PhD studentship (Full-time)

Institution	Xi'an Jiaotong-Liverpool University, China
School	School of Advanced Technology
Supervisors	Principal supervisor: Associate Professor/Dr. Min Chen (XJTLU) Co-supervisor: Senior Associate Professor/Dr. Konstantinos Papadikis (XJTLU) Co-supervisor: Professor Yuyuan Zhao (UoL)
Application Deadline	Open until the position is filled
Funding Availability	Funded PhD project (world-wide students)
Project Title	Loading capacity prediction and multi-objective optimization design of smart lattice structures
Contact	Please email min.chen@xjtlu.edu.cn with a subject line of the PhD project title. The principal supervisor's profile is linked here: https://www.xjtlu.edu.cn/zh/departments/academic-departments/mechatronics-and-robotics/staff/min-chen

Requirements:

The candidate should have a first class or upper second class honours degree, or a master's degree (or equivalent qualification) in Mechanical Engineering, Mechatronics, Mechanics, Civil Engineering or relevant engineering majors.

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). 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.

Besides the covered tuition fee, the principal supervisor's team will provide a basic allowance 1500RMB/Month. It also provides the participation at academic conferences in China at least

once per year. The student will have the possibility to work as a Teaching Assistant (TA) with the payment 50RMB/hour.

Project Description:

Lattice structure, a porous 3D spatial component formed by unit cells with different geometries, integrated with functional materials, like carbon fiber composites, piezoelectric layers, has great potential in high-end manufacturing and aircraft industries due to their lightweight, high strength, absorbing energy and the capabilities for controlling shape and response to vibration. However, the numerical prediction of the loading capacities of those composites under multi-physics effects and their geometrically nonlinear analysis of functional layers with large deformations are a challenging topic. Based on the previous research in composite material modeling, this project addresses the systematic multi-physics coupled modeling and multi-objective structural optimization method of smart lattice structures at the micro- and macro- scales. The expected achievements will provide the fundamental mechanism and design reference for the smart structure analysis.

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 min.chen@xjtlu.edu.cn 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