



QUEEN'S UNIVERSITY BELFAST

*Title of studentship	Investigation of the role of microplastics-associated microorganisms in the spread of antimicrobial-resistant genes in aquatic environments
Value / what is covered?	
Awarding body	
Number of studentships	
*Summary descriptive text / Example of research project	<p>Microplastics have recently attracted significant attention as globally present pollutants. It is known that microbial communities can form biofilms on the surface of microplastic particles, but their role in the spread of pathogenic bacteria and antimicrobial resistance genes is still poorly understood.</p> <p>The proposed PhD project will be focussed on understanding of the role of microplastics as potential fomites in the spread of antimicrobial resistance genes in Northern Ireland. For that, samples will be collected from potential antimicrobial resistance hotspots (e.g. wastewater treatment plants outflow, slurry tanks) and natural aquatic environments (river Lagan, Lough Neagh etc.), processed to obtain microplastics-containing fraction, and the microbial communities associated with the microplastics particles will be investigated for the presence of AMGs using a combination of microbiological, molecular and next-generation sequencing techniques.</p>
*Supervisor(s)	Dr Timofey Skvortsov
*Eligibility / residence Status	SELF-FUNDED
Country	Northern Ireland
*Start date and duration	1 October 2020
*Faculty	MHLS
*Research centre / School	Pharmacy
Subject area	Molecular microbiology, biotechnology, bioinformatics
Candidate requirements / Key skills	Applicants should have a 1st or 2.1 honours degree (or equivalent) in a relevant subject. Relevant subjects include Pharmacy, Molecular Biology, Molecular Microbiology, Virology, Pharmaceutical Sciences, Biochemistry,

required for the post	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	
*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	Bacteriophage, enzymes, molecular microbiology, genomics, genetic engineering, pathogenic bacteria, anti-microbial resistance
Training provided through the research project	The proposed project will involve an investigation of antimicrobial resistance spread in natural and built aquatic environments. The successful candidate will have an opportunity to learn specifics of microbial bioinformatics, protein modelling, genetic engineering and molecular cloning, and methods of next-generation sequencing
Expected impact activities	The PhD student would be encouraged to engage in a variety of impact activities, disseminate the research project findings through public talks, and participate in QUB showcase events.