

## PhD studentship (Full-time)

Institution	Xi'an Jiaotong-Liverpool University, China
School	Academy of Pharmacy
Supervisors	Principal supervisor: Dr. Qiang Wu (XJTLU) Co-supervisor: Professor/Dr. Gang Ruan (XJTLU) Co-supervisor: Professor/Dr. Mandy Peffers (UoL)
Application Deadline	Open until the position is filled
Funding Availability	Funded PhD project (world-wide students)
Project Title	Mechanisms of extracellular vesicles derived from human pluripotent stem cells and their cardiac lineage cells for cardiac repair and enhancement of efficacy
Contact	Please email <a href="mailto:Qiang.Wu@xjtlu.edu.cn">Qiang.Wu@xjtlu.edu.cn</a> with a subject line of the PhD project title.  The principal supervisor's profile is linked here: <a href="https://scholar.xjtlu.edu.cn/en/persons/QiangWu">https://scholar.xjtlu.edu.cn/en/persons/QiangWu</a>

### **Requirements:**

The candidate should have a first class or upper second class honours degree, or a master's degree (or equivalent qualification), in molecular biology, cellular biology, or other related fields.

Experience in research related to pluripotent stem cells is highly desirable. This includes knowledge of human pluripotent stem cell (hESC & hiPSC) culture, and differentiation techniques. Understanding of the potential applications of pluripotent stem cells in regenerative medicine, especially in the context of myocardial repair, will be an advantage.

Familiarity with extracellular vesicles/exosomes research is also preferred. This involves experience in the isolation, characterization, and functional analysis of extracellular vesicles. Knowledge of their role in cell - cell communication, particularly in the context of the heart or related tissues, will be beneficial.

Candidates with prior experience in myocardial repair research, including but not limited to *in vitro* and *in vivo* models of heart injury and repair, will be given priority. This may include work on understanding the cellular and molecular mechanisms underlying heart repair processes and the potential use of novel therapies.

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 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 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:**

The rising mortality rate of myocardial infarction is due to extensive cell death and remodeling post-infarction. Human pluripotent stem cells (hPSCs) offer repair potential, but transplanted hPSC-derived cardiovascular progenitor cells (hCVPCs) struggle with long-term survival, despite showing cardioprotective effects. Extracellular vesicles (EVs) from hPSCs and derived cells can partially repair myocardium, though mechanisms are unclear, and natural EVs lack targeting specificity. Preliminary work suggests distinct proteomic traits and novel scaffold proteins for EV engineering. This study aims to elucidate repair mechanisms, identify scaffold proteins, and enhance EV targeting and efficacy, potentially providing new myocardial repair strategies.

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 [Qiang.Wu@xjtlu.edu.cn](mailto:Qiang.Wu@xjtlu.edu.cn) 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