



PhD Studentship: Sustainable Electrochemical Strategies for the Removal of Metal Based Catalysts from Process Solutions

Prof. Julie Macpherson, Department of Chemistry, University of Warwick

Applications are invited for a 4-year PhD studentship in the Warwick Electrochemistry and Interfaces group in the Department of Chemistry at the University of Warwick. The project is led by Prof Julie Macpherson and is funded by the University of Warwick and the industrial company AstraZeneca. It is aimed at using electrochemical processes to remove platinum group metal (Pd, Pt, Ir etc) catalysts from pharmaceutical process streams with an overall aim of demonstrating scale up. The method enables recovery of the metal catalyst in a form it can be reused and is thus sustainable. This builds on electrochemical approaches developed in (Green Chemistry, 2019, **21**, 4662-4672) with a view to extending to many different solvent-based and catalyst systems. It is a multi-faceted project where the student can develop research skills in e.g. electrochemical deposition, non-aqueous solvent systems, 3D printing, high resolution microscopy, flow cell design and scale up. The student will also benefit from interactions with Astra Zeneca.

Applicants must have (or expect to obtain) at least the equivalent of a UK first or upper second-class degree in chemistry, physics or chemical engineering (or related subjects). The studentship will commence in October 2021 (although an earlier start is possible based on your availability) and will provide a maintenance grant and tuition fees at the standard UK rate, currently set at £15,285 per year. Experience of some form of electrochemistry is helpful but not essential. Non-UK applicants will be considered only if they qualify for the UK fees rate or are able to fund the overseas fees differential.

If you are interested in the position, please contact Prof. Julie Macpherson (j.macpherson@warwick.ac.uk) for further details, along with a CV. Further information about the research of Prof. Macpherson can be found at: <https://warwick.ac.uk/fac/sci/chemistry/staff/juliemacpherson/>

The Warwick Electrochemistry and Interfaces Group are internationally renowned, offering an excellent research environment with world class facilities dedicated to electrochemical and interfacial research, see:

<https://warwick.ac.uk/fac/sci/chemistry/research/unwin/electrochemistry/>