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Your application will only be considered if we have received the following documents:

- Application Form
- CV
- Two references sent directly by your referees

Project Ref: 2017 08 SC/MC LSHTM

Closing Date: 31.03.17

Anticipated Start Date: October 2017

Duration: 4 years full-time

Title: Mosquitoes in the “Endless City”: understanding how urbanisation will influence vector populations.

Eligibility:

- This studentship is open to science graduates (with, or who anticipate obtaining, at least a **2.1 or equivalent, in a relevant biological subject in their undergraduate degree, or a Masters degree - subject to university regulations**). Other first degrees, e.g. veterinary science, will be considered. You should be looking for a challenging, interdisciplinary research training environment and have an active interest in the control of infectious diseases.
- This is a fully-funded studentship only open to UK students and eligible EU students who qualify for home-rated fees, in line with BBSRC criteria
http://www.bbsrc.ac.uk/web/FILES/Guidelines/studentship_eligibility.pdf.
- Students without English as a first language must also provide evidence that they meet the English language requirement, e.g. with an IELTS score of 7.0 and no less than 6.5 in any of the subsections.

Supervision:

Principal Supervisors: Dr Simon Carpenter, The Pirbright Institute
Prof Mary Cameron, London School of Hygiene & Tropical Medicine
Co-Supervisors: Dr Christopher Sanders, The Pirbright Institute
Dr Anthony Wilson, The Pirbright Institute

Abstract:

We live in an increasingly urban society, with over half the world's human population now living in cities. The studies in this PhD will assist in predicting the influence of further urbanisation on mosquito populations and in understanding their interactions with humans and animals. This is of interest in predicting the future probability and impact of vector-borne viruses entering and persisting in the UK. You will work with our experienced team of field and laboratory-based scientists to define a specific area of interest. Your studies could, for example, encompass subjects as diverse as investigating the genetics of mosquito populations and how this influences responses to changes in the environment through to wide-scale surveys to understand factors that might influence future policy decisions in response to virus incursions. To fully exploit the potential of this project will require multidisciplinary approaches so we are happy to receive applications from candidates both within and outside the biological sciences.

During your PhD you will be based at The Pirbright Institute, which is a world-leading centre of excellence in research and surveillance of viral diseases, within easy commutable distance of London. You will be registered at The London School of Hygiene and Tropical Medicine, which is an internationally renowned public health and tropical medicine institution. This partnership provides a stimulating environment to develop both specific and transferable skills with state-of-the-art facilities in which to carry out your research and a wealth of experience in vector biology. Full training will be provided in both field and laboratory-based entomological techniques and additionally in molecular

biology. You will also benefit from the unique contacts available to workers in Pirbright which extends from fundamental virologists to policy decision makers.

You will work as part of the Entomology group at Pirbright, which focuses on the interactions between vectors and the viruses that they transmit, including aspects of behavioral ecology and studies of vector competence. We possess unique experience in combatting arbovirus incursions in the UK and take pride in our ability to translate fundamental research into methods that reduce the impact of these events. All of our previous students in the group have subsequently taken up roles in academic research, industry or in non-governmental organisations and there is a specific emphasis on developing transferable skills as part of our PhD programme.

We expect you to be a highly motivated and innovative individual with a proactive approach to problem solving and excellent verbal and written communication skills. You will also require well-developed organisation and time-management skills and an ability to work independently and as part of a team. **As part of the project you will need a full driving license and a willingness to work out of normal office hours as required by the field studies.**

References for Background Reading:

1. How urbanization affects the epidemiology of emerging infectious diseases. 2015. Infection, Ecology & Epidemiology. 5: 27060.
2. *Culex pipiens* in London Underground tunnels: differentiation between surface and subterranean populations. 1999. Byrne, K. and Nichols, R.A. Heredity. 82: 7-15.
3. Potential transmission of West Nile virus in the British Isles: an ecological review of candidate mosquito bridge vectors. 2005. Medlock, J.M., Snow, K.R., Leach, S. Medical and veterinary Entomology 19: 2-21.

Registration, Training and Funding:

This is a fully funded project. The student will be based at The Pirbright Institute and registered with the London School of Hygiene & Tropical Medicine, with visits to the university to meet with their supervisor and undertake training as required. Eligible students will receive a minimum annual stipend of £14,553 and university registration fees will be paid. A full range of research and transferrable skills training will be made available to the student as appropriate.

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Further information regarding the partner institutions can be found at:



www.pirbright.ac.uk



www.lshtm.ac.uk