School of Science
Physics

Research Associate

Job Ref: REQ17522

As part of the University's ongoing commitment to redeployment, please note that this vacancy may be withdrawn at any stage of the recruitment process if a suitable redeployee is identified.

Job Description

Job Grade: Specialist and Supporting Academic, Grade 6

Job Purpose: A research post has arisen in the area of spin Seebeck devices for energy harvesting. One of the primary aims will be to help develop instrumentation to characterise the spin Seebeck effect as a function of magnetic field, temperature, and thermal gradient. As part of your duties, you might also be expected to fabricate patterned multilayer thin film devices using photolithography techniques, followed by appropriate characterisation.

Job Duties

- Development of new instrumentation, using LabVIEW for measurement automation.
- Characterisation of thin films and devices using X-ray Reflectivity (XRR), X-ray Diffraction (XRD) and and Magneto-resistance (MR) measurements, as appropriate.
- Use of other materials characterisation techniques as required.
- Preparing and presenting technical reports.
- Maintaining awareness of current and emerging research relevant to the project.
- Preparation of material for conference presentations, journal papers and other media as appropriate.
- Preparation of manuscripts for publication in scientific journals.
- Assisting with PhD and MPhys student supervision.
- Such other duties and responsibilities in connection with the research and its outcomes as may be commensurate with the grade and nature of the post.
- Teaching is not the primary purpose of this post and teaching load will be small relative to the typical load of a member of academic staff in the School, but the Research Associate may be expected to contribute to taught programmes and student projects, at any level, if appropriate and if requested to do so.

Points To Note

The purpose of this job description is to indicate the general level of duties and responsibility of the post. The detailed duties may vary from time to time without changing the general character or level of responsibility entailed.

Teaching is not the primary purpose of this post and teaching load will be small relative to the typical load of a member of academic staff in the School, but the Research Associate may be expected to contribute to taught programmes and student projects, at any level, if appropriate and if requested to do so.

Special Conditions

All staff have a statutory responsibility to take reasonable care of themselves, others and the environment and to prevent harm by their acts or omissions. All staff are therefore required to adhere to the University's Health, Safety and Environmental Policy & Procedures.

All staff should hold a duty and commitment to observing the University's Equality & Diversity policy and procedures at all times. Duties must be carried out in accordance with relevant Equality & Diversity legislation and University policies/procedures.

Successful completion of probation will be dependent on attendance at the University's mandatory courses which include Respecting Diversity and, where appropriate, Recruitment and Selection.

Organisational Responsibility

Reports to the PI Dr K. Morrison.

Person Specification

Your application will be reviewed against the essential and desirable criteria listed below. Applicants are strongly advised to explicitly state and evidence how they meet each of the essential (and desirable) criteria in their application. Stages of assessment are as follows:

1 – Application
2 – Test/Assessment Centre/Presentation
3 – Interview

Essential Criteria

Area	Criteria	Stage
Education and Qualifications	Hold, or should be close to completing a PhD in the area of thin film deposition, device fabrication, experimental physics, engineering or materials science.	1
Experience	Experience with magnetotransport measurements.	1,3
	Experience with thermal measurements such as calorimetry, use of Peltier cells, and/or measurement of the Seebeck effect.	1,3
	Experience with characterisation of devices in variable temperature and magnetic field.	1
Skills and Abilities	Knowledge or experience of using LabVIEW.	1,3
	Knowledge of use of neutron facilities such as ISIS or ILL.	1,3
	Be familiar with the use of AES, SEM for characterisation of materials.	3
	Ability to work independently and as part of a team.	1,3
	Ability to work unsupervised.	3
Training	A willingness to undertake further training as appropriate and to adopt new procedures as and when required.	3
Other	Willingness to travel to research facilities within the UK, EU & elsewhere.	3

Desirable Criteria

Area	Criteria	Stage
Experience	Experience preparing thin film samples for TEM.	1,3
	Experience with device fabrication using photolithography.	3
	Experience with advanced microscopy techniques (SEM, TEM).	1,3
Skills and Abilities	Be able to demonstrate knowledge of standard cleanroom techniques (photolithography, e-beam lithography, FIB).	1,3
	Demonstrable interest in outreach activities.	1, 3
Training	Recently completed a laser safety course.	1

Conditions of Service

The position is full time and fixed term for 24 months, starting as soon as possible. Salary will be on Specialist and Supporting Academic Grade 6, £29,301 to £32,004 per annum, subject to an annual pay award, at starting salary to be confirmed on offer of appointment.

The appointment will be subject to the University's normal Terms and Conditions of Employment for Academic and Related staff, details of which can be found here.

The University is committed to enabling staff to maintain a healthy work-home balance and has a number of family-friendly policies which are available at http://www.lboro.ac.uk/services/hr/a-z/family-leave-policy-and-procedure---page.html.

We also offer an on-campus nursery with subsidised places, subsidised places at local holiday clubs and a childcare voucher scheme (further details are available at: http://www.lboro.ac.uk/services/hr/a-z/childcare-information---page.html

In addition, the University is supportive, wherever possible, of flexible working arrangements.
We also strive to create a culture that supports equality and celebrates diversity throughout the campus. The University holds a Bronze Athena SWAN award which recognises the importance of support for women at all stages of their academic career. For further information on Athena SWAN see http://www.lboro.ac.uk/services/hr/athena-swan/

Informal Enquiries

Informal enquiries should be made to K. Morrison, Senior Lecturer, by email at k.morrison@lboro.ac.uk.

Application

The closing date for receipt of applications is **13 July 2017**.