

Evolutionary Responses of Freshwater Invertebrates to Global Climate Change

SUPERVISORS

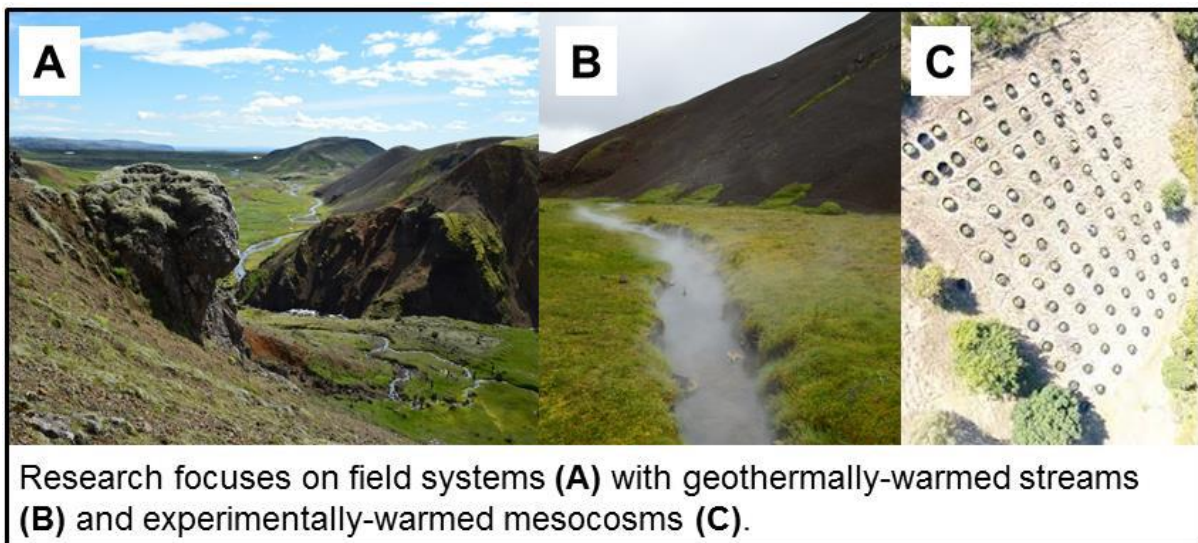
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Scientific background:

Global warming is arguably the greatest current stressor to natural systems, with ecological impacts resonating through entire food webs. This is particularly true in freshwater ecosystems, which are both highly species-rich environments, and also particularly vulnerable to warming. However, while previous research has demonstrated a broad range of ecological responses to warming in freshwaters, very little is known about the underlying genetic/genomic mechanisms behind both short- and long- term acclimative and adaptive responses of the animal populations inhabiting these ecosystems.

Research Methodology

This PhD research will use both natural model ecosystems (a series of geothermally warmed streams in Iceland) and large-scale mesocosm-based warming experiments, to investigate genes-to-genome responses to long-term and short-term warming of freshwaters respectively, focusing across a number of invertebrate taxa. The PhD student will be responsible for developing testable hypotheses in areas of population genetics, and evolutionary genomics/transcriptomics, which can be tested using the latest Next Generation Sequencing (NGS) and bioinformatics approaches on samples collected by the student from our field and mesocosm systems, and/or via preserved specimens from our previous fieldwork.



Training:

The student will benefit from joining an extensive research team based across the University of Essex and Imperial College London, which is tackling ecological questions about climate change in freshwater ecosystems. Alongside excellent generic PhD and professional skills

Person specification: We are looking for an enthusiastic person with a good undergraduate and/or master's degree in a related subject (e.g. Ecology, Genetics or Genomics) and a broad interest in Freshwater Biology. The ideal candidate will relish the opportunity to develop their career in a vibrant and well equipped research group and answer questions of societal importance. You must possess well-developed oral and written communication skills and be able to manage your time effectively. Although based at the University of Essex, you will also be expected to spend time working at Imperial College London's Silwood Park Campus, and in Iceland.

This project has been shortlisted for funding by the EnvEast NERC Doctoral Training Partnership, comprising the Universities of East Anglia, Essex and Kent, with twenty other research partners. Undertaking a PhD with the EnvEast DTP will involve attendance at mandatory training events throughout the course of the PhD.

Shortlisted applicants will be invited to interview on 13/14 February 2018.

Funding

Successful candidates who meet RCUK's eligibility criteria will be awarded a NERC studentship - in 2016/17, the stipend was £14,296. In most cases, UK and EU nationals who have been resident in the UK for 3 years are eligible for a full award. For non-UK EU-resident applicants NERC funding can be used to cover fees, RTSG and training costs, but not any part of the stipend. Individual institutes may, however, elect to provide a stipend from their own resources.

For further information, please visit www.enveast.ac.uk/apply.

Closing date for this application is midnight 8 January 2018. Please apply online via <https://www.essex.ac.uk/pgapply/enter.aspx>