

PhD studentship (Full-time)

Institution	Xi'an Jiaotong-Liverpool University, China
School	Design School
Supervisors	Principal supervisor: Dr. Fangyu Guo (XJTLU) Co-supervisor: Dr. Jianli Hao (XJTLU) Co-supervisors: Dr. Luigi Di Sarno and Adam Mannis (UoL)
Application Deadline	Open until the position is filled
Funding Availability	Funded PhD project (world-wide students)
Project Title	Digital twin-based risk management framework for construction projects
Contact	Please email Fangyu.guo@xjtlu.edu.cn (XJTLU principal supervisor's email address) with a subject line of the PhD project title. The principal supervisor's profile is linked here: https://www.xjtlu.edu.cn/en/staff-details/staff/fangyu-guo

Requirements:

The candidate should have a first class or upper second class honours degree, or a master's degree (or equivalent qualification), in Civil Engineering, Construction Engineering/Management or other related 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:

With the advent of Construction 4.0 era, the digitization of the construction industry is accelerating due to the emergence of various digital technologies, such as building information modeling (BIM), photogrammetry technology, and digital twin (DT). Digital twin, in particular, attracts more attention for its potential values to the construction industry. However, there is a lack of comprehensive framework for using digital twin to manage the risks for construction projects. This study aims to develop a digital twin-based risk management framework for construction projects. Investigations would be conducted for four phases, namely risk identification, risk evaluation, risk response, and risk prediction and control. The comprehensive digital twin-based risk management framework will be established by incorporating the key findings obtained from each of the four phases, and the results of this study are expected to provide practitioners with valuable insights and guidance in terms of how the digital twin can be used to manage risks throughout the entire lifecycle of construction projects.

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 Fangyu.guo@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