

PhD studentship (Full-time)

Institution	Xi'an Jiaotong-Liverpool University, China
School	School of Advanced Technology
Supervisors	Principal supervisor: Dr Timur Saifutdinov (XJTLU) Co-supervisor: Dr Fei Xue (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	Identifying new roles and optimal utilization patterns of battery storage technologies in active distribution systems
Contact	Please email Timur.Saifutdinov@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/en/study/departments/school-of-advanced-technology/electrical-and-electronic-engineering/department-staff/academic-staff/staff/timur-saifutdinov

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 (preferably, in the area of Power Systems)

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:

Advances in information and communication technologies and low-carbon technologies trigger the evolution of electricity grids from passive networks to active systems. In the new control paradigm, distributed energy resources, Battery Energy Storage (BES), demand response, ie, Distributed Flexibility (DF), and other grid-connected flexible assets are coordinated to facilitate secure, reliable and economic electricity supply. The new approach requires developing novel methods for planning, scheduling, and control of grid-connected assets, where BES is of particular interest in the present project. Due to its ability to generate and consume both active and reactive power, BES will play an essential role in managing active distribution systems; however, due to the presence of other DF, its role requires revision. The project focuses on determining new operational requirements for BES, dictated by a novel grid control paradigm, and mapping these requirements against unique features of BES technologies to find the most suitable for a particular application.

The proposed interdisciplinary project sits on the edge of operational research, energy storage technologies, economics, and power systems, where the latter is considered the main field of application.

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 Timur.Saifutdinov@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