

PhD studentship (Full-time)



Institution	Xi'an Jiaotong-Liverpool University, China
Department	Department of Chemistry
Supervisors	Principal supervisor: Dr Eric Amigues (XJTLU, Department of Chemistry) Co-supervisor: Dr Li Yang (XJTLU, Department of Chemistry) Co-supervisor: Professor Richard Nichols (UoL, Department of Chemistry) Co-supervisor: Dr Yannick Dappe (CNRS, CEA Saclay)
Application Deadline	Open until the position is filled
Funding Availability	Funded PhD project (world-wide students)
Project Title	Experimental and theoretical studies of medium effect in asymmetric molecular junctions
Contact	Please email eric.amigues@xjtlu.edu.cn 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:

The prime aspiration of molecular electronics is to fabricate and interconnect molecules that can replace, or at least augment, present silicon-based technology, with the molecules functioning as switches, transistors or even logic gates. Clearly big challenges exist if such technologies are ever to reach fruition. In this respect, one of the key scientific challenges is to achieve stable molecular devices under the operating environment. The electrical properties of molecules depend on their environment. We recently discovered that the conductance of single molecules (a redox active viologen) showed a clear on-off switching in an appropriate ionic liquid. This project proposes to use asymmetric molecular junctions (MJs), by selecting different anchoring groups, electrodes and molecule-electrode interfaces, molecular structures (substitute geometry) to carry out an in-depth experimental and theoretical research on medium effect and charge transport mechanism of MJs.

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.....@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. Eric Amigues (eric.amigues@xjtlu.edu.cn)