

### Information on Postgraduate Research Scholarship - Ref: PGR-ES-03-17

**Faculty:** Engineering and Science, Medway Campus      **Department:** Natural Resources Institute

**Lead Supervisor:** Dr Daniel Bray      **Second Supervisor:** Prof Richard Hopkins

**Project Title:** Development of semiochemical-based strategies for enhanced monitoring and control of the poultry red mite (*Dermanyssus gallinae*)

**Project Description:**

*Dermanyssus gallinae* (poultry red mite) is the most important ectoparasite affecting laying hens. Red mite costs the EU poultry industry in excess of £150 million per annum, with losses attributed to decreased egg output, hen mortality, control costs and down-grading of the sale value of blood-spotted eggs. Current control methods which rely on use of acaricides are unsustainable, as mite populations are continuing to develop resistance to the chemical used.

The aim of this PhD is to develop a semiochemical-based strategy for red mite monitoring and control. This will exploit attraction of mites to chemicals produced by other mites, and chicken nests.

The work on this PhD will be carried out at NRI (supervisors: Daniel Bray and Richard Hopkins) in collaboration with Rothamsted Research (Mike Birkett). The research will build on pilot studies carried out at both intuitions in this area. The project is also supported by experts in poultry mite at The Moredun Research Institute (Alasdair Nisbet) and The Royal Veterinary College (Fiona Tomley & Damer Blake).

The envisaged work will include:

- Identification and characterization of chemicals attractive to red mite through laboratory bioassays and chemical analysis
- Formulation of chemical attractants and traps for field testing in commercial egg production farms
- Gene and transcript level investigation of pheromone production and odour reception in red mites

**Duration:** 4 years, Full-Time Study

**Bursary available (subject to satisfactory performance):**

Year 1: £14,553

Years 2-4: 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. ***In line with the funder's requirements, the successful candidate must be a British national and subject to British tax legislation.***

<b>Person Specification of Essential (E) or Desirable (D) requirements:</b>	
<b>Criteria:</b>	<b>E or D</b>
<b>Education and Training:</b>	
<ul style="list-style-type: none"> <li>1<sup>st</sup> Class or 2<sup>nd</sup> 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 (including biology, zoology, animal science or veterinary science)</li> </ul>	<b>E</b>
<ul style="list-style-type: none"> <li>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 <b>and</b> obtained in a majority English speaking country, e.g. UK, USA, Australia, New Zealand, etc, as recognised by the UKBA.</li> </ul>	<b>E</b>
<b>Experience &amp; Skills:</b>	
<ul style="list-style-type: none"> <li>Previous experience of undertaking research (e.g. undergraduate or taught masters dissertation)</li> </ul>	<b>E</b>
<ul style="list-style-type: none"> <li>A valid UK driving licence</li> </ul>	<b>E</b>
<ul style="list-style-type: none"> <li>Some knowledge or experience in chemical ecology</li> </ul>	<b>D</b>
<ul style="list-style-type: none"> <li>Some knowledge of or experience working with ectoparasites</li> </ul>	<b>D</b>
<ul style="list-style-type: none"> <li>Some knowledge of or experience working with poultry</li> </ul>	<b>D</b>
<b>Personal Attributes:</b>	
<ul style="list-style-type: none"> <li>Understands the fundamental differences between a taught degree and a research degree in terms of approach and personal discipline/motivation</li> </ul>	<b>E</b>
<ul style="list-style-type: none"> <li>Able to, under guidance, complete independent work successfully</li> </ul>	<b>E</b>
<b>Other Requirements:</b>	
<ul style="list-style-type: none"> <li>A British national and subject to British tax legislation.</li> </ul>	<b>E</b>
<ul style="list-style-type: none"> <li>The scholarship must commence before 1 October 2018</li> </ul>	<b>E</b>

**Closing date for applications:** *midnight UTC on 1 April 2018*

**For further information contact:** Dr Daniel Bray

**Contact details:** Dr Daniel Bray *E-mail:* d.bray@gre.ac.uk

#### **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](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 English is not your first language \***

*\*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.