



## Postdoctoral Research Associate: EPSRC Skyrmion project

### Overview

Reference	021525
Department	Department of Physics
Grade	Grade 7
Term	31 months Fixed Term Contract (or until 19 July 2022)
Salary Range	£33,797 - £40,322 per annum
Opening Date	16 October 2019
Closing Date	27 November 2019 (Midday)
Working Arrangements	This role is full time but we will consider requests for flexible working arrangements including potential job shares

### Durham University

Durham University is one of the world's top universities with strengths across the Arts and Humanities, Sciences and Social Sciences. We are home to some of the most talented scholars and researchers from around the world who are tackling global issues and making a difference to people's lives.

The University sits in a beautiful historic city where it shares ownership of a UNESCO World Heritage Site with Durham Cathedral, the greatest Romanesque building in Western Europe. A collegiate University, Durham recruits outstanding students from across the world and offers an unmatched wider student experience.

Less than 3 hours north of London, and an hour and a half south of Edinburgh, County Durham is a region steeped in history and natural beauty. The Durham Dales, including the North Pennines Area of Outstanding Natural Beauty, are home to breathtaking scenery and attractions. Durham offers an excellent choice of city, suburban and rural residential locations. The University provides a range of benefits including pension and childcare benefits and the University's Relocation Manager can assist with potential schooling requirements.

Durham University seeks to promote and maintain an inclusive and supportive environment for work and study that assists all members of our University community to reach their full potential. Diversity brings strength and we welcome applications from across the international, national and regional communities that we work with and serve.

### The Department

The Department of Physics at Durham University is one of the leading UK Physics departments with an outstanding reputation for excellence in teaching, research and employability of our students.

The Department is committed to advancing equality and we aim to ensure that our culture is inclusive, and that our systems support flexible and family-friendly working, as recognized by our Juno Champion and Athena SWAN Silver awards. We recognise and value the benefits of diversity throughout our staff and students.

### The Role

Applications are invited for a Postdoctoral Research Associate post in Centre for Materials Physics. The successful candidate will work within the Centre for Materials Physics under the supervision of Professor Tom Lancaster and Professor Peter Hatton, and will be experienced in applying leading edge facilities-based experimental techniques to problems in condensed matter physics. The project involves experimental research forming part of the UK Skyrmion Project. The aim of this project is to elucidate the nature, stability and excitations of magnetic materials that host skyrmions. The work will primarily involve carrying out x-ray, neutron and muon-spin spectroscopy experiments at international facilities such as Diamond, ILL, ISIS and the Paul Scherrer Institut. The wider aim of the Skyrmion Project is to investigate three key challenges of skyrmionics research: (I) materials discovery and crystal growth; (II) fundamental science and (III) engineering to application, with this post forming part of challenge II. The post-holder will be responsible for several aspects of our experimental programme, both in-house and at the facilities, and will be expected to liaise with researchers and groups within Durham, our partners within the UK and international groups with whom we have collaborations as part of the work of the Programme. The candidate will be expected to disseminate results in international peer-reviewed journals and conferences.

### Responsibilities:

- To understand and convey material of a specialist or highly technical nature to the team or group of people through presentations and discussions that leads to the presentation of research papers in conferences and publications.
- To prepare and deliver presentations on research outputs/activities to audiences which may include: research sponsors, academic and non-academic audiences.
- To publish high quality outputs, including papers for submission to peer reviewed journals and papers for presentation at conferences and workshops under the direction of the Principal Investigator or Grant-holder.
- To assist with the development of research objectives and proposals.
- To conduct individual and collaborative research projects under the direction of the Principal Investigator or Grant-holder.
- To work with the Principal Investigator or Grant-holder and other colleagues in the research group, as appropriate, to identify areas for research, develop new research methods and extend the research portfolio.
- To deal with problems that may affect the achievement of research objectives and deadlines by discussing with the Principal Investigator or Grant-holder and offering creative or innovative solutions.
- To liaise with research colleagues and make internal and external contacts to develop knowledge and understanding to form relationships for future research collaboration.
- To plan and manage own research activity, research resources in collaboration with others and contribute to the planning of research projects.
- To deliver training in research techniques/approaches to peers, visitors and students as appropriate.
- To be involved in student supervision, as appropriate, and assist with the assessment of the knowledge of students.
- To take a lead role in the data analysis and accurate record keeping of experimental results.
- To organise outreach and public engagements events to disseminate research results.

