



School of Pharmacy PhD Projects 2014

Project Title	Development of novel engineered bioactive multilayered polymeric strategies designed for the prevention of medical device related infection
Supervisors	Prof. David Jones, Dr. Brendan Gilmore & Dr. Gavin Andrews
Description	<p>Medical device related infection is a major problem associated with medical devices, resulting in increased patient morbidity and mortality. At QUB strategies have been examined to address this problem involving the development of devices that release a bioactive (antimicrobial) agent directly to the microbial biofilm. Ideally, the release of bioactive agent should be engineered to ensure that a microbicidal concentration of bioactive agent is present at the interface between the surface of the medical device and the biological fluid. However, the release kinetics of currently available systems are sub-optimal, resulting in limited biological performance. Our research group has examined the use of multilayered platforms to offer greater control of drug release. Using this technology, the release of antimicrobial agents (through the series of layers) may be engineered to match the clinical demands and offer greater protection to medical device related infection. Furthermore, such systems may be used to release combinations of therapeutic agents. This research program will further develop these concepts and, in so doing, acquire a greater understanding of their physicochemical and biological properties and their potential clinical usefulness.</p> <p>This project will give extensive experience in materials science, formulation, drug delivery and microbiology as part of an internationally-funded research team.</p>
Start Date	1 October 2014
Keywords	Biomaterials, medical device related infection, drug release

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How to Apply

Postgraduate applications should be made using Queen's Online:

<http://go.qub.ac.uk/pgapply>

Please note that there are two application processes: one for admission to the university and another for postgraduate awards.

Further Information

Additional information for prospective postgraduate students can be found on the School of Pharmacy website:

<http://www.qub.ac.uk/pha>

and the Queen's Postgraduate website:

<http://www.qub.ac.uk/home/ProspectiveStudents/PostgraduateStudents/>