VACANCY NOTICE

Scientist – Ocean Modelling (220711)

Primary Location: Italy-La Spezia
NATO Body: Centre for Maritime Research and Experimentation (CMRE)
Schedule: Full-time
Application Deadline: 03-Oct-2022
Salary (Pay Basis): 5,378.03 euros (EUR) Monthly
Grade: NATO Grade G15
Clearance Level: NS

Appointment will be subject to receipt of a NATO SECRET security clearance (provided by the national Authorities of the selected candidate) and approval of the candidate’s medical file by the CMRE Medical Adviser.

The CMRE is looking for a Scientist (medior), Ocean Modelling, to work within the Research Department of NATO STO CMRE. The successful candidate will support the data and environmental knowledge and operational effectiveness programme by: developing and investigating innovative and cutting edge scientific research in the area of ocean modelling; providing sufficient scientific understanding and developing autonomous capabilities for Rapid Environmental Assessment (REA); and to numerically assess present and future oceanographic conditions in strategic areas of interest to support NATO deterrence and defence capabilities.

GENERAL BACKGROUND

The Centre for Maritime Research and Experimentation (CMRE) is part of the NATO Science and Technology Organization (STO). CMRE is an established, world-class scientific research and experimentation facility that organizes and conducts scientific research and technology development, centred on the maritime domain, delivering innovative and field tested Science & Technology (S&T) solutions to address defence and security needs of the Alliance.

CMRE has more than 60 years of experience and has produced a cadre of leaders in ocean science, modelling and simulation, acoustics and other disciplines, as well as producing critical results and understanding that have been built into the operational concepts of NATO and the Nations.

POST DESCRIPTION

Location: La Spezia, Italy, 80 Km north of Pisa, on the Gulf of La Spezia
Division: Research Division

POST CONTEXT
This is a position at the Centre for Maritime Research and Experimentation (CMRE), which is part of the Science and Technology Organization (STO) of the North Atlantic Treaty Organization (NATO).

CMRE is an established, world-class scientific research and experimentation facility that organizes and conducts scientific research and technology development, centered on the maritime domain, delivering innovative and field-tested Science & Technology (S&T) solutions to address defense and security needs of the Alliance.

The position is within the Research Division (RD), which is responsible for identifying, developing and delivering Science & Technology (S&T) to the needs of the Alliance in the maritime domain.

The Division leads the development of CMRE’s scientific strategy and through its capability in ocean sensing, numerical modelling, big data analytics, artificial intelligence and autonomy, delivers the Centre's S&T goals while maintaining CMRE’s reputation within the scientific community.

The Research Division is composed of the four following sections:

• Anti-Submarine Warfare (ASW);
• Mine Countermeasures (MCM);
• Data & Environmental Knowledge and Operational Effectiveness (D-EKOE);
• Maritime Unmanned Systems Enablers (MUSE).

This junior data scientist position is in the ASW Section and supports the Maritime Unmanned Systems for ASW project. In this project, advanced signal processing algorithms are developed and tested for the detection, localization, classification and tracking in the context of ASW. This work is performed for both passive and active ASW. The Data Science part of the ASW Section aims at cataloguing and exploiting previously acquired data with the objective to go towards a Machine Learning (ML) capability for submarine classification in order to improve overall sonar system performance and lowering false alarm rates.

This position is within the D-EKOE Section and contributes to the projects ASW Environmental Acoustic Support in a Rapidly Thawing Arctic Ocean and Capabilities for Rapid Environmental Assessment in Blue Waters within the Data and Environmental Knowledge and Operational Effectiveness (DEKOE) Programme.
PRINCIPAL DUTIES

- Supports the program of work in developing and investigating innovative and cutting edge scientific research in the area of ocean modelling to provide sufficient scientific understanding and to develop autonomous capabilities for Rapid Environmental Assessment (REA), to numerically assess present and future oceanographic conditions in marine regions, to support future NATO ASW.

