

## Candidate Information

**Position:** Research Fellow in Bioanalytical Chemistry  
**School/Department:** Biological Sciences  
**Reference:** 22/110377  
**Closing Date:** Monday 28 November 2022  
**Salary:** £35,333 - £42,155 per annum  
**Anticipated Interview Date:** Wednesday 14 December 2022  
**Duration:** Available until 31 March 2024

### JOB PURPOSE:

To be an active member of a cross-Faculty research team monitoring pathogen levels and antimicrobial resistance within selected wastewater treatment plants and nursing home sites across Northern Ireland. The project will involve development of targeted and untargeted mass spectrometry methods using both liquid chromatography mass spectrometry and direct analysis methods for antibiotics and their residues. There will be broader work on the development of in situ tracer material to model pathogen spread within care homes.

### MAJOR DUTIES:

1. Undertake project-specific research activities such as development of study protocols, performing mass spectrometry method development, routine sample analysis, liaising with research partners, and interpretation of results.
2. Develop and plan an area of personal research and expertise, and/or undertake research under supervision within a specific research project or as a member of a research team.
3. Design, develop and refine experimental methodologies in order to obtain reliable data.
4. Carry out analyses, critical evaluations, and interpretations using methodologies and other techniques appropriate to area of research.
5. Present regular progress reports on research to members of the research group and project partners or to external audiences to disseminate and publicise research findings.
6. Prepare, in consultation with supervisors, material for publication in national and international journals and presentations at international conferences.
7. Assist in the preparation of funding proposals and applications to external bodies to sustain and enhance research activities.
8. 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, and risk assessment of research activities.
9. 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.
10. Read academic papers, journals and textbooks to keep abreast of developments in own specialism and related disciplines.

### ESSENTIAL CRITERIA:

1. Have or about to obtain a PhD in bioanalytical chemistry, mass spectrometry, or a related discipline.
2. At least 3 years recent relevant research experience in developing mass spectrometry methods and in conducting sample analysis.
3. Experience in the general maintenance and technical troubleshooting of mass spectrometry instruments.
4. Practical experience in processing, recording and handling data sets, and performing statistical analysis.
5. Experience of working with industry external collaborating organisations.
6. Experience of using data analysis languages such as R.
7. Ability to contribute to broader management and administrative processes.
8. Contribute to the School's outreach programme by links with industry, community groups etc.
9. Methodical approach to project management and meticulous in regard to experimental procedures and record keeping.

10. Sufficient breadth and depth of specialist knowledge in the discipline and of research methods and techniques to work within established research programmes.
11. Competent in giving effective and informative oral and poster presentations.
12. Ability to communicate complex information clearly.
13. Ability to build contacts and participate in internal and external networks.
14. Strong ability to work from own initiative and to work independently within the context of a research team.
15. Commitment to high quality research.
16. Demonstrable intellectual ability.
17. Ability to assess and organise resources.
18. Irregular hours including evening, weekend and other out-of-hours work may be a component of the research at times.
19. 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 conducting untargeted analysis.
2. Experience of conducting targeted analysis for antibiotics and their residues using mass spectrometry.
3. Experience of using direct analysis mass spectrometry techniques.
4. Experience of working safely with laser instruments used in mass spectrometry.
5. Evidence of having presented at conferences (poster and/or oral presentations).