

## **MPhil/PhD Scholarship**

### **Faculty of Engineering and Sciences, Natural Resources Institute, Medway Campus**

**Title:** A 'real-world' approach to predicting the impact of land-use policies on pollinators.

**Ref:** VCS-ES-05-18

**Supervisor:** Dr Sarah Arnold, [s.e.j.arnold@gre.ac.uk](mailto:s.e.j.arnold@gre.ac.uk), Prof Richard Hopkins and Dr Graham Begg/Prof Nick Birch (Hutton Institute)

**Description:** Pollinators are exposed to multiple threats: land-use change, habitat loss, exposure to pesticides and pollution, disease, invasive species, and climate change. In 2017 the Scottish Government set out its strategy to protect Scotland's native pollinator populations and to ensure their vital role in Scotland's ecosystems is maintained. This project will provide a 'real-world' evaluation of the advice and guidance set-out in the Pollinator Strategy by assessing the need and predicting the impact of the strategy in the specific context of the Balruddery Catchment. This case-study will act as a 'proof of concept' for the real-world assessment approach which, if successful, should be developed and applied more widely.

The project will develop a new and scientifically rigorous approach to predicting the 'real-world' impact of land-use policies. The PhD will take a case-study approach, assessing the effectiveness and impact of the Pollinator Strategy for Scotland within an area defined by the Balruddery Catchment. The Balruddery Catchment is an area of approximately 3500 Ha situated to the West of Dundee on the lower slopes of the Sidlaw Hills with mixed use including agriculture, forestry and leisure. Here the pollination of wild plants is important in supporting a diverse food-web which has both intrinsic value and also supports multiple functions on which the ecosystem depends. Pollination is also essential for the Catchment's soft-fruit producers who depend on pollination to produce high quality fruit.

The project has three key activities:

1. To characterise the current pollinator status of the Balruddery catchment by evaluating (a) the existing pollinator abundance, diversity and activity, (b) the risk to pollinators posed by current pressures, and (c) the future requirement for pollinators and pollination.
2. To study the effectiveness of pollinator-friendly management options such as supporting "green-infrastructure" and pesticide use reduction.
3. To assimilate knowledge from the preceding work (Part 1 and 2) to predict the potential risk mitigation and hence local effectiveness of the Pollinator Strategy.

**Please note that the successful candidate will be based primarily at the Hutton Institute in Scotland.**

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

Year 1: £14,777      Year 2: In line with RCUK rate      Year 3: In line with RCUK rate

The successful candidate will receive a contribution to tuition fees equivalent to the university's Home/EU rate, currently £4,260, for the duration of their scholarship. International applicants will need to pay the remainder tuition fee, currently £8,240, for the duration of their scholarship. This fee is subject to an annual increase. Scholarships are available for three years, full-time study, from the date scholars first register as an MPhil/PhD student with the university. Applicants must meet the programme entry requirements.

For additional information about the scholarship please go to:  
<http://www2.gre.ac.uk/research/study/studentships>

**Please read this information before making an application. Applications need to be made online via [http://www2.gre.ac.uk/research/study/apply/application\\_process](http://www2.gre.ac.uk/research/study/apply/application_process) 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 research proposal \***
- **a CV including 2 referees \***
- **academic qualification certificates/transcripts\***
- **Scholars whose first language is not English, or who are from a country where English is not the first language, must demonstrate a language proficiency score in English of at least 6.5 in all elements of the International English Language Testing System (IELTS), or an acceptable, demonstrable equivalent meeting the same thresholds, unless their first or Masters degree was taught in English and obtained in the UK or a majority English speaking country.\***
- **Please select “PhD Agriculture, Health and Environment (MPhil/PhD)” as the programme.**

\*upload to the supporting information section of the application form. Attachments need to be in PDF format.

**The closing date for applications is midnight (UTC) on 25th July 2018.**

Scholarships will be available for take up by selected Scholars during the period 21 August 2018 to 31 October 2018. To meet the deadline date of 31 October 2018, Scholars must be on-campus and have successfully registered with both institutes as a postgraduate research student.

<b>Person Specification of Essential (E) or Desirable (D) requirements:</b>	
<b>Criteria for selection:</b>	<b>E or D</b>
<b>Education and Training:</b>	
<ul style="list-style-type: none"> <li>• 1<sup>st</sup> Class or Upper 2<sup>nd</sup> class Honours Bachelor's Degree (UK or UK equivalent) in Biology, Conservation, Environmental Sciences or a related discipline and/or</li> <li>• Master's degree (UK or UK equivalent) in Biology, Conservation, Environmental Sciences or a related discipline</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 first 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 degrees above were 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>• Experience with insect and biodiversity field surveys on semi-natural habitat and farmland.</li> <li>• Bee and other pollinator identification skills or willingness to learn.</li> <li>• Familiarity with principles of conservation and land management for conservation.</li> <li>• Ability to transport self independently to remote field sites as and when required, e.g. driving licence and access to car.</li> <li>• Familiarity with soft fruit industry.</li> <li>• Good statistical analysis skills.</li> <li>• Familiarity with molecular biology principles and techniques.</li> </ul>	<b>E</b> <b>E</b> <b>E</b> <b>E</b>  <b>D</b> <b>D</b> <b>D</b>
<b>Personal Attributes:</b>	
<ul style="list-style-type: none"> <li>• Ability to work independently and with a diverse team</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>• This scholarship may require Academic Technology Approval Scheme approval for the successful candidate if from outside of the EU/EEA</li> </ul>	<b>E</b>
<ul style="list-style-type: none"> <li>• A PhD project research proposal that is related to the research area</li> </ul>	<b>E</b>
<ul style="list-style-type: none"> <li>• The scholarship must commence before 31 October 2018</li> </ul>	<b>E</b>