**WEBSITE TEMPLATE**

**1. RESEARCH THEME/s; PRP; GI:**

Infection and Antimicrobial Resistance (Novel antimicrobials and anti-infective biomaterials); Drug Delivery and Biomaterials (Polymeric Medical Devices and Photoactive Biomaterials)

**2. PI DETAILS (Name, Pure Link, Twitter Handle & Photo)**

**Name:** Dr. Matthew Wylie

**Pure Link:** https://pure.qub.ac.uk/en/persons/matthew-wylie

**Twitter Handle:** @mwylie89

**Photo: A person wearing a lab coat

Description automatically generated with low confidence**

**3. Research focus (80 words max)**Dr Wylie’s research is focused on the development of infection-resistant materials and surface modification strategies, and sensor technologies for the prevention of medical device-related infections and improved healthcare infection control. In addition we develop stimuli-responsive drug delivery systems, for delivery of antimicrobials, using hydrogels and ionomers. The group is also involved in the design of enhanced medical device coatings for improved comfort and quality of life for ostomates and intermittent catheter users.

**4. Research opportunities** 40 words max  
  
Open to PhD applications in the field of:

* Design, synthesis and characterisation of biomaterials and device coatings
* Bacterial-polymer surface interactions
* Polymer/metallic surface modification strategies for anti-fouling applications
* Next-generation surface disinfectants

**5. Research students**

Currently I am part of the supervisory team for 13 PhD students from the UK, Ireland, Jordan, Saudi Arabia, and China. Examples of these projects include:

Name: Jasmine Ross  
PhD title: Biomaterial coatings with lubricious, slippery coatings for improved urinary catheter performance  
Years of Study: 2022-2025  
Country: Northern Ireland

Name: Jingyi Xu  
PhD title: Self-triggered ionogels for biomedical applications

Years of Study: 2021-2024  
Country: China

Name: Mohammad Rabee  
PhD title: Triggered drug delivery systems for targeted therapy  
Years of Study: 2020-2023  
Country: Jordan

Name: Tiancheng Luo  
PhD title: Development of anti-infective polymer coatings for medical device applications  
Years of Study: 2020-2023  
Country: China

Name: Jia Li  
PhD title: Multi-Mode Responsive Biomaterials Resistant to Infection  
Years of Study: 2019-2022  
Country: China

**6. Alumni - where are they now? (3 Max)**

Name: Sijin Li

PhD title: Infection-Responsive Biomaterials Capable of Triggered Self-Cleaning

Years of Study: 2018-2021  
Country: China  
Current position: Lecturer (Education), China Queen’s College

**7. Public Outreach/ other achievements** (media links; DNA innovation links etc; other press)

The research is strongly linked to industrial collaborations built upon Dr. Wylie’s participation in Innovate UK’s ICURe commercialization programme which has led to several prototype materials for infection control: https://doi.org/10.1016/j.jphotobiol.2020.112098

Our work has recently received funding from the HEA’s Shared Island Initiative: <https://www.sfi.ie/research-news/news/protection-medical-device/> and https://www.healthestatejournal.com/story/39237/taking-preventative-science-to-a-new-level

**8. Key words**

Biomaterials; stimuli-responsive drug delivery; surface modification; infection control