***Title of studentship**	Investigating the impact of electronic cigarette vapour on respiratory microbiota and inflammation.
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 £14,777
Awarding body	DFE
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 antibotic 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 internationlly renowned research team.
***Supervisor(s)**	Dr Deirdre Gilpin, Professor Michael Tunney
***Eligibility / residence Status**	UK/EU only
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 / 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, Molecular Biology, Pharmaceutical Sciences, Biochemistry, Biological/Biomedical Sciences, Chemistry, Engineering, or a closely related discipline.
***Deadline for applications**	7th January 2019
***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	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.