O'Brien, Dr Hem Raj Sharma, Prof Tim Veal and Prof Peter Weightman.

About the Role

The wider research interests of the group fall into three broad areas of materials and devices for renewable energy, nanoscale and surface physics, and cellular and molecular biophysics. Within this framework there is considerable cross-linkage and sharing of expertise between the different sub-areas. Members of the group also have extensive interdisciplinary research collaborations with colleagues in Biological Sciences, Chemistry, Clinical Engineering, Engineering and Electrical and Electronic Engineering and the Surface Science Research Centre in Liverpool and in the UK, Europe and the USA.

XMaS beamline at the ESRF:

XMaS is an EPSRC funded National Research Facility supporting the UK materials science communities. It provides free at the point of access to synchrotron radiation at the European Synchrotron Radiation Facility in Grenoble. A wide range of sample environments allow a diverse set of experiments to be performed using energies in the 2.4 to ~33 keV range. Additional facilities exploiting these sample environments are possible using our laboratory spaces which include a micro-source x-ray facility. The XMaS facility is currently run by 4 on-site staff; Dr Didier Wermeille, Dr Laurence Bouchenoire, Dr Oier Bikondoa and Mr Paul Thompson. The project is run jointly by the University of Liverpool (Project director: Prof Chris Lucas) and the University of Warwick (Project director: Prof Tom Hase). More details can be found on the website: **http://www.xmas.ac.uk**

About You

	Essential Criteria	Desirable Criteria
	Experience	
1.1	Expertise in development of control systems	Experience with synchrotron radiation
1.2	Experience in computing relevant to instrumentation	Experience in the operation of complex instrumentation
1.3		Experience with relevant X-ray techniques
	Education, Qualifications and Training	
2.1	Higher university degree (Master or equivalent diploma) in Software engineering or related discipline	
	Skills, General and Special Knowledge	
3.1	Skills in Python programming, object-oriented software architecture and quality assurance	Expertise in the field of distributed control system and software design
3.2	Good written and verbal communication skills in English	Demonstrated ability to communicate effectively with both expert and non-expert audiences
	Personal Attributes and Circumstances	
4.1	Able to work as part of a team	
4.2	Able to process data and identify data reduction pathways relevant to user needs	
4.3	Able to communicate effectively in a working environment	
4.4	Able to work independently	
4.5	Willing to participate in group meetings and to play a role in the development of the XMaS facility	

About Us

Established in 1881, we are an internationally renowned Russell Group university recognised for our high-quality teaching and research. We are consistently ranked as one of the best Universities both nationally and globally, and the majority of our research is rated world leading or internationally excellent. Find out more here.

Our Areas

When you work at the University of Liverpool you are more than just your job role. You are a crucial part of our mission to improve lives on a local, national and international scale. Click on the relevant links below for more information on area you will be working in.

Faculty   Department of Physics   Condensed Matter Physics

Why Work Here

We recognise, appreciate and celebrate the incredible work our staff do every day. As well as generous terms and conditions, we offer a range of enviable benefits and provide support for colleague's wellbeing and development. Discover more here.

Moving from abroad

As a global institute, we welcome applicants from all nationalities, moving from a different country can be challenging and we would like to help as much as we can, we have put together some information on eligibility to work documentation, accommodation, schools, healthcare, life in Liverpool and the UK as well as other practical information. Discover more here

Our Staff

Whether it be their friendly colleagues, supportive managers or our outstanding facilities, our staff can explain better than anyone what it is like to work for us and why they enjoy their role. See what they have to say here.

How to Apply

The University of Liverpool is committed to being an inclusive employer. We welcome applications from everyone regardless of age, gender, ethnicity, sexual orientation, faith or disability.

Contacting us

Shortlisting and interview arrangements are the responsibility of the recruiting department. Please contact Professor Chris Lucas (clucas@liverpool.ac.uk) for all enquiries.

Application process

Our e-recruitment system enables you to register for an online account, where you can view, copy and edit your applications. Set up your account here.

Once you submit your application you will receive an automatic email acknowledgment. You can view your application any time by clicking into the application history section of your account.

Job Description

After the closing date this job description will be removed from our website. Should you wish to refer to this information at a later date please ensure you save a copy of this document.

Right to work

We have a legal responsibility to ensure that you have the right to work in the UK before you can start working with us. If you do not have the right to work in the UK already, any offer of employment we make to you will be conditional upon you gaining it. The UKVI have an interactive tool allowing you to immediately see if vacancies are eligible for a Skilled Worker visa. You will need to know the SOC code for the role, our most used SOC codes can be found here, if none of these apply to this role, there are more codes on the eligibility checker. The skilled worker eligibility checker can be found on GOV.UK.

Disabilities and alternative formats

If you have any other requirements which will help you access the application or interview process or employment opportunities at the University, or if you require copies of documentation in alternative formats, please email: jobs@liverpool.ac.uk or telephone 0151 794 6771.

Outcome of your application

The recruiting department will endeavour to respond to each application. However, if you have not heard within six weeks of the closing date, please take it that your application has not been successful on this occasion.