

## PhD studentship (Full-time)

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| Institution          | Xi'an Jiaotong-Liverpool University, China                                                                                                                                                                                                                                                                                                                                                  |
| School               | School of Science                                                                                                                                                                                                                                                                                                                                                                           |
| Supervisors          | Principal supervisor: Professor Xiuchen Wu (XJTLU)<br>Co-supervisor: Dr. Yaoqi Li (XJTLU)<br>Co-supervisor: Dr. Andrew Hackett Pain (UoL)                                                                                                                                                                                                                                                   |
| Application Deadline | Open until the position is filled                                                                                                                                                                                                                                                                                                                                                           |
| Funding Availability | Funded PhD project (world-wide students)                                                                                                                                                                                                                                                                                                                                                    |
| Project Title        | Effects of Biodiversity on Tree Growth Resilience to Compound Extreme Climate Events                                                                                                                                                                                                                                                                                                        |
| Contact              | Please email <a href="mailto:xiuchen.wu@xjtlu.edu.cn">xiuchen.wu@xjtlu.edu.cn</a> (XJTLU principal supervisor's email address) with a subject line of the PhD project title.<br><br>The principal supervisor's profile is linked here:<br><a href="https://www.researchgate.net/profile/Xiuchen-Wu-3?ev=prf_overview">https://www.researchgate.net/profile/Xiuchen-Wu-3?ev=prf_overview</a> |

### **Requirements:**

A Master's degree/BSc in ecology, forestry, physical geography, environmental science, mathematics, computer science or related disciplines.

A Master's degree with Merit and a Bachelor's degree with first-class or upper second-class honors are required for PhD admissions. Exceptional candidates holding only a Bachelor's degree may be considered on an individual basis in certain disciplines.

Evidence of good spoken and written English is essential. The candidate should have an IELTS (or equivalent) score of 6.5 or above, if the first language is not English. This position is open to all qualified candidates irrespective of nationality.

Demonstrated interests in global change ecology and land-atmosphere interactions.

Strong experience with statistical programming (R/Python/Matlab)

### **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 holders are expected to conduct the majority of their research at XJTLU in Suzhou, China. However, they may apply for a short-term research visit to the University of Liverpool if the project requires it.

**Project Description:**

Both the intensity and frequency of compound extreme climate events (e.g., compound drought-heatwave events) are increasing dramatically along with climate warming. These events exert detrimental impacts on tree growth and productivity, potentially undermining terrestrial carbon sequestration, particularly in water-limited ecoregions. However, the critical effects of forest biodiversity and canopy structure complexity on tree growth resilience to compound extreme climate events remain largely unknown.

This project aims to address this crucial knowledge gap by relying on regional-scale tree-ring networks, gridded species biodiversity data, canopy structure complexity metrics, and climate and soil property datasets across sub-humid and semi-arid China. The specific research objectives include:

- 1) To clarify the regulatory effects of neighborhood species and functional trait diversity on individual tree growth and its response to compound extreme drought-heatwave events;
- 2) To reveal the spatial patterns and mechanisms underlying the regulatory effects of species and functional trait diversity on plot-scale tree growth resilience to compound extreme drought-heatwave events.

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/doctoral/entry-requirement-phd>

<https://www.xjtlu.edu.cn/en/admissions/doctoral/postgraduate-research-scholarships>

**How to Apply:**

Interested applicants are advised to email xiuchen.wu@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