



School of Pharmacy PhD Projects 2013

- Project Title** Prevention of Hospital Acquired Infection by Control of Chronic Biofilm using Atmospheric Pressure, Non-Thermal (Cold) Plasma
- Supervisors** Dr Brendan Gilmore, Prof Sean Gorman (Pharmacy) and Prof Bill Graham (Centre for Plasma Physics)
- Description** Plasma medicine is an emerging field, gaining an ever increasing interest by researchers from a wide range of disciplines, in the last decade. Plasma medicine involves the utilisation of gas plasma, especially atmospheric non-thermal (cold) plasma (APNTP), in a variety of medical applications in addition to surface decontamination and sterilisation. APNTP has been proven to be an effective antimicrobial approach against bacteria in both planktonic and biofilm modes of growth. Sophisticated, systematic studies are urgently required for translation from bench to clinical applications. This research *project aim* is to develop and evaluate a portable, APNTP jet as a tool for surface decontamination of viable tissues, i.e. skin infections esp. infected chronic wounds, control of biofilms in medical device infections/inanimate surfaces and antiviral activity.
- This exciting, multidisciplinary project will allow the student to develop skills in microbiology, plasma physics, chemical analysis and in vitro and in vivo biofilm models. In addition to development of laboratory-based skills, the student will have the opportunity to develop skills in research methodology, statistical analysis, as well as written and verbal presentation skills.
- Start Date** October 2013
- Keywords** Bacteria, Biofilm, non-thermal plasma, bactericidal

Contact Details

pharmacypostgrad@qub.ac.uk

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/>