Applications are invited for a PhD studentship on the development of new biomaterials for regenerative medicine, paying a non-taxable bursary of £15,590 per annum (current stipend) as well as will cover tuition fees at the home/EU rate. Funding is available only to applicants who have been ordinarily resident in the UK for three years prior to the start date.

Background:
Despite the number of incredible advances made in tissue engineering during the past decades, there still remains an enormous demand for innovative materials that can be used as regenerative scaffolds. Polymer-based materials have provided fundamental knowledge involving the effects of specific physical and chemical cues on cell behaviour, yet still only a select few designs are successful in translation. Novel cell-instructive polymer-based constructs need to be designed and tested for their clinical suitability in terms of how they can mimic the properties of native tissues, while their mechanical properties and tailored biofunctionalisation will need to be elucidated to yield controlled bioactivity.

The aim of this project is to understand how these materials can be designed and optimised for clinical translation by exploiting the knowledge gained at the cell-material interface.

The Project:
This project will initially concentrate on the synthesis of polymer-based materials that will be designed according the requisites in engineering bone and/or cardiovascular tissues. The understanding of the physical and chemical properties as elucidated using state of the art materials-based characterisation techniques will be a major goal. The emphasis of the material characterisation will lie on the cell-material interface and how the engineered biomaterials influence this region. The key features of the materials’ properties on the influence of cells in 2D and 3D culture will then be assessed. This project will involve advanced synthetic techniques, complete material characterisation as well as biological tests.

Applicants should have or expect to obtain a first class undergraduate degree (or equivalent) in a relevant discipline such as Bioengineering, Materials Science, Physics, Chemistry or Engineering. You will be a highly self motivated individual with demonstrable experience of experimental research.

Relevant Papers (*: senior corresponding author):

www.stevensgroup.org

How to apply
The prospectus, entry requirements and application form (under ‘how to apply’) are available at: http://www.imperial.ac.uk/pgprospectus.

Applicants should send a CV and cover letter to Prof Molly Stevens (m.stevens@imperial.ac.uk),

For assistance with application details please contact Fiona Thomson (fiona.thomson@imperial.ac.uk). The prospectus, entry requirements and application form (under ‘how to apply’) are available at: http://www.imperial.ac.uk/pgprospectus.

Closing date: The position will be filled as applications are received

Committed to equality and valuing diversity. We are also an Athena Bronze SWAN Award winner, a Stonewall Diversity Champion and a Two Ticks Employer