

## PhD studentship (Full-time)



Institution	Xi'an Jiaotong-Liverpool University, China
Department	Department of Electrical and Electronic Engineering.
Supervisors	Principle supervisor: Mark Leach (Xi'an Jiaotong-Liverpool University) Co-supervisor: Jiafeng Zhou (University of Liverpool, UK); Co-Supervisor Eng Gee Lim (Xi'an Jiaotong-Liverpool University)
Application Deadline	Open until the position is filled
Funding Availability	Funded PhD project (world-wide students)
Project Title	Wireless Power Transfer and Communication Systems for Implantable Devices 可植入器件的无线充电和通讯系统
Contact	Please email <a href="mailto:mark.leach@xjtlu.edu.cn">mark.leach@xjtlu.edu.cn</a> (principal supervisor's email address) and copy <a href="mailto:doctoralstudies@xjtlu.edu.cn">doctoralstudies@xjtlu.edu.cn</a> with a subject line of the PhD project title

### **Requirements:**

The candidate should have a first class or upper second class honours degree, or a master's degree (or equivalent qualification), in Electrical or Telecommunication and Electronic Engineering. Evidence of good spoken and written English is essential. The candidate should have an IELTS score of 6.5 or above, or an equivalent qualification, 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 80,000 per annum) and provides a monthly stipend of 3500 RMB as a contribution to living expenses. It also provides up to RMB 16,500 to allow participation at international conferences during the period of the award. It is a condition of the award that holders of XJTLU PhD scholarships carry out 300-500 hours of teaching assistance work per year. 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 of up to three months, if this is required by the project.

**Project Description:**

Every year in the UK, more than 40,000 people will have a pacemaker fitted. The battery of the pacemaker usually lasts up to about six years. More advanced pacemakers tend to use more energy so have a shorter battery life. There are many other types of implantable electronic devices as well, such as nerve stimulators, glucose monitoring sensors and capsule endoscopes that are widely used worldwide. The batteries in these devices need to be replaced surgically when they become depleted. Typically, a patient will need to stay in hospital for a few days due to potential risks associated with the surgery. This project will develop techniques to charge the batteries wirelessly to extend the lifespan of such implantable and wearable devices. Such techniques can also be used for wireless communication with these devices.

Project deliverables include scientific publications. The work is expected to produce a prototype for a implantable device capable of being sustained and communicated with wirelessly.

For more information about doctoral scholarship and PhD programme at Xi'an Jiaotong-Liverpool University (XJTLU): Please visit

<http://www.xjtlu.edu.cn/en/admissions/phd.html>

<http://www.xjtlu.edu.cn/en/admissions/phd/feescholarships.html>

**How to Apply:**

Interested applicants are advised to email [mark.leach@xjtlu.edu.cn](mailto:mark.leach@xjtlu.edu.cn) (principal supervisor's email address) the following documents and copy [doctoralstudies@xjtlu.edu.cn](mailto:doctoralstudies@xjtlu.edu.cn) (please put the project title in the subject line).

- CV
- Two reference letters
- Personal statement outlining your interest in the position
- Proof of English language proficiency (an IELTS score of above 6.5 or equivalent is required)
- 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)

**Informal enquiries** may be addressed to Dr. Mark Leach ([mark.leach@xjtlu.edu.cn](mailto:mark.leach@xjtlu.edu.cn)), whose personal profile is linked below, <http://www.xjtlu.edu.cn/en/faculty/>