



Candidate Information

Position:	Research Fellow
School/Department:	Patrick G Johnston Centre for Cancer Research
Reference:	23/110949
Closing Date:	Monday 19 June 2023
Salary:	£36,333 per annum
Anticipated Interview Date:	Thursday 6 July 2023
Duration:	Fixed term - available immediately until 31 May 2024

JOB PURPOSE:

A Research Fellow position within a CRUK funded program, led by Dr Emma Kerr, to define metabolic mechanisms of resistance to colorectal cancer therapies. Utilising in vitro and in vivo colorectal model systems and state-of-the-art LC-MS metabolic techniques, the successful applicant will work to define metabolic signatures that predict response to 5-fluorouracil based therapy, define mechanisms of resistance, and identify novel targets to improve therapeutic response.

Specifically, this project will focus on transplantation of metastatic colorectal organoid models via colonoscopy-guided protocols, and LC-MS metabolomics analysis of samples generated.

MAJOR DUTIES:

1. To design, develop and execute studies related to the project under the supervision of Dr Emma Kerr in order to obtain reliable data, then evaluate and interpret the results using methodologies and techniques appropriate to the area of the research.
2. Generate and maintain in vitro and in vivo colorectal cancer models, specifically from genetically engineered mouse models of cancer.
3. Develop and refine LC-MS methodologies for metabolomics analysis in vivo
4. To regularly present results to the research group as part of routine peer review.
5. Initiate and maintain collaborative links with project partners.
6. To write up results in a timely manner and take a leadership role in writing research manuscripts.
7. To present regular progress reports on research to members of the research group and to external audiences to disseminate and publicise research findings.
8. To formulate, write and submit grants for fellowship awards, project and travel support.
9. To attend and present new experimental data at national and international meetings.
10. Assist grant holder in the preparation of funding proposals and applications to external bodies.
11. May be required to carry out undergraduate supervision within the post holder's area of expertise and under the guidance of a member of academic staff.
12. Assist with the supervision of postgraduate students or summer students on mini-projects, which will help develop their own supervisory skills.
13. 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, risk assessment of research activities.
14. Read academic papers, journals and textbooks to keep abreast of developments in own specialism and related disciplines.
15. Any other reasonable duties within the general ambit of the post.

ESSENTIAL CRITERIA:

1. Hold or about to hold a PhD in cancer biology, molecular biology or a related discipline.
2. Active Personal Licence holder (DoH or HO).
3. At least three years' relevant research experience.
4. Experienced in in vitro culture of 3D organoid models of cancer.

5. Demonstrable experience in GEMM colony management.
6. Demonstrable experience in colorectal transplant and GEMM models of cancer, specifically using colonoscopy-guided induction methodology.
7. Demonstrable experience in developing and refining LC-MS metabolomics platforms in different medias.
8. Publication record commensurate with experience.
9. Ability to contribute to broader management and administrative processes.
10. Contribute to the School's outreach programme by links with industry, patient advocacy groups etc.
11. Sufficient breadth and depth of specialist knowledge in the discipline and of research methods and techniques to work within established research programmes.
12. Ability to communicate complex information clearly.
13. Ability to build contacts and participate in internal and external networks.
14. Demonstrable intellectual ability.
15. Ability to assess and organise resources.
16. Team worker, highly motivated, supportive of junior colleagues within the group.
17. Interest in driving focussed research programme.
18. Must be willing to work irregular hours when necessary for the progress of the research project.
19. Must be willing to work with in vivo models of cancer following the guidelines of the Animals (Scientific Procedures) Act 1986.
20. Must be prepared to travel for technical training as appropriate to collaborators within the UK.

DESIRABLE CRITERIA:

1. 1st Class undergraduate degree in biochemistry, or related discipline.
2. Scientific memberships eg. AACR, EACR.
3. Experience in metabolic analysis techniques e.g. Seahorse.
4. Experience in using bioinformatic analysis platforms.
5. Experience in in vivo imaging systems such as Bruker.
6. Evidence of involvement in successful programmes and grant applications.
7. Presentations at national/international meetings.