

Marine Institute Job Description

Position	Scientific & Technical Officer (STO) – Ocean Modelling
Contract	Temporary specified purpose contract for a maximum duration of two years (Funded via Horizon 2020 TAPAS project)
Service Group	Ocean Science and Information Services (OSIS)
Location	Oranmore, Galway

Brief Description of 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.

The vision of the Marine Institute is

“ a thriving maritime economy in harmony with the ecosystem and supported by the delivery of excellence in our services “

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

The Marine Institute 3 Year Strategic Plan (2015 to 2018) is available on; http://www.marine.ie/Home/sites/default/files/MIFiles/Docs_Comms/MI%20Strategic%20Business%20Plan%20-%202015%20-%202018.pdf

Harnessing our Ocean Wealth (HOOW) is an Integrated Maritime Plan (IMP) for Ireland. HOOW sets out a roadmap for the Irish Government’s vision, high level goals and integrated actions across policy, governance and

business to enable our marine potential to be realised. Goal 2 of HOOW focuses on healthy marine ecosystems and specifically; to protect and conserve our rich marine biodiversity and ecosystems; manage our living and non-living resources in harmony with the ecosystem; implement and comply with environmental legislation (see www.ouroceanwealth.ie).

Brief Description of Service Group:

The mission of OSIS 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 Science and Information Services incorporates:

- Information Services & Development
- Advanced Mapping Services
- Research Vessel Operations
- Oceanographic Services
- Research Infrastructures
- Operational elements of Discovery R&D Programmes including
 - Advanced Technology including SMARTBAY
 - Ocean Energy

Summary of the Role:

The successful candidate will work within the Oceanographic Services team as a Scientific and Technical Officer, with main responsibility for delivering modelling products and services for the Horizon 2020 project TAPAS (Tools for Assessment and Planning of Aquaculture Sustainability).

This Scientific and Technical Officer position will be a developmental role for an aspiring Modeller with an interest in developing their career in the oceanographic industry. The successful candidate will be afforded the opportunity to upskill and develop their current capabilities with a view to becoming an experienced and proficient member of the Ocean Modelling team at the Marine Institute.

Responsibilities will include providing modelling for TAPAS and will work closely with international partners. Specifically, the candidate will contribute to the development of the most appropriate near field modelling procedures for marine aquaculture sustainability, based on carrying capacity and site selection. The candidate will carry out the evaluation of the existing models and will develop new models addressing the near-field environmental effects of aquaculture. Furthermore, the candidate will contribute to the development of the GIS-based site selection models. Preparation of the reports and relevant documentation following strict deadlines and formats will also be part of the role.

Background to the Requirement

TAPAS (Horizon 2020)

Aquaculture is one of five sectors in the EU's Blue Growth Strategy, aimed at harnessing untapped potential for food production and jobs whilst focusing on environmental sustainability. TAPAS addresses this challenge by supporting member states to establish a coherent and efficient regulatory framework aimed at sustainable growth. TAPAS will use a requirements analysis to evaluate existing regulatory and licensing frameworks across the EU, taking account of the range of production environments and specificities and emerging approaches such as offshore technologies, integrated multi-trophic aquaculture, and integration with other sectors. We will propose new, flexible approaches to open methods of coordination, working to unified, common standards. TAPAS will also evaluate existing tools for economic assessment of aquaculture sustainability affecting sectoral growth. TAPAS will critically evaluate the capabilities and verification level of existing ecosystem planning tools and will develop new approaches for evaluation of carrying capacities, environmental impact and future risk. TAPAS will improve existing and develop new models for far- and near-field environmental assessment providing better monitoring, observation, forecasting and early warning technologies. The innovative methodologies and components emerging from TAPAS will be integrated in an Aquaculture Sustainability Toolbox complemented by a decision support system to support the development and implementation of coastal and marine spatial planning enabling less costly, more transparent and more efficient licensing. TAPAS partners will collaborate with key industry regulators and certifiers through case studies to ensure the acceptability and utility of project approach and outcomes. Training, dissemination and outreach activities will specifically target improvement of the image of European aquaculture and uptake of outputs by regulators, while promoting an integrated sustainable strategy for development.

The Institute now requires a scientist with good understanding of ocean modelling to assist in the development of models for TAPAS.

Principal Tasks:

- Expand the Marine Institute's ocean modelling services for aquaculture in line with the TAPAS project requirements
- Liaise closely with international project partners developing models and tools for near field scales
- Compare the existing near field modelling approaches for marine aquaculture sustainability and evaluate the capabilities of the models for the purposes of aquaculture development
- Develop the modelling procedures further as required
- Carry out a case study using the existing and/or newly developed modelling procedures
- Integrate the model data into a GIS-based aquaculture site selection tool
- Participate in research activities that support TAPAS milestones and related objectives and publish in the scientific literature
- Attend relevant meetings or working groups
- Liaise with project partners and staff involved in delivering the programme.
- As necessary, carry out other modelling duties in the MI ocean modelling team.
- Any other duties as relevant to the position and grade.

Reporting Structure:

The successful candidate will be based at the Marine Institute HQ in Oranmore and will report directly to the Ocean Modelling Team Leader.

Contacts:

Marine Institute: Ocean Modelling team members within OSIS. Section Manager Oceanographic Services. Director OSIS. Data services Team. Other Sections Managers, Team Leaders and STOs across MI Service Groups

Externally: Regular liaison with project partners and collaborators across the EU.

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

Essential:

- Third level degree in Physical or Biological Oceanography or related discipline with sound numerical background.
- Experience in running or maintaining numerical hydrodynamic and/or biogeochemical models in a high performance computing environment.
- Proven track record in programming e.g. Fortran.
- Proven track record in using one or more scripting languages, e.g. Matlab, Python or similar.
- Experience in/ exposure to working with NetCDF file format.
- Competence in a Linux environment.
- 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.

Desirable:

- PhD in oceanography or related discipline.
- Experience as user of ROMS model.
- 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.

Special personal attributes required for the position:

- An analytical approach to problem solving.
- 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 audiovisual formats.

Salary:

Remuneration is in accordance with the Public Sector, Department of Finance approved Salary Scale for Scientific and Technical Officers, with a starting salary of €29,376 per annum pro-rated with time worked. You will become a member of the Single Public Service Pension Scheme.

Annual Leave:

The annual leave entitlement for a Scientific and Technical Officer is 25 working days per annum prorated to reflect time worked. Annual leave entitlements are exclusive of Public Holidays. 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 specified purpose basis for up to a maximum duration of two years, subject to funding with a 6 month probationary period.

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 or posted to Human Resources at the Marine Institute, Rinville, Oranmore, Galway. All correspondence for this post should quote reference **OSIS/STO_Ocean_Modelling_TAPAS/August 2016**

Closing date for applications.

All applications for this post should be received by the Marine Institute in advance of **12:00 Noon on Friday 16th September 2016**. Please note that late applications will not be accepted.

The Marine Institute is an equal opportunities employer