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

Reference No.	SFXJTU2524
XJTLU School	School of Internet of Things
PhD Programme	PhD Electrical and Electronic Engineering
Supervisors	XJTLU supervisor: Professor/Dr.Yue Liu &Conghua Wen XJTU supervisor: Professor/Dr. Hongye Yuan UoL supervisor: Professor/Dr. Yu Chen
Project Title	Research on the evolution laws of the structure, properties and performance of gas sensing chips under complex working conditions 关于气体传感芯片在复杂工作条件下结构、性能和特性演变规律的研究
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

Other Requirements (if any):

The candidate's excellent programming skills and practical abilities are bonus points

Programme Structure:

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 three to six-month research visit to UoL.

Project Description:

This project addresses a critical challenge for next-generation electronics in space: the failure of gas sensors under intense radiation. While our team has pioneered highly sensitive sensors from novel metal-organic materials, their performance and structural integrity in harsh environments like space—where heavy ion radiation can cause atomic-level damage—remain unknown. This research will systematically investigate how heavy ion radiation, alongside factors like temperature and gas exposure, degrades these advanced sensing chips. By linking the evolution of a sensor's microscopic structure to its declining performance, we will establish new design rules for creating ultra-robust, radiation-hardened sensors, enabling reliable environmental monitoring and medical diagnostics in future space missions and other extreme terrestrial applications.

Joint Supervisory Team:

XJTLU supervisor: Professor/Dr.Yue Liu & Conghua Wen

XJTU supervisor: Professor/Dr.Hongye Yuan

UoL supervisor: Professor/Dr. Yu Chen

How to Apply:

Interested applicants are advised to yue.liu@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