University of Central Lancashire

Research Project/Studentship Description

Studentship Reference Number: DTC01-25-01	**Closing Date: 28 February 2025**
School	Engineering and Computing
Centre	Ecological Engineering
Proposed Director of Studies	Kevin Butt
Contact Details	krbutt@uclan.ac.uk
Programme (e.g. MPhil/PhD)	MPhil/PhD
Duration of Studentship	3.5 years
Hours (Full or Part time)	Full time
Tuition Fees	UK Fees covered (International Students to pay the difference between UK and International/EU Fees)
Maintenance Grant	UKRI Level Stipend (Currently £19,237 per annum)
Any Entry Requirements (e.g. 2:1 classification/restricted to UK residences only)	UK Bachelor of Science degree (or equivalent qualification) at 2:1 or above in a related area, or a UK Masters level qualification
Any Special Requirements (e.g. driving licence)	Driving licence required

Project Title

Long term development of earthworm communities in naturally colonised, compared to planted woodland.

Project Description

Forest Research (FR) has been investigating newly planted trees, areas of natural tree colonisation, and mature woodland, in research that has made use of matched chronosequence sites (from 5 to 60 years old) from across England (n>35 of triplicated sites). To date, this work has revealed interesting findings with respect to aboveground tree diversity, biomass, and structure, in addition to belowground carbon status, nutrient content, and specific aspects of biodiversity (bacteria, fungi, mesofauna, and nematodes).

The proposed research will build upon this network of sites and link with the DEFRA Nature of Climate Fund and is a collaboration between FR and the University of Central Lancashire (UCLan). This project aims to investigate a further aspect of biodiversity, namely earthworms, within these chronosequence sites. As earthworms are ecosystem engineers, they are likely to have a major impact on soil dynamics and ecosystem functioning.

The student will gain from expertise of soil ecology at UCLan and that of soil biogeochemistry and trees at Forest Research. The existing sites have already provided large amounts of baseline (soil) data on which the student can build. Earthworms will form a major part of this project and demonstrate the ecosystem services that they provide.

Specific objectives will Investigate:

- Time-related effects of woodland maturation (chronosequence use) on development of earthworm communities.
- Type of woodland development (planted / natural colonisation / mature forest) on earthworm-related parameters.
- Tree-soil-earthworm interactions and ecosystem services.
- Role of earthworms in the soil food web across the different woodland settings.

Students holding DTC Studentships are encouraged to take up opportunities for gain teaching experience within the remit of the DTC Stipend up to a maximum of 6 hours class contact per week.

Research Student Specification

Studentship Reference Number: DTC01-25-01	**Closing Date: 28 February 2025**
Project Title:	Long term development of earthworm communities in naturally colonised, compared to planted woodland.
School:	Engineering and Computing
Centre:	Ecological Engineering
Contact:	krbutt@uclan.ac.uk

Attributes	**Essential**	**Desirable**	**Measured By**
Education/ Qualifications	Good BSc Honours degree, or equivalent, in Ecology / Environmental Science / Forestry or similar	Research-related Masters degree in an ecological / environmental subject area	Application
Experience	Experience of undertaking quantitative research studies	Identification skills of soil organisms (specifically earthworms)	Application
	Experience of working in the field and ability to collect soil-related samples for lab analysis	Field and laboratory work relating directly to soil and soil organisms. Experience of analytical techniques.	Application / Interview
	Experience in data handling, including interpretation and use of analytical software packages	Use of appropriate software packages	Application / Interview
Skills/Abilities	Ability to work as part of a team and willingness to work at different locations in the UK Full car driving licence		Application / Interview
	Numerate and computer literate	Experience at writing reports / journal articles	Application / Interview
	Excellent oral and written presentation and communication skills	Experience of presentation at national conferences	Interview
	Ability to work on own initiative		Application / Interview