PhD studentship (Full-time)

Institution	Xi'an Jiaotong-Liverpool University, China
Department	Department of Electrical and Electronics Engineering
Supervisors	Principle supervisor: Dr Yang Du (XJTLU, EEE) Co-supervisor: Dr Huiqing Wen (XJTLU, EEE) Co-supervisor: Dr Yihua Hu (UoL, EEE)
Application Deadline	Open until the position is filled
Funding Availability	Funded PhD project (world-wide students)
Project Title	Short-Term Forecasting Based PV Power Ramp-Rate Control Method (基于超短期预测的光伏发电功率爬坡率控制方法)
Contact	Please email…yang.du@xjtlu.edu.cn (XJTLU principal supervisor's email address) and copy doctoralstudies@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 in electrical engineering, electronics engineering, automation, control and other related disciplines. 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.

Applicant with the following experience will be a plus:

- Publish research papers in the international conferences or journals.
- Research experience on PV system or power system.
- Research experience on machine learning or data analysis

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:

The intermittency of solar photovoltaic (PV) power generation causes problems to the grid. The output power from the PV system can varies as much as 60% in just 30 seconds. It is a great challenge to balance the generation and the load with high penetration of PV generation. When there are not enough reserve capacities for frequency control, the PV generated power will not be allowed to feed into the grid, this becomes a significant barrier for the development of PV industry in China, especially at the northwest region. Limiting the output power ramp-rate can smooth the PV output. The objective of this project is to use the ground based sensor to achieve very short-term forecasting. The active ramp-rate control method will be proposed for both with and without energy storage system (ESS). The proposed method can greatly reduce the variation of the PV power output……..

The successful candidate need to design the forecasting system and the PV control method. This project also provides a unique opportunity for students to work with our academic collaborators including The University of Sydney, University of Technology, Sydney as well as industry partners.

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/entry-requirements.html

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

How to Apply:

Interested applicants are advised to email yang.du@xjtlu.edu.cn (XJTLU principal supervisor's email address) 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)

Informal enquiries may be addressed to Dr. Yang Du (yang.du@xjtlu.edu.cn), whose personal profile is linked below, http://www.xjtlu.edu.cn/en/departments/academic-departments/electrical-and-electronic-engineering/staff/yang-du and https://ydsolar.wordpress.com/