- Executes CMRE’s research activities in operational oceanography supporting the D-EKOE Programme. Emphasis will be placed on conducting processes studies and ocean predictions to improve scientific understanding of the ocean environment in areas of interest, with emphasis on the High North; on designing, implementing and testing data assimilation algorithms exploiting oceanographic measurements collected by manned and unmanned platforms; on contributing to the research in underwater acoustic propagation for ASW; and on supporting CMRE’s sea trials and NATO exercises.

- Supports the organization and execution of NATO workshops and conferences in environmental characterization; the establishment of Multi-National Projects as relevant in the fields of REA; the development of proposals for external funding beyond ACT, seeking and winning funding from National Naval R&D funding agencies, National or NATO Multi-National projects, or from European funding mechanisms.

- Works closely as required with projects outside of the D-EKOE Programme, in particular with the Maritime Unmanned Systems for ASW and ASW Decision Support projects within the Autonomy for ASW Programme, in order to ensure coherence of the centre’s REA and ASW activities.

SPECIAL REQUIREMENTS AND ADDITIONAL DUTIES

Flexibility Clause

The incumbent may be required to perform other related duties as directed.

All other related duties should correspond with the required competencies for the job.

Deployment/Travel

The incumbent may be required to perform his/her duties onboard Centre or chartered vessels. The incumbent may be required to undertake TDY assignments within and outside NATO boundaries. The duties are mostly performed in an office, but may include work in a laboratory, workshop environment or on-board Centre ships. Slightly undesirable working conditions may apply.
ESSENTIAL QUALIFICATIONS

Professional/Experience

- Scientific expertise in mathematics, physics, engineering, or equivalent.
- Solid knowledge of at least one ocean modeling software (i.e., Regional Ocean Modeling System-ROMS, Nucleus for European Modelling of the Ocean-NEMO).
- Strong background in various data assimilation schemes.
- Background in operational oceanography (i.e., nowcast and forecast of ocean conditions for maritime operations, drifting objects in ocean currents).
- Strong scientific programming using standard software and operating systems such as Linux, MATLAB, Python, C/C++, FORTRAN.
- Experience conducting scientific project work within a multi-disciplinary environment.
- Experience participating in the submission and execution of scientific projects, delivering the expected and required outputs to the satisfaction of the customer.

Education/Training

- MSc degree in scientific, engineering, or related field and at least 3 years post-MSc experience as Scientist or Engineer with a specific focus on ocean modelling may be accepted.
- PhD in physics, engineering, applied mathematics or related field with training in ocean modelling.

Language Requirements

A thorough knowledge of one of the two NATO languages, both written and spoken, is essential and some knowledge of the other is desirable.

English SLP 3333

NOTE: Most of the work of CMRE is conducted in the English language.

DESIRABLE QUALIFICATIONS

- Solid knowledge of the Nucleus for European Modelling of the Ocean-NEMO.
- Recent scientific publications as first author documenting results on ocean modelling.
- Sea going experience.
- The incumbent might need to obtain a fit for sea certificate in line with the International Maritime Organization (IMO) and International Labour Organization (ILO) standards should job duties require deployment aboard research or naval vessels.
Attributes/Competencies.

The ideal candidate will be capable of working in a team, and will display: approachability; listening ability; and ability to understand others.

They must be flexible, intellectually sharp, innovative, and learn quickly when facing new problems.

They must possess the capability to prioritize tasks and solve problems with a high level of autonomy.

They must possess written communications ability and must be customer focused.

REMARKS:

The successful candidate will be offered a 3-year definite duration contract, which may be renewed.

HOW TO APPLY:

Applications are to be submitted using the NATO Talent Acquisition Program (NTAP) https://nato.taleo.net/careersection/2/jobdetail.ftl?job=220711&lang=en. Applications submitted by other means are not accepted. NTAP allows adding attachments.

Essential information must be included in the application form. Particular attention should be given to Education and Experience section. Each question should be answered completely. Expressions such as “please see annex / enclosed document” or invitations to follow links to personal webpages are not acceptable and will be disregarded. All answers should be in English preferably, or French.