Candidate Information

Position: Research Fellow
School/Department: School of Pharmacy
Reference: 26/113099
Closing Date: Monday 16 February 2026
Salary: £41,519 per annum
Anticipated Interview Date: Wednesday 18 March 2026
Duration: 12 months or until 31 March 2027, whichever is soonest

JOB PURPOSE:

Development of the pre-clinical data package relating to the translation of various novel radiosensitising nanoparticles. The successful applicant will work as part of a team seeking to commercialise our lead candidate formulation designed to increase the tumour killing effectiveness of radiotherapy, while minimising the risk of off-target damage to surrounding normal tissue. This project will involve the synthesis, physical characterisation and biological assessment of a series of derivatives of the existing candidate formulation. This multi-disciplinary project spans the fields of pharmaceutical engineering, radiobiology and cancer biology, with the successful candidate responsible for assessing in vitro and in vivo biological efficacy.

MAJOR DUTIES:

1. Develop and execute research plans to strengthen the breadth and depth of the data package relating to our nanoparticle formualtions.
2. To evaluate biocompatibility of lead candidate derivates.
3. Undertake 2 and 3-dimentional cell-based assays assessing nanoparticle internalisation and radio sensitisation efficacy.
4. Use quantitative analytical techniques to establish precise composition of functional ligands.
5. Investigate the potential of continual flow technologies to robustly manufacture candidate formulations and/or derivatives.
6. Present regular progress reports to the Coulter research group and the project development board.
7. Undertake supplementary duties relevant to the success of the project including administrative duties and additional training and development activities as required.

ESSENTIAL CRITERIA:

1. Have or about to obtain a PhD in cancer biology, cell biology, radiation biology, pharmaceutical sciences or biomedical sciences.
2. Hold a valid UK Home Office Personal Animal License for mice and rats.
3. Experience of planning and executing in vivo studies including PK/PD and tumour growth delay models.
4. Three years relevant experience in mammalian cell culture assays. Techniques could include: MTT/Alamar Blue, clonogenic assays, DNA damage assays, micronuclei detection assays. This is not an exhaustive list.
5. Experienced in high-quality microscopy and molecular techniques (e.g. immunofluorescence, flow cytometry, RT-PCR, western blot, not exclusive).
6. Relevant experience of synthesising and characterising physical properties of nanoparticle formulations.
7. Experience of assessing in vitro biocompatibility and efficacy.
8. Self-drive and initiative to problem solve when research requires knowledge outside of current skill set.
9. Experience of successfully working as part of a wider team
10. Evidence of publication in quality peer reviewed journals, appropriate to career stage.
11. Demonstrable experience of student supervision. Willingness to assist early-stage researchers to establish core technical competence.
12. Ability to carry out routine administrative tasks associated with the research projects and laboratory maintenance.
13. Practical problem-solving skills, and independence of thought.
14. Ability to communicate effectively, both verbally and in writing.

15. Proven ability to present scientific arguments and data in a clear, concise and confident manner.
16. Demonstrable experience in presenting regular progress reports on research to members of the research group or to external audiences to disseminate and publicise research findings
17. Composed and conscientious scientist, able to work in a disciplined manner within a team environment.

DESIRABLE CRITERIA:

1. PhD with a focus on either radiation biology and/or nanomedicine, To include PIL C.
2. Experience of flow cytometry multiplex panel design and analysis for immune profiling.
3. Experience of 3-dimensional cell culture assays – organoids/spheroids.
4. Experience of assisting in preparation of articles, patent submissions, funding applications.
5. Experience in supervision of postgraduate students.
6. Evidence of independent assay development.

ADDITIONAL INFORMATION:

Informal Enquiries to Niall Byrne - n.byrne@qub.ac.uk