

PhD studentship (Full-time)

Institution	Xi'an Jiaotong-Liverpool University, China
School	School of Design
Supervisors	Principal supervisor: Dr Paola Pellegrini (XJTLU) Co-supervisor: Dr Tatiana Moreira de Souza (UoL)
Application Deadline	Open until the position is filled
Funding Availability	Funded PhD project (world-wide students)
Project Title	Urban forms for the net zero carbon city. Exploration of the interplay of housing densities and carbon sinks.
Contact	Please email paola.pellegrini@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://scholar.xjtlu.edu.cn/en/persons/PaolaPellegrini

Requirements

The candidate should have a first class or upper second class honours degree, or a master's degree (or equivalent qualification), in Urbanism, Urban Design, Landscape Architecture, City Planning, Geography, Architecture, Urban Studies.

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

Cities can play a relevant role in reducing GHG emissions. Scholars agree that in general terms compacter cities are responsible for lower emissions of GHG per capita and spare soil

sealing and that urban green spaces can support biodiversity and human well-being. The physical and spatial characteristics of built-up areas - the urban form - must be considered in the integrated strategy to get to net zero carbon emissions.

Residential neighborhoods, as an intermediate layer between single buildings and the city, are considered key to the transition to low-carbon cities and zero-emission societies. Very limited studies have explored the impact of high-density residential areas on the cut of carbon emission. Existing studies usually analyse large areas or whole urban structures, and generalize, while the proposed research has the goal of investigating real residential neighborhoods, smaller urban parts and specific density levels with first-hand data to obtain specific indications for planners and settlement strategies.

The research investigates the impact of high-density residential areas on the cut of carbon emission and explores trade-offs between high-density neighborhoods and carbon sinks that combined allow the lowest GHG emissions. The research is divided into two main parts, the empirical and the modeling one, and two phases: the analysis of the urban form of some empirical cases and the evaluation of their GHG emissions; the drafting of some scenarios of variations of the urban form and their impact on the GHG emissions. The conclusions will offer evidence on different urban forms for net zero or low carbon spatial strategies.

For this research the candidate needs good representation and modelling skills. What modeling tool best serves the research goal with the available data will be studied by the PhD student.

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 paola.pellegrini@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.