# PGR Studentship Information Template 2021 entry

* Please complete the template with as much information as possible.
* \*fields are essential.
* If you have information that does not have a label, please create a new row in the table for it.

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| **\*Title of studentship** | 3D printed personalised long-acting implants for effective cancer treatment |
| **Value / what is covered?** | Fully funded    100% of UK/EU tuition fees paid and an annual stipend for UK residents only (living expenses), currently at **£15,285** |
| **Awarding body** |  |
| **Number of studentships** |  |
| **\*Summary descriptive text / Example of research project** | According to WHO, cancer is the second leading cause of death worldwide, with nearly 1 in 6 deaths been due to cancer. The principal modes of cancer management are surgery, radiotherapy, chemotherapy and pharmaceutical agents. However, there are many side effects from extant treatments e.g., invasiveness of surgery, and with other treatments being systemic in nature; therefore, only a small fraction of the drugs reaches the tumour site. Due to the short period of actions, repeated doses are often required, which can lead to exacerbation of side effects and inconvenience. Due to these obstacles, targeted or localised release technology coupled with long-acting treatment functionality is a key research theme to replace systemic administration therapies and show potential for advancing cancer treatment including capability of personalizing the treatment. One especially promising therapeutic option gaining prominence is the use of multifunctional implants combining tumour-killing ability while promoting bone resorption/growth. Therefore, the main goal of this project is to investigate new approaches for targeted long-acting drug release for effective cancer therapies based on 3D printed drug-loaded implants. |
| **\*Supervisor(s)** | Dr Dimitrios A. Lamprou (<https://pure.qub.ac.uk/en/persons/dimitrios-lamprou>) |
| **\*Eligibility / residence Status** |  |
| **Country** | Northern Ireland |
| **\*Start date and duration** | 1 October 2021 |
| **\*Faculty** | MHLS |
| **\*Research centre / School** | Pharmacy |
| **Subject area** | 3D Printing, Bioprinting, Drug Delivery, Medical Devices, Pharmaceutical Technology. |
| **Candidate requirements / Key skills required for the post** | Applicants should have a 1st or 2.1 honours degree (or equivalent) in a relevant subject. Relevant subjects include Pharmacy, Pharmaceutical Sciences, Biochemistry, Biological/Biomedical Sciences, Chemistry, Engineering, or a closely related discipline. Students who have a 2.2 honours degree and a Master’s degree may also be considered, but the School reserves the right to shortlist for interview only those applicants who have demonstrated high academic attainment to date |
| **\*Deadline for applications** |  |
| **\*How to apply / contacts** | Postgraduate Research applicants for Pharmacy who are interested in applying for a fully funded DFE studentship must have applied to Queen’s, via the Direct Applications Portal, and submitted all required supporting documents by the closing date, which will be announced later in the Academic year.  <https://dap.qub.ac.uk/portal/user/u_login.php> |
| **Relevant links / more information** | <http://www.qub.ac.uk/schools/SchoolofPharmacy/Research/PostgraduatePositions/>  <http://www.qub.ac.uk/schools/SchoolofPharmacy/Research/> |
| **Keywords for search filters** | 3D Printing, 3D Bioprinting, Drug Delivery, Cancer treatment, Implants |
| **Training provided through the research project** | The successful applicant will be integrated into QUB research groups of experienced researchers with access to world-leading facilities. The techniques that will be used during the project cover a wide-range and include: Atomic Force Microscope (AFM), Computed Tomography (CT), Contact Angle Goniometry (CAG), Differential Scanning Calorimetry (DSC), Fourier-Transform Infrared (FTIR) Spectroscopy, Rheology, Scanning Electron Microscopy (SEM), 3D Printing equipment and software, *In Vitro* Release Studies, and modeling. |
| **Expected impact activities** | The PhD student would be encouraged to engage in a variety of impact activities, disseminate the research project findings through public talks, and participate in QUB showcase events. Examples of impact activities includes: Blogs or web articles, Magazine articles, Public lectures, School visits, oral & poster Presentations (at local, national and international conferences), and Publication of scientific papers in peer reviewed journals. |