UNIVERSITY OF LEEDS

CANDIDATE BRIEF

Research Fellow in Synthetic Antiferromagnetic Skyrmions,

Faculty of Engineering & Physical Sciences

Salary: Grade 7 (£33,797 – £40,322 p.a.) Due to funding limitations an appointment will not be made above £33,797

Reference: EPSPA1001

Closing date: Sunday 8 December 2019

Fixed-term for 42 months

We will consider job share / flexible working arrangements

Research Fellow in Synthetic Antiferromagnetic Skyrmions
School of Physics and Astronomy

Are you an ambitious researcher in nanomagnetism looking for your next challenge? Do you want to further your career in one of the UK's leading spintronics research groups?

You will join an experimental research project on synthetic antiferromagnetic skyrmions, funded by EPSRC. You will work in a team at the University of Leeds that is led by Prof. Christopher Marrows that will collaborate with the University of Glasgow, the National Physical Laboratory, and the Paul Scherrer Institute in Switzerland.

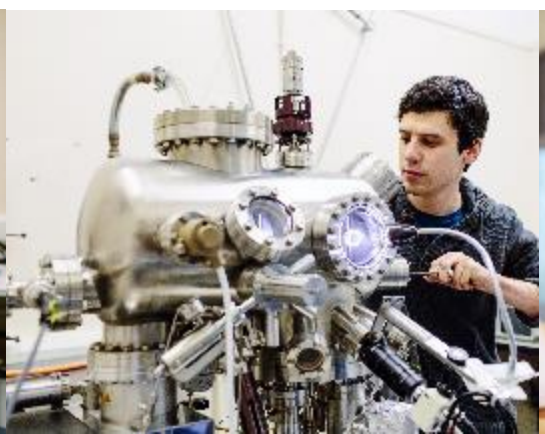
You will have an experimental PhD degree, or equivalent, and research experience in Physics and/or Engineering along with significant experience in the physics of nanomagnetism and spintronics, ideally in the field of magnetic skyrmions or related areas.

You will focus on magnetic thin film growth and the design and fabrication of nanostructures patterned from them to provide samples for study at Leeds as well by our collaborative partners. In addition to carrying out a series of research projects, you will be an excellent communicator, responsible for day-to-day interactions with our collaborative partners, writing papers, and making presentations. You will travel regularly to the collaborative partner's institutes for project meetings and joint experiments, as well as to conferences to present your results.

What does the role entail?

As a Research Fellow, your main duties will include:

- Designing, planning and carrying out the experimental work (specifically growth and characterisation of magnetic multilayer films, design and fabrication of nanoscale devices from them, and device measurements and imaging, including by synchrotron methods) needed to accomplish the aims of the project, in consultation with the academic leads;
- Contributing to the development of proposals for synchrotrom beamtime and reporting on the outcomes of synchrotron experiments;

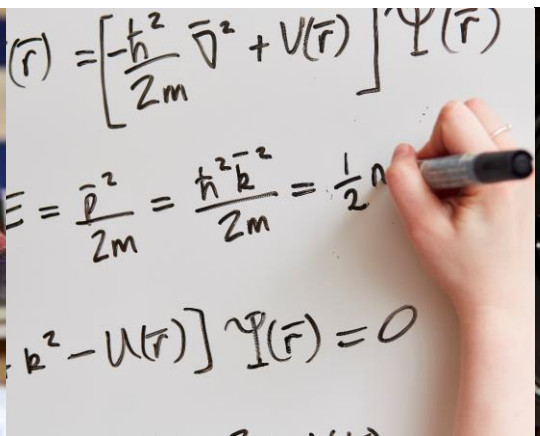

- Generating and pursuing independent and original research ideas in the appropriate subject area;
- Developing research objectives and proposals and contributing to setting the direction of the research project and team including preparing proposals for funding in collaboration with colleagues;
- Evaluating methods and techniques used and results obtained by other researchers and to relate such evaluations appropriately to your own work;
- Preparing papers for publication in leading international journals and disseminating research results through other recognised forms of output;
- Working both independently and also as part of a larger team of researchers, engaging in knowledge-transfer activities where appropriate and feasible;
- Maintaining your own continuing professional development and acting as a mentor to less experienced colleagues as appropriate;
- Contributing to the training of both undergraduate and postgraduate students, including assisting with the supervision of projects in areas relevant to the project.

