

Candidate Information

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| Position: | Research Fellow in Biofunctional Nanomaterials group |
| School/Department: | Pharmacy |
| Reference: | 21/109118 |
| Closing Date: | Monday 20 September 2021 |
| Salary: | £34,304- £40,927 per annum |
| Anticipated Interview Date: | Monday 4 October 2021 |
| Duration: | Fixed term contract up to 30 June 2022 |

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-mimetic hydrogel for the sustained injectable delivery of antiretroviral and contraceptive drugs. This post is available to cover maternity leave.

MAJOR DUTIES:

1. Design, synthesise and characterise peptide-mimetic hydrogelator platforms suitable for the sustained parenteral delivery of antiretroviral and contraceptive drugs. Such techniques will include solid/liquid-phase peptoid synthesis and purification, formulation, microscopy (TEM, SEM), spectroscopy (FTIR, CD, UV/Vis, NMR, Mass spectroscopy), oscillatory rheology, cell culture and drug release (HPLC).
2. Manage the day-to-day activities of the research project.
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. These might include organisation of project meetings and documentation, financial control, risk assessment of research activities.
7. Read academic papers, journals and textbooks to keep abreast of developments in own specialism and related disciplines.
8. Design, develop and refine experimental apparatus, field research or experiments in order to obtain reliable data.
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.

Planning and Organising:

1. Follow and refine the project plan to meet the end goals.
2. Plan for the use of research resources, laboratories and workshops where appropriate.
3. Plan own day-to day activity within framework of the agreed research programme.
4. Plan in advance to meet deadlines for journal publications and to prepare presentations and papers for travelling to/attending national/international conferences.
5. Coordinate and liaise with other members of the research group over work progress.

Resource Management Responsibilities:

1. Ensure research resources are used in an effective and efficient manner.
2. Maintain a database of research spend on the project.
3. Maintain an up-to-date experimental laboratory relating to the project.
4. Ordering of resources, chemicals and materials for use in the project.
5. Provide guidance as required to support staff and any students who may be assisting with research.

Internal and External Relationships:

1. Liaise on a regular basis with colleagues and students.
2. Liaise on a regular basis with supervisors, sponsors and collaborators.
3. Build internal contacts and participate in internal networks for the exchange of information and to form relationships for future collaboration.
4. Join external networks to share information and ideas.
5. Contribute to the School's outreach programme by establishing links with local community groups, charities, industries etc.

ESSENTIAL CRITERIA:

1. Have or be about to obtain a PhD in Chemistry, Biochemistry, Chemical Engineering, Pharmaceutical Chemistry, Pharmacy, Pharmaceutical Sciences, Biomedical Sciences or closely related area.
2. At least 3 years recent relevant practical research experience of peptide-mimetic synthesis (peptides, peptoids, beta-peptides), advanced methods of drug conjugation, purification and identification.
3. Experience in formulating peptide-mimetic hydrogel systems.
4. Experience of microscopic (TEM, SEM) and spectroscopic (FTIR, CD, UV/Vis, NMR, mass spectroscopy) relevant to peptide material characterisation.
5. Experience in tissue/cell culture techniques.
6. Experience in drug purification and quantification by HPLC.
7. Publication record commensurate with stage of career.
8. Experience of developing research methodologies and devising models, approaches, critiques and methods.
9. Ability to communicate complex information effectively in oral and written format.
10. Ability to contribute to broader management and administrative processes.
11. Ability to contribute to administration relevant to the research. Liaison with external collaborators and sponsors.
12. Ability to supervise work of others in research team.
13. Highly motivated with skills in managing and motivating staff.
14. Practical problem-solving skills, independence of thought and initiative are required.
15. Due to the nature of the role, flexibility of working hours will be required.

DESIRABLE CRITERIA:

1. Experience in oscillatory rheology.
2. Experience in neutron scattering (SANS, QENS, DOSY).
3. Experience in in vivo drug delivery and safety studies and holding a current UK Home Office personal license.