

Candidate Information

Position:	Research Fellow
School/Department:	The Wellcome-Wolfson Institute for Experimental Medicine
Reference:	22/109928
Closing Date:	Wednesday 20 July 2022
Salary:	£34,304 - £36,382 per annum.
Anticipated Interview Date:	Thursday 4 August 2022
Duration:	Fixed Term 36 months or available until 31/08/2025

JOB PURPOSE:

To join the Diabetes and Vascular Stem Cell Biology research team led by Prof Reinhold Medina within the Wellcome-Wolfson Institute for Experimental Medicine to work on a research project investigating new therapies for macular degeneration. This study will employ pharmacogenomics as a new approach to identify new drugs for age-related macular degeneration. This drug discovery will be then followed by in vitro human cell models to test drug efficacy in reverting the senescent endothelial cell phenotype. In addition, this project will characterise the molecular mechanisms related to cellular senescence driving the pathogenesis of age related macular degeneration. The post is suited to a highly ambitious individual and is available for 36 months or until 31 August 2025, whichever is soonest.

MAJOR DUTIES:

1. To be actively involved in the existing research programme as directed by the line manager and to ensure adequate planning and progression of the investigation so that the overall research objectives for the project are met.
2. To analyse large omics datasets in relation to cellular ageing and age-related macular degeneration.
3. To design pipelines for data analysis and statistical assessment.
4. Carry out experimental design, critical evaluation of results, and interpretation using methodologies and other techniques appropriate to area of research.
5. Present regular progress reports on research to members of the research group or to external audiences to disseminate and publicise research findings.
6. Prepare, in consultation with supervisor, material for publication in peer-reviewed journals and presentations for international conferences.
7. Carry out routine administrative tasks associated with the research project to ensure that project milestones are completed on time and within budget. These might include organisation of project meetings and documentation, financial control, risk assessment of research activities.
8. To assist grant holders in the preparation of progress reports, scientific manuscripts, funding proposals and applications to external bodies.

ESSENTIAL CRITERIA:

1. Have or about to obtain a PhD in Computer Science, Bioinformatics, Molecular Biology, Cell Biology, or a closely related area of Biomedicine.
2. At least 3 years recent, hands-on, experience that will demonstrate relevant laboratory skills that are relevant for this project.
3. Previous experience analysing big data sets such as single cell RNA seq, bulk RNA seq, transcriptomic arrays, ATAC-seq, or related.
4. Experience with genetic editing of cells using latest technologies such as CRISPR-Cas9, AAV, or lentivirus.
5. Evidence of a key role in publications in internationally recognised peer reviewed journals. This list should be commensurate with stage of career and experience.
6. Methodical approach to project management in regards to experimental procedures and record keeping.
7. Sufficient knowledge and experience using computational tools to analyse biological data such as gene set enrichment analysis, pathway analysis, interactome analysis, or similar others.

8. Ability to communicate complex information clearly.
9. Demonstrate Intellectual ability.
10. Team worker, highly motivated, supportive of colleagues within the group.
11. Demonstrate a clear interest in working at the crossroads of biology, medicine, statistics, and computer science.
12. Problem solving skills.
13. Must be prepared to work outside normal office hours.
14. Willing to attend and present at national and international meetings.
15. Must be prepared to travel to and work with international collaborative partners.

DESIRABLE CRITERIA:

1. PhD in Computational Biology.
2. Experience with integration of multi-omics data types. Proficiency with Programming in at least one language such as R, Python, C++, Java, or Ruby.
3. Implementing or developing novel analytical tools, algorithms, or machine learning pipelines.
4. Experience/knowledge of advanced cell biology techniques such as stable isotope labelling of human cells (SILAC), Echo acoustic liquid handling technologies, advanced in situ hybridisation techniques, and flow cytometry.
5. Research Project Management Experience.
6. Competency in statistics/mathematics.
7. Experience submitting datasets to databases such as GEO/Arrayexpress.
8. Experience with experimental eye models.
9. Evidence of having presented at conferences (poster and/or oral presentations).
10. Research interest in age related macular degeneration.
11. Clear long-term goals in research.
12. Human blood handling.