



School of Pharmacy PhD Projects 2014

Project Title	Profiling the proteolytic events involved in foreign body giant cell formation and the foreign body response to biomaterials.
Supervisors	Dr Louise Carson and Dr Brendan Gilmore
Description	<p>In recent years, the use of implantable devices and biomaterials has become ubiquitous in modern medicine. Devices such as heart valves, cardiac pacemakers and prostheses have improved patient outcomes and saved lives. However, there are complications in the use of such medical devices. Once implanted into the body, a foreign body response (FBR) is initiated. The FBR includes the formation of multinucleated foreign body giant cells (FBGCs) on the implant surface, and the formation of a fibrous capsule surrounding the implant.</p> <p>Several proteinases have been implicated to play a role in FBGC formation, particularly matrix metalloproteinases (MMPs).</p> <p>This project seeks to further investigate proteolytic activity during FBGC formation, including the role of these proteinases as signalling molecules. This will lead to the development of proteinase inhibitors designed to alleviate the FBR.</p> <p>The student will gain extensive experience of cell culture, enzymology, peptide synthesis, and a wide range of analytical techniques.</p>
Start Date	1 October 2014
Keywords	Biomaterial, Foreign Body Response, Foreign Body Giant Cell, Proteinase, Inhibitor

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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/>