

*Title of studentship	Combatting device-associated, healthcare-associated infections with innovative anti-biofouling, anti-blocking and non-resistance-promoting technologies
Value / what is covered?	Fully funded. 100% of UK/EU tuition fees paid and an annual stipend, currently at £14,553 (to be confirmed)
Awarding body	Healthcare Infection Society
Number of studentships	1
*Summary descriptive text / Example of research project	<p>Urinary tract infections (UTIs) constitute the most common infections acquired in healthcare settings, with a significant 50% of all UTIs associated with use of indwelling catheters. In addition to infection, up to 50% of catheterised patients experience recurrent catheter blockages, necessitating early and painful catheter removal, and making the high prevalence of catheter use a leading cause of illness, extended hospital stays, unplanned readmissions and additional healthcare costs.</p> <p>Efficacious new strategies to prevent infection and blockage of indwelling catheters, which are almost identical to those introduced more than 80 years ago, are urgently needed and keenly sought by patients, clinicians and the catheter industry.</p> <p>Through investigation of the antibacterial and anti-encrustation activities of alternative, non-resistance-promoting active agents, this interdisciplinary project will develop transformational new strategies to combat the escalating incidence of device-related infections, blockages, trauma and pain, thereby reducing the associated economic burden and ultimately improving healthcare globally.</p> <p>Significant advances over conventional approaches are anticipated:</p> <ul style="list-style-type: none"> • Reduced incidence of infection and related problems of catheter blockage by encrustation. • Avoidance of bacterial resistance problems. • Reduced urethral trauma and pain, less frequent hospital admissions, and increased patient dignity and health. • Cost-savings for healthcare providers. <p>A range of techniques and state-of-the-art equipment will be employed in this project for development of novel surface technologies and characterisation of the microbiological, anti-encrustation and tribological properties of new, coated polymer surfaces, with exciting opportunities to work with collaborators at the University of Leeds and present the work internationally.</p>
*Supervisor(s)	Dr. Nicola Irwin and Professor Colin McCoy
*Eligibility / residence Status	UK/EU only
Country	Northern Ireland
*Start date and duration	September 2018 Funding covers a three-year full-time PhD.
*Faculty	MHLS
*Research centre /	School of Pharmacy
School	

Subject area	Anti-infective biomaterials, polymer science, infection control
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, Biomedical/Biological Sciences, Chemistry, Engineering, Biochemistry, Molecular Biology, 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 achievement to date.
*Deadline for applications	8 th May 2018
*How to apply / contacts	Postgraduate research applicants for Pharmacy who are interested in applying for a fully funded studentship must have applied to Queen's, via the Direct Applications Portal, and submitted all required supporting documents by the closing date. 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/ http://www.qub.ac.uk/schools/SchoolofPharmacy/Research/ResearchThemes/DrugDeliveryandBiomaterials/DrNicolaIrwin/
Keywords for search filters	Biomaterials; infection control; healthcare-associated infections; polymer science
Training provided through the research project	The successful candidate will receive training and develop skills in a range of analytical techniques for development of novel surface technologies and characterisation of the microbiological, anti-encrustation and tribological properties of new, coated polymer surfaces, with exciting opportunities to work with collaborators at the University of Leeds and present the work internationally. The student will also develop other generic research skills, such as time management, scientific writing/writing for publication, and delivering presentations.
Expected impact activities	Through development of enhanced performance surface technologies, significant impact is anticipated: <ul style="list-style-type: none"> • Reduced incidence of infection and related problems of catheter blockage by encrustation. • Avoidance of bacterial resistance problems. • Reduced urethral trauma and pain, less frequent hospital admissions, and increased patient dignity and health. • Cost-savings for healthcare providers.