Candidate Information

Position:	Research Fellow in Vascular Biology
School/Department:	The Wellcome-Wolfson Institute for Experimental Medicine
Reference:	23/110576
Closing Date:	Monday 20 February 2023
Salary:	£35,333 per annum
Anticipated Interview Date:	Tuesday 7 March 2023
Duration:	Fixed term for 48 months

JOB PURPOSE:

To join the research team led by Dr Guilherme Costa to take part on a Wellcome Trust funded project investigating RNA localisation in the context of endothelial cell biology (https://gcosta064.wixsite.com/costa-lab). Upon transcription, RNAs are distributed throughout the cell and their ultimate functional destination underpins a multitude of cellular processes. Our work has demonstrated that RNA localisation participates in endothelial cell behaviour during blood vessel formation (Costa et al., EMBO J 2020). Based on these concepts, we are seeking a highly ambitious and motivated individual to explore mechanistic links between subcellular RNA distribution and cell adhesion in the context of vascular biology. By combining state-of-the-art proteomics, transcriptomics and imaging tools with in vivo and in vitro models of blood vessel formation and maintenance, we aim to bring new insights into the importance of RNA localisation in tissue physiology and disease.

The successful candidate will be a fundamental pillar to the project. They will take the lead planning and performing experiments, as well as strengthening established collaborations. Thus, the post is suited to applicants with a meticulous work ethic and a team-player approach. Applicants must demonstrate such skills within their CV and interview. The post is available until 30 November 2026, through which the successful candidate will be offered support to access diverse training and career development opportunities.

MAJOR DUTIES:

1. Establish and maintain primary endothelial cell cultures.
2. Perform experiments entailing in vitro and in vivo models of angiogenesis and endothelial barrier.
3. Execute protocols to study RNA-protein interactions, RNA localisation and protein synthesis.
4. Contribute to the development of new or improved methods/techniques to meet the requirements/milestones of the project.
5. Implement and employ pipelines for the analyses of large proteomic and transcriptomic datasets.
6. Present regular progress reports to Dr Costa and members of the research group.
7. Provide training and supervision to junior members of the team as required.
8. Prepare, in consultation with supervisor, material for publication in journals and presentations at national and international conferences.
9. Assist Dr Costa in the preparation of funding proposals and applications to external bodies.
10. Undertake development/training courses as necessary to keep knowledge and skills up to date and relevant for subject specialism.
11. Apply working knowledge of theory and proactively sharing this knowledge with others as appropriate.
12. Read academic papers, journals and textbooks to keep abreast of developments in own specialism and related disciplines.
13. 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.

ESSENTIAL CRITERIA:

1. Have or about to obtain PhD in Vascular Biology, Cell Biology, RNA Biology or closely related area.
2. At least 3 years recent, hands-on experience in a wide range of laboratory skills relevant for this project, such as cell culture, RNA manipulation, RNA-protein interactions and immunoprecipitation.

3. Authorship in at least one manuscript published in an internationally recognised peer reviewed journal. This should be commensurate with stage of career and experience.
4. Meticulous approach to experimental procedures and excellent record keeping skills.
5. Sufficient experience with the employment of statistical tools in research and data analysis.
6. Knowledge in analysis of biological data such as microscopy images, DNA and protein sequences.
7. Ability to communicate complex information clearly.
8. Ability to build contacts and participate in internal and external networks.
9. Demonstrable intellectual ability.
10. Updated on latest developments in own specialism and related discipline.
11. Excellent organisational skills and capable of carrying out experiments to a consistently high standard.
12. Motivated, ambitious and team-player.
13. Excellent problem-solver.
14. Open to work irregular hours, including evenings and weekends.
15. May be required to travel to collaborative laboratories nationally and internationally.

DESIRABLE CRITERIA:

1. PhD in RNA-protein interactions, RNA localisation, Cell adhesion and motility.
2. Experience in:
   - RIP-seq, CLIP-seq and/or Mass-spectrometry.
   - Integration of multi-omics approaches.
   - Programming skills for the implementation and development of bioinformatic pipelines.
   - State-of-the-art microscopy for the visualisation of RNA and protein synthesis in fixed and living cells (smFISH, SunTag and MS2 systems, etc).
3. Experience in staff training and student supervision.
4. Experience in research project management.
5. Experience with/knowledge of in vivo and in vitro models of angiogenesis and endothelial cell barrier.
6. Evidence of having presented at conferences (poster and/or oral presentations).
7. Long-term and well-defined career goals.
8. No objections to work with animal models.