

## Marine Institute Job Description

Position	Experienced Postdoctoral Researcher Ocean Modeller
Grade & Contract	Experienced Postdoctoral Researcher - Temporary Specified Purpose Contract of Employment for a maximum duration of 24 months up to 31st October 2026
Service Group	Ocean Climate and Information Services (OCIS)
Location	Rinville, Oranmore, Co. Galway The Marine Institute has a Blended Working Policy in Place

### Who will you Work With and What Will The Role Involve?

You will work within the existing Ocean Modelling team which is part of the Oceanographic & Climate Services (OCS) group at the Marine Institute. You will work on a project entitled **Advancing towards litter-free Atlantic coastal communities by preventing and reducing macro and micro litter (FreeLitterAT)**. The project addresses marine litter issues and is funded under an Interreg Atlantic Area Programme (<https://www.atlanticarea.eu/>).

#### **Overview of FreeLitterAT**

FreeLitterAT will achieve litter-free coastal communities by combining knowledge, tools and technology with pilot actions with multi-stakeholder engagement. It tackles marine litter, a transnational challenge demanding an integral approach involving prevention, monitoring and removal when feasible of the already accumulated marine litter. The overall objective is to protect biodiversity by implementing innovative approaches to prevent and reduce marine litter, with special emphasis on ALDFG and microplastics. FreeLitterAT will contribute to reducing inputs, locate sources and hotspots, enhance monitoring capabilities and raise awareness. Main outputs include guidance, tools and joint solutions for waste management, marine litter monitoring, modelling, clean-up and removal as well as action plans transferred to the competent authorities and maritime stakeholders. The project will build on previous results and alliances, developing new solutions to be implemented through pilot actions.

The Marine Institute will be mainly involved in ocean modelling tasks and your role will be to carry out the project tasks in collaboration with the international partners. These tasks will include the development and implementation of predictive models for fate of micro and macro litter in the marine environment: from modelling outputs to sources and hotspots. In particular, you will contribute to relevant literature review and code development, as required, and to actions concerning high resolution modelling of macro and microplastics, nets, ropes and fishing tools in Irish waters. You will also assist with the demonstration of the GIS decision support tool to the local stakeholders in Ireland. The GIS tool will be developed by a project partner and implemented to Irish waters.

You will also assist the Marine Institute's Lead Investigator in the project management activities. This will involve participation in the project meetings, meetings, reporting, capitalization and communication. Publication of scientific papers is expected in this role.

## What Will You Be Doing Every Day?

### Principal Tasks:

Expand the Marine Institute's Ocean modelling services in line with FreeLitterAT project objectives:

- Liaise closely with international project partners developing the Lagrangian-based models and tools and contribute to the code development and testing, as required
- Implement the aforementioned models in Irish waters
- Collate available information on marine litter sources and hotspots in Ireland, with special emphasis in microplastics and ALDFG (abandoned, lost or otherwise discarded fishing gear) for the purpose of model validation
- Validate the Lagrangian marine litter model based on available drifter and marine litter data; cross-validate the model with project partners in the overlapping regions
- Carry out Lagrangian simulations of marine litter: from sources to hotspots for number of scenarios designed with project partners
- Participate in research activities that support projects milestones and related objectives and publish in the scientific literature
- Attend relevant meetings or working groups
- Produce project technical and scientific reports
- Contribute to administrative reporting in the project
- Publish in international peer-reviewed journals
- As necessary, carry out other modelling duties in the MI ocean modelling team.
- Any other duties as relevant to the position and grade.

## What do You Need to Have Done to Apply for This role?

(Education, Professional or Technical Qualifications, Knowledge, Skills, Aptitudes, Experience and Training)

### Essential / Important:

- PhD in Physical or Biological Oceanography, Civil Engineering, numerical modelling or related discipline with sound numerical background.
- Experience in setting up and running ocean Lagrangian particle tracking models
- Proven track record in using one or more scripting languages, e.g. Matlab, Python or similar.
- Proven experience in working with NetCDF file format.
- Effective numerical and literacy skills including report writing skills.
- Numerical skills to include handling large volumes of observational and model oceanographic data.
- A high level of computer literacy (Word, Excel, PowerPoint, Internet/Email).
- The ability to be well organised and work to deadlines identifying priorities and managing time effectively.
- Excellent interpersonal skills and the ability to communicate effectively at all levels both in writing and verbally with technical and scientific and non-technical groups.
- The ability to work unsupervised and to work well with others.

### Ideally Nice to Have / Desirable:

- Previous postdoctoral experience
- Experience as user and/or developer of ocean numerical models, e.g. ROMS, CROCO
- Statistical analysis of oceanographic data.

- Record of publishing in peer-reviewed scientific journals.
- Sea going experience or sufficiently fit to pass an ENG II Medical.
- A full clean Driving License.

## What else do you need to know?

### (Special personal attributes required for the role)

- An analytical approach to problem solving.
- Ability to multitask successfully.
- An ability to work in an organised manner and progress work independently.
- Dynamic and reliable.
- Self-sufficiency, while being a good team player.
- Good interpersonal skills.
- Ability to effectively communicate results of teamwork in written and audio-visual formats.