- To engage in continuing professional development by participation in the undergraduate or postgraduate teaching programmes or by membership of departmental committees, etc. and by attending relevant training and development courses.

This post is fixed term for 31 months and will end on 19 July 2022, which is the end of the project.

The post-holder is employed to work on research/a research project which will be led by another colleague. Whilst this means that the post-holder will not be carrying out independent research in his/her own right, the expectation is that they will contribute to the advancement of the project, through the development of their own research ideas/adaptation and development of research protocols.

Successful applicants will ideally be in post by 01 January 2020 or as soon as possible thereafter.

## The Requirements

### Essential:

#### 1. Qualifications

- A good first degree in physics.
- A PhD (or be close to submission) in Physics, Chemistry, Materials Science or a closely related area or a closely related subject.

#### 2. Experience

- Experience in conducting high-quality academic research.
- Demonstrable ability to write material of a quality commensurate with publication in highly-ranked journals.
- Demonstrable ability to present research papers at international conferences and communicate complex information to specialists and within the wider academic community.
- The candidate should have a range of the technical skills necessary for research in the areas supported by the EPSRC Programme Grant (along with the ability to learn new techniques efficiently, as required by particular research projects). These should include relevant proven experience and expertise in the application of state-of-the-art facilities-based experimental methods to problems in magnetism.
- Knowledge of relevant leading-edge experimental techniques in condensed matter research

#### 3. Skills

- Demonstrable ability to work cooperatively as part of a team, including participating in research meetings.
- Ability to work independently on own initiative.
- Excellent interpersonal and communication skills.
- To contribute to fostering a collegial working environment which is inclusive and welcoming and where everyone is treated fairly with dignity and respect.
- To engage in citizenship to support the department and wider discipline.
- To engage in continuing professional development by participation in the undergraduate or postgraduate teaching programmes or by membership of departmental committees, etc. and by attending relevant training and development courses.

## Desirable:

### **4. Experience**

- Strong publication record in peer-reviewed journals, commensurate with stage of career.
- Experience of presenting research at conferences, symposia, or meetings, commensurate with stage of career.
- Demonstrable ability to develop research proposals and designs in collaboration with other academics.
- Experience of overseeing students with respect to the development of their practical/research skills e.g. acting as a demonstrator; supervising student projects/practicals.
- Experience and expertise in x-ray, neutron or muon-spin spectroscopy or related experimental techniques.

### **5. Skills**

- Demonstrable ability to plan and manage independent research.
- Ability and willingness to contribute to the Departmental Teaching Programme.

## **How to Apply**

For informal enquiries please contact Professor Peter Hatton, [p.d.hatton@durham.ac.uk](mailto:p.d.hatton@durham.ac.uk). All enquiries will be treated in the strictest confidence.

We prefer to receive applications online via the Durham University Vacancies Site. <https://www.dur.ac.uk/jobs/>. As part of the application process, you should provide details of 3 (preferably academic/research) referees and the details of your current line manager so that we may seek an employment reference.

Applications are particularly welcome from women and black and minority ethnic candidates, who are under-represented in academic posts in the University.

## What to Submit

All applicants are asked to submit:

- A CV and covering letter which details your experience, strengths and potential in the requirements set out above.

## Next Steps

The assessment for the post will include a short presentation of your previous research and an interview. Shortlisted candidates will be invited for interview and assessment as soon as possible following the closing date.