

## PhD studentship (Full-time)



Institution	Xi'an Jiaotong-Liverpool University, China
Department	Department of Civil Engineering
Supervisors	Principle supervisor: Dr. Isaac Galobardes (Xi'an Jiaotong-Liverpool University) Co-supervisor: Prof. Kristian Krabbenhoft (University of Liverpool, UK);
Application Deadline	Open until the position is filled
Funding Availability	Funded PhD project (world-wide students)
Project Title	Potential of Sustainable Functionally Graded Concrete Pavements
Contact	Please email <a href="mailto:isaac.galobardes@xjtlu.edu.cn">isaac.galobardes@xjtlu.edu.cn</a> (principal supervisor's email address) and copy <a href="mailto:doctoralstudies@xjtlu.edu.cn">doctoralstudies@xjtlu.edu.cn</a> 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. 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:**

China has undergone rapid economic development over the past few decades and with it an equally rapid expansion of its road network. This trend is likely to continue and since environmental issues are becoming ever more important, it is essential that sustainable solutions are utilised in infrastructure development. Therefore, it is necessary to explore the use of different economical and environmentally friendly solutions for producing pavements. The functionally graded material concept may be applied to concrete to create more efficient structures. The combination of this concept using recycle aggregates and fibres as concrete reinforcement would improve the technological and environmental drawbacks of traditional concrete. This proposed project aims to investigate the feasibility of using functionally graded concrete (FGC) fabricated with fibre reinforced and recycled aggregates concretes to produce pavements. In that sense, different types of FGC mixes will be studied and compared. Optimization methods and control systems will be proposed and a sustainable analysis comparing the different FGC will be performed to determine the feasibility of using them to produce pavements.

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/entry-requirements.html>

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

### **How to Apply:**

Interested applicants are advised to email [isaac.galobardes@xjtlu.edu.cn](mailto:isaac.galobardes@xjtlu.edu.cn) (principal supervisor's email address) the following documents and copy [doctoralstudies@xjtlu.edu.cn](mailto:doctoralstudies@xjtlu.edu.cn) (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 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. Isaac Galobardes ([isaac.galobardes@xjtlu.edu.cn](mailto:isaac.galobardes@xjtlu.edu.cn)), whose personal profile is linked below:

<http://www.xjtlu.edu.cn/en/departments/academic-departments/civil-engineering/staff/isaac-galobardes>