

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

Biomimetic multi-layered gene activated antimicrobial scaffolds for enhanced wound healing

This project forms part of AMBER's Materials for Health platform which focusses on the development of next generation biomaterials and technologies to promote the regeneration of damaged or diseased tissues. This platform aims to bring together teams of biologists, immunologists, bioengineers and material scientists to understand how smart biomaterials can be tailored to modulate the immune response and promote tissue healing by exploiting current advances in gene therapy, novel polymeric materials and advanced manufacturing technologies.

This position, supervised by [Prof Fergal O'Brien](#), will be based within the [Tissue Engineering Research Group \(TERG\)](#) in the Department of Anatomy and Regenerative Medicine at the Royal College of Surgeons in Ireland, and the SFI and industry-funded Advanced Materials and Bioengineering Research Centre (AMBER). The successful applicant will work closely with other members of a multidisciplinary project team including PIs, postdoctoral and postgraduate researchers within this research cluster.

The TERG at RCSI are well established as pioneers in the development of gene-activated collagen-based scaffolds for tissue regeneration. ***This project will build on the group's expertise to develop a new bioactive, biomimetic, natural polymer-based antimicrobial scaffold with applications in wound healing.*** Specifically, this PhD studentship will focus on the development of multi-layered antimicrobial materials to be functionalised with nanoparticles/vectors for the delivery of genetic cargoes and/or regenerative biomolecules to limit scarring and promote new blood vessel formation, ultimately enhancing tissue regeneration and helping to heal complex wounds.

The ideal applicant will ideally have a 1st Class Honours or equivalent Bachelor's degree in biomedical engineering, tissue engineering, materials science, pharmacy or related disciplines; and/or an MSc degree in bioengineering, regenerative medicine or related disciplines with minimum 2.1 honours from primary degree.

Experience in scaffolds for tissue engineering, 3D printing/additive manufacturing or working with drug delivery systems would be advantageous but is not essential. Specific skills which would enhance a candidate's application might include experience in some of the following areas: scaffold fabrication and characterisation in tissue engineering, gene/drug/biomolecule delivery, nanoparticle synthesis, cell culture, biochemical analysis and molecular biology experience. Excellent written and oral communication skills are essential.

How to apply:

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

Prof. Fergal J. O'Brien, PhD

Email: fjobrien@rcsi.ie

<https://www.rcsi.com/people/profile/fjobrien>

<http://scholar.google.com/citations?user=CFBzniwAAAAJ>

Positions will remain opened until filled but preferred start date is [September 2020](#). Only short-listed applications will be acknowledged.