Information on Postgraduate Research Scholarship - Ref: M^{3}4Impact-FES-25

Faculty:	Engineering and Science	**Department:**	Computing and Mathematical Sciences
Lead Supervisor:	Dr Jian Zhong		
Project Title:	Modelling high resolution spatial and temporal temperature variations in London		
Project Description:	Urbanised areas tend to have higher physiological equivalent temperature (PET) compared to the surrounding sub-urban and rural areas. The urban-rural air temperature difference is affected by various factors such as urban heat island (UHI), population density and aerodynamic roughness length. Overheating of the urbanised areas is a key risk for human health and productivity of the workers, given the increase in global temperature and urbanisation rate. The mitigation of urban overheating is increasingly recognised as a challenge in urban planning and climate mitigation. Spatial and temporal temperature variations in urban heat can be induced by the land use types, urban morphology, anthropogenic heat emissions (from building and traffic), topography and meteorological conditions. This project aims to quantify the impacts of urban planning scenarios –such as densification, change of planning codes and building envelopes, redevelopment and land use change - on the mitigation of overheating. Specific objectives are: 1) to conduct literature review on urban heat and spatial strategies to mitigate heatwave vulnerabilities, 2) to configure baseline urban climate models (based on high resolution ADMS-Urban climate model and/or WRF model) which can capture UHI effects using London as a case study, and 3) to run modelling scenarios for a list of urban planning scenarios. The PhD will primarily be computational, utilising state of the art urban climate models to understand and predict the effect of UHI for a range of scenarios. As a member of the Computational Science and Engineering Group (CSEG), the successful applicant will join a team with many years of expertise in numerical modelling, material processing, and digital cities. As a measure of the team's esteem, CSEG is core to the M^{3}4Impact programme, a £9 million Expanding Excellence in England (E3) grant, won recently, to expand its world-leading research. The successful candidate would therefore be part of a dynamic growing research group, and so benefit from training and other initiatives funded by this grant.		
Duration:	Up to 4 years, Full-Time Study		

Bursary available (subject to satisfactory performance):
Rates below are for full time (FT) mode.
Year 1: £23,237 (£19,237 UKRI rate + London weighting = £2,000 + Enhanced bursary = £2,000)
Year 2: In line with UKRI rate + London weighting = £2,000 + Enhanced bursary = £2,000
Year 3: In line with UKRI rate + London weighting = £2,000 + Enhanced bursary = £2,000
Year 4*: In line with UKRI rate + London weighting = £2,000 + Enhanced bursary = £2,000

In addition, the successful candidate will receive a contribution to tuition fees, equivalent to the University Home Rate, currently £5, 006 (FT), for the duration of their scholarship. International applicants may need to pay the remainder tuition fee for the duration of their scholarship.

This fee is subject to an annual increase.

* The bursary is for 3 years with a potential extension of up to a maximum of 12 months. Funding extensions may be granted if the student demonstrates, to the satisfaction of the $M^3$4Impact Principal Investigators and PhD supervisors, that the thesis can be completed during the granted extension period.

Person Specification of Essential (E) or Desirable (D) requirements:	
Criteria:	**E or D**
Education and Training:	
• 1st Class or 2nd class, First Division (Upper Second Class) honours degree or a taught master's degree with an average of 60% overall in all areas of assessment (UK or UK equivalent) in a relevant area to the proposed research project	**E**
• For those whose first language is not English and/or if from a country where English is not the majority spoken language (as recognised by the UKBA), a language proficiency score of at least IELTS 6.5 (in all elements of the test) or an equivalent UK VISA and Immigration secure English Language Test is required, if your programme falls within the faculty of Engineering and Science a language proficiency score of at least IELTS 6.5 overall with a minimum of 6.0 in all elements of the test or an equivalent UK VISA and Immigration secure English Language Test is required. Unless the degree above was taught in English **and** obtained in a majority English speaking country, e.g. UK, USA, Australia, New Zealand, etc, as recognised by the UKBA.	**E**
Experience & Skills:	
• Previous experience of undertaking research (e.g. undergraduate or taught master's dissertation)	**E**
• Experience in a related discipline e.g. • Environmental Science • Mathematical Modelling	**E**
• Experience in programming in R, Fortran or python	**D**
• Experience of numerical modelling techniques and visualisation (e.g. GIS)	**D**
• Experience of numerical modelling packages, e.g. ADMS-Urban, WRF, or equivalent	**D**
Personal Attributes:	
• Understands the fundamental differences between a taught degree and a research degree in terms of approach and personal discipline/motivation	**E**
• Able to, under guidance, complete independent work successfully	**E**
Other Requirements:	
• This scholarship may require Academic Technology Approval Scheme approval for the successful candidate if from outside of the EU/EEA	**E**

• Start date is flexible and will be agreed with supervisory team and M^{3}4Impact Programme Leads	**E**
Closing date for applications:	**15th June 2025**
For further information contact:	**Dr Jian Zhong (jian.zhong@greenwich.ac.uk)**

Making an application:

Please read this information before making an application. Information on the application process is available at: https://www.gre.ac.uk/research/study/apply/application-process. Applications need to be made online via this link. **No other form of application will be considered**.

All applications **must include** the following information. **Applications not containing these documents will not be considered.**

- **Scholarship Reference Number (*M^{3}4Impact*)**– Clearly included "M^{3}4Impact" in the personal statement section together with your personal statement as to why you are applying
- **a CV including 2 referees** *
- **academic qualification certificates/transcripts and IELTs/English Language certificate if you are an international applicant or if English is not your first language or you are from a country where English is not the majority spoken language as defined by the UK Border Agency** *

**upload to the qualification section of the application form. Attachments must be a PDF format.*

Before submitting your application, you are encouraged to liaise with the Lead Supervisor on the details above.