## Description of Service Group: Ocean, Climate & Information Services (OCIS) – The Wider Team

The mission of OCIS is *“to provide scientific, operational and analytical support and services to strategic RTDI and statutory monitoring programmes (at national and international level) to promote and support the sustainable development of Ireland’s marine resources”*

Ocean Climate and Information Services incorporates:

- Information Services & Development
- Advanced Mapping Services
- Research Vessel Operations
- Oceanographic & Climate Services
- Marine Research Infrastructures

### **Oceanographic & Climate Services (OCIS)**

The Oceanographic & Climate Services team within OCIS is responsible for the delivery of scientific services to users based on oceanographic data in a wide variety of fields including fisheries, marine environment, aquaculture, search and rescue, tourism and leisure among others. The group is the primary user of both ocean observations and model forecasts and projections in Ireland. The group is comprised of physical oceanographers, ocean modellers, plankton ecologists, project managers and administrators. The group also works with users of climate services in government departments and local authorities, assisting them in their preparedness for climate adaptation.

The Oceanographic & Climate Services team also work on various EU projects and is active in the International Council for the Exploration of the Seas (ICES), EuroGOOS, Copernicus, GO-SHIP and the Joint Programming initiatives for Oceans and Climate. We maintain a strong international collaborative network in oceanographic science.

### Who Will You Report to / Who will Manage and Support You?:

The successful candidate will report to the Team Leader of Ocean Modelling in OCIS.

### What we offer

We value our staff, and we value their contribution to the work of the Marine Institute. In return for this, we provide benefits that promote a healthy work-life balance and which we hope will help them to develop professionally. These include personal and career development, work/life balance policies, an employee assistance programme, “Bike to Work” Scheme, staff medicals and annual flu vaccination.

### Contacts:

#### **Within the Marine Institute:**

Ocean Modelling team members within OCIS, Section Manager of Oceanographic & Climate Services, Director of OCIS, Data Services Team, other Sections Managers, Team Leaders, Scientific and Technical Officers, and Postdoctoral Researchers across MI Service Groups.

#### **External:**

Regular liaison with the Project Leader (CETMAR, Spain), FreeLitterAT modelling Work Package (WP) leaders (Lusófona University, Portugal and University of Santiago de Compostela, Spain), remaining WP partners from Portugal and Spain, other stakeholders and collaborators in the area of ocean modelling nationally and internationally.

### Salary:

Remuneration is in accordance with the Public Sector, Department of Finance approved Salary Scale for an Experienced Postdoctoral Researcher, which runs from €52,715-€57,331 on a full-time basis per annum pro-rated with time worked. You will become a member of the Single Public Service Pension Scheme unless you are currently or have worked in the Public Sector in the past 6 months or are a member of another Public Sector Scheme

### Annual Leave:

Annual leave entitlement for an Experienced Postdoctoral Researcher is 24 days per annum. Annual leave entitlements are exclusive of Public Holidays and are managed using the Time & Leave Management System in Place in the organisation. All leave must be approved by your manager or their authorised representative; in advance of being taken and in line with Marine Institute leave policies.

### Duration of Contract:

The contract will be issued on a temporary specified purpose basis for a duration up to 31st October 2026 / or for a duration of 2 years, subject to continued funding. The successful candidate will be on probation for the first 6 months of this contract.

## Who is the Marine Institute?

The Marine Institute is a non-commercial semi-state body, which was formally established by statute (Marine Institute Act, 1991) in October 1992.

Under the Act, the Marine Institute was given the responsibility:

*“to undertake, to co-ordinate, to promote and to assist in marine research and development and to provide such services related to marine research and development, that in the opinion of the Institute will promote economic development and create employment and protect the marine environment”.*

The Marine Institute is the national agency responsible for marine research, technology, development and innovation (RTDI). The Marine Institute seeks to assess and realise the economic potential of Ireland’s 220-million-acre marine resource; promote the sustainable development of marine industry through strategic funding programmes and scientific services; and safeguard the marine environment through research and environmental monitoring. The Institute works in conjunction with the Department of Agriculture, Food and Marine (DAFM) and a network of other Government Departments, semi-state agencies, national and international marine partners.

***Our vision - The Marine Institute, as a global leader in ocean knowledge, empowering Ireland and its people to safeguard and harness ocean wealth.***

***Our Mission - The Marine Institute, provides government, public agencies and the maritime industry with a range of scientific, advisory and economic development services that inform policy-making, regulation and the sustainable management and growth of Ireland’s marine resources. The Institute undertakes, coordinates and promotes marine research and development, which is essential to achieving a sustainable ocean economy, protecting ecosystems and inspiring a shared understanding of the ocean.***

In order to achieve this vision, the MI have six service areas; (1) Ocean, Climate and Information Services, (2) Marine Environment & Food Safety Services, (3) Fisheries Ecosystems Advisory Services, (4) Irish Maritime Development Office, (5) *Policy, Innovation and Research Services* and (6) Corporate Services.

The Marine Institute 5 Year Strategic Plan (2023 to 2027) is available [Here](#)

### How to Apply:

A C.V. and letter of application, summarising experience and skill set applicable to the position should be emailed to [recruitment@marine.ie](mailto:recruitment@marine.ie) or posted to Human Resources at the Marine Institute, Rinville, Oranmore, Galway. All correspondence for this post should quote reference **OCIS/EPDR/FL/SEP24**

### **Closing date for Applications:**

All applications for this post should be received by the Marine Institute in advance of **12 noon on the 7th of November 2024**. Unfortunately, late applications cannot be accepted.

**Use of Data** - all personal data and the information submitted for this application will be used solely for the purpose of this campaign, after which it will be deleted in line with our General Data Protection Regulation Policy and data retention schedule. All information will be treated with the strictest confidence and accessed only by those involved directly in the campaign.

**The Marine Institute is an organisation that champions Diversity, Inclusion & Equality for all. We encourage and welcome applications from anyone interested in this role.**

**Please do advise if there are any special accommodations required for the recruitment process.**

**We are here to help you access opportunities with us.**