



Applications are invited for the following a PhD studentship for the following project:

Porous Metal-Organic Materials for Photo- and Electrocatalytic Water Splitting

The position will be carried out within the research **group of Prof. Wolfgang Schmitt** in the School of Chemistry and be part of the Materials for Energy platform within the Advanced Materials and Bioengineering Research Centre (AMBER) centre.

Summary of project

Metal-organic frameworks (MOFs) are regarded as key compounds related to energy storage and conversion, as their unprecedented surface areas make them promising materials for gas storage and catalysis purposes. The planned research activities investigate the modular construction principles of MOFs or molecular coordination cages that may allow the replication of key features of natural enzymes thus demonstrating how cavity size, shape, charge and functional group availability influence the performances in catalytic reactions.

Specifically, the research project addresses the question of how redox/light-active metal-organic frameworks (MOFs) can be prepared, characterized and exploited in heterogeneous catalysis. The studies will explore catalytic water oxidation reactions and electron-transfer processes in MOFs to develop electrochemical devices or concepts for artificial photosynthesis. In addition, gas storage properties of MOFs will be investigated. The applicant should have strong interest in some of the following areas: Coordination chemistry, synthesis and characterizations of MOFs; artificial photosynthesis, electro- or photocatalysis; electron-transfer reactions; gas storage in porous materials or X-ray crystallography.

The ideal applicants will have a 1st Class Honours Bachelor's degree in *Chemistry*.

The researcher will work closely with other members of a multidisciplinary project team. Excellent written and oral communication skills are essential.

How to apply:

CVs with the names and addresses of three referees should be submitted to:

Schmittw@tcd.ie

Positions will remain opened until filled but preferred start date is [September 2 2019](#). Only short-listed applications will be acknowledged.

This position is funded by the SFI-research centre AMBER.

The AMBER research centre, as a community of researchers, welcomes its responsibility to provide equal opportunities for all. We are actively seeking diversity in our research teams and particularly encourage applications from underrepresented groups.

