

### PhD studentship (Full-time)

Institution	Xi'an Jiaotong-Liverpool University, China
School	School of Science
Supervisors	Principal supervisor: Dr. Sekar Raju (Xi'an Jiaotong-Liverpool University, XJTLU) Co-supervisor: Prof. Alan Kaluev (XJTLU) Co-supervisor: Dr. Weiwei Dai (XJTLU) Co-supervisor: Dr. Malcom Horsburgh (University of Liverpool, UoL)
Application Deadline	Open until the position is filled
Funding Availability	Funded PhD project (world-wide students)
Project Title	Impact of micro and nanoplastics on the toxicological and bioaccumulation effects on animals and its implication for human health
Contact	Please email <a href="mailto:Sekar.Raju@xjtlu.edu.cn">Sekar.Raju@xjtlu.edu.cn</a> with a subject line of the PhD project title.  The principal supervisor's profile is linked here: <a href="https://scholar.xjtlu.edu.cn/en/persons/SekarRaju">https://scholar.xjtlu.edu.cn/en/persons/SekarRaju</a>

#### **Requirements:**

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.

#### **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:**

Microplastics (MPs) and nanoplastics (NPs) have emerged as harmful pollutants in aquatic and terrestrial ecosystems, posing significant threats to environmental and human health. These particles, derived from the degradation of larger plastics or industrial processes, accumulate in ecosystems and present toxicological risks due to their potential for bioaccumulation in organisms. Human exposure occurs through contaminated seafood, drinking water and food, raising concerns about long-term health impacts.

This PhD project will explore the toxicological and bioaccumulation effects of MPs and NPs using zebrafish as a model organism, alongside assessing their impact on human cell lines. By integrating *in vivo* and *in vitro* approaches, the research will unravel the molecular mechanisms driving MP/NP-induced toxicity. The findings will contribute to a deeper understanding of how these pollutants alone or in combination with other stressors affect aquatic life and human health. Ultimately, this work aims to inform strategies for mitigating plastic pollution and safeguarding biodiversity. This project will be supervised by Dr. Sekar Raju (XJTLU), Prof. Alan Kaluev (XJTLU), Dr. Weiwei Dai (XJTLU) and Dr. Malcom Horsburgh (UoL).

We are seeking a highly motivated candidate with a background in microbiology, molecular biology or toxicology to join this interdisciplinary project. The research will employ a range of conventional and advanced techniques, including histopathology and microscopy, cell culture, biochemical and immunoassays and microbial genomics. This position offers excellent training opportunities in cutting-edge methodologies and collaboration within an international research environment.

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 [Sekar.Raju@xjtlu.edu.cn](mailto:Sekar.Raju@xjtlu.edu.cn) (XJTLU principal supervisor) the following documents for initial review and assessment (please include 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