

## PhD studentship (Full-time)



Institution	Xi'an Jiaotong-Liverpool University, China
Department	Department of Civil Engineering
Supervisors	Principle supervisor: Dr. Changhyun Jun (XJTLU, Department of Civil Engineering) Co-supervisor: Associate Professor Yixin Zhang (XJTLU, Department of Environmental Science) Co-supervisor: Dr. Hyung-Chul Chung (XJTLU, Department of Urban Planning and Design) Co-supervisor: Professor Andy Morse (UoL, School of Environmental Sciences)
Application Deadline	Open until the position is filled
Funding Availability	Funded PhD project (world-wide students)
Project Title	Initiatives for Sustainable Urban Development in China: Focusing on Flooding and Stormwater Management □ 国 □ □ 续 □ □ 发 □ □ 议 : 关 □ □ □ □ □ □ 理
Contact	Please email Changhyun.Jun@xjtlu.edu.cn (XJTLU principal supervisor's email address) 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 Environmental Sciences. 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 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:**

With cities getting bigger and climate change threatening to bring more extreme weather, the concept of “sponge cities” has been proposed in China, which is a re-imagination of the urban environment where raindrop is captured, controlled and reused. For better adaptation to the escalating threat of climate change induced hazards, the city needs to have a more resilient, less vulnerable urban drainage systems for sustainable stormwater management. The focus of this research is placed on the use of probabilistic approaches to describe hydrological processes of urban water cycle and their applications to the design and performance evaluation of stormwater management facilities in pilot cities in China. Under different types of climate change and urbanization scenarios, it aims to develop a risk-based framework for the optimal design of facilities considering various sources of uncertainty. Finally, a design guideline for urban stormwater management will be provided from reliability evaluation under precipitation extremes.

The scope of this proposed research encompasses the design and analysis of stormwater management facilities in China, and mitigation/adaptation measures and strategies from risk assessment dealing with the impact of climate change and urbanization. From regional/global-scale perspectives on sustainable urban stormwater management, it will provide proper guidelines for design, assessment and management of urban water resources. The proposed research has four principal objectives:

- 1) To develop probabilistic models that capture stochastic behaviors of rainfall characteristics and describe hydrological processes of urban water cycle;
- 2) To apply developed probabilistic models for the design and performance evaluation of stormwater management facilities under different types of climate change and urbanization scenarios in China;
- 3) To develop a risk-based framework for optimal design that consider various sources of uncertainty;
- 4) To provide a design guideline for urban stormwater management with useful information for critical design criteria from reliability evaluation under precipitation extremes.

For more information about doctoral scholarship and PhD programme at Xi'an Jiaotong-Liverpool University (XJTLU): Please visit

<http://www.xjtlu.edu.cn/en/study-with-us/admissions/entry-requirements>

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

**How to Apply:**

Interested applicants are advised to email Changhyun.Jun@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)

**Informal enquiries** may be addressed to Dr. Changhyun Jun (Changhyun.Jun@xjtlu.edu.cn), whose personal profile is linked below, <http://www.xjtlu.edu.cn/en/departments/academic-departments/civil-engineering/staff/changhyun-jun>.