

Candidate Information

Position:	Research Fellow in Cardiac Organoids
School/Department:	Wellcome-Wolfson Inst for Experimental Medicine
Reference:	20/108464
Closing Date:	Monday 7 December 2020
Salary:	£33,797 per annum.
Anticipated Interview Date:	Tuesday 15 December 2020
Duration:	Available until 31 December 2023

JOB PURPOSE:

To join Prof Andriana Margariti's Stem Cell and Regenerative Medicine in vascular diseases research team within the Wellcome-Wolfson Institute for Experimental Medicine, in QUB. The successful candidate will work on a US/Ireland R&D Partnership-funded project based on the development of the next generation cardiac organoid systems using the remarkable technology of induced pluripotent stem cells. This project is employing cutting edge technologies of cell reprogramming and cell differentiation. Complex in vitro and in vivo models will be used to develop the next-generation cardiac organoid systems that enable clinical therapies for heart disease. Importantly, this post will stimulate an innovation ecosystem network among Ireland, UK, and USA in cardiac patch and organoid systems to address global healthcare challenges.

This is a post funded by Northern Ireland – Public Health Agency, the Department of Agriculture, Environment and Rural Affairs and the Department.

MAJOR DUTIES:

1. Undertake research under supervision within the research project.
2. Design, develop and refine experimental protocols in order to obtain reliable data, specifically in relation to culture of stem cells.
3. Carry out analyses, critical evaluations, and interpretations using methodologies and other techniques appropriate to area of research.
4. Present regular progress reports on research to members of the research group, Centre or to external audiences to disseminate and publicise research findings.
5. Prepare, often in consultation with supervisor, material for publication in national and international journals and presentations at international conferences.
6. Assist grant holder in the preparation of funding proposals and applications to external bodies.
7. Perform all formal requirements associated with safety and good working practice in the research laboratory. Complete risk assessments for all the research activities undertaken.
8. Carry out routine administrative tasks associated with the research project to ensure that goals are completed on time and within budget.
9. Carry out occasional undergraduate supervision or demonstrating within the post holder's area of expertise and under the direct guidance of a member of academic staff.
10. Read academic papers, journals and textbooks to keep abreast of developments in own specialism and related disciplines.
11. Travel and receive training from our partners in USA and Ireland.

Planning and Organising:

1. Plan for specific aspects of research programmes. Timescales range from 1-6 months in advance and contribute to research group planning.
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 up to a year in advance to meet deadlines for journal publications and to prepare presentations and papers for 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. 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 supervisor, colleagues, students and collaborators.
2. Communicate appropriately and effectively with lab colleagues topics such as latest research findings/results within the group and field.
3. Travel to, and present at scientific meetings and collaborators laboratories.
4. Join external networks to share information and ideas and help develop external collaborations, as appropriate.
5. Contribute to the School's outreach programme by establishing links with local community groups, industries etc.

ESSENTIAL CRITERIA:

1. Have or about to obtain a PhD in a biomedical field of laboratory-based research.
2. At least 3 years recent relevant research experience, to include:
 - Cell culture, including experience working with stem cells, vascular cells or organoids.
 - Standard molecular biology techniques (eg real time PCR, western blots, staining etc.).
3. Ability to supervise postgraduate/undergraduate students and visiting researchers in the laboratory.
4. Methodical approach to project management and meticulous in terms of experimental procedures and record keeping.
5. Sufficient breadth and depth of specialist knowledge in the discipline and of research methods and techniques to work within established research programmes.
6. Ability to communicate complex information clearly.
7. Ability to build contacts and participate in internal and external networks.
8. Demonstrable intellectual ability.
9. Strong ability to work independently from own initiative.
10. Excellent team working skills.
11. Ability to assess and organise resources.

DESIRABLE CRITERIA:

1. Hold a personal UK Home Office animal license.
2. Experience of the following:
 - Inducing iPS cells and differentiating them to various cell types, specifically vascular cells.
 - Experience with stem cells-derived Organoids.
 - Experience with blood vessels organoids.
 - Cloning.
 - Experience in in vivo animal models related to diabetes and cardiovascular diseases, such as coronary artery ligation model of experimental myocardial infarction (MI).
 - Experience working with RNA binding proteins and non-coding RNAs.
 - Bioinformatics, analysis of large gene expression (RNA-Seq) and single cell analysis datasets.
 - Genome editing (eg CRISPR Cas9).
 - Flow Cytometry experience.