School of Natural Sciences: Funded PhD Scholarship

Project Title: The dynamics and controls of the carbonate system in Irish coastal and shelf waters

Supervisors: Dr. Rachel Cave & Prof. Dagmar Stengel at NUI Galway, Dr. Evin McGovern & Margot Cronin at the Marine Institute

Duration: 4 years full-time Structured PhD, funded by a Marine Institute Cullen Scholarship.

Project description: Continental shelves are large and productive areas of the ocean and as such are a critical component of the carbon cycle. Knowledge of the carbonate system in shelf waters is key to understanding their variable status as source or sinks of CO₂, which in turn is crucial to the accuracy of global and regional climate models. Coastal and nearshore waters, though much smaller in areal extent than continental shelves, are also important sources and sinks of carbon, and understanding the carbonate system here is of high importance. The student will carry out research on the carbon chemistry of Irish coastal and shelf systems. A number of disparate data sets have already been collected that require integration and interpretation, and the student will collect further data to fill some of the gaps identified.

In addition to working up existing data on inorganic carbonate parameters on the western Irish shelf and nearshore waters, the student will consider how to collect and integrate data relating to organic matter cycling in shelf and nearshore waters, to fill in this gap in our knowledge and to complement ongoing monitoring of the carbonate system. The project will forge links with existing projects such as the JPI Oceans/JPI Climate project CE2COAST (https://www.ce2coast.com/) and iCRAG projects (https://www.icrag-centre.org/).

Stipend: €18,500 per annum & fees for 4 years.

Entry Requirements:
- A master’s degree or first class honours B.Sc. in a relevant discipline (e.g. oceanography, earth and ocean sciences, marine chemistry, marine biology, or similar) with a good foundation in chemistry
- Demonstrated seagoing experience on research vessels
- Experience with field monitoring and sample and data collection
- Full Irish/UK/EU driver’s licence or licence from a recognized state (see https://www.ndls.ie/licensed-driver/exchange-my-foreign-driving-licence.html)
- Adaptability, reliability and a positive attitude and the ability to work both independently and in a team

How to apply:
Please email a letter of introduction and a current CV, indicating your research experience and including the names of two referees, to Ms. Lorna Larkin at lorna.larkin@nuigalway.ie with the subject line ‘Cullen Ph.D. Application’.

Closing date for applications: Friday, 10th December 2021, 5pm (UTC)

Expected start date: Interviews will be conducted in early January 2022 for an expected start date in late Spring 2022. For informal discussion, contact Dr. Rachel Cave at rachel.cave@nuigalway.ie or Dr. Evin McGovern at evin.mcgovern@marine.ie with the subject line ‘Cullen Ph.D. Application’.