

PhD studentship (Full-time)

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| Institution | Xi'an Jiaotong-Liverpool University, China |
| Department | Department of Civil Engineering |
| Supervisors | Principal supervisor: Charles Loo (Xi'an Jiaotong-Liverpool University) Co-supervisor: Theofanis Kreaikas (Xi'an Jiaotong-Liverpool University) Co-supervisor: C.S. Chin (Xi'an Jiaotong-Liverpool University) Co-supervisor: Steve Jones (University of Liverpool, UK); |
| Application Deadline | 28 th Feb. 2017 |
| Funding Availability | Funded PhD project (world-wide students) |
| Project Title | Experimental and numerical investigation of textile reinforced mortar for strengthening of RC members at elevated temperatures |
| Contact | Please email charles.loo@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 Civil Engineering or related area. 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:

The use of fibre reinforced polymer (FRP) has gained a lot of attention in recent years as a strengthening and repair method. The composite is known to be light weight and strong. However, one of the major drawbacks of FRP is its poor performance at elevated temperature. Textile reinforced mortar (TRM), on the other hand, has better fire resistance properties. TRM is also cheaper, using cement instead of a strong epoxy. Studies to understand the behaviour of TRM are rather limited and further investigations are required to understand its mechanism especially at high temperature. This project proposes to study the thermo-mechanical properties of TRM at ambient as well as elevated temperatures. A special focus will be devoted to finding if the fire resistance of the composite can be improved by adding additives to the mortar. In addition, full scale tests of reinforced concrete beams externally reinforced with TRM will be performed to assess its strengthening performance at elevated temperatures. Finite element modelling will be required for validating the experimental findings.

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.html>

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

How to Apply:

Interested applicants are advised to email charles.loo@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
- 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. Charles Loo (charles.loo@xjtlu.edu.cn), whose personal profile is linked below, <http://www.xjtlu.edu.cn/en/departments/academic-departments/civil-engineering/staff/charles-k-s-loo-chin-moy>