UNIVERSITY of GREENWICH

Information on Postgraduate Research Scholarship **Ref: CSRPS VC Scholarship 25**			
Faculty:	Faculty of Engineering and Science	**Department:**	Computing and Mathematical Sciences
Lead Supervisor:	Professor Aoife Hunt		
PhD project Title:	Modelling the impact of hostile vehicle mitigation measures on pedestrian movement, comfort and safety.		
Project Description:	The threat to the public from low-sophistication, vehicle-borne terrorist attacks remains persistent, with hundreds of hostile incidents reported over the past decade. To protect people and assets from a Vehicle as a Weapon (VAW) attack, mitigations such as vehicle security barriers are deployed in the public realm, providing a level of protection against such attacks that depends on their construction and configuration. However, the installation of these Hostile Vehicle Mitigation (HVM) measures in public spaces can create an obstacle to pedestrian movement, particularly in crowded environments. While some measures (such as permeable bollards) have been designed to minimise the impact on crowd flow, there is a large variety of permanent and temporary vehicle barriers deployed with different sizes and shapes, and therefore impact pedestrian movement to different extents. It is important that the installation of these barriers does not negatively affect the movement of people (particularly in an emergency, when the public may need to be able to escape from danger as quickly as possible). However, these impacts are not yet well-understood. This project addresses this by investigating the impact that hostile vehicle mitigation measures have on pedestrian movement, comfort and safety in several scenarios, e.g.: • in normal situations (e.g. low density, routine pedestrian movement) • crowded situations (e.g. large events, or peak commuter movement) • and emergency situations (e.g. fire evacuation, or movement in response to a terrorist attack). A core aspect of the research will be collecting data in either field or experimental settings and building upon the current research and knowledge base in this area. The novel data collected will be used as a basis for creating a conceptual understanding of the impact of these measures across a range of scenarios, and the development microsimulation models to represent the impact of HVM measures on pedestrian movement. The Post Graduate Researcher (PGR) will be expected to contribute to advancing the state of the art in modelling the localised impacts of these types of security measures, providing a step-change in capability with the potential to be applied to real sites to ensure security overlays do not unduly obstruct people moving within the space. As part of this project, the PGR will be given the opportunity to engage with National Authorities on their developing work.		

March 2026

	This project is primarily funded by the University of Greenwich Vice Chancellor's PhD Scholarship fund, with an extended bursary funded by government. **Research Environment & Benefits** You will join the **Centre for Safety Resilience and Protective Security (CSRPS)**—a dynamic research team with expertise in pedestrian and evacuation modelling tools, human behaviour in emergencies, fire safety engineering, agent-based modelling, crowd dynamics, and fire and pathogen simulation. CSRSP plays a central role in **M^{3}4Impact**, a prestigious £9 million Expanding Excellence in England (E3) grant initiative. As part of this team, you will benefit from cutting-edge training, collaboration opportunities, and access to world-class research resources. This PhD offers an exciting opportunity for researchers passionate about both public safety and security, and computational modelling techniques. If you are eager to contribute to ground-breaking, high-impact research in this area, we encourage you to apply.
Duration:	Up to 3 years, Full-Time Study

Bursary available (subject to satisfactory performance):

Rates below are for full time (FT) mode, part time (PT) is pro rata.
Year 1: £24,780 (£20,780 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

In addition, the successful candidate will receive a contribution to tuition fees, equivalent to the University Home Rate, currently £5,006 (FT) or pro-rata (PT), 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.

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 a minimum average of 60% 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	**E**

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.	
Experience & Skills:	
• Previous experience of undertaking research (e.g. undergraduate or taught master's dissertation)	**E**
• Experience in a related discipline e.g. mathematical modelling, agent-based modelling, computer science	**E**
• Experience of evacuation/pedestrian modelling	**D**
• Experience of programming in C or python	**D**
• Experience of collecting data relating to people movement and behaviour	**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 CSRPS Management	**E**
Closing date for applications:	**13th April 2026**
For further information contact:	**Professor Aoife Hunt (a.l.hunt@gre.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 (*CSRPS VC Scholarship 25*)**– Clearly included "CSRPS VC Scholarship 25" in the personal statement section together with your personal statement as to why you are applying and the PhD project title.
- **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.