Postgraduate Scholarship Information Sheet (Advert)

Scholarship Project Title	Modelling and Simulation of thermo-chemical process for waste to transport fuel technology with flexible feedstock.
Advert Reference number	**SETU_2024_108**
Supervisor(s)	Dr Cathal Nolan, SETU Carlow. Dr Ashish Vashishtha, SETU Carlow. Prof Marcel Ilie, Georgia Southern University, USA.
Research Group	engCORE
Department /School/Faculty	Dept of Aerospace & Mechanical Engineering, Faculty of Engineering
Duration	4 Years/48 Months
Status: Full-time / part-time	Full Time
Funding information	SETU 2024 Presidents Scholarship Programme
Value of the scholarship per year for four years	Stipend: €18,500 per annum Fees of €5,750 per annum Research costs- €2,000/€3,000 per annum
Closing date and time	**14 August 2024@ 4PM Irish Time**
Interview date	**(Week of 1 Sept 2024)**
PhD commencement date	**To be confirmed**

Project Key Words: (enter 3 to help advertise on online platforms): Synthetic biofuels, thermos-chemical process, modelling simulation, flexible feedstock, uncertainty quantification

Post summary:

A fully funded PhD Scholarship in the domain of thermo-chemical modelling and simulation of synthetic biofuels generation processes for transport fuel application is available at the South East Technological University (SETU), Carlow campus in collaboration with Georgia Southern University USA, SETU Waterford, SETU Wexford as well as University of Science and Technology of Hanoi, Vietnam. The study aims to develop the uncertainty quantification framework to integrate and optimise various processes (pyrolysis/gasification, liquification and refining/upgrading) to generate synthetic biofuels from flexible feedstock in Ireland and associated techno-economic analysis.

Person Specification:

Enthusiastic, self-motivated researcher with interests in thermos-chemical processes, biofuels, fuel chemistry modelling/simulation and uncertainty quantification methods. The PhD candidate should have the following qualifications, experience and competencies:

Qualifications:

Essential

- Honours Degree (minimum 2:1) in a relevant discipline (Aerospace Engineering, Mechanical Engineering/ Chemical Engineering) from an internationally recognised institution.

Desirable

- A Masters level qualification in Aerospace/Mechanical/Chemical Engineering.

Knowledge & Experience

Essential

- *Knowledge of synthetic bio-fuel generation processes*
- *Excellent understanding of modelling and simulations with MATLAB /python*
- *Experience of design, conducting and analysis of experiments*

Desirable

- *Knowledge and experience with Process modelling tools*
- *Knowledge and experience with uncertainty quantification methods*
- *Knowledge of techno-economic analysis*
- *Peer reviewed publications*

Skills & Competencies

Essential

- Applicants whose first language is not English must demonstrate on application that they meet SETU's English language requirements and provide all necessary documentation. See Page 7 of the Code of Practice
- In order to be **shortlisted for interview,** you must meet the SETU English speaking requirements so please provide evidence in your application.

Desirable

- *Strong Analytical and Problem-Solving Skills*
- *Excellent written and verbal communication skills.*
- *Willingness and motivation to learn and experience new theoretical and technological areas.*

Further information

For any informal queries, please contact Dr Cathal Nolan on email cathal.nolan@setu.ie

For queries relating to the application and admission process, please contact the Postgraduate Admissions Office researchadmissions@setu.ie or telephone +353 (0)59 9175203.

For queries relating to the funding programme, please email scholarships2024@setu.ie

University Website https://www.setu.ie/

Application procedure

Download the Research PhD/MSc Application Form from the SETU website and return the completed application to researchadmissions@setu.ie quoting **SETU_2024_108** in the email subject line.

Please note that paper submissions will not be accepted.

The University may decide to interview only those applicants who appear from the information they provided, to be the most suitable in terms of experience, qualifications and other requirements of the post.

The University will short-list and interview those applicants who provide the most suitable information in terms of experience, qualifications and other requirements relevant to the scholarship.

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