PhD in Sustainable self-healing soft actuators

Project Description

Start Date: 1st Oct 2019

Highly motivated candidates are invited to apply for a fully funded 3.5 year PhD position jointly between the International Institute for Nanocomposites Manufacturing (IINM), WMG, University of Warwick and the chemistry group in Laboratoire de Physicochimie des Polymères et des Interfaces (LPPI), Université de Cergy-Pontoise, France, available to commence on 1st Oct 2019.

We are embracing an interactive and mobile society, thanks to the advancement of mobile electronics, from wearable transducers, autonomous vehicles, to sensors. Stretchable, flexible, lightweight and cost-effective devices are an emerging technology for energy harvesting and mobile electronics. This is a challenging and unique PhD opportunity for a student with a good chemistry synthesis background interested in polymer chemistry, elastomer manufacturing and energy devices. This is a multidisciplinary project, aiming to develop smart and sustainable elastomeric energy transducers with designed macromolecular structures, self-healing and electromechanical properties. The PhD will involve polymer synthesis and modification, nanocomposites manufacturing and device evaluation. A wide range of advanced analytical methods including GPC, NMR, SAXS/WAXS, XRD, electron microscopy and thermal analysis will be employed. Full training will be provided in the relevant skills.

The student will be jointly working with two research groups between the Universities of Warwick and Cergy-Pontoise, sponsored by the EUTOPIA Co-tutelle PhD Scholarship. You will be well situated to learn new synthesis skills, access to excellent facilities for polymer synthesis and characterisation, device fabrication as well as communicate with excellent researchers between the two universities.

ELIGIBILITY AND DESIRED QUALITIES

The ideal candidate will hold (or expect to hold) a 1st or upper 2nd class MSc / MChem / BSc or equivalent, understand and have experience in polymer synthesis and structure characterisation. Experience in actuation or energy harvesting characterisation is desirable. A passion and motivation to challenge the state of the art in an exciting new technology application space.

INFORMAL ENQUIRIES

Please ensure you meet the minimum requirements before filling in the online form. As part of the application, please supply your CV, grades and qualifications (achieved and/or expected), and personal statement on why you think you should be considered for this position to Dr Wan,
Funding Notes
Funding is available for an UK/EU or international applicant for 3.5 years.