

A fully funded 4-year PhD position, commencing October 2025, is available in the lab of Professor Harish Poptani, co-supervised by Dr Marco Giardiello in the Department of Chemistry and Professor Patricia Murray, in the Department of Women's and Child health at University of Liverpool on "*A Novel Theranostic Approach for Treating Brain Tumours*".

The studentship is fully funded by the Medical Research Council (MRC) for 4 yrs and is part of the Discovery Medicine North Doctoral Training Partnership (DiMeN DTP). **iCASE Award: Industrial partnership project with SteamBio** (<https://www.streambio.co.uk/>).

This multidisciplinary project will use cutting edge imaging technologies along with novel chemistry and a cell-based therapy to treat glioblastomas, the deadliest form of brain cancer in adults. These tumours have a dismal survival of less than 14 months. Despite aggressive treatment, tumours usually recur within 6-9 months, hence there is a dire need for developing novel ways of treating glioblastomas. Magnetic Fluid Hyperthermia (MFH) is novel way for targeted tumour ablation (heating) as it specifically heats nanoparticles in the tumour without any adverse effects to the normal tissue. The overall aim of this project is to develop a novel treatment paradigm for glioblastomas using the following goals: 1) Development of xenograft models of glioblastomas and their characterization using longitudinal high-resolution MRI. 2) Developing targeted delivery of custom designed super-paramagnetic iron oxide particles (SPIONs) to the tumour using endothelial progenitor cells (EPCs) labelled with SPIONs. 3) Assessment of preferential localization of SPIONs in the tumour using magnetic particle imaging (MPI) scanner. 4) Developing selective heating of the SPIONS in the tumour using MFH to ablate the tumor without impacting the normal tissue. 5) Monitoring MFH induced treatment response using advanced MRI methods. Further details of the project can be found [here](#)

Please follow the application process through the link below

<https://www.dimen.org.uk/current-opportunities>

The deadline for submission is **Friday, December 13, 2024**