

PhD studentship (Full-time)



Institution	Xi'an Jiaotong-Liverpool University, China
School	School of Advanced Technology
Supervisors	Principal supervisor: Professor/Dr Jie Sun (XJTLU) Co-supervisor: Professor/Dr Kaizhu Huang.(XJTLU) Co-supervisor: Professor/Dr Han Ji (UoL)
Application Deadline	Open until the position is filled
Funding Availability	Funded PhD project (world-wide students)
Project Title	Developing Biomimetic Fibrous Scaffolds Using Machine Learning for Enhanced 3D Cell Culture
Contact	Please email...jie.sun@xjtlu.edu.cn (XJTLU principal supervisor's email address) with a subject line of the PhD project title. The principal supervisor's profile is linked here: https://www.xjtlu.edu.cn/en/departments/academic-departments/mechatronics-and-robotics/staff/jie-sun

Requirements:

The candidate should have a first class or upper second class honours degree, or a master's degree (or equivalent qualification), in engineering.

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.

Project Description:

Scaffold-based 3D cell culture systems have gained great interest as a replacement of 2D monolayer cell culture and as a way to provide biomimetic extracellular matrix (ECM) environments. The great hurdle of applying fibrous scaffolds in these systems come from the limited knowledge on structure design and fabrication. It is very necessary to explore machine learning (ML) applications in this area to enhance scaffold-based cell culture performance.

This project aims to explore ML to intelligently optimize biomimetic scaffold design and fabrication on the basis of layer-based fiber structure, which can better mimic ECM and support cell growth and functionalization. The outcomes of the project can be applied to customize scaffolds for tumoroid or organoid studies in anti-cancer drug screening and personalized drug treatment.

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 jie.sun@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 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