Funded, 4 year PhD studentship in ecological modelling and pest risk analysis

Closes: 25th February 2022

Expected start date: May 2022

This doctoral research programme will be a 4-year structured PhD (https://www.ucd.ie/graduatestudies/) based at University College Dublin (Dublin, Ireland) funded by the Department of Agriculture, Food and the Marine (DAFM) and Department of Agriculture, Environment and Rural Affairs (DAERA) on the project entitled "Adaptation, mitigation and protection strategies to increase resilience of Irish forests to address the impacts of climate change (ADAPTForRes)".

The ADAPTForRes project is a multidisciplinary collaboration between seven institutions (UCD, Teagasc, AFBI, University of Limerick, Trinity College Dublin, DAFM, and the National Botanic Gardens) across the Ireland of Ireland. The project aims to protect the ecosystem services delivered by Irish forests in the face of environmental perturbations by developing the resilience of forest ecosystems in three strategic areas: (1) forest genetic options, (2) forest management practices and (3) forest protection measures. This PhD opportunity is part of strategic area 3. The successful candidate will join a team of one other PhD student, one postdoctoral researcher and several collaborating researchers.

This PhD project will develop risk-based surveillance tools for the early detection of forest pests in Ireland, with a focus upon *Quercus* and *Pinus* trees. The research has four broad topics: (i) A critical review of past experiences in monitoring, control and eradication of forest pest outbreaks on the island of Ireland, (ii) a global horizon scan to identify high risk forest pests which could pose a threat to *Quercus* and *Pinus* trees on the island of Ireland, (iii) Design of a risk-based surveillance network to detect tree pests across the island of Ireland and (iv) Rapid pest risk analyses on two identified pest threats of *Quercus* and two of *Pinus*.

The experience gained in this PhD project in the areas of mathematical modelling of environmental data, Pest Risk Analysis, and EU plant health legislation and regulation will provide the successful candidate with highly important skills, which would be suited to either a career in academia, research or in government/state agencies working on resource protection.

The following selection criteria will be applied to applications.

Essential:

- Hold an undergraduate or taught Masters degree in an appropriate life science discipline (e.g. ecology, zoology, botany, conservation, environmental sciences) with at least a 2:1 grade (or equivalent)
- Demonstrated aptitude and motivation for independent research in ecology, especially quantitative ecology
- Fluent in English, at a level that meets UCD minimum requirements

Desirable:

- Previous experience of designing and conducting environmental surveys
- Previous experience conducting ecological modelling

- Proven ability to work independently on project work with strict deadlines
- Proven ability to work collaboratively as part of a team

The successful applicant will be invited to register for a structured PhD programme at University College Dublin and will be supervised by Dr Jon Yearsley (UCD's School of Biology and Environmental Science, https://www.ucd.ie/ecomodel/people.html) and Dr Conor McGee at DAFM's Plant Science Division (https://ie.linkedin.com/in/conor-francis-mcgee-b-sc-m-sc-ph-d-b9200246)

The studentship cover an annual PhD stipend €18,000 per annum and full tuition fees.

Applicants should submit a cover letter and CV to Dr Jon Yearsley (Jon.Yearsley@ucd.ie) by **Friday 18th February 2022.**

An Roinn Talmhaíochta, Bia agus Mara
Department of Agriculture, Food and the Marine

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