PhD studentship (Full-time)

Institution	Xi'an Jiaotong-Liverpool University, China
School	School of Advanced Technology
Supervisors	Principal supervisor: Dr Xiaoyang Chen (XJTLU) Co-supervisor: Professor Eng Gee Lim (XJTLU) Co-supervisor: Dr Lurui Fang (XJTLU) Co-supervisor: Dr Lin Jiang (UoL)
Application Deadline	Open until the position is filled
Funding Availability	Funded PhD project (world-wide students)
Project Title	Development of Dispatchable Solar PV Systems Based on Hierarchical Solar Forecasting
Contact	Please email xiaoyang.chen02@xjtlu.edu.cn (XJTLU principal supervisor's email address) with a subject line of the PhD project title. The principal supervisor's profile is linked here: https://www.xjtlu.edu.cn/zh/departments/academic-departments/electrical-and-electronic-engineering/staff/xiaoyang-chen02

Requirements:

The candidate should have a first class or upper second class honours degree, or a master's degree (or equivalent qualification), in Electrical Engineering and Computer Science. 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.

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 99,000 per annum). It also provides up to RMB 16,500 to allow participation at international conferences during the period of the award. 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 up to six months, if this is required by the project.

Project Description:

Solar photovoltaic (PV) energy is becoming a vital source in power grids for energy harvesting. Nonetheless, as it is perceived as a variable resource, PV power raises grid integration concerns due to the difficulty to control and dispatch that energy. Although compensatory energy storages or power reserves can be deployed, the system operational cost is substantially increased. To counteract PV variabilities, the need for accurate solar forecasting at different timescales is high on the agenda of power system community. In this context, this project aims to develop a predictive control framework that can improve the dispatchability of PV systems at large. Based on machine learning technology, a novel hierarchical solar forecasting method will be devised first to reconcile forecasts with various temporal resolutions. Then based on forecasting, energy storages and power reserves will be coordinated to optimize the control sharing.

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

https://www.xjtlu.edu.cn/en/admissions/global/entry-requirements/

https://www.xjtlu.edu.cn/en/admissions/global/fees-and-scholarship

How to Apply:

Interested applicants are advised to email xiaoyang.chen02@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 formal reference letters
- Personal statement outlining your interest in the position
- Certificates of English language qualifications (IELTS or equivalent)
- Full academic 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