



## Candidate Information

<b>Position:</b>	Research Assistant (Part-time - 0.6 FTE)
<b>School/Department:</b>	School of Biological Sciences
<b>Reference:</b>	23/110789
<b>Closing Date:</b>	Monday 17 April 2023
<b>Salary:</b>	£30,619 per annum, pro rata.
<b>Anticipated Interview Date:</b>	Wednesday 26 April & Tuesday 2 May 2023
<b>Duration:</b>	Fixed Term 18 months, or available until 30/09/2024, whichever is sooner

### 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 Assistant. The appointee will join the AMR & One Health Lab and the Huws group, two interdisciplinary groups working in the disciplines of Microbiology, Animal Science, and Bioinformatics.

The successful candidate will primarily work within a multidisciplinary team undertaking research focused on combatting antimicrobial resistance in bovine mastitis through alternative non-antibiotic strategies, as part of a BBSRC Canada iPAP funded project. The post holder will work with project partners at the University of Calgary and with our industrial Partner RAFT Solutions to formulate novel antibiotic-free intramammary antimicrobial peptide (AMP) formulations (IAFs), evaluate their efficacy in the treatment of bovine mastitis and assess the subsequent effect of IAFs on antimicrobial resistance (AMR) burden in milk samples. They will also provide additional assistance in project work, developing a core outcome set related to characterising the natural populations and resistomes of milk microbiomes. 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 UK-Canada International Partnering Award Plus Scheme. Priority will be given to candidates with research interests and expertise in microbiology, bioactive compound formulation and testing methodologies, with some bioinformatic experience.

### MAJOR DUTIES:

1. To undertake research under supervision of the principal investigator and co-investigator within the specific research project.
2. Aid development and understanding of IAF efficacy in bovine intramammary trial for patent development, data publication and future grant applications. This requires the ability to make logical decisions and be able to problem solve effectively.
3. Design, develop and refine experimental methodologies in order to obtain reliable data.
4. Carry out statistical analyses, critical evaluations, and interpretations using methodologies and other techniques appropriate to area of research.
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6. Communicate orally and through e-mail effectively to line manager and other partners involved in the project.
7. Present regular progress reports on research to members of the research group or to external audiences to disseminate and publicise research findings.
8. Prepare, in consultation with supervisor, material for publication in national and international journals and presentations at international conferences.
9. 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.
10. 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.
11. Read academic papers, journals and textbooks to keep abreast of developments in own specialism and related disciplines.

12. Prepare, in consultation with supervisors, material for publication in national and international journals and presentations at international conferences.
13. Assist grant holder in the preparation of funding proposals and applications to external bodies.
14. Aid effective team working within the group led by the principal investigator.

**ESSENTIAL CRITERIA:**

1. Hold a Degree or equivalent in a relevant area (biological sciences, microbiology, animal science veterinary science).
2. At least 1 years research experience to include:
  - Experience of antimicrobial development and efficacy testing against pathogens.
  - Experience in antimicrobial resistance surveillance and quantification research.
  - Demonstrable computational or laboratory experience relevant to microbiology, specifically 16S rDNA microbiome analysis.
  - Experience of using programming skills in appropriate languages and software e.g. R.
3. Some experience of peer-reviewed publication in a relevant area of research.
4. Some experience of supervising undergraduates and/or postgraduate students.
5. Experience of presenting to the scientific community i.e. conference talks.
6. Ability to contribute to broader management and administrative processes.
7. Sufficient breadth and depth of specialist knowledge in the discipline and of research methods and techniques to work within established research programmes.
8. Methodical approach to project management and meticulous in regard to experimental procedures and record keeping.
9. Ability to communicate complex information clearly.
10. Demonstrable intellectual ability.
11. Ability to assess and organise resources.
12. Experience of working in a team.
13. Good problem solving skills.
14. Irregular hours including evening, weekend and other out-of-hours work may be a component of the research at times.
15. 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 antimicrobial peptide 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 in the analysis of high-throughput DNA sequencing data for the purpose of identifying microbiome changes post treatment with antimicrobial compounds.
5. Knowledge of best practice laboratory techniques for high-throughput antimicrobial screening (e.g., calculating kill activity and toxicity and other antimicrobial properties of novel compounds) and validating peptide chemistry (e.g., via mass spectrometry).
6. Peer reviewed publications or preprints in the area of AMR or livestock microbiome research.
7. Evidence of having presented at conferences (poster and/or oral presentations).