



QUEEN'S UNIVERSITY BELFAST

*Title of studentship	Investigating the impact of electronic cigarette vapour on respiratory microbiota and inflammation.
Value / what is covered?	
Awarding body	Self-Funding
Number of studentships	1
*Summary descriptive text / Example of research project	The use of electronic cigarettes (e-cigs) are increasing, despite very limited knowledge as to their safety and effect on the lung microbiome and inflammatory response. Work currently on-going in our laboratory suggests that both cigarettes and e-cigs may impact virulence of common lung pathogens and have an immunomodulatory effect on the airway epithelium. This study will have a clinical focus and use state-of-the-art next generation sequencing technology to compare the effect on community composition, richness and diversity of the lung microbiota in people who smoke cigarettes and e-cigarettes. Transcriptomic analysis will also be used to determine changes in phenotype, and particular emphasis will be placed on examining transcription of genes associated with virulence and antibiotic resistance and correlating this with relevant clinical parameters. This 3-year project will provide extensive training in molecular biology including next-generation sequencing techniques and analysis and routine bacteriology with an important clinical focus, as part of an internationally renowned research team.
*Supervisor(s)	Dr Deirdre Gilpin, Professor Michael Tunney
*Eligibility / residence Status	Self Funding
Country	Northern Ireland
*Start date and duration	1 October 2019 Funding covers a three-year full-time PhD.
*Faculty	MHLS
*Research centre / School	Pharmacy
Subject area	Microbiology, Immunology, Molecular Biology
Candidate requirements	Applicants should have a 1st or 2.1 honours degree (or equivalent) in a relevant subject. Relevant subjects include Pharmacy, Molecular Biology, Pharmaceutical

/ Key skills required for the post	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	7 th January 2019
*How to apply / contacts	<p>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.</p> <p>https://dap.qub.ac.uk/portal/user/u_login.php</p>
Relevant links / more information	<p>http://www.qub.ac.uk/schools/SchoolofPharmacy/Research/PostgraduatePositions/</p> <p>http://www.qub.ac.uk/schools/SchoolofPharmacy/Research/</p>
Keywords for search filters	Electronic cigarette, immune, next generation sequencing, respiratory, microbiome, transcriptome
Training provided through the research project	The successful candidate will become proficient in basic and advanced microbiological and immunological techniques. Students will also be involved in generating samples for next generation sequencing, and subsequent analysis of data. Candidates will gain experience of statistics and analysis of both lab results, and correlation with available clinical data.
Expected impact activities	Publications arising from this data are expected to help inform the current debate on the safety or otherwise of e-cigarettes.