



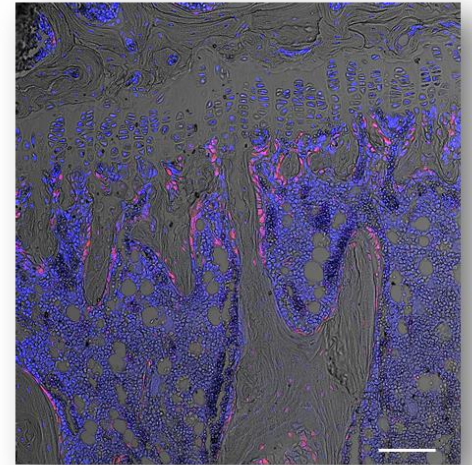
Applications are invited for the following **PhD studentship** for the following project:

The role of endogenous skeletal stem cells in regulating biomaterial mediated bone regeneration

The position will be based within the [Hoey](#) and [Kelly](#) Labs at the [Trinity Centre for Bioengineering](#), Trinity College Dublin and will be part of the Materials for Health platform within the [Advanced Materials and Bioengineering Research Centre](#) (AMBER) centre.

Summary of project:

Despite decades of research, there have been relatively few examples of successful tissue and organ regeneration in humans using biomaterial scaffolds. Due to a lack of mechanistic understanding of material mediated regeneration, this phenomenon is challenging to explain. One hypothesis, may be because such bioscaffolds are designed to modulate the later stages of the healing process such as stem cell differentiation, with less focus placed on the acute and chronic immune responses to such implants. Engineering an appropriate immune response is integral to successful tissue regeneration given its importance to clearing damaged cells and tissue, recruiting host stem cells and inducing vascularization. ***The goal of this project is therefore to explore how the properties of extracellular matrix (ECM) based scaffolds and hydrogels determines immune cell recruitment, macrophage polarization, and vascularization, which will ultimately dictate endogenous stem cell recruitment, differentiation and functional tissue regeneration within traumatic large bone tissue defects.***



The ideal applicants will have a 1st Class Honours Bachelor's degree in the Biomedical Sciences or Biomedical, Chemical or Mechanical Engineering (or related disciplines). Experience in animal models, immunology, and biomaterials would be advantageous. Specific skills that would enhance a candidate's application would include experience in some of the following areas: histological and imaging techniques, flow cytometry, cell culture; advanced microscopy; PCR; immunohistochemistry and other.

The researcher will work closely with other members of a multidisciplinary project team including PIs, postdoctoral and postgraduate researchers within this TCBE & AMBER research cluster. Excellent written and oral communication skills are essential.

How to apply:

CVs with the names and addresses of three referees should be e-mailed to:

Prof. David Hoey; E-mail: dahoey@tcd.ie

Positions will remain opened until filled but preferred start date is [September 2 2019](#). Only short-listed applications will be acknowledged.

This position is funded by the SFI-research centre AMBER. The AMBER research centre, as a community of researchers, welcomes its responsibility to provide equal opportunities for all. We are actively seeking diversity in our research teams and particularly encourage applications from underrepresented groups.