



Applications are invited from suitably qualified candidates for the following position:

Research Centre	School of Chemical Science
Post title	Postdoctoral Researcher Biogeochemistry
Level on Framework	Level 1
Post duration	3 years and 10 months

Dublin City University

Dublin City University (DCU) is a young, ambitious and vibrant university, with a mission 'to transform lives and societies through education, research, innovation and engagement'. Known as Ireland's 'University of Enterprise', DCU is a values-based institution, committed to the delivery of impact for the public good. DCU was named Sunday Times Irish University of the Year 2021.

DCU is based on three academic campuses in the Glasnevin-Drumcondra region of north Dublin. More than 18,000 students are enrolled across five faculties – Science and Health, DCU Business School, Computing and Engineering, Humanities and Social Sciences and DCU Institute of Education.

DCU is committed to excellence across all its activities. This is demonstrated by its world-class research initiatives, its cutting-edge approach to teaching and learning, its focus on delivering a transformative student experience, and its positive social and economic impact. The university continues to develop innovative programmes in collaboration with industry, such as the DCU Futures suite of degrees, which are designed to equip graduates with the skills and knowledge required in a rapidly evolving economy.

DCU's pursuit of excellence has led to its current ranking among the top 2% of universities globally. It is also one of the world's Top Young Universities (QS Top 100 Under 50, Times Higher Top 150 Under 100). In the Times Higher Education University Impact Rankings 2021, DCU ranked 23rd in the world for its approach to widening participation in higher education and its ongoing commitment to eradicating poverty, while it ranks 38th globally for its work in reducing inequality and 89th globally for gender equality.

The university is ranked 23rd in the world and first in Ireland for its graduate employment rate, according to the 2020 QS Graduate Employability Rankings. Over the past decade, DCU has been

the leading Irish university in the area of technology transfer, as reflected by licensing of intellectual property.

As part of this role the researcher will be required to participate in the DCU Research Career Framework. This framework is designed to provide significant professional development opportunities to Researchers and offer the best opportunities in terms of a wider career path.

Background & Role

Ireland's expansive marine resource has the potential to sequester and store significant amounts of carbon in seafloor sediments and the habitats they support. However, there is a paucity of data and information on the past and present stock of carbon in these environments. Moreover, Ireland's seabed is coming under increased pressure through anthropogenic impacts, such as the development of offshore renewable energy, trawling and dredging, in addition to climate change effects. To fully understand, and effectively manage, the seabed in terms of maximising this Blue Carbon potential requires a thorough understanding of carbon cycling in the marine environment over time, physical processes at the seafloor and high-quality spatial mapping. The Quest Project is a collaborative partnership between University College Dublin (UCD), Dublin City University (DCU) and the Geological Survey of Norway (NGU) and comprises experienced and skilled researchers in these areas who will conduct a multidisciplinary programme of research to qualify and quantify stocks of carbon in Irish marine sediments, examine and characterise threats to Blue Carbon in these settings and support the development of long-term management strategies. This programme will comprise spatial predictive modelling along with offshore surveying and sampling, laboratory analysis and hydrodynamic modelling to deliver comprehensive geochemical, geological, geotechnical, environmental and morphodynamic assessments of Blue Carbon 'hotspots' in the Irish offshore, as identified in the National Marine Planning Framework. The outcomes of the Quest Project will form critical baseline data and the basis for expert advice to help inform evidence-based policy with regard to effective management strategies for the sustainable use and protection of Blue Carbon resources in Ireland. This will include supporting the designation of Marine Protected Areas and facilitate the delivery of the Government's Climate Action Plan. The Quest Project also intends to engage with stakeholders and the public to achieve a better understanding of Blue Carbon across society, and to raise the visibility of such research at a national and EU level.

Principal Duties and Responsibilities

- Reporting to his/her Principal Investigator the Postdoctoral Researcher will:
- Conduct a specified programme of research under the supervision and direction of the Principal Investigator
- Assist in identifying and developing future research and funding initiatives
- Engage in the dissemination of the results of the research in which they are involved in under the supervision of the Principal Investigator
- Willingness to supervise undergraduate (e.g. 4th year project students) and postgraduate research students.

- Engage in appropriate training and development opportunities as required by the Principal Investigator, the School or Research Centre, or the University
- Engage in teaching and teaching support as assigned by the Head of School under the direction of the Principal Investigator
- Liaise with both internal and external stakeholders including industry and academic partners/collaborators
- Carry out administrative work associated with the programme of research as necessary
- A demonstrated commitment to research and publications
- A comprehension of the operational requirements for a successful research project.
- Evidence of research activity (publications, conference presentations, awards) and future scholarly output (working papers, research proposals, and ability to outline a research project).
- Excellent Communication Skills (Oral, Written, Presentation etc).
- Excellent Organisational and Administrative skills including a proven ability to work to deadlines.

Minimum Criteria

Candidates must have a PhD in geoscience, environmental geochemistry or related discipline. Practical experience in the maintenance, use and interpretation of data from analytical instruments such as GC-MS, NMR and associated characterisation techniques. Practical experience on the water, e.g. marine sampling and also the maintenance of marine sensors on a data buoy. Experience in project management and handling spatial marine datasets using geographic information systems is desirable.

Candidates will be assessed on the following competencies:

Discipline knowledge and Research skills – Demonstrates knowledge of a research discipline and the ability to conduct a specific programme of research within that discipline

Understanding the Research Environment – Demonstrates an awareness of the research environment (for example funding bodies) and the ability to contribute to grant applications

Communicating Research – Demonstrates the ability to communicate their research with their peers and the wider research community (for example presenting at conferences and publishing research in relevant journals) and the potential to teach and tutor students

Managing & Leadership skills - Demonstrates the potential to manage a research project including the supervision of undergraduate students