

**PhD studentship (Full-time)**

Institution	Xi'an Jiaotong-Liverpool University, China
School	School of Mathematics and Physics
Supervisors	Principal supervisor: Dr Xinyao Yang (XJTLU) Co-supervisor: Dr Andrew Lin(XJTLU) Co-supervisor: Dr Gayane Piliposyan (UoL)
Application Deadline	Open until the position is filled
Funding Availability	Funded PhD project (world-wide students)
Project Title	Mathematical Modeling of Liquid Droplet and Thin Film in a Vertical Gas Channel
Contact	Please email <a href="mailto:Xinyao.Yang@xjtlu.edu.cn">Xinyao.Yang@xjtlu.edu.cn</a> (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 Mathematical Sciences. 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:**

This research project will develop a mathematical model to understand how different surface properties and operating conditions affect the dynamics of the droplet or the formation of a liquid film in a vertical gas channel, with particular interest in the critical conditions where liquid films are formed in a catalytic assembly. Firstly, the project team will focus on developing a mathematical model of a droplet or formulation of thin film where the thickness of thin film is driven by surface tension and influenced by gravity in the vertical plane based on the experiments that simulates the process. In the second phase, the project team will discuss the dynamics of the governing PDE equations, travelling wave solutions and Lax shocks. In phase III, the project team will examine the film stabilization model and stability analysis of travelling waves.

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 Xinyao.yang@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