

### PhD studentship (Full-time)

Institution	Xi'an Jiaotong-Liverpool University, China
School	School of Science, Department of Chemistry
Supervisors	Principal supervisor: Dr Xuan Xue (XJTLU) Co-supervisor: Dr Lifeng Ding (XJTLU) Co-supervisor: Prof William A. Paxton (UoL) Co-supervisor: Dr Georgios Pollakis (UoL)
Application Deadline	Open until the position is filled
Funding Availability	Funded PhD project (world-wide students)
Project Title	The development of novel protective polymeric materials against fomite transmission of respiratory viruses and the mechanism study.
Contact	Please email xuan.xue@xjtlu.edu.cn (XJTLU principal supervisor's email address) 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 Polymer Chemistry, Organic Chemistry or Materials Science. A sound knowledge of data analysis, statistics, numerical analysis is essential. Skills in machine learning, such as Python, Matlab, C++, or R language, are desirable.

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 80,000 per annum) and provides a monthly stipend of 5,000 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 six months, if this is required by the project.

### **Project Description:**

Respiratory diseases caused by viruses have become a serious global public health concern, in particular, as new viruses emerge. The fomite transmission of respiratory viruses has been highlighted as a potential transmission challenge in containing the pandemic. An important aspect of managing fomite transmission is the knowledge and development of novel protective materials, ideally with broad-spectrum, to eliminate the problematic cross-infections. However, to date, there is still limited information regarding the virus attachment to materials and their stability against different surface chemistries. Recently, high-throughput polymer microarray screening aided with computational modelling has been demonstrated as a powerful tool to help build the theoretical framework and identify novel materials. In this work, we will use this methodology to discover novel simple polymers for fomite transmission control, investigate the mechanism behind it, and develop novel protective materials. Therefore, this PhD project is interdisciplinary in nature, including polymer synthesis and characterization, biological assay, machine learning and computational simulation.

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 [xuan.xue@xjtlu.edu.cn](mailto:xuan.xue@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 reference letters with company/university letterhead
- Personal statement outlining your interest in the position
- Proof of English language proficiency (an IELTS score of 6.5 or above)
- 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)

- PDF copy of Master Degree dissertation (or an equivalent writing sample) and examiners reports available

**Informal enquiries** may be addressed to Dr Xuan Xue (xuan.xue@xjtlu.edu.cn), whose personal profile is linked below,

<https://www.xjtlu.edu.cn/zh/study/departments/academic-departments/chemistry/department-staff/academic-staff/staff/xuan-xue>