Marine Institute Job Description

Position	**Scientific & Technical Officer (STO) – Ocean Modelling**
Contract	**Temporary specified purpose contract for a maximum duration of 2 years (Funded via Interreg VA COMPASS 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 http://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 Interreg VA COMPASS project (Collaborative Oceanography and Monitoring for Protected Areas and Species).

The successful candidate will be responsible for providing modelling for COMPASS and will work closely with international partners. Specifically, the candidate will contribute to the development of the model providing region-wide simulations of currents, temperature and salinity structure for the full project period, achieved through an interfacing between the national Scottish and Irish hydrodynamic models.
A cross-border model of larval transport and connectivity for key priority species driven by the interfaced hydrodynamic model will subsequently be developed. Furthermore, the candidate will develop a region-wide model of hydrodynamic habitat type driven by the interfaced hydrodynamic models. Preparation of the reports and relevant documentation following strict deadlines and formats will also be part of the role. The candidate will also be expected to carry out other modelling duties within the modelling team as required.

Background to the Requirement

COMPASS (Interreg VA)
The COMPASS project will deliver the first fully coherent network of monitoring buoys across the regional seas of the Republic of Ireland, Northern Ireland and West Scotland. Integrating the longest continuously maintained oceanographic monitoring stations in Europe (e.g. Tiree mooring & Western Irish Sea) within a network of new buoys equipped with oceanographic sensors, acoustic recorders and advanced fish tracking technology, this exciting and innovative project will build the cross-border capacity for effective monitoring and management of Marine Protected Areas (MPAs). The project will develop long-term monitoring strategies for highly mobile protected species such as marine mammals and salmonids, and provide essential infrastructure for baseline oceanographic and ambient noise monitoring. The development of observational and data management capacity across the region will be complemented by the delivery of three truly regional scale environmental models designed to support the management of a cross-border MPA network. These models will link established modelling platforms between UK and Irish programmes at spatially relevant scales. In addition to delivering the COMPASS buoy network and infrastructure legacy, the project process itself will also consolidate the internationally recognised but currently disparate partner skills to build a truly inter-regional unit of expertise.

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

Principal Tasks:

- Expand the Marine Institute's ocean modelling services in line with the COMPASS project requirements
- Liaise closely with international project partners developing the hydrodynamic, connectivity and hydrodynamic habitat type models
- Interface the Irish and Scottish models to provide seamless transition between the models and to minimise other possible discrepancies
- Generate annual hindcasts for the duration of the contract using an interfaced Irish model
- Develop a connectivity model using an 'individual-based' approach, in which a large number of individual organisms are simulated subject to transport by hindcast currents and behavioural algorithms
- Develop the hydrodynamic habitat type model
- Develop further models and modelling procedures as required
- Participate in research activities that support COMPASS 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 project
- 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 from Northern Ireland and Scotland.

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

Essential:

- Third level degree in Physical Oceanography or related discipline with sound numerical background.
- Experience in running or maintaining numerical hydrodynamic models in a high performance computing environment.
- Proven track record in programming in Fortran.
- Proven track record in using one or more scripting languages, e.g. Matlab, Python or similar.
- Proven experience in 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 €30,376 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-Modeller/April 2017**

Closing date for applications. All applications for this post should be received by the Marine Institute in advance of **12 noon on Friday 5th May 2017**. Please note that late applications will not be accepted.

The Marine Institute is an equal opportunities employer