

**PhD studentship (Full-time)**

Institution	Xi'an Jiaotong-Liverpool University, China
Department	Department of Civil Engineering
Supervisors	Principal supervisor: Dr. Ominda Nanayakkara (XJTLU, Department of Civil Engineering) Co-supervisor: Dr. Theofanis Krevaikas (XJTLU, Department of Civil Engineering) Co-supervisor: Dr. Luigi Sarno (University of Liverpool, Department of Civil Engineering and Industrial Design)
Application Deadline	Open until the position is filled
Funding Availability	Funded PhD project (world-wide students)
Project Title	有机缓蚀剂与织物增强砂浆对钢筋混凝土腐蚀柱的修复与加固 Repair and strengthening of corroded RC columns using organic corrosion inhibitors and Textile Reinforced Mortar (TRM).
Subject Areas	Civil & Structural Engineering
Contact	Please email ominda.nanayakkara@xjtlu.edu.cn (XJTLU principal supervisor's email address) with a subject line of the PhD project title

**Requirements:**

Academic qualification: The candidate should have a first class or upper second class honours degree, or a master's degree (or equivalent qualification), in civil engineering, structural engineering or related disciplines.

Language qualification: 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 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 or research 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 need for upgrading Reinforced Concrete (RC) structures especially for those having high importance to society (electric power plants, hospitals, schools etc.) has increased significantly due to public safety and maintenance cost issues. The use of Textile Reinforced Mortars (TRM) to retrofit, RC elements have emerged as a promising alternative to the use of Fibre Reinforced Polymers (FRP), mainly because of TRM's improved performance at elevated or low temperatures, on wet surfaces, at aggressive environments, but most importantly their sustainability. At the same time organic corrosion inhibitors such as small-molecule-based alcohol amine series are becoming the focus of attention due to their environmental friendly behaviour. This study investigates the repairing and/or strengthening of large scale concrete columns suffering from corrosion problems with the use of different types of corrosion inhibitor incorporated patch repair mortars and TRM.

For more information about doctoral scholarships and PhD programmes at Xi'an Jiaotong-Liverpool University (XJTLU), please go to <https://www.xjtlu.edu.cn/en/> and Click **Study with Us**.

### **How to Apply:**

Interested applicants are advised to email [ominda.nanayakkara@xjtlu.edu.cn](mailto:ominda.nanayakkara@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. Nanayakkara ([ominda.nanayakkara@xjtlu.edu.cn](mailto:ominda.nanayakkara@xjtlu.edu.cn))

## Appendix: Subject Areas

Please kindly be noted that subject areas are added to increase the visibility of your project on [www.findaphd.com](http://www.findaphd.com). *Please choose up to 10 subject areas and put them down in the Subject Areas column on the first page of this document.*

### Biological & Medical Sciences

- Agricultural Sciences
- Biochemistry
- Bioinformatics
- Biomedical Engineering
- Biophysics
- Biotechnology
- Botany / Plant Science
- Cancer / Oncology
- Cell Biology / Development
- Dentistry
- Ecology & Conservation
- Endocrinology
- Evolution
- Food Science / Nutrition
- Genetics
- Immunology
- Marine Biology
- Medical / Biomedical Physics
- Medical / Clinical Science
- Medical Imaging
- Microbiology
- Molecular Biology
- Neuroscience / Neurology
- Obstetrics, Gynaecology & Reproduction
- Palaeobiology
- Parasitology
- Pathology
- Pharmacology / Toxicology
- Pharmacy / Pharmaceutics
- Physiology & Sports Science

### Engineering

- Acoustics
- Aeronautical, Maritime and Transport Engineering
- Biomedical Engineering
- Chemical Engineering
- Civil & Structural Engineering
- Electrical & Electronic
- Energy
- Environmental Engineering
- Manufacturing
- Materials Science
- Mechanical Engineering
- Nanotechnology
- Nuclear Engineering
- Petrochemical Engineering
- Semiconductors
- Software Engineering
- Telecommunications

### Maths & Computing

- Applied Mathematics
- Bioinformatics
- Computational Chemistry
- Computer Science & IT
- Data Analysis
- Information Science
- Mathematics
- Operational Research
- Software Engineering
- Statistics

### Humanities

- Psychology & Psychiatry
- Public Health & Epidemiology
- Structural Biology
- Veterinary Medicine
- Virology
- Zoology / Animal Science

### **Chemical Sciences**

- Agricultural Chemistry
- Analytical Chemistry
- Biochemistry
- Chemical Engineering
- Chemical Toxicology
- Computational Chemistry
- Electrochemistry
- Environmental Chemistry
- Food Chemistry
- Geochemistry
- Inorganic Chemistry
- Macromolecular Chemistry
- Materials Science
- Organic Chemistry
- Pharmaceutical Chemistry
- Physical Chemistry
- Synthetic Chemistry

### **Physical Sciences**

- Applied Physics
- Astrophysics
- Atmospheric Physics
- Atomic Physics
- Biophysics
- Condensed Matter Physics
- Fluid Dynamics
- Geophysics
- Low-temperature Physics

- American Studies
- Anthropology
- Archaeology
- Architecture & the Built Environment
- Asian Studies
- Classics & Ancient History
- Communication, Cultural & Media Studies
- European Studies
- Geography
- History
- Middle East & African Studies
- Modern Languages & Linguistics
- Philosophy
- Theology & Religious Studies

### **Social Science & Health**

- American Studies
- Anthropology
- Architecture & the Built Environment
- Asian Studies
- Development Studies
- Economics
- Education
- European Studies
- Gender & Sexuality
- Geography
- Health Sciences
- History
- Middle East & African Studies
- Modern Languages & Linguistics
- Nursing, Midwifery & Allied Health Professions
- Philosophy
- Political Science & International Studies
- Psychology
- Public Health & Epidemiology
- Social Work, Social Policy & Administration

- Materials Science
- Medical / Biomedical Physics
- Metrology
- Nuclear Physics
- Optical Physics
- Particle Physics
- Plasma Physics
- Radiation
- Semiconductors
- Theoretical Physics

### **Earth Sciences**

- Agronomy & Soil Science
- Atmospheric Physics
- Climatology & Climate Change
- Ecology & Conservation
- Ecotoxicology & Pollution
- Environmental Chemistry
- Environmental Engineering
- Environmental Science
- Geochemistry
- Geography
- Geology
- Geophysics
- Hydrology
- Meteorology
- Oceanography
- Palaeontology

- Sociology
- Sports, Recreation & Leisure Studies
- Town & Country Planning

### **Business & Finance**

- Accounting & Finance
- Business & Management
- Economics
- Marketing
- Tourism & Hospitality

### **Law**

- Law

### **Arts**

- Architecture & the Built Environment
- Art & Design
- Classics & Ancient History
- Drama, Dance & Performing Arts
- English
- History
- Music