PGR Studentship Information Template 2019 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.

*Title of studentship	To investigate the pharmacological responses of senolytics in cancer.
Value / what is covered?	
Awarding body	
Number of studentships	1
*Summary descriptive text / Example of research project	Chemotherapy causes cancer cells to become senescent and increased resistance to standard-of-care cancer therapies. Senescent cells stop dividing but remain metabolically active. Moreover, senescent cancer cells secrete mediators that increase inflammation and modulate tumour microenvironment cells. Chemotherapy also causes senescence in normal cells of patients receiving these therapies. This affects the immune responses in these patients and creates metastatic niches that can promote cancer progression. The senolytics are a new class of drugs that kill/remove senescent cells but their application in the treatment of cancer is unknown. This PhD will evaluate the pharmacology of treating cancer senescent cells with senolytics while also elucidating the underlying tumour characteristics associated with a good/poor response to these drugs. In this PhD, we will employ routine cell and molecular biology techniques to study the drug responses in cancer cell models. You will gain experience in RNAi and protein over-expression techniques, the study of intracellular signalling and a variety of *in vitro* assays to measure key hallmarks of tumorigenesis and drug responses in cancer cells and tumour microenvironment immune cells. Novel results will be tested in *in vivo* models and/or clinically relevant samples.
*Supervisor(s)	Drs Fiona Furlong School of Pharmacy
*Eligibility / residence Status	UK/EU/International
Country	Northern Ireland
*Start date and duration	open
*Faculty	MHLS

*Research centre / School	Pharmacy
Subject area	Cancer pharmacology, drug discovery, personalised medicine, cancer
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, Pharmacology, Molecular Biology, Pharmaceutical Sciences, Biochemistry, Biological/Biomedical Sciences, 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	open
*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	Cancer; cell biology; cell signalling; pharmacology; drug action;
Training provided through the research project	The project will provide hands-on training for the student in the following: • Cancer cell culture/co-cultures • Real time monitoring of cell proliferation • Real time monitoring of cell migration • Assays to measure cell viability and apoptosis • Protein, RNA and DNA isolation methods • a thorough understanding of cancer biology • Novel techniques of gene silencing and gene knock out • Protein over-expression techniques • Protein detection methods Working as a PhD will also provide the following training: • Oral and poster presentation skills • Working as part of a team • Project management: Planning and organising experiments, time management • Team work • statistical analysis

Expected impact activities	This research aims to develop strategies to develop a stratification biomarker for the use of senolytic therapy in the treatment of ovarian cancer.