



UNIVERSITY OF LEEDS

CANDIDATE BRIEF

Research Fellow in Nanomagnetism, Faculty of Engineering and Physical Sciences



Salary: Grade 7 (£33,797 – £40,322 p.a.)

Reference: EPSPA1007

Closing date: 01 March 2020

Full-time (part-time hours will be considered)

Fixed-term for 24 months

We will consider flexible working arrangements

Research Fellow in Nanomagnetism

School of Physics and Astronomy, Faculty of Engineering and Physical Sciences

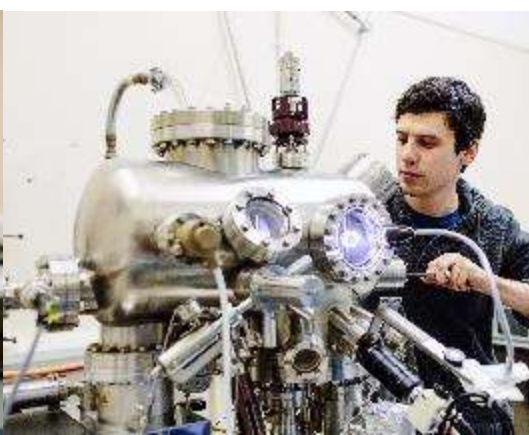
Are you an ambitious researcher looking for your next challenge? Do you have an established background in molecular spintronics and/or thin film magnetism? Do you want to further your career in one of the UKs leading research intensive Universities?

This project is to pioneer research in molecular interfaces and nanomagnetism as part of a project in collaboration with Trinity College Dublin and the Scientific Computing Department of STFC. This includes work on novel effects discovered at Leeds such as spin ordering in metallo-molecular multilayers, and the use of molecular layers to tune magnetic interactions.

What does the role entail?

As a Research Fellow your main duties will include:

- Designing, planning and conducting a programme of investigation, in consultation with Dr. O Cespedes and Prof. B. Hickey.
- Generating independent and original research ideas and methods in hybrid molecular magnetism and spintronics, with an aim to extend the Condensed Matter research portfolio;
- Making a significant contribution to the dissemination of research results by publication in leading peer-reviewed journals, and by presentation at national and international meetings;
- Working independently and as part of a larger team of researchers, both internally and externally to develop new research links and collaborations and engage in knowledge transfer activities where appropriate;
- Contributing to the supervision of junior researchers and PhD students and acting as a mentor to less experienced colleagues;
- Evaluating methods and techniques used and results obtained by other researchers and relating such evaluations to your own research;
- To contribute to, and to encourage, a safe working environment.



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:

- You must have submitted a PhD thesis in Condensed Matter Physics or a closely allied discipline;
- Experience in growing and characterising magnetic thin films, in particular
 - Experience of sputtering and/or evaporation of high quality magnetic thin films.
 - Additional experience of the growth of molecular films is desirable but not essential.
 - Experience of structural characterisation of such films by X-ray diffraction and reflectometry –including data fit via GenX or similar packages.
 - Experience of the magnetic characterisation of such films by conventional magnetometry (SQUID, MOKE), and transport measurements.
 - Additional experience with spectroscopy and beamline techniques such as Raman spectroscopy, polarised neutron reflectivity, Xray absorption spectroscopy and/or muon spin spectroscopy is desirable but not essential.
 - Ability to understand the physics necessary to extract critical parameters from the measured data such as the transition temperatures, muonium frequencies, solar cell efficiencies, and micromagnetic parameters such as exchange stiffness and Gilbert damping.
- The ability to design, execute and write up research independently;
- A developing track record of peer reviewed publications in international journals;
- Excellent communication skills, both written and verbal and the ability to communicate your research at national and international conferences;
- Good time management and planning skills, with the ability to meet tight deadlines;
- A proven ability to work well both independently and as part of a team;
- An ability to work accurately and carefully;
- A strong commitment to your own continuous professional development.



You may also have:

- Experience of high-resolution magnetic microscopy of of magnetic thin film materials.
- Evidence of pursuing external funding to support research.

How to apply

You can apply for this role online; more guidance can be found on our [How to Apply](#) information. 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:

Dr. Oscar Cespedes

Tel: +44 (0)113 343 1885

Email: o.cespedes@leeds.ac.uk

or

Professor B J Hickey

Tel: +44 (0)113 343 3836

Email: b.j.hickey@leeds.ac.uk

Additional information

Working at Leeds

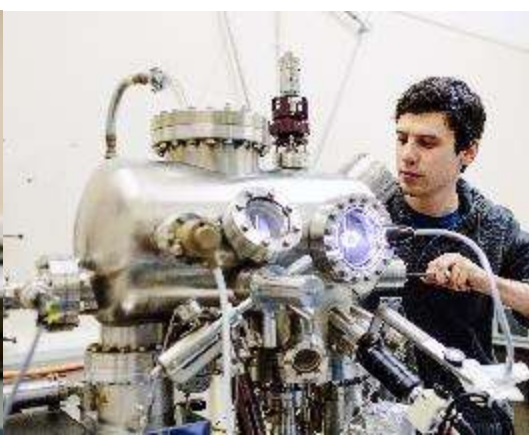
Find out more about the benefits of working at the University and what it is like to live and work in the Leeds area on our [Working at Leeds](#) information page.

A diverse workforce

The Faculty of Mathematics and Physical Sciences is proud to have been awarded the [Athena SWAN Bronze 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.

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 on our [Criminal Records](#) information page.

