

PhD studentship (Full-time)

Institution	Xi'an Jiaotong-Liverpool University, China
School	School of Advanced Technology
Supervisors	Principal supervisor: Professor/Dr. Ye Wu (XJTLU) Co-supervisor: Professor/Dr. Hongda Chen(JITRI) Co-supervisor: Professor/Dr. Wen Liu (XJTLU) Co-supervisor: Professor/Dr. Jiafeng Zhou (UoL)
Application Deadline	Open until the position is filled
Funding Availability	Funded PhD project
Project Title	"Materials and devices for room-temperature infrared photodetection 室温红外光电探测材料与器件"
Contact	Please email ye.wu@xjtlu.edu.cn (XJTLU principal supervisor's email address) or chengchuantong@semi.ac.cn (JITRI supervisor's email) 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 various engineering disciplines such as electrical and electronic engineering, material science and engineering, integrated circuit engineering, and biomedical engineering.

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) Brain Machine Fusion Intelligence Institute Co., Ltd. (JITRI BMF) in Suzhou. The student will be registered as an XJTLU PhD student but is expected to carry out the major part of his or her research at the Institute.

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 RMB5000 per month by Jiangsu JITRI BMF

Project Description:

The short wave infrared detector can work at room temperature, with many advantages, such as low power consumption, light weight, small size, portability and so on. The mature product at this stage is multi chip integration, which is expensive due to the complex process. The project plans to carry out frontier exploration in terms of materials, devices, circuit design, etc., to achieve a low-cost, high-performance monolithic integrated short wave infrared detector.

短波红外探测器可室温工作，功耗低、质量轻、体积小、便携等众多优点。现阶段成熟的产品是多片集成实现，因工艺复杂，价格高昂。本项目拟从材料、器件、电路设计等方面开展前沿探索，实现低成本、高性能的单片集成短波红外探测器。

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:

Dr. Ye WU is currently an assistant professor in the Department of Electrical and Electronics Engineering, School of Advanced Technology at Xi'an Jiaotong-Liverpool University (XJTLU). Dr. Wu's current research interests are wide bandgap device simulations, applications of machine learning in simulation, DTCO, and computer vision.

<https://www.xjtlu.edu.cn/en/staff-details/staff/ye-wu>

JITRI co-supervisor:

Chen Hongda, professor and former deputy director of Institute of Semiconductors, Chinese Academy of Sciences, professor of University of Chinese Academy of Sciences. Member of the National Expert Advisory Committee for The Development of New Materials Industry, expert in the field of new materials and expert group of electronic Materials and Devices for the National 863 Plan during the 11th and 12th Five-Year Plans, leader of the expert group and general expert group of the implementation plan compilation of strategic Advanced Electronic Materials for the 13th Five-Year Plan. National major science and technology project "key new materials research and development and application" implementation plan writing expert group members, the China Securities Regulatory Commission at the first, the second session of the gem expert advisory committee members, the Chinese optical society photoelectric technology professional committee, deputy director of the semiconductor, deputy director of professional committee of Beijing electronic society, standing director of Chinese materials research society, Associate editor of Semiconductor Science and Technology Series. Enjoy special government allowance of The State Council. He has been engaged in the research of new materials, microelectronics and optoelectronics for a long time, and his current research direction is microelectronics and optoelectronics integrated devices, integrated circuits and systems. It includes microelectronic devices, silicon-based optoelectronic devices, special-purpose integrated circuits, microelectronic and optoelectronic integrated circuits, intelligent control systems for visible light communication and semiconductor lighting, semiconductor devices and systems for biomedical applications, intelligent chips and application technologies for brain computer interaction, etc. He has published more than 200 papers in academic journals and conferences at home and abroad, edited monographs on "Very Short Distance Optical Transmission Technology", "Microelectronics and Optoelectronics Integration Technology" and "graphene Microelectronics and Optoelectronics Devices", and applied for more than 100 invention patents.

陈弘达，中国科学院半导体研究所研究员，中国科学院大学教授，博导。长期从事微电子与光电子学方面的科研工作，目前研究方向为微电子与光电子学集成器件、集成电路与系统。包括微电子器件、硅基光电器件、专用集成电路、微电子与光电子集成回路、可见光通信与半导体照明智能控制系统、生物医学应用半导体器件与系统、脑机交互智能芯片与应用技术等。在国内外学术刊物和会议上发表论文 200 余篇，编著《甚短距离光传输技术》、《微电子与光电子集成技术》、《石墨烯微电子与光电子器件》专著，申请发明专利 100 余项。

How to Apply:

Interested applicants are advised to email ye.wu@xjtlu.edu.cn (XJTLU principal supervisor's email address) or chengchuantong@semi.ac.cn (JITRI supervisor's

email) 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