Candidate Information

Position:	Research Fellow
School/Department:	School of Pharmacy
Reference:	25/112680
Closing Date:	Monday 28 July 2025
Salary:	£39,922-£43,605 per annum
Anticipated Interview Date:	Monday 11 August 2025
Duration:	12 months

JOB PURPOSE:

To be an active member of the Biofunctional Nanomaterials group, led by Dr Garry Laverty, supporting the development of an enzyme-responsive peptide-like hydrogel for the sustained injectable delivery of antitubercular drugs. This post is available for 12 months.

MAJOR DUTIES:

1. Design, synthesise and characterise peptide-mimetic hydrogelator platforms suitable for the sustained parenteral delivery of antitubercular drugs. Such techniques will include solid and liquid-phase peptoid and peptide synthesis, drug conjugation to peptoid-peptides, purification, identification via spectroscopy (NMR, Mass spectroscopy), formulation, pharmaceutical and biological stability assays, oscillatory rheology, cell culture and in drug release (HPLC).
2. Manage the day-to-day activities of the research project including commercialisation and outreach activities.
3. Present regular progress reports on research to members of the research group or to external audiences to disseminate and publicise research findings.
4. In consultation with supervisor, write high quality research reports and manuscripts for journal publication and presentations at international conferences.
5. Assist supervisor in the preparation of funding proposals and applications to external bodies.
6. Carry out routine administrative tasks associated with the research project to ensure that the project is completed on time and within budget in line with funder's requirements. These might include organisation of project meetings and documentation, financial control, risk assessment of research activities, focus groups, consultancy and liaising with intellectual property development.
7. Read academic papers, journals and textbooks to keep abreast of developments in own specialism and related disciplines.
8. Supervising undergraduate research and laboratory projects, demonstrating and lecturing duties within the post holder's area of expertise and under the direct guidance of a member of academic staff.
9. Support academic staff's administrative duties.

ESSENTIAL CRITERIA:

1. Have or be about to obtain (evidence of submission or awaiting viva exam) a PhD in Chemistry, Chemical Engineering, Biochemistry, Pharmacy or closely related area.
2. Significant recent relevant practical research experience of peptide-mimetic synthesis (liquid and solid-phase synthesis of peptides, peptoids), advanced methods of drug conjugation to peptide, peptoids, proteins or similar molecules, purification and identification.
3. Experience in optimising the chemical synthesis of peptide-mimetics to provide at least gram-scale yield to high (>95%) purity.
4. Experience of spectroscopic (NMR, mass spectroscopy) methods relevant to peptide material characterisation.
5. Experience in drug purification and quantification by chromatography e.g. HPLC.
6. Ability to contribute to broader management and administrative processes.
7. Ability to contribute to administrative relevant to the research, teaching and University/School requirements.
8. Liaison with external collaborators and sponsors.

9. Sufficient breadth and depth of specialist knowledge in the discipline and of research methods and techniques to work within established research programmes.
10. Publication record commensurate with stage of career.
11. Experience of developing research methodologies and devising models, approaches, critiques and methods.
12. Ability to communicate complex information clearly in oral and written formats.
13. Ability to build contacts and participate in internal and external networks.
14. Demonstrable intellectual ability.
15. Ability to assess and organise resources.
16. Ability to supervise work of others in research team.
17. Highly motivated with skills in managing and motivating staff and students.
18. Practical problem-solving skills, independence of thought and initiative are required.
19. Due to the nature of the role, flexibility of working hours and international travel will be required.

DESIRABLE CRITERIA:

1. Experience in formulating peptide-mimetic hydrogel systems.
2. Experience in oscillatory rheology.
3. Experience in tissue/cell culture techniques.
4. Experience in pharmaceutical (ICH) stability and biological (protease) stability assays.
5. Experience in neutron scattering (SANS, QENS, DOSY).
6. Experience in in vivo drug delivery and safety studies and holding a current UK Home Office personal license.
7. At least one year experience of demonstrating and/or delivering lectures to undergraduate students.