



Funded PhD Studentships

Applications are invited from suitably qualified candidates for two full-time PhDs (Structured PhD programme) in Biology and Environmental Science as part of a larger project on Irish Blue Carbon ecosystems ('BlueC') funded by the Marine Institute. We seek to recruit two motivated early-stage researchers with a keen interest in saltmarsh ecology and biogeochemistry. The PhD positions will be based in the School of Biology and Environmental Sciences, University College Dublin for 48 months and will contribute to the multi-institutional Blue Carbon ('[BlueC](#)') project in collaboration with University of Galway and University College Cork. **Anticipated start date: 1 September 2023.**

Blue Carbon background, and intro to wider project

Ocean and coastal marine systems play a significant role in the global carbon cycle, representing the largest long-term sink of carbon. Two Blue Carbon habitats occur in Ireland's coastal ecosystems; saltmarshes and seagrass meadows. Specifically for Ireland, there is a paucity of data on the carbon storage capacity of these ecosystems, and a lack of coherent management strategies hampers the ability to integrate these ecosystems into climate policy frameworks. The BlueC project addresses carbon dynamics in Irish coastal and marine environments, whilst simultaneously improving management and harnessing their potential for climate mitigation, adaptation and other ecosystem services to underpin policy development.

PhD Project 1 will focus on quantifying lateral fluxes of dissolved carbon in marsh porewater and tidal waters. Saltmarshes are in constant exchange with the ocean through tides, waves and currents, which drives the export or import of nutrients and carbon into or out of these systems. This PhD project will focus on quantifying particulate organic carbon (POC), dissolved organic carbon (DOC) and dissolved inorganic carbon (DIC) from a range of saltmarsh sites that differ in substrate and morphology. Time series observations of the key flux parameters will be carried out by sampling tidal creeks that dissect the marsh platforms in addition to sampling marsh porewater.

PhD Project 2 will contribute to the establishment of a long-term monitoring site and will focus on experimental manipulation of climate change factors, namely establishing a passive warming experiment. Latitudinal gradient studies suggest that warming will increase both tidal wetland productivity and decomposition, with the net effect of enhancing carbon storage initially. This project will investigate changes in productivity, decomposition, and elevation in response to warming in both saltmarsh habitat and intertidal seagrass habitat.

The successful candidates will undertake extensive fieldwork in remote saltmarshes across Ireland, employ a wide range of field and lab-based techniques, assist with the set-up of a long-term monitoring site, and interact with the wider project team, whereby some travel to partner laboratories (Galway/Cork) may be required.



University College Dublin
Ireland's Global University

Requirements

Applicants should have a good primary degree (First or Second Class Honours) in an appropriate discipline (Environmental Science/Biology, Botany/Plant Science, Ecology, Marine Biogeochemistry).

The successful candidates should be highly self-motivated and have some background and particular interest in saltmarsh biology, biogeochemistry and ecology. In addition to a relevant degree(s), the successful candidates will ideally have some additional research experience (e.g. MSc) in marine/coastal fieldwork, analysis of water quality, blue carbon methodologies, habitat mapping and GIS. The successful candidates will be very strong communicators. In addition, a driving licence valid in Ireland is essential to access remote field sites.

Award

The successful candidates will be enrolled for a 48-month Structured PhD programme (<https://www.ucd.ie/graduatestudies/>)

Stipend: The student will receive a tax-free stipend of €18,500 per year, full coverage of tuition fees (both EU and non-EU) and funds for conference travel.

Equality and diversity: UCD is committed to creating an environment where diversity is celebrated and everyone is treated fairly regardless of gender, age, race, disability, ethnic origin, religion, sexual orientation, civil status, family status, or membership of the travelling community (<https://www.ucd.ie/equality/>). Applications from all suitably qualified candidates will be considered.

Informal enquiries are welcome and should be made to Dr Grace Cott (grace.cott@ucd.ie).

To apply please e-mail grace.cott@ucd.ie by 14th July, 2023 a single pdf document with a detailed curriculum vitae describing any previous research experience, a cover letter detailing your research interests and goals, and the contact details (e-mail and phone number) of at least two academic referees. Please indicate whether you are applying for PhD Project 1 or 2 or would like to be considered for both.