

***Fully funded PhD Studentship available***

The Role of Upper Ocean Turbulence on the Biological Carbon Pump  
AirSea Laboratory, School of Natural Sciences  
University of Galway

Applications are invited from suitably qualified candidates for a full-time PhD (Structured PhD programme) on 'The Role of Upper Ocean Turbulence on the Biological Carbon Pump'. The project is funded by iCRAG, the SFI Research Centre in Applied Geosciences (<https://www.icrag-centre.org/>).

**Project Description**

The proposed project will contribute to the North West Atlantic Biological Carbon Pump (NWA-BCP) project (<https://nwa-bcp.ocean.dal.ca/>), which is a collaboration with the University of Galway, Dalhousie University (DAL), Memorial University Newfoundland (MUN), and the Ocean Frontier Institute (OFI) in Canada. The biological carbon pump (BCP) is the process where carbon is exported from the sea surface to the ocean depths. The Labrador Sea supports an enormous spring blooms of plankton and plays a critical role in the ocean's BCP and climate regulation. There exists a dataset from the successful 2022 field expedition to the Labrador Sea and another expedition is planned for 2023. The successful candidate will be responsible for processing the turbulence data from the Air-Sea Interaction Profiler (ASIP) from the 2022 cruise, and will participate in the 2023 cruise to extend the dataset. The objectives are to enhance the scientific knowledge on the role that small-scale physics exerts on phytoplankton bloom dynamics.

**Requirements**

Applicants should have a background in oceanography, physics, or engineering. This project will have some aspects of engineering, but it will mostly be concerned with the scientific processes described above. The ability to manipulate data by developing code in MATLAB/Python/Julia is essential. A strong ability to communicate scientific results both orally and in written format would be highly advantageous at the outset, but this is a skill that will be developed throughout this PhD. The candidate is expected to present results at international conferences and publish in high-impact peer-review journals. The candidate should have a keen interest in open-ocean fieldwork, and be prepared to engage with the evolution of the ASIP instrument (see <https://doi.org/9jj>).

**Award**

The successful candidate will be enrolled for a 48-month Structured PhD programme (<http://www.nuigalway.ie/graduatestudies/>) at NUI Galway. The Fellowship provides University fees and an annual tax-free stipend of €18,500 per annum over four years. Funds for project costs are also provided which will cover expenses related to fieldwork and travel for conferences. The PhD candidate will be a full member of the SFI-funded iCRAG centre (<https://www.icrag-centre.org/>), which brings additional opportunities for career development.

**Start date:** Ideally October 1st 2022

## **Further Information**

For further details, all interested candidates are fully encouraged to contact Dr. Brian Ward: [bward@nuigalway.ie](mailto:bward@nuigalway.ie) | <http://airsea.nuigalway.ie/> | @airseanuig

## **Application Procedure**

Please submit the following by e-mail to Dr. Brian Ward ([bward@nuigalway.ie](mailto:bward@nuigalway.ie)):

- a current curriculum vitae
- a brief statement on why you are interested in this PhD position
- a list of three referees' contact details.

**Closing date:** August 31st 2022 at 5pm (local) Irish time