



## **New Quantum Materials from High Pressure**

### **Application Reference: SAC20- JPA-PM-01**

A PhD studentship is available in the group of **Prof. J. P. Attfield** (School of Chemistry, The University of Edinburgh; [www.csec.ed.ac.uk/members/prof-j-paul-attfield](http://www.csec.ed.ac.uk/members/prof-j-paul-attfield))

The studentship is fully funded for **42** months and covers tuition fees and an annual stipend (starting at £15,285 per annum) for a candidate satisfying EPSRC criteria:

<https://www.epsrc.ac.uk/skills/students/help/eligibility/>

### **Project Summary**

#### **New Quantum Materials from High Pressure**

This project offers exciting research opportunities in the fields of high pressure materials synthesis, quantum magnetism, and low temperature neutron scattering, and is suitable for a student with a first degree in Chemistry, Physics, Materials Science or an allied subject. You will discover new materials with interesting and potentially useful electronic and magnetic properties such as exotic spin orders or a quantum spin liquid (QSL) ground state. The project is co-supervised by Prof. Paul Attfield and Dr. Pascal Manuel at the ISIS neutron facility. You will work between the Centre for Extreme Conditions (CSEC) at Edinburgh and ISIS. CSEC research will be focussed on high pressure synthesis of new transition metal oxide materials using a large volume press (LVP). We are one of very few groups worldwide routinely using pressures up to 22 GPa for LVP new materials synthesis, so you will have access to a cutting-edge materials preparation facility. Neutron scattering experiments on WISH and other state-of-the-art instruments at ISIS will be used to explore low temperature magnetic properties. You will also spend longer periods at ISIS to help develop Ultra Low Temperature (ULT) capabilities for neutron scattering experiments.

In the first instance, informal enquiries (accompanied by a CV) should be directed to:

Paul Attfield, School of Chemistry, University of Edinburgh, David Brewster Road, Edinburgh EH9 3FJ, UK.

Email: [j.p.attfield@ed.ac.uk](mailto:j.p.attfield@ed.ac.uk)

The position will remain open until filled/ or 01/10/2021.

### **References**

Include any references if you wish but these are not always necessary

### **Equality and Diversity**

The School of Chemistry holds a Silver Athena SWAN award in recognition of our commitment to advance gender equality in higher education. The University is a member of the Race Equality Charter and is a Stonewall Scotland Diversity Champion, actively promoting LGBT equality. The University has a range of initiatives to support a family friendly working environment. See our University Initiatives website for further information. University Initiatives website:

<https://www.ed.ac.uk/equality-diversity/help-advice/family-friendly>