# QUEEN'S UNIVERSITY BELFAST

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| **\*Title of studentship** | Relationship between antibiotic therapy, development of antimicrobial resistance and clinical outcomes in people with bronchiectasis |
| **Value / what is covered?** | Fully funded<br><br>100% of UK/EU tuition fees paid and an annual stipend for UK residents only (living expenses), currently at £14,553 |
| **Awarding body** | DFE |
| **Number of studentships** | 1 |
| **\*Summary descriptive text / Example of research project** | Individuals with bronchiectasis have chronic cough, sputum production and frequent respiratory infections which lead to impaired lung function and health-related quality of life. It is not clear what effect long-term antibiotic treatment of respiratory infections has on the development of antibiotic resistance and how this relates to patient outcomes. As part of an ongoing clinical study, sputum samples are being collected from people with bronchiectasis pre- and post-treatment that targets *Pseudomonas aeruginosa* respiratory infection.<br><br>The aim of this PhD project is to investigate changes in antimicrobial resistance in response to treatment. The resistance profile of *P. aeruginosa* isolates following treatment, will be evaluated genotypically to determine underlying mechanisms with correlation analyses performed with results from conventional phenotypic MIC resistance determination. Metagenome data generated from next generation sequencing of sputum samples will also be performed to evaluate the abundance of genes encoding antimicrobial resistance, the 'resistome', within the community of bacteria as a whole, and how it changes over time. Furthermore, the relationship between development of resistance and an extensive range of clinical outcomes and measures of inflammation will be determined. |
| **\*Supervisor(s)** | Dr Laura Sherrard, Prof Michael Tunney |
| **\*Eligibility / residence Status** | UK/EU only |
| **Country** | Northern Ireland |
| **\*Start date and duration** | 1st October 2019<br>Funding covers a three-year full-time PhD. |
| **\*Faculty** | MHLS |
| **\*Research** | Pharmacy |

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| centre / School | |
| Subject area | Pharmacy, microbiology, 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. 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 | 31st May 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.<br><br>https://dap.qub.ac.uk/portal/user/u_login.php |
| Relevant links / more information | http://www.qub.ac.uk/schools/SchoolofPharmacy/Research/PostgraduatePositions/<br><br>http://www.qub.ac.uk/schools/SchoolofPharmacy/Research/ |
| Keywords for search filters | Antibiotics, antimicrobial resistance, lung infections, bronchiectasis |
| Training provided through the research project | Extensive training in, clinical pharmacy, microbiology, molecular microbiology, inflammatory biomarker measurement and statistical analysis will be provided as part of an inter-disciplinary and internationally renowned research team. |
| Expected impact activities | Presentations at local, national and international conferences<br>Publication of scientific papers in peer reviewed journals |