

PhD studentship (Full-time)



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| Institution | Xi'an Jiaotong-Liverpool University, China |
| Department | Department of Civil Engineering |
| Supervisors | Principal supervisor: Professor/Dr Lei Fan (XJTLU, Department) Co-supervisor: Professor/Dr Guobin Gong (XJTLU, Department) Co-supervisor: Professor/Dr Jianli Hao (XJTLU, Department) Co-supervisor: Professor/Dr Luigi Di Sarno (UoL, Department) |
| Application Deadline | Open until the position is filled |
| Funding Availability | Funded PhD project (world-wide students) |
| Project Title | A holistic investigation on indices for local terrain surface roughness derived from point clouds |
| Contact | Please email Lei.Fan@xjtlu.edu.cn (XJTLU principal supervisor's email address) 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 Civil Engineering (e.g. surveying), Geomatics Engineering, Computer Science (e.g. computer vision) or Geography (e.g. GIS, remote sensing). The candidate should have excellent programming skills (MATLAB, PYTHON or C++) and experience in spatial data analysis and statistics. Good knowledge of spatial statistics and GIS would be useful.

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 80,000 per annum) and provides a monthly stipend of 5,000 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:

Terrain surface roughness is an important index in terrain analysis for studying various environmental and engineering problems. In recent years, fine-resolution point cloud data have become a common form of spatial data for characterizing terrain surfaces, and facilitate the quantification of spatially detailed local terrain roughness. Its quantification methods are typically based on direct measures of spatial variations, inevitably causing uncertainty in the effectiveness of the quantified values to represent the actual local roughness required for terrain analyses (e.g. quantification of local digital elevation model errors). While this uncertainty is often ignored in practice, some studies suggested inadequacies of some local roughness indices/methods routinely used. In this project, a holistic investigation will be conducted to better understand the inadequacies of the existing methods in the context of various GIS-based products and analyses, to investigate the factors that affect the quantified roughness values, and to develop improved/new methods.

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>

How to Apply:

Interested applicants are advised to email Lei.Fan@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)
- PDF copy of Master Degree dissertation (or an equivalent writing sample) and examiners reports available

Informal enquiries may be addressed to Professor/Dr. Lei Fan(Lei.Fan @xjtlu.edu.cn),

whose personal profile is linked below,

<https://www.xjtlu.edu.cn/en/departments/academic-departments/civil-engineering/staff/lei-fan>