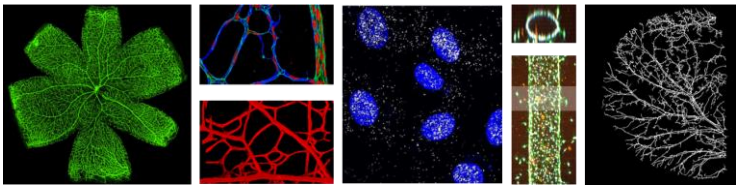
Imperial College London



Postdoctoral Research Associate in Lymphatic Vascular Biology

Salary: £40,215 to £45,615 per annum.
Location: National Heart and Lung Institute, Hammersmith Campus, Imperial College London, London, UK.

Closing date 22nd September 2020

Job Summary
This British Heart Foundation-funded research project, led by Dr Graeme Birdsey at the National Heart and Lung Institute, will investigate the role of the transcription factor ERG in regulating lymphatic endothelial cell gene expression and lymphatic vessel formation.

Blood and lymphatic vessels form interconnected networks that are essential for transport of fluids, gases, macromolecules and cells. Dysfunction of lymphatic vessels leads to disturbed tissue fluid balance and lymphoedema. The lymphatic vasculature is of growing interest in terms of its development across organ systems and roles in primary and secondary lymphatic diseases and in response to tissue injury (e.g. myocardial infarction). Understanding the molecular regulation of lymphatic endothelial cell specification and lymphatic vessel formation (lymphangiogenesis) is important to underpin strategies to therapeutically modulate the lymphatics across these different disease settings.

ERG is the most highly expressed ETS transcription factor in healthy blood vessel endothelial cells (EC) and our previous work has defined the role of ERG as a master regulator of endothelial homeostasis, EC lineage specification and angiogenesis. These studies have been published in high impact papers in *Blood, Developmental Cell, Nature Communications* and *Circulation Research*. Although ECs line both vessels, ERG's role in regulating lymphatic EC (LEC) gene expression and lymphangiogenesis is unknown.

The aim of this project is to investigate the cellular and molecular pathways that control lymphatic vessel development and lymphatic disease pathogenesis. You will define the signalling networks controlled by ERG in LEC and characterise the molecular targets and functional pathways involved in ERG-dependent lymphangiogenesis in health and disease. The project combines biochemical studies, transgenic inducible lineage-specific mouse models, *ex vivo* tissue processing and immunofluorescence confocal imaging, together with primary LEC culture for *in vitro* signalling and molecular cell biology. It will involve the generation and bioinformatics analysis of ChIP-Seq and RNA-Seq data sets.

Essential requirements
We are seeking a highly motivated postdoctoral scientist to join a collaborative team of research scientists interested in vascular biology. You should have a PhD in a relevant biological discipline and have experience in studying signalling pathways. You will have a track record of successful research, evidenced by first-authored research papers, published in highly reputable journals. A strong background in biochemistry and familiarity with primary cell culture and molecular biology techniques is essential. Previous experience in cardiovascular research is desirable, alongside a background using *in vivo* models for angiogenesis or lymphangiogenesis research. Knowledge of gene transcription pathways and bioinformatics analysis would be desirable. The post will require collaboration with other groups both within and outside the department, and the ability to coordinate research projects with colleagues inside and outside the College. Enthusiasm, drive and a passion for science is essential for this position.

Further Information
This is a full-time, fixed-term position for 3 years.

For more details of the research carried out within the NHLI Vascular Sciences Section,
https://www.imperial.ac.uk/nhli/research/research-sections/vascular-science/
For further information contact Dr Graeme Birdsey, *g.birdsey@imperial.ac.uk*

To apply for this position: *https://www.imperial.ac.uk/jobs/description/MED01983/post-doctoral-research-associate*