

PhD studentship (Full-time)

Institution	Xi'an Jiaotong-Liverpool University, China
School	School of Science
Supervisors	Principal supervisor: Dr Yaoqi Li (XJTLU) Co-supervisor: Professor Johannes Knops (XJTLU) Co-supervisor: Professor Kate Parr (UoL)
Application Deadline	Open until the position is filled
Funding Availability	Funded PhD project (world-wide students)
Project Title	Spatial distribution of functional diversity and its relationship with ecosystem productivity
Contact	Please email Yaoqi.Li@xjtlu.edu.cn with a subject line of the PhD project title. The principal supervisor's profile is linked here: https://connect.xjtlu.edu.cn/user/yaoqi-li

Requirements:

The candidate should have a first-class or upper second-class honours degree, or a master's degree (or equivalent qualification), in **Botany or Ecology**.

Preference will be given to those with an interest in **functional ecology** and a **publication record** in the field of ecology or botany.

Strong programming and statistical skills are essential for handling a large amount of data in this research.

Field sampling experience is required, and preference will be given to applicants with extensive field experience, plant species identification skills, and **laboratory operation capabilities**.

Evidence of good spoken and written English is essential. The candidate should have an IELTS score of **6.5 or above**, 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 99,000 per annum).

It also provides up to RMB 16,500 to allow participation at international conferences during the period of the award. 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 up to six months, if this is required by the project.

Project Description:

Functional diversity works as the essential indicator to study on community dynamics and ecosystem functioning. However, it is still a large gap to clarify spatial distribution of functional diversity. The development of frameworks on functional ecology, accumulation of massive open-trait database and improvement of trait gap-filling approaches provide the possibilities to explore the large-scale patterns of functional diversity.

Through collaboration, field samplings, and open data acquisition, the project has gathered diverse trait data, including plant height, wood density, leaf element content (e.g., carbon, nitrogen, and phosphorus), specific leaf area, and seed mass. The spatial distributions of leaf size and tree height have been estimated and applied to predict ecosystem productivity. Additionally, efforts will be made to obtain further data on stem and root traits, compare and enhance gap-filling methods, and establish a database of key traits of seed plants in China.

The project aims to elucidate the large-scale pattern of functional diversity and its drivers for all seed plants in China, as well as analyze the capacity of functional diversity in predicting ecosystem productivity and uncover the interaction between the environment, biodiversity, and ecosystem productivity. The key research questions for this PhD project are as follows:

- 1) What is the spatial pattern of functional diversity of seed plants in China and which environmental factors are dominant?
- 2) How does plant functional diversity affect ecosystem primary productivity, and what is the relative contribution of environment and biodiversity to ecosystem productivity?

This project will help to understand the relationship of biodiversity and ecosystem functioning, prompt the development of trait-based ecology, and provide data and theory support to conserve biodiversity and predict ecosystem functions.

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

<https://www.xjtlu.edu.cn/en/admissions/global/entry-requirements/>

<https://www.xjtlu.edu.cn/en/admissions/global/fees-and-scholarship>

How to Apply:

Interested applicants are advised to email Yaoqi.Li@xjtlu.edu.cn (XJTLU principal supervisor's email address) the following documents for initial review and assessment (please put the project title in the subject line).

- CV
- Two formal reference letters

- Personal statement outlining your interest in the position
- Certificates of English language qualifications (IELTS or equivalent)
- Full academic 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)
- PDF copy of Master Degree dissertation (or an equivalent writing sample) and examiners reports available