

PhD Position - Imperial College, London

Gill development, inflammation and remodelling

Throughout the lifecourse our respiratory system is exposed to a number of assaults such as pollutants (diesel particulates, nitric oxide, silica, cigarette smoke etc) and a variety of pathogens and allergens. Prolonged or repetitive insults can lead to irreversible damage of the lung. In order to address this, whilst one approach is to reduce exposure to such harmful irritants, another is to identify molecular pathways that could be targeted to improve the outcome of such damaging exposure and enhance tissue repair.

Using the zebrafish as a model organism we have found that the fish gill can be used to model the inflammatory response of mammalian lung. We have gone on to find that the zebrafish has an extremely efficient gill repair mechanism and is very resilient to injury compared to mammals which are prone to develop irreversible fibrosis consequent to similar assaults.

We have identified candidate genes that are upregulated in fish and downregulated in mammals during biological processes leading to scarring and fibrosis in mammals. The fibins fall into this category. Taking advantage of such differences between fish and mammalian systems, this project aims to discover the function of these poorly described genes (the fibins) that otherwise play a critical role in fish development.

The Dallman lab is looking for a talented and motivated PhD student to study this gene pathway. Experimental approaches will include gene cloning, imaging, gene expression analysis, transgenic fish maintenance. Funded by BBSRC and Boehringer Ingelheim the student will work closely with our industrial partners, including some visits to their sites.

Main location:

Imperial College London, Department of Life Sciences, Sir Alexander Fleming Building, South Kensington, London

Eligibility:

Candidates should hold, an Upper Second Class Honours BSc degree or better or an equivalent qualification. Candidates with a Masters degree (at Merit level or better) in addition to the BSc may be given preference. They should have a strong academic background in the biological sciences and a desire to pursue research in line with that of the research group.

Posts are open to UK nationals. EU nationals, who have spent at least 3 years prior to the application resident in the UK, are also eligible to apply. Non-UK/EU candidates are not eligible.

Funding from BBSRC and Boehringer Ingelheim will cover tuition fees for the four year duration of the studentship, contribution towards project costs, and an annual tax-free stipend at the standard Research Council rate, for 2018/2019- £16,777. This stipend will increase in line with the annual GDP deflator.

How to apply:

To apply for this position, please email a single PDF file including: a brief cover letter describing your relevant interests and research experience, your c.v. and names and contact information of three referees with the subject line "fibins PhD" to Prof Maggie Dallman and Dr Laurence Bugeon; m.dallman@imperial.ac.uk, l.bugeon@imperial.ac.uk