

### PhD studentship (Full-time)

Institution	Xi'an Jiaotong-Liverpool University, China
School	School of Intelligent Manufacturing Ecosystem
Supervisors	Principal supervisor: Dr Long Huang (XJTLU) Co-supervisor: Dr Yi Chen (XJTLU) Co-supervisor: Dr Guangliang Cheng (UoL)
Application Deadline	Open until the position is filled
Funding Availability	Funded PhD project (world-wide students)
Project Title	The development of a performance optimization strategy on heat transfer devices with considerations of the dynamic system characteristics
Contact	Please email <a href="mailto:long.huang@xjtlu.edu.cn">long.huang@xjtlu.edu.cn</a> (XJTLU principal supervisor's email address) with a subject line of the PhD project title.  The principal supervisor's profile is linked here:  <a href="https://scholar.xjtlu.edu.cn/en/persons/LongHuang">https://scholar.xjtlu.edu.cn/en/persons/LongHuang</a>

#### **Requirements:**

The candidate should have a first class or upper second class honours degree, or a master's degree (or equivalent qualification), in Mechanical Engineering, Energy and Power Engineering, Applied Mathematics, Computer Science and other relevant fields.

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 99,000 per annum). It also provides up to RMB 16,500 to allow participation at international conferences during the period of the award. 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 up to six months, if this is required by the project.

**Project Description:**

This research aims to optimize the performance of heat transfer devices by integrating geometric design improvements with system-level flow control. This research addresses the challenge of accurately modeling the coupling effects of uneven heat flux and non-uniform gas-liquid flow distributions. Using numerical simulations validated by experiments, this study examines phase-change heat transfer, geometric design, and environmental conditions at the microchannel level. This study contributes to the development of non-uniform geometry microchannel heat exchangers and optimized control logic, enhancing efficiency in air-conditioning and heat pump systems by mitigating uneven heat transfer and flow distribution.

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 long.huang@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 formal reference letters
- Personal statement outlining your interest in the position
- Certificates of English language qualifications (IELTS or equivalent)
- Full academic 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