

PhD studentship (Full-time)

Institution	Xi'an Jiaotong-Liverpool University, China
School	Academy of Pharmacy
Supervisors	Principal supervisor: Professor/Dr. Jinhui Chen (XJTLU) Co-supervisor: Professor/Dr. 任天斌 (JITRI) Co-supervisor: Professor/Dr. Neil Liptrott (UoL)
Application Deadline	Open until the position is filled
Funding Availability	Funded PhD project
Project Title	Study on an industrial-grade nucleic acid delivery system based on exosomes 基于外泌体的工业级别核酸递送系统的研究
Contact	Please email Jinhui.Chen@xjtlu.edu.cn or rtb002@163.com with a subject line of the PhD project title

Requirements:

The candidate should have a first class or upper second-class honors degree, or a master's degree (or equivalent qualification) in material science or biological science

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.

Please note that the joint PhD project is industry-based and the candidate is expected to undertake part of the research at the partner organization in China.

Degree:

The student will be awarded a PhD degree from the University of Liverpool (UK) upon successful completion of the program.

Funding:

This PhD project is a collaborative research project between XJTLU (<http://www.xjtlu.edu.cn>) in Suzhou and JITRI (Jiangsu Industrial Technology Research Institute) functional materials Institute. The student will be registered as an XJTLU PhD student but is expected to carry out the material part of his or her

research at the Institute in functional materials Institute, while the biological and efficacy part of the research at the Academy of Pharmacy of XJTLU.

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). In addition, during the period of undertaking main research at institute in Suzhou, the PhD candidate will be provided with monthly living allowance at a standard 1,200-2,500 ¥ (RMB) per month by JITRI.

Project Description:

Nucleic acid drugs have a wide range of targets and diverse mechanisms of action, which have become a powerful tool for the treatment of various diseases. However, they have low in vivo stability and rapid extracellular clearance. Therefore, the preservation and delivery of nucleic acid drugs is challenging. Nucleic acid delivery systems can protect nucleic acids from degradation, ensure their stability in the circulation and deliver them efficiently to target tissues. Traditional delivery materials include peptides, inorganic nanoparticles, lipids, polymers, etc., and emerging biomimetic systems such as exosomes, micro-vesicles and cell membranes are also gradually being used in nucleic acid delivery research. As an endogenous nanovesicle secreted by cells, exosomes carry a variety of active substances and participate in intercellular signaling. As nanoscale delivery vehicles, exosomes can effectively maintain the biological activity and stability of their contents, which have the characteristics of low immunogenicity and high safety. However, the production and purification of GMP-grade medicinal exosomes, as well as the stability and batch preparation of exosome engineering, are still a major challenge in the industry, and the continuous optimization of the process will be a long-term process. Therefore, this topic takes the exosome-based industrial-grade nucleic acid delivery system as the entry point, and deeply studies the effectiveness and industrialized preparation process of exosomes as nucleic acid delivery carriers.

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>

Supervisor Profile:

Principal Supervisor:

<https://www.xjtlu.edu.cn/zh/departments/academic-departments/academy-of-pharmacy/staff/jinhui-chen>

JITRI co-supervisor:

<http://www.polymer.cn/ss/rtb/index.html>

How to Apply:

Interested applicants are advised to Jinhui.Chen@xjtlu.edu.cn or rtb002@163.com 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)
- PDF copy of Master Degree dissertation (or an equivalent writing sample) and examiners reports available