Information on Postgraduate Research Scholarship - Ref: DTA-ES-02-17

Faculty: Engineering & Science, Natural Resources Institute
Department: Agriculture, Health & Environment

Lead Supervisor: **Gabriella Gibson & Richard Hopkins**

Project Title: Mosquito biting behaviour; what is the significance of host choice? Application of new blood analysis techniques to identify mosquitoes with high potential to transmit diseases.

Project Description: Female mosquitoes need blood to obtain proteins required for the development of their eggs. Each species of mosquito appears to have a different preference for the type of animal it bites ('host preference'). The species that obtain blood mainly from one host, e.g. humans, have the highest potential for transmitting parasites and pathogens from one human to another. Recent developments in molecular tools for identifying what kind of blood is present in a mosquito's stomach makes it possible to ask new questions about mosquito blood-feeding behaviour; for example, do mosquitoes prefer to bite on some humans more than others? If so, is there anything about their blood that makes them more favoured? The PhD candidate will have the opportunity to develop research skills and learn techniques required for the analysis of animal and human blood and test the effects of blood type on mosquito behaviour, longevity, etc., followed by experiments designed in collaboration with our overseas research projects, where we can collect wild blood-fed mosquitoes for field studies.

Biologists in the Pest Behaviour Research Group have a wide range of ongoing research projects sponsored by the MRC and NERC on the behaviour and ecology of species responsible for diseases such as Malaria and Zika in Brazil and five African countries. Our laboratory facilities include environmentally controlled insectaries where semi-natural experiments can be conducted and we currently maintain seven species of medically important mosquito. The Forensic scientists at the University of Greenwich have expertise in the analysis of human blood samples to the level of individual identification. The two groups are collaborating on a range of projects that bring together expertise in forensics and in the behaviour and ecology of medically important mosquito species.

This PhD is based in the Pest Behaviour Research Group of the Natural Resource Institute, in collaboration with the Forensics section of the Material & Analysis Research Group in the Department of Pharmaceutical, Chemical & Environmental Sciences.

This scholarship is a part of the Doctoral Training Agreement of the Universities Alliance. In addition to having access to the world-class facilities at University of Greenwich, DTA PhD students are members of the wider DTA community within which they are encouraged to collaborate and share expertise with. Students will benefit from an additional travel bursary to enable researchers to interact with colleagues across the Doctoral Training Alliance. The programme develops students' vital research skills such as critical reasoning and epistemology as well as practical innovation and entrepreneurial expertise. The programme will ensure students are job-ready and can apply the results of their excellent research to deliver impact.

For further information contact: Gay Gibson (G.Gibson@gre.ac.uk) or Richard Hopkins (R.J.Hopkins@gre.ac.uk)

Person Specification of Essential (E) or Desirable (D) requirements:	
Criteria:	***E or D***
Education and Training:	
• 1st Class or 2nd class, First Division (Upper Second Class) Honours Degree or a taught Master's degree with a minimum average of 60% in all areas of assessment (UK or UK equivalent) in a relevant area to the proposed research project	**E**
• For those whose first language is not English and/or if from a country where English is not the majority spoken language (as recognised by the UKBA), a language proficiency score of at least IELTS 6.5 (in all elements of the test) or an equivalent UK VISA and Immigration secure English Language Test is required, unless the degree above was taught in English **and** obtained in a majority English speaking country, e.g. UK, USA, Australia, New Zealand, etc, as recognised by the UKBA.	**E**
Experience & Skills:	
• Previous experience of undertaking research (e.g. undergraduate or taught masters dissertation)	**E**
• Experience of working with insects	**D**
• Experience of laboratory techniques, particularly molecular techniques	**D**
• Experience of behavioural work with insects	**D**
Personal Attributes:	
• Understands the fundamental differences between a taught degree and a research degree in terms of approach and personal discipline/motivation	**E**
• Able to, under guidance, complete independent work successfully	**E**
Other Requirements:	
• This scholarship may require Academic Technology Approval Scheme approval for the successful candidate if from outside of the EU/EEA	**E**
• The scholarship must commence before 1st October 2017	**E**

Bursary available (subject to satisfactory performance):

Year 1: £14,553 Year 2 & Year 3: In line with RCUK rate

In addition, the successful candidate will receive a contribution to tuition fees equivalent to the university's Home/EU rate, currently £4,195, for the duration of their scholarship. International applicants will need to pay the remainder tuition fee, currently £8,305, for the duration of their scholarship. This fee is subject to an annual increase.

Duration: **3 years, Full-Time Study**

Closing date for applications: ***midnight UTC on 30th July 2017***

Making an application:

Please read this information before making an application. Information on the application process is available at: http://www2.gre.ac.uk/research/study/apply/application_process . Applications need to be made online via this link. **No other form of application will be considered**.

All applications **must include** the following information. **Applications not containing these documents will not be considered.**

- **Scholarship Reference Number (Ref)**– included in the personal statement section together with your personal statement as to why you are applying
- **a CV including 2 referees** *
- **academic qualification certificates/transcripts and IELTs/English Language certificate if you are an international applicant or if English is not your first language or you are from a country where English is not the majority spoken language as defined by the UK Border Agency** *

**upload to the qualification section of the application form. Attachments must be a PDF format.*

Before submitting your application you are encouraged to liaise with the Lead Supervisor on the details above.