



Science and Technology Organization

Centre for Maritime Research and Experimentation

La Spezia - Italy



VACANCY NOTICE

Senior Scientist - Ocean Modelling and Data Assimilation (240645)

Primary Location: Italy-La Spezia

NATO Body: Centre for Maritime Research and Experimentation (CMRE)

Schedule: Full-time

Application Deadline: 12 May 2024

Salary (Pay Basis): 7,319.21 EUR (Monthly)

Grade NATO SSS Grade G17 (ABCL A3)

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.

Are you a professional with a strong background in operational oceanography? Do you have a solid knowledge of at least one ocean modelling software? Do you enjoy working in a challenging international environment? If so, CMRE is looking for you!

1. POST CONTEXT

This is a position within the Centre for Maritime Research and Experimentation (CMRE), an organization 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, centred on the maritime domain, delivering innovative and field tested Science & Technology (S&T) solutions to address defence 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) solutions to the needs of the Alliance in the maritime domain.



Science and Technology Organization

Centre for Maritime Research and Experimentation

La Spezia - Italy



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 organized around the five programmes below:

1. Antisubmarine Warfare (ASW)
2. Autonomous Naval Mine Warfare (ANMW)
3. Climate Change and Security (CCAS)
4. Data & Environmental Knowledge and Operational Effectiveness (D-EKOE)
5. Maritime Unmanned Systems Enablers (MUSE)

This position is within the D-EKOE team 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 (D-EKOE) Programme.

2. PRINCIPAL DUTIES

- Supports the program of work in developing and investigating innovative and cutting edge scientific research in the area of Ocean Modelling and Data Assimilation to provide sufficient scientific understanding and to develop autonomous capabilities for Rapid Environmental Assessment (REA), to allow the selection of logical alternatives in sensor design, signal processing and system configuration to support future NATO ASW.
- Assumes a leadership role in ocean prediction at the Centre, helping to re-establish the laboratory as a centre of excellence in ocean research and experimentation.
- 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 environmental acoustics and ASW activities.

3. SPECIAL REQUIREMENTS AND ADDITIONAL DUTIES

a. 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.

b. 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.

c. Certification

The incumbent needs to obtain a fit for sea certificate in line with the International Maritime Organization (IMO) and International Labour Organization (ILO) standards before taking up duty.

4. ESSENTIAL QUALIFICATIONS

a. Professional/Experience

- Scientific expertise in mathematics, physics, engineering, or equivalent.



Science and Technology Organization

Centre for Maritime Research and Experimentation

La Spezia - Italy



- Solid knowledge of at least one ocean modelling software (i.e., Regional Ocean Modelling 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).
- Proven track record of high quality scientific research in Ocean Modelling and Data Assimilation with a significant publication record.
- 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.
- See Par. 4.b.

b. *Education/Training*

- MSc degree in scientific, engineering, or related field and at least 5 years post-MSc experience as Scientist or Engineer with a specific focus on ocean modelling and data assimilation may be accepted
- Or
- At least 2 years Post-Doc experience in physics, engineering, applied mathematics or related field with training in ocean modelling and data assimilation.

c. *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.

5. DESIRABLE QUALIFICATIONS

- Ph.D. or relevant experience in physics, engineering, applied mathematics, or related field with a specific focus on ocean modelling.



Science and Technology Organization

Centre for Maritime Research and Experimentation

La Spezia - Italy



- Specific expertise in the Nucleus for European Modelling of the Ocean-NEMO.
- Knowledge of acoustic numerical modelling, including the different acoustic equation approximations and the different numerical solution techniques commonly used in the community.
- Demonstrated experience in the role of Principal Investigator for scientific projects in the oceanographic domain.
- Recent scientific publications as first author documenting results in ocean modelling and data assimilation.
- Experience working in an international organization.
- Demonstrated capability to obtain funding for new research activities and satisfying customer requirements and expectations.

6. COMPETENCIES

- Offering innovative and original ideas that do not stem from existing processes and finding less evident models or original combinations.
- Efficiently assessing and managing time as well as material, human and financial resources.
- Encouraging cooperation between teams and team members.
- Establishing and maintaining formal and informal relationships within and outside the organization.

7. REMARKS

The duties are performed in an office, laboratory, workshop environment or on-board Centre ships. Slightly undesirable working conditions may apply.

About Us:

The Centre for Maritime Research and Experimentation (CMRE) is part of the NATO Science and Technology Organization (STO). The mission of the STO is to help position both national and NATO



Science and Technology Organization

Centre for Maritime Research and Experimentation

La Spezia - Italy



science and technology investments as a strategic enabler and technology advantage for the defence and security posture of NATO Allies and partners. The Centre conducts scientific research and technology development and delivers innovative field-tested S&T solutions to address the 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.

What we offer:

- Salary (Pay Basis): 7,319.21 (EUR) Monthly*

*Salary value as per 2024. Subject to future adjustments in accordance with North Atlantic Council decisions.

- Grade ABCL grade A3 / NATO grade G17.
- A world class research facility located in the seaport of La Spezia, Italy supported by two specialised research vessels.
- An exciting place in which to work situated at an ideal location, the port of La Spezia, Italy, enabling synergy with regional and global academic institutes and industry.
- Salary and conditions of employment will be in accordance with the NATO Civilian Personnel Regulations (NCPD), which includes a rewarding salary and a comprehensive system of allowances, supplements and insurances to support families and, in case of expatriated staff, offers an interesting “expatriate” package.
- A generous annual leave and, (where eligible) home leave.
- The successful candidate will be offered a three years’ definite duration contract which may be renewed for subsequent periods subject to business needs, satisfactory performance and the need to rotate skills and talent within the Organization.
- Applicants who prove to be competent for the post but who are not successful in this competition may be offered an appointment to another post of a similar nature, which might



Science and Technology Organization

Centre for Maritime Research and Experimentation

La Spezia - Italy



become vacant in the near future, albeit at the same or a lower grade, provided they meet the necessary requirements.

Our recruitment process:

- Please note that we can only accept applications from nationals of NATO member countries.
- Applications (including the most relevant publications, the diplomas - stating the highest level of education - and a CV) for this vacancy are to be submitted using the E-recruitment system.
- Appointment will be subject to receipt of a security clearance (provided by the national Authorities of the selected candidate) and approval of the candidate's medical file by the CMRE Medical Adviser.

Additional information:

- CMRE values diverse backgrounds and perspectives and is committed to recruiting and retaining a diverse and talented workforce. We welcome applications of nationals from all Member States and strongly encourage women to apply.
- Selected candidates are expected to be role models of integrity, and to promote good governance through ongoing efforts in their work.

For more information on how to apply:

[How to apply for posts within NATO](#)

[6 tips to apply for posts within NATO](#)

NOTE:

NATO will not accept any phase of the recruitment and selection prepared, in whole or in part, by means of generative artificial-intelligence (AI) tools, including and without limitation to chatbots, such as Chat Generative Pre-trained Transformer (Chat GPT), or other language generating tools.



Science and Technology Organization

Centre for Maritime Research and Experimentation

La Spezia - Italy



NATO reserves the right to screen applications to identify the use of such tools. All applications prepared, in whole or in part, by means of such generative or creative AI applications may be rejected without further consideration at NATO's sole discretion, and NATO reserves the right to take further steps in such cases as appropriate.

HOW TO APPLY:

Applications are to be submitted using the NATO Talent Acquisition Program (NTAP)

<https://nato.taleo.net/careersection/2/jobdetail.ftl?job=240645&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.