1 Advertisement

Post Title: Postdoctoral Research Fellow in Molecular Magnetism and MOF Chemistry
School/department: School of Life Sciences - Chemistry
Hours: full time or part time hours considered up to a maximum of 1.0FTE
Requests for flexible working options will be considered (subject to business need).
Contract: fixed term for 20 months
Reference: 5496
Salary: starting at £33,797 to £40,322 per annum, pro rata if part time.
Placed on: 15 February 2021
Closing date: 15 March 2021 Applications must be received by midnight of the closing date.
Expected start date: 01 July 2021

- Following the award of an UKRI New Horizons Grant to Prof. Richard Layfield, a Postdoctoral Research Fellow position is available for an outstanding chemist to undertake research in the field of synthetic coordination chemistry applied in molecular magnetism. The project will entail the design, synthesis and measurement of new lanthanide single-molecule magnets and their encapsulation in metal-organic frameworks (MOFs). The position, which lasts for up to 20 months, must be taken up by 1st July 2021.

- The ideal candidate will have, or should be close to completing, a PhD or equivalent in synthetic organometallic/coordination chemistry. Expertise in the synthesis and structural characterization of air-sensitive compounds (including glove-box techniques) are essential. The successful applicant will have experience in experimental aspects of small-molecule structure determination by X-ray crystallography, from crystal growth to preparation of data for publication. Experience of MOF chemistry is advantageous, and you should ideally have experience of organic chemistry for the purposes of ligand synthesis. The successful applicant will also demonstrate a willingness to learn about magnetic property measurements and associated data analysis techniques. You should be capable of working under your own initiative and leading a small research team consisting of PhD and undergraduate research students. Excellent communication and organizational skills are therefore required.

Please contact Professor Richard Layfield by email (R.Layfield@sussex.ac.uk) for informal enquiries.

The University is committed to equality and valuing diversity, and applications are particularly welcomed from women and black and minority ethnic candidates, who are under-represented in academic posts in Science, Technology, Engineering, Medicine and Mathematics (STEMM) at Sussex.

For full details and how to apply see our vacancies page

The University of Sussex values the diversity of its staff and students and we welcome applicants from all backgrounds.
2. **The School / Division**

Please find further information regarding the school/division at [http://www.sussex.ac.uk/lifesci/chemistry/](http://www.sussex.ac.uk/lifesci/chemistry/)

3. **Job Description**

**Job Description for the post of:** Postdoctoral Research Fellow  
**Department:** Chemistry  

**Section/Unit/School:** School of Life Sciences  
**Location:** University of Sussex main campus  
**Grade:** 7  

**Responsible to:** Professor Richard Layfield, Professor of Inorganic Chemistry

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- The ideal candidate will have, or should be close to completing, a PhD or equivalent in synthetic organometallic/coordination chemistry. Expertise in the synthesis and structural characterization of air-sensitive compounds (including glove-box techniques) are essential. The successful applicant will have experience in experimental aspects of small-molecule structure determination by X-ray crystallography, from crystal growth to preparation of data for publication. Experience of MOF chemistry is advantageous, and you should ideally have experience of organic chemistry for the purposes of ligand synthesis. The successful applicant will also demonstrate a willingness to learn about magnetic property measurements and associated data analysis techniques. You should be capable of working under your own initiative and leading a small research team consisting of PhD and undergraduate research students. Excellent communication and organizational skills are therefore required.

4. **Person Specification**

You will develop synthetic routes to a range of new single-molecule magnets and will encapsulate them in MOFs. The MOFs will be provided by collaborators in the USA and the UK. You will subsequently study the properties of the SMMs and the SMM@MOF composite materials using magnetic measurement techniques. Training in unfamiliar synthetic techniques will be provided if necessary. You will be resourceful and pro-active in developing your skills in new areas.

During the project, you will:

- Aid the development of research objectives for this project.  
- Prepare manuscripts for publication.
Continually update your knowledge and understanding of SMMs, organometallic chemistry and MOFs.
Translate knowledge of advances in the subject area into research activity.
Communicate complex information, orally, in writing and electronically.
Participate in collaboration networks.
Manage your own research and administrative activities, with guidance if required.
Attend and contribute to relevant meetings.
Be involved in the day-to-day supervision of student projects.
Assist in the development of student research skills.
Use new research techniques and methods.
Use initiative and creativity to identify areas for research, develop new research methods and extend the research portfolio.
Critically analyze and interpret research data and draw conclusions on the outcomes.
Plan and manage your research activity, seeking guidance when necessary.
Be aware of the risks in the work environment and their potential impact on your work and that of others.

PERSON SPECIFICATION

Essential:
- Have a PhD in a relevant area of coordination chemistry and/or molecular magnetism, or be close to obtaining such a qualification;
- A strong working knowledge of synthetic coordination chemistry;
- Working knowledge of the determination of molecular structures using X-ray crystallography;
- Excellent communication and interpersonal skills;
- Excellent time management and organizational skills;
- Ability to work independently and as part of a team;
- Ability to liaise confidently and effectively with a range of individuals;
- Flexible approach to dealing with research problems as they arise;
- Willingness to learn and develop new research skills and transferable skills;
- Ability to present in both written and oral publications;
- Ability to meet deadlines;
- Strong journal publication record, with emphasis on quality and not quantity;
- The ability to evaluate complex data;
- Ability to contribute to broader management and administrative processes;
- Ability to assess and organize resources, including lab management;
- Understand equal opportunity issues as they may impact on areas of research content.

Desirable:
- Experience of synthetic chemistry involving air-sensitive compounds, including glove-boxes and Schlenk equipment.
- Experience of MOF chemistry.