PhD Studentship with Professor Mike Ward

**PhD project:** Photophysical properties of supramolecular assemblies based on coordination cages  
**Supervisor:** Prof. Mike Ward  
**Funding availability:** UK/EU (Funded)  
**Deadline:** 5th May 2017

**Project description:**  
Self-assembled coordination cages are hollow metal/ligand assemblies that can bind small molecules as ‘guests’ inside the central cavity. If the cage is fluorescent, binding of guests can modify the fluorescence of the cage, which allows the system to be used as a sensor providing an obvious optical change in the presence of a particular substrate. If the guest is fluorescent, its fluorescence may likewise be modified on binding in a cage cavity and this can also be used as the basis of sensitive luminescence-based sensors whose colour changes in the presence of a specific substrate. The project will involve synthetic chemistry (both organic synthesis of ligands and inorganic synthesis of metal complexes), characterisation using a range of methods such as NMR spectroscopy, mass spectrometry and X-ray crystallography, and physical studies based on UV/Vis and luminescence spectroscopy. For initial examples and background see:


**Requirements:**  
Applicants should have an honours degree (at least II.1 or equivalent) in chemistry, or other relevant discipline, and should be a UK/EU citizen or have been a resident in the UK for three or more years.

**How to apply:**  
Please direct informal enquiries and requests for further information to Prof. Mike Ward on m.d.ward@sheffield.ac.uk. Prof. Ward will join the University of Warwick from 1/8/2017.

Details on the formal application procedure can be found at [http://www.go.warwick.ac.uk/pgapply](http://www.go.warwick.ac.uk/pgapply)