Ollscoil Teicneolaíochta an Oirdheiscirt
South East Technological University

Masters Scholarship Information Sheet

Scholarship Title	Shells to Solutions: Dual Circular Economy Benefits from Local Waste Shells to Clean up Our Lady's Island Lake and Ballyteige Channels
Reference number	WD_2025_08_CO
Supervisor(s)	Dr Mike Kinsella (SETU Waterford), Dr Shiau Pin Tan (SETU Waterford), Prof Helen Hughes (SETU Waterford)
Research Group	Eco-innovation Research Centre
Department /School/Faculty	Science/Science and Computing
Duration	2 Year (*24 months)*
Status: Full-time / part-time	Full Time
Value of the scholarship per year for two years	Stipend: €22,500 per annum Fees of €5,750 per annum Research costs-€3,000 per annum
Closing date and time	Monday, 29 June @ 4pm Irish Time
Interview date	To be confirmed
MSc commencement date	September 2026
P Code	P2829

Post summary

Applications are invited for suitably qualified candidates interested in pursuing a Research Masters by completing an industrial and societal relevant research project within the PMBRC/EIRC at SETU Waterford. The candidate will be enrolled on the 2-year Research Masters programme at SETU which will allow them to gain experience and develop further skills in the fields of chemistry, environmental analysis, circular bioeconomy, analytical chemistry and nutrient management.

The marine environment is a diverse source of currently underutilised potential with resources such as seaweed, fish, and shells containing compounds with varying applications. Of particular interest is the shellfish sector, which generates a significant amount of waste shells that are of no commercial value currently, but carries a cost of disposal. The proposed research builds on previous research projects at SETU where waste shells have been proven to be efficient at removal of nutrients and inhibiting certain bacterial strains from water. The main aim of this project will be the development of a cost-effective, scalable and environmentally friendly application of waste shells as local, low-cost adsorbents of nutrients such as nitrate and phosphate from wastewater and contaminated water from local water bodies, for example Our Lady’s Island and Ballyteige Channels in Wexford.

Person specification

Qualifications

Essential

- Honours Degree (minimum 2:1) in the specific area or related area including chemistry, pharmaceutical, biopharmaceutical or analytical science or equivalent. The Candidate should also have practical hands-on experience of laboratory work in relevant fields mentioned as part of their undergraduate programme including the use of analytical instrumentation
- Demonstrated evidence of completion of independent, lab-based research project(s)

Desirable

- Experience in Nutrient management, water chemistry, or circular bioeconomy and example projects completed in these or comparable areas.
- Final year lab-based project completed and thesis written in an area relevant to related to the topic of this programme.
- Experience with conducting pot plant trials

Knowledge & Experience

Essential

- Knowledge on extraction techniques and sample preparation techniques for analysis, calibration curves etc
- Knowledge and/or experience of modern analytical equipment such as FTIR, UV/Vis Spectroscopy, HPLC, NMR and LCMS would also be required.
- Successful previous project completion involving sample preparation and analysis, including a variety of analytical chemistry techniques and data interpretation and reporting

Desirable

- Experience/knowledge of antimicrobial properties/bioactivity testing of natural products would be beneficial, particularly in the area of shellfish waste.
- Knowledge/experience of cell culture techniques would also be desirable.
- Experience working with pot trials would also be desirable
- Experience in conducting an undergraduate research project with associated laboratory work and write-up of a thesis on this project

Skills and Competencies

Essential

- Applicants whose first language is not English must submit evidence of competency in English, please see SETU's English Language Requirements for details.
- In order to be shortlisted for interview, you must meet the SETU English speaking requirements so please provide evidence in your application.

- A good level of generic skills such as literature review skills, use of on-line databases, report writing would also be essential.
- The student must have a high level of self-motivation, be able to think and work independently and communicate and integrate well within a group environment
- Independent operation, calibration and set up of lab instrumentation in addition to critical analysis of data, identifying trends and statistical analysis

Desirable

- Experience in planning and running experiments Planning of experiments, time management, and demonstrated examples of working well with others in a research environment with shared access and use of facilities
- Competent in using Microsoft office, referencing software, statistical analysis
- Driving Licence and transport to travel for field sample collection

Further information
For any informal queries, please contact Dr. Mike Kinsella on email mike.kinsella@setu.ie

Application procedure

Complete the online Application Form from the SETU website quoting the advert reference number from above.

Please ensure that you upload all supporting documents as part of your submission.

Please note that applications must be submitted by this route.

For queries relating to the application and admission process please contact the Postgraduate Admissions Office via email researchadmissions@setu.ie or telephone +353 (0)51 302883.

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

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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