PhD studentship (Full-time)

Institution	Xi'an Jiaotong-Liverpool University, China
School	School of Maths and Physics
Supervisors	*Please list all the names in the supervisory team. It should be consistent with the information on your approved PGRS proposal.* Principal supervisor: Professor/Dr Chen Xuan (XJTLU) Co-supervisor: Professor/Dr Bakhti Vasiev (UoL)
Application Deadline	Open until the position is filled
Funding Availability	Funded PhD project (world-wide students)
Project Title	AI assisted walking and swimming stimuli responsive soft robots
Contact	Please email chenxuan@liverpool.ac.uk (XJTLU principal supervisor's email address) with a subject line of the PhD project title. The principal supervisor's profile is linked here: https://scholar.xjtlu.edu.cn/en/persons/ChenXuan

Requirements:

Mechanics, maths, physics or other engineering majors are the most relevant. A Master's degree with Merit and a Bachelor's degree with first-class or upper second-class honors are required for PhD admissions. Exceptional candidates holding only a Bachelor's degree may be considered on an individual basis in certain disciplines.

Evidence of good spoken and written English is essential. The candidate should have an IELTS (or equivalent) 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 99,000 per annum). It also provides up to RMB 16,500 to allow participation at international conferences during the period of the award. The scholarship holders are expected to conduct the majority of their

research at XJTLU in Suzhou, China. However, they may apply for a short-term research visit to the University of Liverpool if the project requires it.

Project Description:

Successful completion of this PhD programme could lead to worldwide career opportunities in academia and high-tech industrial sectors like software, R&D, biomed, robotics and smart manufacturing alike. The PhD project is on mathematical modeling and computer simulation of stimuli responsive smart materials. Macroscopic mechanical response could originate from changes in microscopic configurations in such smart materials as liquid crystals and gels driven by thermal, optical, electrical and photochemical excitations. Soft biomimetic robots made from such smart materials capable of walking or swimming like animals in nature could be designed via simulation, together with experiments done by external collaborators. Smart remote control of such stimuli driven soft robots has promising engineering applications, the mechanical side of artificial intelligence. The primary role of the PhD candidate is to develop theoretical and numerical models to study the mechanics of smart materials and structures. The supervisors will endeavor to help the candidate work on simplified models to initiate the project. The candidate is welcome to propose additional ideas to the project.

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 chenxuan@liverpool.ac.uk (XJTLU principal supervisor's email address) the following documents for initial review and assessment (please put the project title in the subject line).

- CV
- Past finite element or machine learning projects
- 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