

PhD studentship (Full-time)



Institution	Xi'an Jiaotong-Liverpool University, China
Department	Department of Environmental Science
Supervisors	Principle supervisor: Dr Philip L Staddon (Xi'an Jiaotong-Liverpool University) Co-supervisor: Dr Jonathan Bridge (University of Liverpool, UK); Co-supervisor: Prof Yonghong Wu (ISS, CAS)
Application Deadline	Open until the position is filled
Funding Availability	Funded PhD project (world-wide students)
Project Title	Arbuscular mycorrhizal fungi and soil carbon fluxes in <i>Citrus</i> groves under different land management regimes. 不同土地管理方式下柑橘园中的丛枝菌根真菌与土壤碳通量
Contact	Please email Phil.Staddon@xjtlu.edu.cn (principle supervisor's email address) and copy doctoralstudies@xjtlu.edu.cn with a subject line of the PhD project title

Requirements:

The candidate should have a first class or upper second class honours degree, or a master's degree (or equivalent qualification), in Ecology, Soil Science, Environmental Science or closely related field. Evidence of good spoken and written English is essential. The candidate should have an IELTS score of 6.5 or above, or an equivalent qualification, if the first language is not English. This position is open to all qualified candidates irrespective of nationality.

Degree:

The student will be awarded a PhD degree from the University of Liverpool (UK) upon successful completion of the program.

Funding:

The PhD studentship is available for three years subject to satisfactory progress by the student. The award covers tuition fees for three years (currently equivalent to RMB 80,000 per annum) and provides a monthly stipend of 3500 RMB as a contribution to living expenses. It also provides up to RMB 16,500 to allow participation at international conferences during the period of the award. It is a condition of the award that holders of XJTLU PhD scholarships carry out 300-500 hours of teaching assistance work per year. The scholarship holder is expected to carry out the major part of his or her research at XJTLU in Suzhou, China. However,

he or she is eligible for a research study visit to the University of Liverpool of up to three months, if this is required by the project.

Project Description:

Climate change is a major challenge facing humanity. A better understanding of belowground processes controlling the vast amount of carbon stored in soils is of paramount importance as there is strong feedback between this soil carbon and climate change. Common symbiotic fungi that associate with plant roots play a central role in the soil carbon cycle.

This project will study these fungi in an orange grove experiment now in its 10th year. The aim is to understand how these fungi respond to different land management regimes and how this changes the amount of carbon flowing to the soil. Specific objectives are:

Objective 1. Assess mycorrhizal fungal abundance under different intercropping covers.

Objective 2. Quantify carbon flows through the plant-soil system using ¹³C-CO₂ pulse chase.

Objective 3. Determine the impact of drought (a key component of climate change) on mycorrhizal communities and the soil carbon cycle.

Labeled carbon (¹³C) will be used to track carbon movement. How different communities of these fungi respond to drought will also be investigated in mesocosm (pot) experiments.

The project is expected to start on 1st January 2017, for 3 years. The core research includes (1) quantifying seasonal AMF community and abundance in the longterm field experiment and impacts of the land management regimes, (2) the ¹³C pulse chase experiment to quantify changes in soil carbon fluxes, and (3) the drought experiment using monoliths. In addition it is expected that the student would follow other lines of enquiry around this topic and set-up experiments or design field sampling strategies to answer specific questions of interest.

The results will offer new insights into the role of these symbiotic fungi in the soil carbon cycle and how drought may impact their behavior.

For more information about doctoral scholarship and PhD programme at Xi'an Jiaotong-Liverpool University (XJTLU): Please visit

<http://www.xjtlu.edu.cn/en/admissions/phd.html>

<http://www.xjtlu.edu.cn/en/admissions/phd/feescholarships.html>

How to Apply:

Interested applicants are advised to email Phil.Staddon@xjtlu.edu.cn (principle supervisor's email address) the following documents and copy doctoralstudies@xjtlu.edu.cn (please put the project title in the subject line).

- CV
- Two reference letters
- Personal statement outlining your interest in the position
- Proof of English language proficiency (an IELTS score of above 6.5 or equivalent is required)
- Verified school transcripts in both Chinese and English (for international students, only the English version is required)
- Verified certificates of education qualifications in both Chinese and English (for international students, only the English version is required)

Informal enquiries may be addressed to Dr. Phil Staddon (Phil.Staddon@xjtlu.edu.cn), whose personal profile is linked below,

<http://www.xjtlu.edu.cn/en/staff?id=148819727XS> ; Further information available on:

Google Scholar - <http://scholar.google.co.uk/citations?user=5Kv85Z0AAAAJ&hl=en>

ResearchGate - http://www.researchgate.net/profile/Philip_Staddon

LinkedIn - <http://uk.linkedin.com/pub/philip-staddon/22/824/31b>