



Nottingham BBSRC DTP CASE Project



Biotechnology and
Biological Sciences
Research Council

Project Title:
Novel self-oxygenating and cell-instructive materials for chronic wound healing
Research Cluster:
Biomaterials for Tissue Engineering and Drug Delivery (Bioscience for Human Health)
School:
Life Sciences
Partner Organisation:
Convatec Group Plc
Project Description:
<p>Applications are invited for a fully funded 4-year PhD at the University of Nottingham in collaboration with Convatec Group Plc.</p> <p>The project aims at developing novel materials with unprecedented capability to engineer tissue microenvironment and heal diabetic wounds. The main objectives of this project are to: 1) create novel materials that can self-generate molecular oxygen and retain oxygen within a chronic wound bed, 2) present cell-instructive epitopes to signal multiple host cells populations necessary for effective wound healing, and 3) incorporate the oxygen retaining and cell-instructive materials into standard of care for diabetic wounds.</p> <p>The student will work in state-of-the-art facilities at the interface of academia and industry and will be trained in peptide synthesis, molecular characterization techniques (HPLC, NMR, Mass spectrometry, Circular dichroism spectroscopy, FTIR), hydrogel technology, cellular immunology techniques (e.g. immune cells isolation, macrophage differentiation and characterisation, co-cultures), ELISA, PCR, flow cytometry, and advanced biomedical imaging.</p> <p>Entry requirements: Applicants must have or should expect to obtain a 1st class or 2:1 honours degree or distinction or high merit at MSc level (or international equivalents) in Chemistry, Tissue Engineering, Immunology or related disciplines. Experience in biomaterials and in vitro cell culture will be beneficial.</p>
Lead Supervisor:
Dr Babatunde Okesola
Please email the lead supervisor to find out more about this project.

Terms & Conditions:

Home and international students are welcome to apply for this opportunity. Funding is available for four years from October 2025. The award covers tuition fee (£4,712) at the home rate plus an annual stipend which was (£19,273) for 2024. This is set by the Research Councils.

Please note that successful international candidates will be put forward for a University Fees Difference Scholarship to cover the difference between the home and international fee.

<https://www.nottingham.ac.uk/bbdtp/apply/apply-online.aspx>

Closing Date:

12 noon (UK time) 31 January 2025