Candidate Information

Position:	Research Fellow in Therapeutic Peptide Formulation for Veterinary Applications
School/Department:	School of Biological Sciences
Reference:	26/113546
Closing Date:	Monday 24 August 2026
Salary:	Starting salary £42,972 per annum
Anticipated Interview Date:	Thursday 10 September 2026
Duration:	Fixed Term - Full Time; Available for approximately 9 months

Job Purpose:

The School of Biological Sciences and Institute for Global Food Security at Queen's University Belfast is currently seeking to appoint an exceptional candidate to the post of Research Fellow. The appointee will join the AMR & One Health Lab and the Huws Group, two interdisciplinary groups working in the disciplines of Microbiology, Antimicrobial Chemotherapy and Translational Veterinary Therapeutics. Animal Science, and Bioinformatics.

The successful candidate will primarily work within a multidisciplinary team undertaking research focused on the formulation and pre-clinical preparation of novel Antimicrobial Peptides (AMPs) for the treatment of bovine mastitis, as part of a BBSRC Follow on Fund project, PUREMILK. The post holder will support the development, optimisation, quality control, and preparation of intramammary AMP formulations (IAFs), for pre-clinical and clinical mastitis studies, ensuring all preparations are characterised and meet the standard required for transfer to project partners.

The post holder will work closely with the project leads at Queen's University Belfast, and with project partners at the Moredun Research Institute and RAFT Solutions, to ensure that AMP formulations are prepared, tested, documented and made ready for onward evaluation in bovine mastitis models and partner led studies. This will include work on formulation preparation, sterility assessment, stability testing, rheological profiling, physicochemical characterisation, compatibility testing and preparation of formulation related data for reports, publications, intellectual property protection, regulatory engagement and future commercial development. In general, the postholder will be an active member of the research project/team assisting in the planning and delivery of research activity within a BBSRC Funded Follow on fund, with organization and excellent communication skills being essential.

Priority will be given to candidates with research interests and expertise in pharmaceutical or biochemical formulation science, with demonstrable experience of peptide or antimicrobial compound development, antimicrobial formulation, pharmaceutical microbiology, peptide therapeutics, drug delivery or related areas.

Concomitant to these scientific requirements the post holder must also contribute to commercial milestones including 1) raising the profile of the research through engagement with farmers and fellow scientists, 2) contributing to freedom-to-operate checks, 3) supporting preparation of data for patent filing and submission to the Veterinary Medicines Directorate, and 4) aiding initial discussions with companies regarding potential licensing. This post holder will be pivotal to the translation pipeline, ensuring that AMP formulations are fit for purpose for regulatory and partner testing, underpinning the sustainability of the dairy industry under the BBSRC strategic priority of ensuring healthy animals and humans within sustainable agriculture and food systems.

Major Duties:

To undertake formulation focused research under line management of the principal investigator and co-investigator within the specific research project.

To prepare and optimise intramammary antimicrobial peptide formulations for use in bovine mastitis research, alongside the ability to make logical decisions and problem solve effectively.

To develop, test and document formulation approaches that support stability, sterility, handling, delivery and suitability for use in partner led mastitis studies.

To carry out sterility testing, microbial enumeration, physicochemical characterisation and stability assessment of AMP formulations under relevant storage and handling conditions.

To assess formulation properties such as viscosity, rheological behaviour, spreadability, physical stability and compatibility with intramammary delivery requirements.

To support HPLC based and related analytical approaches to assess peptide stability, formulation integrity and AMP compatibility where required.
To prepare formulation batches for onward testing by project partners, ensuring appropriate quality control, labelling, documentation, storage and transfer procedures.
To maintain accurate laboratory records, formulation logs, batch records, risk assessments, standard operating procedures and project documentation.
To communicate effectively with the line manager, project team and external partners regarding formulation development, testing progress, troubleshooting and delivery timelines.
To contribute to the interpretation of formulation, stability, sterility and analytical data using appropriate methodologies.
Design, develop and refine experimental methodologies in order to obtain reliable data.
Carry out statistical analyses, critical evaluations, and interpretations using methodologies and other techniques appropriate to area of research.
Communicate orally and through e-mail effectively to line manager and other partners involved in the project.
Present regular progress reports on research to members of the research group or to external audiences to disseminate and publicise research findings.
Prepare, in consultation with supervisor, material for publication in national and international journals and presentations at international conferences.
Carry out routine administrative tasks associated with the research project/s to ensure that project/s are completed on time and within budget. These might include organisation of project meetings and documentation, financial control, risk assessment of research activities.
Carry out occasional undergraduate supervision, demonstrating or lecturing duties within the post holder's area of expertise and under the direct guidance of a member of academic staff.
Read academic papers, journals and textbooks to keep abreast of developments in own specialism and related disciplines.
Assist grant holder in the preparation of funding proposals and applications to external bodies.
Aid effective team working within the group led by the principal investigator.

Essential Criteria:

1. Hold or is about to be awarded a PhD in a relevant area (preferably pharmaceutical science, formulation science, antimicrobial therapeutics, microbiology or at minimum have strong aspects of microbiology within).
2. At least 3 years research experience to include:
• Experience of antimicrobial or pharmaceutical formulation development and quality control.
• Demonstrable laboratory experience relevant to microbiology and formulation science, specifically peptide handling, sterile formulation preparation, and physicochemical characterisation.
• Experience of using analytical tools and software relevant to formulation science, such as HPLC data analysis, spectroscopy, or particle sizing software.
3. Experience of designing, developing or refining experimental methodologies to generate reliable and reproducible data.
4. Ability to maintain detailed and accurate laboratory records, formulation records and experimental documentation and ability to assess and organise resources.
5. Some experience of data analysis, critical evaluation and interpretation using methods appropriate to the area of research.
6. Some experience of peer-reviewed publication in a relevant area of research.
7. Some experience of supervising undergraduates and/or postgraduate students.
8. Ability to contribute to broader management and administrative processes.
9. Methodical approach to project management and meticulous in regard to experimental procedures and record keeping.
10. Experience of presenting to the scientific community i.e. conference talks.
11. Sufficient breadth and depth of specialist knowledge in the discipline and of research methods and techniques to work within established research programmes.
12. Ability to communicate complex information clearly.
13. Demonstrable intellectual ability.
14. Experience of working in a team.
15. Irregular hours including evening, weekend and other out-of-hours work may be a component of the research at times.
16. Must be willing to travel to national and international meetings and collaborative laboratories as required on an ad-hoc basis.

Desirable Criteria:

1. Experience of pre-clinical development and optimisation of antimicrobials, including intramammary or veterinary formulations.

2. Experience in in vivo animal trials especially in dairy cattle.
3. Experience in the use of HPLC and immunological assay techniques and analysis of data obtained.
4. Experience of peptide rheological testing, viscosity assessment, spreadability testing or physicochemical characterisation of formulations, purification, sterility, or analytical chemistry relevant to therapeutic development.
5. Experience preparing materials for pre-clinical studies, partner transfer, regulatory documentation or commercial development.
6. Peer reviewed publications or preprints in the area of AMR, antimicrobial peptides, or formulation science.
7. Evidence of having presented at conferences (poster and/or oral presentations).