

Postgraduate Scholarship Information Sheet

Scholarship Title	Developing UAV-Based Remote Sensing for Saltmarsh Mapping and Restoration
Reference number	CW_2025_13_CW_SPONS
Supervisor(s)	Dr Owen Naughton (SETU) Dr Yuanyuan Pu (SETU) Dr Anastasia Ktenioudaki (SETU)
Department /School/Faculty	Faculty of Engineering
Duration	<i>4 Years (48 months)</i>
Status: Full-time / part-time	Full time
Funding information	Environmental Protection Agency
Value of the scholarship per year for four years	Stipend: €25,000 per annum Full coverage of EU tuition fees Funds for conference travel and consumables
Closing date and time	Monday, 27 July 2026 at 4pm Irish Time
Interview date	To be confirmed
PhD commencement date	To be confirmed
P Code	To be confirmed

Post summary

A fully funded 4-year PhD is available to develop multi-sensor (LiDAR, multispectral, hyperspectral) remote sensing tools for mapping and monitoring ecologically significant saltmarsh ecosystems. The position is based in the Faculty of Engineering, South East Technological University (SETU) and forms part of the multi-institutional SOS project on saltmarsh restoration, funded by the Environmental Protection Agency, with partners at University College Dublin (UCD), the National Parks and Wildlife Service, and the Department of the Environment, Climate and Communications (DECC).

Saltmarshes provide vital ecosystem services, including coastal protection, carbon storage, nutrient cycling and habitat provision. However, climate change and human pressures have caused major habitat loss. Improved monitoring and restoration are therefore critical for climate mitigation, adaptation and biodiversity. The SOS project will use fine-scale monitoring to understand how degradation affects saltmarsh functions and services and apply this knowledge to design and implement restoration solutions in Ireland. The project team will comprise three PhD researchers investigating hydrology and water quality, greenhouse gas fluxes, vegetation dynamics and remote sensing at degraded and reference sites.

This PhD will focus on developing reproducible UAV-based LiDAR, multispectral and/or hyperspectral methods for mapping and monitoring saltmarshes. UAV imaging offers unprecedented spectral and spatial detail at relatively low cost, but the lack of proven,

standardised methodologies limits operational uptake. This research will address that gap.

The successful candidate will undertake extensive fieldwork mapping saltmarshes across Ireland and collaborate closely with the wider project team, with some travel to UCD required. They will be responsible for UAV data collection, processing and analysis, and the development of standardised workflows for saltmarsh mapping and monitoring. The student will also contribute to publications, project reporting and stakeholder engagement, gaining valuable experience in interdisciplinary collaboration and scientific communication.

The position is fully funded for four years, with a stipend of €25,000/year plus fees, and includes support for fieldwork, conferences and training. The student will join SETU's Environmental Engineering research group and work alongside PhD researchers developing UAV-based remote sensing methods for coastal and intertidal ecosystems, forestry and wetlands.

Person specification

We are looking for an enthusiastic, self-motivated researcher with interests in environmental engineering, environmental science, biosystems engineering, ecological restoration and/or remote sensing. The PhD candidate should have the following qualifications, experience and competencies:

Qualifications

Essential

- Honours Degree (minimum 2:1) in a relevant discipline (environmental/civil engineering, environmental science, computer sciences) from an internationally recognised institution.

Desirable

- A Masters level qualification in an environmental field or remote sensing would also be desirable.

Knowledge & Experience

Essential

- Strong knowledge in data processing, data analysis, quantification and classification.
- Willingness to undertake fieldwork, including UAV operations in outdoor environment
- Research experience gained through a final-year project, dissertation, or similar independent work
- Demonstrated strong capability in carrying out research work independently
- A driving licence valid in Ireland is essential to access remote field sites.

Desirable

- Knowledge & Experience in one or more of the following areas is desirable:
- Experience with programming languages (i.e. Python, R, Matlab) for processing images and/or spectral data
- Experience with remote sensing software (i.e. ENVI, ArcGIS)
- UAV Operation: Experience with UAV operation, flight planning, and data collection.

Skills & Competencies

Essential

- A driving licence valid in Ireland is essential to access remote field sites.
- Strong proficiency in spoken and written English is required, together with excellent written and oral communication skills.

- 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.

Further information

For any informal queries, please contact Dr Owen Naughton at Owen.Naughton@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 post.

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