

Candidate Information

Position:	Research Fellow
School/Department:	School of Pharmacy
Reference:	22/110550
Closing Date:	Monday 30 January 2023
Salary:	£35,333 - £36,386 per annum
Duration:	Fixed Term for 3 years

JOB PURPOSE:

To be an active member within the research group of Prof Gerd Wagner in the School of Pharmacy, Queen's University Belfast. The Research Fellow will develop drug-like small molecules that can serve as antimicrobial resistance breakers and diagnostic tools for multi-drug resistant infections. They will also contribute to the preparation of manuscripts and grant applications and have a senior role in the day-to-day running of the research laboratory, including the co-supervision of postgraduate and undergraduate students, and the implementation of appropriate health & safety protocols.

MAJOR DUTIES:

1. Identify chemical starting points for the development of targeted covalent inhibitors of a bacterial enzyme using fragment-based design.
2. Design synthetic routes to elaborate suitable fragments into inhibitor candidates.
3. Prepare inhibitor candidates by chemical synthesis, including characterization by relevant analytical techniques (e.g., NMR, mass spectrometry).
4. Evaluate fragments and inhibitors by protein mass spectrometry and in biological assays, including bacterial growth inhibition assays and, where appropriate, infection models.
5. Analyse, interpret and critically evaluate experimental data, including with relevant computational models.
6. Present regular research progress reports to members of the research group and disseminate and publicise research findings to external audiences.
7. Prepare, in consultation with the line manager, material for publication in high-impact journals and presentation at national/international conferences.
8. Assist the line manager in the preparation of funding proposals and applications to external bodies, including the identification of appropriate funding streams.
9. Play a senior role in the day-to-day running of the research laboratory, including the co-supervision of postgraduate and undergraduate students, the set up and maintenance of equipment, and the implementation of appropriate health & safety protocols.
10. Carry out routine administrative duties as requested, e.g. organisation of project meetings and documentation and risk assessment of research activities.
11. Read academic papers, journals and textbooks to keep abreast of developments.
12. Carry out any other duties designated by the line manager and which fall within the general ambit of the post.

ESSENTIAL CRITERIA:

1. 2:1 Honours Degree or equivalent in chemistry, chemical biology, biochemistry, pharmacy, or a related subject.
2. Have or about to obtain a PhD in chemistry, chemical biology, biochemistry, pharmacy, or a related subject.
3. At least 3 years' recent and relevant experience in laboratory-based chemistry / chemical biology research.
4. Experience in chemical synthesis of small molecules, including relevant analytical techniques (e.g., NMR, HPLC) and/or application of protein mass spectrometry for inhibitor discovery.
5. Evidence of publication(s) in journals and/or books commensurate with career stage.
6. Experience in research project supervision.

7. Good planning, organization, and execution skills.
8. Manage allotted tasks to completion and issuing of report.
9. Good knowledge of small molecule drug discovery.
10. Practical problem-solving skills and independence of thought.
11. Good technical writing and presentation skills.
12. Ability to communicate complex information clearly.
13. Ability to build contacts and participate in internal and external networks.
14. Ability to work as part of a team.
15. Ability to devise, advise on and manage research programmes.
16. Ability to prioritize and re-prioritize activities as needed to accomplish unanticipated requests or initiate new projects requiring immediate attention.
17. Ability to coordinate and motivate other team members.
18. Willingness to travel to partner laboratories for placements.

DESIRABLE CRITERIA:

1. 1st class Honours Degree in chemistry, chemical biology, biochemistry, pharmacy, or a related subject.
2. At least 1 years' experience in one or more of the following:
 - Computer-assisted methods for inhibitor development.
 - Application of cell- and/or protein-based bioassays.
 - Protein biochemistry and molecular biology (e.g., protein expression and purification, cloning).
 - Experimental microbiology (e.g., bacterial growth assays).
3. Experience of supervising PhD/MSc research projects.
4. Good knowledge of fragment-based drug discovery.
5. Good knowledge of bioassays.
6. Good knowledge of relevant topics in microbiology (e.g., AMR).