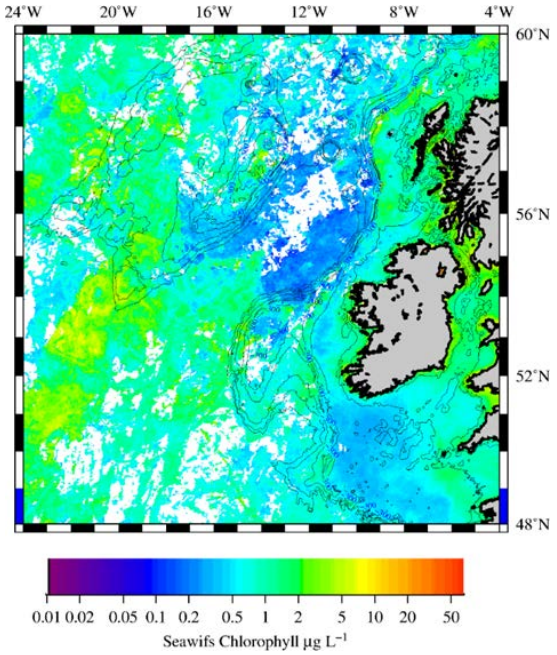
Fully funded PhD Opportunity

Marine Biogeochemistry Group

Earth and Ocean Sciences & Ryan Institute, National University of Ireland Galway

Primary Productivity in surface waters of the Irish EEZ

Supervisor: Prof. Peter Croot
Duration: 4 years full-time Structured PhD, funded by the SFI Research Centre iCRAG .
Project description:



Over the course of a 4 year structured PhD, the successful applicant will combine and compare different approaches to the measurement of primary productivity in surface seawaters around Ireland. This work directly addresses a critical knowledge gap in Irish/European marine science, with almost no data on primary productivity in Irish waters. While satellite data for net primary productivity has been available for over a decade now, there have been no systematic studies validating/ground truthing remote sensing estimates. Shipboard expeditions will be conducted to obtain data on bio-optical, macronutrient, carbon system and O_2/Ar for primary productivity estimates across the Irish continental shelf. The student will specifically undertake shipboard incubations using $H_2{}^{18}O$ to obtain estimates of gross primary productivity via O_2 production using a Membrane Inlet Mass Spectrometer (MIMS) . The data gathered in this work will contribute towards the United Nations Sustainable Development Goal 14, Life below Water and also help to inform baselines for carbon cycling budgets in Irish waters by determining key parameters (Essential Ocean Variables – EOVs) with regard to Ireland's Blue carbon footprint. The overall project will seek to inform policy for the Irish government's achieving it's UN target of 30% of the Ireland's Maritime Area being designated as Marine Protected Areas by 2030.

Award: The successful candidate will be enrolled for a 48-month (Structured) PhD programme in Earth and Ocean Sciences at NUI Galway. The Fellowship provides University fees and a stipend per of €18,500 per annum over 4 years. Funds for project costs are also provided.

Essential Requirements:

- A master's degree or first-class honours bachelor's degree in a relevant discipline (e.g. chemistry, earth and ocean sciences, environmental engineering/science, marine biology, or similar)
- Laboratory experience
- Excellent verbal and written English
- An ability to be self-motivated and to organise and work independently

Desirable Requirements:

- A background in marine science
- Experience using a programming language such as R or Python to conduct geospatial analyses with large environmental datasets
- An ability to meet deadlines by openly and proactively clarifying priorities
- Experience in working at sea

Expected start date: The successful candidate will be expected to start date September 1st, 2022 though an October or November start is also possible. For informal discussion, contact Prof. Peter Croot at peter.croot@nuigalway.ie with the subject line '**iCRAG Marine Ph.D. Application'**.

Application Procedure:
Please email a letter of introduction and a current CV, indicating your research experience and including the names of two referees, to Prof. Peter Croot at peter.croot@nuigalway.ie with the subject line **'iCRAG Marine Ph.D. Application'.**

Closing date for applications: Friday, 19th August 2022 (but will remain open until filled.)