

## PhD studentship (Full-time)



Institution	Xi'an Jiaotong-Liverpool University, China
Department	Department of Chemistry
Supervisors	Principle supervisor: Professor/Dr Yi Lin (XJTLU, Department of Chemistry) Co-supervisor: Professor/Dr Kim Lau(XJTLU, Department of Chemistry) Co-supervisor: Professor/Dr Alessandro Troisi (UoL, Department of Chemistry)
Application Deadline	Open until the position is filled
Funding Availability	Funded PhD project (world-wide students)
Project Title	Development of 3D organic semiconductor: synthesis and characterization
Contact	Please email.yi.lin@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 Chemistry 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 three months, if this is required by the project.

### **Project Description:**

Conjugated organic molecules have been widely used in organic electronics, including OLED, OFET, OPV, and OPD. The current project will synthesize 4,4'-spirobi[cyclopenta[2,1-b;3,4-b']dithiophene] (SCPDT)-cored molecules with two orthogonal  $\pi$ -conjugation chains. Owing to the increased charge transport dimensionality of the molecule, these compounds are supposed to be good isotropic charge transporting materials. By varying the  $\pi$ -conjugated arms, p-type (electron donor), n-type (electron acceptor), or even ambipolar molecules will be synthesized. Use of these compounds in OPV will be tested. A combined experimental and theoretical analysis will provide a general structure-property-performance relationship of these molecules, which can serve as a guideline for further molecule design for organic electronics. This project will train student in organic synthesis, material characterization, molecular modelling, as well as organic electronic devices fabrication and testing.

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

<http://www.xjtlu.edu.cn/en/study-with-us/admissions/entry-requirements>

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

### **How to Apply:**

Interested applicants are advised to email yi.lin@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 Professor/Dr. Yi Lin (yi.lin @xjtlu.edu.cn), whose personal profile is linked below,

<https://www.xjtlu.edu.cn/en/departments/academic-departments/chemistry/staff/yi-lin>