

PhD studentship (Full-time)



Institution	Xi'an Jiaotong-Liverpool University, China
Department	Department of Computer Science and Software Engineering
Supervisors	Primary supervisor: Dr. Ka Lok Man (Xi'an Jiaotong-Liverpool University) Co-supervisor: Professor Jeremy Smith (University of Liverpool, UK) Professor Yue Yong (Xi'an Jiaotong-Liverpool University);
Application Deadline	Open until the position is filled
Funding Availability	Funded PhD project (world-wide students)
Project Title	System Design, Analysis and Optimization of Li-Fi based energy harvesting embedded systems for Internet of Things applications 基于 Li-Fi 用于物联网的嵌入式能量收集系统的设计、分析及优化
Contact	Please email doctoralstudies@xjtlu.edu.cn and copy to ka.man@xjtlu.edu.cn 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 Computer Science/Computer Engineering/Electrical 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:

Li-Fi stands for “Light Fidelity”. It is a bidirectional, high speed and fully networked wireless communication similar to Wi-Fi but using visible light. Li-Fi can be applied to off-load data from Wi-Fi networks to provide capacity for the greater downlink demand and can be a complement to traditional Radio Frequency (RF) communication or a replacement. Recently, Li-Fi based energy harvesting has emerged as an attractive possibility to alleviate the power supply challenge in a variety of low power applications, such as Wireless Sensor Networks (WSNs), implantable bio-medical devices, etc. While the basic idea and system composition of Li-Fi based energy harvesting embedded systems have been realized in several prototypes recently, designing efficient energy harvesting systems require an in-depth understanding of various design factors and trade-offs. This research will address various design challenges and considerations involved from circuit, architecture and system perspectives. System prototype testing and evaluation will be carried out in this research. Moreover, we envision the necessity and importance of developing parametrical behavioral modeling of each building block and will develop a cross-layer simulation framework that enables design space exploration and quick performance evaluation at the early design stage.

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/postgraduate/phd-degree/feesscholarships.html>

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

How to Apply:

Interested applicants are advised to email the following documents to Doctoralstudies@xjtlu.edu.cn (please put the project title and primary supervisor’s name 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. Ka Lok Man (ka.man@xjtlu.edu.cn), whose personal profile is linked below,

<http://academic.xjtlu.edu.cn/csse/Staff/ka-man>