

PhD studentship (Full-time)



Institution	Xi'an Jiaotong-Liverpool University, China
Department	Department of Electrical and Electronic Engineering
Supervisors	Principle supervisor: Professor Jie Sun (XJTLU, Department of Electrical and Electronic Engineering) Co-supervisor: Professor Sung Kay Chiu (XJTLU, Biology Department) Co-supervisor: Dr Kate Black (UoL, School of Engineering)
Application Deadline	Open until the position is filled
Funding Availability	Funded PhD project (world-wide students)
Project Title	Helix Scaffold Fabrication Study using Electrohydrodynamic Printing 应用电喷技术制造螺旋支架
Contact	Please email jie.sun@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 mechatronics, biomedical or biology area. 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:

Three-dimensional (3D) cell-culture models have recently garnered great attention because they are capable to promote the levels of cell differentiation. The great hurdles of applying bioscaffold in that model come from the limited scaffold structure design and fabrication technologies. Electrohydrodynamic printing (EHDP) is utilized to fabricate fibrous scaffolds with micro/nano features in the last five years. The current studies only focus on printing mesh scaffold with straight fibers, thus resulting in limited cell attachment sites.

In this study, we propose a layer-based EHDP control mechanism to produce serpentine fibers and stack them into helix scaffolds, which can better mimic the natural extracellular matrix with enhanced cell culture performance.

Thus, scaffolds can be specially designed in terms of pore size, shape and serpentine pattern to culture cells for 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

<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 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 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 Professor Jie Sun (jie.sun@xjtlu.edu.cn), whose personal profile is linked below,
<http://www.xjtlu.edu.cn/en/faculty/.....>