

PhD studentship (Full-time)

Institution	Xi'an Jiaotong-Liverpool University, China
School	School of Design
Supervisors	<i>Please list all the names in the supervisory team. It should be consistent with the information on your approved PGRS proposal.</i> Principal supervisor: Dr Shu Tang (XJTLU) Co-supervisor: Dr Cheng Zhang (XJTLU) Co-supervisor: Dr Chao Huang (UoL)
Application Deadline	Open until the position is filled
Funding Availability	Funded PhD project (world-wide students)
Project Title	BIM and Building Automation System assisted Indoor Environmental Quality Monitoring for Engineering Laboratory using IoT devices
Contact	Please email Shu.Tang@xjtlu.edu.cn (XJTLU principal supervisor's email address) with a subject line of the PhD project title

Requirements:

Applicants with a B.S. or M.S. in Civil Engineering, Construction Engineering/Management, Environmental Engineering, Industrial Engineering, Mechanical Engineering, Mathematics, Computer Science/Engineering, Electrical Engineering, or a related field are encouraged to apply. Other majors can also be considered if the applicant has a strong interest or motivation in IoT/ BIM/BAS and machine learning/AI. 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) 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:

Monitoring the Indoor Environment Quality (IEQ) through Building Information Modeling (BIM), Internet of Things (IoT), and Building Automation System (BAS) can create innovative applications such as monitor human comfort and energy. The current studies haven't overcome the data interoperability issue in a standardized way. Study on monitoring IEQ for engineering lab using BIM, BAS, and IoT technologies is rare. The proposal aims to create a framework to integrate BIM, BAS, and IoT data to monitor real-time IEQ for engineering laboratories. The framework includes BIM model reconstruction, BAS metadata encoding, IoT data acquisition, 3D visualized user interface (UI), and Predicted Mean Vote (PMV) model for IEQ monitoring. The proposed framework will achieve data linking between BIM, BAS, IoT data silos in a standardized way. The UI will allow real-time optimize IEQ factors with 3D visualization, boosting researchers' comfort and enabling remote control.

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 Shu.Tang@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. Shu Tang (Shu.Tang@xjtlu.edu.cn),

whose personal profile is linked below,

<https://www.xjtlu.edu.cn/en/study/departments/design-school/civil-engineering/department-staff/academic-staff/staff/shu-tang>