PhD studentship in Biomaterials
Professor Matthew Gibson

PhD project: Engineering Immune Cell Surfaces with Polymers
Supervisor: Professor Matthew Gibson
Funding availability: Fully Funded
Deadline: 12th January 2020

Project description:
The GibsonGroup (www.warwick.ac.uk/go/gibsongroup) develops new biomaterials combing polymer and carbohydrate science with cell biology and microbiology methods. In this project we will take a revolutionary approach where we use synthetic polymer chemistry to directly modify the surface of cells. Therapeutic cells are currently produced using genetic techniques meaning only natural (e.g., protein) functionality can be installed onto the cells, and the genetic methods are not 100% efficient. The GibsonGroup has shown that we can chemically modify glycans (sugars) on the surfaces of cells to install functional anchors to allow capture of synthetic polymers; Biomacromolecules 2019, 20, 7, 2726. Using this approach non-natural functionality can be installed, enable us to re-program cells to fight disease, particularly cancer.
This project will enable a student to be exposed to a unique biomaterials environment and learn/apply skills in synthetic biomaterials but also cell biology and advanced analytics using our dedicated facilities in both the Department of Chemistry and the Medical School

Requirements:
Applicants should have an honors degree (at least II.1 or equivalent) in chemistry, biomaterials or other relevant discipline. Eligibility requirements may be in places, as this is funded from EU sources. Please discuss with Professor Gibson

How to apply:
Please direct informal enquiries, including a 2 page (Max) CV and requests for further information to Professor Gibson m.i.gibson@warwick.ac.uk Please apply here: https://warwick.ac.uk/fac/cross_fac/mibtp/pgstudy/phd_opportunities/immunology/cell_surfaces