These duties provide a framework for the role and should not be regarded as a definitive list. Other reasonable duties may be required consistent with the grade of the post.

What will you bring to the role?

As a Research Fellow you will have:

- A PhD (or close to completion, you should have submitted your thesis before taking up the role) in Physics, Materials Science or Engineering or a closely allied discipline;
- Experience in experimental nanomagnetism or spintronics research techniques relevant to the project;
- The ability to travel to project meetings, synchrotron beamtimes, and conferences as required by the project schedule;
- Good time management and planning skills, with the ability to meet tight deadlines, manage competing demands and work effectively under pressure without close support;
- A proven track record of peer-reviewed publications in high quality journals;
- Excellent written and verbal communication skills including presentation skills;
- A proven ability to work well both individually and in a team;


- A strong commitment to your own continuous professional development.

You may also have:

- Skills in computing, both in writing software to control experimental apparatus and numerical modelling and the analysis and simulation of data;
- Experience with magnetic multilayer growth and characterisation;
- Experience with spintronic device fabrication;
- Experience with soft x-ray magnetic microscopy techniques;
- Experience with writing proposals such as for synchrotron beamtime;
- Knowledge of the scientific concepts underlying the project, in this case, those relevant to magnetic skyrmions;
- The ability to mentor and act as a role model for postgraduate researchers.

How to apply

You can apply for this role online; more guidance can be found on our How to Apply information page. Applications should be submitted by **23.59** (UK time) on the advertised closing date.

Contact information

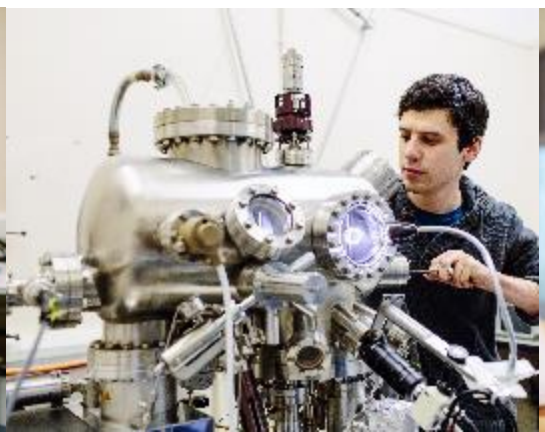
To explore the post further or for any queries you may have, please contact:

Christopher Marrows, Professor of Condensed Matter Physics
Tel: +44 (0)113 343 3780
Email: C.H.Marrows@leeds.ac.uk

Additional information

Faculty and School Information
Further information is available on the research and teaching activities of the School of Physics and Astronomy.

A diverse workforce
The Schools in the Faculty of Engineering & Physical Sciences are proud to have been awarded the Athena SWAN Bronze or Silver Award from the Equality Challenge Unit,


the national body that promotes equality in the higher education sector. Our equality and inclusion webpage provides more information.

Working at Leeds
Find out more about the benefits of working at the University and what it is like to live and work in the Leeds area on our Working at Leeds information page.

Candidates with disabilities
Information for candidates with disabilities, impairments or health conditions, including requesting alternative formats, can be found on our Accessibility information page or by getting in touch with us at disclosure@leeds.ac.uk.

Criminal record information

Rehabilitation of Offenders Act 1974

A criminal record check is not required for this position. However, all applicants will be required to declare if they have any 'unspent' criminal offences, including those pending.

Any offer of appointment will be in accordance with our Criminal Records policy. You can find out more about required checks and declarations in our Criminal Records information page.