

XJTLU-XJTU-UoL Joint Doctoral Supervision Project (Full-time)

Reference No.	SFXJTU2515
XJTLU School	Academy of Life and Natural Science School
PhD Programme	Pharmaceutical Sciences
Supervisors	XJTLU supervisor: Professor/Dr Dawei Ding XJTU supervisor: Professor/Dr Feng Xu UoL supervisor: Professor/Dr Pedro Perez-Mancera XJTLU co-supervisor: Professor/Dr Tao Lu
Project Title	Mechanomedicine Targeting Extracellular Matrix (ECM) Remodeling: Mechanisms and Applications in Tumor Diagnosis and Therapy Chinese title: 靶向细胞外基质（ECM）重塑的力医学：肿瘤诊断与治疗中的机制及应用
Application Deadline	Open until the position is filled

Requirements:

A UK first-class or upper second-class honours Bachelor's degree and a UK Master's degree with Merit (or their equivalent) are required for PhD admissions. Exceptional candidates holding only a Bachelor's degree may be considered on an individual basis.

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.

For more information about entry requirements and admission procedures of PhD programme at XJTLU, please visit:

[Entry Requirement - Xi'an Jiaotong-Liverpool University](#)

[How to Apply - Xi'an Jiaotong-Liverpool University](#)

Programme Structure and Fees:

Doctoral students in the joint programme are registered with both XJTLU and the UoL. Upon successful completion of the programme, the students will be awarded a PhD degree from University of Liverpool. During their doctoral studies at XJTLU, students are expected to conduct research at XJTU as visiting students. Additionally, students have the opportunity to apply for a short-term research visit to the UoL if the project requires it.

The joint doctoral programme is offered on a full-time basis, with a typical duration of three to four years. The tuition fee is RMB 99,000 per year.

Project Description:

To cultivate research talents with global leadership, interdisciplinary innovation capabilities, and international research collaboration capabilities, Xi'an Jiaotong-Liverpool University (XJTLU) fully leverages its characteristics of international education and builds upon the long-established strategic cooperation among XJTLU, Xi'an Jiaotong University (XJTU), and the University of Liverpool (UoL). This initiative integrates top-tier research resources to launch a Joint Doctoral Supervision Programme across the three institutions.

Tumor mechanical microenvironment is emerging as a tractable target for enhanced cancer therapy. Remodeling of the extracellular matrix (ECM), such as changes in composition, cross linking, and alignment, elevates stiffness, viscoelasticity and anisotropy, alters solid stress and interstitial fluid pressure, and reprograms cell behavior and treatment response. However, quantitative links between ECM remodeling, mechanics and cell decision making are incomplete, and effective mechanodiagnostics/mechanotherapies targeting ECM are lacked. This project integrates multiscale biophysical characterization, mesomechanics modeling and stochastic mechanotransduction simulations with dynamic hydrogel 3D tumor models to (i) map how ECM remodeling reshapes mechanical TME, (ii) identify mechanical biomarkers and liquid/imaging readouts predictive of progression and response, and (iii) develop ECM targeted combination strategies (e.g., Piezo1 guided immuno synergy) in lung and breast cancers.

Joint Supervisory Team:

XJTLU supervisor: Professor/Dr Dawei Ding

XJTU supervisor: Professor/Dr Feng Xu (Recipient of the National Science Fund for Distinguished Young Scholars, Dean of the School of Life Science and Technology, Xi'an Jiaotong University, China)

UoL supervisor: Professor/Dr Pedro Perez-Mancera

XJTLU co-supervisor: Professor/Dr Tao Lu

How to Apply:

Interested applicants are advised to email dawei.ding@xjtlu.edu.cn the following documents for initial review and assessment (Please include 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