PhD studentship in Supramolecular Magnetism

Supervisors Professor Euan Brechin & Dr Paul Lusby

A PhD studentship is available to start in September 2016 for candidates with a strong academic record, an ambition to pursue a research career, and the desire to join and contribute to two dynamic, collegiate and productive research groups at The University of Edinburgh. The Brechin and Lusby groups are well equipped and funded for cutting edge chemical research, housed in modern laboratories in one of the best Chemistry departments in the UK.

The project combines supramolecular chemistry with molecular magnetism, with the vision being to build magnetic coordination capsules with internal cavities capable of hosting magnetic and redox-active guests for the construction of multifunctional molecular magnets with potential application in information storage and molecular spintronics. The aim is to control and manipulate (switch on; switch off) magnetic exchange between metal ions in the host framework and between the host and guest(s) via the use of redox-active (radical) ligands in the framework of the host, and redox-active/paramagnetic guests held within the cavities. We also wish to construct said capsules in a manner amenable to exohedral functionalization such that the organic sheath surrounding the capsules are easily derivatised post-synthetically to modify and tune solubility, magnetic behaviour, reactivity, stability and substrate specificity. The proposed work will involve a mixture of organic, inorganic and supramolecular synthesis, complex structure determination using X-ray crystallography, advanced NMR and MS, molecular design and modelling, and magnetometry.

For examples of recent publications see:


Candidates must satisfy Edinburgh studentship eligibility requirements. Please see http://www.ed.ac.uk/studying/postgraduate/applying/for full details. This studentship provides UK/EU tuition fees and an annual stipend at the EPSRC rate (2015/16 £14,057). The studentship is available for a period of 36 months.

More information on the Brechin group can be found here: http://www.chem.ed.ac.uk/staff/academic-staff/professor-euan-k-brechin

More information on the Lusby group can be found here: http://www.chem.ed.ac.uk/staff/academic-staff/dr-paul-lusby

Applicants should send a CV and cover letter, including the names and contact details of two referees, to Professor Euan Brechin (E.Brechin@ed.ac.uk).

The deadline for applications is 30 April 2016 and applications will be reviewed as they are received.