

Candidate Information

Position: Research Fellow
School/Department: School of Pharmacy
Reference: 26/113556
Closing Date: Monday 24 August 2026
Salary: £42,972 - £44,253 per annum
Anticipated Interview Date: Wednesday 2 September 2026
Duration: 10 months

JOB PURPOSE:

To be an active member of an exciting industry-academia collaborative research programme/team assisting in the development of novel antimicrobial formulations for infection control based on hypochlorous acid or plasma activated liquids (PAL), so that the overall research objectives of the project are met. This project involves close collaboration a growing company in the antimicrobial and infection control space, which offers exceptional opportunities to meet industrial clients and participate in knowledge transfer activities. The successful candidate, will be based at the School of Pharmacy, QUB, and will be responsible for assay development, screening, analysis and characterisation of novel formulations, developing bacterial - fungal mixed species biofilm assays for antimicrobial susceptibility analysis, and contributing to the day-to-day activities of the research group and research consortium.

The post holder will be based in the School of Pharmacy and will work under the supervision of Prof Brendan Gilmore (School of Pharmacy).

MAJOR DUTIES:

1. Develop novel liquid and semi-solid formulations based on hypochlorous acid or plasma activated liquid.
2. Optimise antimicrobial activity of novel formulations against mixed species/cross-kingdom biofilms (bacteria and fungi relevant to human health).
3. Optimise cold plasma operating parameters to ensure optimal antimicrobial activity and production at scale.
4. Design, develop and refine experimental procedures and analytical methods in order to obtain reliable data.
5. Ensure that all samples, isolates, and data files are properly and consistently generated, labelled, handled, and stored.
6. Contribute to the development of the documentation relevant to the project (formulation deployment plans, testing and monitoring plans, data validation arrangements).
7. Work in accordance with the agreed work plan and ensure timely and successful attainment of the previously set milestones in accordance with the project's Gantt chart.
8. Prepare and present regular progress reports both internally (to the project management team) and externally (to NHS and other key stakeholders).
9. Prepare and publish research findings in peer-reviewed journals and contribute to the development of competitive research funding applications.
10. Carry out routine administrative tasks associated with the research project/s to ensure that
11. Project/s are completed on time and within budget. These might include organisation of project
12. Meetings and documentation, financial control, risk assessment of research activities.
13. Other duties which fall within the general ambit of the post.

ESSENTIAL CRITERIA:

1. Hold or be about to obtain a PhD in Pharmaceutical Microbiology, or a closely relevant subject.

2. Significant, recent relevant research experience to include:
 - Microbiological techniques, including hands-on expertise in conventional microbiological methods, biofilm models (mixed kingdom or species especially *S. aureus* and *Candida* sp.).
 - Experience to antimicrobial formulation /drug delivery system development, and experience of using/optimising cold plasma systems (to include plasma activated liquids) for antimicrobial activity against biofilms alone and in synergy with antibiotics.
 - Recent experience in the development of antimicrobial liposomal formulations for biofilm control and/or antimicrobial activity.
 - Significant experience working with controlled microbial systems (biofilm models) for antimicrobial susceptibility testing.
 - Clearly demonstrable experience of robust data and resource management and accurate record keeping.
3. A publication record commensurate with experience in the field of microbiology, plasma medicine or antimicrobial drug delivery OR Evidence of publication in quality peer reviewed journals, appropriate to career stage.
4. Demonstrated ability to coordinate research activities across multiple sites and teams, including experience working collaboratively with multiple collaborators such as academic departments or industry partners.
5. Good sample and data management skills.
6. Ability to communicate complex information clearly both verbally and present written and scientific arguments and data in a clear, concise and confident manner.
7. Excellent time management and organisational skills.
8. Due to the nature of this research project, irregular hours including evening, weekend and other out-of-hours working might be a component of the work at times to meet deadlines and achieve the project milestones as required.

DESIRABLE CRITERIA:

1. BSc in microbiology, or a relevant subject.
2. Experienced in maintaining aerobic bacterial and fungal cultures.
3. Experience using microscopy to analyse biofilm susceptibility.
4. Previous experience of designing, planning, and delivery of teaching and/or demonstrating of complex techniques/methods (microbiology, antimicrobial susceptibility testing, biofilm modelling systems, and genomic data analysis).
5. Demonstrated experience in the supervision and design of undergraduate and MSc-level research projects.
6. Previous experience of team management/supervision.
7. Previous experience working on a research project with tight deadlines.
8. Experience of training research staff and/or technical staff in experimental or computational techniques.
9. Hold a valid driving licence for environmental sample collection or ability to fulfil the mobility requirements of the post.