



VACANCY NOTIFICATION

Scientist (Acoustic) (250475)

Primary Location: Italy-La Spezia

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

Schedule: Full-time

Application Deadline: 10 April 2025

Salary (Pay Basis): 5,725.22 EUR (Monthly)

Grade NATO SSS Grade G15 (ABCL A2)

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.

We are seeking a passionate and talented Acoustic Scientist to support research and develop and investigate innovative and cutting edge scientific research in the area of underwater acoustics and signal processing.

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.

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 comprised of the five following branches:

- Antisubmarine Warfare (ASW)
- Autonomous Naval Mine Warfare (ANMW)
- Environmental Knowledge and Operational Effectiveness (EKOE) & Climate Change (CC)
- Data Knowledge and Operational Effectiveness (DKOE)
- Maritime Unmanned Systems Enablers (MUSE)

This position is within the Autonomous Naval Mine Warfare (ANMW) team and contributes to ANMW programme of work.

2. PRINCIPAL DUTIES

We are looking for a talented scientist in underwater acoustics and signal processing to join our team in the research division at CMRE. This role requires a strong background and expertise in underwater acoustics, in particular high frequency underwater acoustics and backscattering, with a strong knowledge of beamforming and coherent processing. The incumbent will be required to design, develop, implement and validate state-of-the-art algorithms to solve complex problems such as non-conventional beamforming, object recognition or environmental awareness. The incumbent will be part of a multi-disciplinary research team including scientists, data engineers, roboticists and software engineers, and will be expected to share expertise with the team to contribute to the prototyping of advanced systems demonstrating next-generation performance and capabilities in the maritime defence domain.

The main incumbent's responsibilities and duties are to:

- Support the ANMW programme of work in the investigation and development of innovative and cutting edge scientific research ideas in the area of underwater acoustics, signal processing and data analysis with an emphasis on synthetic aperture sonar processing.
- Develop and implement advanced and novel algorithms and models for advanced beamforming and coherent processing.
- Develop rigorous mathematical understanding/interpretation of the developed algorithms and assess their performance.
- Collaborate with researchers and domain experts to identify research questions and design experiments to address them.
- Stay up to date with the latest advancements in underwater acoustics and related fields, and apply relevant methodologies to research projects.
- Participate in interdisciplinary research teams and contribute to research proposals and publications, both internal (CMRE reports) and external (peer-reviewed scientific publications).
- Present research findings at conferences, workshops, and internal meetings.
- Support the organization and execution of NATO workshops and conferences; the establishment of Multi-National Projects as relevant in the fields of NMW; the development of proposals for external funding beyond ACT, seeking and winning funding from National Naval R&D funding agencies or from National or NATO Multi-National projects.

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 hold 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.
- Strong background in underwater acoustics and data analysis.
- Background in signal/array processing (i.e., physically informed array processing, beamforming, field data analysis).
- Proven track record of high quality scientific research in underwater acoustics and signal processing with a significant publication record.
- Strong scientific programming using standard software and operating systems such as Linux, MATLAB, Python, C/C++, FORTRAN.
- Experience participating in 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 physics, acoustics or signal processing may be accepted

Or

- PhD in physics, engineering, applied mathematics or related field with training in ocean acoustics and at least 2 years of post-related experience.

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 acoustic data analysis and/or coherent processing.
- Demonstrated experience on acoustic field data processing.
- Knowledge of acoustic numerical modelling, including the different acoustic equation approximations and the different numerical solution techniques commonly used in the community.
- Knowledge of subjects relating to autonomous maritime vehicles such as robotics, perception, tracking, automatic target recognition, cooperative behaviours, human-machine interfaces, navigation, signal and image processing, modelling and simulation, acoustic sensors.
- Recent scientific publications as first author documenting results in acoustic or signal processing.
- Experience working in an international organization.

6. ATTRIBUTES/COMPETENCIES

The successful candidate possess the following competencies / personal attributes:

- Excellent communication skills, both oral and written – able to communicate at all levels;
- Very good interpersonal skills. Solicits inputs and encourages others;
- Innovative (capable to think outside the box) and driven. Always displaying sound judgement;
- Excellent time management and organizational skills.
- Agile and resilient

All CMRE personnel are expected to conduct themselves in accordance with the current NATO Code of Conduct agreed by the North Atlantic Council (NAC), and thus display the core values of integrity, impartiality, loyalty, accountability, and professionalism.

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 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): 5,725.22 (EUR) Monthly. Salary value as per 2025. Subject to future adjustments in accordance with North Atlantic Council decisions.
- Grade ABCL grade A2 / NATO grade G15
- A world class research facility located in the sea port 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 (NCPR), 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 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. 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=250475&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.