



# QUEEN'S UNIVERSITY BELFAST

<b>*Title of studentship</b>	Biodegradable polymeric implants for sustained intraocular drug delivery
<b>Value / what is covered?</b>	Self-funding
<b>Awarding body</b>	Self-funding
<b>Number of studentships</b>	1
<b>*Summary descriptive text / Example of research project</b>	<p>Retinal diseases that originate at the back of the eye, such as Age-related Macular Degeneration (AMD) and Diabetic Macular Edema (DME), represent the leading causes of vision loss in the Western world. Unlike diseases of the front of the eye, where drugs can be delivered in eye drops and other conventional ophthalmic formulations, retinal diseases require a more site-specific approach. Despite the emergence of new drugs for treating retinal diseases, current standard of care requires direct injection of drugs into the vitreous, or back of the eye. Because of the relatively short intraocular half-life of these drugs, these injections must be repeated every 4 to 6 weeks. This method is invasive and uncomfortable and can lead to injection-related infections, require frequent hospital visits, high drug dosage related toxicities, and higher costs. For example, the cost of each vial of Lucentis®, a commonly used biological, is around £740 per injection. Therefore, this project aims to develop a novel biodegradable intraocular controlled release implant to improve ocular drug delivery.</p> <p>This research project involves preparation of biodegradable implants with encapsulated drugs, evaluation of the implants for physico-chemical and mechanical properties, investigation of biodegradation kinetics of the implant, developing <i>in vitro</i> models for testing implants performance, conducting drug distribution studies and evaluating <i>ex vivo/in vivo</i> performance of the implants in suitable animal models.</p>
<b>*Supervisor(s )</b>	Dr Thakur R R Singh; Prof David Jones
<b>*Eligibility / residence Status</b>	UK/EU or non-EU
<b>Country</b>	Northern Ireland
<b>*Start date and duration</b>	1 October 2018
<b>*Faculty</b>	MHLS
<b>*Research centre / School</b>	Pharmacy
<b>Subject area</b>	Pharmacy, Pharmaceutical Sciences, or Polymer science

<b>Candidate requirements / Key skills required for the post</b>	Applicants should have a 1st or 2.1 honours degree (or equivalent) in a relevant subject. Relevant subjects include Pharmacy, Pharmaceutical Sciences, polymer science, 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
<b>*Deadline for applications</b>	31 January 2018
<b>*How to apply / contacts</b>	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.  <a href="https://dap.qub.ac.uk/portal/user/u_login.php">https://dap.qub.ac.uk/portal/user/u_login.php</a>
<b>Relevant links / more information</b>	<a href="http://www.qub.ac.uk/schools/SchoolofPharmacy/Research/PostgraduatePositions/">http://www.qub.ac.uk/schools/SchoolofPharmacy/Research/PostgraduatePositions/</a>  <a href="http://www.qub.ac.uk/schools/SchoolofPharmacy/Research/">http://www.qub.ac.uk/schools/SchoolofPharmacy/Research/</a>
<b>Keywords for search filters</b>	Ocular drug delivery, drug deliver, polymer implants, biologics, protein delivery
<b>Training provided through the research project</b>	
<b>Expected impact activities</b>	