Information on Postgraduate Research Scholarship - Ref: Eng-PhD-01-25

Faculty:	Engineering and Science	**Department:**	School of Engineering
Lead Supervisor:	Dr Ghofran Salah (Co-supervisor: Professor Gianluca Tozzi)		
Project Title:	Engineering Biology-Enabled Sustainable Supply Chains		
Project Description: (maximum 500 words)	This PhD project explores how engineering biology and digital technologies can be integrated to transform conventional supply chains into sustainable, circular, and low-carbon systems. Supply chains across sectors such as food, chemicals, textiles, and packaging face increasing pressure to reduce waste, emissions, and reliance on petrochemical resources. Engineering biology offers novel solutions through bio-based materials, microbial manufacturing, and sustainable bioprocesses, while the Internet of Things (IoT) enables real-time monitoring, traceability, and optimisation. The research will investigate how synthetic biology, biomanufacturing, and IoT-enabled digital platforms can be combined to improve supply chain transparency, resilience, and environmental performance. The project aligns with the UK's Engineering Biology Supply Chain agenda and national priorities in the bioeconomy, net-zero transition, and industrial decarbonisation. Key research objectives include: • Designing and evaluating bio-based alternatives to petrochemical inputs using principles of synthetic biology and engineering biology. • Developing IoT-enabled monitoring systems to track biological materials, resource flows, and lifecycle performance across supply chains. • Applying AI-supported analytics and digital twins to optimise supply chain efficiency, circularity, and resilience. • Investigating biomanufacturing scale-up challenges, including sustainability, traceability, and systems integration. The methodology will combine systems modelling, experimental evaluation of bio-based materials or processes, digital simulation, and data analytics. The project will draw on existing facilities within the School of Engineering, including smart systems laboratories and bioengineering resources. This research will contribute to advancing sustainable supply chain engineering, support the UK's growing engineering biology ecosystem, and deliver practical insights for industry. Outcomes are expected to inform future industrial applications, policy development, and external research funding in sustainable manufacturing and digital engineering.		

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	This scholarship is awarded competitively, and all applications are carefully reviewed. While we cannot guarantee an offer, we encourage strong candidates to apply.
Duration:	3 years, Full-Time Study or 6 years, Part-Time Study

Support available (subject to satisfactory performance):

A successful Home candidate will receive:
- A Full tuition fee waiver at the university Home-student rate for the specified duration of the scholarship

A successful International candidate will receive:
- A tuition fee waiver for 50% of the International-student rate for the specified duration of the scholarship.

Tuition fees are subject to annual increases.

This scholarship does not include funding for living expenses.

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 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
• Background or interest in one or more of: engineering biology, sustainability, supply chains, IoT, digital systems, or data analytics	D
• Basic programming or data analysis skills (e.g. Python, MATLAB)	D
• Understanding of sustainability or circular economy concepts	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

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Other Requirements:	
• This scholarship may require Academic Technology Approval Scheme approval for the successful candidate if from outside of the EU/EEA	E
• The scholarship must commence before 15th July 2026 (offers will be withdrawn if this condition is not met)	E

Closing date for applications:	midnight UTC on 20th February 2026
For further information contact:	Dr Ghofran Salah School of Engineering, University of Greenwich g.salah@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 (*insert reference*)**– included 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.

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