

PhD studentship (Full-time)

Institution	Xi'an Jiaotong-Liverpool University, China
Department	Department of Chemistry
Supervisors	Principle supervisor: Dr Lifeng Ding (Xi'an Jiaotong-Liverpool University) Co-supervisor: Prof Andrew Cooper (University of Liverpool, UK); Co-supervisor: Prof Rudi Marquez (Xi'an Jiaotong-Liverpool University);
Application Deadline	Open until the position is filled
Funding Availability	Funded PhD project (world-wide students)
Project Title	Molecular simulation studies of separation of chiral molecules in nanoporous materials
Contact	Please email Lifeng.Ding@xjtlu.edu.cn (principal supervisor's email address) and copy doctoralstudies@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, Materials Science, Chemical Engineering, Mathematics or Physics. Evidence of good spoken and written English is essential. The candidate should have an IELTS score of 6.5 or above, or an equivalent qualification, 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 3500 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:

Large number of biological molecules and pharmaceutical drug molecules can exist in two forms: either right-handed or left-handed enantiomers, which are the mirror images of each other. The production of single enantiomers is of particular importance to biotechnology and pharmaceutical industries, because molecules with different chiral forms will have very different toxicological or pharmacologic impact. Recently, novel classes of nanoporous materials, such as metal-organic frameworks (MOFs), covalent organic frameworks (COFs), and porous organic cages (POCs), hold great potential to separate racemic mixtures. The research of chiral separation employing nanoporous materials is still in its infancy. The potential of nanoporous materials to separate chiral molecules has yet to be fully understood and explored. This project will employ computational approaches to simulate adsorption and diffusion of a wide range of chiral molecules in various nanoporous materials at a molecular level. Compared to laboratory experimental approaches, molecular simulations are more economically viable to screen, characterize and understand nanoporous materials' chiral separation performance.

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

<http://www.xjtlu.edu.cn/en/admissions/phd/entry-requirements.html>

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

How to Apply:

Interested applicants are advised to email Lifeng.Ding@xjtlu.edu.cn (principal supervisor's email address) the following documents and copy doctoralstudies@xjtlu.edu.cn (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 above 6.5 or equivalent is required)
- 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)

Informal enquiries may be addressed to Dr Lifeng Ding(Lifeng.Ding@xjtlu.edu.cn), whose personal profile is linked below,

<http://www.xjtlu.edu.cn/en/departments/academic-departments/chemistry/staff/lifeng-ding>