



QUEEN'S UNIVERSITY BELFAST

*Title of studentship	CONTRAsT - Cisplatin analogue gOld Nanoparticles for Tumour RAdiation Therapy
Value / what is covered?	Home/EU Fees, Stipend (Home)
Awarding body	DfE (CASE)
Number of studentships	1
*Summary descriptive text / Example of research project	This three year PhD position is an exciting industrial/academic collaboration which will afford the appointed student the opportunity to work closely with our partners Midatech Pharma. Project CONTRAsT (Cisplatin analogue gOld Nanoparticles for Tumour RAdiation Therapy) will explore the ability of Midatech's multi-functional drug-loaded nanoparticles, produced within their GMP manufacturing facility (Bilbao, Spain), to increase the effectiveness of radiotherapy for head and neck cancer. The appointed student will work closely with our industrial partner, agreeing upon the initial nanoparticle formulation. In addition, the student will have access to a range of industrial grade analytical instruments within Midatech, as well as accessing state-of-the-art research facilities within the School of Pharmacy, Queen's University Belfast. This fully funded project (fees and stipend), commands an attractive consumable budget, ensuring that finances will not limit the quality of the research undertaken.
*Supervisor(s)	Dr Jonathan Coulter (j.coulter@qub.ac.uk)
*Eligibility / residence Status	Home/EU
Country	Northern Ireland
*Start date and duration	01/10/2020
*Faculty	MHLS
*Research centre / School	Pharmacy
Subject area	
Candidate requirements / Key skills	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

required for the post	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	February 2020
*How to apply / contacts	Postgraduate Research applicants must have applied to Queen's, via the Direct Applications Portal. 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 nanotechnology, nanoparticles, radiotherapy, targeted drug delivery
Training provided through the research project	<p>This research will be conducted at the School of Pharmacy Queen's University Belfast which was ranked 2nd in the UK for Pharmacy and Pharmacology according to the Times and Sunday Times Good University Guide 2020, underpinning the school's investment in and commitment to world-class facilities and staff, with internationally leading research programmes. The School of Pharmacy Queen's University Belfast was particularly outstanding ranking as first amongst UK Pharmacy submissions in REF 2014.</p> <p>The Postgraduate Research Committee (PGRC) advises and supports all postgraduate research students, providing a proven structure for success and on-time completion. As such the School of Pharmacy has the best PhD completion rates within Queen's University Belfast.</p> <p>Central to this success is precise record keeping and progression monitoring. The School of Pharmacy expects a minimum of monthly meetings with students where electronic records must be recorded. All students will complete a three-month initial review and annual progress review (APR) to proceed to years two and three. The APR process involves written work, presentation and/or mini viva. These are the standard management and monitoring arrangements that will be adhered to by both academic partners supervisors.</p> <p>Each PhD student will also complete the centrally organised Queen's University Belfast researcher development framework consisting of 30 days formalised training. These have been created by vitae, and endorsed by the QAA and Research Councils UK. The training areas include four domains that encompass: (A) knowledge and intellectual abilities, (B) personal effectiveness, (C) research governance and organisation and (D) engagement influence and impact. Students will be encouraged to use a Personal Development Planning (PDP) process to build a portfolio on learning, performance and achievement. PDP encourages the students to adopt a good work practice and supports the timely submission of thesis.</p> <p>Specific to the outlined research project, the appointed student will receive formal training in the following specialist skills from each project partner.</p> <p>Nanoparticle formulation and synthesis (Midatech): nanoparticle synthesis, drug conjugation, fourier transform infra-red spectrometry, DLS measurements of size/charge, mass spectroscopy.</p>

	Molecular and cell biology (Coulter): Inductively Coupled Plasma Mass Spectroscopy, confocal microscopy, scanning and transmission electron microscopy, tissue culture, western blotting, radiobiology techniques and <i>in vivo</i> tumour models.
Expected impact activities	It is anticipated that data emerging from this project will identify an optimal nanoparticle drug conjugate formulation that will be upscaled through Midatech's GMP manufacturing facility. Furthermore, the data package will be used in conjunction with Midatech's existing portfolio to raise revenue in order to launch pre-clinical toxicology studies and eventually early Phase I/II clinical trials.