PhD studentship (Full-time)

Institution	Xi'an Jiaotong-Liverpool University, China
School	Science/Chemistry
Supervisors	Principal supervisor: Dr Yi LIN (XJTLU) Co-supervisor: Professor Qun LUO (JITRI) Co-supervisor: Professor Alessandro TROISI (UoL)
Application Deadline	Open until the position is filled
Funding Availability	Funded PhD project
Project Title	Rheological property of the printed inks and film morphology evolution for the low-cost printed organic solar cells
Contact	Please email yi.lin@xjtlu.edu.cn (XJTLU principal supervisor's email address) or qluo2011@sinano.ac.cn (JITRI) 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 Chemistry, materials and relevant area.

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) JITRI Institute of Nano-Tech and Nano-Bionics The student will be registered as an XJLTU PhD student but is expected to carry out the major

part of his or her research at the Institute in JITRI Institute of Nano-Tech and Nano-Bionics

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 99,000 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 4500-5000 per month by JITRI Institute of Nano-Tech and Nano-Bionics.

Project Description:

Organic solar cells have received tremendous attention owing to their advantages of light-weight, flexible and roll-to-roll printing compatible. With the development of new non-fullerene acceptors (NFA), the power conversion efficiency of organic solar cells has reached 20% when in combination with conjugated polymer donor. Roll-to-roll low-cost printing technology is the key for the industrialization of organic solar cell. Regarding the printing fabrication of the organic solar cells, the rheological properties of ink and the morphology control in the printing process play decisive roles in the performance improvement. However, the structure-property relationship between the rheological properties of inks and the structure of the organic molecular, the additive materials, and the solvent, and the effect of ink formulation on the phase separation morphology of printed films are rarely studied at present. With the aiming of developing low-cost printed organic solar cells, this project will systematically study the rheological properties of printing inks based on green solvent, the morphology evolution of films during printing, and finally form the feasible method to develop the green inks for the printed organic solar cells.

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/feesscholarships.html

Supervisor Profile:

Principal Supervisor:
https://scholar.xjtlu.edu.cn/en/persons/YiLin

JITRI co-supervisor:
https://sinano.cas.cn/sourcedb/zw/zjrck/201701/t20170103_4731237.html

How to Apply:

Interested applicants are advised to email yi.lin@xjtlu.edu.cn (XJTLU principal supervisor's email address) or gluo2011@sinano.ac.cn 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