

### PhD studentship (Full-time)

<b>Institution</b>	Xi'an Jiaotong-Liverpool University, China
<b>School</b>	School of Advanced Technology
<b>Supervisors</b>	Principal supervisor: Dr. Zhenzhen Jiang (XJTLU) Co-supervisors: Dr. Zhao Wang and Dr. Mark Leach (XJTLU) Co-supervisor: Dr. Jiafeng Zhou (UoL)
<b>Application Deadline</b>	Open until the position is filled
<b>Funding Availability</b>	Funded PhD project (world-wide students)
<b>Project Title</b>	Simultaneous Wireless Information and Power Transfer for WPAN Applications
<b>Contact</b>	Please email <a href="mailto:Zhenzhen.jiang02@xjtlu.edu.cn">Zhenzhen.jiang02@xjtlu.edu.cn</a> with a subject line of the PhD project title.  The principal supervisor's profile is linked here: <a href="https://www.xjtlu.edu.cn/en/study/departments/school-of-advanced-technology/communications-and-networking/department-staff/academic-staff/staff/zhenzhen-jiang02">https://www.xjtlu.edu.cn/en/study/departments/school-of-advanced-technology/communications-and-networking/department-staff/academic-staff/staff/zhenzhen-jiang02</a>

#### **Requirements:**

The candidate should have a first-class or upper second-class honours degree (or equivalent qualification), in Engineering, computer science, and similar. A Master's degree or practical working experience in relevant areas may be advantageous.

Experience with CST, ADS, and MATLAB is highly desirable.

Evidence of good spoken and written English is essential. The candidate should have an IELTS score of 6.5 or above (speaking/writing score of 7 or above), if the first language is not English.

This position is open to all qualified candidates irrespective of nationality. Students from China, UK, and all overseas countries are all eligible to apply.

#### **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). 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:**

Wireless personal area network has become commonplace in industrial, medical, and consumer-based applications in recent years, allowing collections of devices such as medical sensors distributed around, or within human body or in their direct vicinity, to communicate with each other or a network controller to provide convenient personal services. Distributed devices are typically compact especially those located within human body. Considering batteries are commonly used by distributed sensors, the integration of energy harvesting technologies into wireless communication networks to extend battery life or even replace them, has become a new technology paradigm. In the case of implantable medical devices, this means avoiding surgical operations for patients and the associated potential infection risks, saving expense and improving user convenience. This project will develop novel techniques and system topologies capable of wireless charging batteries as part of the communication systems.

The PhD student will primarily focus on the design and development of enabling technologies for WPAN applications, including antenna designs and circuit topology formulations for multi-sense operations (localisations, information decoding, and energy harvesting). Involvement with this work is expected to generate an impressive track record for the student's future career from both academic and industry point of view. Other activities supporting the research will also be carried out when required. The PhD candidate is expected to develop the skills to lead the research project and interact with colleagues, industrial partners, and stakeholders with different technical backgrounds and from different disciplines.

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 **Zhenzhen.jiang02@xjtlu.edu.cn** the following documents for initial review and assessment (Project: Simultaneous Wireless Information and Power Transfer for WPAN Applications):

- 1) CV
- 2) Two formal reference letters
- 3) Personal statement outlining your interest in the position
- 4) Certificates of English language qualifications (IELTS or equivalent)
- 5) Full academic transcripts in both Chinese and English (for international students, only the English version is required)
- 6) Verified certificates of education qualifications in both Chinese and English (for international students, only the English version is required)
- 7) PDF copy of Master Degree dissertation (or an equivalent writing sample) and examiners reports available